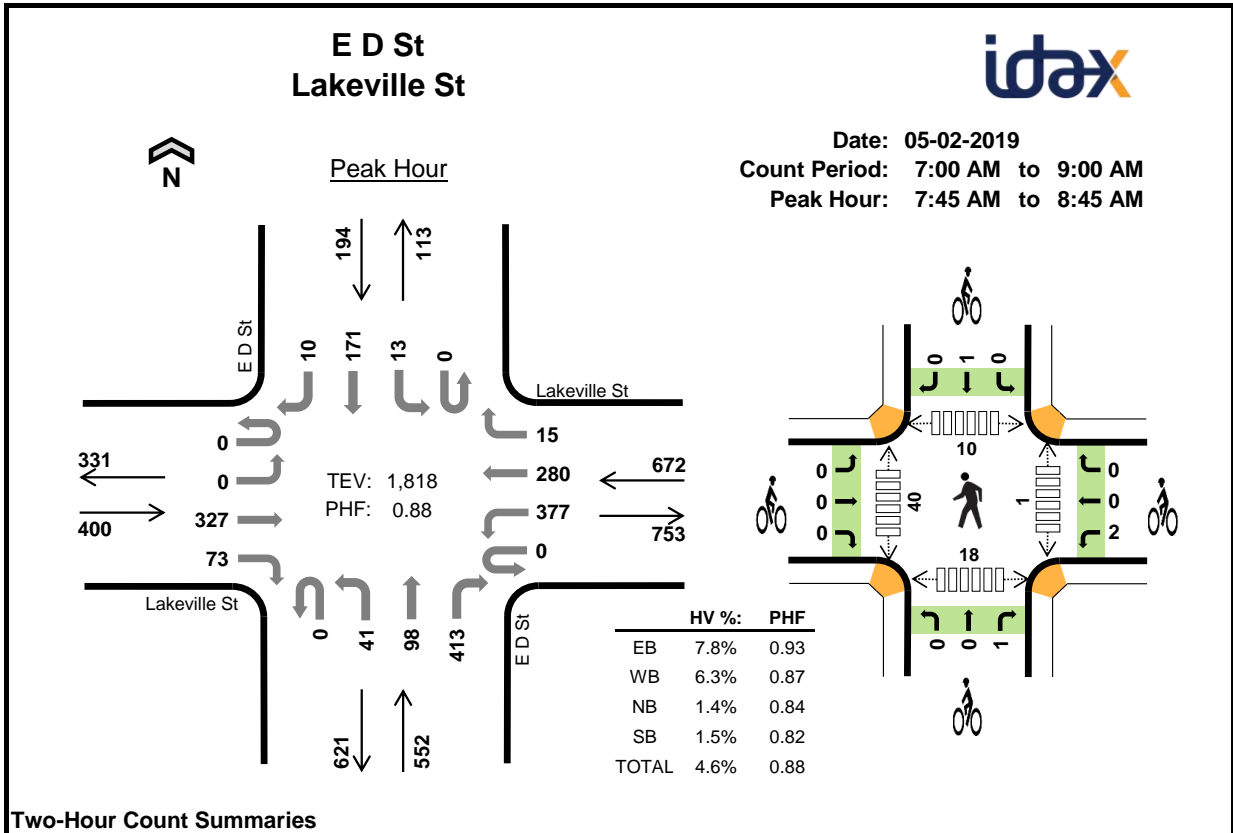


APPENDIX 4.13

Transportation



Two-Hour Count Summaries

| Interval Start | Lakeville St Eastbound | | | | Lakeville St Westbound | | | | E D St Northbound | | | | E D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------------|----------|-----------|-----------|------------------------|------------|-----------|----------|-------------------|-----------|-----------|------------|-------------------|----------|-----------|----------|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 0 | 44 | 15 | 0 | 65 | 27 | 1 | 0 | 14 | 16 | 60 | 0 | 1 | 17 | 1 | 261 | 0 | |
| 7:15 AM | 0 | 0 | 48 | 10 | 0 | 68 | 37 | 1 | 0 | 8 | 17 | 76 | 0 | 3 | 26 | 1 | 295 | 0 | |
| 7:30 AM | 0 | 0 | 67 | 12 | 0 | 89 | 59 | 2 | 0 | 7 | 13 | 83 | 0 | 4 | 19 | 0 | 355 | 0 | |
| 7:45 AM | 0 | 0 | 70 | 19 | 0 | 98 | 61 | 1 | 0 | 11 | 23 | 84 | 0 | 4 | 38 | 2 | 411 | 1,322 | |
| 8:00 AM | 0 | 0 | 88 | 11 | 0 | 110 | 77 | 7 | 0 | 15 | 26 | 123 | 0 | 2 | 53 | 4 | 516 | 1,577 | |
| 8:15 AM | 0 | 0 | 90 | 15 | 0 | 74 | 79 | 4 | 0 | 7 | 26 | 92 | 0 | 2 | 33 | 1 | 423 | 1,705 | |
| 8:30 AM | 0 | 0 | 79 | 28 | 0 | 95 | 63 | 3 | 0 | 8 | 23 | 114 | 0 | 5 | 47 | 3 | 468 | 1,818 | |
| 8:45 AM | 0 | 2 | 66 | 17 | 0 | 90 | 59 | 3 | 0 | 10 | 21 | 88 | 0 | 2 | 21 | 2 | 381 | 1,788 | |
| Count Total | 0 | 2 | 552 | 127 | 0 | 689 | 462 | 22 | 0 | 80 | 165 | 720 | 0 | 23 | 254 | 14 | 3,110 | 0 | |
| Peak Hour | All | 0 | 0 | 327 | 73 | 0 | 377 | 280 | 15 | 0 | 41 | 98 | 413 | 0 | 13 | 171 | 10 | 1,818 | 0 |
| | HV | 0 | 0 | 24 | 7 | 0 | 10 | 31 | 1 | 0 | 1 | 0 | 7 | 0 | 1 | 2 | 0 | 84 | 0 |
| | HV% | - | - | 7% | 10% | - | 3% | 11% | 7% | - | 2% | 0% | 2% | - | 8% | 1% | 0% | 5% | 0 |

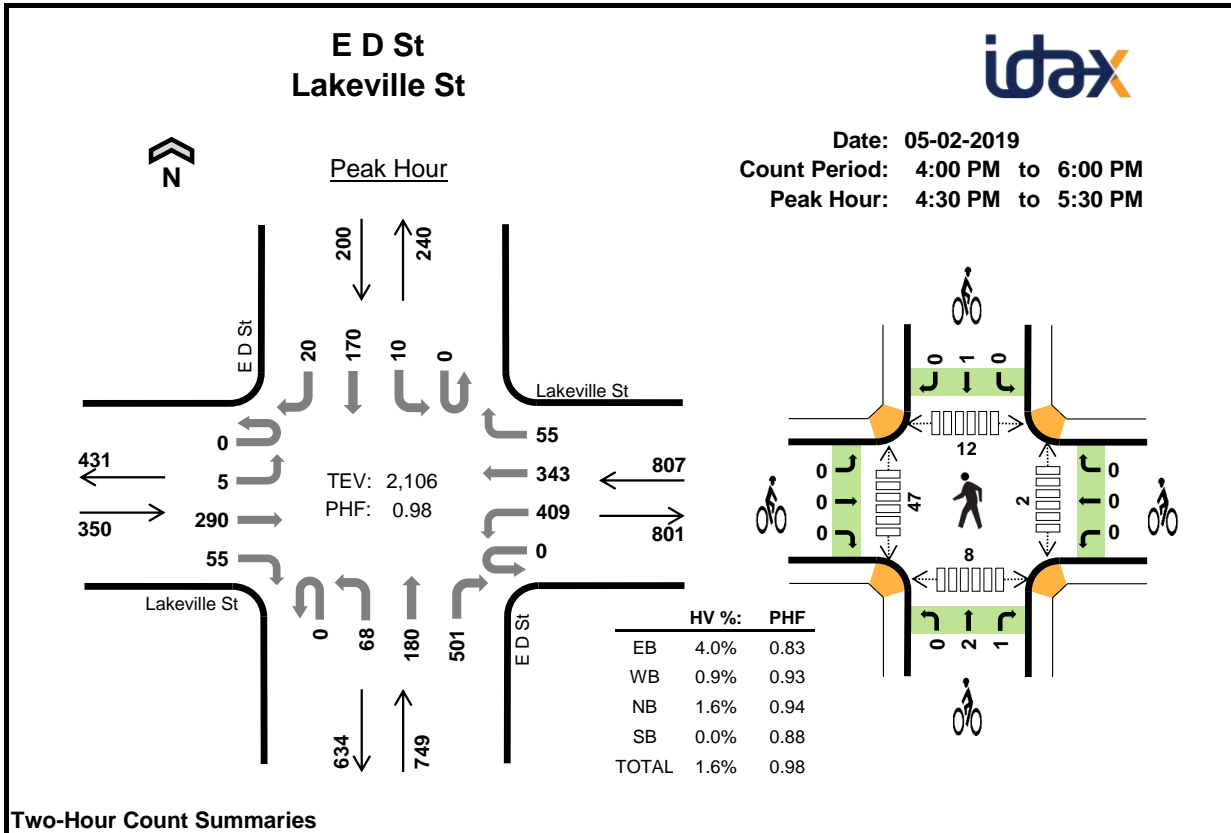
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------------------------|-----------|----------|----------|-----------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 7 | 6 | 1 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 |
| 7:15 AM | 7 | 1 | 1 | 0 | 9 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 1 | 1 | 8 |
| 7:30 AM | 6 | 8 | 2 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 1 | 9 |
| 7:45 AM | 8 | 13 | 0 | 2 | 23 | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 1 | 5 | 21 |
| 8:00 AM | 6 | 8 | 1 | 1 | 16 | 0 | 0 | 0 | 1 | 1 | 0 | 18 | 3 | 1 | 22 |
| 8:15 AM | 8 | 13 | 2 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 10 | 12 |
| 8:30 AM | 9 | 8 | 5 | 0 | 22 | 0 | 2 | 1 | 0 | 3 | 0 | 7 | 5 | 2 | 14 |
| 8:45 AM | 10 | 9 | 1 | 0 | 20 | 0 | 0 | 2 | 1 | 3 | 0 | 12 | 1 | 0 | 13 |
| Count Total | 61 | 66 | 13 | 3 | 143 | 0 | 2 | 4 | 2 | 8 | 1 | 68 | 14 | 20 | 103 |
| Peak Hour | 31 | 42 | 8 | 3 | 84 | 0 | 2 | 1 | 1 | 4 | 1 | 40 | 10 | 18 | 69 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|--------------|----|----|----|--------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | Lakeville St | | | | Lakeville St | | | | E D St | | | | E D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 0 | 3 | 4 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 14 | 0 |
| 7:15 AM | 0 | 0 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| 7:30 AM | 0 | 0 | 2 | 4 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 16 | 0 |
| 7:45 AM | 0 | 0 | 6 | 2 | 0 | 4 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 23 | 62 |
| 8:00 AM | 0 | 0 | 5 | 1 | 0 | 1 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 16 | 64 |
| 8:15 AM | 0 | 0 | 7 | 1 | 0 | 2 | 11 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 23 | 78 |
| 8:30 AM | 0 | 0 | 6 | 3 | 0 | 3 | 5 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 22 | 84 |
| 8:45 AM | 0 | 0 | 8 | 2 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 81 |
| Count Total | 0 | 0 | 42 | 19 | 0 | 19 | 46 | 1 | 0 | 2 | 0 | 11 | 0 | 1 | 2 | 0 | 143 | 0 |
| Peak Hour | 0 | 0 | 24 | 7 | 0 | 10 | 31 | 1 | 0 | 1 | 0 | 7 | 0 | 1 | 2 | 0 | 84 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | |
|---|--------------|----|----|--------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|---|---|---|
| Interval Start | Lakeville St | | | Lakeville St | | | E D St | | | E D St | | | 15-min Total | Rolling One Hour | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 AM | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 4 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 7 | 7 |
| Count Total | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 8 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | Lakeville St Eastbound | | | | Lakeville St Westbound | | | | E D St Northbound | | | | E D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------------|----|-----|-----|------------------------|-----|-----|-----|-------------------|-----|-----|-----|-------------------|----|-----|-----|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 1 | 68 | 12 | 0 | 97 | 98 | 5 | 0 | 19 | 42 | 131 | 0 | 2 | 34 | 3 | 512 | 0 | |
| 4:15 PM | 0 | 0 | 71 | 17 | 0 | 67 | 91 | 7 | 0 | 15 | 48 | 109 | 0 | 5 | 31 | 3 | 464 | 0 | |
| 4:30 PM | 0 | 2 | 64 | 17 | 0 | 105 | 55 | 25 | 0 | 11 | 46 | 129 | 0 | 0 | 52 | 5 | 511 | 0 | |
| 4:45 PM | 0 | 1 | 70 | 14 | 0 | 108 | 98 | 10 | 0 | 18 | 54 | 101 | 0 | 4 | 47 | 3 | 528 | 2,015 | |
| 5:00 PM | 0 | 1 | 63 | 12 | 0 | 97 | 102 | 16 | 0 | 17 | 36 | 138 | 0 | 3 | 36 | 7 | 528 | 2,031 | |
| 5:15 PM | 0 | 1 | 93 | 12 | 0 | 99 | 88 | 4 | 0 | 22 | 44 | 133 | 0 | 3 | 35 | 5 | 539 | 2,106 | |
| 5:30 PM | 0 | 0 | 66 | 13 | 0 | 97 | 90 | 13 | 0 | 14 | 37 | 117 | 0 | 4 | 49 | 5 | 505 | 2,100 | |
| 5:45 PM | 0 | 0 | 53 | 16 | 0 | 79 | 72 | 5 | 0 | 23 | 46 | 114 | 0 | 0 | 35 | 6 | 449 | 2,021 | |
| Count Total | 0 | 6 | 548 | 113 | 0 | 749 | 694 | 85 | 0 | 139 | 353 | 972 | 0 | 21 | 319 | 37 | 4,036 | 0 | |
| Peak Hour | All | 0 | 5 | 290 | 55 | 0 | 409 | 343 | 55 | 0 | 68 | 180 | 501 | 0 | 10 | 170 | 20 | 2,106 | 0 |
| | HV | 0 | 0 | 10 | 4 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 33 | 0 |
| | HV% | - | 0% | 3% | 7% | - | 1% | 1% | 2% | - | 0% | 0% | 2% | - | 0% | 0% | 0% | 2% | 0 |

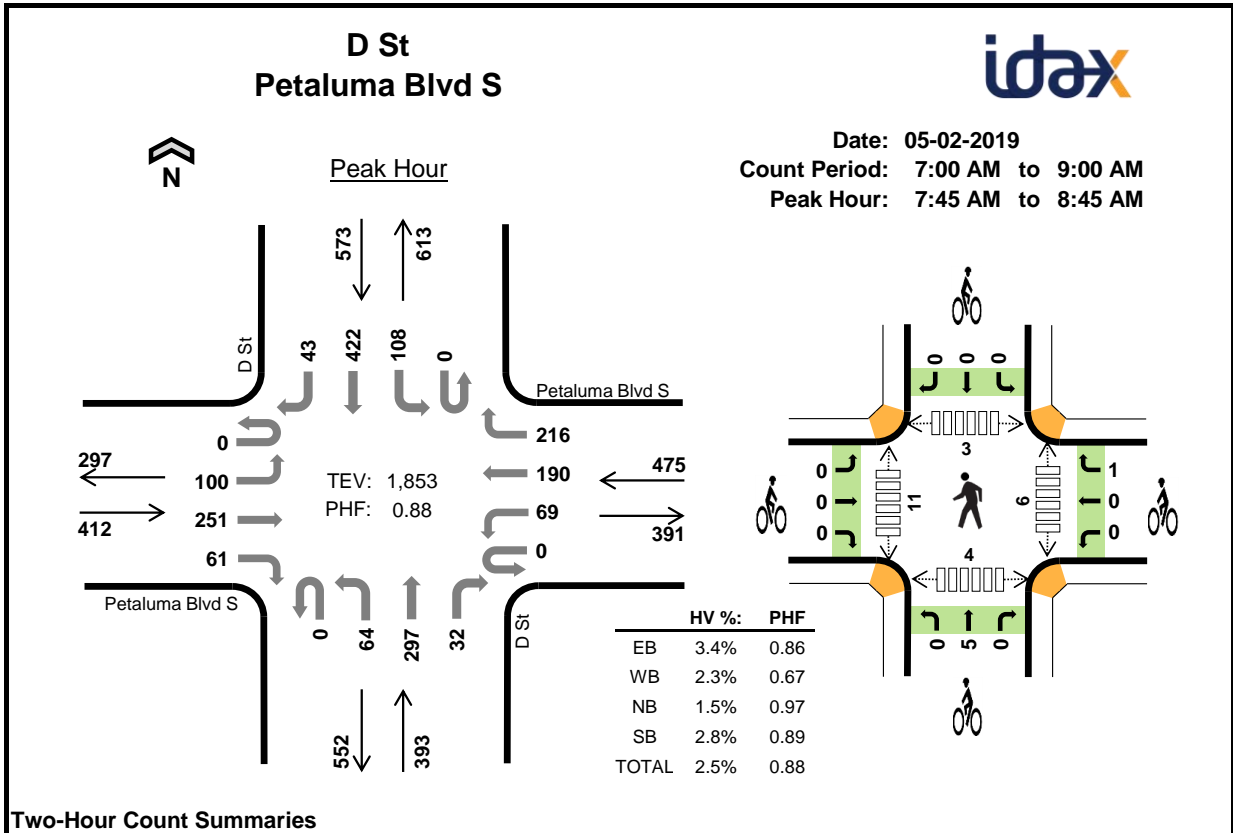
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 7 | 5 | 1 | 0 | 13 | 0 | 0 | 0 | 1 | 1 | 1 | 6 | 0 | 1 | 8 |
| 4:15 PM | 3 | 3 | 0 | 0 | 6 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 1 | 5 | 10 |
| 4:30 PM | 5 | 2 | 6 | 0 | 13 | 0 | 0 | 1 | 0 | 1 | 2 | 15 | 2 | 2 | 21 |
| 4:45 PM | 3 | 1 | 3 | 0 | 7 | 0 | 0 | 1 | 0 | 1 | 0 | 9 | 3 | 3 | 15 |
| 5:00 PM | 4 | 2 | 1 | 0 | 7 | 0 | 0 | 0 | 1 | 1 | 0 | 18 | 5 | 1 | 24 |
| 5:15 PM | 2 | 2 | 2 | 0 | 6 | 0 | 0 | 1 | 0 | 1 | 0 | 5 | 2 | 2 | 9 |
| 5:30 PM | 7 | 2 | 1 | 0 | 10 | 0 | 0 | 0 | 1 | 1 | 0 | 18 | 0 | 1 | 19 |
| 5:45 PM | 3 | 1 | 3 | 1 | 8 | 0 | 0 | 1 | 2 | 3 | 0 | 11 | 8 | 2 | 21 |
| Count Total | 34 | 18 | 17 | 1 | 70 | 0 | 0 | 4 | 7 | 11 | 3 | 86 | 21 | 17 | 127 |
| Peak Hour | 14 | 7 | 12 | 0 | 33 | 0 | 0 | 3 | 1 | 4 | 2 | 47 | 12 | 8 | 69 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|--------------|----|----|----|--------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | Lakeville St | | | | Lakeville St | | | | E D St | | | | E D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 0 | 4 | 3 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 |
| 4:15 PM | 0 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 4:30 PM | 0 | 0 | 2 | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 13 | 0 |
| 4:45 PM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 7 | 39 |
| 5:00 PM | 0 | 0 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 33 |
| 5:15 PM | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 6 | 33 |
| 5:30 PM | 0 | 0 | 3 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 | 30 |
| 5:45 PM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 8 | 31 |
| Count Total | 0 | 0 | 22 | 12 | 0 | 9 | 8 | 1 | 0 | 0 | 0 | 17 | 0 | 0 | 1 | 0 | 70 | 0 |
| Peak Hour | 0 | 0 | 10 | 4 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 33 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|--------------|----|----|--------------|----|----|------------|----|----|------------|----|----|--------------|------------------|--|--|--|
| Interval Start | Lakeville St | | | Lakeville St | | | E D St | | | E D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | | |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | | | |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | | | |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 5 | | | |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | | | |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | | | |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | | | |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 6 | | | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 7 | 0 | 11 | 0 | | | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 4 | 0 | | | |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | Petaluma Blvd S Eastbound | | | | Petaluma Blvd S Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|---------------------------|-----------|-----------|-----------|---------------------------|-----------|-----------|-----------|-----------------|-----------|-----------|----------|-----------------|-----------|------------|----------|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 13 | 54 | 19 | 0 | 6 | 26 | 32 | 0 | 8 | 45 | 10 | 0 | 30 | 71 | 10 | 324 | 0 | |
| 7:15 AM | 0 | 20 | 49 | 17 | 0 | 17 | 39 | 25 | 0 | 8 | 54 | 9 | 0 | 21 | 76 | 9 | 344 | 0 | |
| 7:30 AM | 0 | 20 | 46 | 23 | 0 | 8 | 46 | 33 | 0 | 6 | 65 | 9 | 0 | 19 | 101 | 10 | 386 | 0 | |
| 7:45 AM | 0 | 21 | 68 | 12 | 0 | 13 | 41 | 42 | 0 | 13 | 74 | 9 | 0 | 24 | 95 | 8 | 420 | 1,474 | |
| 8:00 AM | 0 | 21 | 55 | 13 | 0 | 23 | 66 | 88 | 0 | 14 | 82 | 5 | 0 | 31 | 122 | 8 | 528 | 1,678 | |
| 8:15 AM | 0 | 28 | 66 | 26 | 0 | 23 | 49 | 44 | 0 | 16 | 72 | 9 | 0 | 26 | 109 | 10 | 478 | 1,812 | |
| 8:30 AM | 0 | 30 | 62 | 10 | 0 | 10 | 34 | 42 | 0 | 21 | 69 | 9 | 0 | 27 | 96 | 17 | 427 | 1,853 | |
| 8:45 AM | 0 | 23 | 61 | 10 | 0 | 21 | 60 | 41 | 0 | 12 | 74 | 5 | 0 | 22 | 66 | 16 | 411 | 1,844 | |
| Count Total | 0 | 176 | 461 | 130 | 0 | 121 | 361 | 347 | 0 | 98 | 535 | 65 | 0 | 200 | 736 | 88 | 3,318 | 0 | |
| Peak Hour | All | 0 | 100 | 251 | 61 | 0 | 69 | 190 | 216 | 0 | 64 | 297 | 32 | 0 | 108 | 422 | 43 | 1,853 | 0 |
| | HV | 0 | 4 | 9 | 1 | 0 | 3 | 7 | 1 | 0 | 0 | 5 | 1 | 0 | 4 | 11 | 1 | 47 | 0 |
| | HV% | - | 4% | 4% | 2% | - | 4% | 4% | 0% | - | 0% | 2% | 3% | - | 4% | 3% | 2% | 3% | 0 |

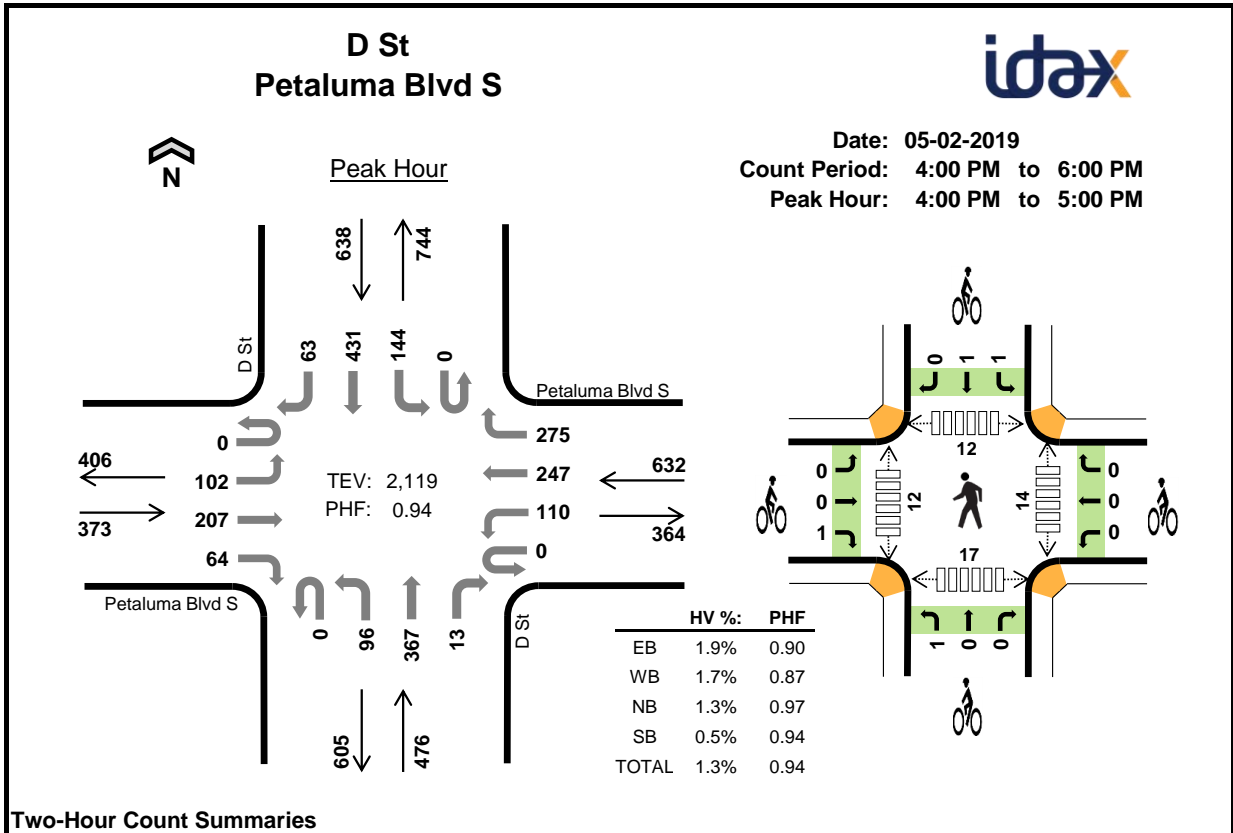
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------------------------|----------|----------|----------|-----------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 5 | 3 | 1 | 3 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 6 |
| 7:15 AM | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 3 | 6 |
| 7:30 AM | 4 | 3 | 1 | 5 | 13 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 3 | 10 |
| 7:45 AM | 6 | 2 | 0 | 7 | 15 | 0 | 1 | 3 | 0 | 4 | 2 | 4 | 2 | 0 | 8 |
| 8:00 AM | 3 | 4 | 1 | 3 | 11 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 4 | 10 |
| 8:15 AM | 1 | 2 | 1 | 3 | 7 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 3 |
| 8:30 AM | 4 | 3 | 4 | 3 | 14 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 3 |
| 8:45 AM | 2 | 3 | 2 | 6 | 13 | 0 | 1 | 1 | 0 | 2 | 3 | 1 | 0 | 1 | 5 |
| Count Total | 26 | 22 | 10 | 30 | 88 | 0 | 2 | 7 | 0 | 9 | 15 | 19 | 5 | 12 | 51 |
| Peak Hour | 14 | 11 | 6 | 16 | 47 | 0 | 1 | 5 | 0 | 6 | 6 | 11 | 3 | 4 | 24 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------------|----|----|----|-----------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | Petaluma Blvd S | | | | Petaluma Blvd S | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 12 | 0 |
| 7:15 AM | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 7:30 AM | 0 | 2 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 13 | 0 |
| 7:45 AM | 0 | 1 | 4 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 15 | 43 |
| 8:00 AM | 0 | 1 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 11 | 42 |
| 8:15 AM | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 7 | 46 |
| 8:30 AM | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 1 | 14 | 47 |
| 8:45 AM | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 5 | 0 | 13 | 45 |
| Count Total | 0 | 9 | 15 | 2 | 0 | 9 | 10 | 3 | 0 | 0 | 8 | 2 | 0 | 9 | 19 | 2 | 88 | 0 |
| Peak Hour | 0 | 4 | 9 | 1 | 0 | 3 | 7 | 1 | 0 | 0 | 5 | 1 | 0 | 4 | 11 | 1 | 47 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | |
|---|-----------------|----|----|-----------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|---|---|---|
| Interval Start | Petaluma Blvd S | | | Petaluma Blvd S | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 5 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 5 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 6 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 4 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | Petaluma Blvd S Eastbound | | | | Petaluma Blvd S Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|---------------------------|-----|-----|-----|---------------------------|-----|-----|-----|-----------------|-----|-----|-----|-----------------|-----|-----|-----|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 30 | 62 | 12 | 0 | 33 | 76 | 72 | 0 | 22 | 95 | 2 | 0 | 39 | 106 | 12 | 561 | 0 | |
| 4:15 PM | 0 | 23 | 46 | 13 | 0 | 24 | 63 | 56 | 0 | 31 | 88 | 4 | 0 | 38 | 99 | 12 | 497 | 0 | |
| 4:30 PM | 0 | 21 | 47 | 19 | 0 | 23 | 55 | 82 | 0 | 21 | 98 | 3 | 0 | 40 | 108 | 21 | 538 | 0 | |
| 4:45 PM | 0 | 28 | 52 | 20 | 0 | 30 | 53 | 65 | 0 | 22 | 86 | 4 | 0 | 27 | 118 | 18 | 523 | 2,119 | |
| 5:00 PM | 0 | 33 | 43 | 16 | 0 | 20 | 66 | 59 | 0 | 19 | 79 | 5 | 0 | 29 | 90 | 28 | 487 | 2,045 | |
| 5:15 PM | 0 | 37 | 51 | 11 | 0 | 29 | 55 | 59 | 0 | 28 | 92 | 5 | 0 | 38 | 98 | 27 | 530 | 2,078 | |
| 5:30 PM | 0 | 32 | 46 | 14 | 0 | 27 | 48 | 67 | 0 | 12 | 82 | 3 | 0 | 26 | 90 | 18 | 465 | 2,005 | |
| 5:45 PM | 0 | 30 | 46 | 15 | 0 | 25 | 49 | 60 | 0 | 26 | 98 | 5 | 0 | 40 | 118 | 16 | 528 | 2,010 | |
| Count Total | 0 | 234 | 393 | 120 | 0 | 211 | 465 | 520 | 0 | 181 | 718 | 31 | 0 | 277 | 827 | 152 | 4,129 | 0 | |
| Peak Hour | All | 0 | 102 | 207 | 64 | 0 | 110 | 247 | 275 | 0 | 96 | 367 | 13 | 0 | 144 | 431 | 63 | 2,119 | 0 |
| | HV | 0 | 4 | 3 | 0 | 0 | 3 | 6 | 2 | 0 | 2 | 4 | 0 | 0 | 1 | 2 | 0 | 27 | 0 |
| | HV% | - | 4% | 1% | 0% | - | 3% | 2% | 1% | - | 2% | 1% | 0% | - | 1% | 0% | 0% | 1% | 0 |

