




















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

21: Frontage Rd & US 276

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

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22: US 276 & St Josephs Dr

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

I-85/I-385 Interchange Improvements













2010 Existing PM

29: Rothwell Dr & E Butler Road

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




















I-85/I-385 Interchange Improvements
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32: New Commerce Ct & E Butler Road

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

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

33: E Butler Road & Brookfield Pkwy

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