



SR 519 (FISKE BOULEVARD) CORRIDOR PLANNING STUDY ALTERNATIVES AND STRATEGIES REPORT

FINANCIAL PROJECT NO. 437241-1-12-01

APPENDICES





Table of Contents

Appendix A – Synchro Reports

Appendix B – Comments & Coordination Summary

Appendix C – SIDRA Reports & Screening Checklist

























Appendix

Appendix A – Synchro Reports

HCM Signalized Intersection Capacity Analysis

1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
| Lane Configurations |  |  |  | |  |  |  | |  |  |  |  | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1517 | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1517 | 1770 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 366 | 200 | 75 | 1 | 306 | 292 | 59 | 2 | 316 | 397 | 357 | 122 | |
| RTOR Reduction (vph) | 0 | 0 | 55 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 237 | 0 | |
| Lane Group Flow (vph) | 366 | 200 | 20 | 0 | 307 | 292 | 11 | 0 | 318 | 397 | 120 | 122 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | | 2 | | |
| Actuated Green, G (s) | 32.7 | 44.2 | 44.2 | | 20.1 | 30.2 | 30.2 | | 29.5 | 55.6 | 55.6 | 16.7 | |
| Effective Green, g (s) | 32.7 | 44.2 | 44.2 | | 20.1 | 30.2 | 30.2 | | 29.5 | 55.6 | 55.6 | 16.7 | |
| Actuated g/C Ratio | 0.20 | 0.27 | 0.27 | | 0.12 | 0.18 | 0.18 | | 0.18 | 0.34 | 0.34 | 0.10 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 357 | 498 | 419 | | 417 | 327 | 289 | | 316 | 1180 | 510 | 179 | |
| v/s Ratio Prot | c0.20 | 0.11 | | | 0.09 | c0.16 | | | c0.18 | 0.11 | | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.01 | | | | 0.08 | | |
| v/c Ratio | 1.03 | 0.40 | 0.05 | | 0.74 | 0.89 | 0.04 | | 1.01 | 0.34 | 0.24 | 0.68 | |
| Uniform Delay, d1 | 66.2 | 49.6 | 44.8 | | 69.9 | 65.9 | 55.5 | | 67.8 | 41.0 | 39.4 | 71.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 54.2 | 0.7 | 0.1 | | 6.6 | 24.9 | 0.1 | | 52.2 | 0.2 | 0.2 | 10.2 | |
| Delay (s) | 120.4 | 50.3 | 44.9 | | 76.6 | 90.8 | 55.5 | | 120.0 | 41.1 | 39.7 | 81.8 | |
| Level of Service | F | D | D | | E | F | E | | F | D | D | F | |
| Approach Delay (s) | | 89.7 | | | | 81.0 | | | | 64.1 | | | |
| Approach LOS | | F | | | | F | | | | E | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 71.9 | | | | | | | | | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | | | 0.93 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 165.1 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 88.3% | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM



| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 775 | 165 |
| RTOR Reduction (vph) | 0 | 113 |
| Lane Group Flow (vph) | 775 | 52 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 43.2 | 43.2 |
| Effective Green, g (s) | 43.2 | 43.2 |
| Actuated g/C Ratio | 0.26 | 0.26 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 926 | 414 |
| v/s Ratio Prot | c0.22 | |
| v/s Ratio Perm | | 0.03 |
| v/c Ratio | 0.84 | 0.13 |
| Uniform Delay, d1 | 57.6 | 46.5 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.7 | 0.1 |
| Delay (s) | 64.3 | 46.7 |
| Level of Service | E | D |
| Approach Delay (s) | 63.6 | |
| Approach LOS | E | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis

5: SR 519 & Hans Christian Anderson Elem Entrance

2020 Future AM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 0 | 0 | 9 | 724 | 796 | 56 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | 6.9 | 6.9 | 6.9 | |
| Lane Util. Factor | | | 1.00 | 0.95 | 0.95 | |
| Frt | | | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | | 1770 | 3539 | 3504 | |
| Flt Permitted | | | 0.25 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | | 459 | 3539 | 3504 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 0 | 0 | 10 | 818 | 900 | 63 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 10 | 818 | 959 | 0 |
| Turn Type | | | Perm | NA | NA | |
| Protected Phases | | | | 2 | 2 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | 52.8 | 52.8 | 52.8 | |
| Effective Green, g (s) | | | 52.8 | 52.8 | 52.8 | |
| Actuated g/C Ratio | | | 0.56 | 0.56 | 0.56 | |
| Clearance Time (s) | | | 6.9 | 6.9 | 6.9 | |
| Vehicle Extension (s) | | | 3.5 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | | 259 | 1998 | 1978 | |
| v/s Ratio Prot | | | | 0.23 | c0.27 | |
| v/s Ratio Perm | | | 0.02 | | | |
| v/c Ratio | | | 0.04 | 0.41 | 0.48 | |
| Uniform Delay, d1 | | | 9.1 | 11.5 | 12.2 | |
| Progression Factor | | | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | 0.3 | 0.6 | 0.9 | |
| Delay (s) | | | 9.3 | 12.1 | 13.0 | |
| Level of Service | | | A | B | B | |
| Approach Delay (s) | 0.0 | | | 12.1 | 13.0 | |
| Approach LOS | A | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.32 | | |
| Actuated Cycle Length (s) | 93.5 | Sum of lost time (s) | 13.7 |
| Intersection Capacity Utilization | 30.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: SR 519 & Eyster Blvd

2020 Future AM



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-------|------|-------|------|-------|-------|
| Lane Configurations | | | | | | |
| Volume (vph) | 111 | 102 | 659 | 185 | 179 | 708 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 0.93 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1559 | 3539 | 1443 | 1764 | 3505 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.24 | 1.00 |
| Satd. Flow (perm) | 1770 | 1559 | 3539 | 1443 | 441 | 3505 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 120 | 110 | 714 | 200 | 194 | 767 |
| RTOR Reduction (vph) | 0 | 87 | 0 | 128 | 0 | 0 |
| Lane Group Flow (vph) | 120 | 23 | 714 | 72 | 194 | 767 |
| Confl. Peds. (#/hr) | 9 | 7 | | 73 | 73 | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 3% |
| Turn Type | Prot | Perm | NA | Perm | pm+pt | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | 6 | |
| Actuated Green, G (s) | 15.2 | 15.2 | 25.8 | 25.8 | 43.2 | 43.2 |
| Effective Green, g (s) | 15.2 | 15.2 | 25.8 | 25.8 | 43.2 | 43.2 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.36 | 0.36 | 0.61 | 0.61 |
| Clearance Time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 |
| Lane Grp Cap (vph) | 376 | 331 | 1278 | 521 | 463 | 2120 |
| v/s Ratio Prot | c0.07 | | c0.20 | | 0.06 | c0.22 |
| v/s Ratio Perm | | 0.02 | | 0.05 | 0.19 | |
| v/c Ratio | 0.32 | 0.07 | 0.56 | 0.14 | 0.42 | 0.36 |
| Uniform Delay, d1 | 23.7 | 22.5 | 18.2 | 15.3 | 7.7 | 7.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.7 | 0.1 | 0.6 | 0.1 | 0.7 | 0.1 |
| Delay (s) | 24.4 | 22.6 | 18.8 | 15.5 | 8.4 | 7.3 |
| Level of Service | C | C | B | B | A | A |
| Approach Delay (s) | 23.5 | | 18.1 | | | 7.5 |
| Approach LOS | C | | B | | | A |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 13.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 71.4 | Sum of lost time (s) | 19.8 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: SR 519 & Barton Blvd

2020 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|-------|------|-------|------|------|------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 72 | 81 | 49 | 134 | 28 | 204 | 7 | 572 | 232 | 256 | 724 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1561 | 1681 | 1713 | 1498 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1561 | 1681 | 1713 | 1498 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 81 | 91 | 55 | 150 | 31 | 228 | 8 | 640 | 259 | 286 | 810 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 196 | 0 | 0 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 81 | 91 | 6 | 90 | 91 | 32 | 8 | 640 | 259 | 286 | 855 | 0 |
| Confl. Peds. (#/hr) | 4 | | 2 | 2 | | 4 | 2 | | 13 | 13 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 6% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | |
| Actuated Green, G (s) | 13.8 | 13.8 | 13.8 | 17.9 | 17.9 | 17.9 | 1.5 | 51.8 | 125.7 | 15.8 | 65.8 | |
| Effective Green, g (s) | 13.8 | 13.8 | 13.8 | 17.9 | 17.9 | 17.9 | 1.5 | 51.8 | 125.7 | 15.8 | 65.8 | |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.11 | 0.14 | 0.14 | 0.14 | 0.01 | 0.41 | 1.00 | 0.13 | 0.52 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 194 | 204 | 171 | 239 | 243 | 213 | 21 | 1458 | 1558 | 415 | 1836 | |
| v/s Ratio Prot | 0.05 | c0.05 | | c0.05 | 0.05 | | 0.00 | 0.18 | | c0.09 | c0.24 | |
| v/s Ratio Perm | | | 0.00 | | | 0.02 | | | 0.17 | | | |
| v/c Ratio | 0.42 | 0.45 | 0.04 | 0.38 | 0.37 | 0.15 | 0.38 | 0.44 | 0.17 | 0.69 | 0.47 | |
| Uniform Delay, d1 | 52.2 | 52.4 | 50.0 | 48.8 | 48.8 | 47.3 | 61.6 | 26.5 | 0.0 | 52.6 | 18.9 | |
| 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 | 1.5 | 1.6 | 0.1 | 1.0 | 1.0 | 0.3 | 22.5 | 1.0 | 0.2 | 4.7 | 0.9 | |
| Delay (s) | 53.7 | 53.9 | 50.1 | 49.8 | 49.8 | 47.6 | 84.1 | 27.5 | 0.2 | 57.3 | 19.7 | |
| Level of Service | D | D | D | D | D | D | F | C | A | E | B | |
| Approach Delay (s) | | 52.9 | | | 48.6 | | | 20.2 | | | 29.1 | |
| Approach LOS | | D | | | D | | | C | | | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 31.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 125.7 | Sum of lost time (s) | 26.7 |
| Intersection Capacity Utilization | 70.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: SR 519 & St. Andrews Dr

2020 Future AM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 55 | 52 | 37 | 760 | 861 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1752 | 1518 | 1770 | 3505 | 3448 | |
| Flt Permitted | 0.95 | 1.00 | 0.23 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1752 | 1518 | 430 | 3505 | 3448 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 61 | 58 | 41 | 841 | 953 | 34 |
| RTOR Reduction (vph) | 0 | 51 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 61 | 7 | 41 | 841 | 986 | 0 |
| Confl. Peds. (#/hr) | | 14 | | | | |
| Heavy Vehicles (%) | 3% | 4% | 2% | 3% | 4% | 9% |
| Turn Type | Prot | Perm | pm+pt | NA | NA | |
| Protected Phases | 4 | | 1 | 6 | 2 | |
| Permitted Phases | | 4 | 6 | | | |
| Actuated Green, G (s) | 10.6 | 10.6 | 67.8 | 67.8 | 57.5 | |
| Effective Green, g (s) | 10.6 | 10.6 | 67.8 | 67.8 | 57.5 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.75 | 0.75 | 0.64 | |
| Clearance Time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | 205 | 178 | 379 | 2634 | 2198 | |
| v/s Ratio Prot | c0.03 | | 0.00 | c0.24 | c0.29 | |
| v/s Ratio Perm | | 0.00 | 0.08 | | | |
| v/c Ratio | 0.30 | 0.04 | 0.11 | 0.32 | 0.45 | |
| Uniform Delay, d1 | 36.4 | 35.3 | 3.9 | 3.7 | 8.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 0.1 | 0.1 | 0.1 | 0.7 | |
| Delay (s) | 37.2 | 35.4 | 4.0 | 3.7 | 9.0 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 36.3 | | | 3.8 | 9.0 | |
| Approach LOS | D | | | A | A | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 8.3 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 90.2 | Sum of lost time (s) | 18.3 |
| Intersection Capacity Utilization | 55.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: SR 519 & Pluckebaum Rd

2020 Future AM



| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|-------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 23 | 291 | 198 | 618 | 532 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1538 | 1682 | 3539 | 3489 | |
| Flt Permitted | | 0.95 | 1.00 | 0.39 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1538 | 695 | 3539 | 3489 | |
| Peak-hour factor, PHF | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 27 | 336 | 229 | 714 | 615 | 12 |
| RTOR Reduction (vph) | 0 | 0 | 295 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 29 | 41 | 229 | 714 | 626 | 0 |
| Confl. Peds. (#/hr) | | | | 13 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 3% | 9% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.2 | 8.2 | 39.6 | 39.6 | 30.6 | |
| Effective Green, g (s) | | 8.2 | 8.2 | 39.6 | 39.6 | 30.6 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | 0.59 | 0.59 | 0.46 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 216 | 187 | 542 | 2436 | 1591 | |
| v/s Ratio Prot | | | | 0.06 | c0.13 | 0.18 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.19 | 0.07 | | |
| v/c Ratio | | 0.13 | 0.22 | 0.42 | 0.29 | 0.39 | |
| Uniform Delay, d1 | | 26.3 | 26.6 | 6.6 | 6.8 | 12.1 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.3 | 0.6 | 0.5 | 0.1 | 0.7 | |
| Delay (s) | | 26.6 | 27.2 | 7.1 | 6.9 | 12.8 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 27.1 | | | 6.9 | 12.8 | |
| Approach LOS | | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 67.1 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 51.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 11: SR 519 & Rosa L Jones Blvd

2020 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|------|------|------|-------|------|------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 20 | 26 | 56 | 23 | 34 | 10 | 560 | 112 | 33 | 395 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 0.98 | | | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.91 | | | 0.96 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1476 | | | 1631 | | 1321 | 3433 | | 1697 | 3539 | 1539 |
| Flt Permitted | 0.70 | 1.00 | | | 0.82 | | 0.50 | 1.00 | | 0.35 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1309 | 1476 | | | 1365 | | 690 | 3433 | | 618 | 3539 | 1539 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 4 | 22 | 29 | 63 | 26 | 38 | 11 | 626 | 125 | 37 | 442 | 10 |
| RTOR Reduction (vph) | 0 | 22 | 0 | 0 | 17 | 0 | 0 | 16 | 0 | 0 | 0 | 4 |
| Lane Group Flow (vph) | 4 | 29 | 0 | 0 | 110 | 0 | 11 | 735 | 0 | 37 | 442 | 6 |
| Confl. Peds. (#/hr) | | | 17 | 17 | | | 3 | | 4 | 4 | | 3 |
| Heavy Vehicles (%) | 2% | 4% | 25% | 7% | 12% | 8% | 36% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | Perm |
| Protected Phases | | 4 | | | 4 | | | 2 | | | 2 | |
| Permitted Phases | 4 | | | 4 | | | 2 | | | 2 | | 2 |
| Actuated Green, G (s) | 20.9 | 20.9 | | | 20.9 | | 55.9 | 55.9 | | 55.9 | 55.9 | 55.9 |
| Effective Green, g (s) | 20.9 | 20.9 | | | 20.9 | | 55.9 | 55.9 | | 55.9 | 55.9 | 55.9 |
| Actuated g/C Ratio | 0.23 | 0.23 | | | 0.23 | | 0.62 | 0.62 | | 0.62 | 0.62 | 0.62 |
| Clearance Time (s) | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 303 | 342 | | | 316 | | 428 | 2129 | | 383 | 2195 | 954 |
| v/s Ratio Prot | | 0.02 | | | | | | c0.21 | | | 0.12 | |
| v/s Ratio Perm | 0.00 | | | | c0.08 | | 0.02 | | | 0.06 | | 0.00 |
| v/c Ratio | 0.01 | 0.08 | | | 0.35 | | 0.03 | 0.35 | | 0.10 | 0.20 | 0.01 |
| Uniform Delay, d1 | 26.7 | 27.1 | | | 28.9 | | 6.6 | 8.3 | | 6.9 | 7.4 | 6.5 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.1 | | | 0.9 | | 0.1 | 0.4 | | 0.5 | 0.2 | 0.0 |
| Delay (s) | 26.7 | 27.2 | | | 29.8 | | 6.7 | 8.7 | | 7.4 | 7.6 | 6.5 |
| Level of Service | C | C | | | C | | A | A | | A | A | A |
| Approach Delay (s) | | 27.2 | | | 29.8 | | | 8.7 | | | 7.6 | |
| Approach LOS | | C | | | C | | | A | | | A | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 10.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 90.1 | Sum of lost time (s) | 13.3 |
| Intersection Capacity Utilization | 57.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2020 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|-------|------|-------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 40 | 714 | 139 | 158 | 456 | 29 | 207 | 151 | 325 | 71 | 218 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1656 | 3428 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1656 | 3428 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 44 | 790 | 154 | 175 | 505 | 32 | 229 | 167 | 360 | 79 | 241 | 34 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 3 | 0 | 0 | 0 | 259 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 44 | 934 | 0 | 175 | 534 | 0 | 229 | 167 | 101 | 79 | 241 | 4 |
| Confl. Peds. (#/hr) | 2 | | 10 | 10 | | 2 | 5 | | 1 | 1 | | 5 |
| Heavy Vehicles (%) | 9% | 2% | 4% | 2% | 5% | 3% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 7.7 | 60.7 | | 12.0 | 65.0 | | 13.1 | 19.4 | 19.4 | 9.7 | 16.0 | 16.0 |
| Effective Green, g (s) | 7.7 | 60.7 | | 12.0 | 65.0 | | 13.1 | 19.4 | 19.4 | 9.7 | 16.0 | 16.0 |
| Actuated g/C Ratio | 0.06 | 0.47 | | 0.09 | 0.50 | | 0.10 | 0.15 | 0.15 | 0.07 | 0.12 | 0.12 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 98 | 1600 | | 316 | 1703 | | 345 | 278 | 233 | 132 | 435 | 191 |
| v/s Ratio Prot | 0.03 | c0.27 | | c0.05 | c0.16 | | c0.07 | c0.09 | | 0.04 | 0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.06 | | | 0.00 |
| v/c Ratio | 0.45 | 0.58 | | 0.55 | 0.31 | | 0.66 | 0.60 | 0.44 | 0.60 | 0.55 | 0.02 |
| Uniform Delay, d1 | 59.1 | 25.4 | | 56.4 | 19.3 | | 56.3 | 51.7 | 50.3 | 58.3 | 53.6 | 50.1 |
| 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 | 3.2 | 1.6 | | 2.1 | 0.1 | | 4.8 | 3.8 | 1.5 | 7.1 | 1.5 | 0.0 |
| Delay (s) | 62.3 | 27.0 | | 58.5 | 19.4 | | 61.1 | 55.5 | 51.9 | 65.4 | 55.2 | 50.2 |
| Level of Service | E | C | | E | B | | E | E | D | E | E | D |
| Approach Delay (s) | | 28.5 | | | 29.0 | | | 55.5 | | | 57.0 | |
| Approach LOS | | C | | | C | | | E | | | E | |






















| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 39.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 28.2 |
| Intersection Capacity Utilization | 71.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

2: SR 519 & Roy Wall Blvd

2020 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Volume (veh/h) | 2 | 1 | 0 | 100 | 2 | 177 | 3 | 648 | 97 | 126 | 751 | 1 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Hourly flow rate (vph) | 2 | 1 | 0 | 105 | 2 | 186 | 3 | 681 | 102 | 132 | 789 | 1 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | 10 | | | | | | |
| Median type | | | | | | | TWLTL | | | TWLTL | | |
| Median storage (veh) | | | | | | | 2 | | | 2 | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1495 | 1843 | 395 | 1347 | 1742 | 340 | 790 | | | 783 | | |
| vC1, stage 1 conf vol | 1054 | 1054 | | 687 | 687 | | | | | | | |
| vC2, stage 2 conf vol | 441 | 789 | | 660 | 1055 | | | | | | | |
| vCu, unblocked vol | 1495 | 1843 | 395 | 1347 | 1742 | 340 | 790 | | | 783 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.6 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.6 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 99 | 99 | 100 | 61 | 99 | 72 | 100 | | | 84 | | |
| cM capacity (veh/h) | 166 | 189 | 604 | 271 | 220 | 656 | 826 | | | 831 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 3 | 293 | 3 | 340 | 340 | 102 | 132 | 526 | 264 | | | |
| Volume Left | 2 | 105 | 3 | 0 | 0 | 0 | 132 | 0 | 0 | | | |
| Volume Right | 0 | 186 | 0 | 0 | 0 | 102 | 0 | 0 | 1 | | | |
| cSH | 173 | 738 | 826 | 1700 | 1700 | 1700 | 831 | 1700 | 1700 | | | |
| Volume to Capacity | 0.02 | 0.40 | 0.00 | 0.20 | 0.20 | 0.06 | 0.16 | 0.31 | 0.16 | | | |
| Queue Length 95th (ft) | 1 | 48 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | | | |
| Control Delay (s) | 26.2 | 17.8 | 9.4 | 0.0 | 0.0 | 0.0 | 10.2 | 0.0 | 0.0 | | | |
| Lane LOS | D | C | A | | | | B | | | | | |
| Approach Delay (s) | 26.2 | 17.8 | 0.0 | | | | 1.5 | | | | | |
| Approach LOS | D | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 3.3 | | | | | | | | | |
| Intersection Capacity Utilization | | | 43.8% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

3: SR 519 & Elementary School

2020 Future AM























| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 5 | 10 | 0 | 831 | 719 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 6 | 11 | 0 | 939 | 813 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh | | | | 2 | 2 | |
| Upstream signal (ft) | | | | | 442 | |
| pX, platoon unblocked | 0.85 | 0.85 | 0.85 | | | |
| vC, conflicting volume | 1282 | 406 | 813 | | | |
| vC1, stage 1 conf vol | 813 | | | | | |
| vC2, stage 2 conf vol | 470 | | | | | |
| vCu, unblocked vol | 983 | 0 | 431 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 99 | 99 | 100 | | | |
| cM capacity (veh/h) | 432 | 923 | 958 | | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|
| Volume Total | 6 | 11 | 470 | 470 | 406 | 406 |
| Volume Left | 6 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 11 | 0 | 0 | 0 | 0 |
| cSH | 432 | 923 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.01 | 0.28 | 0.28 | 0.24 | 0.24 |
| Queue Length 95th (ft) | 1 | 1 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.4 | 8.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 10.4 | | 0.0 | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | | | | |
|-----------------------------------|--|--|-------|----------------------|---|--|
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 33.9% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |




















HCM Unsignalized Intersection Capacity Analysis
 4: SR 519 & Hans Christian Anderson Elem Loop South

2020 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Volume (veh/h) | 42 | 2 | 10 | 18 | 2 | 39 | 164 | 652 | 20 | 26 | 691 | 79 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 47 | 2 | 11 | 20 | 2 | 44 | 185 | 737 | 23 | 29 | 781 | 89 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | 346 |
| pX, platoon unblocked | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | | 0.84 | | | | | |
| vC, conflicting volume | 1669 | 2015 | 435 | 1570 | 2037 | 369 | 870 | | | 760 | | |
| vC1, stage 1 conf vol | 885 | 885 | | 1108 | 1108 | | | | | | | |
| vC2, stage 2 conf vol | 785 | 1130 | | 462 | 929 | | | | | | | |
| vCu, unblocked vol | 1417 | 1828 | 0 | 1298 | 1854 | 369 | 467 | | | 760 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 77 | 99 | 99 | 88 | 99 | 93 | 80 | | | 97 | | |
| cM capacity (veh/h) | 204 | 175 | 912 | 172 | 166 | 629 | 917 | | | 848 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 61 | 67 | 185 | 369 | 369 | 23 | 29 | 521 | 350 | | | |
| Volume Left | 47 | 20 | 185 | 0 | 0 | 0 | 29 | 0 | 0 | | | |
| Volume Right | 11 | 44 | 0 | 0 | 0 | 23 | 0 | 0 | 89 | | | |
| cSH | 236 | 330 | 917 | 1700 | 1700 | 1700 | 848 | 1700 | 1700 | | | |
| Volume to Capacity | 0.26 | 0.20 | 0.20 | 0.22 | 0.22 | 0.01 | 0.03 | 0.31 | 0.21 | | | |
| Queue Length 95th (ft) | 25 | 19 | 19 | 0 | 0 | 0 | 3 | 0 | 0 | | | |
| Control Delay (s) | 25.5 | 18.7 | 9.9 | 0.0 | 0.0 | 0.0 | 9.4 | 0.0 | 0.0 | | | |
| Lane LOS | D | C | A | | | | A | | | | | |
| Approach Delay (s) | 25.5 | 18.7 | 1.9 | | | | 0.3 | | | | | |
| Approach LOS | D | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 2.5 | | | | | | | | | |
| Intersection Capacity Utilization | | | 49.0% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |







HCM Unsignalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2020 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | |  | |  | |  |  | | |  |  |
| Volume (veh/h) | 7 | 0 | 4 | 98 | 0 | 55 | 3 | 767 | 61 | 33 | 782 | 1 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 8 | 0 | 4 | 108 | 0 | 61 | 3 | 849 | 67 | 37 | 865 | 1 |
| Pedestrians | | 2 | | | 5 | | | | | | | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | | | | | |
| Percent Blockage | | 0 | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1433 | 1868 | 435 | 1404 | 1835 | 463 | 868 | | | 921 | | |
| vC1, stage 1 conf vol | 941 | 941 | | 894 | 894 | | | | | | | |
| vC2, stage 2 conf vol | 492 | 928 | | 510 | 941 | | | | | | | |
| vCu, unblocked vol | 1433 | 1868 | 435 | 1404 | 1835 | 463 | 868 | | | 921 | | |
| tC, single (s) | 7.5 | 6.5 | 7.4 | 7.5 | 6.5 | 7.0 | 4.1 | | | 4.2 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.5 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.3 | | |
| p0 queue free % | 97 | 100 | 99 | 58 | 100 | 89 | 100 | | | 95 | | |
| cM capacity (veh/h) | 233 | 226 | 509 | 261 | 241 | 541 | 770 | | | 710 | | |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | | | | |
| Volume Total | 8 | 4 | 169 | 3 | 566 | 350 | 469 | 434 | | | | |
| Volume Left | 8 | 0 | 108 | 3 | 0 | 0 | 37 | 0 | | | | |
| Volume Right | 0 | 4 | 61 | 0 | 0 | 67 | 0 | 1 | | | | |
| cSH | 233 | 509 | 321 | 770 | 1700 | 1700 | 710 | 1700 | | | | |
| Volume to Capacity | 0.03 | 0.01 | 0.53 | 0.00 | 0.33 | 0.21 | 0.05 | 0.26 | | | | |
| Queue Length 95th (ft) | 3 | 1 | 73 | 0 | 0 | 0 | 4 | 0 | | | | |
| Control Delay (s) | 21.0 | 12.1 | 28.1 | 9.7 | 0.0 | 0.0 | 1.5 | 0.0 | | | | |
| Lane LOS | C | B | D | A | | | A | | | | | |
| Approach Delay (s) | 17.8 | | 28.1 | 0.0 | | | 0.8 | | | | | |
| Approach LOS | C | | D | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 2.8 | | | | | | | | | |
| Intersection Capacity Utilization | | | 70.2% | ICU Level of Service | | | | | | | C | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
18: SR 519

2020 Future AM

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | | ↑↑ | ↗ | ↘ | ↑↑ |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh | | | 1 | | | 1 |
| Upstream signal (ft) | | | 750 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | 0 | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | | | 0 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 1023 | 1084 | | | 1622 | |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
30: SR 519

2020 Future AM

























| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | TWLTL | |
| Median storage (veh) | | | | | 2 | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | 0 | | | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1023 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|------------------------|------|------|------|------|------|------|------|------|
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | A | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | | 0.0 | | |
| Approach LOS | A | | | | | | | |

| Intersection Summary | | |
|-----------------------------------|------|----------------------|
| Average Delay | | 0.0 |
| Intersection Capacity Utilization | 0.0% | ICU Level of Service |
| Analysis Period (min) | | 15 |
| | | A |