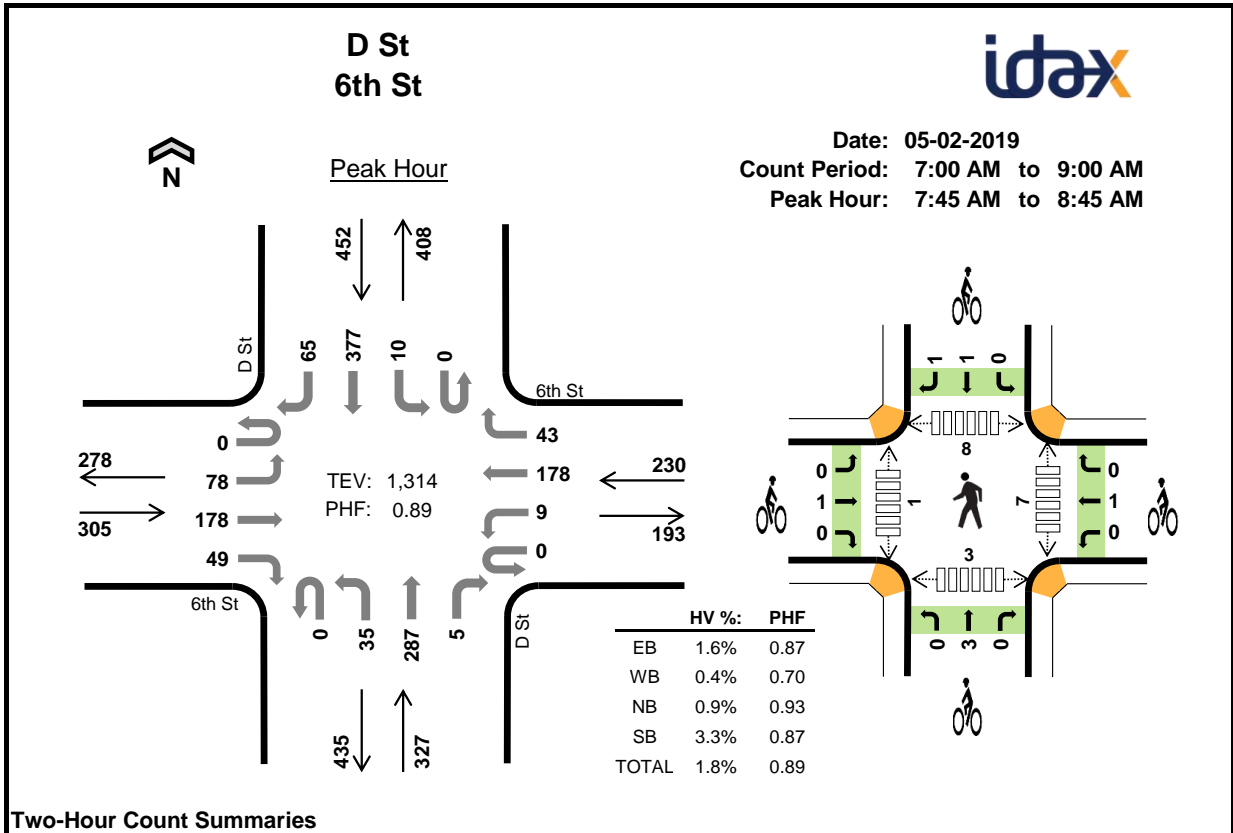
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 2 | 3 | 2 | 0 | 7 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 6 |
| 4:15 PM | 3 | 5 | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 5 |
| 4:30 PM | 1 | 1 | 1 | 2 | 5 | 0 | 0 | 0 | 1 | 1 | 7 | 3 | 5 | 7 | 22 |
| 4:45 PM | 1 | 2 | 2 | 1 | 6 | 1 | 0 | 1 | 0 | 2 | 5 | 5 | 6 | 6 | 22 |
| 5:00 PM | 3 | 2 | 0 | 1 | 6 | 0 | 1 | 0 | 1 | 2 | 5 | 6 | 4 | 4 | 19 |
| 5:15 PM | 2 | 1 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 2 | 8 |
| 5:30 PM | 2 | 2 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 2 | 8 | 23 |
| 5:45 PM | 0 | 2 | 1 | 1 | 4 | 0 | 0 | 1 | 1 | 2 | 2 | 6 | 1 | 7 | 16 |
| Count Total | 14 | 18 | 10 | 5 | 47 | 1 | 1 | 2 | 4 | 8 | 28 | 33 | 22 | 38 | 121 |
| Peak Hour | 7 | 11 | 6 | 3 | 27 | 1 | 0 | 1 | 2 | 4 | 14 | 12 | 12 | 17 | 55 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------------|----|----|----|-----------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | Petaluma Blvd S | | | | Petaluma Blvd S | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| 4:15 PM | 0 | 1 | 2 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| 4:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 5 | 0 |
| 4:45 PM | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 6 | 27 |
| 5:00 PM | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 26 |
| 5:15 PM | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 22 |
| 5:30 PM | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 22 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 20 |
| Count Total | 0 | 10 | 4 | 0 | 0 | 4 | 10 | 4 | 0 | 3 | 7 | 0 | 0 | 2 | 3 | 0 | 47 | 0 |
| Peak Hour | 0 | 4 | 3 | 0 | 0 | 3 | 6 | 2 | 0 | 2 | 4 | 0 | 0 | 1 | 2 | 0 | 27 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | |
|---|-----------------|----|----|-----------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|---|
| Interval Start | Petaluma Blvd S | | | Petaluma Blvd S | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 4:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 5 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 4 |
| Count Total | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 0 | 8 | 0 |
| Peak Hour | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | 6th St Eastbound | | | | 6th St Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------|-----|-----|-----|------------------|----|-----|-----|-----------------|----|-----|-----|-----------------|----|-----|-----|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 10 | 15 | 8 | 0 | 0 | 14 | 10 | 0 | 3 | 45 | 1 | 0 | 2 | 91 | 6 | 205 | 0 | |
| 7:15 AM | 0 | 21 | 17 | 13 | 0 | 1 | 17 | 5 | 0 | 8 | 48 | 1 | 0 | 1 | 107 | 10 | 249 | 0 | |
| 7:30 AM | 0 | 15 | 22 | 13 | 0 | 1 | 17 | 12 | 0 | 4 | 67 | 0 | 0 | 4 | 98 | 16 | 269 | 0 | |
| 7:45 AM | 0 | 21 | 31 | 11 | 0 | 2 | 36 | 10 | 0 | 5 | 67 | 2 | 0 | 0 | 94 | 17 | 296 | 1,019 | |
| 8:00 AM | 0 | 16 | 43 | 12 | 0 | 5 | 67 | 10 | 0 | 9 | 79 | 0 | 0 | 3 | 109 | 17 | 370 | 1,184 | |
| 8:15 AM | 0 | 24 | 55 | 9 | 0 | 1 | 49 | 13 | 0 | 12 | 69 | 1 | 0 | 4 | 105 | 21 | 363 | 1,298 | |
| 8:30 AM | 0 | 17 | 49 | 17 | 0 | 1 | 26 | 10 | 0 | 9 | 72 | 2 | 0 | 3 | 69 | 10 | 285 | 1,314 | |
| 8:45 AM | 0 | 13 | 43 | 6 | 0 | 1 | 32 | 6 | 0 | 9 | 66 | 5 | 0 | 1 | 51 | 7 | 240 | 1,258 | |
| Count Total | 0 | 137 | 275 | 89 | 0 | 12 | 258 | 76 | 0 | 59 | 513 | 12 | 0 | 18 | 724 | 104 | 2,277 | 0 | |
| Peak Hour | All | 0 | 78 | 178 | 49 | 0 | 9 | 178 | 43 | 0 | 35 | 287 | 5 | 0 | 10 | 377 | 65 | 1,314 | 0 |
| | HV | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 13 | 2 | 24 | 0 |
| | HV% | - | 1% | 2% | 0% | - | 0% | 0% | 2% | - | 0% | 1% | 0% | - | 0% | 3% | 3% | 2% | 0 |

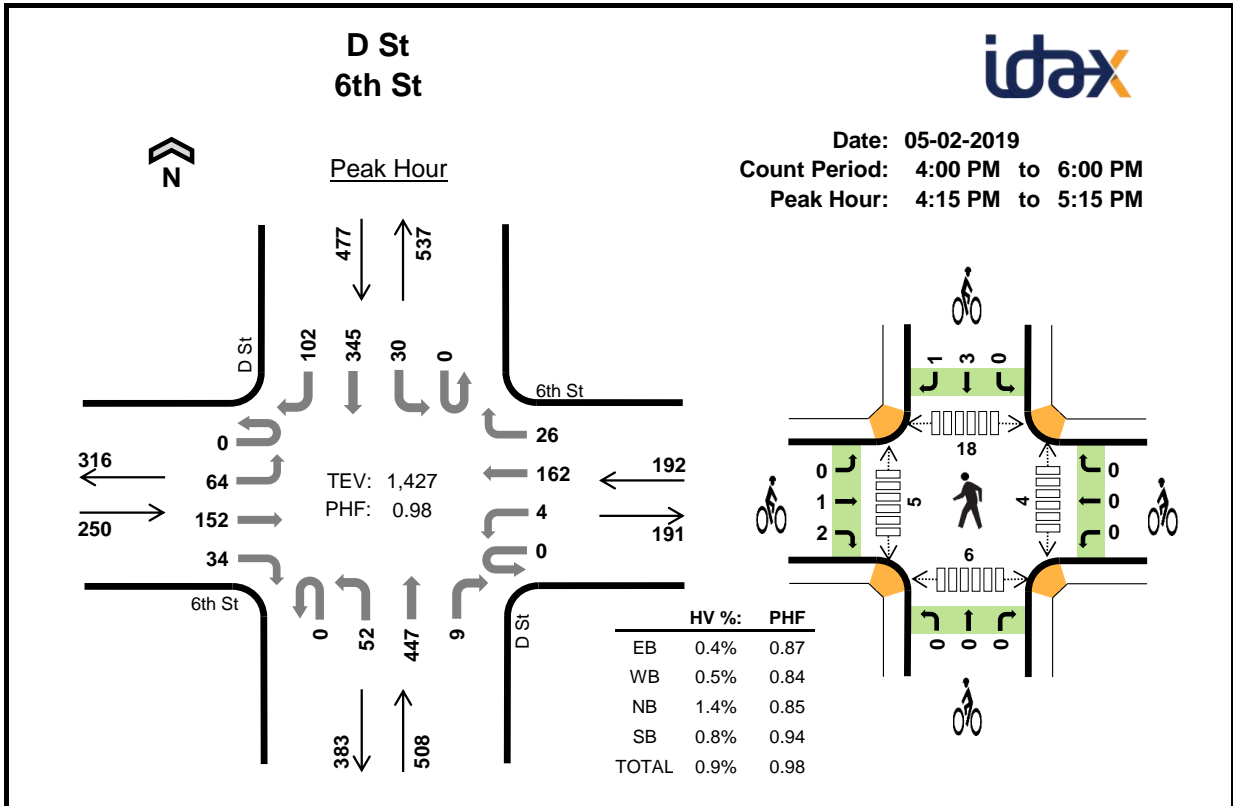
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 0 | 0 | 1 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 4 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 7:30 AM | 1 | 0 | 1 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 4 |
| 7:45 AM | 0 | 0 | 0 | 7 | 7 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 3 | 1 | 5 |
| 8:00 AM | 3 | 0 | 1 | 4 | 8 | 0 | 0 | 0 | 2 | 2 | 5 | 1 | 2 | 0 | 8 |
| 8:15 AM | 1 | 0 | 1 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| 8:30 AM | 1 | 1 | 1 | 2 | 5 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 4 |
| 8:45 AM | 0 | 0 | 2 | 7 | 9 | 1 | 1 | 0 | 0 | 2 | 1 | 2 | 3 | 1 | 7 |
| Count Total | 6 | 1 | 7 | 28 | 42 | 2 | 3 | 3 | 2 | 10 | 8 | 6 | 16 | 5 | 35 |
| Peak Hour | 5 | 1 | 3 | 15 | 24 | 1 | 1 | 3 | 2 | 7 | 7 | 1 | 8 | 3 | 19 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------|----|----|----|-----------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | 6th St | | | | 6th St | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 4 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 5 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 16 |
| 8:00 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 8 | 20 |
| 8:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 4 | 24 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 5 | 24 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 1 | 9 | 26 |
| Count Total | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 24 | 4 | 42 | 0 |
| Peak Hour | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 13 | 2 | 24 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|----|---|
| Interval Start | 6th St | | | 6th St | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 5 |
| 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| 8:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| 8:45 AM | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| Count Total | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 10 | 0 |
| Peak Hour | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 1 | 1 | 7 | 7 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | 6th St Eastbound | | | | 6th St Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------|-----|-----|-----|------------------|----|-----|-----|-----------------|----|-----|-----|-----------------|----|-----|-----|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 12 | 48 | 11 | 0 | 1 | 47 | 11 | 0 | 6 | 93 | 3 | 0 | 11 | 76 | 30 | 349 | 0 | |
| 4:15 PM | 0 | 16 | 29 | 5 | 0 | 1 | 38 | 5 | 0 | 11 | 120 | 1 | 0 | 10 | 84 | 25 | 345 | 0 | |
| 4:30 PM | 0 | 15 | 35 | 9 | 0 | 1 | 36 | 6 | 0 | 17 | 127 | 5 | 0 | 8 | 81 | 25 | 365 | 0 | |
| 4:45 PM | 0 | 18 | 44 | 7 | 0 | 0 | 43 | 5 | 0 | 12 | 98 | 2 | 0 | 7 | 96 | 24 | 356 | 1,415 | |
| 5:00 PM | 0 | 15 | 44 | 13 | 0 | 2 | 45 | 10 | 0 | 12 | 102 | 1 | 0 | 5 | 84 | 28 | 361 | 1,427 | |
| 5:15 PM | 0 | 17 | 29 | 10 | 0 | 1 | 36 | 6 | 0 | 10 | 92 | 3 | 0 | 8 | 78 | 34 | 324 | 1,406 | |
| 5:30 PM | 0 | 12 | 39 | 12 | 0 | 0 | 44 | 7 | 0 | 8 | 108 | 4 | 0 | 12 | 61 | 25 | 332 | 1,373 | |
| 5:45 PM | 0 | 15 | 30 | 8 | 0 | 0 | 39 | 6 | 0 | 13 | 104 | 1 | 0 | 9 | 87 | 36 | 348 | 1,365 | |
| Count Total | 0 | 120 | 298 | 75 | 0 | 6 | 328 | 56 | 0 | 89 | 844 | 20 | 0 | 70 | 647 | 227 | 2,780 | 0 | |
| Peak Hour | All | 0 | 64 | 152 | 34 | 0 | 4 | 162 | 26 | 0 | 52 | 447 | 9 | 0 | 30 | 345 | 102 | 1,427 | 0 |
| | HV | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 3 | 1 | 13 | 0 |
| | HV% | - | 0% | 1% | 0% | - | 0% | 0% | 4% | - | 0% | 2% | 0% | - | 0% | 1% | 1% | 1% | 0 |

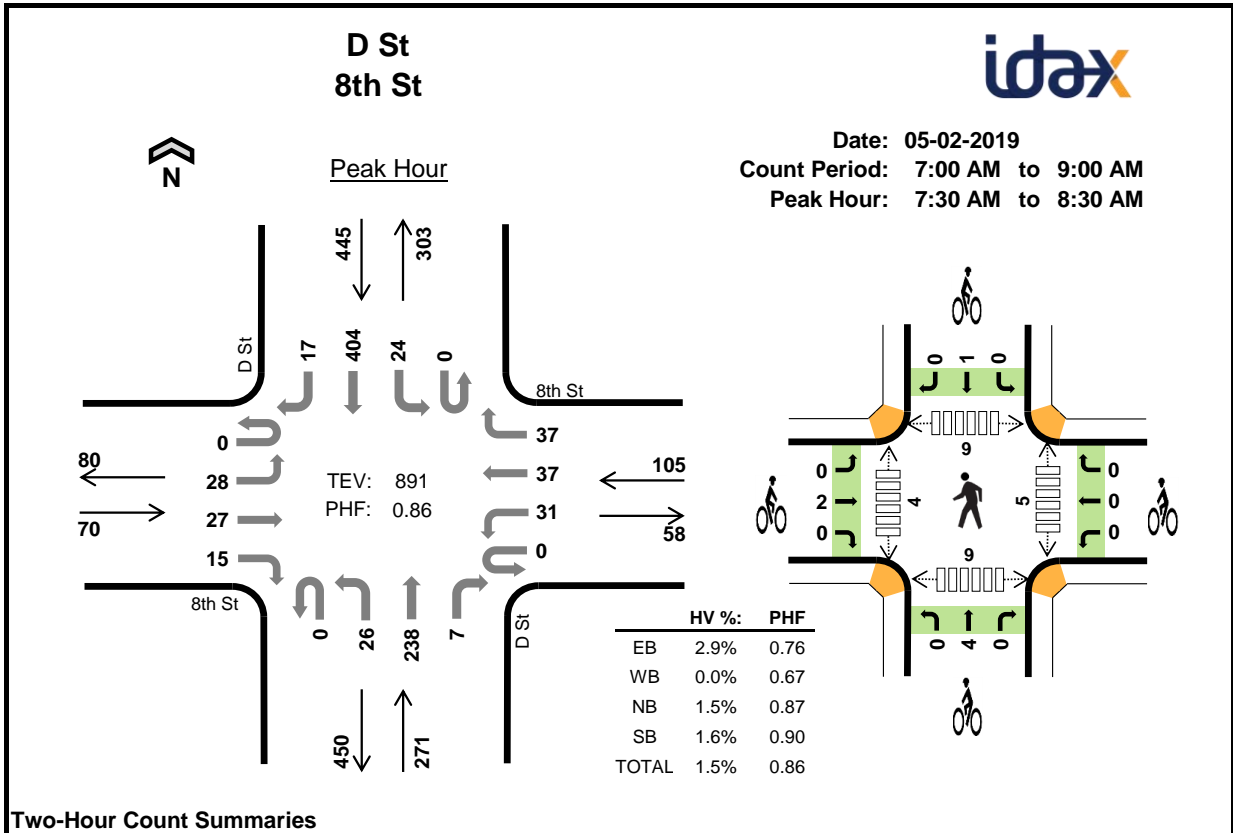
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 6 |
| 4:15 PM | 1 | 1 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 2 |
| 4:30 PM | 0 | 0 | 3 | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 5 | 2 | 13 |
| 4:45 PM | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 6 | 3 | 10 |
| 5:00 PM | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 7 | 1 | 8 |
| 5:15 PM | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 3 | 1 | 7 | 6 | 0 | 14 |
| 5:45 PM | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 4 | 1 | 5 |
| Count Total | 2 | 1 | 11 | 4 | 18 | 4 | 2 | 2 | 6 | 14 | 6 | 13 | 30 | 10 | 59 |
| Peak Hour | 1 | 1 | 7 | 4 | 13 | 3 | 0 | 0 | 4 | 7 | 4 | 5 | 18 | 6 | 33 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------|----|----|----|-----------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | 6th St | | | | 6th St | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 4:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 4 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 4 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 13 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 13 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 10 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 7 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| Count Total | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 11 | 0 | 0 | 0 | 3 | 1 | 18 | 0 |
| Peak Hour | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 3 | 1 | 13 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|----|---|
| Interval Start | 6th St | | | 6th St | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 4:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 4:15 PM | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | |
| 4:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 7 | |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 7 | |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | |
| 5:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 7 | |
| 5:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 7 | |
| Count Total | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 5 | 1 | 14 | 0 |
| Peak Hour | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 7 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | 8th St Eastbound | | | | 8th St Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------|----|----|----|------------------|----|----|----|-----------------|----|-----|-----|-----------------|----|-----|-----|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 1 | 3 | 3 | 0 | 3 | 0 | 7 | 0 | 4 | 40 | 1 | 0 | 1 | 99 | 1 | 163 | 0 | |
| 7:15 AM | 0 | 6 | 4 | 5 | 0 | 3 | 3 | 5 | 0 | 4 | 44 | 1 | 0 | 1 | 117 | 1 | 194 | 0 | |
| 7:30 AM | 0 | 6 | 5 | 3 | 0 | 4 | 7 | 6 | 0 | 1 | 55 | 3 | 0 | 2 | 98 | 1 | 191 | 0 | |
| 7:45 AM | 0 | 6 | 5 | 4 | 0 | 3 | 5 | 6 | 0 | 7 | 55 | 1 | 0 | 6 | 101 | 4 | 203 | 751 | |
| 8:00 AM | 0 | 8 | 7 | 3 | 0 | 17 | 11 | 11 | 0 | 10 | 68 | 0 | 0 | 9 | 107 | 8 | 259 | 847 | |
| 8:15 AM | 0 | 8 | 10 | 5 | 0 | 7 | 14 | 14 | 0 | 8 | 60 | 3 | 0 | 7 | 98 | 4 | 238 | 891 | |
| 8:30 AM | 0 | 3 | 11 | 2 | 0 | 4 | 4 | 7 | 0 | 3 | 67 | 3 | 0 | 5 | 80 | 2 | 191 | 891 | |
| 8:45 AM | 0 | 3 | 4 | 0 | 0 | 2 | 6 | 6 | 0 | 2 | 67 | 0 | 0 | 3 | 50 | 0 | 143 | 831 | |
| Count Total | 0 | 41 | 49 | 25 | 0 | 43 | 50 | 62 | 0 | 39 | 456 | 12 | 0 | 34 | 750 | 21 | 1,582 | 0 | |
| Peak Hour | All | 0 | 28 | 27 | 15 | 0 | 31 | 37 | 37 | 0 | 26 | 238 | 7 | 0 | 24 | 404 | 17 | 891 | 0 |
| | HV | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 7 | 0 | 13 | 0 |
| | HV% | - | 0% | 7% | 0% | - | 0% | 0% | 0% | - | 0% | 1% | 14% | - | 0% | 2% | 0% | 1% | 0 |

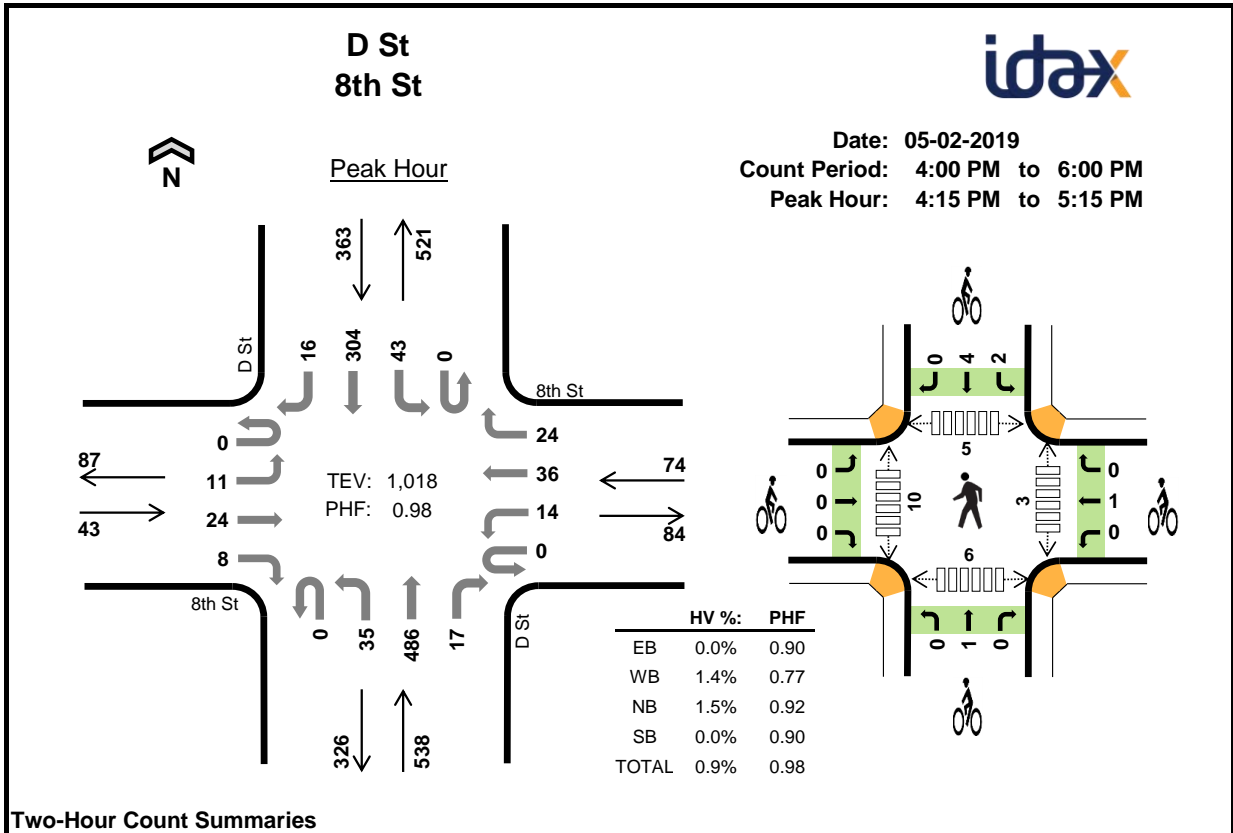
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 3 |
| 7:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 7:30 AM | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 2 | 1 | 5 |
| 7:45 AM | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 2 | 0 | 3 | 1 | 1 | 0 | 1 | 3 |
| 8:00 AM | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 5 | 1 | 6 |
| 8:15 AM | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 0 | 2 | 4 | 1 | 2 | 6 | 13 |
| 8:30 AM | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 4 | 7 |
| 8:45 AM | 0 | 0 | 2 | 4 | 6 | 1 | 0 | 0 | 1 | 2 | 5 | 2 | 2 | 0 | 9 |
| Count Total | 2 | 0 | 10 | 14 | 26 | 3 | 0 | 5 | 2 | 10 | 11 | 12 | 12 | 14 | 49 |
| Peak Hour | 2 | 0 | 4 | 7 | 13 | 2 | 0 | 4 | 1 | 7 | 5 | 4 | 9 | 9 | 27 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------|----|----|----|-----------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | 8th St | | | | 8th St | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 7:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 10 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 10 |
| 8:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 13 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 13 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 6 | 16 |
| Count Total | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 2 | 0 | 0 | 14 | 0 | 26 | 0 |
| Peak Hour | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 7 | 0 | 13 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | |
|---|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|----|---|---|
| Interval Start | 8th St | | | 8th St | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 4 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | 5 |
| 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 7 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 7 |
| 8:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 6 | 6 |
| Count Total | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 10 | 0 | 0 |
| Peak Hour | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | 8th St Eastbound | | | | 8th St Westbound | | | | D St Northbound | | | | D St Southbound | | | | 15-min Total | Rolling One Hour | |
|----------------|------------------|----------|----------|----------|------------------|----------|-----------|----------|-----------------|-----------|------------|----------|-----------------|----------|-----------|----------|--------------|------------------|---|
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 2 | 11 | 6 | 0 | 5 | 12 | 5 | 0 | 5 | 99 | 3 | 0 | 8 | 70 | 3 | 229 | 0 | |
| 4:15 PM | 0 | 3 | 6 | 0 | 0 | 5 | 10 | 9 | 0 | 11 | 123 | 6 | 0 | 9 | 72 | 5 | 259 | 0 | |
| 4:30 PM | 0 | 2 | 5 | 3 | 0 | 4 | 10 | 4 | 0 | 11 | 131 | 4 | 0 | 8 | 67 | 2 | 251 | 0 | |
| 4:45 PM | 0 | 2 | 6 | 4 | 0 | 4 | 8 | 5 | 0 | 7 | 119 | 3 | 0 | 7 | 87 | 7 | 259 | 998 | |
| 5:00 PM | 0 | 4 | 7 | 1 | 0 | 1 | 8 | 6 | 0 | 6 | 113 | 4 | 0 | 19 | 78 | 2 | 249 | 1,018 | |
| 5:15 PM | 0 | 5 | 10 | 2 | 0 | 5 | 16 | 6 | 0 | 12 | 87 | 2 | 0 | 8 | 77 | 5 | 235 | 994 | |
| 5:30 PM | 0 | 5 | 9 | 2 | 0 | 2 | 9 | 4 | 0 | 9 | 115 | 3 | 0 | 10 | 55 | 3 | 226 | 969 | |
| 5:45 PM | 0 | 2 | 6 | 3 | 0 | 0 | 11 | 2 | 0 | 4 | 115 | 0 | 0 | 11 | 71 | 4 | 229 | 939 | |
| Count Total | 0 | 25 | 60 | 21 | 0 | 26 | 84 | 41 | 0 | 65 | 902 | 25 | 0 | 80 | 577 | 31 | 1,937 | 0 | |
| Peak Hour | All | 0 | 11 | 24 | 8 | 0 | 14 | 36 | 24 | 0 | 35 | 486 | 17 | 0 | 43 | 304 | 16 | 1,018 | 0 |
| | HV | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| | HV% | - | 0% | 0% | 0% | - | 0% | 0% | 4% | - | 3% | 1% | 0% | - | 0% | 0% | 0% | 1% | 0 |

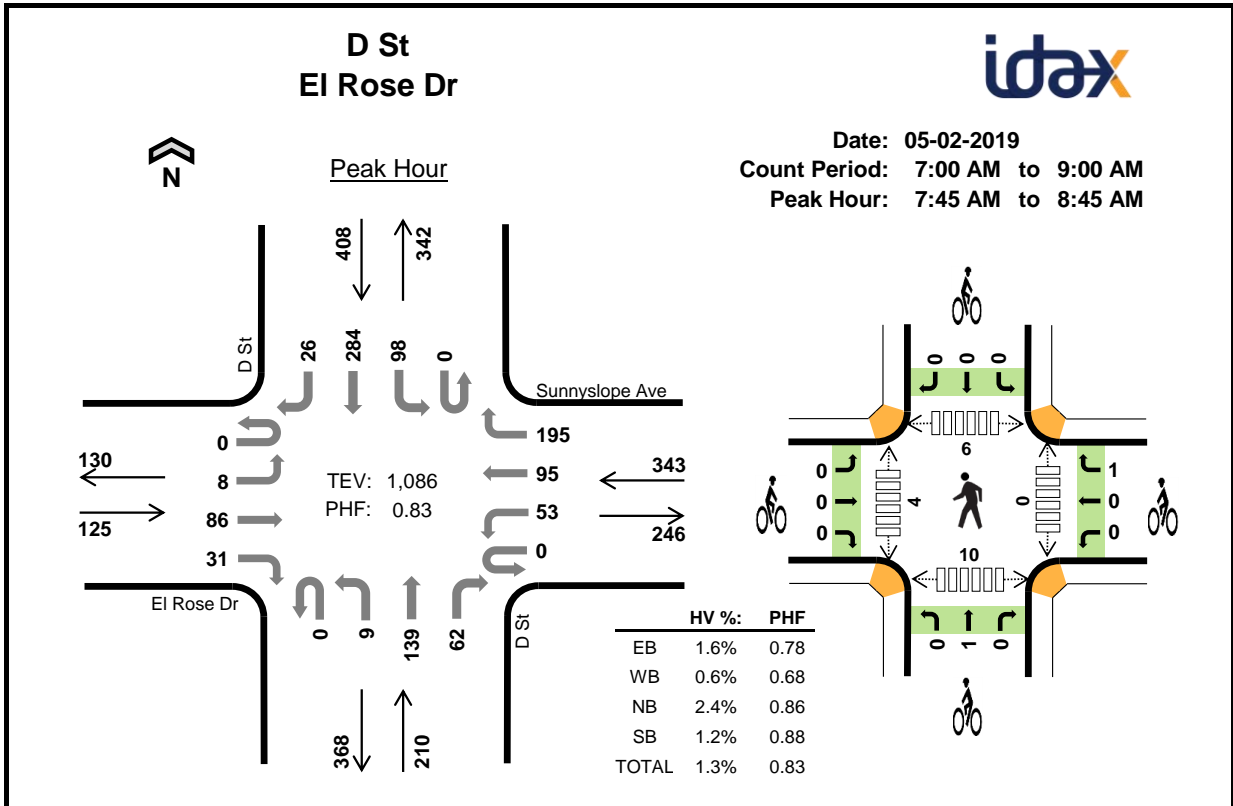
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------------|----------|----------|----------|----------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 6 |
| 4:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 4 |
| 4:30 PM | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 0 | 2 | 3 | 1 | 2 | 0 | 1 | 4 |
| 4:45 PM | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 1 | 2 | 3 | 2 | 4 | 5 | 1 | 12 |
| 5:00 PM | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 4 |
| 5:15 PM | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 0 | 3 | 7 |
| 5:30 PM | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 3 | 0 | 1 | 0 | 4 | 5 |
| 5:45 PM | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 3 | 3 | 9 |
| Count Total | 0 | 1 | 15 | 0 | 16 | 0 | 2 | 3 | 9 | 14 | 6 | 18 | 8 | 19 | 51 |
| Peak Hour | 0 | 1 | 8 | 0 | 9 | 0 | 1 | 1 | 6 | 8 | 3 | 10 | 5 | 6 | 24 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------|----------|----------|----------|-----------|----------|----------|----------|------------|----------|----------|----------|------------|----------|----------|----------|--------------|------------------|
| Interval Start | 8th St | | | | 8th St | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 8 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 9 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 10 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 8 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|----------|------------|----------|----------|------------|----------|----------|--------------|------------------|----------|----------|----------|
| Interval Start | 8th St | | | 8th St | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 6 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 8 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 10 |
| 5:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 8 |
| Count Total | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 7 | 0 | 0 | 14 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 8 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | El Rose Dr | | | | Sunnyslope Ave | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour | |
|----------------|------------|----|-----------|----|----------------|----|------------|-----|------------|----|------------|-----|------------|-----|-----|-----|--------------|------------------|---|
| | Eastbound | | Westbound | | Westbound | | Northbound | | Northbound | | Southbound | | Southbound | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 4 | 4 | 13 | 0 | 7 | 8 | 26 | 0 | 0 | 22 | 4 | 0 | 15 | 82 | 8 | 193 | 0 | |
| 7:15 AM | 0 | 4 | 11 | 10 | 0 | 10 | 12 | 26 | 0 | 7 | 20 | 0 | 0 | 16 | 93 | 7 | 216 | 0 | |
| 7:30 AM | 0 | 7 | 8 | 8 | 0 | 6 | 11 | 24 | 0 | 1 | 26 | 2 | 0 | 17 | 77 | 12 | 199 | 0 | |
| 7:45 AM | 0 | 3 | 18 | 12 | 0 | 3 | 8 | 33 | 0 | 0 | 34 | 15 | 0 | 16 | 83 | 6 | 231 | 839 | |
| 8:00 AM | 0 | 2 | 28 | 8 | 0 | 22 | 47 | 57 | 0 | 5 | 36 | 20 | 0 | 23 | 74 | 6 | 328 | 974 | |
| 8:15 AM | 0 | 3 | 28 | 9 | 0 | 19 | 32 | 65 | 0 | 4 | 33 | 15 | 0 | 40 | 70 | 6 | 324 | 1,082 | |
| 8:30 AM | 0 | 0 | 12 | 2 | 0 | 9 | 8 | 40 | 0 | 0 | 36 | 12 | 0 | 19 | 57 | 8 | 203 | 1,086 | |
| 8:45 AM | 0 | 2 | 9 | 0 | 0 | 3 | 11 | 37 | 0 | 1 | 30 | 2 | 0 | 17 | 42 | 5 | 159 | 1,014 | |
| Count Total | 0 | 25 | 118 | 62 | 0 | 79 | 137 | 308 | 0 | 18 | 237 | 70 | 0 | 163 | 578 | 58 | 1,853 | 0 | |
| Peak Hour | All | 0 | 8 | 86 | 31 | 0 | 53 | 95 | 195 | 0 | 9 | 139 | 62 | 0 | 98 | 284 | 26 | 1,086 | 0 |
| | HV | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 5 | 0 | 14 | 0 |
| | HV% | - | 0% | 1% | 3% | - | 2% | 1% | 0% | - | 0% | 3% | 2% | - | 0% | 2% | 0% | 1% | 0 |

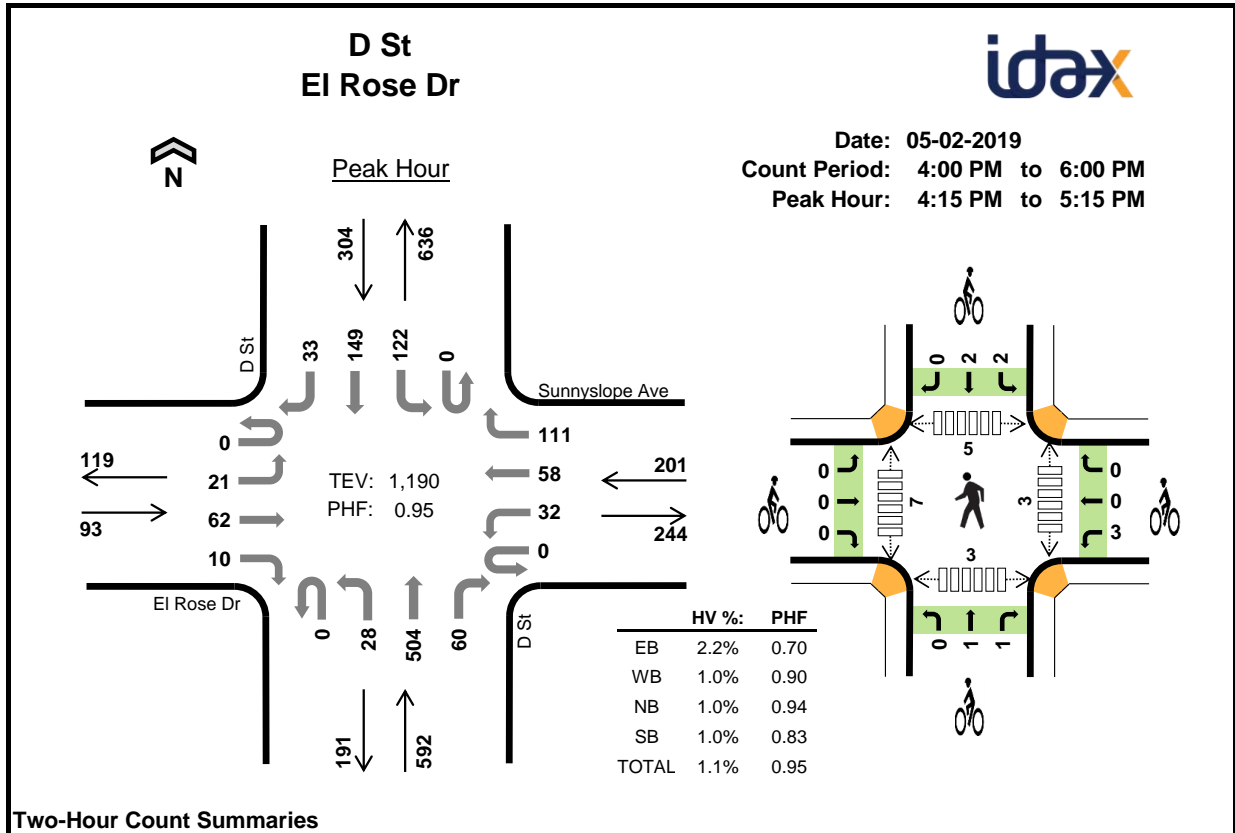
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 1 | 2 | 0 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 |
| 7:30 AM | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| 7:45 AM | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 8:00 AM | 2 | 1 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 3 | 9 |
| 8:15 AM | 0 | 1 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 8:30 AM | 0 | 0 | 2 | 1 | 3 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 1 | 3 | 6 |
| 8:45 AM | 0 | 0 | 1 | 5 | 6 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| Count Total | 3 | 4 | 7 | 15 | 29 | 0 | 4 | 1 | 1 | 6 | 0 | 5 | 8 | 12 | 25 |
| Peak Hour | 2 | 2 | 5 | 5 | 14 | 0 | 1 | 1 | 0 | 2 | 0 | 4 | 6 | 10 | 20 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|------------|----|----|----|----------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | El Rose Dr | | | | Sunnyslope Ave | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 6 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 12 |
| 8:00 AM | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 10 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 14 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 14 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 6 | 17 |
| Count Total | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 6 | 1 | 0 | 2 | 13 | 0 | 29 | 0 |
| Peak Hour | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 5 | 0 | 14 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | |
|---|------------|----|----|----------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|---|---|---|
| Interval Start | El Rose Dr | | | Sunnyslope Ave | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 6 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | El Rose Dr | | | | Sunnyslope Ave | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour | |
|----------------|------------|----|-----------|----|----------------|----|------------|-----|------|----|-----|-----|------|-----|-----|-----|--------------|------------------|---|
| | Eastbound | | Westbound | | Northbound | | Southbound | | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 8 | 15 | 4 | 0 | 10 | 10 | 20 | 0 | 6 | 96 | 9 | 0 | 26 | 35 | 6 | 245 | 0 | |
| 4:15 PM | 0 | 6 | 14 | 2 | 0 | 9 | 13 | 34 | 0 | 6 | 130 | 14 | 0 | 20 | 35 | 9 | 292 | 0 | |
| 4:30 PM | 0 | 9 | 21 | 3 | 0 | 7 | 18 | 25 | 0 | 7 | 133 | 17 | 0 | 33 | 34 | 4 | 311 | 0 | |
| 4:45 PM | 0 | 3 | 14 | 4 | 0 | 6 | 11 | 28 | 0 | 10 | 129 | 16 | 0 | 38 | 44 | 10 | 313 | 1,161 | |
| 5:00 PM | 0 | 3 | 13 | 1 | 0 | 10 | 16 | 24 | 0 | 5 | 112 | 13 | 0 | 31 | 36 | 10 | 274 | 1,190 | |
| 5:15 PM | 0 | 9 | 8 | 4 | 0 | 5 | 12 | 18 | 0 | 11 | 111 | 15 | 0 | 21 | 43 | 3 | 260 | 1,158 | |
| 5:30 PM | 0 | 1 | 23 | 6 | 0 | 8 | 11 | 30 | 0 | 13 | 104 | 15 | 0 | 26 | 30 | 3 | 270 | 1,117 | |
| 5:45 PM | 0 | 5 | 12 | 3 | 0 | 3 | 15 | 29 | 0 | 8 | 104 | 8 | 0 | 30 | 33 | 8 | 258 | 1,062 | |
| Count Total | 0 | 44 | 120 | 27 | 0 | 58 | 106 | 208 | 0 | 66 | 919 | 107 | 0 | 225 | 290 | 53 | 2,223 | 0 | |
| Peak Hour | All | 0 | 21 | 62 | 10 | 0 | 32 | 58 | 111 | 0 | 28 | 504 | 60 | 0 | 122 | 149 | 33 | 1,190 | 0 |
| | HV | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 6 | 0 | 0 | 1 | 1 | 1 | 13 | 0 |
| | HV% | - | 5% | 2% | 0% | - | 0% | 2% | 1% | - | 0% | 1% | 0% | - | 1% | 1% | 3% | 1% | 0 |

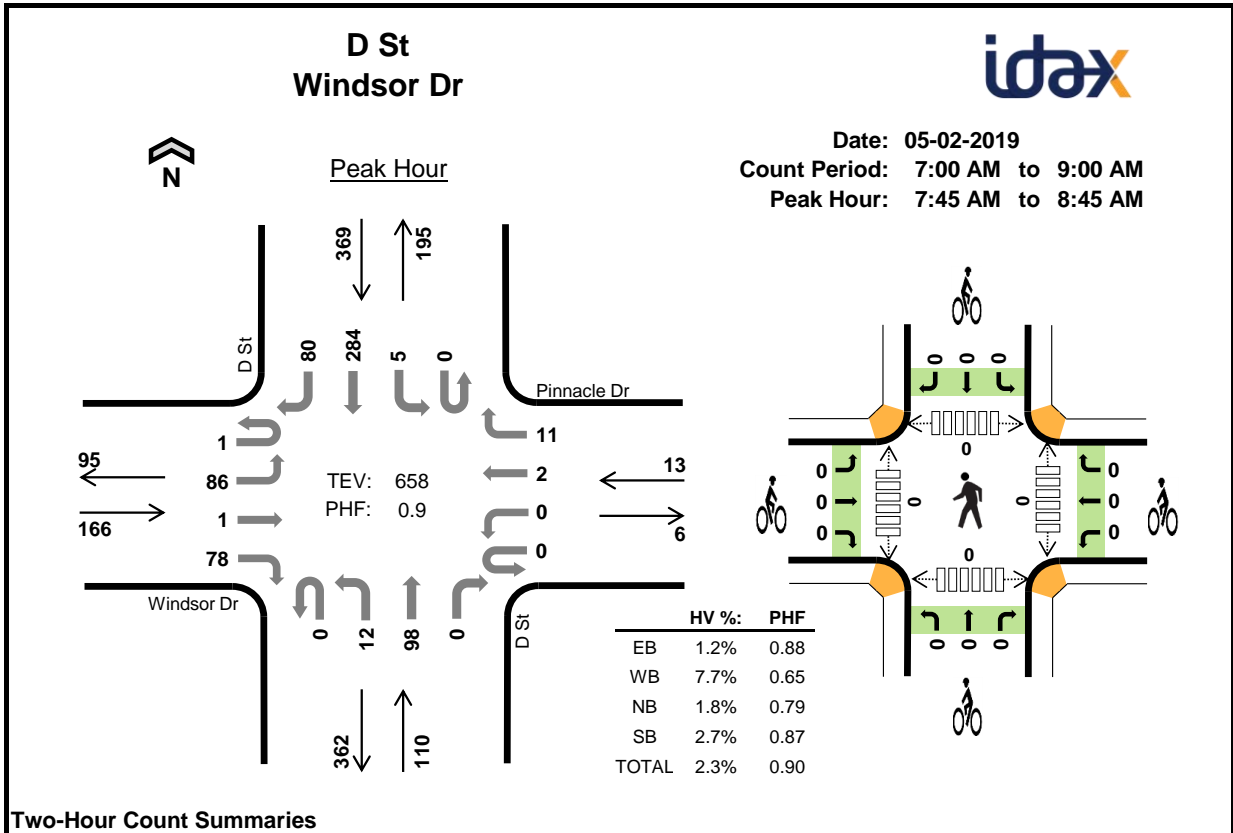
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 6 |
| 4:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 0 | 6 |
| 4:30 PM | 2 | 0 | 2 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4:45 PM | 0 | 1 | 2 | 0 | 3 | 0 | 3 | 0 | 2 | 5 | 0 | 4 | 1 | 0 | 5 |
| 5:00 PM | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 1 | 2 | 6 |
| 5:15 PM | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 3 | 0 | 3 |
| 5:30 PM | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 1 | 0 | 2 |
| 5:45 PM | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 2 |
| Count Total | 3 | 3 | 13 | 3 | 22 | 0 | 3 | 5 | 7 | 15 | 7 | 8 | 10 | 6 | 31 |
| Peak Hour | 2 | 2 | 6 | 3 | 13 | 0 | 3 | 2 | 4 | 9 | 3 | 7 | 5 | 3 | 18 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|------------|----|----|----|----------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | El Rose Dr | | | | Sunnyslope Ave | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:30 PM | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 6 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 13 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 13 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 14 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 9 |
| Count Total | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 11 | 1 | 0 | 1 | 1 | 1 | 22 | 0 |
| Peak Hour | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 6 | 0 | 0 | 1 | 1 | 1 | 13 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|------------|----|----|----------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|----|----|
| Interval Start | El Rose Dr | | | Sunnyslope Ave | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 6 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 9 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 10 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 13 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 9 |
| Count Total | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 2 | 4 | 1 | 0 | 15 | 0 |
| Peak Hour | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 9 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | Windsor Dr | | | | Pinnacle Dr | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour | |
|----------------|------------|-----|-----------|-----|-------------|----|------------|----|------------|----|------------|----|------------|----|-----|-----|--------------|------------------|---|
| | Eastbound | | Westbound | | Westbound | | Northbound | | Northbound | | Southbound | | Southbound | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 9 | 0 | 17 | 0 | 0 | 0 | 1 | 0 | 0 | 13 | 0 | 1 | 0 | 101 | 3 | 145 | 0 | |
| 7:15 AM | 0 | 10 | 1 | 17 | 0 | 1 | 0 | 3 | 0 | 0 | 15 | 1 | 0 | 0 | 107 | 6 | 161 | 0 | |
| 7:30 AM | 0 | 10 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 0 | 0 | 0 | 86 | 3 | 128 | 0 | |
| 7:45 AM | 1 | 25 | 0 | 21 | 0 | 0 | 0 | 5 | 0 | 2 | 23 | 0 | 0 | 1 | 89 | 8 | 175 | 609 | |
| 8:00 AM | 0 | 22 | 1 | 17 | 0 | 0 | 0 | 2 | 0 | 5 | 30 | 0 | 0 | 0 | 70 | 36 | 183 | 647 | |
| 8:15 AM | 0 | 22 | 0 | 20 | 0 | 0 | 2 | 2 | 0 | 2 | 19 | 0 | 0 | 4 | 69 | 23 | 163 | 649 | |
| 8:30 AM | 0 | 17 | 0 | 20 | 0 | 0 | 0 | 2 | 0 | 3 | 26 | 0 | 0 | 0 | 56 | 13 | 137 | 658 | |
| 8:45 AM | 0 | 11 | 0 | 17 | 0 | 1 | 0 | 1 | 0 | 2 | 24 | 0 | 0 | 0 | 35 | 6 | 97 | 580 | |
| Count Total | 1 | 126 | 2 | 143 | 0 | 2 | 2 | 16 | 0 | 15 | 164 | 1 | 1 | 5 | 613 | 98 | 1,189 | 0 | |
| Peak Hour | All | 1 | 86 | 1 | 78 | 0 | 0 | 2 | 11 | 0 | 12 | 98 | 0 | 0 | 5 | 284 | 80 | 658 | 0 |
| | HV | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 7 | 2 | 15 | 0 |
| | HV% | 0% | 1% | 0% | 1% | - | - | 0% | 9% | - | 0% | 2% | - | - | 20% | 2% | 3% | 2% | 0 |

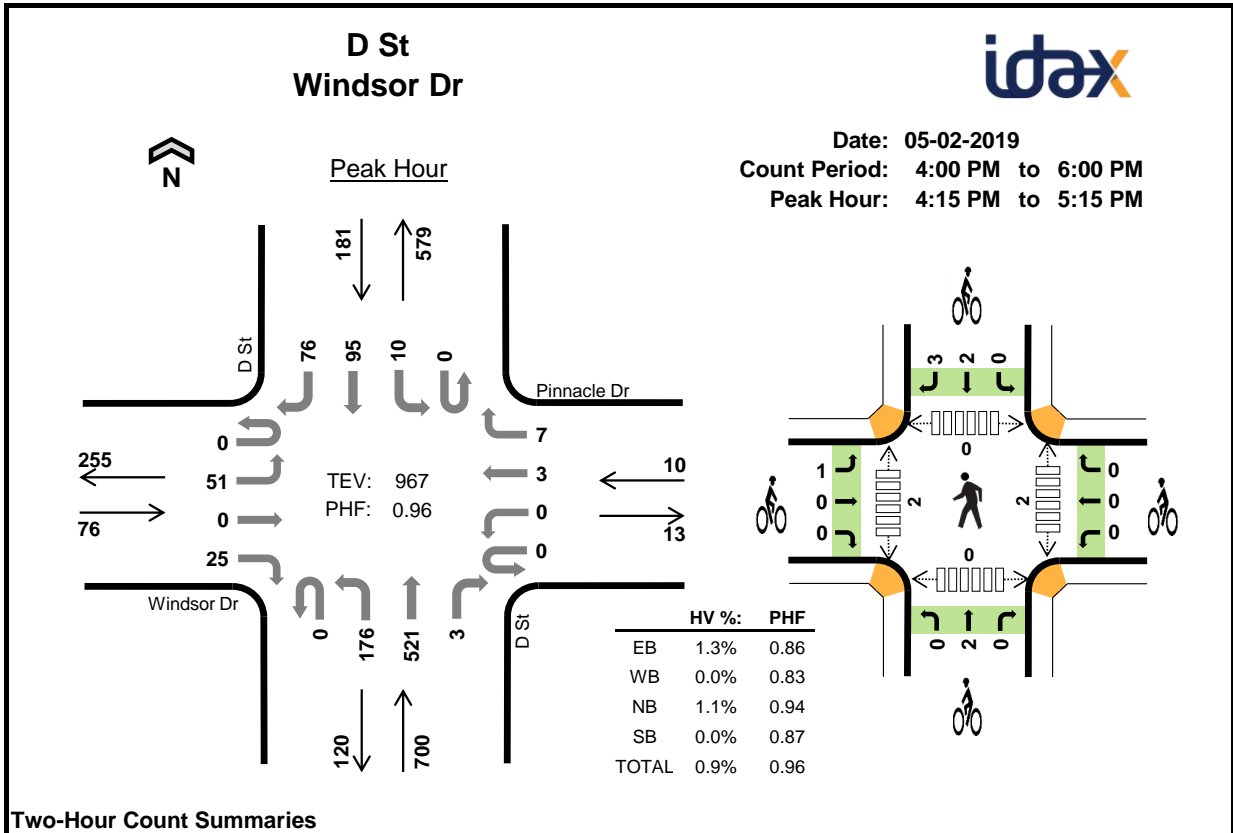
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 1 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 1 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 1 | 5 | 6 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 3 | 1 | 3 | 17 | 24 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour | 2 | 1 | 2 | 10 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | | |
|--|------------|----|----|----|-------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|----|
| Interval Start | Windsor Dr | | | | Pinnacle Dr | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour | |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 6 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 4 | 9 |
| 8:15 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 6 | 6 | 15 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 15 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 1 | 6 | 6 | 18 |
| Count Total | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 12 | 4 | 24 | 24 | 0 |
| Peak Hour | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 7 | 2 | 15 | 15 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | | |
|---|------------|----|----|-------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|---|---|---|---|
| Interval Start | Windsor Dr | | | Pinnacle Dr | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

| Interval Start | Windsor Dr | | | | Pinnacle Dr | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour | |
|----------------|------------|----|----|----|-------------|----|----|----|------------|-----|-----|-----|------------|----|-----|-----|--------------|------------------|---|
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 9 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 32 | 102 | 0 | 0 | 1 | 31 | 17 | 196 | 0 | |
| 4:15 PM | 0 | 11 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 52 | 132 | 2 | 0 | 3 | 18 | 20 | 245 | 0 | |
| 4:30 PM | 0 | 13 | 0 | 9 | 0 | 0 | 1 | 2 | 0 | 39 | 129 | 0 | 0 | 3 | 29 | 13 | 238 | 0 | |
| 4:45 PM | 0 | 15 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 37 | 139 | 0 | 0 | 1 | 30 | 21 | 251 | 930 | |
| 5:00 PM | 0 | 12 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 48 | 121 | 1 | 0 | 3 | 18 | 22 | 233 | 967 | |
| 5:15 PM | 0 | 8 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 46 | 127 | 0 | 1 | 0 | 31 | 17 | 238 | 960 | |
| 5:30 PM | 0 | 16 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 41 | 109 | 0 | 0 | 0 | 21 | 18 | 206 | 928 | |
| 5:45 PM | 0 | 12 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 28 | 115 | 0 | 0 | 0 | 25 | 11 | 197 | 874 | |
| Count Total | 0 | 96 | 2 | 42 | 0 | 0 | 3 | 7 | 0 | 323 | 974 | 3 | 1 | 11 | 203 | 139 | 1,804 | 0 | |
| Peak Hour | All | 0 | 51 | 0 | 25 | 0 | 0 | 3 | 7 | 0 | 176 | 521 | 3 | 0 | 10 | 95 | 76 | 967 | 0 |
| | HV | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| | HV% | - | 0% | - | 4% | - | - | 0% | 0% | - | 1% | 1% | 0% | - | 0% | 0% | 0% | 1% | 0 |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 1 | 0 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 4:30 PM | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 1 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 3 | 0 | 2 | 0 | 0 | 2 |
| 5:15 PM | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 5:45 PM | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 3 | 0 | 14 | 1 | 18 | 4 | 0 | 3 | 6 | 13 | 4 | 2 | 0 | 0 | 6 |
| Peak Hour | 1 | 0 | 8 | 0 | 9 | 1 | 0 | 2 | 5 | 8 | 2 | 2 | 0 | 0 | 4 |