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL | |
| Lane Configurations |  |  |  | |  |  |  |  |  |  | |  | |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 374 | 142 | 63 | 2 | 335 | 303 | 161 | 363 | 620 | 405 | 2 | 204 | |
| RTOR Reduction (vph) | 0 | 0 | 46 | 0 | 0 | 0 | 127 | 0 | 0 | 294 | 0 | 0 | |
| Lane Group Flow (vph) | 374 | 142 | 17 | 0 | 337 | 303 | 34 | 363 | 620 | 111 | 0 | 206 | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | NA | Perm | Prot | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 32.7 | 43.1 | 43.1 | | 20.8 | 29.8 | 29.8 | 29.5 | 43.6 | 43.6 | | 22.5 | |
| Effective Green, g (s) | 32.7 | 43.1 | 43.1 | | 20.8 | 29.8 | 29.8 | 29.5 | 43.6 | 43.6 | | 22.5 | |
| Actuated g/C Ratio | 0.21 | 0.27 | 0.27 | | 0.13 | 0.19 | 0.19 | 0.19 | 0.28 | 0.28 | | 0.14 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 365 | 506 | 430 | | 450 | 350 | 297 | 329 | 973 | 435 | | 251 | |
| v/s Ratio Prot | c0.21 | 0.08 | | | 0.10 | c0.16 | | c0.21 | c0.18 | | | 0.12 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.02 | | | 0.07 | | | |
| v/c Ratio | 1.02 | 0.28 | 0.04 | | 0.75 | 0.87 | 0.12 | 1.10 | 0.64 | 0.26 | | 0.82 | |
| Uniform Delay, d1 | 62.9 | 45.5 | 42.5 | | 66.3 | 62.4 | 53.4 | 64.5 | 50.5 | 44.8 | | 66.0 | |
| 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 | 53.6 | 0.4 | 0.1 | | 6.7 | 19.5 | 0.2 | 80.3 | 1.4 | 0.3 | | 18.9 | |
| Delay (s) | 116.5 | 45.9 | 42.5 | | 73.0 | 81.9 | 53.6 | 144.8 | 51.9 | 45.1 | | 85.0 | |
| Level of Service | F | D | D | | E | F | D | F | D | D | | F | |
| Approach Delay (s) | | 91.1 | | | | 72.5 | | | 74.2 | | | | |
| Approach LOS | | F | | | | E | | | E | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 74.3 | | | | | | | | | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | | | 0.96 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 158.5 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 93.4% | | | | | | | | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future PM



| Movement | SBT | SBR |
|------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 680 | 135 |
| RTOR Reduction (vph) | 0 | 103 |
| Lane Group Flow (vph) | 680 | 32 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 37.0 | 37.0 |
| Effective Green, g (s) | 37.0 | 37.0 |
| Actuated g/C Ratio | 0.23 | 0.23 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 826 | 369 |
| v/s Ratio Prot | c0.19 | |
| v/s Ratio Perm | | 0.02 |
| v/c Ratio | 0.82 | 0.09 |
| Uniform Delay, d1 | 57.6 | 47.5 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.7 | 0.1 |
| Delay (s) | 64.3 | 47.6 |
| Level of Service | E | D |
| Approach Delay (s) | 66.3 | |
| Approach LOS | E | |

Intersection Summary

HCM Signalized Intersection Capacity Analysis
5: SR 519 & Hans Christian Anderson Elem Entrance

2020 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 804 | 720 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.9 | 6.9 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | |
| Frt | | | | 1.00 | 1.00 | |
| Flt Protected | | | | 1.00 | 1.00 | |
| Satd. Flow (prot) | | | | 3539 | 3534 | |
| Flt Permitted | | | | 1.00 | 1.00 | |
| Satd. Flow (perm) | | | | 3539 | 3534 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 0 | 0 | 0 | 909 | 814 | 8 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 909 | 822 | 0 |
| Turn Type | | | Perm | NA | NA | |
| Protected Phases | | | | 2 | 2 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | | 52.8 | 52.8 | |
| Effective Green, g (s) | | | | 52.8 | 52.8 | |
| Actuated g/C Ratio | | | | 0.56 | 0.56 | |
| Clearance Time (s) | | | | 6.9 | 6.9 | |
| Vehicle Extension (s) | | | | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | | | 1998 | 1995 | |
| v/s Ratio Prot | | | | 0.26 | 0.23 | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | | | 0.45 | 0.41 | |
| Uniform Delay, d1 | | | | 11.9 | 11.5 | |
| Progression Factor | | | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | 0.7 | 0.6 | |
| Delay (s) | | | | 12.7 | 12.2 | |
| Level of Service | | | | B | B | |
| Approach Delay (s) | 0.0 | | | 12.7 | 12.2 | |
| Approach LOS | A | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.30 | | |
| Actuated Cycle Length (s) | 93.5 | Sum of lost time (s) | 13.7 |
| Intersection Capacity Utilization | 28.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: SR 519 & Eyster Blvd

2020 Future PM



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-------|------|-------|------|-------|-------|
| Lane Configurations | | | | | | |
| Volume (vph) | 192 | 153 | 820 | 144 | 148 | 840 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frbp, ped/bikes | 1.00 | 0.95 | 1.00 | 0.92 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1509 | 3539 | 1460 | 1767 | 3539 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.16 | 1.00 |
| Satd. Flow (perm) | 1770 | 1509 | 3539 | 1460 | 301 | 3539 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 217 | 173 | 927 | 163 | 167 | 950 |
| RTOR Reduction (vph) | 0 | 132 | 0 | 81 | 0 | 0 |
| Lane Group Flow (vph) | 217 | 41 | 927 | 82 | 167 | 950 |
| Confl. Peds. (#/hr) | 5 | 58 | | 72 | 72 | |
| Turn Type | Prot | Perm | NA | Perm | pm+pt | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | 6 | |
| Actuated Green, G (s) | 19.7 | 19.7 | 32.6 | 32.6 | 49.7 | 49.7 |
| Effective Green, g (s) | 19.7 | 19.7 | 32.6 | 32.6 | 49.7 | 49.7 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.40 | 0.40 | 0.60 | 0.60 |
| Clearance Time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 |
| Lane Grp Cap (vph) | 423 | 360 | 1400 | 577 | 364 | 2134 |
| v/s Ratio Prot | c0.12 | | c0.26 | | 0.06 | c0.27 |
| v/s Ratio Perm | | 0.03 | | 0.06 | 0.22 | |
| v/c Ratio | 0.51 | 0.11 | 0.66 | 0.14 | 0.46 | 0.45 |
| Uniform Delay, d1 | 27.2 | 24.5 | 20.4 | 15.9 | 10.2 | 8.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.4 | 0.2 | 1.2 | 0.1 | 1.1 | 0.2 |
| Delay (s) | 28.6 | 24.7 | 21.6 | 16.1 | 11.3 | 9.0 |
| Level of Service | C | C | C | B | B | A |
| Approach Delay (s) | 26.9 | | 20.8 | | | 9.4 |
| Approach LOS | C | | C | | | A |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 16.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 82.4 | Sum of lost time (s) | 19.8 |
| Intersection Capacity Utilization | 95.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

HCM Signalized Intersection Capacity Analysis

8: SR 519 & Barton Blvd

2020 Future PM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|-------|------|------|------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 47 | 47 | 39 | 235 | 52 | 234 | 36 | 738 | 173 | 230 | 727 | 86 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1528 | 1681 | 1715 | 1521 | 1752 | 3539 | 1583 | 3433 | 3478 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1528 | 1681 | 1715 | 1521 | 1752 | 3539 | 1583 | 3433 | 3478 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 54 | 54 | 45 | 272 | 60 | 270 | 42 | 853 | 200 | 266 | 840 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 40 | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 54 | 54 | 5 | 166 | 166 | 44 | 42 | 853 | 200 | 266 | 935 | 0 |
| Confl. Peds. (#/hr) | 25 | | 21 | 21 | | 25 | 3 | | | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | |
| Actuated Green, G (s) | 12.5 | 12.5 | 12.5 | 19.6 | 19.6 | 19.6 | 8.7 | 47.2 | 120.5 | 14.8 | 53.0 | |
| Effective Green, g (s) | 12.5 | 12.5 | 12.5 | 19.6 | 19.6 | 19.6 | 8.7 | 47.2 | 120.5 | 14.8 | 53.0 | |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.16 | 0.16 | 0.16 | 0.07 | 0.39 | 1.00 | 0.12 | 0.44 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 183 | 193 | 158 | 273 | 278 | 247 | 126 | 1386 | 1583 | 421 | 1529 | |
| v/s Ratio Prot | c0.03 | 0.03 | | c0.10 | 0.10 | | 0.02 | 0.24 | | c0.08 | c0.27 | |
| v/s Ratio Perm | | | 0.00 | | | 0.03 | | | 0.13 | | | |
| v/c Ratio | 0.30 | 0.28 | 0.03 | 0.61 | 0.60 | 0.18 | 0.33 | 0.62 | 0.13 | 0.63 | 0.61 | |
| Uniform Delay, d1 | 49.9 | 49.8 | 48.5 | 46.9 | 46.8 | 43.5 | 53.1 | 29.4 | 0.0 | 50.3 | 25.9 | |
| 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 | 0.9 | 0.8 | 0.1 | 3.8 | 3.4 | 0.3 | 3.3 | 2.1 | 0.2 | 3.1 | 1.8 | |
| Delay (s) | 50.8 | 50.6 | 48.6 | 50.7 | 50.2 | 43.8 | 56.4 | 31.4 | 0.2 | 53.3 | 27.7 | |
| Level of Service | D | D | D | D | D | D | E | C | A | D | C | |
| Approach Delay (s) | | 50.1 | | | 47.5 | | | 26.7 | | | 33.4 | |
| Approach LOS | | D | | | D | | | C | | | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 34.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 120.5 | Sum of lost time (s) | 26.7 |
| Intersection Capacity Utilization | 80.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: SR 519 & St. Andrews Dr

2020 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 66 | 47 | 73 | 980 | 971 | 93 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1555 | 1768 | 3539 | 3475 | |
| Flt Permitted | 0.95 | 1.00 | 0.18 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1555 | 341 | 3539 | 3475 | |
| Peak-hour factor, PHF | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 70 | 50 | 77 | 1040 | 1030 | 99 |
| RTOR Reduction (vph) | 0 | 44 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 70 | 6 | 77 | 1040 | 1125 | 0 |
| Confl. Peds. (#/hr) | | 8 | 20 | | | 20 |
| Turn Type | Prot | Perm | pm+pt | NA | NA | |
| Protected Phases | 4 | | 1 | 6 | 2 | |
| Permitted Phases | | 4 | 6 | | | |
| Actuated Green, G (s) | 10.9 | 10.9 | 68.6 | 68.6 | 56.3 | |
| Effective Green, g (s) | 10.9 | 10.9 | 68.6 | 68.6 | 56.3 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.75 | 0.75 | 0.62 | |
| Clearance Time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | 211 | 185 | 346 | 2659 | 2142 | |
| v/s Ratio Prot | c0.04 | | 0.01 | c0.29 | c0.32 | |
| v/s Ratio Perm | | 0.00 | 0.15 | | | |
| v/c Ratio | 0.33 | 0.03 | 0.22 | 0.39 | 0.53 | |
| Uniform Delay, d1 | 36.9 | 35.5 | 4.9 | 4.0 | 9.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.1 | 0.3 | 0.1 | 0.9 | |
| Delay (s) | 37.8 | 35.6 | 5.2 | 4.1 | 10.8 | |
| Level of Service | D | D | A | A | B | |
| Approach Delay (s) | 36.9 | | | 4.2 | 10.8 | |
| Approach LOS | D | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 9.0 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 91.3 | Sum of lost time (s) | 18.3 |
| Intersection Capacity Utilization | 61.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

HCM Signalized Intersection Capacity Analysis
 10: SR 519 & Pluckebaum Rd

2020 Future PM



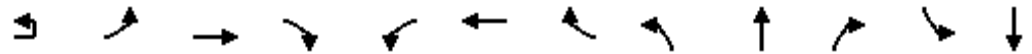
| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 31 | 314 | 267 | 752 | 756 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1583 | 1751 | 3539 | 3514 | |
| Flt Permitted | | 0.95 | 1.00 | 0.25 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1583 | 468 | 3539 | 3514 | |
| Peak-hour factor, PHF | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 34 | 344 | 292 | 823 | 828 | 36 |
| RTOR Reduction (vph) | 0 | 0 | 304 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 36 | 40 | 292 | 823 | 862 | 0 |
| Confl. Peds. (#/hr) | | | | 8 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.3 | 8.3 | 43.1 | 43.1 | 30.7 | |
| Effective Green, g (s) | | 8.3 | 8.3 | 43.1 | 43.1 | 30.7 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | 0.61 | 0.61 | 0.43 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 207 | 185 | 510 | 2487 | 1525 | |
| v/s Ratio Prot | | | | c0.10 | 0.14 | 0.25 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.25 | 0.09 | | |
| v/c Ratio | | 0.17 | 0.22 | 0.57 | 0.33 | 0.57 | |
| Uniform Delay, d1 | | 28.1 | 28.3 | 7.1 | 6.7 | 15.0 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 0.6 | 1.6 | 0.1 | 1.5 | |
| Delay (s) | | 28.5 | 28.9 | 8.7 | 6.8 | 16.5 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 28.8 | | | 7.3 | 16.5 | |
| Approach LOS | | C | | | A | B | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 14.1 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 70.7 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 59.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 11: SR 519 & Rosa L Jones Blvd

2020 Future PM



| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|------------------------|------|------|------|------|------|-------|------|------|-------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 7 | 20 | 38 | 111 | 21 | 46 | 16 | 737 | 59 | 26 | 640 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 |
| Lane Util. Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 |
| Frbp, ped/bikes | | 1.00 | 0.98 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 0.99 | 1.00 |
| Frt | | 1.00 | 0.90 | | | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 1765 | 1584 | | | 1708 | | 1703 | 3489 | | 1761 | 3539 |
| Flt Permitted | | 0.64 | 1.00 | | | 0.77 | | 0.36 | 1.00 | | 0.28 | 1.00 |
| Satd. Flow (perm) | | 1187 | 1584 | | | 1359 | | 641 | 3489 | | 524 | 3539 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 1 | 8 | 23 | 43 | 125 | 24 | 52 | 18 | 833 | 67 | 29 | 723 |
| RTOR Reduction (vph) | 0 | 0 | 33 | 0 | 0 | 14 | 0 | 0 | 6 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 9 | 33 | 0 | 0 | 187 | 0 | 18 | 894 | 0 | 29 | 723 |
| Confl. Peds. (#/hr) | | 4 | | 18 | 18 | | 4 | | | 8 | 8 | |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 4% | 4% | 6% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA |
| Protected Phases | | | 4 | | | 4 | | | 2 | | | 2 |
| Permitted Phases | 4 | 4 | | | 4 | | | 2 | | | 2 | |
| Actuated Green, G (s) | | 21.5 | 21.5 | | | 21.5 | | 55.9 | 55.9 | | 55.9 | 55.9 |
| Effective Green, g (s) | | 21.5 | 21.5 | | | 21.5 | | 55.9 | 55.9 | | 55.9 | 55.9 |
| Actuated g/C Ratio | | 0.24 | 0.24 | | | 0.24 | | 0.62 | 0.62 | | 0.62 | 0.62 |
| Clearance Time (s) | | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 |
| Vehicle Extension (s) | | 4.0 | 4.0 | | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 281 | 375 | | | 322 | | 395 | 2150 | | 322 | 2181 |
| v/s Ratio Prot | | | 0.02 | | | | | | c0.26 | | | 0.20 |
| v/s Ratio Perm | | 0.01 | | | | c0.14 | | 0.03 | | | 0.06 | |
| v/c Ratio | | 0.03 | 0.09 | | | 0.58 | | 0.05 | 0.42 | | 0.09 | 0.33 |
| Uniform Delay, d1 | | 26.6 | 27.0 | | | 30.6 | | 6.9 | 9.0 | | 7.1 | 8.4 |
| Progression Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.1 | 0.1 | | | 3.1 | | 0.2 | 0.6 | | 0.6 | 0.4 |
| Delay (s) | | 26.7 | 27.1 | | | 33.8 | | 7.1 | 9.6 | | 7.6 | 8.8 |
| Level of Service | | C | C | | | C | | A | A | | A | A |
| Approach Delay (s) | | | 27.1 | | | 33.8 | | | 9.5 | | | 8.7 |
| Approach LOS | | | C | | | C | | | A | | | A |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 90.7 | Sum of lost time (s) | 13.3 |
| Intersection Capacity Utilization | 60.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | SBR |
|-----------------------------|------|
| Lane Configurations | 7 |
| Volume (vph) | 19 |
| Ideal Flow (vphpl) | 1900 |
| Total Lost time (s) | 6.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.85 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1583 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1583 |
| Peak-hour factor, PHF | 0.92 |
| Growth Factor (vph) | 104% |
| Adj. Flow (vph) | 21 |
| RTOR Reduction (vph) | 8 |
| Lane Group Flow (vph) | 13 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 2% |
| Turn Type | Perm |
| Protected Phases | |
| Permitted Phases | 2 |
| Actuated Green, G (s) | 55.9 |
| Effective Green, g (s) | 55.9 |
| Actuated g/C Ratio | 0.62 |
| Clearance Time (s) | 6.5 |
| Vehicle Extension (s) | 4.0 |
| Lane Grp Cap (vph) | 975 |
| v/s Ratio Prot | |
| v/s Ratio Perm | 0.01 |
| v/c Ratio | 0.01 |
| Uniform Delay, d1 | 6.7 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 0.0 |
| Delay (s) | 6.8 |
| Level of Service | A |
| Approach Delay (s) | |
| Approach LOS | |
| Intersection Summary | |

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2020 Future PM
























| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|------|------|-------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 45 | 645 | 186 | 290 | 719 | 33 | 303 | 206 | 229 | 93 | 215 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 49 | 699 | 202 | 314 | 779 | 36 | 328 | 223 | 248 | 101 | 233 | 40 |
| RTOR Reduction (vph) | 0 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 209 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 49 | 884 | 0 | 314 | 813 | 0 | 328 | 223 | 39 | 101 | 233 | 5 |
| Confl. Peds. (#/hr) | | | 13 | 13 | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 8.2 | 58.4 | | 18.1 | 68.3 | | 17.8 | 22.2 | 22.2 | 13.1 | 17.5 | 17.5 |
| Effective Green, g (s) | 8.2 | 58.4 | | 18.1 | 68.3 | | 17.8 | 22.2 | 22.2 | 13.1 | 17.5 | 17.5 |
| Actuated g/C Ratio | 0.06 | 0.42 | | 0.13 | 0.49 | | 0.13 | 0.16 | 0.16 | 0.09 | 0.12 | 0.12 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 101 | 1417 | | 443 | 1715 | | 436 | 295 | 251 | 165 | 442 | 197 |
| v/s Ratio Prot | 0.03 | c0.26 | | c0.09 | 0.23 | | c0.10 | c0.12 | | 0.06 | 0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | 0.00 |
| v/c Ratio | 0.49 | 0.62 | | 0.71 | 0.47 | | 0.75 | 0.76 | 0.16 | 0.61 | 0.53 | 0.03 |
| Uniform Delay, d1 | 63.9 | 32.1 | | 58.4 | 23.9 | | 59.0 | 56.3 | 50.8 | 61.0 | 57.4 | 53.8 |
| 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 | 3.6 | 0.9 | | 5.1 | 0.9 | | 7.2 | 10.8 | 0.3 | 6.6 | 1.1 | 0.1 |
| Delay (s) | 67.5 | 33.0 | | 63.6 | 24.8 | | 66.2 | 67.1 | 51.2 | 67.6 | 58.5 | 53.8 |
| Level of Service | E | C | | E | C | | E | E | D | E | E | D |
| Approach Delay (s) | | 34.8 | | | 35.6 | | | 61.8 | | | 60.5 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Intersection Summary | | |
|-----------------------------------|-------|-----------------------------|
| HCM 2000 Control Delay | 44.7 | HCM 2000 Level of Service D |
| HCM 2000 Volume to Capacity ratio | 0.71 | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) 28.2 |
| Intersection Capacity Utilization | 74.6% | ICU Level of Service D |
| Analysis Period (min) | 15 | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
2: SR 519 & Roy Wall Blvd

2020 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Volume (veh/h) | 2 | 0 | 7 | 64 | 1 | 152 | 4 | 920 | 80 | 154 | 909 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 2 | 0 | 8 | 73 | 1 | 174 | 5 | 1051 | 91 | 176 | 1039 | 0 |
| Pedestrians | | | | | 3 | | | 2 | | | | |
| Lane Width (ft) | | | | | 12.0 | | | 12.0 | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | 4.0 | | | | |
| Percent Blockage | | | | | 0 | | | 0 | | | | |
| Right turn flare (veh) | | | | | | 10 | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 2013 | 2546 | 521 | 1945 | 2454 | 529 | 1039 | | | 1146 | | |
| vC1, stage 1 conf vol | 1391 | 1391 | | 1064 | 1064 | | | | | | | |
| vC2, stage 2 conf vol | 622 | 1155 | | 881 | 1391 | | | | | | | |
| vCu, unblocked vol | 2013 | 2546 | 521 | 1945 | 2454 | 529 | 1039 | | | 1146 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 97 | 100 | 98 | 52 | 99 | 65 | 99 | | | 71 | | |
| cM capacity (veh/h) | 75 | 77 | 499 | 154 | 125 | 493 | 665 | | | 604 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 10 | 248 | 5 | 526 | 526 | 91 | 176 | 693 | 346 | | | |
| Volume Left | 2 | 73 | 5 | 0 | 0 | 0 | 176 | 0 | 0 | | | |
| Volume Right | 8 | 174 | 0 | 0 | 0 | 91 | 0 | 0 | 0 | | | |
| cSH | 221 | 512 | 665 | 1700 | 1700 | 1700 | 604 | 1700 | 1700 | | | |
| Volume to Capacity | 0.05 | 0.48 | 0.01 | 0.31 | 0.31 | 0.05 | 0.29 | 0.41 | 0.20 | | | |
| Queue Length 95th (ft) | 4 | 65 | 1 | 0 | 0 | 0 | 30 | 0 | 0 | | | |
| Control Delay (s) | 22.1 | 26.0 | 10.5 | 0.0 | 0.0 | 0.0 | 13.4 | 0.0 | 0.0 | | | |
| Lane LOS | C | D | B | | | | B | | | | | |
| Approach Delay (s) | 22.1 | 26.0 | 0.0 | | | | 1.9 | | | | | |
| Approach LOS | C | D | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 3.5 | | | | | | | | | |
| Intersection Capacity Utilization | | | 55.7% | ICU Level of Service | B | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

3: SR 519 & Elementary School

2020 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 3 | 20 | 0 | 826 | 710 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 3 | 23 | 0 | 934 | 803 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 446 | | |
| pX, platoon unblocked | 0.87 | 0.87 | 0.87 | | | |
| vC, conflicting volume | 1269 | 401 | 803 | | | |
| vC1, stage 1 conf vol | 803 | | | | | |
| vC2, stage 2 conf vol | 467 | | | | | |
| vCu, unblocked vol | 1022 | 29 | 488 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 99 | 98 | 100 | | | |
| cM capacity (veh/h) | 422 | 909 | 937 | | | |





















| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|
| Volume Total | 3 | 23 | 467 | 467 | 401 | 401 |
| Volume Left | 3 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 23 | 0 | 0 | 0 | 0 |
| cSH | 422 | 909 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.02 | 0.27 | 0.27 | 0.24 | 0.24 |
| Queue Length 95th (ft) | 1 | 2 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.6 | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 9.7 | | 0.0 | | 0.0 | |
| Approach LOS | A | | | | | |

| Intersection Summary | | | | | | |
|-----------------------------------|--|--|-------|----------------------|---|--|
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 33.7% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis



















4: SR 519 & Hans Christian Anderson Elem Loop South

2020 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Volume (veh/h) | 20 | 0 | 22 | 23 | 0 | 42 | 66 | 742 | 21 | 23 | 665 | 32 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 23 | 0 | 25 | 26 | 0 | 47 | 75 | 839 | 24 | 26 | 752 | 36 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | 346 |
| pX, platoon unblocked | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | | 0.87 | | | | | |
| vC, conflicting volume | 1438 | 1834 | 394 | 1441 | 1828 | 419 | 788 | | | 863 | | |
| vC1, stage 1 conf vol | 822 | 822 | | 988 | 988 | | | | | | | |
| vC2, stage 2 conf vol | 616 | 1012 | | 453 | 840 | | | | | | | |
| vCu, unblocked vol | 1206 | 1660 | 7 | 1209 | 1654 | 419 | 459 | | | 863 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 92 | 100 | 97 | 89 | 100 | 92 | 92 | | | 97 | | |
| cM capacity (veh/h) | 285 | 232 | 935 | 233 | 238 | 583 | 956 | | | 775 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 47 | 73 | 75 | 419 | 419 | 24 | 26 | 501 | 287 | | | |
| Volume Left | 23 | 26 | 75 | 0 | 0 | 0 | 26 | 0 | 0 | | | |
| Volume Right | 25 | 47 | 0 | 0 | 0 | 24 | 0 | 0 | 36 | | | |
| cSH | 448 | 380 | 956 | 1700 | 1700 | 1700 | 775 | 1700 | 1700 | | | |
| Volume to Capacity | 0.11 | 0.19 | 0.08 | 0.25 | 0.25 | 0.01 | 0.03 | 0.29 | 0.17 | | | |
| Queue Length 95th (ft) | 9 | 18 | 6 | 0 | 0 | 0 | 3 | 0 | 0 | | | |
| Control Delay (s) | 14.0 | 16.7 | 9.1 | 0.0 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 | | | |
| Lane LOS | B | C | A | | | | A | | | | | |
| Approach Delay (s) | 14.0 | 16.7 | 0.7 | | | | 0.3 | | | | | |
| Approach LOS | B | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 1.5 | | | | | | | | | |
| Intersection Capacity Utilization | | | 39.3% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2020 Future PM







| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  | |  |  | | |  |
| Volume (veh/h) | 12 | 0 | 7 | 1 | 32 | 0 | 58 | 10 | 919 | 70 | 67 | 894 |
| Sign Control | | Stop | | | | Stop | | | Free | | | Free |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Hourly flow rate (vph) | 13 | 0 | 8 | 0 | 36 | 0 | 65 | 11 | 1028 | 78 | 75 | 1000 |
| Pedestrians | | 2 | | | | 9 | | | | | | 1 |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | | | | 12.0 |
| Walking Speed (ft/s) | | 4.0 | | | | 4.0 | | | | | | 4.0 |
| Percent Blockage | | 0 | | | | 1 | | | | | | 0 |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | | TWLTL | | | TWLTL |
| Median storage veh | | | | | | | | | 2 | | | 2 |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | | | | | | | |
| vC, conflicting volume | 1762 | 2297 | 510 | 0 | 1756 | 2267 | 563 | 1019 | | | 1115 | |
| vC1, stage 1 conf vol | 1160 | 1160 | | | 1098 | 1098 | | | | | | |
| vC2, stage 2 conf vol | 602 | 1137 | | | 658 | 1168 | | | | | | |
| vCu, unblocked vol | 1762 | 2297 | 510 | 0 | 1756 | 2267 | 563 | 1019 | | | 1115 | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 0.0 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | |
| tC, 2 stage (s) | 6.5 | 5.5 | | | 6.5 | 5.5 | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 0.0 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | |
| p0 queue free % | 91 | 100 | 98 | 0 | 81 | 100 | 86 | 98 | | | 88 | |
| cM capacity (veh/h) | 157 | 148 | 507 | 0 | 187 | 171 | 466 | 676 | | | 617 | |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | | | | |
| Volume Total | 13 | 8 | 101 | 11 | 685 | 421 | 575 | 517 | | | | |
| Volume Left | 13 | 0 | 36 | 11 | 0 | 0 | 75 | 0 | | | | |
| Volume Right | 0 | 8 | 65 | 0 | 0 | 78 | 0 | 17 | | | | |
| cSH | 157 | 507 | 304 | 676 | 1700 | 1700 | 617 | 1700 | | | | |
| Volume to Capacity | 0.09 | 0.02 | 0.33 | 0.02 | 0.40 | 0.25 | 0.12 | 0.30 | | | | |
| Queue Length 95th (ft) | 7 | 1 | 35 | 1 | 0 | 0 | 10 | 0 | | | | |
| Control Delay (s) | 30.1 | 12.2 | 22.6 | 10.4 | 0.0 | 0.0 | 3.3 | 0.0 | | | | |
| Lane LOS | D | B | C | B | | | A | | | | | |
| Approach Delay (s) | 23.5 | | 22.6 | 0.1 | | | 1.7 | | | | | |
| Approach LOS | C | | C | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 2.0 | | | | | | | | | |
| Intersection Capacity Utilization | | | 79.4% | ICU Level of Service | | | D | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |



| | |
|------------------------|------|
| Movement | SBR |
| Lane Configurations | |
| Volume (veh/h) | 15 |
| Sign Control | |
| Grade | |
| Peak Hour Factor | 0.93 |
| Hourly flow rate (vph) | 17 |
| Pedestrians | |
| Lane Width (ft) | |
| Walking Speed (ft/s) | |
| Percent Blockage | |
| Right turn flare (veh) | |
| Median type | |
| Median storage (veh) | |
| Upstream signal (ft) | |
| pX, platoon unblocked | |
| vC, conflicting volume | |
| vC1, stage 1 conf vol | |
| vC2, stage 2 conf vol | |
| vCu, unblocked vol | |
| tC, single (s) | |
| tC, 2 stage (s) | |
| tF (s) | |
| p0 queue free % | |
| cM capacity (veh/h) | |
| Direction, Lane # | |

HCM Unsignalized Intersection Capacity Analysis
 18: SR 519

2020 Future PM

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | | ↑↑ | ↗ | ↘ | ↑↑ |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh | | | 1 | | | 1 |
| Upstream signal (ft) | | | 750 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | 0 | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | | | 0 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 1023 | 1084 | | | 1622 | |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
30: SR 519