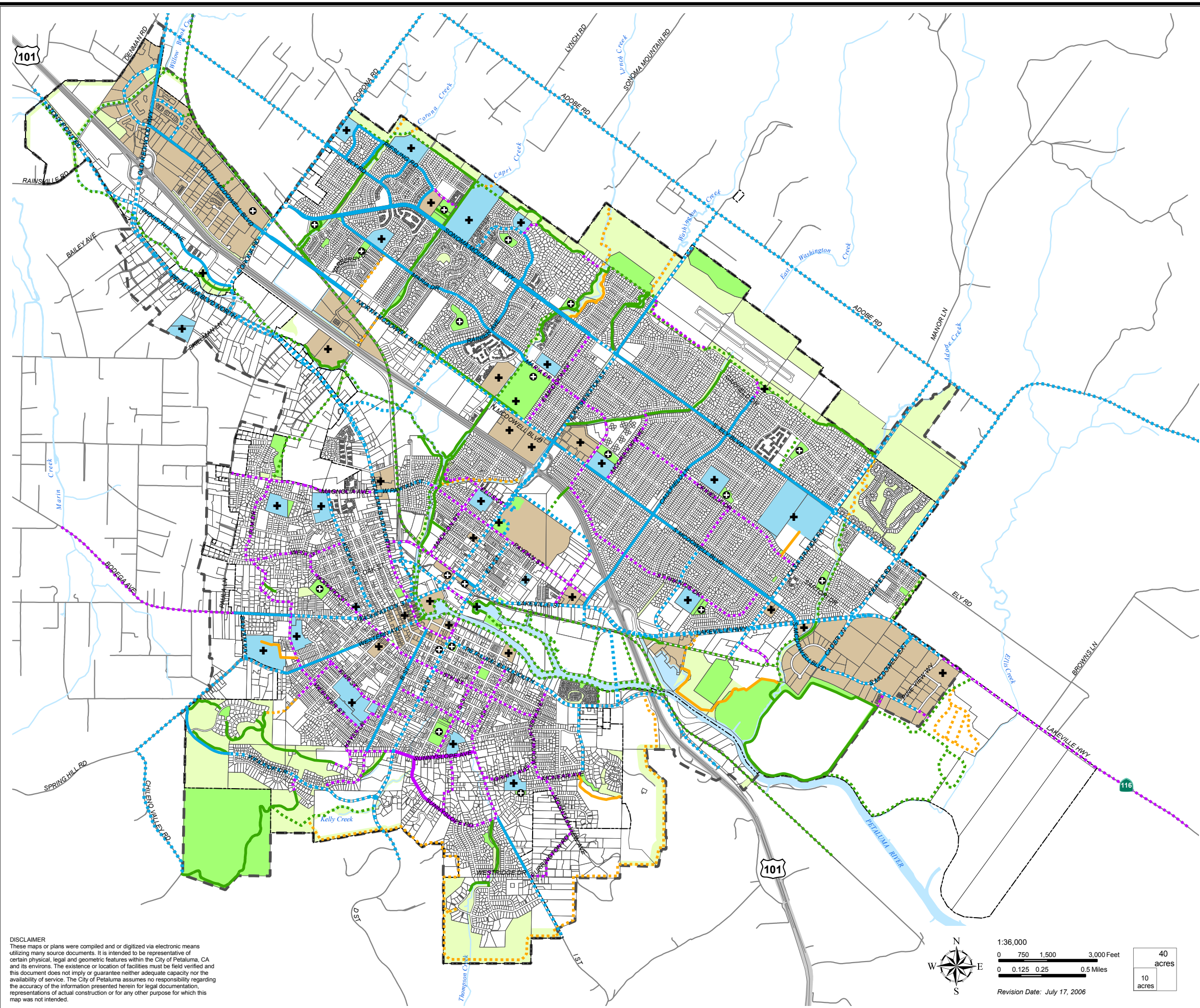
| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|------------|----|----|----|-------------|----|----|----|------------|----|----|----|------------|----|----|----|--------------|------------------|
| Interval Start | Windsor Dr | | | | Pinnacle Dr | | | | D St | | | | D St | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 0 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 11 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 9 |
| 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 11 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| Count Total | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12 | 0 | 0 | 0 | 0 | 1 | 18 | 0 |
| Peak Hour | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|------------|----|----|-------------|----|----|------------|----|----|------------|----|----|--------------|------------------|---|----|----|
| Interval Start | Windsor Dr | | | Pinnacle Dr | | | D St | | | D St | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 5 |
| 5:00 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 8 |
| 5:15 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |
| 5:30 PM | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 8 |
| Count Total | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 13 | 0 |
| Peak Hour | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 0 | 0 | 8 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

PROPOSED AND EXISTING BICYCLE ROUTES

Petaluma General Plan 2025



BICYCLE FACILITIES

- Class I - Off Street - Existing
- - - Class II - Off Street - Proposed
- Class II - On Street, Striped - Existing
- - - Class II - On Street, Striped - Proposed
- Class III - On Street, Signed - Existing
- - - Class III - On Street, Signed - Proposed
- Recreational Trail, Existing
- - - Recreational Trail - Proposed
- + Existing Bike Rack Location
- ⊕ Proposed Bike Rack Location

COMMON DESTINATIONS

- School
- Park
- Open Space
- Retail/Employment

BOUNDARIES

- City Limits
- Urban Growth Boundary (UGB)
- ~ Rivers and Creeks

DISCLAIMER
 These maps or plans were compiled and/or digitized via electronic means utilizing many source documents. It is intended to be representative of certain physical, legal and geometric features within the City of Petaluma, CA and its environs. The existence or location of facilities must be field verified and this document does not imply or guarantee neither adequate capacity nor the availability of service. The City of Petaluma assumes no responsibility regarding the accuracy of the information presented herein for legal documentation, representations of actual construction or for any other purpose for which this map was not intended.

1:36,000
 0 750 1,500 3,000 Feet
 0 0.125 0.25 0.5 Miles
 Revision Date: July 17, 2006

| |
|-------------|
| 40 acres |
| 10 acres |



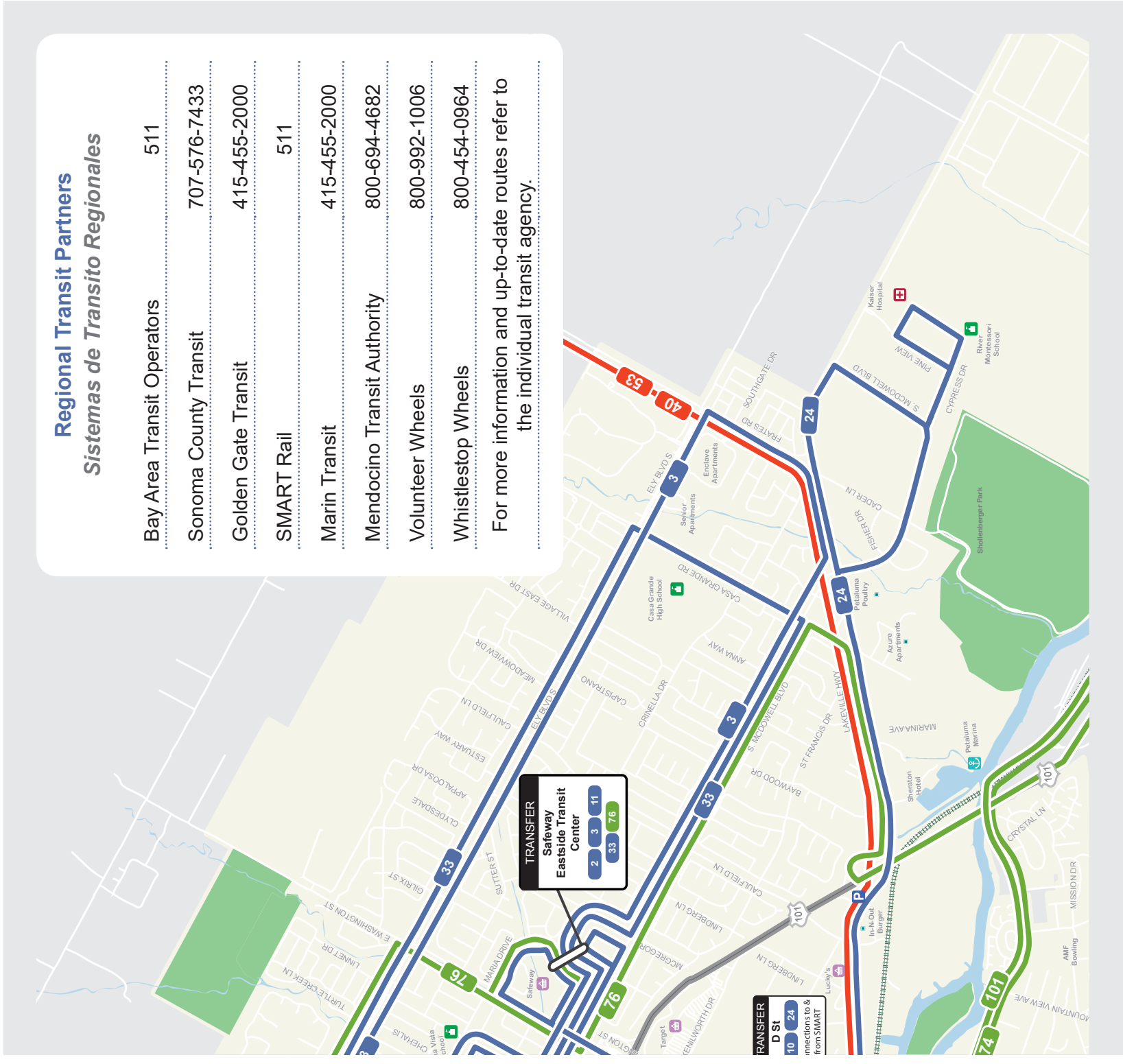
City of Petaluma
 11 English Street
 Petaluma, CA 94952
 generalplan@ci.petaluma.ca.us



Regional Transit Partners Sistemas de Transito Regionales

| | |
|-----------------------------|--------------|
| Bay Area Transit Operators | 511 |
| Sonoma County Transit | 707-576-7433 |
| Golden Gate Transit | 415-455-2000 |
| SMART Rail | 511 |
| Marin Transit | 415-455-2000 |
| Mendocino Transit Authority | 800-694-4682 |
| Volunteer Wheels | 800-992-1006 |
| Whistlestop Wheels | 800-454-0964 |

For more information and up-to-date routes refer to the individual transit agency



| Putnam Regional Park Extension and Regional Trail Trip Gen | | | | | | | | | | | | | | | | |
|--|-------------------------------------|-------|-----------------------|--------------------|------|------|--------------------|-------|-------|---------------------------|--------------------|----|-----|--------------------|----|-----|
| Land Use | ITE Land Use | Acres | Trip Generation Rates | | | | | | | Number of Trips Generated | | | | | | |
| | | | Daily | AM Peak Hour Trips | | | PM Peak Hour Trips | | | Daily | AM Peak Hour Trips | | | PM Peak Hour Trips | | |
| | | | | Total | In | Out | Total | In | Out | | Total | In | Out | Total | In | Out |
| Public Park - Putnam Park Extension (216 to 260 acres) | Public Park (411), ITE 10th Edition | 44 | 0.78 | 0.02 | 0.01 | 0.01 | 0.11 | 0.06 | 0.05 | 34 | 1 | 1 | 0 | 5 | 3 | 2 |
| Existing Helen Putnam Regional Park ¹ Shift to New Entrance - 50% shift | Public Park (411), ITE 10th Edition | 216 | 0.78 | 0.02 | 0.01 | 0.01 | 0.11 | 0.06 | 0.05 | 168 | 5 | 3 | 2 | 24 | 13 | 11 |
| | | | | | | | | | | 84 | 3 | 2 | 1 | 12 | 7 | 6 |
| Sonoma County Local Trip Rates | | | | | | | | | | | | | | | | |
| Taylor Mountain Park and Preserve ² | | 108 | 0.340 | | | | | 0.031 | 0.020 | 37 | | | | 6 | 3 | 2 |

Source:

1. ITE rates are used rather than equations due to the small sample size and for conservative purposes
2. Taylor Mountain Regional Park and Open Space Preserve Final Initial Study and Mitigated Negative Declaration, County of Sonoma, September 2012)

**Table 1
2019 Pipeline Projects Trip Generation**

| Pipeline Projects | Land Use | Land Use Code | Unit' | Amount | | Trips | | | | | | |
|---------------------------------|------------------|---------------|-------|--------|------------|------------------------|------------|------------|--------------|--------------|------------|--|
| | | | | | | AM Peak Hour | | | PM Peak Hour | | | |
| | | | | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| | | | | | | 3 | 4 | 5 | 6 | 7 | 8 | |
| COMMERCIAL PROJECTS | | | | | | | | | | | | |
| Adobe Road Winery ² | Winery | 970 | ksf | 16 | rate | 30 | 13 | 43 | 58 | 58 | 116 | |
| 1395 N. McDowell Boulevard SPAR | Restaurant | 932 | ksf | 6 | rate | 38 | 31 | 69 | 38 | 25 | 63 | |
| Valero Food Mart | Gas Station | 945 | disp | - | - | - | - | - | - | - | - | |
| Cagwin and Dorward | Office | 710 | ksf | 23 | rate | 82 | 11 | 93 | 15 | 74 | 89 | |
| Floathouse | - | - | - | - | - | - | - | - | - | - | - | |
| Hansel Toyota Expansion/Remodel | Auto Sales | 841 | ksf | 11 | rate | 15 | 5 | 20 | 11 | 17 | 28 | |
| Petaluma Poultry Expansion | Office | 710 | ksf | 4 | rate | 5 | 1 | 6 | 1 | 5 | 6 | |
| Petaluman Hotel | Hotel | 310 | rooms | 54 | rate | 17 | 12 | 29 | 17 | 16 | 32 | |
| Safeway Fuel Center | Gas Station | 945 | disp | 8 | rate | 3 | 2 | 5 | 32 | 32 | 65 | |
| Home 2 Suites | Hotel | 310 | rooms | 140 | rate | 44 | 30 | 74 | 43 | 41 | 84 | |
| MIXED USE PROJECTS | | | | | | | | | | | | |
| Omahony Mixed Use Building | Shopping Center | 820 | ksf | 2 | eq | 7 | 5 | 12 | 17 | 19 | 36 | |
| | Apartment | 220 | units | 10 | eq | 2 | 7 | 9 | 15 | 8 | 23 | |
| | TOTAL | | | | | 9 | 11 | 21 | 32 | 27 | 59 | |
| Riverfront 2010 | Office | 710 | ksf | 60 | rate | 82 | 11 | 93 | 15 | 74 | 89 | |
| | Townhouse | 230 | units | 31 | rate | 2 | 12 | 14 | 11 | 5 | 16 | |
| | Hotel | 310 | rooms | 120 | rate | 41 | 26 | 67 | 38 | 33 | 71 | |
| | Specialty Retail | | ksf | 30 | | 18 | 12 | 30 | 36 | 45 | 81 | |
| | Apartments | 220 | units | 100 | rate | 10 | 41 | 51 | 40 | 22 | 62 | |
| | SF Housing | 210 | units | 135 | rate | 25 | 76 | 101 | 86 | 50 | 136 | |
| | Live/Work | | units | 6 | | 3 | 2 | 5 | 2 | 4 | 6 | |
| | City Park | | acres | 6 | | 20 | 20 | 40 | 14 | 14 | 28 | |
| TOTAL | | | | | 187 | 186 | 373 | 213 | 217 | 430 | | |
| North River Apartments | Apartment | 220 | units | 184 | eq | 19 | 75 | 94 | 77 | 42 | 119 | |
| Haystack Pacifica | Shopping Center | 820 | ksf | 15 | eq | 30 | 18 | 48 | 79 | 85 | 164 | |
| | Apartment | 220 | units | 178 | eq | 18 | 73 | 91 | 75 | 40 | 116 | |
| | TOTAL | | | | | 48 | 91 | 139 | 154 | 126 | 280 | |
| Deer Creek Village | Shopping Center | 820 | ksf | 174 | eq | 98 | 60 | 157 | 443 | 480 | 923 | |
| | Office | 710 | ksf | 18 | eq | 42 | 6 | 47 | 17 | 81 | 98 | |
| | Superstore | 862 | ksf | 130 | rate | 67 | 51 | 118 | 148 | 161 | 309 | |
| | TOTAL | | | | | 207 | 116 | 323 | 442 | 543 | 985 | |
| Deer Creek (Combined) | Total | | | | 220 | 170 | 390 | 500 | 574 | 1,074 | | |
| RESIDENTIAL PROJECTS | | | | | | | | | | | | |
| 109 Ellis Street | Apartment | 220 | units | 13 | eq | 2 | 8 | 10 | 16 | 9 | 25 | |
| Deer Creek Residential | Apartment | 220 | units | 129 | eq | 13 | 54 | 67 | 58 | 31 | 89 | |
| Baywood Apartments | Apartment | 220 | units | 299 | eq | 30 | 120 | 150 | 118 | 64 | 182 | |
| PEP Housing Senior Housing | Senior Housing | 252 | units | 54 | eq | 4 | 7 | 11 | 8 | 7 | 15 | |
| Sepaher Residential Building | Apartment | 220 | units | 4 | eq | 1 | 5 | 6 | 13 | 7 | 20 | |
| | SF Detached | 210 | units | 59 | eq | 13 | 38 | 51 | 41 | 24 | 65 | |
| | Apartment | 220 | units | 139 | eq | 14 | 57 | 72 | 61 | 33 | 94 | |
| | Total | | | | | 27 | 96 | 123 | 102 | 57 | 159 | |
| East Washington Commons | Apartment | 220 | units | 24 | eq | 3 | 12 | 15 | 20 | 11 | 31 | |
| Riverbend Crossing | SF Detached | 210 | units | 29 | eq | 8 | 23 | 30 | 22 | 13 | 34 | |
| Altura Apartments | Apartment | 220 | units | 150 | eq | 15 | 62 | 77 | 65 | 35 | 100 | |
| Addison Ranch Apartments | Apartment | 220 | units | 100 | eq | 11 | 42 | 53 | 47 | 25 | 73 | |
| Sid Commons | Apartment | 220 | units | 278 | eq | 28 | 112 | 140 | 111 | 60 | 171 | |
| Sunnyslope II | SF Detached | 210 | units | 18 | eq | 6 | 17 | 22 | 14 | 8 | 22 | |
| Quarry Heights (Lomas) | SF Detached | 210 | units | 90 | eq | 18 | 55 | 73 | 60 | 35 | 96 | |
| Corona Station SPAR | SF Detached | 210 | units | 112 | eq | 22 | 66 | 88 | 73 | 43 | 116 | |
| | | | | | | External Trips: | | | 2,153 | 3,488 | | |

Notes:

Orange shaded projects are hard coded based on project specific studies.

Blue shading represents projects from 2014 analysis.

Purple shading represents new or updated project in 2019 per "Major Development Projects", May 2019.

1. ksf = thousand square feet.

2. Used ITE 10th Edition for Winery trip rates because Wineries are not available as a land use in the 9th Edition.

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition), 2012; Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition), 2012; Fehr & Peers, 2019

Table 3
Background Projects Trip Assignment - AM

| Background Projects | Study Intersection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---------------------------|---|----|---|----|---|----|----|------------------------|----|----|----|----|----|----|----|---------------------|----|----|----|----|----|----|----|---------------------|----|----|---|------------------------|---|----|----|----|----|---|---|---|----|----|----|----|----|---|---|---|---|---|---|---|---|----|---|---|----|---|---|---|---|---|---|---|
| | D Street/Lakeville Street | | | | | | | | D Street/Petaluma Blvd | | | | | | | | D Street/6th Street | | | | | | | | D Street/Sunnyslope | | | | D Street/Windsor Drive | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NB | | SB | | EB | | WB | | NB | | SB | | EB | | WB | | NB | | SB | | EB | | WB | | NB | | SB | | EB | | WB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | | | | | | | | | | | | | | | | | | | | | | | | | |
| North | 10 | | | | | | | 10 | | | | | | 10 | 10 | | | 4 | | 7 | 8 | | | 10 | | | | | | 3 | | 10 | | 7 | | | | 10 | | 7 | | | | | | | | | | | | | | | | | | | | | |
| West | 18 | | | | | | | 14 | 14 | | | 36 | | | 18 | 18 | | | 7 | 7 | | | 14 | 14 | | | 18 | | | | | 3 | | 18 | | 7 | | | | 18 | | 7 | | | | | | | | | | | | | | | | | | | |
| East | | | | | | | | 16 | 8 | | | 26 | | | | | | | 8 | | | | 8 | | | 11 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Riverfront 2010 | | | 28 | | | | | 28 | | 29 | 29 | | | | 14 | 14 | | | 7 | 7 | | | 14 | | | 14 | 14 | | | | 3 | | 14 | | | | | | | | 14 | | | | | | | | | | | | | | | | | | | | |
| Deer Creek (Combined) | 50 | | | | | | | 57 | | | | | | 25 | 28 | 14 | 14 | 25 | | | | | | | 25 | | | | 13 | | 13 | | | | | | | | 13 | | 13 | | | | | | | | | | | | | | | | | | | | |
| Sid Commons | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sunnyslope II | | | | | | | | | | | | | | 2 | 2 | | | | 7 | | | | | | | | | | | | | | | | | | 4 | | | | | | 4 | | | | | | | | | | | | | | | | | | |
| TOTAL | 78 | 0 | 28 | 0 | 0 | 0 | 0 | 58 | 89 | 29 | 91 | 0 | 30 | 69 | 14 | 43 | 39 | 21 | 25 | 42 | 22 | 14 | 53 | 36 | 0 | 59 | 0 | 9 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 55 | 0 | 7 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 55 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:
Source: Fehr & Peers, 2019

From: Angela Pan <apan@impactsociences.com>
Sent: Tuesday, July 9, 2019 9:57 AM
To: Neil Smolen <N.Smolen@fehrandpeers.com>
Cc: Matt Goynes <m.goyne@fehrandpeers.com>; Rima Ghannam <rghannam@sertior.com>
Subject: RE: Davidon Homes - Existing Volumes and Cumulative Land Use Comparison

Hi Neil,

This approach seems reasonable to me. Let me run it by the City and I'll let you know if they agree.

Thanks,
Angela

From: Neil Smolen [<mailto:N.Smolen@fehrandpeers.com>]
Sent: Monday, July 8, 2019 4:44 PM
To: Angela Pan
Cc: Matt Goynes
Subject: Davidon Homes - Existing Volumes and Cumulative Land Use Comparison

Hi Angela,

To inform a discussion of whether the Cumulative Conditions analyses should be updated with new traffic forecasts for the Davidon project, we've completed a comparison of the new existing volumes and cumulative land uses (Task 9 in our scope of work). Below is a summary of the findings:

- 2019 Existing Volumes v. Petaluma General Plan Existing Volumes: We have two study intersections that overlap with study intersections in the General Plan DEIR (the D Street/Lakeville Street and D Street/Petaluma Boulevard intersections). For both intersections during both peak hours, our 2019 intersection volumes are less than or equal to the intersection volumes in the Petaluma General Plan DEIR (in some cases up to 20% lower). Note that the 2019 existing volumes include the factoring up to account for the higher Friday PM peak hour counts.
- ABAG/MTC Land Use Growth v. Petaluma General Plan (and Forecasting Model) Land Use Growth: Overall, the land use growth assumed within Petaluma by the ABAG/MTC 2040 forecasts is much lower than the land use growth assumed in the Petaluma 2025 General Plan and the Petaluma Forecasting Model. For growth in total households and retail employment, the ABAG/MTC land use forecasts are about 50% lower. For growth in overall employment, the ABAG/MTC land use forecasts are about 15% lower.

These results seem to suggest that we can continue to use the cumulative volumes from previous studies without underestimating the traffic volumes. However, we would like to receive final direction from the City on the most appropriate approach for this study. Feel free to let me know if you have any questions or would like to discuss further before reaching out to the City. If helpful, I can also provide more detail on these comparisons.

Thanks,
Neil



Neil Smolen, AICP

Senior Transportation Planner

Fehr & Peers | 332 Pine Street, 4th Floor | San Francisco, CA 94104

415.426.2516 | FehrandPeers.com



Petaluma Cumulative Land Use Comparison

Prepared by Fehr & Peers, 2019

Volumes

| | GP Volumes | | 2019 Volumes | | Difference | | Percent Difference | |
|--|------------|-------|--------------|-------|------------|------|--------------------|------|
| | AM | PM | AM | PM | AM | PM | AM | PM |
| 1 D Street / Lakeville Street | 1,782 | 2,439 | 1,818 | 2,156 | 36 | -283 | 2% | -12% |
| 2 D Street / Petaluma Boulevard | 2,344 | 2,817 | 1,853 | 2,189 | -491 | -628 | -21% | -22% |

Land Use Growth























| | Base | | | Future | | | Growth | | |
|------------------------------|--------|---------|---------|--------|---------|---------|--------|---------|---------|
| | HH | Ret Emp | Tot Emp | HH | Ret Emp | Tot Emp | HH | Ret Emp | Tot Emp |
| ABAG/MTC | 21,020 | 3,750 | 28,115 | 24,490 | 4,210 | 39,840 | 3,470 | 460 | 11,725 |
| Petaluma TDF | 22,363 | 2,211 | | 28,854 | 3,069 | | 6,491 | 859 | |
| Petaluma General Plan | 21,944 | | 33,160 | 27,949 | | 46,540 | 6,005 | | 13,380 |

Sources: City of Petaluma, *2025 General Plan*
 Petaluma Travel Demand Forecasting model
 ABAG/MTC, *Plan Bay Area 2040*

HCM Signalized Intersection Capacity Analysis
























1: D Street & Lakeville St

Existing Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 0 | 327 | 73 | 377 | 280 | 15 | 41 | 98 | 413 | 13 | 171 | 10 | |
| Future Volume (vph) | 0 | 327 | 73 | 377 | 280 | 15 | 41 | 98 | 413 | 13 | 171 | 10 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.92 | 1.00 | 1.00 | 0.97 | | 1.00 | 1.00 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1783 | 1533 | 1719 | 1782 | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1783 | 1533 | 1719 | 1782 | | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | |
| Adj. Flow (vph) | 0 | 372 | 83 | 428 | 318 | 17 | 47 | 111 | 469 | 15 | 194 | 11 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 288 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 372 | 83 | 428 | 318 | 9 | 0 | 158 | 181 | 15 | 203 | 0 | |
| Confl. Peds. (#/hr) | 10 | | 18 | | | 10 | 40 | | 1 | 1 | | 40 | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 | |
| Heavy Vehicles (%) | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | |
| Turn Type | | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 28.2 | 28.2 | 42.1 | 75.1 | 75.1 | | 15.3 | 57.4 | 21.0 | 21.0 | | |
| Effective Green, g (s) | | 28.5 | 29.0 | 41.6 | 74.6 | 74.6 | | 16.1 | 56.4 | 20.8 | 20.8 | | |
| Actuated g/C Ratio | | 0.20 | 0.20 | 0.28 | 0.51 | 0.51 | | 0.11 | 0.39 | 0.14 | 0.14 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 671 | 279 | 489 | 924 | 762 | | 196 | 592 | 244 | 253 | | |
| v/s Ratio Prot | | c0.11 | | c0.25 | 0.18 | | | c0.09 | 0.09 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | | 0.06 | | | 0.01 | | | 0.03 | | | | |
| v/c Ratio | | 0.55 | 0.30 | 0.88 | 0.34 | 0.01 | | 0.81 | 0.31 | 0.06 | 0.80 | | |
| Uniform Delay, d1 | | 53.0 | 49.8 | 49.7 | 21.2 | 17.6 | | 63.4 | 31.2 | 54.2 | 60.6 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 3.3 | 2.7 | 15.5 | 0.1 | 0.0 | | 22.0 | 0.1 | 0.1 | 16.2 | | |
| Delay (s) | | 56.3 | 52.5 | 65.2 | 21.3 | 17.6 | | 85.4 | 31.3 | 54.2 | 76.8 | | |
| Level of Service | | E | D | E | C | B | | F | C | D | E | | |
| Approach Delay (s) | | 55.6 | | | 45.8 | | | 44.9 | | | 75.3 | | |
| Approach LOS | | E | | | D | | | D | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 50.9 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.66 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 146.0 | | | | | | | | | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | | | 81.1% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary
2: D Street & Petaluma Blvd North

Existing Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 100 | 251 | 61 | 69 | 190 | 216 | 64 | 297 | 32 | 108 | 422 | 43 |
| Future Volume (veh/h) | 100 | 251 | 61 | 69 | 190 | 216 | 64 | 297 | 32 | 108 | 422 | 43 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 114 | 285 | 10 | 78 | 216 | 22 | 73 | 338 | 31 | 123 | 480 | 17 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cap, veh/h | 178 | 372 | 312 | 135 | 308 | 258 | 132 | 515 | 47 | 406 | 874 | 732 |
| Arrive On Green | 0.10 | 0.20 | 0.20 | 0.08 | 0.17 | 0.17 | 0.07 | 0.31 | 0.30 | 0.23 | 0.47 | 0.47 |
| Sat Flow, veh/h | 1767 | 1856 | 1557 | 1767 | 1856 | 1554 | 1767 | 1667 | 153 | 1767 | 1856 | 1554 |
| Grp Volume(v), veh/h | 114 | 285 | 10 | 78 | 216 | 22 | 73 | 0 | 369 | 123 | 480 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1856 | 1557 | 1767 | 1856 | 1554 | 1767 | 0 | 1820 | 1767 | 1856 | 1554 |
| Q Serve(g_s), s | 5.6 | 13.1 | 0.5 | 3.8 | 9.9 | 1.1 | 3.6 | 0.0 | 15.8 | 5.2 | 16.6 | 0.3 |
| Cycle Q Clear(g_c), s | 5.6 | 13.1 | 0.5 | 3.8 | 9.9 | 1.1 | 3.6 | 0.0 | 15.8 | 5.2 | 16.6 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 178 | 372 | 312 | 135 | 308 | 258 | 132 | 0 | 562 | 406 | 874 | 732 |
| V/C Ratio(X) | 0.64 | 0.77 | 0.03 | 0.58 | 0.70 | 0.09 | 0.55 | 0.00 | 0.66 | 0.30 | 0.55 | 0.02 |
| Avail Cap(c_a), veh/h | 178 | 555 | 465 | 157 | 559 | 468 | 157 | 0 | 562 | 406 | 874 | 732 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.99 | 0.99 | 0.99 | 0.85 | 0.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.9 | 34.0 | 28.9 | 40.2 | 35.4 | 31.7 | 40.2 | 0.0 | 27.0 | 28.7 | 17.0 | 4.5 |
| Incr Delay (d2), s/veh | 4.6 | 3.9 | 0.0 | 1.4 | 4.0 | 0.2 | 1.2 | 0.0 | 5.0 | 0.2 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 6.2 | 0.2 | 1.7 | 4.7 | 0.4 | 1.6 | 0.0 | 7.4 | 2.2 | 6.9 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.5 | 37.9 | 29.0 | 41.6 | 39.5 | 31.9 | 41.4 | 0.0 | 32.0 | 28.8 | 17.6 | 4.6 |
| LnGrp LOS | D | D | C | D | D | C | D | A | C | C | B | A |
| Approach Vol, veh/h | | 409 | | | 316 | | | 442 | | | 620 | |
| Approach Delay, s/veh | | 39.2 | | | 39.5 | | | 33.6 | | | 19.5 | |
| Approach LOS | | D | | | D | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 25.3 | 31.8 | 10.9 | 22.1 | 10.7 | 46.4 | 14.0 | 19.0 | | | | |
| Change Period (Y+Rc), s | * 4.6 | * 4.7 | 4.0 | * 4.9 | 4.0 | 4.6 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 27 | 8.0 | * 26 | 8.0 | 30.0 | * 8.3 | * 26 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 17.8 | 5.8 | 15.1 | 5.6 | 18.6 | 7.6 | 11.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.8 | 0.0 | 1.3 | 0.0 | 1.3 | 0.0 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.0 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Existing Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 43 | 35 | 287 | 5 | 10 | 377 | 65 |
| Future Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 43 | 35 | 287 | 5 | 10 | 377 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 88 | 200 | 42 | 10 | 200 | 32 | 39 | 322 | 5 | 11 | 424 | 62 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 241 | 345 | 64 | 131 | 464 | 72 | 167 | 670 | 10 | 126 | 622 | 89 |
| Arrive On Green | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 | 0.31 | 0.40 | 0.40 | 0.41 | 0.40 | 0.40 | 0.41 |
| Sat Flow, veh/h | 301 | 1142 | 210 | 26 | 1536 | 238 | 90 | 1668 | 24 | 12 | 1574 | 226 |
| Grp Volume(v), veh/h | 330 | 0 | 0 | 242 | 0 | 0 | 366 | 0 | 0 | 497 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1653 | 0 | 0 | 1801 | 0 | 0 | 1782 | 0 | 0 | 1812 | 0 | 0 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.13 | 0.04 | | 0.13 | 0.11 | | 0.01 | 0.02 | | 0.12 |
| Lane Grp Cap(c), veh/h | 649 | 0 | 0 | 667 | 0 | 0 | 847 | 0 | 0 | 837 | 0 | 0 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.00 | 0.36 | 0.00 | 0.00 | 0.43 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1447 | 0 | 0 | 1573 | 0 | 0 | 1813 | 0 | 0 | 1870 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 9.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 9.5 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 330 | | | 242 | | | 366 | | | | 497 |
| Approach Delay, s/veh | | 9.5 | | | 8.8 | | | 7.3 | | | | 8.6 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.7 | | 13.7 | | 16.7 | | 13.7 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.4 | | 7.0 | | 8.9 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 2.4 | | 1.0 | | 3.3 | | 0.7 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 8.5 |
| HCM 6th LOS | A |

Notes

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

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 15.8 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 238 | 7 | 24 | 404 | 17 |
| Future Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 238 | 7 | 24 | 404 | 17 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 33 | 31 | 17 | 36 | 43 | 43 | 30 | 277 | 8 | 28 | 470 | 20 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.3 | 10.6 | 12.8 | 19.7 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 10% | 40% | 30% | 5% |
| Vol Thru, % | 88% | 39% | 35% | 91% |
| Vol Right, % | 3% | 21% | 35% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 271 | 70 | 105 | 445 |
| LT Vol | 26 | 28 | 31 | 24 |
| Through Vol | 238 | 27 | 37 | 404 |
| RT Vol | 7 | 15 | 37 | 17 |
| Lane Flow Rate | 315 | 81 | 122 | 517 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.461 | 0.141 | 0.204 | 0.718 |
| Departure Headway (Hd) | 5.261 | 6.228 | 6.021 | 4.992 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 684 | 574 | 595 | 724 |
| Service Time | 3.303 | 4.29 | 4.079 | 3.027 |
| HCM Lane V/C Ratio | 0.461 | 0.141 | 0.205 | 0.714 |
| HCM Control Delay | 12.8 | 10.3 | 10.6 | 19.7 |
| HCM Lane LOS | B | B | B | C |
| HCM 95th-tile Q | 2.4 | 0.5 | 0.8 | 6.1 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunny Slope Ave

Existing Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 8 | 86 | 31 | 53 | 95 | 195 | 9 | 139 | 62 | 98 | 284 | 26 |
| Future Volume (veh/h) | 8 | 86 | 31 | 53 | 95 | 195 | 9 | 139 | 62 | 98 | 284 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 10 | 104 | 23 | 64 | 114 | 175 | 11 | 167 | 51 | 118 | 342 | 25 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cap, veh/h | 110 | 422 | 88 | 160 | 178 | 230 | 14 | 361 | 110 | 205 | 617 | 45 |
| Arrive On Green | 0.29 | 0.29 | 0.28 | 0.28 | 0.28 | 0.28 | 0.01 | 0.26 | 0.25 | 0.11 | 0.36 | 0.36 |
| Sat Flow, veh/h | 50 | 1445 | 302 | 196 | 624 | 806 | 1795 | 1378 | 421 | 1795 | 1735 | 127 |
| Grp Volume(v), veh/h | 137 | 0 | 0 | 353 | 0 | 0 | 11 | 0 | 218 | 118 | 0 | 367 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 0 | 1625 | 0 | 0 | 1795 | 0 | 1799 | 1795 | 0 | 1862 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.2 | 0.0 | 4.2 | 2.5 | 0.0 | 6.4 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 0.2 | 0.0 | 4.2 | 2.5 | 0.0 | 6.4 |
| Prop In Lane | 0.07 | | 0.17 | 0.18 | | 0.50 | 1.00 | | 0.23 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 620 | 0 | 0 | 567 | 0 | 0 | 14 | 0 | 471 | 205 | 0 | 663 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.62 | 0.00 | 0.00 | 0.78 | 0.00 | 0.46 | 0.57 | 0.00 | 0.55 |
| Avail Cap(c_a), veh/h | 983 | 0 | 0 | 898 | 0 | 0 | 287 | 0 | 1343 | 860 | 0 | 1367 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.0 | 0.0 | 0.0 | 13.2 | 0.0 | 0.0 | 20.2 | 0.0 | 12.7 | 17.1 | 0.0 | 10.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 28.6 | 0.0 | 1.0 | 0.9 | 0.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.2 | 0.0 | 1.5 | 1.0 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.2 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 48.8 | 0.0 | 13.7 | 18.0 | 0.0 | 11.5 |
| LnGrp LOS | B | A | A | B | A | A | D | A | B | B | A | B |
| Approach Vol, veh/h | | 137 | | | 353 | | | 229 | | | | 485 |
| Approach Delay, s/veh | | 11.2 | | | 14.0 | | | 15.4 | | | | 13.1 |
| Approach LOS | | B | | | B | | | B | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.2 | 15.2 | | 16.4 | 4.8 | 19.5 | | 16.4 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 6.2 | | 4.3 | 2.2 | 8.4 | | 10.0 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.3 | | 0.3 | 0.0 | 2.3 | | 0.9 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 13.6 |
| HCM 6th LOS | B |

Notes

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

HCM 6th TWSC
6: D Street & Windsor Dr/Pinnacle Dr

Existing Conditions
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 87 | 1 | 78 | 0 | 2 | 11 | 12 | 98 | 0 | 5 | 284 | 80 |
| Future Vol, veh/h | 87 | 1 | 78 | 0 | 2 | 11 | 12 | 98 | 0 | 5 | 284 | 80 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 97 | 1 | 87 | 0 | 2 | 12 | 13 | 109 | 0 | 6 | 316 | 89 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 515 | 508 | 361 | 552 | 552 | 109 | 405 | 0 | 0 | 109 | 0 | 0 |
| Stage 1 | 373 | 373 | - | 135 | 135 | - | - | - | - | - | - | - |
| Stage 2 | 142 | 135 | - | 417 | 417 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 470 | 468 | 684 | 444 | 442 | 945 | 1154 | - | - | 1481 | - | - |
| Stage 1 | 648 | 618 | - | 868 | 785 | - | - | - | - | - | - | - |
| Stage 2 | 861 | 785 | - | 613 | 591 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 457 | 461 | 684 | 383 | 435 | 945 | 1154 | - | - | 1481 | - | - |
| Mov Cap-2 Maneuver | 457 | 461 | - | 383 | 435 | - | - | - | - | - | - | - |
| Stage 1 | 641 | 616 | - | 858 | 776 | - | - | - | - | - | - | - |
| Stage 2 | 838 | 776 | - | 532 | 589 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|-----|--|-----|--|-----|--|
| HCM Control Delay, s | 13.1 | | 9.6 | | 0.9 | | 0.1 | |
| HCM LOS | B | | A | | | | | |























| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1154 | - | - | 457 | 684 | 801 | 1481 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.214 | 0.127 | 0.018 | 0.004 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 15 | 11 | 9.6 | 7.4 | - | - |
| HCM Lane LOS | A | - | - | C | B | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.8 | 0.4 | 0.1 | 0 | - | - |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St

Existing Conditions

PM Peak Hour
























| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 5 | 290 | 55 | 409 | 343 | 55 | 93 | 205 | 501 | 10 | 170 | 20 | |
| Future Volume (vph) | 5 | 290 | 55 | 409 | 343 | 55 | 93 | 205 | 501 | 10 | 170 | 20 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.3 | 4.8 | 4.5 | 4.5 | 4.5 | | 5.8 | 4.5 | 4.8 | 4.8 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.79 | 1.00 | 1.00 | 0.92 | | 1.00 | 0.98 | 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 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.98 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3532 | 1255 | 1770 | 1863 | 1459 | | 1834 | 1553 | 1770 | 1802 | | |
| Flt Permitted | | 0.90 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3174 | 1255 | 1770 | 1863 | 1459 | | 1834 | 1553 | 1770 | 1802 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 5 | 293 | 56 | 413 | 346 | 56 | 94 | 207 | 506 | 10 | 172 | 20 | |
| RTOR Reduction (vph) | 0 | 0 | 47 | 0 | 0 | 31 | 0 | 0 | 201 | 0 | 3 | 0 | |
| Lane Group Flow (vph) | 0 | 298 | 9 | 413 | 346 | 25 | 0 | 301 | 305 | 10 | 189 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | | 3 | 8 | | 2 | | | |
| Actuated Green, G (s) | | 23.2 | 23.2 | 37.4 | 65.4 | 65.4 | | 23.3 | 60.7 | 21.7 | 21.7 | | |
| Effective Green, g (s) | | 22.7 | 23.2 | 36.9 | 64.9 | 64.9 | | 22.8 | 59.7 | 21.2 | 21.2 | | |
| Actuated g/C Ratio | | 0.16 | 0.16 | 0.25 | 0.45 | 0.45 | | 0.16 | 0.41 | 0.15 | 0.15 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 496 | 200 | 450 | 833 | 653 | | 288 | 639 | 258 | 263 | | |
| v/s Ratio Prot | | | | c0.23 | 0.19 | | | c0.16 | 0.12 | 0.01 | c0.10 | | |
| v/s Ratio Perm | | c0.09 | 0.01 | | | 0.02 | | | 0.07 | | | | |
| v/c Ratio | | 0.60 | 0.04 | 0.92 | 0.42 | 0.04 | | 1.05 | 0.48 | 0.04 | 0.72 | | |
| Uniform Delay, d1 | | 56.9 | 51.5 | 52.6 | 27.2 | 22.5 | | 61.1 | 31.2 | 53.2 | 59.0 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 5.3 | 0.4 | 23.1 | 0.1 | 0.0 | | 65.3 | 0.2 | 0.0 | 8.4 | | |
| Delay (s) | | 62.2 | 51.9 | 75.6 | 27.3 | 22.5 | | 126.4 | 31.4 | 53.2 | 67.4 | | |
| Level of Service | | E | D | E | C | C | | F | C | D | E | | |
| Approach Delay (s) | | 60.6 | | | 51.5 | | | 66.9 | | | 66.7 | | |
| Approach LOS | | E | | | D | | | E | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 60.1 | | HCM 2000 Level of Service | | | | | E | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.72 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.0 | | Sum of lost time (s) | | | | | 24.4 | | | |
| Intersection Capacity Utilization | | | 91.8% | | ICU Level of Service | | | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM 6th Signalized Intersection Summary

2: D Street & Petaluma Blvd North

Existing Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|--|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 102 | 207 | 64 | 110 | 247 | 275 | 116 | 417 | 13 | 144 | 431 | 63 |
| Future Volume (veh/h) | 102 | 207 | 64 | 110 | 247 | 275 | 116 | 417 | 13 | 144 | 431 | 63 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.91 | 1.00 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 216 | 10 | 115 | 257 | 43 | 121 | 434 | 13 | 150 | 449 | 31 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 131 | 351 | 269 | 141 | 350 | 269 | 146 | 886 | 27 | 178 | 953 | 769 |
| Arrive On Green | 0.07 | 0.19 | 0.19 | 0.08 | 0.19 | 0.19 | 0.08 | 0.49 | 0.49 | 0.10 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 1870 | 1435 | 1781 | 1870 | 1435 | 1781 | 1803 | 54 | 1781 | 1870 | 1510 |
| Grp Volume(v), veh/h | 106 | 216 | 10 | 115 | 257 | 43 | 121 | 0 | 447 | 150 | 449 | 31 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1435 | 1781 | 1870 | 1435 | 1781 | 0 | 1857 | 1781 | 1870 | 1510 |
| Q Serve(g_s), s | 7.3 | 13.2 | 0.7 | 7.9 | 16.1 | 2.5 | 8.3 | 0.0 | 20.0 | 10.3 | 19.2 | 0.9 |
| Cycle Q Clear(g_c), s | 7.3 | 13.2 | 0.7 | 7.9 | 16.1 | 2.5 | 8.3 | 0.0 | 20.0 | 10.3 | 19.2 | 0.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 131 | 351 | 269 | 141 | 350 | 269 | 146 | 0 | 913 | 178 | 953 | 769 |
| V/C Ratio(X) | 0.81 | 0.62 | 0.04 | 0.82 | 0.73 | 0.16 | 0.83 | 0.00 | 0.49 | 0.84 | 0.47 | 0.04 |
| Avail Cap(c_a), veh/h | 263 | 437 | 336 | 249 | 428 | 329 | 187 | 0 | 913 | 317 | 953 | 769 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.57 | 0.00 | 0.57 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.6 | 46.3 | 41.2 | 56.2 | 47.5 | 26.4 | 56.0 | 0.0 | 21.1 | 54.8 | 19.6 | 7.3 |
| Incr Delay (d2), s/veh | 4.2 | 2.4 | 0.1 | 4.3 | 6.0 | 0.4 | 10.4 | 0.0 | 1.1 | 4.1 | 1.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 6.4 | 0.3 | 3.7 | 8.1 | 1.1 | 4.2 | 0.0 | 8.9 | 4.8 | 8.7 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.8 | 48.7 | 41.3 | 60.5 | 53.4 | 26.8 | 66.4 | 0.0 | 22.2 | 59.0 | 21.3 | 7.4 |
| LnGrp LOS | E | D | D | E | D | C | E | A | C | E | C | A |
| Approach Vol, veh/h | | 332 | | | 415 | | | 568 | | | 630 | |
| Approach Delay, s/veh | | 52.3 | | | 52.6 | | | 31.6 | | | 29.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 16.4 | 65.7 | 13.8 | 28.2 | 14.2 | 67.9 | 14.0 | 27.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.7 | 4.0 | * 4.9 | 4.0 | * 4.7 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | 22.1 | * 38 | 17.3 | * 29 | 13.0 | * 47 | * 18 | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.3 | 22.0 | 9.9 | 15.2 | 10.3 | 21.2 | 9.3 | 18.1 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.3 | 0.1 | 1.0 | 0.1 | 1.5 | 0.1 | 1.3 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 39.0 |
| HCM 6th LOS | D |

















Notes

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

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Existing Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 64 | 152 | 34 | 4 | 162 | 26 | 72 | 517 | 9 | 30 | 345 | 102 |
| Future Volume (veh/h) | 64 | 152 | 34 | 4 | 162 | 26 | 72 | 517 | 9 | 30 | 345 | 102 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.97 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 66 | 157 | 24 | 4 | 167 | 16 | 74 | 533 | 8 | 31 | 356 | 90 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 207 | 350 | 46 | 106 | 474 | 45 | 169 | 722 | 10 | 129 | 617 | 149 |
| Arrive On Green | 0.29 | 0.29 | 0.30 | 0.29 | 0.29 | 0.30 | 0.45 | 0.45 | 0.46 | 0.45 | 0.45 | 0.46 |
| Sat Flow, veh/h | 275 | 1225 | 161 | 10 | 1657 | 156 | 125 | 1605 | 23 | 49 | 1370 | 330 |
| Grp Volume(v), veh/h | 247 | 0 | 0 | 187 | 0 | 0 | 615 | 0 | 0 | 477 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1662 | 0 | 0 | 1823 | 0 | 0 | 1752 | 0 | 0 | 1749 | 0 | 0 |
| Q Serve(g_s), s | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.10 | 0.02 | | 0.09 | 0.12 | | 0.01 | 0.06 | | 0.19 |
| Lane Grp Cap(c), veh/h | 603 | 0 | 0 | 625 | 0 | 0 | 902 | 0 | 0 | 895 | 0 | 0 |
| V/C Ratio(X) | 0.41 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.68 | 0.00 | 0.00 | 0.53 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1236 | 0 | 0 | 1350 | 0 | 0 | 1531 | 0 | 0 | 1524 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 10.5 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.8 | 0.0 | 0.0 | 10.3 | 0.0 | 0.0 | 9.4 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 247 | | | 187 | | | 615 | | | | 477 |
| Approach Delay, s/veh | | 10.8 | | | 10.3 | | | 9.4 | | | | 8.0 |
| Approach LOS | | B | | | B | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 20.7 | | 14.9 | | 20.7 | | 14.9 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.1 | | 6.1 | | 9.1 | | 4.9 | | | | |
| Green Ext Time (p_c), s | | 4.3 | | 0.7 | | 3.3 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 9.3 | | | | | | | | |
| HCM 6th LOS | | | | A | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh 27.9 | | | | | | | | | | | | |
| Intersection LOS D | | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 576 | 17 | 43 | 304 | 16 |
| Future Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 576 | 17 | 43 | 304 | 16 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 26 | 9 | 15 | 38 | 26 | 48 | 613 | 18 | 46 | 323 | 17 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|-------------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right NB | | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.3 | 10.5 | 38.7 | 14.6 |
| HCM LOS | B | B | E | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 7% | 26% | 19% | 12% |
| Vol Thru, % | 90% | 56% | 49% | 84% |
| Vol Right, % | 3% | 19% | 32% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 638 | 43 | 74 | 363 |
| LT Vol | 45 | 11 | 14 | 43 |
| Through Vol | 576 | 24 | 36 | 304 |
| RT Vol | 17 | 8 | 24 | 16 |
| Lane Flow Rate | 679 | 46 | 79 | 386 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.922 | 0.084 | 0.14 | 0.557 |
| Departure Headway (Hd) | 4.888 | 6.63 | 6.425 | 5.197 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 747 | 538 | 557 | 695 |
| Service Time | 2.888 | 4.693 | 4.484 | 3.231 |
| HCM Lane V/C Ratio | 0.909 | 0.086 | 0.142 | 0.555 |
| HCM Control Delay | 38.7 | 10.3 | 10.5 | 14.6 |
| HCM Lane LOS | E | B | B | B |
| HCM 95th-tile Q | 12.8 | 0.3 | 0.5 | 3.5 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunny Slope Ave

Existing Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Volume (veh/h) | 21 | 62 | 10 | 32 | 58 | 111 | 58 | 604 | 53 | 122 | 149 | 33 |
| Future Volume (veh/h) | 21 | 62 | 10 | 32 | 58 | 111 | 58 | 604 | 53 | 122 | 149 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.96 | | 0.91 | 0.95 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 23 | 67 | 5 | 34 | 62 | 58 | 62 | 649 | 54 | 131 | 160 | 25 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 287 | 19 | 117 | 162 | 123 | 121 | 731 | 61 | 175 | 723 | 113 |
| Arrive On Green | 0.20 | 0.20 | 0.21 | 0.20 | 0.20 | 0.21 | 0.07 | 0.43 | 0.44 | 0.10 | 0.46 | 0.47 |
| Sat Flow, veh/h | 226 | 1407 | 91 | 200 | 796 | 602 | 1781 | 1695 | 141 | 1781 | 1566 | 245 |
| Grp Volume(v), veh/h | 95 | 0 | 0 | 154 | 0 | 0 | 62 | 0 | 703 | 131 | 0 | 185 |
| Grp Sat Flow(s),veh/h/ln | 1723 | 0 | 0 | 1599 | 0 | 0 | 1781 | 0 | 1836 | 1781 | 0 | 1811 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 | 20.3 | 4.1 | 0.0 | 3.5 |
| Cycle Q Clear(g_c), s | 2.5 | 0.0 | 0.0 | 4.6 | 0.0 | 0.0 | 1.9 | 0.0 | 20.3 | 4.1 | 0.0 | 3.5 |
| Prop In Lane | 0.24 | | 0.05 | 0.22 | | 0.38 | 1.00 | | 0.08 | 1.00 | | 0.14 |
| Lane Grp Cap(c), veh/h | 430 | 0 | 0 | 403 | 0 | 0 | 121 | 0 | 792 | 175 | 0 | 836 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.38 | 0.00 | 0.00 | 0.51 | 0.00 | 0.89 | 0.75 | 0.00 | 0.22 |
| Avail Cap(c_a), veh/h | 651 | 0 | 0 | 612 | 0 | 0 | 202 | 0 | 944 | 605 | 0 | 931 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 0.0 | 19.9 | 0.0 | 0.0 | 25.8 | 0.0 | 15.0 | 25.2 | 0.0 | 9.2 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.3 | 0.0 | 9.8 | 2.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 0.8 | 0.0 | 9.2 | 1.7 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | 27.1 | 0.0 | 24.8 | 27.6 | 0.0 | 9.4 |
| LnGrp LOS | B | A | A | C | A | A | C | A | C | C | A | A |
| Approach Vol, veh/h | | 95 | | | 154 | | | 765 | | | | 316 |
| Approach Delay, s/veh | | 19.3 | | | 20.4 | | | 25.0 | | | | 17.0 |
| Approach LOS | | B | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.1 | 30.2 | | 17.1 | 8.4 | 31.9 | | 17.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.1 | 22.3 | | 4.5 | 3.9 | 5.5 | | 6.6 | | | | |
| Green Ext Time (p_c), s | 0.2 | 3.0 | | 0.2 | 0.0 | 1.0 | | 0.4 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 22.1 |
| HCM 6th LOS | C |

Notes

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

HCM 6th TWSC
6: D Street & Windsor Dr/Pinnacle Dr

Existing Conditions
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Vol, veh/h | 51 | 0 | 25 | 0 | 3 | 7 | 220 | 651 | 3 | 10 | 95 | 76 |
| Future Vol, veh/h | 51 | 0 | 25 | 0 | 3 | 7 | 220 | 651 | 3 | 10 | 95 | 76 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 2 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 53 | 0 | 26 | 0 | 3 | 7 | 229 | 678 | 3 | 10 | 99 | 79 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1304 | 1302 | 141 | 1312 | 1340 | 682 | 180 | 0 | 0 | 683 | 0 | 0 |
| Stage 1 | 161 | 161 | - | 1140 | 1140 | - | - | - | - | - | - | - |
| Stage 2 | 1143 | 1141 | - | 172 | 200 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 138 | 162 | 910 | 136 | 153 | 452 | 1402 | - | - | 915 | - | - |
| Stage 1 | 843 | 767 | - | 245 | 277 | - | - | - | - | - | - | - |
| Stage 2 | 245 | 277 | - | 832 | 738 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 115 | 133 | 908 | 114 | 126 | 451 | 1400 | - | - | 913 | - | - |
| Mov Cap-2 Maneuver | 115 | 133 | - | 114 | 126 | - | - | - | - | - | - | - |
| Stage 1 | 704 | 757 | - | 205 | 231 | - | - | - | - | - | - | - |
| Stage 2 | 199 | 231 | - | 799 | 728 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|----|--|-----|--|
| HCM Control Delay, s | 43.7 | | 19.8 | | 2 | | 0.5 | |
| HCM LOS | E | | C | | | | | |






















| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1400 | - | - | 115 | 908 | 254 | 913 | - | - |
| HCM Lane V/C Ratio | 0.164 | - | - | 0.462 | 0.029 | 0.041 | 0.011 | - | - |
| HCM Control Delay (s) | 8.1 | - | - | 60.7 | 9.1 | 19.8 | 9 | - | - |
| HCM Lane LOS | A | - | - | F | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.6 | - | - | 2 | 0.1 | 0.1 | 0 | - | - |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St
























Existing Plus Project Conditions

AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  | | |
| Traffic Volume (vph) | 0 | 327 | 74 | 377 | 280 | 15 | 43 | 98 | 414 | 13 | 171 | 10 | |
| Future Volume (vph) | 0 | 327 | 74 | 377 | 280 | 15 | 43 | 98 | 414 | 13 | 171 | 10 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.92 | 1.00 | 1.00 | 0.97 | | 1.00 | 1.00 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1782 | 1533 | 1719 | 1782 | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1782 | 1533 | 1719 | 1782 | | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | |
| Adj. Flow (vph) | 0 | 372 | 84 | 428 | 318 | 17 | 49 | 111 | 470 | 15 | 194 | 11 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 288 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 372 | 84 | 428 | 318 | 9 | 0 | 160 | 182 | 15 | 203 | 0 | |
| Confl. Peds. (#/hr) | 10 | | 18 | | | 10 | 40 | | 1 | 1 | | 40 | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 | |
| Heavy Vehicles (%) | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | |
| Turn Type | | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 28.1 | 28.1 | 42.1 | 75.0 | 75.0 | | 15.4 | 57.5 | 21.0 | 21.0 | | |
| Effective Green, g (s) | | 28.4 | 28.9 | 41.6 | 74.5 | 74.5 | | 16.2 | 56.5 | 20.8 | 20.8 | | |
| Actuated g/C Ratio | | 0.19 | 0.20 | 0.28 | 0.51 | 0.51 | | 0.11 | 0.39 | 0.14 | 0.14 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 668 | 278 | 489 | 923 | 761 | | 197 | 593 | 244 | 253 | | |
| v/s Ratio Prot | | c0.11 | | c0.25 | 0.18 | | | c0.09 | 0.09 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | | 0.06 | | | 0.01 | | | 0.03 | | | | |
| v/c Ratio | | 0.56 | 0.30 | 0.88 | 0.34 | 0.01 | | 0.81 | 0.31 | 0.06 | 0.80 | | |
| Uniform Delay, d1 | | 53.1 | 49.9 | 49.7 | 21.2 | 17.6 | | 63.4 | 31.1 | 54.2 | 60.6 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 3.3 | 2.8 | 15.5 | 0.1 | 0.0 | | 22.8 | 0.1 | 0.1 | 16.2 | | |
| Delay (s) | | 56.4 | 52.7 | 65.2 | 21.3 | 17.6 | | 86.2 | 31.2 | 54.2 | 76.8 | | |
| Level of Service | | E | D | E | C | B | | F | C | D | E | | |
| Approach Delay (s) | | 55.8 | | | 45.9 | | | 45.2 | | | 75.3 | | |
| Approach LOS | | E | | | D | | | D | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 51.0 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.66 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 146.0 | | | | | | | | | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | | | 81.1% | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c | Critical Lane Group | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary
2: D Street & Petaluma Blvd North