2020 Future PM

























| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None TWLTL | | | | | |
| Median storage (veh) | 2 | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | 0 | | | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1023 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|------------------------|------|------|------|------|------|------|------|------|
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | A | | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Approach LOS | A | | | | | | | |

| Intersection Summary | | | |
|-----------------------------------|------|----------------------|---|
| Average Delay | 0.0 | | |
| Intersection Capacity Utilization | 0.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
| Lane Configurations |  |  |  | |  |  |  | |  |  |  |  | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1517 | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1517 | 1770 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 422 | 230 | 87 | 1 | 353 | 337 | 68 | 3 | 364 | 458 | 412 | 141 | |
| RTOR Reduction (vph) | 0 | 0 | 65 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 270 | 0 | |
| Lane Group Flow (vph) | 422 | 230 | 22 | 0 | 354 | 337 | 13 | 0 | 367 | 458 | 142 | 141 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | | 2 | | |
| Actuated Green, G (s) | 32.6 | 43.2 | 43.2 | | 23.1 | 32.3 | 32.3 | | 29.4 | 59.8 | 59.8 | 18.9 | |
| Effective Green, g (s) | 32.6 | 43.2 | 43.2 | | 23.1 | 32.3 | 32.3 | | 29.4 | 59.8 | 59.8 | 18.9 | |
| Actuated g/C Ratio | 0.19 | 0.25 | 0.25 | | 0.13 | 0.19 | 0.19 | | 0.17 | 0.34 | 0.34 | 0.11 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 339 | 463 | 390 | | 457 | 333 | 294 | | 299 | 1208 | 522 | 192 | |
| v/s Ratio Prot | c0.23 | 0.12 | | | 0.10 | c0.19 | | | c0.21 | 0.13 | | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.01 | | | | 0.09 | | |
| v/c Ratio | 1.24 | 0.50 | 0.06 | | 0.77 | 1.01 | 0.04 | | 1.23 | 0.38 | 0.27 | 0.73 | |
| Uniform Delay, d1 | 70.5 | 55.8 | 49.6 | | 72.7 | 70.6 | 57.9 | | 72.0 | 42.9 | 41.1 | 74.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 132.6 | 1.1 | 0.1 | | 8.0 | 52.4 | 0.1 | | 128.3 | 0.2 | 0.3 | 13.5 | |
| Delay (s) | 203.1 | 57.0 | 49.7 | | 80.7 | 123.0 | 58.0 | | 200.3 | 43.1 | 41.4 | 88.4 | |
| Level of Service | F | E | D | | F | F | E | | F | D | D | F | |
| Approach Delay (s) | | 139.5 | | | | 97.4 | | | | 89.2 | | | |
| Approach LOS | | F | | | | F | | | | F | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 93.4 | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | | | 1.07 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 173.5 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 98.2% | | | | | | | | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future AM



| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 894 | 190 |
| RTOR Reduction (vph) | 0 | 108 |
| Lane Group Flow (vph) | 894 | 82 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 49.7 | 49.7 |
| Effective Green, g (s) | 49.7 | 49.7 |
| Actuated g/C Ratio | 0.29 | 0.29 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1013 | 453 |
| v/s Ratio Prot | c0.25 | |
| v/s Ratio Perm | | 0.05 |
| v/c Ratio | 0.88 | 0.18 |
| Uniform Delay, d1 | 59.1 | 46.6 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.2 | 0.2 |
| Delay (s) | 68.3 | 46.8 |
| Level of Service | E | D |
| Approach Delay (s) | 67.3 | |
| Approach LOS | E | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis

5: SR 519 & Hans Christian Anderson Elem Entrance

2040 Future AM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 0 | 0 | 9 | 724 | 796 | 56 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | 6.9 | 6.9 | 6.9 | |
| Lane Util. Factor | | | 1.00 | 0.95 | 0.95 | |
| Frt | | | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | | 1770 | 3539 | 3504 | |
| Flt Permitted | | | 0.19 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | | 363 | 3539 | 3504 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 0 | 0 | 12 | 944 | 1038 | 73 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 12 | 944 | 1107 | 0 |
| Turn Type | | | Perm | NA | NA | |
| Protected Phases | | | | 2 | 2 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | 52.8 | 52.8 | 52.8 | |
| Effective Green, g (s) | | | 52.8 | 52.8 | 52.8 | |
| Actuated g/C Ratio | | | 0.56 | 0.56 | 0.56 | |
| Clearance Time (s) | | | 6.9 | 6.9 | 6.9 | |
| Vehicle Extension (s) | | | 3.5 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | | 204 | 1998 | 1978 | |
| v/s Ratio Prot | | | | 0.27 | c0.32 | |
| v/s Ratio Perm | | | 0.03 | | | |
| v/c Ratio | | | 0.06 | 0.47 | 0.56 | |
| Uniform Delay, d1 | | | 9.2 | 12.1 | 12.9 | |
| Progression Factor | | | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | 0.6 | 0.8 | 1.1 | |
| Delay (s) | | | 9.7 | 12.9 | 14.1 | |
| Level of Service | | | A | B | B | |
| Approach Delay (s) | 0.0 | | | 12.8 | 14.1 | |
| Approach LOS | A | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 13.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 93.5 | Sum of lost time (s) | 13.7 |
| Intersection Capacity Utilization | 34.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: SR 519 & Eyster Blvd

2040 Future AM



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-------|------|-------|------|-------|-------|
| Lane Configurations | | | | | | |
| Volume (vph) | 111 | 102 | 659 | 185 | 179 | 708 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 0.93 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1558 | 3539 | 1437 | 1765 | 3505 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.20 | 1.00 |
| Satd. Flow (perm) | 1770 | 1558 | 3539 | 1437 | 368 | 3505 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 139 | 128 | 824 | 231 | 224 | 885 |
| RTOR Reduction (vph) | 0 | 101 | 0 | 131 | 0 | 0 |
| Lane Group Flow (vph) | 139 | 27 | 824 | 100 | 224 | 885 |
| Confl. Peds. (#/hr) | 9 | 7 | | 73 | 73 | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 3% |
| Turn Type | Prot | Perm | NA | Perm | pm+pt | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | 6 | |
| Actuated Green, G (s) | 16.2 | 16.2 | 29.4 | 29.4 | 47.5 | 47.5 |
| Effective Green, g (s) | 16.2 | 16.2 | 29.4 | 29.4 | 47.5 | 47.5 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.38 | 0.38 | 0.62 | 0.62 |
| Clearance Time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 |
| Lane Grp Cap (vph) | 373 | 329 | 1356 | 550 | 433 | 2170 |
| v/s Ratio Prot | c0.08 | | c0.23 | | 0.08 | c0.25 |
| v/s Ratio Perm | | 0.02 | | 0.07 | 0.24 | |
| v/c Ratio | 0.37 | 0.08 | 0.61 | 0.18 | 0.52 | 0.41 |
| Uniform Delay, d1 | 25.9 | 24.3 | 19.0 | 15.7 | 8.7 | 7.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.9 | 0.1 | 0.8 | 0.2 | 1.2 | 0.1 |
| Delay (s) | 26.8 | 24.4 | 19.8 | 15.9 | 9.9 | 7.6 |
| Level of Service | C | C | B | B | A | A |
| Approach Delay (s) | 25.6 | | 19.0 | | | 8.1 |
| Approach LOS | C | | B | | | A |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 14.7 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 76.7 | Sum of lost time (s) | 19.8 |
| Intersection Capacity Utilization | 81.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: SR 519 & Barton Blvd

2040 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|-------|------|-------|------|------|------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 72 | 81 | 49 | 134 | 28 | 204 | 7 | 572 | 232 | 256 | 724 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1561 | 1681 | 1713 | 1498 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1561 | 1681 | 1713 | 1498 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 93 | 105 | 63 | 173 | 36 | 263 | 9 | 738 | 299 | 330 | 934 | 53 |
| RTOR Reduction (vph) | 0 | 0 | 56 | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 93 | 105 | 7 | 104 | 105 | 37 | 9 | 738 | 299 | 330 | 986 | 0 |
| Confl. Peds. (#/hr) | 4 | | 2 | 2 | | 4 | 2 | | 13 | 13 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 6% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | |
| Actuated Green, G (s) | 14.5 | 14.5 | 14.5 | 18.1 | 18.1 | 18.1 | 1.5 | 51.8 | 128.3 | 17.5 | 67.5 | |
| Effective Green, g (s) | 14.5 | 14.5 | 14.5 | 18.1 | 18.1 | 18.1 | 1.5 | 51.8 | 128.3 | 17.5 | 67.5 | |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.11 | 0.14 | 0.14 | 0.14 | 0.01 | 0.40 | 1.00 | 0.14 | 0.53 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 200 | 210 | 176 | 237 | 241 | 211 | 20 | 1428 | 1558 | 450 | 1845 | |
| v/s Ratio Prot | 0.05 | c0.06 | | c0.06 | 0.06 | | 0.01 | 0.21 | | c0.10 | c0.28 | |
| v/s Ratio Perm | | | 0.00 | | | 0.02 | | | 0.19 | | | |
| v/c Ratio | 0.47 | 0.50 | 0.04 | 0.44 | 0.44 | 0.18 | 0.45 | 0.52 | 0.19 | 0.73 | 0.53 | |
| Uniform Delay, d1 | 53.3 | 53.5 | 50.7 | 50.4 | 50.4 | 48.5 | 63.0 | 28.8 | 0.0 | 53.2 | 20.0 | |
| 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 | 1.7 | 1.9 | 0.1 | 1.3 | 1.3 | 0.4 | 30.2 | 1.3 | 0.3 | 6.1 | 1.1 | |
| Delay (s) | 55.0 | 55.4 | 50.8 | 51.7 | 51.7 | 48.9 | 93.2 | 30.2 | 0.3 | 59.3 | 21.2 | |
| Level of Service | D | E | D | D | D | D | F | C | A | E | C | |
| Approach Delay (s) | | 54.1 | | | 50.2 | | | 22.2 | | | 30.7 | |
| Approach LOS | | D | | | D | | | C | | | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 32.8 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 128.3 | Sum of lost time (s) | 26.7 |
| Intersection Capacity Utilization | 72.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: SR 519 & St. Andrews Dr

2040 Future AM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 55 | 52 | 37 | 760 | 861 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1752 | 1518 | 1770 | 3505 | 3447 | |
| Flt Permitted | 0.95 | 1.00 | 0.18 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1752 | 1518 | 344 | 3505 | 3447 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 70 | 66 | 47 | 970 | 1099 | 40 |
| RTOR Reduction (vph) | 0 | 58 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 70 | 8 | 47 | 970 | 1138 | 0 |
| Confl. Peds. (#/hr) | | 14 | | | | |
| Heavy Vehicles (%) | 3% | 4% | 2% | 3% | 4% | 9% |
| Turn Type | Prot | Perm | pm+pt | NA | NA | |
| Protected Phases | 4 | | 1 | 6 | 2 | |
| Permitted Phases | | 4 | 6 | | | |
| Actuated Green, G (s) | 10.9 | 10.9 | 67.1 | 67.1 | 56.7 | |
| Effective Green, g (s) | 10.9 | 10.9 | 67.1 | 67.1 | 56.7 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.75 | 0.75 | 0.63 | |
| Clearance Time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | 212 | 184 | 318 | 2618 | 2176 | |
| v/s Ratio Prot | c0.04 | | 0.01 | c0.28 | c0.33 | |
| v/s Ratio Perm | | 0.01 | 0.10 | | | |
| v/c Ratio | 0.33 | 0.04 | 0.15 | 0.37 | 0.52 | |
| Uniform Delay, d1 | 36.1 | 34.8 | 4.6 | 4.0 | 9.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.1 | 0.2 | 0.1 | 0.9 | |
| Delay (s) | 37.0 | 34.9 | 4.8 | 4.1 | 10.0 | |
| Level of Service | D | C | A | A | B | |
| Approach Delay (s) | 36.0 | | | 4.1 | 10.0 | |
| Approach LOS | D | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 8.9 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 89.8 | Sum of lost time (s) | 18.3 |
| Intersection Capacity Utilization | 60.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: SR 519 & Pluckebaum Rd

2040 Future AM



| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 23 | 291 | 198 | 618 | 532 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1538 | 1684 | 3539 | 3490 | |
| Flt Permitted | | 0.95 | 1.00 | 0.33 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1538 | 591 | 3539 | 3490 | |
| Peak-hour factor, PHF | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 3 | 31 | 388 | 264 | 824 | 709 | 13 |
| RTOR Reduction (vph) | 0 | 0 | 339 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 34 | 49 | 264 | 824 | 721 | 0 |
| Confl. Peds. (#/hr) | | | | 13 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 3% | 9% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.6 | 8.6 | 40.8 | 40.8 | 30.7 | |
| Effective Green, g (s) | | 8.6 | 8.6 | 40.8 | 40.8 | 30.7 | |
| Actuated g/C Ratio | | 0.13 | 0.13 | 0.59 | 0.59 | 0.45 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 221 | 192 | 511 | 2441 | 1559 | |
| v/s Ratio Prot | | | | c0.08 | 0.15 | 0.21 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.23 | 0.08 | | |
| v/c Ratio | | 0.15 | 0.25 | 0.52 | 0.34 | 0.46 | |
| Uniform Delay, d1 | | 26.8 | 27.1 | 6.9 | 7.1 | 13.2 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.3 | 0.7 | 0.9 | 0.1 | 1.0 | |
| Delay (s) | | 27.1 | 27.8 | 7.8 | 7.2 | 14.2 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 27.8 | | | 7.3 | 14.2 | |
| Approach LOS | | C | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 13.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 68.7 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 53.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 11: SR 519 & Rosa L Jones Blvd

2040 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|------|------|------|-------|------|------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 20 | 26 | 56 | 23 | 34 | 10 | 560 | 112 | 33 | 395 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 0.98 | | | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.92 | | | 0.96 | | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1477 | | | 1631 | | 1322 | 3433 | | 1698 | 3539 | 1539 |
| Flt Permitted | 0.68 | 1.00 | | | 0.81 | | 0.46 | 1.00 | | 0.30 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1259 | 1477 | | | 1359 | | 646 | 3433 | | 530 | 3539 | 1539 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 5 | 26 | 34 | 72 | 30 | 44 | 13 | 723 | 145 | 43 | 510 | 12 |
| RTOR Reduction (vph) | 0 | 26 | 0 | 0 | 18 | 0 | 0 | 16 | 0 | 0 | 0 | 5 |
| Lane Group Flow (vph) | 5 | 34 | 0 | 0 | 128 | 0 | 13 | 852 | 0 | 43 | 510 | 7 |
| Confl. Peds. (#/hr) | | | 17 | 17 | | | 3 | | 4 | 4 | | 3 |
| Heavy Vehicles (%) | 2% | 4% | 25% | 7% | 12% | 8% | 36% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | Perm |
| Protected Phases | | 4 | | | 4 | | | 2 | | | 2 | |
| Permitted Phases | 4 | | | 4 | | | 2 | | | 2 | | 2 |
| Actuated Green, G (s) | 20.9 | 20.9 | | | 20.9 | | 55.9 | 55.9 | | 55.9 | 55.9 | 55.9 |
| Effective Green, g (s) | 20.9 | 20.9 | | | 20.9 | | 55.9 | 55.9 | | 55.9 | 55.9 | 55.9 |
| Actuated g/C Ratio | 0.23 | 0.23 | | | 0.23 | | 0.62 | 0.62 | | 0.62 | 0.62 | 0.62 |
| Clearance Time (s) | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 292 | 342 | | | 315 | | 400 | 2129 | | 328 | 2195 | 954 |
| v/s Ratio Prot | | 0.02 | | | | | | c0.25 | | | 0.14 | |
| v/s Ratio Perm | 0.00 | | | | c0.09 | | 0.02 | | | 0.08 | | 0.00 |
| v/c Ratio | 0.02 | 0.10 | | | 0.41 | | 0.03 | 0.40 | | 0.13 | 0.23 | 0.01 |
| Uniform Delay, d1 | 26.7 | 27.2 | | | 29.3 | | 6.6 | 8.6 | | 7.1 | 7.6 | 6.5 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.2 | | | 1.2 | | 0.2 | 0.6 | | 0.8 | 0.2 | 0.0 |
| Delay (s) | 26.7 | 27.4 | | | 30.5 | | 6.8 | 9.2 | | 7.9 | 7.8 | 6.5 |
| Level of Service | C | C | | | C | | A | A | | A | A | A |
| Approach Delay (s) | | 27.3 | | | 30.5 | | | 9.2 | | | 7.8 | |
| Approach LOS | | C | | | C | | | A | | | A | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 11.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.40 | | |
| Actuated Cycle Length (s) | 90.1 | Sum of lost time (s) | 13.3 |
| Intersection Capacity Utilization | 62.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2040 Future AM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|-------|------|-------|------|-------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 40 | 714 | 139 | 158 | 456 | 29 | 207 | 151 | 325 | 71 | 218 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1656 | 3429 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1656 | 3429 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 51 | 911 | 177 | 202 | 582 | 37 | 264 | 193 | 415 | 91 | 278 | 40 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 3 | 0 | 0 | 0 | 241 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 51 | 1078 | 0 | 202 | 616 | 0 | 264 | 193 | 174 | 91 | 278 | 5 |
| Confl. Peds. (#/hr) | 2 | | 10 | 10 | | 2 | 5 | | 1 | 1 | | 5 |
| Heavy Vehicles (%) | 9% | 2% | 4% | 2% | 5% | 3% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 8.2 | 58.8 | | 13.0 | 63.6 | | 12.9 | 21.8 | 21.8 | 8.2 | 17.1 | 17.1 |
| Effective Green, g (s) | 8.2 | 58.8 | | 13.0 | 63.6 | | 12.9 | 21.8 | 21.8 | 8.2 | 17.1 | 17.1 |
| Actuated g/C Ratio | 0.06 | 0.45 | | 0.10 | 0.49 | | 0.10 | 0.17 | 0.17 | 0.06 | 0.13 | 0.13 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 104 | 1550 | | 343 | 1666 | | 340 | 312 | 262 | 111 | 465 | 204 |
| v/s Ratio Prot | 0.03 | c0.31 | | c0.06 | c0.18 | | c0.08 | 0.10 | | 0.05 | 0.08 | |
| v/s Ratio Perm | | | | | | | | | c0.11 | | | 0.00 |
| v/c Ratio | 0.49 | 0.70 | | 0.59 | 0.37 | | 0.78 | 0.62 | 0.67 | 0.82 | 0.60 | 0.03 |
| Uniform Delay, d1 | 58.9 | 28.4 | | 55.9 | 20.7 | | 57.1 | 50.2 | 50.7 | 60.2 | 53.2 | 49.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.6 | 2.6 | | 2.6 | 0.1 | | 10.6 | 3.8 | 6.5 | 35.7 | 2.1 | 0.1 |
| Delay (s) | 62.5 | 31.1 | | 58.5 | 20.8 | | 67.8 | 54.0 | 57.2 | 95.8 | 55.3 | 49.2 |
| Level of Service | E | C | | E | C | | E | D | E | F | E | D |
| Approach Delay (s) | | 32.5 | | | 30.1 | | | 59.7 | | | 63.7 | |
| Approach LOS | | C | | | C | | | E | | | E | |






















| Intersection Summary | | |
|-----------------------------------|-------|-----------------------------|
| HCM 2000 Control Delay | 43.1 | HCM 2000 Level of Service D |
| HCM 2000 Volume to Capacity ratio | 0.72 | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) 28.2 |
| Intersection Capacity Utilization | 76.3% | ICU Level of Service D |
| Analysis Period (min) | 15 | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

2: SR 519 & Roy Wall Blvd

2040 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Volume (veh/h) | 2 | 1 | 0 | 100 | 2 | 177 | 3 | 648 | 97 | 126 | 751 | 1 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Hourly flow rate (vph) | 2 | 1 | 0 | 121 | 2 | 215 | 4 | 785 | 118 | 153 | 910 | 1 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | 10 | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage (veh) | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1725 | 2127 | 456 | 1554 | 2010 | 393 | 912 | | | 903 | | |
| vC1, stage 1 conf vol | 1216 | 1216 | | 793 | 793 | | | | | | | |
| vC2, stage 2 conf vol | 508 | 910 | | 761 | 1217 | | | | | | | |
| vCu, unblocked vol | 1725 | 2127 | 456 | 1554 | 2010 | 393 | 912 | | | 903 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.6 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.6 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 98 | 99 | 100 | 45 | 99 | 65 | 100 | | | 80 | | |
| cM capacity (veh/h) | 116 | 142 | 552 | 221 | 175 | 606 | 743 | | | 749 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 4 | 338 | 4 | 393 | 393 | 118 | 153 | 607 | 305 | | | |
| Volume Left | 2 | 121 | 4 | 0 | 0 | 0 | 153 | 0 | 0 | | | |
| Volume Right | 0 | 215 | 0 | 0 | 0 | 118 | 0 | 0 | 1 | | | |
| cSH | 124 | 603 | 743 | 1700 | 1700 | 1700 | 749 | 1700 | 1700 | | | |
| Volume to Capacity | 0.03 | 0.56 | 0.00 | 0.23 | 0.23 | 0.07 | 0.20 | 0.36 | 0.18 | | | |
| Queue Length 95th (ft) | 2 | 87 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | | | |
| Control Delay (s) | 35.0 | 23.7 | 9.9 | 0.0 | 0.0 | 0.0 | 11.0 | 0.0 | 0.0 | | | |
| Lane LOS | D | C | A | | | | B | | | | | |
| Approach Delay (s) | 35.0 | 23.7 | 0.0 | | | | 1.6 | | | | | |
| Approach LOS | D | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 4.3 | | | | | | | | | |
| Intersection Capacity Utilization | | | 49.0% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

3: SR 519 & Elementary School

2040 Future AM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 5 | 10 | 0 | 831 | 719 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 7 | 13 | 0 | 1084 | 938 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | | 442 | |
| pX, platoon unblocked | 0.81 | 0.81 | 0.81 | | | |
| vC, conflicting volume | 1480 | 469 | 938 | | | |
| vC1, stage 1 conf vol | 938 | | | | | |
| vC2, stage 2 conf vol | 542 | | | | | |
| vCu, unblocked vol | 1130 | 0 | 464 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 99 | 100 | | | |
| cM capacity (veh/h) | 387 | 882 | 889 | | | |





















| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|
| Volume Total | 7 | 13 | 542 | 542 | 469 | 469 |
| Volume Left | 7 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 13 | 0 | 0 | 0 | 0 |
| cSH | 387 | 882 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.02 | 0.01 | 0.32 | 0.32 | 0.28 | 0.28 |
| Queue Length 95th (ft) | 1 | 1 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 14.5 | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 10.9 | | 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 | | | |

HCM Unsignalized Intersection Capacity Analysis




















4: SR 519 & Hans Christian Anderson Elem Loop South

2040 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Volume (veh/h) | 42 | 2 | 10 | 18 | 2 | 39 | 164 | 652 | 20 | 26 | 691 | 79 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 55 | 3 | 13 | 23 | 3 | 51 | 214 | 850 | 26 | 34 | 901 | 103 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | | | | | |
| Median storage veh | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | | 0.80 | | | | | |
| vC, conflicting volume | 1926 | 2325 | 502 | 1811 | 2350 | 425 | 1004 | | | 877 | | |
| vC1, stage 1 conf vol | 1021 | 1021 | | 1278 | 1278 | | | | | | | |
| vC2, stage 2 conf vol | 905 | 1304 | | 533 | 1072 | | | | | | | |
| vCu, unblocked vol | 1661 | 2159 | 0 | 1518 | 2190 | 425 | 512 | | | 877 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 63 | 98 | 99 | 81 | 98 | 91 | 75 | | | 96 | | |
| cM capacity (veh/h) | 150 | 127 | 870 | 126 | 118 | 577 | 842 | | | 766 | | |
| Direction, Lane # | | | | | | | | | | | | |
| | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 70 | 77 | 214 | 425 | 425 | 26 | 34 | 601 | 403 | | | |
| Volume Left | 55 | 23 | 214 | 0 | 0 | 0 | 34 | 0 | 0 | | | |
| Volume Right | 13 | 51 | 0 | 0 | 0 | 26 | 0 | 0 | 103 | | | |
| cSH | 176 | 260 | 842 | 1700 | 1700 | 1700 | 766 | 1700 | 1700 | | | |
| Volume to Capacity | 0.40 | 0.30 | 0.25 | 0.25 | 0.25 | 0.02 | 0.04 | 0.35 | 0.24 | | | |
| Queue Length 95th (ft) | 44 | 30 | 25 | 0 | 0 | 0 | 3 | 0 | 0 | | | |
| Control Delay (s) | 38.6 | 24.6 | 10.7 | 0.0 | 0.0 | 0.0 | 9.9 | 0.0 | 0.0 | | | |
| Lane LOS | E | C | B | | | | A | | | | | |
| Approach Delay (s) | 38.6 | 24.6 | 2.1 | | | | 0.3 | | | | | |
| Approach LOS | E | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 3.2 | | | | | | | | | |
| Intersection Capacity Utilization | | | 55.0% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |







HCM Unsignalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2040 Future AM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | |  | |  | |  |  | | |  |  |
| Volume (veh/h) | 7 | 0 | 4 | 98 | 0 | 55 | 3 | 767 | 61 | 33 | 782 | 1 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 9 | 0 | 5 | 125 | 0 | 70 | 4 | 979 | 78 | 42 | 998 | 1 |
| Pedestrians | | 2 | | | 5 | | | | | | | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | | | | | |
| Percent Blockage | | 0 | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | TWLTL | | | TWLTL | | |
| Median storage veh | | | | | | | 2 | | | 2 | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1653 | 2155 | 502 | 1619 | 2117 | 534 | 1002 | | | 1062 | | |
| vC1, stage 1 conf vol | 1085 | 1085 | | 1031 | 1031 | | | | | | | |
| vC2, stage 2 conf vol | 567 | 1070 | | 589 | 1086 | | | | | | | |
| vCu, unblocked vol | 1653 | 2155 | 502 | 1619 | 2117 | 534 | 1002 | | | 1062 | | |
| tC, single (s) | 7.5 | 6.5 | 7.4 | 7.5 | 6.5 | 7.0 | 4.1 | | | 4.2 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.5 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.3 | | |
| p0 queue free % | 95 | 100 | 99 | 42 | 100 | 86 | 99 | | | 93 | | |
| cM capacity (veh/h) | 186 | 184 | 458 | 215 | 200 | 486 | 686 | | | 626 | | |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | | | | |
| Volume Total | 9 | 5 | 195 | 4 | 653 | 404 | 541 | 500 | | | | |
| Volume Left | 9 | 0 | 125 | 4 | 0 | 0 | 42 | 0 | | | | |
| Volume Right | 0 | 5 | 70 | 0 | 0 | 78 | 0 | 1 | | | | |
| cSH | 186 | 458 | 269 | 686 | 1700 | 1700 | 626 | 1700 | | | | |
| Volume to Capacity | 0.05 | 0.01 | 0.73 | 0.01 | 0.38 | 0.24 | 0.07 | 0.29 | | | | |
| Queue Length 95th (ft) | 4 | 1 | 128 | 0 | 0 | 0 | 5 | 0 | | | | |
| Control Delay (s) | 25.4 | 13.0 | 47.3 | 10.3 | 0.0 | 0.0 | 1.9 | 0.0 | | | | |
| Lane LOS | D | B | E | B | | | A | | | | | |
| Approach Delay (s) | 20.9 | | 47.3 | 0.0 | | | 1.0 | | | | | |
| Approach LOS | C | | E | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 4.6 | | | | | | | | | |
| Intersection Capacity Utilization | | | 78.9% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 18: SR 519

2040 Future AM

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | | ↑↑ | ↗ | ↘ | ↑↑ |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh | | | 1 | | | 1 |
| Upstream signal (ft) | | | 750 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | 0 | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | | | 0 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 1023 | 1084 | | | 1622 | |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
30: SR 519

2040 Future AM

























| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------------|------|------|------|------|------|
| Lane Configurations | ↶ | ↷ | ↶ | ↷ | ↷ | ↶ |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None TWLTL | | | | | |
| Median storage (veh) | 2 | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | 0 | | | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1023 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|------------------------|------|------|------|------|------|------|------|------|
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | A | | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Approach LOS | A | | | | | | | |

| Intersection Summary | | | |
|-----------------------------------|------|----------------------|---|
| Average Delay | 0.0 | | |
| Intersection Capacity Utilization | 0.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL | |
| Lane Configurations |  |  |  | |  |  |  |  |  |  | |  | |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 431 | 164 | 72 | 3 | 387 | 350 | 186 | 419 | 715 | 467 | 3 | 235 | |
| RTOR Reduction (vph) | 0 | 0 | 54 | 0 | 0 | 0 | 126 | 0 | 0 | 297 | 0 | 0 | |
| Lane Group Flow (vph) | 431 | 164 | 18 | 0 | 390 | 350 | 60 | 419 | 715 | 170 | 0 | 238 | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | NA | Perm | Prot | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 32.7 | 42.3 | 42.3 | | 24.2 | 32.4 | 32.4 | 29.5 | 48.2 | 48.2 | | 24.9 | |
| Effective Green, g (s) | 32.7 | 42.3 | 42.3 | | 24.2 | 32.4 | 32.4 | 29.5 | 48.2 | 48.2 | | 24.9 | |
| Actuated g/C Ratio | 0.19 | 0.25 | 0.25 | | 0.14 | 0.19 | 0.19 | 0.18 | 0.29 | 0.29 | | 0.15 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 344 | 468 | 398 | | 494 | 359 | 305 | 310 | 1014 | 453 | | 262 | |
| v/s Ratio Prot | c0.24 | 0.09 | | | 0.11 | c0.19 | | c0.24 | c0.20 | | | 0.13 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.04 | | | 0.11 | | | |
| v/c Ratio | 1.25 | 0.35 | 0.05 | | 0.79 | 0.97 | 0.20 | 1.35 | 0.71 | 0.37 | | 0.91 | |
| Uniform Delay, d1 | 67.7 | 51.6 | 47.6 | | 69.5 | 67.4 | 56.9 | 69.3 | 53.6 | 47.9 | | 70.5 | |
| 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 | 135.6 | 0.6 | 0.1 | | 8.2 | 40.5 | 0.3 | 178.1 | 2.3 | 0.5 | | 32.2 | |
| Delay (s) | 203.3 | 52.2 | 47.7 | | 77.7 | 107.9 | 57.3 | 247.4 | 55.9 | 48.4 | | 102.6 | |
| Level of Service | F | D | D | | E | F | E | F | E | D | | F | |
| Approach Delay (s) | | 149.3 | | | | 85.0 | | | 103.8 | | | | |
| Approach LOS | | F | | | | F | | | F | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 97.9 | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | | | 1.09 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 168.1 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 104.2% | | | | | | | | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future PM



| Movement | SBT | SBR |
|------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 785 | 156 |
| RTOR Reduction (vph) | 0 | 106 |
| Lane Group Flow (vph) | 785 | 50 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 44.0 | 44.0 |
| Effective Green, g (s) | 44.0 | 44.0 |
| Actuated g/C Ratio | 0.26 | 0.26 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 926 | 414 |
| v/s Ratio Prot | c0.22 | |
| v/s Ratio Perm | | 0.03 |
| v/c Ratio | 0.85 | 0.12 |
| Uniform Delay, d1 | 58.9 | 47.3 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.3 | 0.1 |
| Delay (s) | 66.2 | 47.4 |
| Level of Service | E | D |
| Approach Delay (s) | 71.0 | |
| Approach LOS | E | |