Existing Plus Project Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 100 | 251 | 63 | 70 | 190 | 216 | 69 | 301 | 25 | 108 | 423 | 43 |
| Future Volume (veh/h) | 100 | 251 | 63 | 70 | 190 | 216 | 69 | 301 | 25 | 108 | 423 | 43 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 114 | 285 | 13 | 80 | 216 | 22 | 78 | 342 | 25 | 123 | 481 | 17 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cap, veh/h | 179 | 372 | 312 | 136 | 308 | 258 | 135 | 526 | 38 | 405 | 869 | 728 |
| Arrive On Green | 0.10 | 0.20 | 0.20 | 0.08 | 0.17 | 0.17 | 0.08 | 0.31 | 0.30 | 0.23 | 0.47 | 0.47 |
| Sat Flow, veh/h | 1767 | 1856 | 1557 | 1767 | 1856 | 1554 | 1767 | 1702 | 124 | 1767 | 1856 | 1554 |
| Grp Volume(v), veh/h | 114 | 285 | 13 | 80 | 216 | 22 | 78 | 0 | 367 | 123 | 481 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1856 | 1557 | 1767 | 1856 | 1554 | 1767 | 0 | 1826 | 1767 | 1856 | 1554 |
| Q Serve(g_s), s | 5.6 | 13.1 | 0.6 | 3.9 | 9.9 | 1.1 | 3.8 | 0.0 | 15.6 | 5.2 | 16.7 | 0.3 |
| Cycle Q Clear(g_c), s | 5.6 | 13.1 | 0.6 | 3.9 | 9.9 | 1.1 | 3.8 | 0.0 | 15.6 | 5.2 | 16.7 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 179 | 372 | 312 | 136 | 308 | 258 | 135 | 0 | 564 | 405 | 869 | 728 |
| V/C Ratio(X) | 0.64 | 0.77 | 0.04 | 0.59 | 0.70 | 0.09 | 0.58 | 0.00 | 0.65 | 0.30 | 0.55 | 0.02 |
| Avail Cap(c_a), veh/h | 179 | 555 | 465 | 157 | 559 | 468 | 157 | 0 | 564 | 405 | 869 | 728 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.99 | 0.99 | 0.99 | 0.83 | 0.00 | 0.83 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.8 | 34.0 | 29.0 | 40.2 | 35.4 | 31.7 | 40.2 | 0.0 | 26.9 | 28.7 | 17.2 | 4.6 |
| Incr Delay (d2), s/veh | 4.4 | 3.9 | 0.1 | 1.8 | 4.0 | 0.2 | 1.2 | 0.0 | 4.8 | 0.2 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 6.2 | 0.2 | 1.8 | 4.7 | 0.4 | 1.7 | 0.0 | 7.4 | 2.2 | 6.9 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.2 | 37.8 | 29.1 | 42.0 | 39.5 | 31.9 | 41.4 | 0.0 | 31.7 | 28.9 | 17.8 | 4.6 |
| LnGrp LOS | D | D | C | D | D | C | D | A | C | C | B | A |
| Approach Vol, veh/h | | 412 | | | 318 | | | 445 | | | 621 | |
| Approach Delay, s/veh | | 39.1 | | | 39.6 | | | 33.4 | | | 19.6 | |
| Approach LOS | | D | | | D | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 25.2 | 31.8 | 10.9 | 22.1 | 10.9 | 46.2 | 14.0 | 19.0 | | | | |
| Change Period (Y+Rc), s | * 4.6 | * 4.7 | 4.0 | * 4.9 | 4.0 | 4.6 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 27 | 8.0 | * 26 | 8.0 | 30.0 | * 8.3 | * 26 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 17.6 | 5.9 | 15.1 | 5.8 | 18.7 | 7.6 | 11.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.8 | 0.0 | 1.3 | 0.0 | 1.3 | 0.0 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.0 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Existing Plus Project Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 43 | 36 | 299 | 6 | 10 | 381 | 65 |
| Future Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 43 | 36 | 299 | 6 | 10 | 381 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 88 | 200 | 42 | 10 | 200 | 32 | 40 | 336 | 6 | 11 | 428 | 62 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 240 | 344 | 63 | 131 | 462 | 72 | 166 | 672 | 11 | 126 | 626 | 89 |
| Arrive On Green | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 | 0.31 | 0.40 | 0.40 | 0.41 | 0.40 | 0.40 | 0.41 |
| Sat Flow, veh/h | 302 | 1142 | 210 | 26 | 1536 | 238 | 89 | 1665 | 28 | 12 | 1576 | 224 |
| Grp Volume(v), veh/h | 330 | 0 | 0 | 242 | 0 | 0 | 382 | 0 | 0 | 501 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1654 | 0 | 0 | 1801 | 0 | 0 | 1782 | 0 | 0 | 1812 | 0 | 0 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.13 | 0.04 | | 0.13 | 0.10 | | 0.02 | 0.02 | | 0.12 |
| Lane Grp Cap(c), veh/h | 647 | 0 | 0 | 665 | 0 | 0 | 850 | 0 | 0 | 840 | 0 | 0 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.00 | 0.36 | 0.00 | 0.00 | 0.45 | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1442 | 0 | 0 | 1568 | 0 | 0 | 1808 | 0 | 0 | 1863 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 9.1 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 9.6 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 330 | | | 242 | | | 382 | | | | 501 |
| Approach Delay, s/veh | | 9.6 | | | 8.8 | | | 7.3 | | | | 8.6 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.8 | | 13.7 | | 16.8 | | 13.7 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.7 | | 7.0 | | 9.0 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 2.6 | | 1.0 | | 3.4 | | 0.7 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 8.5 |
| HCM 6th LOS | A |

Notes

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

HCM 6th AWSC
4: D Street & 8th Street

Existing Plus Project Conditions
AM Peak Hour

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 16.3 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 252 | 7 | 24 | 409 | 17 |
| Future Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 252 | 7 | 24 | 409 | 17 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 33 | 31 | 17 | 36 | 43 | 43 | 30 | 293 | 8 | 28 | 476 | 20 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.4 | 10.7 | 13.2 | 20.5 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 9% | 40% | 30% | 5% |
| Vol Thru, % | 88% | 39% | 35% | 91% |
| Vol Right, % | 2% | 21% | 35% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 285 | 70 | 105 | 450 |
| LT Vol | 26 | 28 | 31 | 24 |
| Through Vol | 252 | 27 | 37 | 409 |
| RT Vol | 7 | 15 | 37 | 17 |
| Lane Flow Rate | 331 | 81 | 122 | 523 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.486 | 0.142 | 0.206 | 0.73 |
| Departure Headway (Hd) | 5.282 | 6.294 | 6.084 | 5.025 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 683 | 567 | 588 | 717 |
| Service Time | 3.322 | 4.357 | 4.142 | 3.059 |
| HCM Lane V/C Ratio | 0.485 | 0.143 | 0.207 | 0.729 |
| HCM Control Delay | 13.2 | 10.4 | 10.7 | 20.5 |
| HCM Lane LOS | B | B | B | C |
| HCM 95th-tile Q | 2.7 | 0.5 | 0.8 | 6.4 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunny Slope Ave

Existing Plus Project Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↗ | ↘ | | ↗ | ↘ | |
| Traffic Volume (veh/h) | 8 | 86 | 31 | 54 | 95 | 195 | 9 | 153 | 64 | 98 | 289 | 26 |
| Future Volume (veh/h) | 8 | 86 | 31 | 54 | 95 | 195 | 9 | 153 | 64 | 98 | 289 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 10 | 104 | 23 | 65 | 114 | 175 | 11 | 184 | 54 | 118 | 348 | 25 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cap, veh/h | 109 | 423 | 88 | 161 | 178 | 229 | 14 | 364 | 107 | 205 | 618 | 44 |
| Arrive On Green | 0.29 | 0.29 | 0.28 | 0.29 | 0.29 | 0.28 | 0.01 | 0.26 | 0.25 | 0.11 | 0.36 | 0.36 |
| Sat Flow, veh/h | 50 | 1446 | 302 | 199 | 623 | 803 | 1795 | 1392 | 409 | 1795 | 1737 | 125 |
| Grp Volume(v), veh/h | 137 | 0 | 0 | 354 | 0 | 0 | 11 | 0 | 238 | 118 | 0 | 373 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 0 | 1624 | 0 | 0 | 1795 | 0 | 1801 | 1795 | 0 | 1862 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.2 | 0.0 | 4.6 | 2.5 | 0.0 | 6.6 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 0.2 | 0.0 | 4.6 | 2.5 | 0.0 | 6.6 |
| Prop In Lane | 0.07 | | 0.17 | 0.18 | | 0.49 | 1.00 | | 0.23 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 621 | 0 | 0 | 568 | 0 | 0 | 14 | 0 | 471 | 205 | 0 | 662 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.62 | 0.00 | 0.00 | 0.78 | 0.00 | 0.51 | 0.57 | 0.00 | 0.56 |
| Avail Cap(c_a), veh/h | 982 | 0 | 0 | 897 | 0 | 0 | 286 | 0 | 1344 | 859 | 0 | 1367 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.0 | 0.0 | 0.0 | 13.2 | 0.0 | 0.0 | 20.2 | 0.0 | 12.8 | 17.1 | 0.0 | 10.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 28.5 | 0.0 | 1.2 | 0.9 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.2 | 0.0 | 1.7 | 1.0 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.2 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 48.7 | 0.0 | 14.0 | 18.0 | 0.0 | 11.6 |
| LnGrp LOS | B | A | A | B | A | A | D | A | B | B | A | B |
| Approach Vol, veh/h | | 137 | | | 354 | | | 249 | | | | 491 |
| Approach Delay, s/veh | | 11.2 | | | 14.0 | | | 15.6 | | | | 13.2 |
| Approach LOS | | B | | | B | | | B | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.2 | 15.2 | | 16.4 | 4.8 | 19.5 | | 16.4 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 6.6 | | 4.3 | 2.2 | 8.6 | | 10.0 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.4 | | 0.3 | 0.0 | 2.3 | | 0.9 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 13.7 |
| HCM 6th LOS | B |

Notes

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

HCM 6th Roundabout
6: D Street & Windsor Dr/Pinnacle Dr

Existing Plus Project Conditions
AM Peak Hour























| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.3 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 204 | 14 | 124 | 416 |
| Demand Flow Rate, veh/h | 208 | 14 | 126 | 424 |
| Vehicles Circulating, veh/h | 329 | 241 | 122 | 16 |
| Vehicles Exiting, veh/h | 111 | 7 | 415 | 239 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.8 | 3.5 | 3.9 | 5.5 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 208 | 14 | 126 | 424 |
| Cap Entry Lane, veh/h | 987 | 1079 | 1218 | 1358 |
| Entry HV Adj Factor | 0.981 | 0.997 | 0.983 | 0.980 |
| Flow Entry, veh/h | 204 | 14 | 124 | 416 |
| Cap Entry, veh/h | 967 | 1076 | 1197 | 1331 |
| V/C Ratio | 0.211 | 0.013 | 0.103 | 0.312 |
| Control Delay, s/veh | 5.8 | 3.5 | 3.9 | 5.5 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 1 | 0 | 0 | 1 |

HCM Signalized Intersection Capacity Analysis

Existing Plus Project Conditions

1: D Street & Lakeville St

PM Peak Hour
























| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 5 | 290 | 57 | 411 | 343 | 55 | 94 | 206 | 503 | 10 | 171 | 20 | |
| Future Volume (vph) | 5 | 290 | 57 | 411 | 343 | 55 | 94 | 206 | 503 | 10 | 171 | 20 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.3 | 4.8 | 4.5 | 4.5 | 4.5 | | 5.8 | 4.5 | 4.8 | 4.8 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.79 | 1.00 | 1.00 | 0.92 | | 1.00 | 0.98 | 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 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.98 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3532 | 1255 | 1770 | 1863 | 1459 | | 1834 | 1553 | 1770 | 1802 | | |
| Flt Permitted | | 0.90 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3170 | 1255 | 1770 | 1863 | 1459 | | 1834 | 1553 | 1770 | 1802 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 5 | 293 | 58 | 415 | 346 | 56 | 95 | 208 | 508 | 10 | 173 | 20 | |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 31 | 0 | 0 | 201 | 0 | 3 | 0 | |
| Lane Group Flow (vph) | 0 | 298 | 9 | 415 | 346 | 25 | 0 | 303 | 307 | 10 | 190 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 23.1 | 23.1 | 37.6 | 65.5 | 65.5 | | 23.1 | 60.7 | 21.8 | 21.8 | | |
| Effective Green, g (s) | | 22.6 | 23.1 | 37.1 | 65.0 | 65.0 | | 22.6 | 59.7 | 21.3 | 21.3 | | |
| Actuated g/C Ratio | | 0.16 | 0.16 | 0.26 | 0.45 | 0.45 | | 0.16 | 0.41 | 0.15 | 0.15 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 494 | 199 | 452 | 835 | 654 | | 285 | 639 | 260 | 264 | | |
| v/s Ratio Prot | | | | c0.23 | 0.19 | | | c0.17 | 0.12 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | c0.09 | 0.01 | | | 0.02 | | | 0.07 | | | | |
| v/c Ratio | | 0.60 | 0.05 | 0.92 | 0.41 | 0.04 | | 1.06 | 0.48 | 0.04 | 0.72 | | |
| Uniform Delay, d1 | | 57.0 | 51.6 | 52.5 | 27.1 | 22.5 | | 61.2 | 31.3 | 53.1 | 59.0 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 5.4 | 0.4 | 23.0 | 0.1 | 0.0 | | 71.0 | 0.2 | 0.0 | 8.4 | | |
| Delay (s) | | 62.4 | 52.1 | 75.5 | 27.2 | 22.5 | | 132.2 | 31.5 | 53.1 | 67.4 | | |
| Level of Service | | E | D | E | C | C | | F | C | D | E | | |
| Approach Delay (s) | | 60.7 | | | 51.4 | | | 69.1 | | | 66.7 | | |
| Approach LOS | | E | | | D | | | E | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 60.9 | | HCM 2000 Level of Service | | | | | E | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.72 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.0 | | Sum of lost time (s) | | | | | 24.4 | | | |
| Intersection Capacity Utilization | | | 92.1% | | ICU Level of Service | | | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM 6th Signalized Intersection Summary

2: D Street & Petaluma Blvd North

Existing Plus Project Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 102 | 207 | 70 | 113 | 247 | 275 | 119 | 420 | 15 | 144 | 436 | 63 |
| Future Volume (veh/h) | 102 | 207 | 70 | 113 | 247 | 275 | 119 | 420 | 15 | 144 | 436 | 63 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 1.00 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 216 | 13 | 118 | 257 | 43 | 124 | 438 | 15 | 150 | 454 | 31 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 131 | 347 | 266 | 144 | 350 | 269 | 149 | 882 | 30 | 178 | 949 | 766 |
| Arrive On Green | 0.07 | 0.19 | 0.19 | 0.08 | 0.19 | 0.19 | 0.08 | 0.49 | 0.49 | 0.10 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 1870 | 1434 | 1781 | 1870 | 1435 | 1781 | 1794 | 61 | 1781 | 1870 | 1509 |
| Grp Volume(v), veh/h | 106 | 216 | 13 | 118 | 257 | 43 | 124 | 0 | 453 | 150 | 454 | 31 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1434 | 1781 | 1870 | 1435 | 1781 | 0 | 1856 | 1781 | 1870 | 1509 |
| Q Serve(g_s), s | 7.3 | 13.2 | 0.9 | 8.1 | 16.1 | 2.5 | 8.5 | 0.0 | 20.4 | 10.3 | 19.6 | 0.9 |
| Cycle Q Clear(g_c), s | 7.3 | 13.2 | 0.9 | 8.1 | 16.1 | 2.5 | 8.5 | 0.0 | 20.4 | 10.3 | 19.6 | 0.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 131 | 347 | 266 | 144 | 350 | 269 | 149 | 0 | 912 | 178 | 949 | 766 |
| V/C Ratio(X) | 0.81 | 0.62 | 0.05 | 0.82 | 0.73 | 0.16 | 0.83 | 0.00 | 0.50 | 0.84 | 0.48 | 0.04 |
| Avail Cap(c_a), veh/h | 263 | 437 | 335 | 249 | 428 | 329 | 187 | 0 | 912 | 317 | 949 | 766 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.55 | 0.00 | 0.55 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.6 | 46.5 | 41.5 | 56.1 | 47.5 | 26.4 | 55.9 | 0.0 | 21.2 | 54.8 | 19.9 | 7.4 |
| Incr Delay (d2), s/veh | 4.2 | 2.5 | 0.1 | 4.3 | 6.0 | 0.4 | 10.8 | 0.0 | 1.1 | 4.1 | 1.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 6.4 | 0.3 | 3.8 | 8.1 | 1.1 | 4.3 | 0.0 | 9.0 | 4.8 | 8.9 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.8 | 49.0 | 41.6 | 60.4 | 53.4 | 26.8 | 66.7 | 0.0 | 22.3 | 59.0 | 21.6 | 7.5 |
| LnGrp LOS | E | D | D | E | D | C | E | A | C | E | C | A |
| Approach Vol, veh/h | | 335 | | | 418 | | | 577 | | | 635 | |
| Approach Delay, s/veh | | 52.4 | | | 52.7 | | | 31.8 | | | 29.7 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 16.4 | 65.7 | 14.0 | 27.9 | 14.4 | 67.6 | 14.0 | 27.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.7 | 4.0 | * 4.9 | 4.0 | * 4.7 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | 22.1 | * 38 | 17.3 | * 29 | 13.0 | * 47 | * 18 | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 12.3 | 22.4 | 10.1 | 15.2 | 10.5 | 21.6 | 9.3 | 18.1 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.3 | 0.1 | 1.0 | 0.1 | 1.6 | 0.1 | 1.3 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 39.1 |
| HCM 6th LOS | D |

Notes

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

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Existing Plus Project Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|-------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 64 | 152 | 35 | 5 | 162 | 26 | 73 | 525 | 10 | 30 | 359 | 102 |
| Future Volume (veh/h) | 64 | 152 | 35 | 5 | 162 | 26 | 73 | 525 | 10 | 30 | 359 | 102 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.97 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 66 | 157 | 25 | 5 | 167 | 16 | 75 | 541 | 9 | 31 | 370 | 91 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 205 | 346 | 48 | 107 | 470 | 44 | 169 | 727 | 11 | 128 | 627 | 147 |
| Arrive On Green | 0.28 | 0.28 | 0.30 | 0.28 | 0.28 | 0.30 | 0.45 | 0.45 | 0.47 | 0.45 | 0.45 | 0.47 |
| Sat Flow, veh/h | 274 | 1219 | 167 | 13 | 1653 | 155 | 125 | 1601 | 25 | 47 | 1381 | 324 |
| Grp Volume(v), veh/h | 248 | 0 | 0 | 188 | 0 | 0 | 625 | 0 | 0 | 492 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1660 | 0 | 0 | 1821 | 0 | 0 | 1752 | 0 | 0 | 1752 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.10 | 0.03 | | 0.09 | 0.12 | | 0.01 | 0.06 | | 0.18 |
| Lane Grp Cap(c), veh/h | 599 | 0 | 0 | 621 | 0 | 0 | 907 | 0 | 0 | 902 | 0 | 0 |
| V/C Ratio(X) | 0.41 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.69 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1226 | 0 | 0 | 1338 | 0 | 0 | 1518 | 0 | 0 | 1516 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 10.6 | 0.0 | 0.0 | 10.2 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | 9.4 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 248 | | | 188 | | | 625 | | | | 492 |
| Approach Delay, s/veh | | 11.0 | | | 10.4 | | | 9.4 | | | | 8.1 |
| Approach LOS | | B | | | B | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 21.0 | | 14.9 | | 21.0 | | 14.9 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.4 | | 6.1 | | 9.4 | | 4.9 | | | | |
| Green Ext Time (p_c), s | | 4.3 | | 0.7 | | 3.4 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 9.4 | | | | | | | | |
| HCM 6th LOS | | | | A | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th AWSC
4: D Street & 8th Street

Existing Plus Project Conditions
PM Peak Hour

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 30.1 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 585 | 17 | 43 | 320 | 16 |
| Future Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 585 | 17 | 43 | 320 | 16 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 26 | 9 | 15 | 38 | 26 | 48 | 622 | 18 | 46 | 340 | 17 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.4 | 10.6 | 42.2 | 15.4 |
| HCM LOS | B | B | E | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 7% | 26% | 19% | 11% |
| Vol Thru, % | 90% | 56% | 49% | 84% |
| Vol Right, % | 3% | 19% | 32% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 647 | 43 | 74 | 379 |
| LT Vol | 45 | 11 | 14 | 43 |
| Through Vol | 585 | 24 | 36 | 320 |
| RT Vol | 17 | 8 | 24 | 16 |
| Lane Flow Rate | 688 | 46 | 79 | 403 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.941 | 0.085 | 0.142 | 0.584 |
| Departure Headway (Hd) | 4.92 | 6.702 | 6.492 | 5.217 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 743 | 532 | 550 | 689 |
| Service Time | 2.92 | 4.77 | 4.556 | 3.256 |
| HCM Lane V/C Ratio | 0.926 | 0.086 | 0.144 | 0.585 |
| HCM Control Delay | 42.2 | 10.4 | 10.6 | 15.4 |
| HCM Lane LOS | E | B | B | C |
| HCM 95th-tile Q | 13.6 | 0.3 | 0.5 | 3.8 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunny Slope Ave

Existing Plus Project Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 21 | 62 | 10 | 34 | 58 | 111 | 58 | 613 | 54 | 122 | 165 | 33 |
| Future Volume (veh/h) | 21 | 62 | 10 | 34 | 58 | 111 | 58 | 613 | 54 | 122 | 165 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.96 | | 0.91 | 0.95 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 23 | 67 | 5 | 37 | 62 | 60 | 62 | 659 | 55 | 131 | 177 | 26 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 123 | 285 | 18 | 121 | 157 | 122 | 121 | 738 | 62 | 174 | 736 | 108 |
| Arrive On Green | 0.20 | 0.20 | 0.21 | 0.20 | 0.20 | 0.21 | 0.07 | 0.44 | 0.44 | 0.10 | 0.47 | 0.47 |
| Sat Flow, veh/h | 226 | 1406 | 91 | 217 | 773 | 600 | 1781 | 1694 | 141 | 1781 | 1582 | 232 |
| Grp Volume(v), veh/h | 95 | 0 | 0 | 159 | 0 | 0 | 62 | 0 | 714 | 131 | 0 | 203 |
| Grp Sat Flow(s),veh/h/ln | 1723 | 0 | 0 | 1591 | 0 | 0 | 1781 | 0 | 1836 | 1781 | 0 | 1814 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 1.9 | 0.0 | 20.8 | 4.1 | 0.0 | 3.9 |
| Cycle Q Clear(g_c), s | 2.5 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 | 1.9 | 0.0 | 20.8 | 4.1 | 0.0 | 3.9 |
| Prop In Lane | 0.24 | | 0.05 | 0.23 | | 0.38 | 1.00 | | 0.08 | 1.00 | | 0.13 |
| Lane Grp Cap(c), veh/h | 427 | 0 | 0 | 399 | 0 | 0 | 121 | 0 | 799 | 174 | 0 | 844 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.40 | 0.00 | 0.00 | 0.51 | 0.00 | 0.89 | 0.75 | 0.00 | 0.24 |
| Avail Cap(c_a), veh/h | 645 | 0 | 0 | 604 | 0 | 0 | 200 | 0 | 935 | 600 | 0 | 924 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.4 | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | 26.1 | 0.0 | 15.1 | 25.4 | 0.0 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.3 | 0.0 | 10.4 | 2.5 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 0.8 | 0.0 | 9.5 | 1.8 | 0.0 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.6 | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | 27.3 | 0.0 | 25.5 | 27.9 | 0.0 | 9.5 |
| LnGrp LOS | B | A | A | C | A | A | C | A | C | C | A | A |
| Approach Vol, veh/h | | 95 | | | 159 | | | 776 | | | | 334 |
| Approach Delay, s/veh | | 19.6 | | | 20.7 | | | 25.7 | | | | 16.7 |
| Approach LOS | | B | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.1 | 30.6 | | 17.1 | 8.4 | 32.3 | | 17.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.1 | 22.8 | | 4.5 | 3.9 | 5.9 | | 6.8 | | | | |
| Green Ext Time (p_c), s | 0.2 | 2.9 | | 0.2 | 0.0 | 1.2 | | 0.4 | | | | |

Intersection Summary

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

Notes

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

HCM 6th Roundabout
6: D Street & Windsor Dr/Pinnacle Dr























Existing Plus Project Conditions
PM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 11.2 | | | |
| Intersection LOS | B | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 89 | 10 | 915 | 206 |
| Demand Flow Rate, veh/h | 90 | 10 | 924 | 208 |
| Vehicles Circulating, veh/h | 113 | 983 | 72 | 237 |
| Vehicles Exiting, veh/h | 332 | 13 | 131 | 756 |
| Ped Vol Crossing Leg, #/h | 2 | 2 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.6 | 7.4 | 13.4 | 5.1 |
| Approach LOS | A | A | B | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 90 | 10 | 924 | 208 |
| Cap Entry Lane, veh/h | 1230 | 506 | 1282 | 1084 |
| Entry HV Adj Factor | 0.989 | 0.997 | 0.990 | 0.990 |
| Flow Entry, veh/h | 89 | 10 | 915 | 206 |
| Cap Entry, veh/h | 1216 | 505 | 1270 | 1073 |
| V/C Ratio | 0.073 | 0.020 | 0.721 | 0.192 |
| Control Delay, s/veh | 3.6 | 7.4 | 13.4 | 5.1 |
| LOS | A | A | B | A |
| 95th %tile Queue, veh | 0 | 0 | 7 | 1 |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St
























Pipeline Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 0 | 379 | 113 | 402 | 344 | 15 | 81 | 99 | 439 | 13 | 171 | 10 | |
| Future Volume (vph) | 0 | 379 | 113 | 402 | 344 | 15 | 81 | 99 | 439 | 13 | 171 | 10 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.92 | 1.00 | 1.00 | 0.97 | | 1.00 | 1.00 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1770 | 1533 | 1719 | 1782 | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1770 | 1533 | 1719 | 1782 | | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | |
| Adj. Flow (vph) | 0 | 431 | 128 | 457 | 391 | 17 | 92 | 112 | 499 | 15 | 194 | 11 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 286 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 431 | 128 | 457 | 391 | 9 | 0 | 205 | 213 | 15 | 203 | 0 | |
| Confl. Peds. (#/hr) | 10 | | 18 | | | 10 | 40 | | 1 | 1 | | 40 | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 | |
| Heavy Vehicles (%) | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | |
| Turn Type | | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 27.6 | 27.6 | 43.0 | 75.4 | 75.4 | | 15.0 | 58.0 | 21.0 | 21.0 | | |
| Effective Green, g (s) | | 27.9 | 28.4 | 42.5 | 74.9 | 74.9 | | 15.8 | 57.0 | 20.8 | 20.8 | | |
| Actuated g/C Ratio | | 0.19 | 0.19 | 0.29 | 0.51 | 0.51 | | 0.11 | 0.39 | 0.14 | 0.14 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 656 | 273 | 500 | 928 | 765 | | 191 | 598 | 244 | 253 | | |
| v/s Ratio Prot | | c0.13 | | c0.27 | 0.22 | | | c0.12 | 0.10 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | | 0.09 | | | 0.01 | | | 0.04 | | | | |
| v/c Ratio | | 0.66 | 0.47 | 0.91 | 0.42 | 0.01 | | 1.07 | 0.36 | 0.06 | 0.80 | | |
| Uniform Delay, d1 | | 54.6 | 52.1 | 50.0 | 22.1 | 17.4 | | 65.1 | 31.5 | 54.2 | 60.6 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 5.1 | 5.7 | 20.8 | 0.1 | 0.0 | | 85.9 | 0.1 | 0.1 | 16.2 | | |
| Delay (s) | | 59.7 | 57.8 | 70.8 | 22.2 | 17.4 | | 151.0 | 31.6 | 54.2 | 76.8 | | |
| Level of Service | | E | E | E | C | B | | F | C | D | E | | |
| Approach Delay (s) | | 59.3 | | | 47.8 | | | 66.4 | | | 75.3 | | |
| Approach LOS | | E | | | D | | | E | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 58.7 | | | | | | | | | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 146.0 | | | | | | | | | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | | | 82.5% | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c | Critical Lane Group | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