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: SR 519 & Hans Christian Anderson Elem Entrance

2040 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 804 | 720 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.9 | 6.9 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | |
| Frt | | | | 1.00 | 1.00 | |
| Flt Protected | | | | 1.00 | 1.00 | |
| Satd. Flow (prot) | | | | 3539 | 3534 | |
| Flt Permitted | | | | 1.00 | 1.00 | |
| Satd. Flow (perm) | | | | 3539 | 3534 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 0 | 0 | 0 | 1049 | 939 | 9 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 1049 | 948 | 0 |
| Turn Type | | | Perm | NA | NA | |
| Protected Phases | | | | 2 | 2 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | | 52.8 | 52.8 | |
| Effective Green, g (s) | | | | 52.8 | 52.8 | |
| Actuated g/C Ratio | | | | 0.56 | 0.56 | |
| Clearance Time (s) | | | | 6.9 | 6.9 | |
| Vehicle Extension (s) | | | | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | | | 1998 | 1995 | |
| v/s Ratio Prot | | | | 0.30 | 0.27 | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | | | 0.53 | 0.47 | |
| Uniform Delay, d1 | | | | 12.6 | 12.1 | |
| Progression Factor | | | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | 1.0 | 0.8 | |
| Delay (s) | | | | 13.6 | 12.9 | |
| Level of Service | | | | B | B | |
| Approach Delay (s) | 0.0 | | | 13.6 | 12.9 | |
| Approach LOS | A | | | B | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 13.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 93.5 | Sum of lost time (s) | 13.7 |
| Intersection Capacity Utilization | 32.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: SR 519 & Eyster Blvd

2040 Future PM



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-------|------|-------|------|-------|-------|
| Lane Configurations | | | | | | |
| Volume (vph) | 192 | 153 | 820 | 144 | 148 | 840 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frbp, ped/bikes | 1.00 | 0.95 | 1.00 | 0.91 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1500 | 3539 | 1445 | 1768 | 3539 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.13 | 1.00 |
| Satd. Flow (perm) | 1770 | 1500 | 3539 | 1445 | 235 | 3539 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 250 | 200 | 1070 | 188 | 193 | 1096 |
| RTOR Reduction (vph) | 0 | 153 | 0 | 77 | 0 | 0 |
| Lane Group Flow (vph) | 250 | 47 | 1070 | 111 | 193 | 1096 |
| Confl. Peds. (#/hr) | 5 | 58 | | 72 | 72 | |
| Turn Type | Prot | Perm | NA | Perm | pm+pt | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | 6 | |
| Actuated Green, G (s) | 22.6 | 22.6 | 40.7 | 40.7 | 59.7 | 59.7 |
| Effective Green, g (s) | 22.6 | 22.6 | 40.7 | 40.7 | 59.7 | 59.7 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.43 | 0.43 | 0.63 | 0.63 |
| Clearance Time (s) | 6.0 | 6.0 | 6.8 | 6.8 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 |
| Lane Grp Cap (vph) | 419 | 355 | 1511 | 617 | 343 | 2216 |
| v/s Ratio Prot | c0.14 | | c0.30 | | 0.07 | c0.31 |
| v/s Ratio Perm | | 0.03 | | 0.08 | 0.28 | |
| v/c Ratio | 0.60 | 0.13 | 0.71 | 0.18 | 0.56 | 0.49 |
| Uniform Delay, d1 | 32.3 | 28.6 | 22.4 | 16.9 | 12.8 | 9.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.7 | 0.2 | 1.6 | 0.2 | 2.3 | 0.2 |
| Delay (s) | 35.0 | 28.9 | 24.0 | 17.1 | 15.1 | 9.8 |
| Level of Service | C | C | C | B | B | A |
| Approach Delay (s) | 32.3 | | 23.0 | | | 10.6 |
| Approach LOS | C | | C | | | B |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 19.1 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 95.3 | Sum of lost time (s) | 19.8 |
| Intersection Capacity Utilization | 97.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

HCM Signalized Intersection Capacity Analysis

8: SR 519 & Barton Blvd

2040 Future PM



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|-------|-------|------|------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 47 | 47 | 39 | 235 | 52 | 234 | 36 | 738 | 173 | 230 | 727 | 86 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1526 | 1681 | 1714 | 1519 | 1752 | 3539 | 1583 | 3433 | 3477 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1526 | 1681 | 1714 | 1519 | 1752 | 3539 | 1583 | 3433 | 3477 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 63 | 63 | 52 | 313 | 69 | 312 | 48 | 984 | 231 | 307 | 969 | 115 |
| RTOR Reduction (vph) | 0 | 0 | 47 | 0 | 0 | 258 | 0 | 0 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 63 | 63 | 5 | 188 | 194 | 54 | 48 | 984 | 231 | 307 | 1080 | 0 |
| Confl. Peds. (#/hr) | 25 | | 21 | 21 | | 25 | 3 | | | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | |
| Actuated Green, G (s) | 13.0 | 13.0 | 13.0 | 21.4 | 21.4 | 21.4 | 9.2 | 47.2 | 124.7 | 16.7 | 54.4 | |
| Effective Green, g (s) | 13.0 | 13.0 | 13.0 | 21.4 | 21.4 | 21.4 | 9.2 | 47.2 | 124.7 | 16.7 | 54.4 | |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.17 | 0.17 | 0.17 | 0.07 | 0.38 | 1.00 | 0.13 | 0.44 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 184 | 194 | 159 | 288 | 294 | 260 | 129 | 1339 | 1583 | 459 | 1516 | |
| v/s Ratio Prot | c0.04 | 0.03 | | 0.11 | c0.11 | | 0.03 | 0.28 | | c0.09 | c0.31 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.15 | | | |
| v/c Ratio | 0.34 | 0.32 | 0.03 | 0.65 | 0.66 | 0.21 | 0.37 | 0.73 | 0.15 | 0.67 | 0.71 | |
| Uniform Delay, d1 | 51.9 | 51.8 | 50.2 | 48.2 | 48.3 | 44.4 | 55.0 | 33.4 | 0.0 | 51.4 | 28.8 | |
| 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 | 1.1 | 1.0 | 0.1 | 5.2 | 5.3 | 0.4 | 3.8 | 3.6 | 0.2 | 3.7 | 2.9 | |
| Delay (s) | 53.0 | 52.8 | 50.3 | 53.4 | 53.5 | 44.7 | 58.8 | 37.0 | 0.2 | 55.0 | 31.6 | |
| Level of Service | D | D | D | D | D | D | E | D | A | E | C | |
| Approach Delay (s) | | 52.1 | | | 49.6 | | | 31.1 | | | 36.8 | |
| Approach LOS | | D | | | D | | | C | | | D | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 38.0 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 124.7 | Sum of lost time (s) | 26.7 |
| Intersection Capacity Utilization | 81.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: SR 519 & St. Andrews Dr

2040 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 66 | 47 | 73 | 980 | 971 | 93 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1555 | 1769 | 3539 | 3475 | |
| Flt Permitted | 0.95 | 1.00 | 0.14 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1555 | 257 | 3539 | 3475 | |
| Peak-hour factor, PHF | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 81 | 58 | 89 | 1200 | 1189 | 114 |
| RTOR Reduction (vph) | 0 | 51 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 81 | 7 | 89 | 1200 | 1299 | 0 |
| Confl. Peds. (#/hr) | | 8 | 20 | | | 20 |
| Turn Type | Prot | Perm | pm+pt | NA | NA | |
| Protected Phases | 4 | | 1 | 6 | 2 | |
| Permitted Phases | | 4 | 6 | | | |
| Actuated Green, G (s) | 11.2 | 11.2 | 68.9 | 68.9 | 56.3 | |
| Effective Green, g (s) | 11.2 | 11.2 | 68.9 | 68.9 | 56.3 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.75 | 0.75 | 0.61 | |
| Clearance Time (s) | 5.4 | 5.4 | 6.4 | 6.4 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | 215 | 189 | 293 | 2653 | 2128 | |
| v/s Ratio Prot | c0.05 | | 0.02 | c0.34 | c0.37 | |
| v/s Ratio Perm | | 0.00 | 0.21 | | | |
| v/c Ratio | 0.38 | 0.04 | 0.30 | 0.45 | 0.61 | |
| Uniform Delay, d1 | 37.1 | 35.6 | 6.4 | 4.4 | 11.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.1 | 0.1 | 0.6 | 0.1 | 1.3 | |
| Delay (s) | 38.2 | 35.7 | 7.0 | 4.5 | 12.3 | |
| Level of Service | D | D | A | A | B | |
| Approach Delay (s) | 37.2 | | | 4.7 | 12.3 | |
| Approach LOS | D | | | A | B | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 10.0 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 91.9 | Sum of lost time (s) | 18.3 |
| Intersection Capacity Utilization | 66.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

HCM Signalized Intersection Capacity Analysis
10: SR 519 & Pluckebaum Rd

2040 Future PM



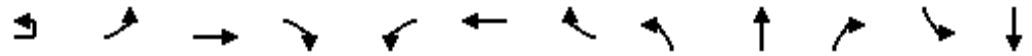
| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 31 | 314 | 267 | 752 | 756 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1583 | 1752 | 3539 | 3513 | |
| Flt Permitted | | 0.95 | 1.00 | 0.18 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1583 | 339 | 3539 | 3513 | |
| Peak-hour factor, PHF | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 3 | 39 | 397 | 337 | 950 | 955 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 350 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 42 | 47 | 337 | 950 | 995 | 0 |
| Confl. Peds. (#/hr) | | | | 8 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.8 | 8.8 | 45.5 | 45.5 | 30.7 | |
| Effective Green, g (s) | | 8.8 | 8.8 | 45.5 | 45.5 | 30.7 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | 0.62 | 0.62 | 0.42 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 211 | 189 | 493 | 2505 | 1465 | |
| v/s Ratio Prot | | | | c0.14 | 0.16 | 0.28 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.28 | 0.11 | | |
| v/c Ratio | | 0.20 | 0.25 | 0.68 | 0.38 | 0.68 | |
| Uniform Delay, d1 | | 29.2 | 29.4 | 8.9 | 7.0 | 17.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.7 | 3.9 | 0.1 | 2.6 | |
| Delay (s) | | 29.7 | 30.1 | 12.8 | 7.1 | 20.0 | |
| Level of Service | | C | C | B | A | B | |
| Approach Delay (s) | | 30.1 | | | 8.6 | 20.0 | |
| Approach LOS | | C | | | A | B | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 16.2 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 73.6 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 65.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 11: SR 519 & Rosa L Jones Blvd

2040 Future PM



| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|------------------------|------|------|------|------|------|-------|------|------|-------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 7 | 20 | 38 | 111 | 21 | 46 | 16 | 737 | 59 | 26 | 640 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 |
| Lane Util. Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 |
| Frbp, ped/bikes | | 1.00 | 0.98 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | | 1.00 | 0.90 | | | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 1766 | 1582 | | | 1708 | | 1703 | 3489 | | 1763 | 3539 |
| Flt Permitted | | 0.62 | 1.00 | | | 0.77 | | 0.31 | 1.00 | | 0.23 | 1.00 |
| Satd. Flow (perm) | | 1158 | 1582 | | | 1348 | | 551 | 3489 | | 429 | 3539 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 1 | 9 | 26 | 50 | 145 | 27 | 60 | 21 | 961 | 77 | 34 | 835 |
| RTOR Reduction (vph) | 0 | 0 | 38 | 0 | 0 | 14 | 0 | 0 | 6 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 10 | 38 | 0 | 0 | 218 | 0 | 21 | 1032 | 0 | 34 | 835 |
| Confl. Peds. (#/hr) | | 4 | | 18 | 18 | | 4 | | | 8 | 8 | |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 4% | 4% | 6% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA |
| Protected Phases | | | 4 | | | 4 | | | 2 | | | 2 |
| Permitted Phases | 4 | 4 | | | 4 | | | 2 | | | 2 | |
| Actuated Green, G (s) | | 22.3 | 22.3 | | | 22.3 | | 55.8 | 55.8 | | 55.8 | 55.8 |
| Effective Green, g (s) | | 22.3 | 22.3 | | | 22.3 | | 55.8 | 55.8 | | 55.8 | 55.8 |
| Actuated g/C Ratio | | 0.24 | 0.24 | | | 0.24 | | 0.61 | 0.61 | | 0.61 | 0.61 |
| Clearance Time (s) | | 6.8 | 6.8 | | | 6.8 | | 6.5 | 6.5 | | 6.5 | 6.5 |
| Vehicle Extension (s) | | 4.0 | 4.0 | | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 282 | 385 | | | 328 | | 336 | 2130 | | 261 | 2160 |
| v/s Ratio Prot | | | 0.02 | | | | | | c0.30 | | | 0.24 |
| v/s Ratio Perm | | 0.01 | | | | c0.16 | | 0.04 | | | 0.08 | |
| v/c Ratio | | 0.04 | 0.10 | | | 0.67 | | 0.06 | 0.48 | | 0.13 | 0.39 |
| Uniform Delay, d1 | | 26.3 | 26.8 | | | 31.2 | | 7.2 | 9.8 | | 7.5 | 9.1 |
| Progression Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.1 | 0.2 | | | 5.5 | | 0.4 | 0.8 | | 1.0 | 0.5 |
| Delay (s) | | 26.4 | 26.9 | | | 36.7 | | 7.6 | 10.6 | | 8.6 | 9.6 |
| Level of Service | | C | C | | | D | | A | B | | A | A |
| Approach Delay (s) | | | 26.9 | | | 36.7 | | | 10.6 | | | 9.5 |
| Approach LOS | | | C | | | D | | | B | | | A |

| Intersection Summary | | |
|-----------------------------------|-------|---------------------------|
| HCM 2000 Control Delay | 13.4 | HCM 2000 Level of Service |
| HCM 2000 Volume to Capacity ratio | 0.54 | B |
| Actuated Cycle Length (s) | 91.4 | Sum of lost time (s) |
| Intersection Capacity Utilization | 61.2% | 13.3 |
| Analysis Period (min) | 15 | ICU Level of Service |
| | | B |

c Critical Lane Group



| Movement | SBR |
|-----------------------------|------|
| Lane Configurations | 7 |
| Volume (vph) | 19 |
| Ideal Flow (vphpl) | 1900 |
| Total Lost time (s) | 6.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.85 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1583 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1583 |
| Peak-hour factor, PHF | 0.92 |
| Growth Factor (vph) | 120% |
| Adj. Flow (vph) | 25 |
| RTOR Reduction (vph) | 10 |
| Lane Group Flow (vph) | 15 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 2% |
| Turn Type | Perm |
| Protected Phases | |
| Permitted Phases | 2 |
| Actuated Green, G (s) | 55.8 |
| Effective Green, g (s) | 55.8 |
| Actuated g/C Ratio | 0.61 |
| Clearance Time (s) | 6.5 |
| Vehicle Extension (s) | 4.0 |
| Lane Grp Cap (vph) | 966 |
| v/s Ratio Prot | |
| v/s Ratio Perm | 0.01 |
| v/c Ratio | 0.02 |
| Uniform Delay, d1 | 7.0 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 0.0 |
| Delay (s) | 7.0 |
| Level of Service | A |
| Approach Delay (s) | |
| Approach LOS | |
| Intersection Summary | |

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2040 Future PM
























| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|------|------|-------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 45 | 645 | 186 | 290 | 719 | 33 | 303 | 206 | 229 | 93 | 215 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 56 | 806 | 232 | 362 | 899 | 41 | 379 | 258 | 286 | 116 | 269 | 46 |
| RTOR Reduction (vph) | 0 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 216 | 0 | 0 | 40 |
| Lane Group Flow (vph) | 56 | 1021 | 0 | 362 | 938 | 0 | 379 | 258 | 70 | 116 | 269 | 6 |
| Confl. Peds. (#/hr) | | | 13 | 13 | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 8.7 | 55.8 | | 20.0 | 67.1 | | 18.1 | 24.2 | 24.2 | 11.8 | 17.9 | 17.9 |
| Effective Green, g (s) | 8.7 | 55.8 | | 20.0 | 67.1 | | 18.1 | 24.2 | 24.2 | 11.8 | 17.9 | 17.9 |
| Actuated g/C Ratio | 0.06 | 0.40 | | 0.14 | 0.48 | | 0.13 | 0.17 | 0.17 | 0.08 | 0.13 | 0.13 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 107 | 1354 | | 490 | 1685 | | 443 | 322 | 273 | 149 | 452 | 202 |
| v/s Ratio Prot | 0.03 | c0.30 | | c0.11 | 0.27 | | c0.11 | c0.14 | | 0.07 | 0.08 | |
| v/s Ratio Perm | | | | | | | | | 0.04 | | | 0.00 |
| v/c Ratio | 0.52 | 0.75 | | 0.74 | 0.56 | | 0.86 | 0.80 | 0.26 | 0.78 | 0.60 | 0.03 |
| Uniform Delay, d1 | 63.6 | 36.2 | | 57.5 | 25.9 | | 59.7 | 55.6 | 50.1 | 62.8 | 57.6 | 53.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.6 | 2.4 | | 5.8 | 1.3 | | 14.9 | 13.7 | 0.6 | 22.2 | 2.1 | 0.1 |
| Delay (s) | 68.2 | 38.6 | | 63.3 | 27.2 | | 74.6 | 69.3 | 50.7 | 85.0 | 59.7 | 53.5 |
| Level of Service | E | D | | E | C | | E | E | D | F | E | D |
| Approach Delay (s) | | 40.1 | | | 37.2 | | | 65.7 | | | 65.9 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Intersection Summary | | |
|-----------------------------------|-------|---------------------------|
| HCM 2000 Control Delay | 48.4 | HCM 2000 Level of Service |
| HCM 2000 Volume to Capacity ratio | 0.81 | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) |
| Intersection Capacity Utilization | 81.4% | ICU Level of Service |
| Analysis Period (min) | 15 | |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
2: SR 519 & Roy Wall Blvd

2040 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Volume (veh/h) | 2 | 0 | 7 | 64 | 1 | 152 | 4 | 920 | 80 | 154 | 909 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 3 | 0 | 9 | 84 | 1 | 200 | 5 | 1213 | 105 | 203 | 1199 | 0 |
| Pedestrians | | | | | 3 | | | 2 | | | | |
| Lane Width (ft) | | | | | 12.0 | | | 12.0 | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | 4.0 | | | | |
| Percent Blockage | | | | | 0 | | | 0 | | | | |
| Right turn flare (veh) | | | | | | 10 | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 2323 | 2937 | 601 | 2243 | 2832 | 610 | 1199 | | | 1322 | | |
| vC1, stage 1 conf vol | 1605 | 1605 | | 1227 | 1227 | | | | | | | |
| vC2, stage 2 conf vol | 718 | 1332 | | 1017 | 1605 | | | | | | | |
| vCu, unblocked vol | 2323 | 2937 | 601 | 2243 | 2832 | 610 | 1199 | | | 1322 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 64 | 100 | 98 | 24 | 98 | 54 | 99 | | | 61 | | |
| cM capacity (veh/h) | 7 | 15 | 442 | 111 | 85 | 437 | 578 | | | 517 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 12 | 286 | 5 | 607 | 607 | 105 | 203 | 799 | 400 | | | |
| Volume Left | 3 | 84 | 5 | 0 | 0 | 0 | 203 | 0 | 0 | | | |
| Volume Right | 9 | 200 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | | | |
| cSH | 31 | 369 | 578 | 1700 | 1700 | 1700 | 517 | 1700 | 1700 | | | |
| Volume to Capacity | 0.38 | 0.78 | 0.01 | 0.36 | 0.36 | 0.06 | 0.39 | 0.47 | 0.24 | | | |
| Queue Length 95th (ft) | 31 | 160 | 1 | 0 | 0 | 0 | 46 | 0 | 0 | | | |
| Control Delay (s) | 178.3 | 45.5 | 11.3 | 0.0 | 0.0 | 0.0 | 16.4 | 0.0 | 0.0 | | | |
| Lane LOS | F | E | B | | | | C | | | | | |
| Approach Delay (s) | 178.3 | 45.5 | 0.0 | | | | 2.4 | | | | | |
| Approach LOS | F | E | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 6.1 | | | | | | | | | |
| Intersection Capacity Utilization | | | 61.7% | ICU Level of Service | B | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

3: SR 519 & Elementary School

2040 Future PM



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|-------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 3 | 20 | 0 | 826 | 710 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 4 | 26 | 0 | 1077 | 926 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 446 | | |
| pX, platoon unblocked | 0.85 | 0.85 | 0.85 | | | |
| vC, conflicting volume | 1465 | 463 | 926 | | | |
| vC1, stage 1 conf vol | 926 | | | | | |
| vC2, stage 2 conf vol | 539 | | | | | |
| vCu, unblocked vol | 1185 | 1 | 548 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 99 | 97 | 100 | | | |
| cM capacity (veh/h) | 373 | 916 | 861 | | | |





















| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|
| Volume Total | 4 | 26 | 539 | 539 | 463 | 463 |
| Volume Left | 4 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 26 | 0 | 0 | 0 | 0 |
| cSH | 373 | 916 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.03 | 0.32 | 0.32 | 0.27 | 0.27 |
| Queue Length 95th (ft) | 1 | 2 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 14.7 | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 9.8 | 0.0 | | 0.0 | | |
| Approach LOS | A | | | | | |

| Intersection Summary | | | | | | |
|-----------------------------------|-------|--|----------------------|--|---|--|
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | 37.4% | | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | | |

HCM Unsignalized Intersection Capacity Analysis



















4: SR 519 & Hans Christian Anderson Elem Loop South

2040 Future PM

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Volume (veh/h) | 20 | 0 | 22 | 23 | 0 | 42 | 66 | 742 | 21 | 23 | 665 | 32 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 26 | 0 | 29 | 30 | 0 | 55 | 86 | 968 | 27 | 30 | 867 | 42 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | TWLTL | | | TWLTL | |
| Median storage veh | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | 346 |
| pX, platoon unblocked | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | | 0.84 | | | | | |
| vC, conflicting volume | 1659 | 2116 | 455 | 1662 | 2109 | 484 | 909 | | | 995 | | |
| vC1, stage 1 conf vol | 948 | 948 | | 1140 | 1140 | | | | | | | |
| vC2, stage 2 conf vol | 711 | 1167 | | 522 | 969 | | | | | | | |
| vCu, unblocked vol | 1407 | 1950 | 0 | 1411 | 1942 | 484 | 516 | | | 995 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 89 | 100 | 97 | 84 | 100 | 90 | 90 | | | 96 | | |
| cM capacity (veh/h) | 232 | 185 | 913 | 184 | 193 | 529 | 880 | | | 691 | | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | NB 3 | NB 4 | SB 1 | SB 2 | SB 3 | | | |
| Volume Total | 55 | 85 | 86 | 484 | 484 | 27 | 30 | 578 | 331 | | | |
| Volume Left | 26 | 30 | 86 | 0 | 0 | 0 | 30 | 0 | 0 | | | |
| Volume Right | 29 | 55 | 0 | 0 | 0 | 27 | 0 | 0 | 42 | | | |
| cSH | 381 | 318 | 880 | 1700 | 1700 | 1700 | 691 | 1700 | 1700 | | | |
| Volume to Capacity | 0.14 | 0.27 | 0.10 | 0.28 | 0.28 | 0.02 | 0.04 | 0.34 | 0.19 | | | |
| Queue Length 95th (ft) | 12 | 26 | 8 | 0 | 0 | 0 | 3 | 0 | 0 | | | |
| Control Delay (s) | 16.0 | 20.4 | 9.5 | 0.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | | | |
| Lane LOS | C | C | A | | | | B | | | | | |
| Approach Delay (s) | 16.0 | 20.4 | 0.8 | | | | 0.3 | | | | | |
| Approach LOS | C | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 1.7 | | | | | | | | | |
| Intersection Capacity Utilization | | | 43.3% | | ICU Level of Service | | | | A | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2040 Future PM







| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | |
| Lane Configurations |  | |  | | |  | |  |  | | |  | |
| Volume (veh/h) | 12 | 0 | 7 | 1 | 32 | 0 | 58 | 10 | 919 | 70 | 67 | 894 | |
| Sign Control | | Stop | | | | | Stop | | | Free | | | Free |
| Grade | | 0% | | | | | 0% | | | 0% | | | 0% |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | |
| Hourly flow rate (vph) | 15 | 0 | 9 | 0 | 41 | 0 | 75 | 13 | 1186 | 90 | 86 | 1154 | |
| Pedestrians | | 2 | | | | | 9 | | | | | | 1 |
| Lane Width (ft) | | 12.0 | | | | | 12.0 | | | | | | 12.0 |
| Walking Speed (ft/s) | | 4.0 | | | | | 4.0 | | | | | | 4.0 |
| Percent Blockage | | 0 | | | | | 1 | | | | | | 0 |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | | | | | | | | | TWLTL | | | TWLTL | |
| Median storage (veh) | | | | | | | | | 2 | | | 2 | |
| Upstream signal (ft) | | | | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | | | | | | | | |
| vC, conflicting volume | 2033 | 2649 | 588 | 0 | 2024 | 2614 | 648 | 1175 | | | 1285 | | |
| vC1, stage 1 conf vol | 1338 | 1338 | | | 1266 | 1266 | | | | | | | |
| vC2, stage 2 conf vol | 695 | 1311 | | | 759 | 1348 | | | | | | | |
| vCu, unblocked vol | 2033 | 2649 | 588 | 0 | 2024 | 2614 | 648 | 1175 | | | 1285 | | |
| tC, single (s) | 7.5 | 6.5 | 6.9 | 0.0 | 7.5 | 6.5 | 6.9 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | 6.5 | 5.5 | | | 6.5 | 5.5 | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 0.0 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 86 | 100 | 98 | 0 | 72 | 100 | 82 | 98 | | | 84 | | |
| cM capacity (veh/h) | 115 | 106 | 451 | 0 | 146 | 132 | 410 | 589 | | | 532 | | |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | | | | | |
| Volume Total | 15 | 9 | 116 | 13 | 791 | 486 | 663 | 596 | | | | | |
| Volume Left | 15 | 0 | 41 | 13 | 0 | 0 | 86 | 0 | | | | | |
| Volume Right | 0 | 9 | 75 | 0 | 0 | 90 | 0 | 19 | | | | | |
| cSH | 115 | 451 | 249 | 589 | 1700 | 1700 | 532 | 1700 | | | | | |
| Volume to Capacity | 0.14 | 0.02 | 0.47 | 0.02 | 0.47 | 0.29 | 0.16 | 0.35 | | | | | |
| Queue Length 95th (ft) | 11 | 2 | 58 | 2 | 0 | 0 | 14 | 0 | | | | | |
| Control Delay (s) | 41.3 | 13.1 | 31.5 | 11.2 | 0.0 | 0.0 | 4.5 | 0.0 | | | | | |
| Lane LOS | E | B | D | B | | | A | | | | | | |
| Approach Delay (s) | 30.9 | | 31.5 | 0.1 | | | 2.4 | | | | | | |
| Approach LOS | D | | D | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 2.8 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 89.0% | | ICU Level of Service | | | | E | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |



| | |
|------------------------|------|
| Movement | SBR |
| Lane Configurations | |
| Volume (veh/h) | 15 |
| Sign Control | |
| Grade | |
| Peak Hour Factor | 0.93 |
| Hourly flow rate (vph) | 19 |
| Pedestrians | |
| Lane Width (ft) | |
| Walking Speed (ft/s) | |
| Percent Blockage | |
| Right turn flare (veh) | |
| Median type | |
| Median storage (veh) | |
| Upstream signal (ft) | |
| pX, platoon unblocked | |
| vC, conflicting volume | |
| vC1, stage 1 conf vol | |
| vC2, stage 2 conf vol | |
| vCu, unblocked vol | |
| tC, single (s) | |
| tC, 2 stage (s) | |
| tF (s) | |
| p0 queue free % | |
| cM capacity (veh/h) | |
| Direction, Lane # | |

HCM Unsignalized Intersection Capacity Analysis
 18: SR 519

2040 Future PM

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | | ↑↑ | ↗ | ↘ | ↑↑ |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh | | | 1 | | | 1 |
| Upstream signal (ft) | | | 750 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | 0 | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | | | 0 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 1023 | 1084 | | | 1622 | |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
30: SR 519

2040 Future PM























| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|------|------|-------|------|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | TWLTL | |
| Median storage (veh) | | | | | 2 | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | 0 | | | |
| vC1, stage 1 conf vol | 0 | | | | | |
| vC2, stage 2 conf vol | 0 | | | | | |
| vCu, unblocked vol | 0 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1023 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|------------------------|------|------|------|------|------|------|------|------|
| Volume Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | A | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | | 0.0 | | |
| Approach LOS | A | | | | | | | |

| Intersection Summary | | |
|-----------------------------------|------|----------------------|
| Average Delay | | 0.0 |
| Intersection Capacity Utilization | 0.0% | ICU Level of Service |
| Analysis Period (min) | | 15 |
| | | A |

HCM Signalized Intersection Capacity Analysis
1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
| Lane Configurations |  |  | | |  |  | | |  |  |  |  | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 0.97 | 1.00 | | | 0.97 | 0.95 | | | 0.97 | 0.95 | 1.00 | 0.97 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | | 1.00 | 0.97 | | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 3502 | 1782 | | | 3433 | 3341 | | | 3433 | 3505 | 1519 | 3433 | |
| Flt Permitted | 0.95 | 1.00 | | | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 3502 | 1782 | | | 3433 | 3341 | | | 3433 | 3505 | 1519 | 3433 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 366 | 200 | 75 | 1 | 306 | 292 | 59 | 2 | 316 | 397 | 357 | 122 | |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 241 | 0 | |
| Lane Group Flow (vph) | 366 | 265 | 0 | 0 | 307 | 338 | 0 | 0 | 318 | 397 | 116 | 122 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | | Prot | Prot | NA | | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | | | | | | | | | | 2 | |
| Actuated Green, G (s) | 17.5 | 24.0 | | | 15.7 | 20.8 | | | 15.7 | 37.7 | 37.7 | 9.9 | |
| Effective Green, g (s) | 17.5 | 24.0 | | | 15.7 | 20.8 | | | 15.7 | 37.7 | 37.7 | 9.9 | |
| Actuated g/C Ratio | 0.15 | 0.21 | | | 0.14 | 0.18 | | | 0.14 | 0.33 | 0.33 | 0.09 | |
| Clearance Time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 529 | 369 | | | 465 | 600 | | | 465 | 1141 | 494 | 293 | |
| v/s Ratio Prot | c0.10 | c0.15 | | | 0.09 | 0.10 | | | c0.09 | c0.11 | | 0.04 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.08 | |
| v/c Ratio | 0.69 | 0.72 | | | 0.66 | 0.56 | | | 0.68 | 0.35 | 0.24 | 0.42 | |
| Uniform Delay, d1 | 46.6 | 42.7 | | | 47.5 | 43.4 | | | 47.7 | 29.7 | 28.5 | 50.2 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.2 | 7.0 | | | 3.5 | 1.2 | | | 4.1 | 0.2 | 0.2 | 1.0 | |
| Delay (s) | 50.8 | 49.7 | | | 51.0 | 44.6 | | | 51.8 | 29.9 | 28.8 | 51.2 | |
| Level of Service | D | D | | | D | D | | | D | C | C | D | |
| Approach Delay (s) | | 50.3 | | | | 47.6 | | | | 36.0 | | | |
| Approach LOS | | D | | | | D | | | | D | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 42.7 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.77 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 115.8 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 70.7% | | | | | | | | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group






















HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM (with Improvements)

| Movement | SBT | SBR |
|-----------------------------|-------|------|
| ↓ ↘ | | |
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 775 | 165 |
| RTOR Reduction (vph) | 0 | 119 |
| Lane Group Flow (vph) | 775 | 46 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 32.3 | 32.3 |
| Effective Green, g (s) | 32.3 | 32.3 |
| Actuated g/C Ratio | 0.28 | 0.28 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 987 | 441 |
| v/s Ratio Prot | c0.22 | |
| v/s Ratio Perm | | 0.03 |
| v/c Ratio | 0.79 | 0.10 |
| Uniform Delay, d1 | 38.5 | 31.0 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.2 | 0.1 |
| Delay (s) | 42.7 | 31.1 |
| Level of Service | D | C |
| Approach Delay (s) | 41.9 | |
| Approach LOS | D | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
2: SR 519 & Roy Wall Blvd

2020 Future AM (with Improvements)





















| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  |
| Volume (vph) | 2 | 1 | 0 | 100 | 2 | 177 | 3 | 648 | 97 | 126 | 751 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Flt | | 1.00 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1803 | | | 1759 | 1583 | 1770 | 3539 | 1568 | 1770 | 3539 | |
| Flt Permitted | | 0.85 | | | 0.73 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1575 | | | 1344 | 1583 | 1770 | 3539 | 1568 | 1770 | 3539 | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 1 | 0 | 105 | 2 | 186 | 3 | 681 | 102 | 132 | 789 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 152 | 0 | 0 | 60 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 3 | 0 | 0 | 107 | 34 | 3 | 681 | 42 | 132 | 790 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 10.2 | | | 10.2 | 10.2 | 0.9 | 22.8 | 22.8 | 8.0 | 29.9 | |
| Effective Green, g (s) | | 10.2 | | | 10.2 | 10.2 | 0.9 | 22.8 | 22.8 | 8.0 | 29.9 | |
| Actuated g/C Ratio | | 0.18 | | | 0.18 | 0.18 | 0.02 | 0.41 | 0.41 | 0.14 | 0.53 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 286 | | | 244 | 288 | 28 | 1440 | 638 | 252 | 1889 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.19 | | c0.07 | 0.22 | |
| v/s Ratio Perm | | 0.00 | | | c0.08 | 0.02 | | | 0.03 | | | |
| v/c Ratio | | 0.01 | | | 0.44 | 0.12 | 0.11 | 0.47 | 0.07 | 0.52 | 0.42 | |
| Uniform Delay, d1 | | 18.8 | | | 20.4 | 19.1 | 27.2 | 12.2 | 10.1 | 22.2 | 7.8 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.0 | | | 1.3 | 0.2 | 1.7 | 0.2 | 0.0 | 2.0 | 0.2 | |
| Delay (s) | | 18.8 | | | 21.6 | 19.3 | 28.8 | 12.4 | 10.2 | 24.2 | 8.0 | |
| Level of Service | | B | | | C | B | C | B | B | C | A | |
| Approach Delay (s) | | 18.8 | | | 20.2 | | | 12.2 | | | 10.3 | |
| Approach LOS | | B | | | C | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 12.5 | | | | HCM 2000 Level of Service | | | | B | |
| HCM 2000 Volume to Capacity ratio | | | 0.47 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 56.0 | | | | Sum of lost time (s) | | | | 15.0 | |
| Intersection Capacity Utilization | | | 46.3% | | | | ICU Level of Service | | | | A | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: SR 519 & Lakemoor Blvd

2020 Future AM (with Improvements)

























| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  | |  |  |  |
| Volume (vph) | 7 | 0 | 4 | 98 | 0 | 55 | 3 | 767 | 61 | 33 | 782 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1292 | | 1711 | | 1768 | 3493 | | 1703 | 3539 | |
| Flt Permitted | | 0.70 | 1.00 | | 0.80 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1303 | 1292 | | 1416 | | 1768 | 3493 | | 1703 | 3539 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 8 | 0 | 4 | 108 | 0 | 61 | 3 | 849 | 67 | 37 | 865 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 62 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 8 | 1 | 0 | 107 | 0 | 3 | 910 | 0 | 37 | 866 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 5 | 5 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 25% | 2% | 2% | 3% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | |
| Actuated Green, G (s) | | 9.8 | 9.8 | | 9.8 | | 0.8 | 26.4 | | 2.6 | 28.2 | |
| Effective Green, g (s) | | 9.8 | 9.8 | | 9.8 | | 0.8 | 26.4 | | 2.6 | 28.2 | |
| Actuated g/C Ratio | | 0.18 | 0.18 | | 0.18 | | 0.01 | 0.49 | | 0.05 | 0.52 | |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 237 | 235 | | 257 | | 26 | 1714 | | 82 | 1855 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.26 | | c0.02 | 0.24 | |
| v/s Ratio Perm | | 0.01 | 0.00 | | c0.08 | | | | | | | |
| v/c Ratio | | 0.03 | 0.00 | | 0.42 | | 0.12 | 0.53 | | 0.45 | 0.47 | |
| Uniform Delay, d1 | | 18.1 | 18.0 | | 19.5 | | 26.2 | 9.4 | | 24.9 | 8.1 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | 0.0 | | 1.1 | | 2.0 | 0.3 | | 3.9 | 0.2 | |
| Delay (s) | | 18.2 | 18.0 | | 20.6 | | 28.1 | 9.8 | | 28.8 | 8.3 | |
| Level of Service | | B | B | | C | | C | A | | C | A | |
| Approach Delay (s) | | 18.1 | | | 20.6 | | | 9.8 | | | 9.1 | |
| Approach LOS | | B | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 10.4 | | | | HCM 2000 Level of Service | | | B | | |
| HCM 2000 Volume to Capacity ratio | | | 0.50 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 53.8 | | | | Sum of lost time (s) | | | 15.0 | | |
| Intersection Capacity Utilization | | | 52.7% | | | | ICU Level of Service | | | A | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: SR 519 & Barton Blvd























2020 Future AM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 72 | 81 | 49 | 134 | 28 | 204 | 7 | 572 | 232 | 256 | 724 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1765 | 1863 | 1561 | 1768 | 1863 | 1499 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Flt Permitted | 0.74 | 1.00 | 1.00 | 0.57 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1369 | 1863 | 1561 | 1056 | 1863 | 1499 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 81 | 91 | 55 | 150 | 31 | 228 | 8 | 640 | 259 | 286 | 810 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 48 | 0 | 0 | 189 | 0 | 0 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 81 | 91 | 7 | 150 | 31 | 39 | 8 | 640 | 259 | 286 | 854 | 0 |
| Confl. Peds. (#/hr) | 4 | | 2 | 2 | | 4 | 2 | | 13 | 13 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 6% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | | | Free | | | |
| Actuated Green, G (s) | 17.6 | 13.8 | 13.8 | 26.4 | 18.2 | 18.2 | 1.5 | 44.2 | 106.0 | 13.4 | 55.8 | |
| Effective Green, g (s) | 17.6 | 13.8 | 13.8 | 26.4 | 18.2 | 18.2 | 1.5 | 44.2 | 106.0 | 13.4 | 55.8 | |
| Actuated g/C Ratio | 0.17 | 0.13 | 0.13 | 0.25 | 0.17 | 0.17 | 0.01 | 0.42 | 1.00 | 0.13 | 0.53 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 241 | 242 | 203 | 318 | 319 | 257 | 25 | 1475 | 1558 | 417 | 1846 | |
| v/s Ratio Prot | 0.01 | 0.05 | | c0.04 | 0.02 | | 0.00 | 0.18 | | c0.09 | c0.24 | |
| v/s Ratio Perm | 0.04 | | 0.00 | c0.08 | | 0.03 | | | c0.17 | | | |
| v/c Ratio | 0.34 | 0.38 | 0.04 | 0.47 | 0.10 | 0.15 | 0.32 | 0.43 | 0.17 | 0.69 | 0.46 | |
| Uniform Delay, d1 | 38.6 | 42.2 | 40.3 | 32.7 | 37.0 | 37.3 | 51.7 | 22.0 | 0.0 | 44.3 | 15.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 1.0 | 0.1 | 1.1 | 0.1 | 0.3 | 14.9 | 0.9 | 0.2 | 4.6 | 0.8 | |
| Delay (s) | 39.5 | 43.1 | 40.4 | 33.8 | 37.1 | 37.6 | 66.6 | 22.9 | 0.2 | 48.9 | 16.5 | |
| Level of Service | D | D | D | C | D | D | E | C | A | D | B | |
| Approach Delay (s) | | 41.2 | | | 36.2 | | | 16.8 | | | 24.7 | |
| Approach LOS | | D | | | D | | | B | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 25.2 | | | | HCM 2000 Level of Service | | | | C | |
| HCM 2000 Volume to Capacity ratio | | | 0.55 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 106.0 | | | | Sum of lost time (s) | | | | 26.7 | |
| Intersection Capacity Utilization | | | 70.4% | | | | ICU Level of Service | | | | C | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM (with Optimized Timings)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
| Lane Configurations |  |  |  | |  |  |  | |  |  |  |  | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1518 | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1518 | 1770 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 366 | 200 | 75 | 1 | 306 | 292 | 59 | 2 | 316 | 397 | 357 | 122 | |
| RTOR Reduction (vph) | 0 | 0 | 55 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 246 | 0 | |
| Lane Group Flow (vph) | 366 | 200 | 20 | 0 | 307 | 292 | 10 | 0 | 318 | 397 | 111 | 122 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | | 2 | | |
| Actuated Green, G (s) | 28.6 | 36.3 | 36.3 | | 17.0 | 23.3 | 23.3 | | 25.4 | 43.5 | 43.5 | 14.2 | |
| Effective Green, g (s) | 28.6 | 36.3 | 36.3 | | 17.0 | 23.3 | 23.3 | | 25.4 | 43.5 | 43.5 | 14.2 | |
| Actuated g/C Ratio | 0.21 | 0.26 | 0.26 | | 0.12 | 0.17 | 0.17 | | 0.18 | 0.31 | 0.31 | 0.10 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 370 | 484 | 408 | | 418 | 299 | 264 | | 322 | 1092 | 473 | 180 | |
| v/s Ratio Prot | c0.20 | 0.11 | | | 0.09 | c0.16 | | | c0.18 | 0.11 | | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.01 | | | | 0.07 | | |
| v/c Ratio | 0.99 | 0.41 | 0.05 | | 0.73 | 0.98 | 0.04 | | 0.99 | 0.36 | 0.24 | 0.68 | |
| Uniform Delay, d1 | 55.3 | 42.8 | 38.7 | | 59.1 | 57.8 | 48.7 | | 56.9 | 37.3 | 35.6 | 60.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 43.5 | 0.8 | 0.1 | | 6.6 | 45.2 | 0.1 | | 46.3 | 0.2 | 0.3 | 9.7 | |
| Delay (s) | 98.8 | 43.6 | 38.7 | | 65.6 | 103.0 | 48.8 | | 103.2 | 37.5 | 35.9 | 70.1 | |
| Level of Service | F | D | D | | E | F | D | | F | D | D | E | |
| Approach Delay (s) | | 74.5 | | | | 80.7 | | | | 56.4 | | | |
| Approach LOS | | E | | | | F | | | | E | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 67.3 | | | | | | | | | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | | | 0.97 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 139.5 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 88.3% | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future AM (with Optimized Timings)



| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 775 | 165 |
| RTOR Reduction (vph) | 0 | 126 |
| Lane Group Flow (vph) | 775 | 39 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 32.7 | 32.7 |
| Effective Green, g (s) | 32.7 | 32.7 |
| Actuated g/C Ratio | 0.23 | 0.23 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 829 | 371 |
| v/s Ratio Prot | c0.22 | |
| v/s Ratio Perm | | 0.02 |
| v/c Ratio | 0.93 | 0.10 |
| Uniform Delay, d1 | 52.4 | 41.9 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.4 | 0.1 |
| Delay (s) | 69.7 | 42.0 |
| Level of Service | E | D |
| Approach Delay (s) | 65.5 | |
| Approach LOS | E | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
10: SR 519 & Pluckebaum Rd

2020 Future AM (with Optimized Timings)

























| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|-------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 23 | 291 | 198 | 618 | 532 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1538 | 1682 | 3539 | 3489 | |
| Flt Permitted | | 0.95 | 1.00 | 0.39 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1538 | 695 | 3539 | 3489 | |
| Peak-hour factor, PHF | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 27 | 336 | 229 | 714 | 615 | 12 |
| RTOR Reduction (vph) | 0 | 0 | 295 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 29 | 41 | 229 | 714 | 626 | 0 |
| Confl. Peds. (#/hr) | | | | 13 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 3% | 9% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.2 | 8.2 | 39.6 | 39.6 | 30.6 | |
| Effective Green, g (s) | | 8.2 | 8.2 | 39.6 | 39.6 | 30.6 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | 0.59 | 0.59 | 0.46 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 216 | 187 | 542 | 2436 | 1591 | |
| v/s Ratio Prot | | | | 0.06 | c0.13 | 0.18 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.19 | 0.07 | | |
| v/c Ratio | | 0.13 | 0.22 | 0.42 | 0.29 | 0.39 | |
| Uniform Delay, d1 | | 26.3 | 26.6 | 6.6 | 6.8 | 12.1 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.3 | 0.6 | 0.5 | 0.1 | 0.7 | |
| Delay (s) | | 26.6 | 27.2 | 7.1 | 6.9 | 12.8 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 27.1 | | | 6.9 | 12.8 | |
| Approach LOS | | C | | | A | B | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 12.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 67.1 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 51.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520





















2020 Future AM (with Optimized Timings)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 40 | 714 | 139 | 158 | 456 | 29 | 207 | 151 | 325 | 71 | 218 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1656 | 3428 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1656 | 3428 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 44 | 790 | 154 | 175 | 505 | 32 | 229 | 167 | 360 | 79 | 241 | 34 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 3 | 0 | 0 | 0 | 259 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 44 | 934 | 0 | 175 | 534 | 0 | 229 | 167 | 101 | 79 | 241 | 4 |
| Confl. Peds. (#/hr) | 2 | | 10 | 10 | | 2 | 5 | | 1 | 1 | | 5 |
| Heavy Vehicles (%) | 9% | 2% | 4% | 2% | 5% | 3% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 7.7 | 60.7 | | 12.0 | 65.0 | | 13.1 | 19.4 | 19.4 | 9.7 | 16.0 | 16.0 |
| Effective Green, g (s) | 7.7 | 60.7 | | 12.0 | 65.0 | | 13.1 | 19.4 | 19.4 | 9.7 | 16.0 | 16.0 |
| Actuated g/C Ratio | 0.06 | 0.47 | | 0.09 | 0.50 | | 0.10 | 0.15 | 0.15 | 0.07 | 0.12 | 0.12 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 98 | 1600 | | 316 | 1703 | | 345 | 278 | 233 | 132 | 435 | 191 |
| v/s Ratio Prot | 0.03 | c0.27 | | c0.05 | c0.16 | | c0.07 | c0.09 | | 0.04 | 0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.06 | | | 0.00 |
| v/c Ratio | 0.45 | 0.58 | | 0.55 | 0.31 | | 0.66 | 0.60 | 0.44 | 0.60 | 0.55 | 0.02 |
| Uniform Delay, d1 | 59.1 | 25.4 | | 56.4 | 19.3 | | 56.3 | 51.7 | 50.3 | 58.3 | 53.6 | 50.1 |
| 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 | 3.2 | 1.6 | | 2.1 | 0.1 | | 4.8 | 3.8 | 1.5 | 7.1 | 1.5 | 0.0 |
| Delay (s) | 62.3 | 27.0 | | 58.5 | 19.4 | | 61.1 | 55.5 | 51.9 | 65.4 | 55.2 | 50.2 |
| Level of Service | E | C | | E | B | | E | E | D | E | E | D |
| Approach Delay (s) | | 28.5 | | | 29.0 | | | 55.5 | | | 57.0 | |
| Approach LOS | | C | | | C | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 39.5 | | | | HCM 2000 Level of Service | | | D | | |
| HCM 2000 Volume to Capacity ratio | | | 0.62 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | | Sum of lost time (s) | | | 28.2 | | |
| Intersection Capacity Utilization | | | 71.7% | | | | ICU Level of Service | | | C | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL |
| Lane Configurations |  |  | | |  |  | |  |  |  | |  |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | | 7.6 |
| Lane Util. Factor | 0.97 | 1.00 | | | 0.97 | 0.95 | | 0.97 | 0.95 | 1.00 | | 0.97 |
| Flt | 1.00 | 0.95 | | | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 |
| Satd. Flow (prot) | 3433 | 1777 | | | 3433 | 3355 | | 3433 | 3539 | 1583 | | 3433 |
| Flt Permitted | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 |
| Satd. Flow (perm) | 3433 | 1777 | | | 3433 | 3355 | | 3433 | 3539 | 1583 | | 3433 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 374 | 142 | 63 | 2 | 335 | 303 | 161 | 363 | 620 | 405 | 2 | 204 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 285 | 0 | 0 |
| Lane Group Flow (vph) | 374 | 194 | 0 | 0 | 337 | 415 | 0 | 363 | 620 | 120 | 0 | 206 |
| Turn Type | Prot | NA | | Prot | Prot | NA | | Prot | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 |
| Permitted Phases | | | | | | | | | | 2 | | |
| Actuated Green, G (s) | 19.0 | 23.9 | | | 17.2 | 20.7 | | 17.9 | 34.6 | 34.6 | | 12.9 |
| Effective Green, g (s) | 19.0 | 23.9 | | | 17.2 | 20.7 | | 17.9 | 34.6 | 34.6 | | 12.9 |
| Actuated g/C Ratio | 0.16 | 0.20 | | | 0.15 | 0.18 | | 0.15 | 0.30 | 0.30 | | 0.11 |
| Clearance Time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | | 7.6 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 557 | 362 | | | 504 | 593 | | 524 | 1045 | 467 | | 378 |
| v/s Ratio Prot | c0.11 | 0.11 | | | 0.10 | c0.12 | | c0.11 | c0.18 | | | 0.06 |
| v/s Ratio Perm | | | | | | | | | | 0.08 | | |
| v/c Ratio | 0.67 | 0.54 | | | 0.67 | 0.70 | | 0.69 | 0.59 | 0.26 | | 0.54 |
| Uniform Delay, d1 | 46.1 | 41.6 | | | 47.3 | 45.3 | | 47.0 | 35.2 | 31.4 | | 49.3 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 3.5 | 1.9 | | | 3.4 | 3.6 | | 3.9 | 0.9 | 0.3 | | 1.6 |
| Delay (s) | 49.6 | 43.6 | | | 50.6 | 48.9 | | 50.9 | 36.1 | 31.7 | | 50.9 |
| Level of Service | D | D | | | D | D | | D | D | C | | D |
| Approach Delay (s) | | 47.5 | | | | 49.6 | | | 38.7 | | | |
| Approach LOS | | D | | | | D | | | D | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 43.7 | | | HCM 2000 Level of Service | | | D | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 117.1 | | | Sum of lost time (s) | | | 29.9 | | | |
| Intersection Capacity Utilization | | | 73.6% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd





















2020 Future PM (with Improvements)

| Movement | SBT | SBR |
|-----------------------------|------|------|
| Label Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 680 | 135 |
| RTOR Reduction (vph) | 0 | 100 |
| Lane Group Flow (vph) | 680 | 35 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 30.0 | 30.0 |
| Effective Green, g (s) | 30.0 | 30.0 |
| Actuated g/C Ratio | 0.26 | 0.26 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 906 | 405 |
| v/s Ratio Prot | 0.19 | |
| v/s Ratio Perm | | 0.02 |
| v/c Ratio | 0.75 | 0.09 |
| Uniform Delay, d1 | 40.1 | 33.1 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.1 |
| Delay (s) | 43.6 | 33.2 |
| Level of Service | D | C |
| Approach Delay (s) | 43.7 | |
| Approach LOS | D | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis




















2: SR 519 & Roy Wall Blvd

2020 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  |  |  |  |  |  |  | |
| Volume (vph) | 2 | 0 | 7 | 64 | 1 | 152 | 4 | 920 | 80 | 154 | 909 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.89 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.99 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1645 | | | 1771 | 1583 | 1770 | 3539 | 1541 | 1770 | 3539 | |
| Flt Permitted | | 0.94 | | | 0.72 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1569 | | | 1342 | 1583 | 1770 | 3539 | 1541 | 1770 | 3539 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 0 | 8 | 73 | 1 | 174 | 5 | 1051 | 91 | 176 | 1039 | 0 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 150 | 0 | 0 | 48 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1 | 0 | 0 | 74 | 24 | 5 | 1051 | 43 | 176 | 1039 | 0 |
| Confl. Peds. (#/hr) | | | | 2 | | | | | 3 | 3 | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 9.6 | | | 9.6 | 9.6 | 0.9 | 32.7 | 32.7 | 12.6 | 44.4 | |
| Effective Green, g (s) | | 9.6 | | | 9.6 | 9.6 | 0.9 | 32.7 | 32.7 | 12.6 | 44.4 | |
| Actuated g/C Ratio | | 0.14 | | | 0.14 | 0.14 | 0.01 | 0.47 | 0.47 | 0.18 | 0.64 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 215 | | | 184 | 217 | 22 | 1655 | 720 | 319 | 2247 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.30 | | c0.10 | 0.29 | |
| v/s Ratio Perm | | 0.00 | | | c0.06 | 0.02 | | | 0.03 | | | |
| v/c Ratio | | 0.01 | | | 0.40 | 0.11 | 0.23 | 0.64 | 0.06 | 0.55 | 0.46 | |
| Uniform Delay, d1 | | 26.0 | | | 27.5 | 26.4 | 34.2 | 14.1 | 10.2 | 26.1 | 6.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.0 | | | 1.4 | 0.2 | 5.2 | 0.8 | 0.0 | 2.1 | 0.2 | |
| Delay (s) | | 26.0 | | | 29.0 | 26.6 | 39.4 | 14.9 | 10.2 | 28.1 | 6.7 | |
| Level of Service | | C | | | C | C | D | B | B | C | A | |
| Approach Delay (s) | | 26.0 | | | 27.3 | | | 14.6 | | | 9.8 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 13.7 | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | | 0.57 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 69.9 | | | | | | | | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | | | 58.2% | | | | | | | | ICU Level of Service | B |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2020 Future PM (with Improvements)

























| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations | |  |  | | |  | |  |  | |  |  |
| Volume (vph) | 12 | 0 | 7 | 1 | 32 | 0 | 58 | 10 | 919 | 70 | 67 | 894 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 |
| Frbp, ped/bikes | | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | | 0.91 | | 1.00 | 0.99 | | 1.00 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 1768 | 1583 | | | 1658 | | 1770 | 3493 | | 1770 | 3529 |
| Flt Permitted | | 0.84 | 1.00 | | | 0.87 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 1558 | 1583 | | | 1477 | | 1770 | 3493 | | 1770 | 3529 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 13 | 0 | 8 | 1 | 36 | 0 | 65 | 11 | 1028 | 78 | 75 | 1000 |
| RTOR Reduction (vph) | 0 | 0 | 7 | 0 | 0 | 69 | 0 | 0 | 5 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 13 | 1 | 0 | 0 | 33 | 0 | 11 | 1101 | 0 | 75 | 1016 |
| Confl. Peds. (#/hr) | 1 | | | | | | 1 | 2 | | 9 | 9 | |
| Turn Type | Perm | NA | Perm | Perm | Perm | NA | | Prot | NA | | Prot | NA |
| Protected Phases | | 4 | | | | 8 | | 5 | 2 | | 1 | 6 |
| Permitted Phases | 4 | | 4 | 8 | 8 | | | | | | | |
| Actuated Green, G (s) | | 5.5 | 5.5 | | | 5.5 | | 1.0 | 34.0 | | 4.8 | 37.8 |
| Effective Green, g (s) | | 5.5 | 5.5 | | | 5.5 | | 1.0 | 34.0 | | 4.8 | 37.8 |
| Actuated g/C Ratio | | 0.09 | 0.09 | | | 0.09 | | 0.02 | 0.57 | | 0.08 | 0.64 |
| Clearance Time (s) | | 5.0 | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Vehicle Extension (s) | | 3.0 | 3.0 | | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 144 | 146 | | | 136 | | 29 | 2002 | | 143 | 2249 |
| v/s Ratio Prot | | | | | | | | 0.01 | c0.32 | | c0.04 | c0.29 |
| v/s Ratio Perm | | 0.01 | 0.00 | | | c0.02 | | | | | | |
| v/c Ratio | | 0.09 | 0.01 | | | 0.24 | | 0.38 | 0.55 | | 0.52 | 0.45 |
| Uniform Delay, d1 | | 24.6 | 24.4 | | | 25.0 | | 28.8 | 7.9 | | 26.2 | 5.5 |
| Progression Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.3 | 0.0 | | | 0.9 | | 8.1 | 0.3 | | 3.4 | 0.1 |
| Delay (s) | | 24.9 | 24.4 | | | 25.9 | | 37.0 | 8.2 | | 29.6 | 5.6 |
| Level of Service | | C | C | | | C | | D | A | | C | A |
| Approach Delay (s) | | 24.7 | | | | 25.9 | | | 8.5 | | | 7.3 |
| Approach LOS | | C | | | | C | | | A | | | A |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 8.8 | | | HCM 2000 Level of Service | | | A | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.51 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 59.3 | | | Sum of lost time (s) | | | 15.0 | | | |
| Intersection Capacity Utilization | | | 57.5% | | | ICU Level of Service | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



| Movement | SBR |
|------------------------|------|
| Lane Configurations | |
| Volume (vph) | 15 |
| Ideal Flow (vphpl) | 1900 |
| Total Lost time (s) | |
| Lane Util. Factor | |
| Frbp, ped/bikes | |
| Flpb, ped/bikes | |
| Frt | |
| Flt Protected | |
| Satd. Flow (prot) | |
| Flt Permitted | |
| Satd. Flow (perm) | |
| Peak-hour factor, PHF | 0.93 |
| Growth Factor (vph) | 104% |
| Adj. Flow (vph) | 17 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 0 |
| Confl. Peds. (#/hr) | 2 |
| Turn Type | |
| Protected Phases | |
| Permitted Phases | |
| Actuated Green, G (s) | |
| Effective Green, g (s) | |
| Actuated g/C Ratio | |
| Clearance Time (s) | |
| Vehicle Extension (s) | |
| Lane Grp Cap (vph) | |
| v/s Ratio Prot | |
| v/s Ratio Perm | |
| v/c Ratio | |
| Uniform Delay, d1 | |
| Progression Factor | |
| Incremental Delay, d2 | |
| Delay (s) | |
| Level of Service | |
| Approach Delay (s) | |
| Approach LOS | |
| Intersection Summary | |