2: D Street & Petaluma Blvd North

Pipeline Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|--|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 111 | 290 | 80 | 81 | 229 | 240 | 79 | 336 | 44 | 129 | 444 | 53 |
| Future Volume (veh/h) | 111 | 290 | 80 | 81 | 229 | 240 | 79 | 336 | 44 | 129 | 444 | 53 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 126 | 330 | 16 | 92 | 260 | 67 | 90 | 382 | 44 | 147 | 505 | 19 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cap, veh/h | 181 | 413 | 347 | 141 | 352 | 295 | 141 | 502 | 58 | 361 | 817 | 684 |
| Arrive On Green | 0.10 | 0.22 | 0.22 | 0.08 | 0.19 | 0.19 | 0.08 | 0.31 | 0.30 | 0.20 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1767 | 1856 | 1558 | 1767 | 1856 | 1556 | 1767 | 1625 | 187 | 1767 | 1856 | 1553 |
| Grp Volume(v), veh/h | 126 | 330 | 16 | 92 | 260 | 67 | 90 | 0 | 426 | 147 | 505 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1856 | 1558 | 1767 | 1856 | 1556 | 1767 | 0 | 1812 | 1767 | 1856 | 1553 |
| Q Serve(g_s), s | 6.2 | 15.1 | 0.7 | 4.5 | 11.9 | 3.3 | 4.4 | 0.0 | 19.1 | 6.5 | 18.8 | 0.4 |
| Cycle Q Clear(g_c), s | 6.2 | 15.1 | 0.7 | 4.5 | 11.9 | 3.3 | 4.4 | 0.0 | 19.1 | 6.5 | 18.8 | 0.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.10 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 181 | 413 | 347 | 141 | 352 | 295 | 141 | 0 | 560 | 361 | 817 | 684 |
| V/C Ratio(X) | 0.70 | 0.80 | 0.05 | 0.65 | 0.74 | 0.23 | 0.64 | 0.00 | 0.76 | 0.41 | 0.62 | 0.03 |
| Avail Cap(c_a), veh/h | 181 | 555 | 466 | 157 | 559 | 469 | 157 | 0 | 560 | 361 | 817 | 684 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.99 | 0.99 | 0.99 | 0.81 | 0.00 | 0.81 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.0 | 33.1 | 27.5 | 40.2 | 34.3 | 30.9 | 40.2 | 0.0 | 28.1 | 31.1 | 19.4 | 5.4 |
| Incr Delay (d2), s/veh | 7.4 | 5.6 | 0.1 | 5.4 | 4.2 | 0.5 | 3.9 | 0.0 | 7.7 | 0.3 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 7.3 | 0.3 | 2.2 | 5.7 | 1.3 | 2.1 | 0.0 | 9.2 | 2.8 | 8.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.5 | 38.7 | 27.6 | 45.6 | 38.6 | 31.4 | 44.0 | 0.0 | 35.9 | 31.3 | 20.6 | 5.4 |
| LnGrp LOS | D | D | C | D | D | C | D | A | D | C | C | A |
| Approach Vol, veh/h | | 472 | | | 419 | | | 516 | | | 671 | |
| Approach Delay, s/veh | | 40.4 | | | 39.0 | | | 37.3 | | | 22.5 | |
| Approach LOS | | D | | | D | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 23.0 | 31.8 | 11.2 | 24.0 | 11.2 | 43.6 | 14.1 | 21.1 | | | | |
| Change Period (Y+Rc), s | * 4.6 | * 4.7 | 4.0 | * 4.9 | 4.0 | 4.6 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 27 | 8.0 | * 26 | 8.0 | 30.0 | * 8.3 | * 26 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 21.1 | 6.5 | 17.1 | 6.4 | 20.8 | 8.2 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.8 | 0.0 | 1.3 | 0.0 | 1.3 | 0.0 | 1.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 33.6 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Pipeline Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 49 | 35 | 329 | 5 | 16 | 412 | 65 |
| Future Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 49 | 35 | 329 | 5 | 16 | 412 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 88 | 200 | 42 | 10 | 200 | 37 | 39 | 370 | 5 | 18 | 463 | 63 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 234 | 332 | 61 | 126 | 436 | 78 | 158 | 717 | 9 | 126 | 659 | 88 |
| Arrive On Green | 0.29 | 0.29 | 0.30 | 0.29 | 0.29 | 0.30 | 0.42 | 0.42 | 0.43 | 0.42 | 0.42 | 0.43 |
| Sat Flow, veh/h | 307 | 1142 | 211 | 26 | 1499 | 269 | 79 | 1689 | 22 | 21 | 1577 | 209 |
| Grp Volume(v), veh/h | 330 | 0 | 0 | 247 | 0 | 0 | 414 | 0 | 0 | 544 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1660 | 0 | 0 | 1794 | 0 | 0 | 1790 | 0 | 0 | 1807 | 0 | 0 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 5.2 | 0.0 | 0.0 | 7.8 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.13 | 0.04 | | 0.15 | 0.09 | | 0.01 | 0.03 | | 0.12 |
| Lane Grp Cap(c), veh/h | 627 | 0 | 0 | 640 | 0 | 0 | 884 | 0 | 0 | 873 | 0 | 0 |
| V/C Ratio(X) | 0.53 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 | 0.47 | 0.00 | 0.00 | 0.62 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1390 | 0 | 0 | 1505 | 0 | 0 | 1751 | 0 | 0 | 1787 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 9.7 | 0.0 | 0.0 | 9.2 | 0.0 | 0.0 | 6.7 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.2 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | A | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 330 | | | 247 | | | 414 | | | | 544 |
| Approach Delay, s/veh | | 10.2 | | | 9.5 | | | 7.3 | | | | 8.6 |
| Approach LOS | | B | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 17.9 | | 13.7 | | 17.9 | | 13.7 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.2 | | 7.3 | | 9.8 | | 5.5 | | | | |
| Green Ext Time (p_c), s | | 2.8 | | 1.0 | | 3.7 | | 0.7 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 8.7 |
| HCM 6th LOS | A |

Notes

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

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 18.5 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 276 | 7 | 24 | 434 | 17 |
| Future Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 276 | 7 | 24 | 434 | 17 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 33 | 31 | 17 | 36 | 43 | 43 | 30 | 321 | 8 | 28 | 505 | 20 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.7 | 11 | 14.4 | 23.9 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 8% | 40% | 30% | 5% |
| Vol Thru, % | 89% | 39% | 35% | 91% |
| Vol Right, % | 2% | 21% | 35% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 309 | 70 | 105 | 475 |
| LT Vol | 26 | 28 | 31 | 24 |
| Through Vol | 276 | 27 | 37 | 434 |
| RT Vol | 7 | 15 | 37 | 17 |
| Lane Flow Rate | 359 | 81 | 122 | 552 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.534 | 0.146 | 0.212 | 0.781 |
| Departure Headway (Hd) | 5.347 | 6.463 | 6.244 | 5.088 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 672 | 552 | 571 | 712 |
| Service Time | 3.396 | 4.54 | 4.315 | 3.13 |
| HCM Lane V/C Ratio | 0.534 | 0.147 | 0.214 | 0.775 |
| HCM Control Delay | 14.4 | 10.7 | 11 | 23.9 |
| HCM Lane LOS | B | B | B | C |
| HCM 95th-tile Q | 3.2 | 0.5 | 0.8 | 7.7 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunny Slope Ave

Pipeline Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 8 | 86 | 31 | 53 | 95 | 204 | 9 | 168 | 62 | 101 | 311 | 26 |
| Future Volume (veh/h) | 8 | 86 | 31 | 53 | 95 | 204 | 9 | 168 | 62 | 101 | 311 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 10 | 104 | 23 | 64 | 114 | 183 | 11 | 202 | 55 | 122 | 375 | 26 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cap, veh/h | 109 | 428 | 89 | 158 | 176 | 238 | 14 | 368 | 100 | 208 | 619 | 43 |
| Arrive On Green | 0.30 | 0.30 | 0.29 | 0.29 | 0.29 | 0.29 | 0.01 | 0.26 | 0.25 | 0.12 | 0.36 | 0.36 |
| Sat Flow, veh/h | 50 | 1446 | 302 | 191 | 610 | 823 | 1795 | 1419 | 386 | 1795 | 1742 | 121 |
| Grp Volume(v), veh/h | 137 | 0 | 0 | 361 | 0 | 0 | 11 | 0 | 257 | 122 | 0 | 401 |
| Grp Sat Flow(s),veh/h/ln | 1798 | 0 | 0 | 1624 | 0 | 0 | 1795 | 0 | 1806 | 1795 | 0 | 1863 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 | 0.3 | 0.0 | 5.1 | 2.6 | 0.0 | 7.3 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 0.3 | 0.0 | 5.1 | 2.6 | 0.0 | 7.3 |
| Prop In Lane | 0.07 | | 0.17 | 0.18 | | 0.51 | 1.00 | | 0.21 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 626 | 0 | 0 | 572 | 0 | 0 | 14 | 0 | 468 | 208 | 0 | 662 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 | 0.77 | 0.00 | 0.55 | 0.59 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 974 | 0 | 0 | 890 | 0 | 0 | 284 | 0 | 1336 | 852 | 0 | 1356 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.0 | 0.0 | 0.0 | 13.3 | 0.0 | 0.0 | 20.3 | 0.0 | 13.2 | 17.2 | 0.0 | 10.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 27.3 | 0.0 | 1.4 | 1.0 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 1.0 | 0.0 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.2 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 47.6 | 0.0 | 14.6 | 18.2 | 0.0 | 12.2 |
| LnGrp LOS | B | A | A | B | A | A | D | A | B | B | A | B |
| Approach Vol, veh/h | | 137 | | | 361 | | | 268 | | | | 523 |
| Approach Delay, s/veh | | 11.2 | | | 14.1 | | | 16.0 | | | | 13.6 |
| Approach LOS | | B | | | B | | | B | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.3 | 15.2 | | 16.7 | 4.8 | 19.6 | | 16.7 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 7.1 | | 4.4 | 2.3 | 9.3 | | 10.2 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.5 | | 0.3 | 0.0 | 2.5 | | 0.9 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 14.0 |
| HCM 6th LOS | B |

Notes

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

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Vol, veh/h | 87 | 1 | 78 | 0 | 2 | 11 | 12 | 127 | 0 | 5 | 311 | 80 |
| Future Vol, veh/h | 87 | 1 | 78 | 0 | 2 | 11 | 12 | 127 | 0 | 5 | 311 | 80 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 97 | 1 | 87 | 0 | 2 | 12 | 13 | 141 | 0 | 6 | 346 | 89 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 577 | 570 | 391 | 614 | 614 | 141 | 435 | 0 | 0 | 141 | 0 | 0 |
| Stage 1 | 403 | 403 | - | 167 | 167 | - | - | - | - | - | - | - |
| Stage 2 | 174 | 167 | - | 447 | 447 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 428 | 431 | 658 | 404 | 407 | 907 | 1125 | - | - | 1442 | - | - |
| Stage 1 | 624 | 600 | - | 835 | 760 | - | - | - | - | - | - | - |
| Stage 2 | 828 | 760 | - | 591 | 573 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 416 | 424 | 658 | 346 | 400 | 907 | 1125 | - | - | 1442 | - | - |
| Mov Cap-2 Maneuver | 416 | 424 | - | 346 | 400 | - | - | - | - | - | - | - |
| Stage 1 | 617 | 598 | - | 825 | 751 | - | - | - | - | - | - | - |
| Stage 2 | 805 | 751 | - | 510 | 571 | - | - | - | - | - | - | - |























| Approach | EB | | WB | | NB | | SB | |
|----------------------|----|--|-----|--|-----|--|-----|--|
| HCM Control Delay, s | 14 | | 9.8 | | 0.7 | | 0.1 | |
| HCM LOS | B | | A | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1125 | - | - | 416 | 658 | 759 | 1442 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.235 | 0.132 | 0.019 | 0.004 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 16.3 | 11.3 | 9.8 | 7.5 | - | - |
| HCM Lane LOS | A | - | - | C | B | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.9 | 0.5 | 0.1 | 0 | - | - |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St
























Pipeline Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  |
| Traffic Volume (vph) | 5 | 348 | 144 | 438 | 343 | 55 | 171 | 205 | 546 | 10 | 170 | 20 |
| Future Volume (vph) | 5 | 348 | 144 | 438 | 343 | 55 | 171 | 205 | 546 | 10 | 170 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 4.8 | 4.5 | 4.5 | 4.5 | | 5.8 | 4.5 | 4.8 | 4.8 | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp, ped/bikes | | 1.00 | 0.79 | 1.00 | 1.00 | 0.92 | | 1.00 | 0.98 | 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 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3533 | 1256 | 1770 | 1863 | 1459 | | 1821 | 1552 | 1770 | 1802 | |
| Flt Permitted | | 0.93 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 3276 | 1256 | 1770 | 1863 | 1459 | | 1821 | 1552 | 1770 | 1802 | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 5 | 352 | 145 | 442 | 346 | 56 | 173 | 207 | 552 | 10 | 172 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 96 | 0 | 0 | 31 | 0 | 0 | 177 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 357 | 49 | 442 | 346 | 25 | 0 | 380 | 375 | 10 | 189 | 0 |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | |
| Actuated Green, G (s) | | 24.7 | 24.7 | 36.2 | 65.7 | 65.7 | | 23.0 | 59.2 | 21.7 | 21.7 | |
| Effective Green, g (s) | | 24.2 | 24.7 | 35.7 | 65.2 | 65.2 | | 22.5 | 58.2 | 21.2 | 21.2 | |
| Actuated g/C Ratio | | 0.17 | 0.17 | 0.25 | 0.45 | 0.45 | | 0.16 | 0.40 | 0.15 | 0.15 | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | |
| Lane Grp Cap (vph) | | 546 | 213 | 435 | 837 | 656 | | 282 | 622 | 258 | 263 | |
| v/s Ratio Prot | | | | c0.25 | 0.19 | | | c0.21 | 0.15 | 0.01 | c0.10 | |
| v/s Ratio Perm | | c0.11 | 0.04 | | | 0.02 | | | 0.09 | | | |
| v/c Ratio | | 0.65 | 0.23 | 1.02 | 0.41 | 0.04 | | 1.35 | 0.60 | 0.04 | 0.72 | |
| Uniform Delay, d1 | | 56.5 | 51.9 | 54.6 | 27.0 | 22.3 | | 61.2 | 34.3 | 53.2 | 59.0 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 6.0 | 2.5 | 47.3 | 0.1 | 0.0 | | 178.1 | 1.1 | 0.0 | 8.4 | |
| Delay (s) | | 62.5 | 54.4 | 101.9 | 27.1 | 22.4 | | 239.4 | 35.4 | 53.2 | 67.4 | |
| Level of Service | | E | D | F | C | C | | F | D | D | E | |
| Approach Delay (s) | | 60.2 | | | 66.0 | | | 118.6 | | | 66.7 | |
| Approach LOS | | E | | | E | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 84.6 | | | | | | | | | F |
| HCM 2000 Volume to Capacity ratio | | | 0.81 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.0 | | | | | | | | 24.4 | |
| Intersection Capacity Utilization | | | 97.8% | | | | | | | | | F |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

















2: D Street & Petaluma Blvd North

Pipeline Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 127 | 249 | 86 | 124 | 300 | 321 | 146 | 476 | 27 | 191 | 477 | 84 |
| Future Volume (veh/h) | 127 | 249 | 86 | 124 | 300 | 321 | 146 | 476 | 27 | 191 | 477 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.91 | 1.00 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 132 | 259 | 15 | 129 | 312 | 64 | 152 | 496 | 27 | 199 | 497 | 37 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 388 | 300 | 156 | 374 | 288 | 178 | 763 | 42 | 227 | 867 | 698 |
| Arrive On Green | 0.09 | 0.21 | 0.21 | 0.09 | 0.20 | 0.20 | 0.10 | 0.44 | 0.44 | 0.13 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1781 | 1870 | 1446 | 1781 | 1870 | 1442 | 1781 | 1752 | 95 | 1781 | 1870 | 1505 |
| Grp Volume(v), veh/h | 132 | 259 | 15 | 129 | 312 | 64 | 152 | 0 | 523 | 199 | 497 | 37 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1446 | 1781 | 1870 | 1442 | 1781 | 0 | 1847 | 1781 | 1870 | 1505 |
| Q Serve(g_s), s | 9.0 | 15.8 | 1.0 | 8.8 | 19.9 | 3.5 | 10.4 | 0.0 | 27.6 | 13.6 | 24.1 | 1.2 |
| Cycle Q Clear(g_c), s | 9.0 | 15.8 | 1.0 | 8.8 | 19.9 | 3.5 | 10.4 | 0.0 | 27.6 | 13.6 | 24.1 | 1.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.05 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 159 | 388 | 300 | 156 | 374 | 288 | 178 | 0 | 805 | 227 | 867 | 698 |
| V/C Ratio(X) | 0.83 | 0.67 | 0.05 | 0.83 | 0.83 | 0.22 | 0.86 | 0.00 | 0.65 | 0.88 | 0.57 | 0.05 |
| Avail Cap(c_a), veh/h | 263 | 437 | 338 | 249 | 428 | 330 | 187 | 0 | 805 | 317 | 867 | 698 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.51 | 0.00 | 0.51 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.6 | 45.2 | 39.4 | 55.7 | 47.6 | 23.5 | 54.9 | 0.0 | 27.5 | 53.1 | 24.3 | 8.7 |
| Incr Delay (d2), s/veh | 4.3 | 3.8 | 0.1 | 6.0 | 12.8 | 0.5 | 16.1 | 0.0 | 2.1 | 14.0 | 2.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 7.7 | 0.4 | 4.2 | 10.6 | 1.7 | 5.5 | 0.0 | 12.5 | 7.0 | 11.2 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.8 | 49.0 | 39.5 | 61.6 | 60.4 | 24.1 | 71.1 | 0.0 | 29.6 | 67.2 | 27.0 | 8.8 |
| LnGrp LOS | E | D | D | E | E | C | E | A | C | E | C | A |
| Approach Vol, veh/h | | 406 | | | 505 | | | 675 | | | 733 | |
| Approach Delay, s/veh | | 52.2 | | | 56.1 | | | 39.0 | | | 37.0 | |
| Approach LOS | | D | | | E | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.8 | 58.7 | 14.8 | 30.6 | 16.4 | 62.2 | 16.0 | 29.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.7 | 4.0 | * 4.9 | 4.0 | * 4.7 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | 22.1 | * 38 | 17.3 | * 29 | 13.0 | * 47 | * 18 | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.6 | 29.6 | 10.8 | 17.8 | 12.4 | 26.1 | 11.0 | 21.9 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 1.2 | 0.0 | 1.7 | 0.1 | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 44.4 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Pipeline Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 64 | 152 | 34 | 4 | 162 | 35 | 72 | 596 | 9 | 39 | 399 | 102 |
| Future Volume (veh/h) | 64 | 152 | 34 | 4 | 162 | 35 | 72 | 596 | 9 | 39 | 399 | 102 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.97 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 66 | 157 | 24 | 4 | 167 | 22 | 74 | 614 | 9 | 40 | 411 | 93 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 194 | 327 | 43 | 98 | 429 | 56 | 158 | 790 | 11 | 130 | 677 | 146 |
| Arrive On Green | 0.27 | 0.27 | 0.28 | 0.27 | 0.27 | 0.28 | 0.49 | 0.49 | 0.50 | 0.49 | 0.49 | 0.50 |
| Sat Flow, veh/h | 280 | 1214 | 161 | 10 | 1593 | 206 | 111 | 1624 | 23 | 61 | 1394 | 300 |
| Grp Volume(v), veh/h | 247 | 0 | 0 | 193 | 0 | 0 | 697 | 0 | 0 | 544 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1655 | 0 | 0 | 1809 | 0 | 0 | 1758 | 0 | 0 | 1755 | 0 | 0 |
| Q Serve(g_s), s | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.6 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 12.4 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.10 | 0.02 | | 0.11 | 0.11 | | 0.01 | 0.07 | | 0.17 |
| Lane Grp Cap(c), veh/h | 564 | 0 | 0 | 583 | 0 | 0 | 958 | 0 | 0 | 954 | 0 | 0 |
| V/C Ratio(X) | 0.44 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.57 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1143 | 0 | 0 | 1243 | 0 | 0 | 1428 | 0 | 0 | 1416 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 11.9 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 | 7.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.3 | 0.0 | 0.0 | 11.7 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 247 | | | 193 | | | 697 | | | 544 | |
| Approach Delay, s/veh | | 12.3 | | | 11.7 | | | 9.7 | | | 8.0 | |
| Approach LOS | | B | | | B | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.4 | | 15.0 | | 23.4 | | 15.0 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 14.4 | | 6.6 | | 10.6 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 4.7 | | 0.7 | | 3.8 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 9.7 | | | | | | | | |
| HCM 6th LOS | | | | A | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|---------------------------|------|--|--|--|--|--|--|--|--|--|--|--|
| Intersection Delay, s/veh | 44.2 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 645 | 17 | 43 | 353 | 16 |
| Future Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 645 | 17 | 43 | 353 | 16 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 26 | 9 | 15 | 38 | 26 | 48 | 686 | 18 | 46 | 376 | 17 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.7 | 10.9 | 65.5 | 17.1 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 6% | 26% | 19% | 10% |
| Vol Thru, % | 91% | 56% | 49% | 86% |
| Vol Right, % | 2% | 19% | 32% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 707 | 43 | 74 | 412 |
| LT Vol | 45 | 11 | 14 | 43 |
| Through Vol | 645 | 24 | 36 | 353 |
| RT Vol | 17 | 8 | 24 | 16 |
| Lane Flow Rate | 752 | 46 | 79 | 438 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.038 | 0.087 | 0.143 | 0.632 |
| Departure Headway (Hd) | 4.968 | 7.006 | 6.785 | 5.355 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 737 | 515 | 531 | 679 |
| Service Time | 2.972 | 5.006 | 4.785 | 3.355 |
| HCM Lane V/C Ratio | 1.02 | 0.089 | 0.149 | 0.645 |
| HCM Control Delay | 65.5 | 10.7 | 10.9 | 17.1 |
| HCM Lane LOS | F | B | B | C |
| HCM 95th-tile Q | 18.6 | 0.3 | 0.5 | 4.5 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunny Slope Ave

Pipeline Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Volume (veh/h) | 21 | 62 | 10 | 32 | 58 | 115 | 58 | 659 | 53 | 129 | 186 | 33 |
| Future Volume (veh/h) | 21 | 62 | 10 | 32 | 58 | 115 | 58 | 659 | 53 | 129 | 186 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.96 | | 0.91 | 0.95 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 23 | 67 | 5 | 34 | 62 | 61 | 62 | 709 | 54 | 139 | 200 | 27 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 119 | 277 | 18 | 112 | 153 | 122 | 119 | 771 | 59 | 172 | 771 | 104 |
| Arrive On Green | 0.20 | 0.20 | 0.21 | 0.20 | 0.20 | 0.21 | 0.07 | 0.45 | 0.46 | 0.10 | 0.48 | 0.49 |
| Sat Flow, veh/h | 227 | 1404 | 91 | 199 | 775 | 619 | 1781 | 1709 | 130 | 1781 | 1602 | 216 |
| Grp Volume(v), veh/h | 95 | 0 | 0 | 157 | 0 | 0 | 62 | 0 | 763 | 139 | 0 | 227 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 0 | 0 | 1592 | 0 | 0 | 1781 | 0 | 1839 | 1781 | 0 | 1818 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 2.0 | 0.0 | 23.4 | 4.6 | 0.0 | 4.4 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 2.0 | 0.0 | 23.4 | 4.6 | 0.0 | 4.4 |
| Prop In Lane | 0.24 | | 0.05 | 0.22 | | 0.39 | 1.00 | | 0.07 | 1.00 | | 0.12 |
| Lane Grp Cap(c), veh/h | 414 | 0 | 0 | 387 | 0 | 0 | 119 | 0 | 830 | 172 | 0 | 875 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.41 | 0.00 | 0.00 | 0.52 | 0.00 | 0.92 | 0.81 | 0.00 | 0.26 |
| Avail Cap(c_a), veh/h | 622 | 0 | 0 | 583 | 0 | 0 | 193 | 0 | 904 | 579 | 0 | 894 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.4 | 0.0 | 0.0 | 21.2 | 0.0 | 0.0 | 27.1 | 0.0 | 15.4 | 26.5 | 0.0 | 9.2 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.3 | 0.0 | 14.0 | 3.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 0.9 | 0.0 | 11.4 | 2.0 | 0.0 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.6 | 0.0 | 0.0 | 21.8 | 0.0 | 0.0 | 28.4 | 0.0 | 29.5 | 29.9 | 0.0 | 9.4 |
| LnGrp LOS | C | A | A | C | A | A | C | A | C | C | A | A |
| Approach Vol, veh/h | | 95 | | | 157 | | | 825 | | | | 366 |
| Approach Delay, s/veh | | 20.6 | | | 21.8 | | | 29.4 | | | | 17.2 |
| Approach LOS | | C | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.3 | 32.5 | | 17.2 | 8.5 | 34.3 | | 17.2 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 25.4 | | 4.6 | 4.0 | 6.4 | | 7.0 | | | | |
| Green Ext Time (p_c), s | 0.2 | 2.2 | | 0.2 | 0.0 | 1.3 | | 0.4 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 24.9 |
| HCM 6th LOS | C |

Notes

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

HCM 6th TWSC
6: D Street & Windsor Dr/Pinnacle Dr

Pipeline Conditions
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Vol, veh/h | 51 | 0 | 25 | 0 | 3 | 7 | 220 | 706 | 3 | 10 | 132 | 76 |
| Future Vol, veh/h | 51 | 0 | 25 | 0 | 3 | 7 | 220 | 706 | 3 | 10 | 132 | 76 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 2 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 53 | 0 | 26 | 0 | 3 | 7 | 229 | 735 | 3 | 10 | 138 | 79 |























| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1400 | 1398 | 180 | 1408 | 1436 | 739 | 219 | 0 | 0 | 740 | 0 | 0 |
| Stage 1 | 200 | 200 | - | 1197 | 1197 | - | - | - | - | - | - | - |
| Stage 2 | 1200 | 1198 | - | 211 | 239 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 118 | 141 | 865 | 117 | 134 | 419 | 1356 | - | - | 871 | - | - |
| Stage 1 | 804 | 738 | - | 228 | 260 | - | - | - | - | - | - | - |
| Stage 2 | 227 | 260 | - | 793 | 709 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 98 | 115 | 864 | 98 | 110 | 418 | 1354 | - | - | 870 | - | - |
| Mov Cap-2 Maneuver | 98 | 115 | - | 98 | 110 | - | - | - | - | - | - | - |
| Stage 1 | 667 | 728 | - | 189 | 216 | - | - | - | - | - | - | - |
| Stage 2 | 183 | 216 | - | 760 | 700 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 55.8 | | 21.6 | | 1.9 | | 0.4 | |
| HCM LOS | F | | C | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1354 | - | - | 98 | 864 | 227 | 870 | - | - |
| HCM Lane V/C Ratio | 0.169 | - | - | 0.542 | 0.03 | 0.046 | 0.012 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 78.6 | 9.3 | 21.6 | 9.2 | - | - |
| HCM Lane LOS | A | - | - | F | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.6 | - | - | 2.5 | 0.1 | 0.1 | 0 | - | - |
























HCM Signalized Intersection Capacity Analysis
1: D Street & Lakeville St

Pipeline Plus Project Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 0 | 379 | 113 | 402 | 344 | 15 | 81 | 99 | 439 | 13 | 171 | 10 | |
| Future Volume (vph) | 0 | 379 | 113 | 402 | 344 | 15 | 81 | 99 | 439 | 13 | 171 | 10 | |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.92 | 1.00 | 1.00 | 0.97 | | 1.00 | 1.00 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1770 | 1533 | 1719 | 1782 | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 3438 | 1408 | 1719 | 1810 | 1493 | | 1770 | 1533 | 1719 | 1782 | | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | |
| Adj. Flow (vph) | 0 | 431 | 128 | 457 | 391 | 17 | 92 | 112 | 499 | 15 | 194 | 11 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 286 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 431 | 128 | 457 | 391 | 9 | 0 | 205 | 213 | 15 | 203 | 0 | |
| Confl. Peds. (#/hr) | 10 | | 18 | | | 10 | 40 | | 1 | 1 | | 40 | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 | |
| Heavy Vehicles (%) | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | |
| Turn Type | | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 27.6 | 27.6 | 43.0 | 75.4 | 75.4 | | 15.0 | 58.0 | 21.0 | 21.0 | | |
| Effective Green, g (s) | | 27.9 | 28.4 | 42.5 | 74.9 | 74.9 | | 15.8 | 57.0 | 20.8 | 20.8 | | |
| Actuated g/C Ratio | | 0.19 | 0.19 | 0.29 | 0.51 | 0.51 | | 0.11 | 0.39 | 0.14 | 0.14 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 656 | 273 | 500 | 928 | 765 | | 191 | 598 | 244 | 253 | | |
| v/s Ratio Prot | | c0.13 | | c0.27 | 0.22 | | | c0.12 | 0.10 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | | 0.09 | | | 0.01 | | | 0.04 | | | | |
| v/c Ratio | | 0.66 | 0.47 | 0.91 | 0.42 | 0.01 | | 1.07 | 0.36 | 0.06 | 0.80 | | |
| Uniform Delay, d1 | | 54.6 | 52.1 | 50.0 | 22.1 | 17.4 | | 65.1 | 31.5 | 54.2 | 60.6 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 5.1 | 5.7 | 20.8 | 0.1 | 0.0 | | 85.9 | 0.1 | 0.1 | 16.2 | | |
| Delay (s) | | 59.7 | 57.8 | 70.8 | 22.2 | 17.4 | | 151.0 | 31.6 | 54.2 | 76.8 | | |
| Level of Service | | E | E | E | C | B | | F | C | D | E | | |
| Approach Delay (s) | | 59.3 | | | 47.8 | | | 66.4 | | | 75.3 | | |
| Approach LOS | | E | | | D | | | E | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 58.7 | | | | | | | | | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 146.0 | | | | | | | | | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | | | 82.5% | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c | Critical Lane Group | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary 2: D Street & Petaluma Blvd North