HCM Signalized Intersection Capacity Analysis
8: SR 519 & Barton Blvd

2020 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  | |
| Volume (vph) | 47 | 47 | 39 | 235 | 52 | 234 | 36 | 738 | 173 | 230 | 727 | 86 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | |
| Frbp, ped/bikes | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Flpb, ped/bikes | 0.98 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | 1742 | 1863 | 1533 | 1755 | 1863 | 1527 | 1752 | 3539 | 1583 | 3433 | 3478 | | |
| Flt Permitted | 0.72 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | 1316 | 1863 | 1533 | 927 | 1863 | 1527 | 1752 | 3539 | 1583 | 3433 | 3478 | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 54 | 54 | 45 | 272 | 60 | 270 | 42 | 853 | 200 | 266 | 840 | 99 | |
| RTOR Reduction (vph) | 0 | 0 | 40 | 0 | 0 | 221 | 0 | 0 | 0 | 0 | 6 | 0 | |
| Lane Group Flow (vph) | 54 | 54 | 5 | 272 | 60 | 49 | 42 | 853 | 200 | 266 | 933 | 0 | |
| Confl. Peds. (#/hr) | 25 | | 21 | 21 | | 25 | 3 | | | | | 3 | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 2% | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Free | Prot | NA | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | | | Free | | | | |
| Actuated Green, G (s) | 15.8 | 12.0 | 12.0 | 29.2 | 18.7 | 18.7 | 5.1 | 42.5 | 103.3 | 11.9 | 49.0 | | |
| Effective Green, g (s) | 15.8 | 12.0 | 12.0 | 29.2 | 18.7 | 18.7 | 5.1 | 42.5 | 103.3 | 11.9 | 49.0 | | |
| Actuated g/C Ratio | 0.15 | 0.12 | 0.12 | 0.28 | 0.18 | 0.18 | 0.05 | 0.41 | 1.00 | 0.12 | 0.47 | | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | | |
| Lane Grp Cap (vph) | 216 | 216 | 178 | 346 | 337 | 276 | 86 | 1456 | 1583 | 395 | 1649 | | |
| v/s Ratio Prot | 0.01 | 0.03 | | c0.08 | 0.03 | | 0.02 | 0.24 | | c0.08 | c0.27 | | |
| v/s Ratio Perm | 0.03 | | 0.00 | c0.14 | | 0.03 | | | 0.13 | | | | |
| v/c Ratio | 0.25 | 0.25 | 0.03 | 0.79 | 0.18 | 0.18 | 0.49 | 0.59 | 0.13 | 0.67 | 0.57 | | |
| Uniform Delay, d1 | 38.2 | 41.6 | 40.5 | 32.9 | 35.8 | 35.8 | 47.8 | 23.6 | 0.0 | 43.8 | 19.5 | | |
| 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 | 0.6 | 0.6 | 0.1 | 11.2 | 0.3 | 0.3 | 8.9 | 1.7 | 0.2 | 4.5 | 1.4 | | |
| Delay (s) | 38.9 | 42.2 | 40.6 | 44.1 | 36.1 | 36.1 | 56.7 | 25.3 | 0.2 | 48.3 | 20.9 | | |
| Level of Service | D | D | D | D | D | D | E | C | A | D | C | | |
| Approach Delay (s) | | 40.5 | | | 39.7 | | | 21.9 | | | 27.0 | | |
| Approach LOS | | D | | | D | | | C | | | C | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 28.3 | | HCM 2000 Level of Service | | | | | C | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 103.3 | | Sum of lost time (s) | | | | 26.7 | | | | |
| Intersection Capacity Utilization | | | 73.5% | | ICU Level of Service | | | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future PM (with Optimized Timings)

| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL |
|-----------------------------------|-------|------|-------|------|------|---------------------------|------|-------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 374 | 142 | 63 | 2 | 335 | 303 | 161 | 363 | 620 | 405 | 2 | 204 |
| RTOR Reduction (vph) | 0 | 0 | 46 | 0 | 0 | 0 | 134 | 0 | 0 | 292 | 0 | 0 |
| Lane Group Flow (vph) | 374 | 142 | 17 | 0 | 337 | 303 | 27 | 363 | 620 | 113 | 0 | 206 |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 |
| Permitted Phases | | | 4 | | | | 8 | | | 2 | | |
| Actuated Green, G (s) | 32.6 | 39.8 | 39.8 | | 19.5 | 25.3 | 25.3 | 31.9 | 41.6 | 41.6 | | 20.1 |
| Effective Green, g (s) | 32.6 | 39.8 | 39.8 | | 19.5 | 25.3 | 25.3 | 31.9 | 41.6 | 41.6 | | 20.1 |
| Actuated g/C Ratio | 0.22 | 0.27 | 0.27 | | 0.13 | 0.17 | 0.17 | 0.21 | 0.28 | 0.28 | | 0.13 |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 385 | 495 | 421 | | 447 | 315 | 267 | 377 | 984 | 440 | | 237 |
| v/s Ratio Prot | c0.21 | 0.08 | | | 0.10 | c0.16 | | c0.21 | 0.18 | | | 0.12 |
| v/s Ratio Perm | | | 0.01 | | | | 0.02 | | | 0.07 | | |
| v/c Ratio | 0.97 | 0.29 | 0.04 | | 0.75 | 0.96 | 0.10 | 0.96 | 0.63 | 0.26 | | 0.87 |
| Uniform Delay, d1 | 58.0 | 43.6 | 40.7 | | 62.7 | 61.6 | 52.5 | 58.2 | 47.2 | 41.9 | | 63.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 38.3 | 0.4 | 0.1 | | 7.1 | 40.3 | 0.2 | 36.4 | 1.3 | 0.3 | | 26.9 |
| Delay (s) | 96.3 | 44.0 | 40.7 | | 69.8 | 101.9 | 52.7 | 94.6 | 48.5 | 42.2 | | 90.3 |
| Level of Service | F | D | D | | E | F | D | F | D | D | | F |
| Approach Delay (s) | | 77.4 | | | | 78.5 | | | 58.8 | | | |
| Approach LOS | | E | | | | E | | | E | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 71.2 | | | HCM 2000 Level of Service | | | | E | | |
| HCM 2000 Volume to Capacity ratio | | | 0.96 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 149.5 | | | Sum of lost time (s) | | | | 29.9 | | |
| Intersection Capacity Utilization | | | 93.4% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group














HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2020 Future PM (with Optimized Timings)

| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 104% | 104% |
| Adj. Flow (vph) | 680 | 135 |
| RTOR Reduction (vph) | 0 | 108 |
| Lane Group Flow (vph) | 680 | 27 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 30.2 | 30.2 |
| Effective Green, g (s) | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.20 | 0.20 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 714 | 319 |
| v/s Ratio Prot | c0.19 | |
| v/s Ratio Perm | | 0.02 |
| v/c Ratio | 0.95 | 0.09 |
| Uniform Delay, d1 | 58.9 | 48.4 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 22.6 | 0.1 |
| Delay (s) | 81.5 | 48.6 |
| Level of Service | F | D |
| Approach Delay (s) | 78.9 | |
| Approach LOS | E | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
 10: SR 519 & Pluckebaum Rd





























2020 Future PM (with Optimized Timings)

| |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|
| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | |  |  |  |  |  |  |
| Volume (vph) | 2 | 31 | 314 | 267 | 752 | 756 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1583 | 1751 | 3539 | 3513 | |
| Flt Permitted | | 0.95 | 1.00 | 0.28 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1583 | 509 | 3539 | 3513 | |
| Peak-hour factor, PHF | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% |
| Adj. Flow (vph) | 2 | 34 | 344 | 292 | 823 | 828 | 36 |
| RTOR Reduction (vph) | 0 | 0 | 306 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 36 | 38 | 292 | 823 | 862 | 0 |
| Confl. Peds. (#/hr) | | | | 8 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.5 | 8.5 | 49.9 | 49.9 | 39.6 | |
| Effective Green, g (s) | | 8.5 | 8.5 | 49.9 | 49.9 | 39.6 | |
| Actuated g/C Ratio | | 0.11 | 0.11 | 0.64 | 0.64 | 0.51 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 193 | 173 | 491 | 2573 | 1790 | |
| v/s Ratio Prot | | | | c0.08 | 0.16 | 0.25 | |
| v/s Ratio Perm | | 0.02 | c0.02 | c0.30 | 0.07 | | |
| v/c Ratio | | 0.19 | 0.22 | 0.59 | 0.32 | 0.48 | |
| Uniform Delay, d1 | | 31.5 | 31.6 | 6.5 | 6.3 | 12.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.6 | 1.9 | 0.1 | 0.9 | |
| Delay (s) | | 31.9 | 32.2 | 8.4 | 6.3 | 13.3 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 32.2 | | | 6.9 | 13.3 | |
| Approach LOS | | C | | | A | B | |
| Intersection Summary | | | | | | | |
| HCM 2000 Control Delay | | | 13.3 | | HCM 2000 Level of Service | | B |
| HCM 2000 Volume to Capacity ratio | | | 0.54 | | | | |
| Actuated Cycle Length (s) | | | 77.7 | | Sum of lost time (s) | | 19.3 |
| Intersection Capacity Utilization | | | 59.3% | | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2020 Future PM (with Optimized Timings)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|--|---|--|--|---|---|---|--|---|--|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations |  |   | |   |   | |   |  |   |  |   |  | |
| Volume (vph) | 45 | 645 | 186 | 290 | 719 | 33 | 303 | 206 | 229 | 93 | 215 | 37 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Frbp, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | |
| Growth Factor (vph) | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | 104% | |
| Adj. Flow (vph) | 49 | 699 | 202 | 314 | 779 | 36 | 328 | 223 | 248 | 101 | 233 | 40 | |
| RTOR Reduction (vph) | 0 | 16 | 0 | 0 | 2 | 0 | 0 | 0 | 204 | 0 | 0 | 35 | |
| Lane Group Flow (vph) | 49 | 885 | 0 | 314 | 813 | 0 | 328 | 223 | 44 | 101 | 233 | 5 | |
| Confl. Peds. (#/hr) | | | 13 | 13 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm | |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | | |
| Permitted Phases | | | | | | | | | 4 | | | 8 | |
| Actuated Green, G (s) | 7.6 | 58.1 | | 17.0 | 67.5 | | 17.8 | 24.6 | 24.6 | 12.1 | 18.9 | 18.9 | |
| Effective Green, g (s) | 7.6 | 58.1 | | 17.0 | 67.5 | | 17.8 | 24.6 | 24.6 | 12.1 | 18.9 | 18.9 | |
| Actuated g/C Ratio | 0.05 | 0.42 | | 0.12 | 0.48 | | 0.13 | 0.18 | 0.18 | 0.09 | 0.13 | 0.13 | |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 94 | 1410 | | 416 | 1695 | | 436 | 327 | 278 | 152 | 477 | 213 | |
| v/s Ratio Prot | 0.03 | c0.26 | | c0.09 | 0.23 | | c0.10 | c0.12 | | 0.06 | 0.07 | | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | 0.00 | |
| v/c Ratio | 0.52 | 0.63 | | 0.75 | 0.48 | | 0.75 | 0.68 | 0.16 | 0.66 | 0.49 | 0.03 | |
| Uniform Delay, d1 | 64.4 | 32.4 | | 59.5 | 24.4 | | 59.0 | 54.0 | 48.9 | 62.0 | 56.1 | 52.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 5.1 | 0.9 | | 7.6 | 1.0 | | 7.2 | 6.0 | 0.3 | 10.4 | 0.8 | 0.0 | |
| Delay (s) | 69.6 | 33.3 | | 67.1 | 25.4 | | 66.2 | 60.0 | 49.2 | 72.4 | 56.9 | 52.6 | |
| Level of Service | E | C | | E | C | | E | E | D | E | E | D | |
| Approach Delay (s) | | 35.1 | | | 37.0 | | | 59.2 | | | 60.6 | | |
| Approach LOS | | D | | | D | | | E | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 44.6 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.70 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | | | | | | Sum of lost time (s) | 28.2 |
| Intersection Capacity Utilization | | | 74.6% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future AM (with Improvements)

| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
|-----------------------------------|-------|-------|-------|------|------|------|------|------|-------|-------|------|---------------------------|------|
| Lane Configurations | | | | | | | | | | | | | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 0.97 | 1.00 | | | 0.97 | 0.95 | | | 0.97 | 0.95 | 1.00 | 0.97 | |
| Frbp, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | | 1.00 | 0.97 | | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 3502 | 1781 | | | 3433 | 3341 | | | 3433 | 3505 | 1518 | 3433 | |
| Flt Permitted | 0.95 | 1.00 | | | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 3502 | 1781 | | | 3433 | 3341 | | | 3433 | 3505 | 1518 | 3433 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 422 | 230 | 87 | 1 | 353 | 337 | 68 | 3 | 364 | 458 | 412 | 141 | |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 272 | 0 | |
| Lane Group Flow (vph) | 422 | 307 | 0 | 0 | 354 | 392 | 0 | 0 | 367 | 458 | 140 | 141 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | | Prot | Prot | NA | | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | | | | | | | | | | 2 | |
| Actuated Green, G (s) | 18.9 | 27.5 | | | 17.3 | 24.5 | | | 17.2 | 43.1 | 43.1 | 10.8 | |
| Effective Green, g (s) | 18.9 | 27.5 | | | 17.3 | 24.5 | | | 17.2 | 43.1 | 43.1 | 10.8 | |
| Actuated g/C Ratio | 0.15 | 0.22 | | | 0.14 | 0.19 | | | 0.14 | 0.34 | 0.34 | 0.08 | |
| Clearance Time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 520 | 385 | | | 466 | 643 | | | 464 | 1187 | 514 | 291 | |
| v/s Ratio Prot | c0.12 | c0.17 | | | 0.10 | 0.12 | | | c0.11 | c0.13 | | 0.04 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.09 | |
| v/c Ratio | 0.81 | 0.80 | | | 0.76 | 0.61 | | | 0.79 | 0.39 | 0.27 | 0.48 | |
| Uniform Delay, d1 | 52.4 | 47.2 | | | 52.9 | 47.0 | | | 53.3 | 32.0 | 30.6 | 55.5 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.8 | 11.5 | | | 7.0 | 1.6 | | | 8.9 | 0.2 | 0.3 | 1.3 | |
| Delay (s) | 62.2 | 58.7 | | | 59.9 | 48.6 | | | 62.2 | 32.2 | 30.9 | 56.8 | |
| Level of Service | E | E | | | E | D | | | E | C | C | E | |
| Approach Delay (s) | | 60.7 | | | | 53.9 | | | | 40.7 | | | |
| Approach LOS | | E | | | | D | | | | D | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 49.4 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.86 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 127.2 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 78.0% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd






















2040 Future AM (with Improvements)

| Movement | SBT | SBR |
|------------------------|-------|------|
| ↓ | | |
| ↙ | | |
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 894 | 190 |
| RTOR Reduction (vph) | 0 | 134 |
| Lane Group Flow (vph) | 894 | 56 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 37.1 | 37.1 |
| Effective Green, g (s) | 37.1 | 37.1 |
| Actuated g/C Ratio | 0.29 | 0.29 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1032 | 461 |
| v/s Ratio Prot | c0.25 | |
| v/s Ratio Perm | | 0.04 |
| v/c Ratio | 0.87 | 0.12 |
| Uniform Delay, d1 | 42.7 | 33.1 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.8 | 0.1 |
| Delay (s) | 50.5 | 33.2 |
| Level of Service | D | C |
| Approach Delay (s) | 48.5 | |
| Approach LOS | D | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis

2: SR 519 & Roy Wall Blvd

2040 Future AM (with Improvements)





















| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  | |
| Volume (vph) | 2 | 1 | 0 | 100 | 2 | 177 | 3 | 648 | 97 | 126 | 751 | 1 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | |
| Flt | | 1.00 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 1803 | | | 1758 | 1583 | 1770 | 3539 | 1568 | 1770 | 3539 | | |
| Flt Permitted | | 0.86 | | | 0.73 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 1596 | | | 1343 | 1583 | 1770 | 3539 | 1568 | 1770 | 3539 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 2 | 1 | 0 | 121 | 2 | 215 | 4 | 785 | 118 | 153 | 910 | 1 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 174 | 0 | 0 | 68 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 0 | 3 | 0 | 0 | 123 | 41 | 4 | 785 | 50 | 153 | 911 | 0 | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | | |
| Actuated Green, G (s) | | 11.8 | | | 11.8 | 11.8 | 0.9 | 26.0 | 26.0 | 9.0 | 34.1 | | |
| Effective Green, g (s) | | 11.8 | | | 11.8 | 11.8 | 0.9 | 26.0 | 26.0 | 9.0 | 34.1 | | |
| Actuated g/C Ratio | | 0.19 | | | 0.19 | 0.19 | 0.01 | 0.42 | 0.42 | 0.15 | 0.55 | | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | |
| Lane Grp Cap (vph) | | 304 | | | 256 | 302 | 25 | 1488 | 659 | 257 | 1952 | | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.22 | | c0.09 | 0.26 | | |
| v/s Ratio Perm | | 0.00 | | | c0.09 | 0.03 | | | 0.03 | | | | |
| v/c Ratio | | 0.01 | | | 0.48 | 0.14 | 0.16 | 0.53 | 0.08 | 0.60 | 0.47 | | |
| Uniform Delay, d1 | | 20.3 | | | 22.3 | 20.8 | 30.1 | 13.3 | 10.7 | 24.7 | 8.4 | | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 0.0 | | | 1.4 | 0.2 | 3.0 | 0.3 | 0.0 | 3.7 | 0.2 | | |
| Delay (s) | | 20.3 | | | 23.7 | 21.0 | 33.1 | 13.7 | 10.8 | 28.4 | 8.5 | | |
| Level of Service | | C | | | C | C | C | B | B | C | A | | |
| Approach Delay (s) | | 20.3 | | | 22.0 | | | 13.4 | | | 11.4 | | |
| Approach LOS | | C | | | C | | | B | | | B | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 13.7 | | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | | 0.53 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 61.8 | | | | | | | | | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | | | 51.5% | | | | | | | | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

























6: SR 519 & Lakemoor Blvd

2040 Future AM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  | |  |  |  |
| Volume (vph) | 7 | 0 | 4 | 98 | 0 | 55 | 3 | 767 | 61 | 33 | 782 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1292 | | 1711 | | 1768 | 3492 | | 1703 | 3539 | |
| Flt Permitted | | 0.66 | 1.00 | | 0.80 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1231 | 1292 | | 1414 | | 1768 | 3492 | | 1703 | 3539 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 9 | 0 | 5 | 125 | 0 | 70 | 4 | 979 | 78 | 42 | 998 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 62 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 9 | 1 | 0 | 133 | 0 | 4 | 1051 | 0 | 42 | 999 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 5 | 5 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 25% | 2% | 2% | 3% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | |
| Actuated Green, G (s) | | 11.4 | 11.4 | | 11.4 | | 0.9 | 31.7 | | 4.2 | 35.0 | |
| Effective Green, g (s) | | 11.4 | 11.4 | | 11.4 | | 0.9 | 31.7 | | 4.2 | 35.0 | |
| Actuated g/C Ratio | | 0.18 | 0.18 | | 0.18 | | 0.01 | 0.51 | | 0.07 | 0.56 | |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 225 | 236 | | 258 | | 25 | 1776 | | 114 | 1988 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.30 | | c0.02 | c0.28 | |
| v/s Ratio Perm | | 0.01 | 0.00 | | c0.09 | | | | | | | |
| v/c Ratio | | 0.04 | 0.00 | | 0.52 | | 0.16 | 0.59 | | 0.37 | 0.50 | |
| Uniform Delay, d1 | | 20.9 | 20.8 | | 23.0 | | 30.3 | 10.8 | | 27.8 | 8.3 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | 0.0 | | 1.7 | | 3.0 | 0.5 | | 2.0 | 0.2 | |
| Delay (s) | | 21.0 | 20.8 | | 24.7 | | 33.3 | 11.3 | | 29.8 | 8.5 | |
| Level of Service | | C | C | | C | | C | B | | C | A | |
| Approach Delay (s) | | 20.9 | | | 24.7 | | | 11.4 | | | 9.4 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 11.7 | | | | | | | | | B |
| HCM 2000 Volume to Capacity ratio | | | 0.56 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 62.3 | | | | | | | 15.0 | | |
| Intersection Capacity Utilization | | | 58.5% | | | | | | | | | B |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
8: SR 519 & Barton Blvd























2040 Future AM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 72 | 81 | 49 | 134 | 28 | 204 | 7 | 572 | 232 | 256 | 724 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1765 | 1863 | 1561 | 1768 | 1863 | 1499 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Flt Permitted | 0.73 | 1.00 | 1.00 | 0.65 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1363 | 1863 | 1561 | 1203 | 1863 | 1499 | 1770 | 3539 | 1558 | 3303 | 3508 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 93 | 105 | 63 | 173 | 36 | 263 | 9 | 738 | 299 | 330 | 934 | 53 |
| RTOR Reduction (vph) | 0 | 0 | 53 | 0 | 0 | 216 | 0 | 0 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 93 | 105 | 10 | 173 | 36 | 47 | 9 | 738 | 299 | 330 | 984 | 0 |
| Confl. Peds. (#/hr) | 4 | | 2 | 2 | | 4 | 2 | | 13 | 13 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 6% | 2% | 2% | 2% | 6% | 2% | 2% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | | | Free | | | |
| Actuated Green, G (s) | 21.1 | 17.3 | 17.3 | 25.5 | 19.5 | 19.5 | 1.5 | 43.9 | 108.2 | 14.6 | 56.7 | |
| Effective Green, g (s) | 21.1 | 17.3 | 17.3 | 25.5 | 19.5 | 19.5 | 1.5 | 43.9 | 108.2 | 14.6 | 56.7 | |
| Actuated g/C Ratio | 0.20 | 0.16 | 0.16 | 0.24 | 0.18 | 0.18 | 0.01 | 0.41 | 1.00 | 0.13 | 0.52 | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 279 | 297 | 249 | 314 | 335 | 270 | 24 | 1435 | 1558 | 445 | 1838 | |
| v/s Ratio Prot | 0.01 | 0.06 | | c0.03 | 0.02 | | 0.01 | 0.21 | | c0.10 | c0.28 | |
| v/s Ratio Perm | 0.05 | | 0.01 | c0.10 | | 0.03 | | | c0.19 | | | |
| v/c Ratio | 0.33 | 0.35 | 0.04 | 0.55 | 0.11 | 0.18 | 0.38 | 0.51 | 0.19 | 0.74 | 0.54 | |
| Uniform Delay, d1 | 37.0 | 40.5 | 38.4 | 35.6 | 37.1 | 37.5 | 52.9 | 24.1 | 0.0 | 45.0 | 17.0 | |
| 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 | 0.7 | 0.7 | 0.1 | 2.1 | 0.1 | 0.3 | 19.4 | 1.3 | 0.3 | 6.5 | 1.1 | |
| Delay (s) | 37.7 | 41.2 | 38.5 | 37.6 | 37.2 | 37.9 | 72.3 | 25.5 | 0.3 | 51.5 | 18.2 | |
| Level of Service | D | D | D | D | D | D | E | C | A | D | B | |
| Approach Delay (s) | | 39.3 | | | 37.7 | | | 18.7 | | | 26.5 | |
| Approach LOS | | D | | | D | | | B | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 26.7 | | | | HCM 2000 Level of Service | | | | C | |
| HCM 2000 Volume to Capacity ratio | | | 0.61 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 108.2 | | | | Sum of lost time (s) | | | 26.7 | | |
| Intersection Capacity Utilization | | | 72.6% | | | | ICU Level of Service | | | | C | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future AM (with Optimized Timings)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
| Lane Configurations |  |  |  | |  |  |  | |  |  |  |  | |
| Volume (vph) | 306 | 167 | 63 | 1 | 256 | 244 | 49 | 2 | 264 | 332 | 299 | 102 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1518 | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | 1805 | 1863 | 1568 | | 3433 | 1792 | 1583 | | 1770 | 3505 | 1518 | 1770 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 422 | 230 | 87 | 1 | 353 | 337 | 68 | 3 | 364 | 458 | 412 | 141 | |
| RTOR Reduction (vph) | 0 | 0 | 66 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 287 | 0 | |
| Lane Group Flow (vph) | 422 | 230 | 21 | 0 | 354 | 337 | 11 | 0 | 367 | 458 | 125 | 141 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 2% | 3% | 2% | 2% | 6% | 2% | 2% | 2% | 3% | 4% | 2% | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | | 2 | | |
| Actuated Green, G (s) | 28.6 | 34.3 | 34.3 | | 19.0 | 23.3 | 23.3 | | 24.4 | 42.4 | 42.4 | 15.8 | |
| Effective Green, g (s) | 28.6 | 34.3 | 34.3 | | 19.0 | 23.3 | 23.3 | | 24.4 | 42.4 | 42.4 | 15.8 | |
| Actuated g/C Ratio | 0.20 | 0.24 | 0.24 | | 0.14 | 0.17 | 0.17 | | 0.17 | 0.30 | 0.30 | 0.11 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 368 | 456 | 384 | | 465 | 298 | 263 | | 308 | 1061 | 459 | 199 | |
| v/s Ratio Prot | c0.23 | 0.12 | | | 0.10 | c0.19 | | | c0.21 | 0.13 | | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.01 | | | | 0.08 | | |
| v/c Ratio | 1.15 | 0.50 | 0.06 | | 0.76 | 1.13 | 0.04 | | 1.19 | 0.43 | 0.27 | 0.71 | |
| Uniform Delay, d1 | 55.7 | 45.5 | 40.5 | | 58.3 | 58.4 | 49.0 | | 57.8 | 39.1 | 37.1 | 59.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 93.1 | 1.2 | 0.1 | | 7.2 | 92.2 | 0.1 | | 113.7 | 0.3 | 0.3 | 11.0 | |
| Delay (s) | 148.8 | 46.7 | 40.5 | | 65.5 | 150.6 | 49.1 | | 171.5 | 39.4 | 37.4 | 70.8 | |
| Level of Service | F | D | D | | E | F | D | | F | D | D | E | |
| Approach Delay (s) | | 104.3 | | | | 101.8 | | | | 77.9 | | | |
| Approach LOS | | F | | | | F | | | | E | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 88.8 | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | | | 1.12 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 98.2% | | | | | | | | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future AM (with Optimized Timings)



| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 648 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.87 | 0.87 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 894 | 190 |
| RTOR Reduction (vph) | 0 | 135 |
| Lane Group Flow (vph) | 894 | 55 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 2% | 2% |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 34.2 | 34.2 |
| Effective Green, g (s) | 34.2 | 34.2 |
| Actuated g/C Ratio | 0.24 | 0.24 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 864 | 386 |
| v/s Ratio Prot | c0.25 | |
| v/s Ratio Perm | | 0.04 |
| v/c Ratio | 1.03 | 0.14 |
| Uniform Delay, d1 | 52.9 | 41.4 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 39.9 | 0.2 |
| Delay (s) | 92.8 | 41.6 |
| Level of Service | F | D |
| Approach Delay (s) | 82.3 | |
| Approach LOS | F | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
 10: SR 519 & Pluckebaum Rd

2040 Future AM (with Optimized Timings)



| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|------|------|-------|-------|------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 23 | 291 | 198 | 618 | 532 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1538 | 1684 | 3539 | 3490 | |
| Flt Permitted | | 0.95 | 1.00 | 0.33 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1538 | 591 | 3539 | 3490 | |
| Peak-hour factor, PHF | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 3 | 31 | 388 | 264 | 824 | 709 | 13 |
| RTOR Reduction (vph) | 0 | 0 | 339 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 34 | 49 | 264 | 824 | 721 | 0 |
| Confl. Peds. (#/hr) | | | | 13 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 5% | 7% | 2% | 3% | 9% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 8.6 | 8.6 | 40.8 | 40.8 | 30.7 | |
| Effective Green, g (s) | | 8.6 | 8.6 | 40.8 | 40.8 | 30.7 | |
| Actuated g/C Ratio | | 0.13 | 0.13 | 0.59 | 0.59 | 0.45 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 221 | 192 | 511 | 2441 | 1559 | |
| v/s Ratio Prot | | | | c0.08 | 0.15 | 0.21 | |
| v/s Ratio Perm | | 0.02 | c0.03 | c0.23 | 0.08 | | |
| v/c Ratio | | 0.15 | 0.25 | 0.52 | 0.34 | 0.46 | |
| Uniform Delay, d1 | | 26.8 | 27.1 | 6.9 | 7.1 | 13.2 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.3 | 0.7 | 0.9 | 0.1 | 1.0 | |
| Delay (s) | | 27.1 | 27.8 | 7.8 | 7.2 | 14.2 | |
| Level of Service | | C | C | A | A | B | |
| Approach Delay (s) | | 27.8 | | | 7.3 | 14.2 | |
| Approach LOS | | C | | | A | B | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 13.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 68.7 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 53.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2040 Future AM (with Optimized Timings)























| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|-------|------|-------|------|-------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 40 | 714 | 139 | 158 | 456 | 29 | 207 | 151 | 325 | 71 | 218 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1656 | 3429 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1656 | 3429 | | 3433 | 3406 | | 3433 | 1863 | 1563 | 1770 | 3539 | 1556 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 51 | 911 | 177 | 202 | 582 | 37 | 264 | 193 | 415 | 91 | 278 | 40 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 3 | 0 | 0 | 0 | 241 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 51 | 1078 | 0 | 202 | 616 | 0 | 264 | 193 | 174 | 91 | 278 | 5 |
| Confl. Peds. (#/hr) | 2 | | 10 | 10 | | 2 | 5 | | 1 | 1 | | 5 |
| Heavy Vehicles (%) | 9% | 2% | 4% | 2% | 5% | 3% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 8.2 | 58.8 | | 13.0 | 63.6 | | 12.9 | 21.8 | 21.8 | 8.2 | 17.1 | 17.1 |
| Effective Green, g (s) | 8.2 | 58.8 | | 13.0 | 63.6 | | 12.9 | 21.8 | 21.8 | 8.2 | 17.1 | 17.1 |
| Actuated g/C Ratio | 0.06 | 0.45 | | 0.10 | 0.49 | | 0.10 | 0.17 | 0.17 | 0.06 | 0.13 | 0.13 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 104 | 1550 | | 343 | 1666 | | 340 | 312 | 262 | 111 | 465 | 204 |
| v/s Ratio Prot | 0.03 | c0.31 | | c0.06 | c0.18 | | c0.08 | 0.10 | | 0.05 | 0.08 | |
| v/s Ratio Perm | | | | | | | | | c0.11 | | | 0.00 |
| v/c Ratio | 0.49 | 0.70 | | 0.59 | 0.37 | | 0.78 | 0.62 | 0.67 | 0.82 | 0.60 | 0.03 |
| Uniform Delay, d1 | 58.9 | 28.4 | | 55.9 | 20.7 | | 57.1 | 50.2 | 50.7 | 60.2 | 53.2 | 49.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.6 | 2.6 | | 2.6 | 0.1 | | 10.6 | 3.8 | 6.5 | 35.7 | 2.1 | 0.1 |
| Delay (s) | 62.5 | 31.1 | | 58.5 | 20.8 | | 67.8 | 54.0 | 57.2 | 95.8 | 55.3 | 49.2 |
| Level of Service | E | C | | E | C | | E | D | E | F | E | D |
| Approach Delay (s) | | 32.5 | | | 30.1 | | | 59.7 | | | 63.7 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 43.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 28.2 |
| Intersection Capacity Utilization | 76.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL | |
| Lane Configurations |  |  | | |  |  | |  |  |  | |  | |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Lane Util. Factor | 0.97 | 1.00 | | | 0.97 | 0.95 | | 0.97 | 0.95 | 1.00 | | 0.97 | |
| Frt | 1.00 | 0.95 | | | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (prot) | 3433 | 1778 | | | 3433 | 3355 | | 3433 | 3539 | 1583 | | 3433 | |
| Flt Permitted | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (perm) | 3433 | 1778 | | | 3433 | 3355 | | 3433 | 3539 | 1583 | | 3433 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 431 | 164 | 72 | 3 | 387 | 350 | 186 | 419 | 715 | 467 | 3 | 235 | |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 306 | 0 | 0 | |
| Lane Group Flow (vph) | 431 | 225 | 0 | 0 | 390 | 487 | 0 | 419 | 715 | 161 | 0 | 238 | |
| Turn Type | Prot | NA | | Prot | Prot | NA | | Prot | NA | Perm | Prot | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 | |
| Permitted Phases | | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 21.1 | 28.1 | | | 19.4 | 25.0 | | 20.3 | 40.4 | 40.4 | | 14.7 | |
| Effective Green, g (s) | 21.1 | 28.1 | | | 19.4 | 25.0 | | 20.3 | 40.4 | 40.4 | | 14.7 | |
| Actuated g/C Ratio | 0.16 | 0.21 | | | 0.15 | 0.19 | | 0.15 | 0.31 | 0.31 | | 0.11 | |
| Clearance Time (s) | 7.4 | 6.0 | | | 7.7 | 7.7 | | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 552 | 381 | | | 508 | 639 | | 531 | 1090 | 487 | | 384 | |
| v/s Ratio Prot | c0.13 | 0.13 | | | 0.11 | c0.15 | | c0.12 | c0.20 | | | 0.07 | |
| v/s Ratio Perm | | | | | | | | | | 0.10 | | | |
| v/c Ratio | 0.78 | 0.59 | | | 0.77 | 0.76 | | 0.79 | 0.66 | 0.33 | | 0.62 | |
| Uniform Delay, d1 | 52.8 | 46.3 | | | 53.7 | 50.2 | | 53.3 | 39.3 | 34.9 | | 55.5 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 7.5 | 2.9 | | | 6.9 | 5.4 | | 7.7 | 1.4 | 0.4 | | 3.0 | |
| Delay (s) | 60.3 | 49.2 | | | 60.5 | 55.6 | | 61.0 | 40.8 | 35.3 | | 58.5 | |
| Level of Service | E | D | | | E | E | | E | D | D | | E | |
| Approach Delay (s) | | 56.3 | | | | 57.7 | | | 44.5 | | | | |
| Approach LOS | | E | | | | E | | | D | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 50.7 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.81 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 131.1 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 81.3% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd






















2040 Future PM (with Improvements)

| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Label Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 785 | 156 |
| RTOR Reduction (vph) | 0 | 114 |
| Lane Group Flow (vph) | 785 | 42 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 35.2 | 35.2 |
| Effective Green, g (s) | 35.2 | 35.2 |
| Actuated g/C Ratio | 0.27 | 0.27 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 950 | 425 |
| v/s Ratio Prot | c0.22 | |
| v/s Ratio Perm | | 0.03 |
| v/c Ratio | 0.83 | 0.10 |
| Uniform Delay, d1 | 45.1 | 36.0 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.0 | 0.1 |
| Delay (s) | 51.0 | 36.1 |
| Level of Service | D | D |
| Approach Delay (s) | 50.6 | |
| Approach LOS | D | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis




















2: SR 519 & Roy Wall Blvd

2040 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  | | |  |  |  |  |  |  |  |  | |
| Volume (vph) | 2 | 0 | 7 | 64 | 1 | 152 | 4 | 920 | 80 | 154 | 909 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | |
| Frbp, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 0.90 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | |
| Flt Protected | | 0.99 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 1653 | | | 1770 | 1583 | 1770 | 3539 | 1540 | 1770 | 3539 | | |
| Flt Permitted | | 0.93 | | | 0.72 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 1559 | | | 1338 | 1583 | 1770 | 3539 | 1540 | 1770 | 3539 | | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 3 | 0 | 9 | 84 | 1 | 200 | 5 | 1213 | 105 | 203 | 1199 | 0 | |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 173 | 0 | 0 | 53 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 0 | 2 | 0 | 0 | 85 | 27 | 5 | 1213 | 52 | 203 | 1199 | 0 | |
| Confl. Peds. (#/hr) | | | | 2 | | | | | 3 | 3 | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | | |
| Actuated Green, G (s) | | 10.6 | | | 10.6 | 10.6 | 1.0 | 38.6 | 38.6 | 14.2 | 51.8 | | |
| Effective Green, g (s) | | 10.6 | | | 10.6 | 10.6 | 1.0 | 38.6 | 38.6 | 14.2 | 51.8 | | |
| Actuated g/C Ratio | | 0.14 | | | 0.14 | 0.14 | 0.01 | 0.49 | 0.49 | 0.18 | 0.66 | | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | |
| Lane Grp Cap (vph) | | 210 | | | 180 | 214 | 22 | 1742 | 758 | 320 | 2338 | | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.34 | | c0.11 | 0.34 | | |
| v/s Ratio Perm | | 0.00 | | | c0.06 | 0.02 | | | 0.03 | | | | |
| v/c Ratio | | 0.01 | | | 0.47 | 0.13 | 0.23 | 0.70 | 0.07 | 0.63 | 0.51 | | |
| Uniform Delay, d1 | | 29.3 | | | 31.3 | 29.8 | 38.3 | 15.4 | 10.5 | 29.7 | 6.8 | | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 0.0 | | | 2.0 | 0.3 | 5.2 | 1.2 | 0.0 | 4.1 | 0.2 | | |
| Delay (s) | | 29.4 | | | 33.3 | 30.1 | 43.5 | 16.6 | 10.5 | 33.8 | 7.0 | | |
| Level of Service | | C | | | C | C | D | B | B | C | A | | |
| Approach Delay (s) | | 29.4 | | | 31.0 | | | 16.2 | | | 10.9 | | |
| Approach LOS | | C | | | C | | | B | | | B | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 15.2 | | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | | 0.64 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 78.4 | | | | | | | | | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | | | 64.2% | | | | | | | | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
6: SR 519 & Lakemoor Blvd

2040 Future PM (with Improvements)

























| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations | |  |  | | |  | |  |  | |  |  |
| Volume (vph) | 12 | 0 | 7 | 1 | 32 | 0 | 58 | 10 | 919 | 70 | 67 | 894 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 |
| Frbp, ped/bikes | | 1.00 | 1.00 | | | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | | 0.91 | | 1.00 | 0.99 | | 1.00 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 1768 | 1583 | | | 1657 | | 1770 | 3492 | | 1770 | 3529 |
| Flt Permitted | | 0.70 | 1.00 | | | 0.88 | | 0.95 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 1308 | 1583 | | | 1476 | | 1770 | 3492 | | 1770 | 3529 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 15 | 0 | 9 | 1 | 41 | 0 | 75 | 13 | 1186 | 90 | 86 | 1154 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 69 | 0 | 0 | 5 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 15 | 1 | 0 | 0 | 48 | 0 | 13 | 1271 | 0 | 86 | 1172 |
| Confl. Peds. (#/hr) | 1 | | | | | | 1 | 2 | | 9 | 9 | |
| Turn Type | Perm | NA | Perm | Perm | Perm | NA | | Prot | NA | | Prot | NA |
| Protected Phases | | 4 | | | | 8 | | 5 | 2 | | 1 | 6 |
| Permitted Phases | 4 | | 4 | 8 | 8 | | | | | | | |
| Actuated Green, G (s) | | 6.3 | 6.3 | | | 6.3 | | 1.1 | 39.0 | | 6.9 | 44.8 |
| Effective Green, g (s) | | 6.3 | 6.3 | | | 6.3 | | 1.1 | 39.0 | | 6.9 | 44.8 |
| Actuated g/C Ratio | | 0.09 | 0.09 | | | 0.09 | | 0.02 | 0.58 | | 0.10 | 0.67 |
| Clearance Time (s) | | 5.0 | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Vehicle Extension (s) | | 3.0 | 3.0 | | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 122 | 148 | | | 138 | | 28 | 2026 | | 181 | 2352 |
| v/s Ratio Prot | | | | | | | | 0.01 | c0.36 | | c0.05 | c0.33 |
| v/s Ratio Perm | | 0.01 | 0.00 | | | c0.03 | | | | | | |
| v/c Ratio | | 0.12 | 0.01 | | | 0.35 | | 0.46 | 0.63 | | 0.48 | 0.50 |
| Uniform Delay, d1 | | 27.9 | 27.6 | | | 28.5 | | 32.8 | 9.3 | | 28.4 | 5.6 |
| Progression Factor | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.0 | | | 1.5 | | 11.7 | 0.6 | | 2.0 | 0.2 |
| Delay (s) | | 28.4 | 27.6 | | | 30.1 | | 44.4 | 9.9 | | 30.4 | 5.8 |
| Level of Service | | C | C | | | C | | D | A | | C | A |
| Approach Delay (s) | | 28.1 | | | | 30.1 | | | 10.3 | | | 7.4 |
| Approach LOS | | C | | | | C | | | B | | | A |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 10.0 | | | HCM 2000 Level of Service | | | A | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.57 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 67.2 | | | Sum of lost time (s) | | | 15.0 | | | |
| Intersection Capacity Utilization | | | 63.4% | | | ICU Level of Service | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



| Movement | SBR |
|------------------------|------|
| Lane Configurations | |
| Volume (vph) | 15 |
| Ideal Flow (vphpl) | 1900 |
| Total Lost time (s) | |
| Lane Util. Factor | |
| Frbp, ped/bikes | |
| Flpb, ped/bikes | |
| Frt | |
| Flt Protected | |
| Satd. Flow (prot) | |
| Flt Permitted | |
| Satd. Flow (perm) | |
| Peak-hour factor, PHF | 0.93 |
| Growth Factor (vph) | 120% |
| Adj. Flow (vph) | 19 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 0 |
| Confl. Peds. (#/hr) | 2 |
| Turn Type | |
| Protected Phases | |
| Permitted Phases | |
| Actuated Green, G (s) | |
| Effective Green, g (s) | |
| Actuated g/C Ratio | |
| Clearance Time (s) | |
| Vehicle Extension (s) | |
| Lane Grp Cap (vph) | |
| v/s Ratio Prot | |
| v/s Ratio Perm | |
| v/c Ratio | |
| Uniform Delay, d1 | |
| Progression Factor | |
| Incremental Delay, d2 | |
| Delay (s) | |
| Level of Service | |
| Approach Delay (s) | |
| Approach LOS | |
| Intersection Summary | |

HCM Signalized Intersection Capacity Analysis
8: SR 519 & Barton Blvd

2040 Future PM (with Improvements)

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  | |
| Volume (vph) | 47 | 47 | 39 | 235 | 52 | 234 | 36 | 738 | 173 | 230 | 727 | 86 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | 4.0 | 6.8 | 6.4 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | |
| Frbp, ped/bikes | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Flpb, ped/bikes | 0.98 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | 1742 | 1863 | 1533 | 1753 | 1863 | 1527 | 1752 | 3539 | 1583 | 3433 | 3477 | | |
| Flt Permitted | 0.71 | 1.00 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | 1306 | 1863 | 1533 | 1038 | 1863 | 1527 | 1752 | 3539 | 1583 | 3433 | 3477 | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 63 | 63 | 52 | 313 | 69 | 312 | 48 | 984 | 231 | 307 | 969 | 115 | |
| RTOR Reduction (vph) | 0 | 0 | 45 | 0 | 0 | 257 | 0 | 0 | 0 | 0 | 7 | 0 | |
| Lane Group Flow (vph) | 63 | 63 | 7 | 313 | 69 | 55 | 48 | 984 | 231 | 307 | 1077 | 0 | |
| Confl. Peds. (#/hr) | 25 | | 21 | 21 | | 25 | 3 | | | | | 3 | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 2% | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Prot | NA | Free | Prot | NA | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | | | Free | | | | |
| Actuated Green, G (s) | 19.7 | 13.3 | 13.3 | 29.5 | 18.2 | 18.2 | 6.8 | 39.9 | 103.5 | 12.6 | 45.4 | | |
| Effective Green, g (s) | 19.7 | 13.3 | 13.3 | 29.5 | 18.2 | 18.2 | 6.8 | 39.9 | 103.5 | 12.6 | 45.4 | | |
| Actuated g/C Ratio | 0.19 | 0.13 | 0.13 | 0.29 | 0.18 | 0.18 | 0.07 | 0.39 | 1.00 | 0.12 | 0.44 | | |
| Clearance Time (s) | 7.1 | 7.1 | 7.1 | 6.1 | 6.1 | 6.1 | 7.1 | 6.4 | | 6.8 | 6.4 | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 3.5 | | 3.0 | 3.5 | | |
| Lane Grp Cap (vph) | 275 | 239 | 196 | 373 | 327 | 268 | 115 | 1364 | 1583 | 417 | 1525 | | |
| v/s Ratio Prot | 0.01 | 0.03 | | c0.09 | 0.04 | | 0.03 | 0.28 | | c0.09 | c0.31 | | |
| v/s Ratio Perm | 0.03 | | 0.00 | c0.15 | | 0.04 | | | 0.15 | | | | |
| v/c Ratio | 0.23 | 0.26 | 0.03 | 0.84 | 0.21 | 0.20 | 0.42 | 0.72 | 0.15 | 0.74 | 0.71 | | |
| Uniform Delay, d1 | 35.2 | 40.7 | 39.5 | 33.6 | 36.5 | 36.5 | 46.4 | 27.1 | 0.0 | 43.8 | 23.6 | | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | 0.4 | 0.6 | 0.1 | 15.2 | 0.3 | 0.4 | 5.1 | 3.3 | 0.2 | 6.6 | 2.8 | | |
| Delay (s) | 35.6 | 41.3 | 39.5 | 48.8 | 36.8 | 36.8 | 51.5 | 30.4 | 0.2 | 50.5 | 26.4 | | |
| Level of Service | D | D | D | D | D | D | D | C | A | D | C | | |
| Approach Delay (s) | | 38.8 | | | 42.2 | | | 25.7 | | | 31.7 | | |
| Approach LOS | | D | | | D | | | C | | | C | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 32.0 | | | | | | | | | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | | | 0.84 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 103.5 | | | | | | | | | Sum of lost time (s) | 26.7 |
| Intersection Capacity Utilization | | | 76.1% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future PM (with Optimized Timings)

| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBU | SBL | |
|-----------------------------------|-------|-------|--------|------|------|-------|------|-------|------|------|------|---------------------------|------|
| Lane Configurations | | | | | | | | | | | | | |
| Volume (vph) | 334 | 127 | 56 | 2 | 300 | 271 | 144 | 325 | 554 | 362 | 2 | 182 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.95 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 | | 1770 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | |
| Adj. Flow (vph) | 431 | 164 | 72 | 3 | 387 | 350 | 186 | 419 | 715 | 467 | 3 | 235 | |
| RTOR Reduction (vph) | 0 | 0 | 54 | 0 | 0 | 0 | 155 | 0 | 0 | 334 | 0 | 0 | |
| Lane Group Flow (vph) | 431 | 164 | 18 | 0 | 390 | 350 | 31 | 419 | 715 | 133 | 0 | 238 | |
| Turn Type | Prot | NA | Perm | Prot | Prot | NA | Perm | Prot | NA | Perm | Prot | Prot | |
| Protected Phases | 7 | 4 | | 3 | 3 | 8 | | 5 | 2 | | 1 | 1 | |
| Permitted Phases | | | 4 | | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 32.6 | 38.2 | 38.2 | | 21.1 | 25.3 | 25.3 | 32.4 | 40.8 | 40.8 | | 21.4 | |
| Effective Green, g (s) | 32.6 | 38.2 | 38.2 | | 21.1 | 25.3 | 25.3 | 32.4 | 40.8 | 40.8 | | 21.4 | |
| Actuated g/C Ratio | 0.22 | 0.25 | 0.25 | | 0.14 | 0.17 | 0.17 | 0.22 | 0.27 | 0.27 | | 0.14 | |
| Clearance Time (s) | 7.4 | 6.0 | 6.0 | | 7.7 | 7.7 | 7.7 | 7.6 | 7.2 | 7.2 | | 7.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 384 | 474 | 403 | | 482 | 314 | 266 | 382 | 962 | 430 | | 252 | |
| v/s Ratio Prot | c0.24 | 0.09 | | | 0.11 | c0.19 | | c0.24 | 0.20 | | | 0.13 | |
| v/s Ratio Perm | | | 0.01 | | | | 0.02 | | | 0.08 | | | |
| v/c Ratio | 1.12 | 0.35 | 0.05 | | 0.81 | 1.11 | 0.12 | 1.10 | 0.74 | 0.31 | | 0.94 | |
| Uniform Delay, d1 | 58.7 | 45.7 | 42.2 | | 62.5 | 62.4 | 52.9 | 58.8 | 49.8 | 43.4 | | 63.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 83.4 | 0.6 | 0.1 | | 9.7 | 85.3 | 0.2 | 74.7 | 3.1 | 0.4 | | 41.4 | |
| Delay (s) | 142.1 | 46.3 | 42.2 | | 72.2 | 147.7 | 53.1 | 133.5 | 53.0 | 43.8 | | 105.1 | |
| Level of Service | F | D | D | | E | F | D | F | D | D | | F | |
| Approach Delay (s) | | 107.8 | | | | 96.9 | | | 71.4 | | | | |
| Approach LOS | | F | | | | F | | | E | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 93.0 | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | | | 1.11 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | | | | | | | Sum of lost time (s) | 29.9 |
| Intersection Capacity Utilization | | | 104.2% | | | | | | | | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: SR 519 & I-95 NB Ramps/Barnes Blvd

2040 Future PM (with Optimized Timings)

| Movement | SBT | SBR |
|-----------------------------|-------|------|
| Lane Configurations | ↑↑ | ↑ |
| Volume (vph) | 608 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 6.8 | 6.8 |
| Lane Util. Factor | 0.95 | 1.00 |
| Frt | 1.00 | 0.85 |
| Flt Protected | 1.00 | 1.00 |
| Satd. Flow (prot) | 3539 | 1583 |
| Flt Permitted | 1.00 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 |
| Growth Factor (vph) | 120% | 120% |
| Adj. Flow (vph) | 785 | 156 |
| RTOR Reduction (vph) | 0 | 125 |
| Lane Group Flow (vph) | 785 | 31 |
| Turn Type | NA | Perm |
| Protected Phases | 6 | |
| Permitted Phases | | 6 |
| Actuated Green, G (s) | 30.2 | 30.2 |
| Effective Green, g (s) | 30.2 | 30.2 |
| Actuated g/C Ratio | 0.20 | 0.20 |
| Clearance Time (s) | 6.8 | 6.8 |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 712 | 318 |
| v/s Ratio Prot | 0.22 | |
| v/s Ratio Perm | | 0.02 |
| v/c Ratio | 1.10 | 0.10 |
| Uniform Delay, d1 | 59.9 | 48.8 |
| Progression Factor | 1.00 | 1.00 |
| Incremental Delay, d2 | 65.3 | 0.1 |
| Delay (s) | 125.2 | 48.9 |
| Level of Service | F | D |
| Approach Delay (s) | 111.1 | |
| Approach LOS | F | |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
 10: SR 519 & Pluckebaum Rd































2040 Future PM (with Optimized Timings)

| Movement | EBU | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|------|------|-------|-------|---------------------------|------|------|
| Lane Configurations | | | | | | | |
| Volume (vph) | 2 | 31 | 314 | 267 | 752 | 756 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1583 | 1752 | 3539 | 3513 | |
| Flt Permitted | | 0.95 | 1.00 | 0.21 | 1.00 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1583 | 385 | 3539 | 3513 | |
| Peak-hour factor, PHF | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 3 | 39 | 397 | 337 | 950 | 955 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 291 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 42 | 106 | 337 | 950 | 994 | 0 |
| Confl. Peds. (#/hr) | | | | 8 | | | 3 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 3% | 2% | 2% | 2% |
| Turn Type | Perm | Perm | Perm | pm+pt | NA | NA | |
| Protected Phases | | | | 1 | 2 | 2 | |
| Permitted Phases | 4 | 4 | 4 | 2 | 1 | | |
| Actuated Green, G (s) | | 11.0 | 11.0 | 52.0 | 52.0 | 39.8 | |
| Effective Green, g (s) | | 11.0 | 11.0 | 52.0 | 52.0 | 39.8 | |
| Actuated g/C Ratio | | 0.13 | 0.13 | 0.63 | 0.63 | 0.48 | |
| Clearance Time (s) | | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | |
| Lane Grp Cap (vph) | | 236 | 211 | 445 | 2519 | 1698 | |
| v/s Ratio Prot | | | | c0.11 | 0.18 | 0.28 | |
| v/s Ratio Perm | | 0.02 | c0.07 | c0.37 | 0.09 | | |
| v/c Ratio | | 0.18 | 0.50 | 0.76 | 0.38 | 0.59 | |
| Uniform Delay, d1 | | 31.6 | 33.1 | 8.9 | 7.3 | 15.3 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 1.9 | 7.2 | 0.1 | 1.5 | |
| Delay (s) | | 32.0 | 35.0 | 16.1 | 7.4 | 16.8 | |
| Level of Service | | C | C | B | A | B | |
| Approach Delay (s) | | 34.7 | | | 9.7 | 16.8 | |
| Approach LOS | | C | | | A | B | |
| Intersection Summary | | | | | | | |
| HCM 2000 Control Delay | | | 16.3 | | HCM 2000 Level of Service | | B |
| HCM 2000 Volume to Capacity ratio | | | 0.71 | | | | |
| Actuated Cycle Length (s) | | | 82.3 | | Sum of lost time (s) | | 19.3 |
| Intersection Capacity Utilization | | | 65.2% | | ICU Level of Service | | C |
| Analysis Period (min) | | | 15 | | | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: SR 519 & SR 520

2040 Future PM (with Optimized Timings)

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|--|---|--|--|---|---|---|--|--|--|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | |   |   | |   |  |   |   |   |   |
| Volume (vph) | 45 | 645 | 186 | 290 | 719 | 33 | 303 | 206 | 229 | 93 | 215 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1736 | 3399 | | 3433 | 3516 | | 3433 | 1863 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 56 | 806 | 232 | 362 | 899 | 41 | 379 | 258 | 286 | 116 | 269 | 46 |
| RTOR Reduction (vph) | 0 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 193 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 56 | 1021 | 0 | 362 | 938 | 0 | 379 | 258 | 93 | 116 | 269 | 7 |
| Confl. Peds. (#/hr) | | | 13 | 13 | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 7 | 4 | | 3 | 8 | |
| Permitted Phases | | | | | | | | | 4 | | | 8 |
| Actuated Green, G (s) | 8.0 | 53.5 | | 18.9 | 64.4 | | 18.9 | 26.7 | 26.7 | 12.7 | 20.5 | 20.5 |
| Effective Green, g (s) | 8.0 | 53.5 | | 18.9 | 64.4 | | 18.9 | 26.7 | 26.7 | 12.7 | 20.5 | 20.5 |
| Actuated g/C Ratio | 0.06 | 0.38 | | 0.13 | 0.46 | | 0.13 | 0.19 | 0.19 | 0.09 | 0.15 | 0.15 |
| Clearance Time (s) | 6.7 | 7.5 | | 6.7 | 7.5 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 99 | 1298 | | 463 | 1617 | | 463 | 355 | 301 | 160 | 518 | 231 |
| v/s Ratio Prot | 0.03 | c0.30 | | c0.11 | 0.27 | | c0.11 | c0.14 | | 0.07 | 0.08 | |
| v/s Ratio Perm | | | | | | | | | 0.06 | | | 0.00 |
| v/c Ratio | 0.57 | 0.79 | | 0.78 | 0.58 | | 0.82 | 0.73 | 0.31 | 0.72 | 0.52 | 0.03 |
| Uniform Delay, d1 | 64.3 | 38.2 | | 58.6 | 27.8 | | 58.9 | 53.2 | 48.7 | 62.0 | 55.2 | 51.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.2 | 3.2 | | 8.4 | 1.5 | | 10.8 | 7.5 | 0.7 | 15.0 | 0.9 | 0.1 |
| Delay (s) | 71.5 | 41.4 | | 66.9 | 29.4 | | 69.7 | 60.7 | 49.4 | 77.0 | 56.1 | 51.3 |
| Level of Service | E | D | | E | C | | E | E | D | E | E | D |
| Approach Delay (s) | | 43.0 | | | 39.8 | | | 60.9 | | | 61.2 | |
| Approach LOS | | D | | | D | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 48.4 | | | | | | | | | D |
| HCM 2000 Volume to Capacity ratio | | | 0.81 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | | | | 28.2 | | |
| Intersection Capacity Utilization | | | 81.4% | | | | | | | | | D |
| Analysis Period (min) | | | 15 | | | | | | | | | |

c Critical Lane Group



Appendix

Appendix B – Comments & Coordination Summary



Appendix

Appendix C – SIDRA Reports & Screening Checklist

**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



| | |
|------------------------------|---------------------------|
| Prepared by: | Date Prepared: |
| Financial Project ID: | Project Name: |
| FAP No.: | State Road: |
| County: | Intersecting Road: |

EXISTING CONTROL/PROJECT CLASSIFICATION

| | | | | | |
|-----------------|----------------------------------|---|-------------------------------------|--------------------------------|-------------------------------|
| Control: | <input type="checkbox"/> Signal | <input type="checkbox"/> All Way Stop | <input type="checkbox"/> 2 Way Stop | <input type="checkbox"/> Yield | <input type="checkbox"/> None |
| Classification: | <input type="checkbox"/> Design. | <input type="checkbox"/> Traffic Operations | <input type="checkbox"/> Other | | |

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

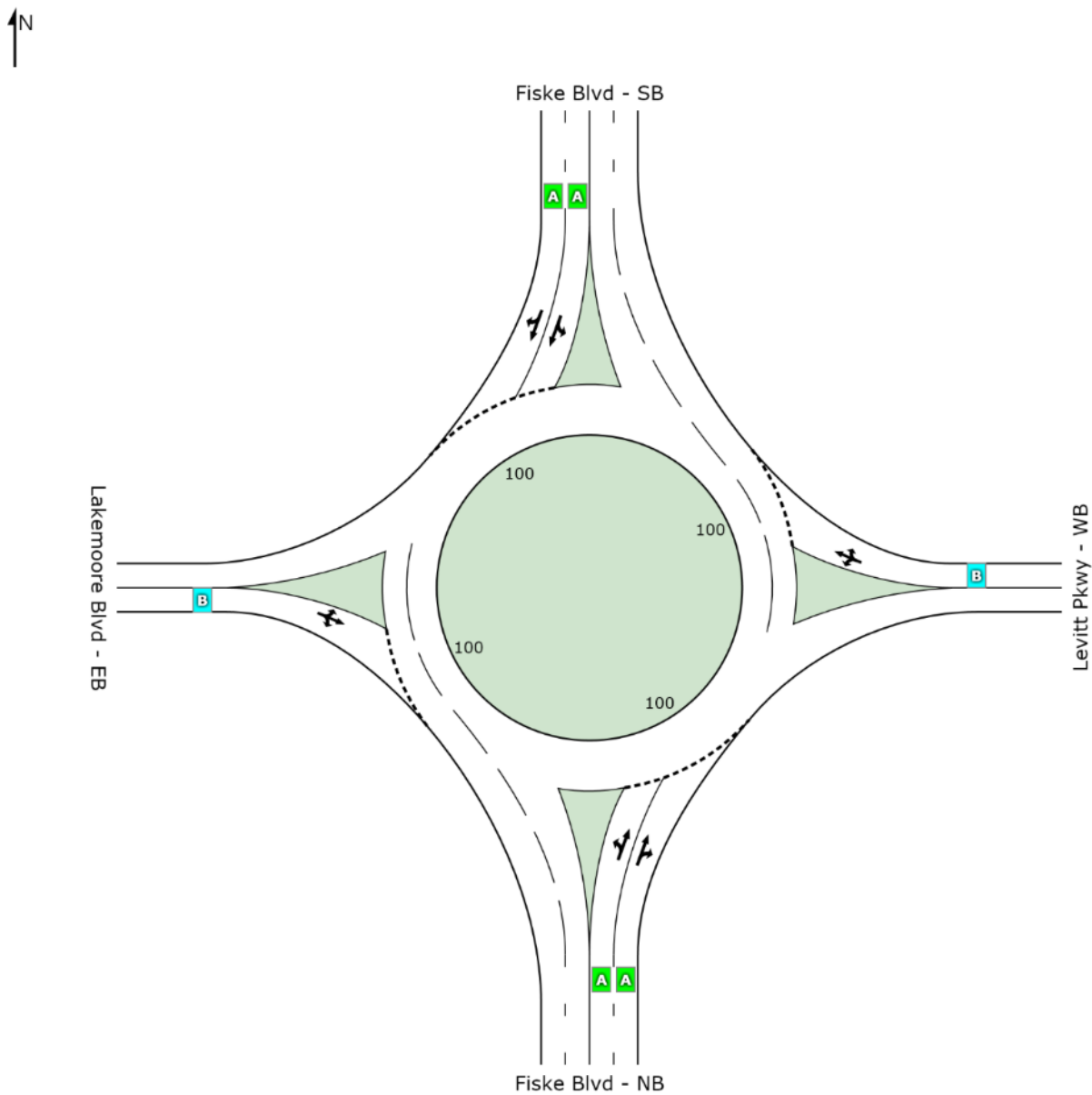
Approved by: DDE or DTOE

Signature: _____ Date: _____

LEVEL OF SERVICE SUMMARY

Site: Levitt - 2040 AM Peak

Fiske Blvd at Levitt Pkwy/Lakemoor Blvd
Roundabout



| | South | East | North | West | Intersection |
|-----|-------|------|-------|------|--------------|
| LOS | A | B | A | B | A |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 SIDRA Standard Delay Model used.

LANE SUMMARY

Site: Levitt - 2040 AM Peak

Fiske Blvd at Levitt Pkwy/Lakemoor Blvd
Roundabout

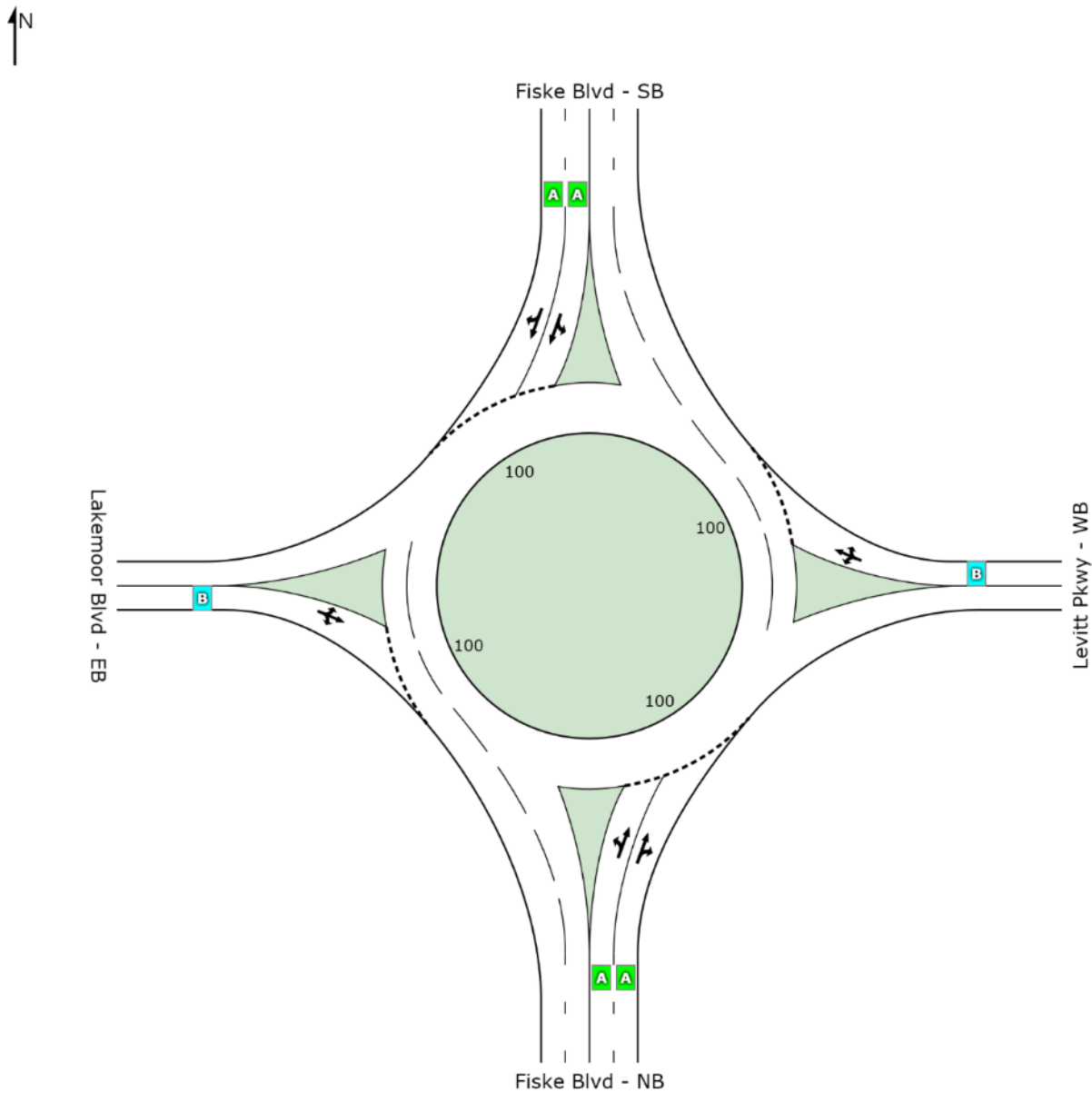
| Lane Use and Performance | | | | | | | | | | | | | | | | |
|---------------------------------|--------------|-------|-------|-------|-----|-------|-------|------|---------|----------|-------------------|------|------|------|-------|-------|
| | Demand Flows | | | Total | HV | Cap. | Deg. | Lane | Average | Level of | 95% Back of Queue | Lane | SL | Cap. | Prob. | |
| | L | T | R | | | | | | | | | | | | | veh/h |
| | veh/h | veh/h | veh/h | veh/h | % | veh/h | v/c | % | sec | | | ft | ft | | % | % |
| South: Fiske Blvd - NB | | | | | | | | | | | | | | | | |
| Lane 1 | 4 | 508 | 0 | 512 | 2.0 | 1363 | 0.376 | 100 | 5.6 | LOS A | 2.7 | 68.2 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 492 | 79 | 571 | 2.0 | 1519 | 0.376 | 100 | 5.6 | LOS A | 2.7 | 68.7 | 1600 | - | 0.0 | 0.0 |
| Approach | 4 | 1000 | 79 | 1084 | 2.0 | | 0.376 | | 5.6 | LOS A | 2.7 | 68.7 | | | | |
| East: Levitt Pkwy - WB | | | | | | | | | | | | | | | | |
| Lane 1 | 128 | 1 | 72 | 201 | 2.0 | 536 | 0.375 | 100 | 15.9 | LOS B | 1.6 | 41.7 | 1600 | - | 0.0 | 0.0 |
| Approach | 128 | 1 | 72 | 201 | 2.0 | | 0.375 | | 15.9 | LOS B | 1.6 | 41.7 | | | | |
| North: Fiske Blvd - SB | | | | | | | | | | | | | | | | |
| Lane 1 | 43 | 463 | 0 | 506 | 2.0 | 1217 | 0.416 | 100 | 6.7 | LOS A | 3.2 | 80.4 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 557 | 1 | 558 | 2.0 | 1342 | 0.416 | 100 | 6.0 | LOS A | 3.2 | 81.9 | 1600 | - | 0.0 | 0.0 |
| Approach | 43 | 1020 | 1 | 1064 | 2.0 | | 0.416 | | 6.3 | LOS A | 3.2 | 81.9 | | | | |
| West: Lakemoor Blvd - EB | | | | | | | | | | | | | | | | |
| Lane 1 | 9 | 1 | 5 | 15 | 2.0 | 454 | 0.034 | 100 | 14.8 | LOS B | 0.1 | 3.2 | 1600 | - | 0.0 | 0.0 |
| Approach | 9 | 1 | 5 | 15 | 2.0 | | 0.034 | | 14.8 | LOS B | 0.1 | 3.2 | | | | |
| Intersection | | | | 2364 | 2.0 | | 0.416 | | 6.9 | LOS A | 3.2 | 81.9 | | | | |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model used.

LEVEL OF SERVICE SUMMARY

Site: Levitt - 2040 PM Peak

Fiske Blvd at Levitt Pkwy/Lakemoor Blvd
Roundabout



| | South | East | North | West | Intersection |
|-----|-------|------|-------|------|--------------|
| LOS | A | B | A | B | A |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 SIDRA Standard Delay Model used.

LANE SUMMARY

Site: Levitt - 2040 PM Peak

Fiske Blvd at Levitt Pkwy/Lakemoor Blvd
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | | | | | |
|---------------------------------|--------------|-------|-------|-------|-----|-------|-------|------|---------|----------|-------------------|----------|------|-------|-------|--------|---|
| | Demand Flows | | | Total | HV | Cap. | Deg. | Lane | Average | Level of | 95% Back of Queue | SL | Cap. | Prob. | Queue | | |
| | L | T | R | | | | | | | | | | | | Adj. | Block. | |
| | veh/h | veh/h | veh/h | veh/h | % | veh/h | v/c | % | sec | Service | Vehicles | Distance | ft | ft | Type | % | % |
| South: Fiske Blvd - NB | | | | | | | | | | | | | | | | | |
| Lane 1 | 13 | 605 | 0 | 618 | 2.0 | 1285 | 0.481 | 100 | 6.1 | LOS A | 3.7 | 94.7 | 1600 | - | 0.0 | 0.0 | |
| Lane 2 | 0 | 594 | 91 | 686 | 2.0 | 1426 | 0.481 | 100 | 6.0 | LOS A | 3.8 | 95.4 | 1600 | - | 0.0 | 0.0 | |
| Approach | 13 | 1199 | 91 | 1303 | 2.0 | | 0.481 | | 6.1 | LOS A | 3.8 | 95.4 | | | | | |
| East: Levitt Pkwy - WB | | | | | | | | | | | | | | | | | |
| Lane 1 | 41 | 1 | 76 | 118 | 2.0 | 458 | 0.259 | 100 | 14.1 | LOS B | 1.0 | 26.0 | 1600 | - | 0.0 | 0.0 | |
| Approach | 41 | 1 | 76 | 118 | 2.0 | | 0.259 | | 14.1 | LOS B | 1.0 | 26.0 | | | | | |
| North: Fiske Blvd - SB | | | | | | | | | | | | | | | | | |
| Lane 1 | 87 | 514 | 0 | 601 | 2.0 | 1359 | 0.442 | 100 | 6.6 | LOS A | 3.6 | 91.0 | 1600 | - | 0.0 | 0.0 | |
| Lane 2 | 0 | 653 | 20 | 672 | 2.0 | 1521 | 0.442 | 100 | 5.5 | LOS A | 3.6 | 92.0 | 1600 | - | 0.0 | 0.0 | |
| Approach | 87 | 1166 | 20 | 1273 | 2.0 | | 0.442 | | 6.0 | LOS A | 3.6 | 92.0 | | | | | |
| West: Lakemoor Blvd - EB | | | | | | | | | | | | | | | | | |
| Lane 1 | 15 | 1 | 9 | 25 | 2.0 | 459 | 0.054 | 100 | 15.4 | LOS B | 0.2 | 5.1 | 1600 | - | 0.0 | 0.0 | |
| Approach | 15 | 1 | 9 | 25 | 2.0 | | 0.054 | | 15.4 | LOS B | 0.2 | 5.1 | | | | | |
| Intersection | | | | 2720 | 2.0 | | 0.481 | | 6.5 | LOS A | 3.8 | 95.4 | | | | | |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model used.

**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



| | |
|------------------------------|---------------------------|
| Prepared by: | Date Prepared: |
| Financial Project ID: | Project Name: |
| FAP No.: | State Road: |
| County: | Intersecting Road: |

| EXISTING CONTROL/PROJECT CLASSIFICATION | | | | | |
|---|----------------------------------|---|-------------------------------------|--------------------------------|-------------------------------|
| Control: | <input type="checkbox"/> Signal | <input type="checkbox"/> All Way Stop | <input type="checkbox"/> 2 Way Stop | <input type="checkbox"/> Yield | <input type="checkbox"/> None |
| Classification: | <input type="checkbox"/> Design. | <input type="checkbox"/> Traffic Operations | <input type="checkbox"/> Other | | |

| SCREENING CRITERIA | |
|---|--|
| 1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 2. Does the major roadway AADT exceed 90% of the total intersection AADT? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 4. Is the intersection located within a coordinated signal network? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? <i>(comment below if "yes")</i> | <input type="checkbox"/> yes <input type="checkbox"/> no |

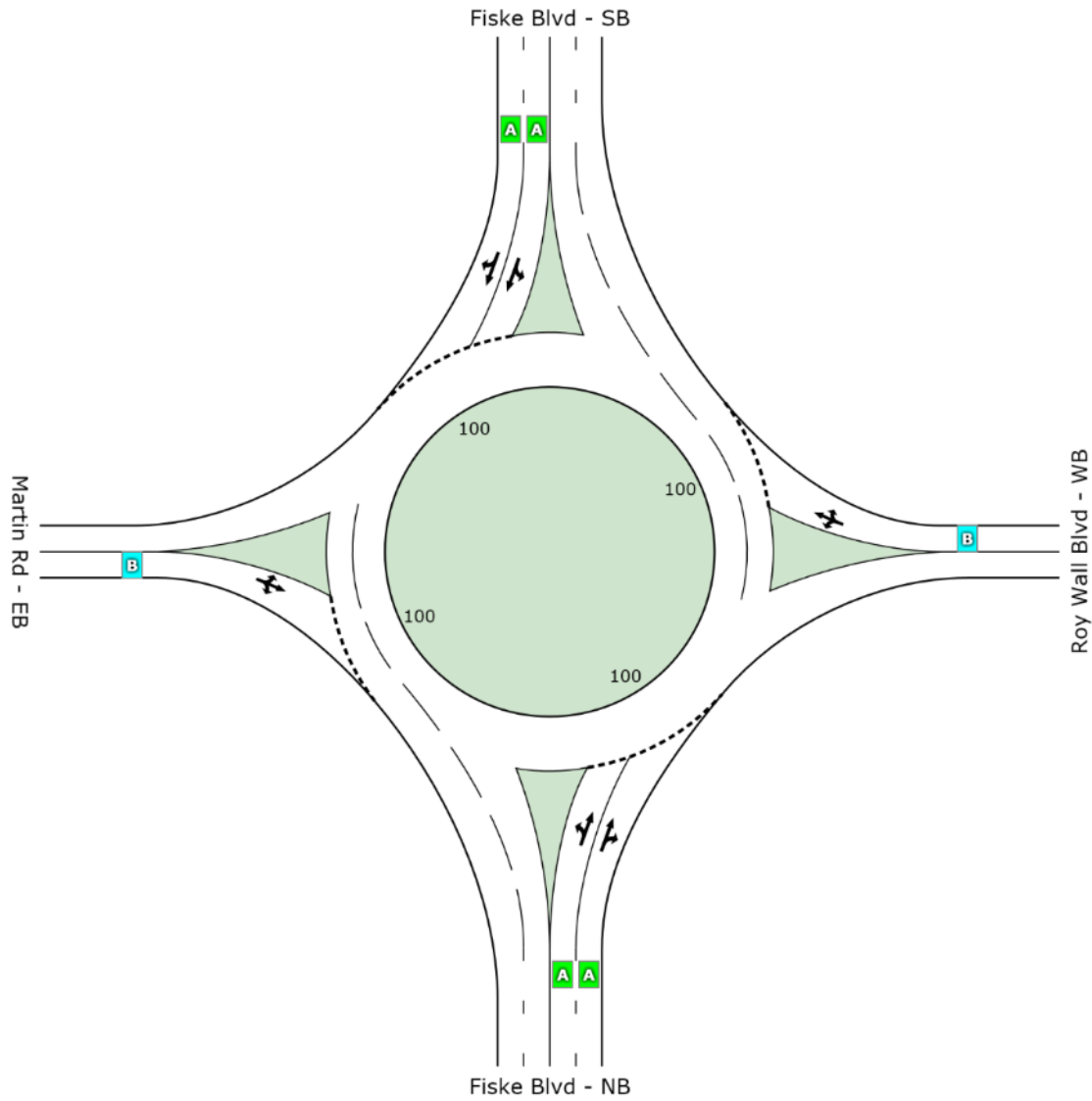
Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

| | |
|---|--|
| Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Approved by: <input type="checkbox"/> DDE or <input type="checkbox"/> DTOE | |
| Signature: _____ | Date: _____ |

LEVEL OF SERVICE SUMMARY

Site: Roy Wall - 2040 AM Peak

Fiske Blvd at Roy Wall Blvd/Martin Rd
Roundabout



| | South | East | North | West | Intersection |
|-----|-------|------|-------|------|--------------|
| LOS | A | B | A | B | A |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 SIDRA Standard Delay Model used.

LANE SUMMARY

Site: Roy Wall - 2040 AM Peak

Fiske Blvd at Roy Wall Blvd/Martin Rd
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | | | | |
|---------------------------------|--------------|-------|-------|-------|-----|-------|-------|------|---------|----------|----------|----------|------|----|------|-------|
| | Demand Flows | | | Total | HV | Cap. | Deg. | Lane | Average | Level of | 95% Back | of Queue | Lane | SL | Cap. | Prob. |
| | L | T | R | | | | | | | | | | | | | |
| | veh/h | veh/h | veh/h | veh/h | % | veh/h | v/c | % | sec | | veh | ft | ft | | % | % |
| South: Fiske Blvd - NB | | | | | | | | | | | | | | | | |
| Lane 1 | 4 | 461 | 0 | 465 | 2.0 | 1178 | 0.395 | 100 | 6.4 | LOS A | 2.8 | 70.9 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 385 | 126 | 511 | 2.0 | 1293 | 0.395 | 100 | 6.5 | LOS A | 2.8 | 72.0 | 1600 | - | 0.0 | 0.0 |
| Approach | 4 | 846 | 126 | 976 | 2.0 | | 0.395 | | 6.5 | LOS A | 2.8 | 72.0 | | | | |
| East: Roy Wall Blvd - WB | | | | | | | | | | | | | | | | |
| Lane 1 | 130 | 2 | 230 | 363 | 2.0 | 550 | 0.660 | 100 | 17.1 | LOS B | 4.3 | 110.0 | 1600 | - | 0.0 | 0.0 |
| Approach | 130 | 2 | 230 | 363 | 2.0 | | 0.660 | | 17.1 | LOS B | 4.3 | 110.0 | | | | |
| North: Fiske Blvd - SB | | | | | | | | | | | | | | | | |
| Lane 1 | 164 | 380 | 0 | 544 | 2.0 | 1209 | 0.450 | 100 | 8.3 | LOS A | 3.6 | 92.3 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 600 | 1 | 601 | 2.0 | 1335 | 0.450 | 100 | 6.0 | LOS A | 3.7 | 94.2 | 1600 | - | 0.0 | 0.0 |
| Approach | 164 | 979 | 1 | 1145 | 2.0 | | 0.450 | | 7.1 | LOS A | 3.7 | 94.2 | | | | |
| West: Martin Rd - EB | | | | | | | | | | | | | | | | |
| Lane 1 | 2 | 1 | 1 | 4 | 2.0 | 440 | 0.010 | 100 | 14.1 | LOS B | 0.0 | 1.0 | 1600 | - | 0.0 | 0.0 |
| Approach | 2 | 1 | 1 | 4 | 2.0 | | 0.010 | | 14.1 | LOS B | 0.0 | 1.0 | | | | |
| Intersection | | | | 2488 | 2.0 | | 0.660 | | 8.3 | LOS A | 4.3 | 110.0 | | | | |

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Monday, February 15, 2016 9:20:57 AM

SIDRA INTERSECTION 5.1.13.2093

Project: C:\Users\asoupharath\Desktop\SR 519\Roundabout Feasibility Analysis at Roy Wall and Levitt.sip

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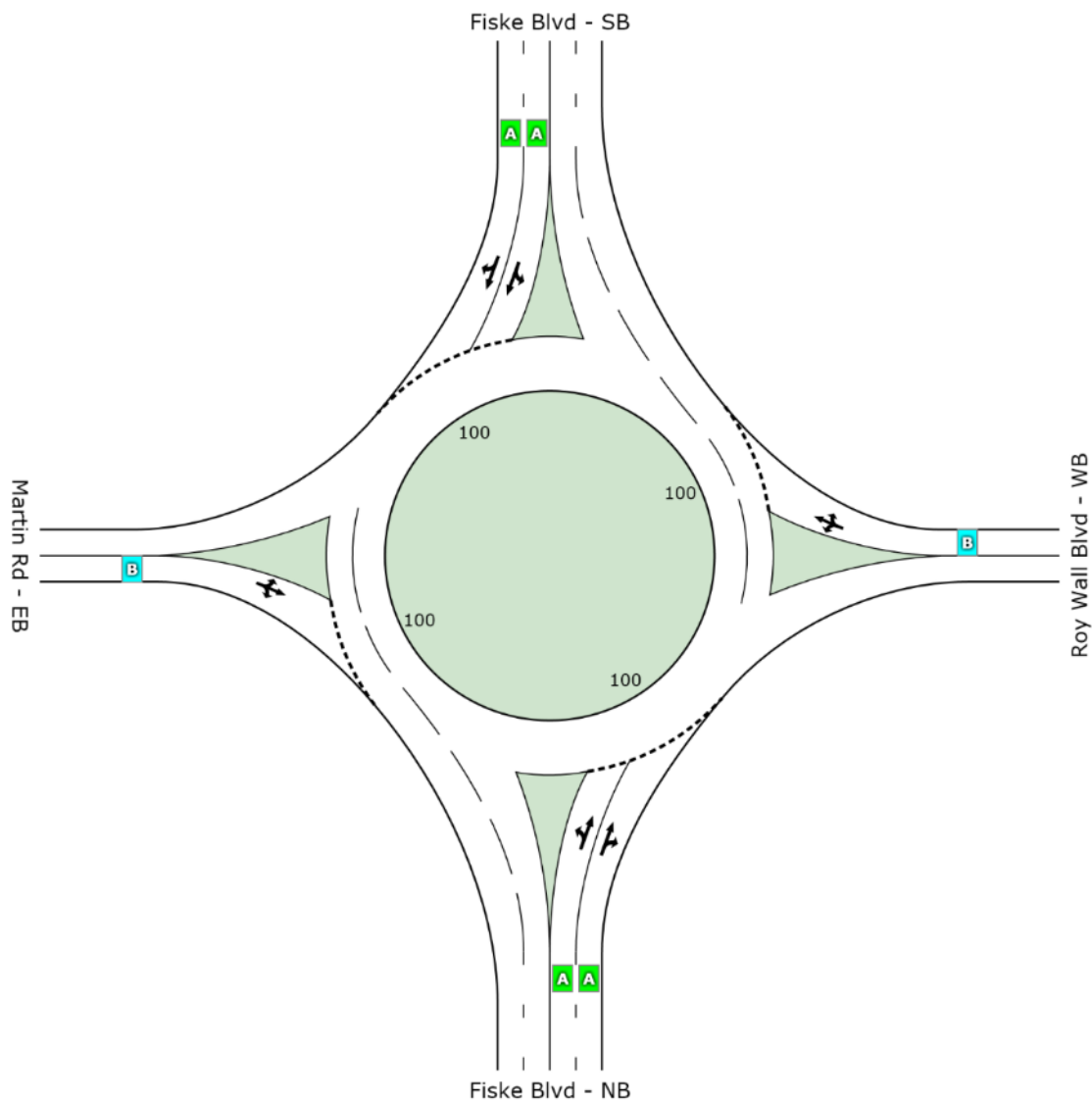
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LEVEL OF SERVICE SUMMARY

Site: Roy Wall - 2040 PM Peak

Fiske Blvd at Roy Wall Blvd/Martin Rd
Roundabout



| | South | East | North | West | Intersection |
|-----|-------|------|-------|------|--------------|
| LOS | A | B | A | B | A |

Level of Service (LOS) Method: Delay (HCM 2000).
 Roundabout LOS Method: Same as Signalised Intersections.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 SIDRA Standard Delay Model used.

LANE SUMMARY

Site: Roy Wall - 2040 PM Peak

Fiske Blvd at Roy Wall Blvd/Martin Rd
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | | | | |
|--------------------------|--------------|-------|-------|-------|-----|-------|-------|------|---------|----------|----------|----------|------|----|------|-------|
| | Demand Flows | | | Total | HV | Cap. | Deg. | Lane | Average | Level of | 95% Back | of Queue | Lane | SL | Cap. | Prob. |
| | L | T | R | | | | | | | | | | | | | |
| | veh/h | veh/h | veh/h | veh/h | % | veh/h | v/c | % | sec | | veh | ft | ft | | % | % |
| South: Fiske Blvd - NB | | | | | | | | | | | | | | | | |
| Lane 1 | 5 | 616 | 0 | 621 | 2.0 | 1139 | 0.546 | 100 | 7.0 | LOS A | 4.5 | 113.6 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 584 | 104 | 688 | 2.0 | 1262 | 0.546 | 100 | 6.9 | LOS A | 4.6 | 115.8 | 1600 | - | 0.0 | 0.0 |
| Approach | 5 | 1200 | 104 | 1310 | 2.0 | | 0.546 | | 6.9 | LOS A | 4.6 | 115.8 | | | | |
| East: Roy Wall Blvd - WB | | | | | | | | | | | | | | | | |
| Lane 1 | 84 | 1 | 198 | 283 | 2.0 | 426 | 0.663 | 100 | 18.9 | LOS B | 4.0 | 100.4 | 1600 | - | 0.0 | 0.0 |
| Approach | 84 | 1 | 198 | 283 | 2.0 | | 0.663 | | 18.9 | LOS B | 4.0 | 100.4 | | | | |
| North: Fiske Blvd - SB | | | | | | | | | | | | | | | | |
| Lane 1 | 201 | 456 | 0 | 657 | 2.0 | 1289 | 0.509 | 100 | 8.1 | LOS A | 4.6 | 118.1 | 1600 | - | 0.0 | 0.0 |
| Lane 2 | 0 | 730 | 1 | 731 | 2.0 | 1436 | 0.509 | 100 | 5.8 | LOS A | 4.7 | 120.1 | 1600 | - | 0.0 | 0.0 |
| Approach | 201 | 1186 | 1 | 1388 | 2.0 | | 0.509 | | 6.9 | LOS A | 4.7 | 120.1 | | | | |
| West: Martin Rd - EB | | | | | | | | | | | | | | | | |
| Lane 1 | 2 | 1 | 9 | 12 | 2.0 | 394 | 0.030 | 100 | 13.6 | LOS B | 0.1 | 3.0 | 1600 | - | 0.0 | 0.0 |
| Approach | 2 | 1 | 9 | 12 | 2.0 | | 0.030 | | 13.6 | LOS B | 0.1 | 3.0 | | | | |
| Intersection | | | | 2992 | 2.0 | | 0.663 | | 8.1 | LOS A | 4.7 | 120.1 | | | | |

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Monday, February 15, 2016 9:22:02 AM

SIDRA INTERSECTION 5.1.13.2093

Project: C:\Users\asoupharath\Desktop\SR 519\Roundabout Feasibility Analysis at Roy Wall and Levitt.sip
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