Pipeline Plus Project Conditions
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 111 | 290 | 82 | 82 | 229 | 240 | 84 | 340 | 47 | 129 | 445 | 53 |
| Future Volume (veh/h) | 111 | 290 | 82 | 82 | 229 | 240 | 84 | 340 | 47 | 129 | 445 | 53 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 126 | 330 | 17 | 93 | 260 | 67 | 95 | 386 | 47 | 147 | 506 | 19 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cap, veh/h | 181 | 413 | 347 | 142 | 352 | 295 | 142 | 498 | 61 | 361 | 815 | 682 |
| Arrive On Green | 0.10 | 0.22 | 0.22 | 0.08 | 0.19 | 0.19 | 0.08 | 0.31 | 0.30 | 0.20 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1767 | 1856 | 1558 | 1767 | 1856 | 1556 | 1767 | 1613 | 196 | 1767 | 1856 | 1553 |
| Grp Volume(v), veh/h | 126 | 330 | 17 | 93 | 260 | 67 | 95 | 0 | 433 | 147 | 506 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1856 | 1558 | 1767 | 1856 | 1556 | 1767 | 0 | 1810 | 1767 | 1856 | 1553 |
| Q Serve(g_s), s | 6.2 | 15.1 | 0.8 | 4.6 | 11.9 | 3.3 | 4.7 | 0.0 | 19.6 | 6.5 | 18.9 | 0.4 |
| Cycle Q Clear(g_c), s | 6.2 | 15.1 | 0.8 | 4.6 | 11.9 | 3.3 | 4.7 | 0.0 | 19.6 | 6.5 | 18.9 | 0.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 181 | 413 | 347 | 142 | 352 | 295 | 142 | 0 | 559 | 361 | 815 | 682 |
| V/C Ratio(X) | 0.69 | 0.80 | 0.05 | 0.66 | 0.74 | 0.23 | 0.67 | 0.00 | 0.77 | 0.41 | 0.62 | 0.03 |
| Avail Cap(c_a), veh/h | 181 | 555 | 466 | 157 | 559 | 469 | 157 | 0 | 559 | 361 | 815 | 682 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.99 | 0.99 | 0.99 | 0.79 | 0.00 | 0.79 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.0 | 33.1 | 27.5 | 40.2 | 34.3 | 30.9 | 40.2 | 0.0 | 28.3 | 31.1 | 19.5 | 5.5 |
| Incr Delay (d2), s/veh | 7.3 | 5.6 | 0.1 | 5.8 | 4.2 | 0.5 | 5.3 | 0.0 | 8.1 | 0.3 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 7.3 | 0.3 | 2.2 | 5.7 | 1.3 | 2.2 | 0.0 | 9.5 | 2.8 | 8.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.3 | 38.7 | 27.6 | 46.0 | 38.6 | 31.4 | 45.5 | 0.0 | 36.4 | 31.4 | 20.8 | 5.5 |
| LnGrp LOS | D | D | C | D | D | C | D | A | D | C | C | A |
| Approach Vol, veh/h | | 473 | | | 420 | | | 528 | | | 672 | |
| Approach Delay, s/veh | | 40.3 | | | 39.1 | | | 38.0 | | | 22.7 | |
| Approach LOS | | D | | | D | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 23.0 | 31.8 | 11.2 | 24.0 | 11.3 | 43.5 | 14.1 | 21.1 | | | | |
| Change Period (Y+Rc), s | * 4.6 | * 4.7 | 4.0 | * 4.9 | 4.0 | 4.6 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 27 | 8.0 | * 26 | 8.0 | 30.0 | * 8.3 | * 26 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 21.6 | 6.6 | 17.1 | 6.7 | 20.9 | 8.2 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.7 | 0.0 | 1.3 | 0.0 | 1.3 | 0.0 | 1.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 33.8 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Pipeline Plus Project Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|-------|------|------|-------|------|------|-------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 49 | 36 | 341 | 6 | 16 | 416 | 65 |
| Future Volume (veh/h) | 78 | 178 | 49 | 9 | 178 | 49 | 36 | 341 | 6 | 16 | 416 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 88 | 200 | 42 | 10 | 200 | 37 | 40 | 383 | 6 | 18 | 467 | 63 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 233 | 331 | 61 | 126 | 435 | 78 | 158 | 719 | 11 | 126 | 663 | 87 |
| Arrive On Green | 0.29 | 0.29 | 0.30 | 0.29 | 0.29 | 0.30 | 0.43 | 0.43 | 0.44 | 0.42 | 0.42 | 0.44 |
| Sat Flow, veh/h | 308 | 1142 | 211 | 26 | 1499 | 269 | 79 | 1686 | 25 | 21 | 1579 | 208 |
| Grp Volume(v), veh/h | 330 | 0 | 0 | 247 | 0 | 0 | 429 | 0 | 0 | 548 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1661 | 0 | 0 | 1794 | 0 | 0 | 1789 | 0 | 0 | 1807 | 0 | 0 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 | 5.4 | 0.0 | 0.0 | 7.9 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.13 | 0.04 | | 0.15 | 0.09 | | 0.01 | 0.03 | | 0.11 |
| Lane Grp Cap(c), veh/h | 625 | 0 | 0 | 638 | 0 | 0 | 887 | 0 | 0 | 876 | 0 | 0 |
| V/C Ratio(X) | 0.53 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1386 | 0 | 0 | 1500 | 0 | 0 | 1746 | 0 | 0 | 1781 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 9.8 | 0.0 | 0.0 | 9.2 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.3 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | A | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 330 | | 247 | | | 429 | | | 548 | | |
| Approach Delay, s/veh | | 10.3 | | 9.5 | | | 7.4 | | | 8.6 | | |
| Approach LOS | | B | | A | | | A | | | A | | |
| Timer - Assigned Phs | | 2 | | 4 | | | 6 | | | 8 | | |
| Phs Duration (G+Y+Rc), s | | 18.0 | | 13.7 | | | 18.0 | | | 13.7 | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | | * 4.2 | | | * 4.2 | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | | * 30 | | | * 25 | | |
| Max Q Clear Time (g_c+I1), s | | 7.4 | | 7.3 | | | 9.9 | | | 5.6 | | |
| Green Ext Time (p_c), s | | 2.9 | | 1.0 | | | 3.7 | | | 0.7 | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 8.8 |
| HCM 6th LOS | A |

Notes

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

HCM 6th AWSC
4: D Street & 8th Street

Pipeline Plus Project Conditions
AM Peak Hour

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 19.2 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 290 | 7 | 24 | 439 | 17 |
| Future Vol, veh/h | 28 | 27 | 15 | 31 | 37 | 37 | 26 | 290 | 7 | 24 | 439 | 17 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 33 | 31 | 17 | 36 | 43 | 43 | 30 | 337 | 8 | 28 | 510 | 20 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.8 | 11.1 | 15.1 | 24.9 |
| HCM LOS | B | B | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 8% | 40% | 30% | 5% |
| Vol Thru, % | 90% | 39% | 35% | 91% |
| Vol Right, % | 2% | 21% | 35% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 323 | 70 | 105 | 480 |
| LT Vol | 26 | 28 | 31 | 24 |
| Through Vol | 290 | 27 | 37 | 439 |
| RT Vol | 7 | 15 | 37 | 17 |
| Lane Flow Rate | 376 | 81 | 122 | 558 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.56 | 0.148 | 0.214 | 0.793 |
| Departure Headway (Hd) | 5.364 | 6.528 | 6.306 | 5.118 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 669 | 546 | 567 | 703 |
| Service Time | 3.418 | 4.609 | 4.38 | 3.165 |
| HCM Lane V/C Ratio | 0.562 | 0.148 | 0.215 | 0.794 |
| HCM Control Delay | 15.1 | 10.8 | 11.1 | 24.9 |
| HCM Lane LOS | C | B | B | C |
| HCM 95th-tile Q | 3.5 | 0.5 | 0.8 | 8 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunny Slope Ave

Pipeline Plus Project Conditions
AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 8 | 86 | 31 | 54 | 95 | 204 | 9 | 182 | 64 | 101 | 316 | 26 |
| Future Volume (veh/h) | 8 | 86 | 31 | 54 | 95 | 204 | 9 | 182 | 64 | 101 | 316 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 10 | 104 | 23 | 65 | 114 | 182 | 11 | 219 | 58 | 122 | 381 | 26 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cap, veh/h | 109 | 428 | 89 | 160 | 176 | 236 | 14 | 371 | 98 | 208 | 619 | 42 |
| Arrive On Green | 0.30 | 0.30 | 0.29 | 0.29 | 0.29 | 0.29 | 0.01 | 0.26 | 0.25 | 0.12 | 0.36 | 0.36 |
| Sat Flow, veh/h | 50 | 1446 | 302 | 194 | 611 | 819 | 1795 | 1429 | 378 | 1795 | 1744 | 119 |
| Grp Volume(v), veh/h | 137 | 0 | 0 | 361 | 0 | 0 | 11 | 0 | 277 | 122 | 0 | 407 |
| Grp Sat Flow(s),veh/h/ln | 1798 | 0 | 0 | 1624 | 0 | 0 | 1795 | 0 | 1807 | 1795 | 0 | 1863 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.5 | 0.0 | 0.0 | 0.3 | 0.0 | 5.5 | 2.6 | 0.0 | 7.4 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 0.3 | 0.0 | 5.5 | 2.6 | 0.0 | 7.4 |
| Prop In Lane | 0.07 | | 0.17 | 0.18 | | 0.50 | 1.00 | | 0.21 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 626 | 0 | 0 | 572 | 0 | 0 | 14 | 0 | 469 | 208 | 0 | 662 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 | 0.77 | 0.00 | 0.59 | 0.59 | 0.00 | 0.62 |
| Avail Cap(c_a), veh/h | 974 | 0 | 0 | 890 | 0 | 0 | 284 | 0 | 1337 | 852 | 0 | 1356 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.0 | 0.0 | 0.0 | 13.3 | 0.0 | 0.0 | 20.3 | 0.0 | 13.3 | 17.2 | 0.0 | 10.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 27.2 | 0.0 | 1.7 | 1.0 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 | 1.0 | 0.0 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.2 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 47.6 | 0.0 | 15.0 | 18.2 | 0.0 | 12.3 |
| LnGrp LOS | B | A | A | B | A | A | D | A | B | B | A | B |
| Approach Vol, veh/h | | 137 | | 361 | | | | 288 | | | 529 | |
| Approach Delay, s/veh | | 11.2 | | 14.1 | | | | 16.3 | | | 13.6 | |
| Approach LOS | | B | | B | | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.3 | 15.2 | | 16.7 | 4.8 | 19.6 | | 16.7 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 7.5 | | 4.4 | 2.3 | 9.4 | | 10.2 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.7 | | 0.3 | 0.0 | 2.5 | | 0.9 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 14.1 |
| HCM 6th LOS | B |

Notes

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























| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.5 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 204 | 14 | 156 | 446 |
| Demand Flow Rate, veh/h | 208 | 14 | 159 | 455 |
| Vehicles Circulating, veh/h | 360 | 274 | 122 | 16 |
| Vehicles Exiting, veh/h | 111 | 7 | 446 | 272 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 6.0 | 3.6 | 4.1 | 5.7 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 208 | 14 | 159 | 455 |
| Cap Entry Lane, veh/h | 956 | 1043 | 1218 | 1358 |
| Entry HV Adj Factor | 0.981 | 0.997 | 0.982 | 0.980 |
| Flow Entry, veh/h | 204 | 14 | 156 | 446 |
| Cap Entry, veh/h | 937 | 1041 | 1197 | 1331 |
| V/C Ratio | 0.218 | 0.013 | 0.130 | 0.335 |
| Control Delay, s/veh | 6.0 | 3.6 | 4.1 | 5.7 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 1 | 0 | 0 | 1 |

HCM Signalized Intersection Capacity Analysis

Pipeline Plus Project Conditions

1: D Street & Lakeville St

PM Peak Hour
























| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 5 | 348 | 146 | 440 | 434 | 55 | 172 | 206 | 548 | 10 | 171 | 20 | |
| Future Volume (vph) | 5 | 348 | 146 | 440 | 434 | 55 | 172 | 206 | 548 | 10 | 171 | 20 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.3 | 4.8 | 4.5 | 4.5 | 4.5 | | 5.8 | 4.5 | 4.8 | 4.8 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.79 | 1.00 | 1.00 | 0.92 | | 1.00 | 0.98 | 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 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.98 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3537 | 1257 | 1770 | 1863 | 1459 | | 1821 | 1550 | 1770 | 1802 | | |
| Flt Permitted | | 0.83 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 2936 | 1257 | 1770 | 1863 | 1459 | | 1821 | 1550 | 1770 | 1802 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 5 | 352 | 147 | 444 | 438 | 56 | 174 | 208 | 554 | 10 | 173 | 20 | |
| RTOR Reduction (vph) | 0 | 0 | 95 | 0 | 0 | 31 | 0 | 0 | 181 | 0 | 3 | 0 | |
| Lane Group Flow (vph) | 0 | 357 | 52 | 444 | 438 | 25 | 0 | 382 | 373 | 10 | 190 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 26.6 | 26.6 | 34.2 | 65.6 | 65.6 | | 23.0 | 57.2 | 21.8 | 21.8 | | |
| Effective Green, g (s) | | 26.1 | 26.6 | 33.7 | 65.1 | 65.1 | | 22.5 | 56.2 | 21.3 | 21.3 | | |
| Actuated g/C Ratio | | 0.18 | 0.18 | 0.23 | 0.45 | 0.45 | | 0.16 | 0.39 | 0.15 | 0.15 | | |
| Clearance Time (s) | | 4.8 | 4.8 | 4.0 | | | | 5.3 | 4.0 | 4.3 | 4.3 | | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 1.5 | | | | 4.0 | 1.5 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 528 | 230 | 411 | 836 | 655 | | 282 | 600 | 260 | 264 | | |
| v/s Ratio Prot | | | | c0.25 | 0.24 | | | c0.21 | 0.14 | 0.01 | c0.11 | | |
| v/s Ratio Perm | | c0.12 | 0.04 | | | 0.02 | | | 0.10 | | | | |
| v/c Ratio | | 0.68 | 0.23 | 1.08 | 0.52 | 0.04 | | 1.35 | 0.62 | 0.04 | 0.72 | | |
| Uniform Delay, d1 | | 55.5 | 50.4 | 55.6 | 28.8 | 22.4 | | 61.2 | 35.8 | 53.1 | 59.0 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 6.8 | 2.3 | 67.6 | 0.3 | 0.0 | | 181.1 | 1.5 | 0.0 | 8.4 | | |
| Delay (s) | | 62.3 | 52.7 | 123.3 | 29.1 | 22.4 | | 242.3 | 37.3 | 53.1 | 67.4 | | |
| Level of Service | | E | D | F | C | C | | F | D | D | E | | |
| Approach Delay (s) | | 59.5 | | | 73.3 | | | 121.0 | | | 66.7 | | |
| Approach LOS | | E | | | E | | | F | | | E | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 87.4 | | HCM 2000 Level of Service | | | | | F | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.83 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.0 | | Sum of lost time (s) | | | | | 24.4 | | | |
| Intersection Capacity Utilization | | | 98.0% | | ICU Level of Service | | | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM 6th Signalized Intersection Summary

2: D Street & Petaluma Blvd North

Pipeline Plus Project Conditions
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 127 | 249 | 92 | 127 | 300 | 321 | 149 | 479 | 29 | 191 | 482 | 84 |
| Future Volume (veh/h) | 127 | 249 | 92 | 127 | 300 | 321 | 149 | 479 | 29 | 191 | 482 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.91 | 1.00 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 132 | 259 | 18 | 132 | 312 | 57 | 155 | 499 | 28 | 199 | 502 | 36 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 384 | 297 | 159 | 374 | 288 | 181 | 762 | 43 | 227 | 864 | 695 |
| Arrive On Green | 0.09 | 0.21 | 0.21 | 0.09 | 0.20 | 0.20 | 0.10 | 0.44 | 0.44 | 0.13 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1781 | 1870 | 1445 | 1781 | 1870 | 1442 | 1781 | 1748 | 98 | 1781 | 1870 | 1505 |
| Grp Volume(v), veh/h | 132 | 259 | 18 | 132 | 312 | 57 | 155 | 0 | 527 | 199 | 502 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1445 | 1781 | 1870 | 1442 | 1781 | 0 | 1846 | 1781 | 1870 | 1505 |
| Q Serve(g_s), s | 9.0 | 15.8 | 1.2 | 9.0 | 19.9 | 3.1 | 10.6 | 0.0 | 27.9 | 13.6 | 24.5 | 1.1 |
| Cycle Q Clear(g_c), s | 9.0 | 15.8 | 1.2 | 9.0 | 19.9 | 3.1 | 10.6 | 0.0 | 27.9 | 13.6 | 24.5 | 1.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.05 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 159 | 384 | 297 | 159 | 374 | 288 | 181 | 0 | 805 | 227 | 864 | 695 |
| V/C Ratio(X) | 0.83 | 0.67 | 0.06 | 0.83 | 0.83 | 0.20 | 0.86 | 0.00 | 0.65 | 0.88 | 0.58 | 0.05 |
| Avail Cap(c_a), veh/h | 263 | 437 | 338 | 249 | 428 | 330 | 187 | 0 | 805 | 317 | 864 | 695 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.51 | 0.00 | 0.51 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.6 | 45.4 | 39.6 | 55.6 | 47.6 | 23.4 | 54.8 | 0.0 | 27.6 | 53.1 | 24.5 | 8.8 |
| Incr Delay (d2), s/veh | 4.3 | 3.9 | 0.1 | 7.0 | 12.8 | 0.5 | 16.8 | 0.0 | 2.1 | 14.0 | 2.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 7.8 | 0.5 | 4.4 | 10.6 | 1.5 | 5.6 | 0.0 | 12.7 | 7.0 | 11.4 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.8 | 49.4 | 39.7 | 62.6 | 60.5 | 23.9 | 71.6 | 0.0 | 29.7 | 67.2 | 27.4 | 8.9 |
| LnGrp LOS | E | D | D | E | E | C | E | A | C | E | C | A |
| Approach Vol, veh/h | | 409 | | | 501 | | | 682 | | | 737 | |
| Approach Delay, s/veh | | 52.3 | | | 56.9 | | | 39.3 | | | 37.2 | |
| Approach LOS | | D | | | E | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.8 | 58.8 | 15.0 | 30.4 | 16.6 | 62.0 | 16.0 | 29.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | * 4.7 | 4.0 | * 4.9 | 4.0 | * 4.7 | * 4.9 | * 4.7 | | | | |
| Max Green Setting (Gmax), s | 22.1 | * 38 | 17.3 | * 29 | 13.0 | * 47 | * 18 | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.6 | 29.9 | 11.0 | 17.8 | 12.6 | 26.5 | 11.0 | 21.9 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 1.2 | 0.0 | 1.7 | 0.1 | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 44.7 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Pipeline Plus Project Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|------|-------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 64 | 152 | 35 | 5 | 162 | 35 | 73 | 604 | 10 | 39 | 413 | 102 |
| Future Volume (veh/h) | 64 | 152 | 35 | 5 | 162 | 35 | 73 | 604 | 10 | 39 | 413 | 102 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.97 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 66 | 157 | 25 | 5 | 167 | 22 | 75 | 623 | 9 | 40 | 426 | 94 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 192 | 323 | 45 | 99 | 425 | 55 | 157 | 796 | 11 | 129 | 688 | 145 |
| Arrive On Green | 0.27 | 0.27 | 0.28 | 0.27 | 0.27 | 0.28 | 0.49 | 0.49 | 0.50 | 0.49 | 0.49 | 0.50 |
| Sat Flow, veh/h | 280 | 1207 | 167 | 13 | 1590 | 205 | 112 | 1624 | 22 | 60 | 1403 | 295 |
| Grp Volume(v), veh/h | 248 | 0 | 0 | 194 | 0 | 0 | 707 | 0 | 0 | 560 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1654 | 0 | 0 | 1808 | 0 | 0 | 1758 | 0 | 0 | 1757 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 0.0 | 3.4 | 0.0 | 0.0 | 12.7 | 0.0 | 0.0 | 8.9 | 0.0 | 0.0 |
| Prop In Lane | 0.27 | | 0.10 | 0.03 | | 0.11 | 0.11 | | 0.01 | 0.07 | | 0.17 |
| Lane Grp Cap(c), veh/h | 559 | 0 | 0 | 578 | 0 | 0 | 965 | 0 | 0 | 961 | 0 | 0 |
| V/C Ratio(X) | 0.44 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.58 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1132 | 0 | 0 | 1230 | 0 | 0 | 1414 | 0 | 0 | 1405 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 12.0 | 0.0 | 0.0 | 11.6 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 3.4 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.5 | 0.0 | 0.0 | 11.9 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 248 | | | 194 | | | 707 | | | | 560 |
| Approach Delay, s/veh | | 12.5 | | | 11.9 | | | 9.7 | | | | 8.1 |
| Approach LOS | | B | | | B | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.7 | | 15.1 | | 23.7 | | 15.1 | | | | |
| Change Period (Y+Rc), s | | * 4.2 | | * 4.2 | | * 4.2 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | | * 30 | | * 25 | | * 30 | | * 25 | | | | |
| Max Q Clear Time (g_c+I1), s | | 14.7 | | 6.7 | | 10.9 | | 5.4 | | | | |
| Green Ext Time (p_c), s | | 4.8 | | 0.7 | | 4.0 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 9.8 | | | | | | | | |
| HCM 6th LOS | | | | A | | | | | | | | |
| Notes | | | | | | | | | | | | |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. | | | | | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 47.6 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 654 | 17 | 43 | 369 | 16 |
| Future Vol, veh/h | 11 | 24 | 8 | 14 | 36 | 24 | 45 | 654 | 17 | 43 | 369 | 16 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 26 | 9 | 15 | 38 | 26 | 48 | 696 | 18 | 46 | 393 | 17 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.7 | 11 | 71.2 | 18.1 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 6% | 26% | 19% | 10% |
| Vol Thru, % | 91% | 56% | 49% | 86% |
| Vol Right, % | 2% | 19% | 32% | 4% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 716 | 43 | 74 | 428 |
| LT Vol | 45 | 11 | 14 | 43 |
| Through Vol | 654 | 24 | 36 | 369 |
| RT Vol | 17 | 8 | 24 | 16 |
| Lane Flow Rate | 762 | 46 | 79 | 455 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.057 | 0.086 | 0.144 | 0.658 |
| Departure Headway (Hd) | 4.997 | 7.078 | 6.848 | 5.373 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 731 | 509 | 527 | 678 |
| Service Time | 2.997 | 5.078 | 4.848 | 3.373 |
| HCM Lane V/C Ratio | 1.042 | 0.09 | 0.15 | 0.671 |
| HCM Control Delay | 71.2 | 10.7 | 11 | 18.1 |
| HCM Lane LOS | F | B | B | C |
| HCM 95th-tile Q | 19.7 | 0.3 | 0.5 | 4.9 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunny Slope Ave

Pipeline Plus Project Conditions
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|-------|------|-------|------|-------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Volume (veh/h) | 21 | 62 | 10 | 34 | 58 | 115 | 58 | 668 | 54 | 129 | 202 | 33 |
| Future Volume (veh/h) | 21 | 62 | 10 | 34 | 58 | 115 | 58 | 668 | 54 | 129 | 202 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.96 | | 0.91 | 0.95 | | 0.91 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 23 | 67 | 5 | 37 | 62 | 63 | 62 | 718 | 55 | 139 | 217 | 29 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 119 | 276 | 18 | 115 | 148 | 121 | 119 | 776 | 59 | 172 | 776 | 104 |
| Arrive On Green | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.07 | 0.45 | 0.46 | 0.10 | 0.48 | 0.49 |
| Sat Flow, veh/h | 227 | 1406 | 91 | 215 | 753 | 616 | 1781 | 1708 | 131 | 1781 | 1604 | 214 |
| Grp Volume(v), veh/h | 95 | 0 | 0 | 162 | 0 | 0 | 62 | 0 | 773 | 139 | 0 | 246 |
| Grp Sat Flow(s),veh/h/ln | 1724 | 0 | 0 | 1585 | 0 | 0 | 1781 | 0 | 1839 | 1781 | 0 | 1819 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 2.0 | 0.0 | 23.9 | 4.6 | 0.0 | 4.9 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 0.0 | 5.2 | 0.0 | 0.0 | 2.0 | 0.0 | 23.9 | 4.6 | 0.0 | 4.9 |
| Prop In Lane | 0.24 | | 0.05 | 0.23 | | 0.39 | 1.00 | | 0.07 | 1.00 | | 0.12 |
| Lane Grp Cap(c), veh/h | 412 | 0 | 0 | 384 | 0 | 0 | 119 | 0 | 835 | 172 | 0 | 880 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.42 | 0.00 | 0.00 | 0.52 | 0.00 | 0.93 | 0.81 | 0.00 | 0.28 |
| Avail Cap(c_a), veh/h | 619 | 0 | 0 | 577 | 0 | 0 | 192 | 0 | 898 | 575 | 0 | 888 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.6 | 0.0 | 0.0 | 21.5 | 0.0 | 0.0 | 27.3 | 0.0 | 15.5 | 26.7 | 0.0 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.3 | 0.0 | 15.0 | 3.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 0.9 | 0.0 | 11.8 | 2.0 | 0.0 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.8 | 0.0 | 0.0 | 22.1 | 0.0 | 0.0 | 28.6 | 0.0 | 30.5 | 30.2 | 0.0 | 9.5 |
| LnGrp LOS | C | A | A | C | A | A | C | A | C | C | A | A |
| Approach Vol, veh/h | | 95 | | | 162 | | | 835 | | | | 385 |
| Approach Delay, s/veh | | 20.8 | | | 22.1 | | | 30.3 | | | | 17.0 |
| Approach LOS | | C | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.3 | 32.8 | | 17.2 | 8.5 | 34.6 | | 17.2 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.9 | | * 4.9 | 4.0 | * 4.9 | | * 4.9 | | | | |
| Max Green Setting (Gmax), s | 20.0 | 30.0 | | * 20 | 7.0 | * 30 | | * 20 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 25.9 | | 4.6 | 4.0 | 6.9 | | 7.2 | | | | |
| Green Ext Time (p_c), s | 0.2 | 2.0 | | 0.2 | 0.0 | 1.4 | | 0.4 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 25.3 |
| HCM 6th LOS | C |

Notes























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

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 12.6 | | | |
| Intersection LOS | B | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 89 | 10 | 973 | 245 |
| Demand Flow Rate, veh/h | 90 | 10 | 982 | 247 |
| Vehicles Circulating, veh/h | 152 | 1041 | 72 | 237 |
| Vehicles Exiting, veh/h | 332 | 13 | 170 | 814 |
| Ped Vol Crossing Leg, #/h | 2 | 2 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.7 | 7.8 | 15.2 | 5.5 |
| Approach LOS | A | A | C | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 90 | 10 | 982 | 247 |
| Cap Entry Lane, veh/h | 1182 | 477 | 1282 | 1084 |
| Entry HV Adj Factor | 0.989 | 0.997 | 0.990 | 0.990 |
| Flow Entry, veh/h | 89 | 10 | 973 | 245 |
| Cap Entry, veh/h | 1168 | 476 | 1270 | 1073 |
| V/C Ratio | 0.076 | 0.021 | 0.766 | 0.228 |
| Control Delay, s/veh | 3.7 | 7.8 | 15.2 | 5.5 |
| LOS | A | A | C | A |
| 95th %tile Queue, veh | 0 | 0 | 8 | 1 |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St
























Cumulative No Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 10 | 460 | 110 | 510 | 420 | 30 | 80 | 340 | 460 | 20 | 340 | 20 | |
| Future Volume (vph) | 10 | 460 | 110 | 510 | 420 | 30 | 80 | 340 | 460 | 20 | 340 | 20 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.78 | 1.00 | 1.00 | 0.93 | | 1.00 | 0.97 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3531 | 1240 | 1770 | 1863 | 1467 | | 1845 | 1531 | 1770 | 1829 | | |
| Flt Permitted | | 0.75 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 2634 | 1240 | 1770 | 1863 | 1467 | | 1845 | 1531 | 1770 | 1829 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 10 | 465 | 111 | 515 | 424 | 30 | 81 | 343 | 465 | 20 | 343 | 20 | |
| RTOR Reduction (vph) | 0 | 0 | 63 | 0 | 0 | 15 | 0 | 0 | 142 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 475 | 48 | 515 | 424 | 15 | 0 | 424 | 323 | 20 | 361 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 20.5 | 20.5 | 42.2 | 67.2 | 67.2 | | 33.6 | 75.8 | 24.0 | 24.0 | | |
| Effective Green, g (s) | | 20.5 | 21.0 | 42.2 | 67.2 | 67.2 | | 33.1 | 75.8 | 23.5 | 23.5 | | |
| Actuated g/C Ratio | | 0.15 | 0.15 | 0.31 | 0.49 | 0.49 | | 0.24 | 0.55 | 0.17 | 0.17 | | |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | | | | 4.0 | 4.5 | 4.0 | 4.0 | | |
| Vehicle Extension (s) | | 4.0 | 4.0 | 2.0 | | | | 2.5 | 2.0 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 393 | 189 | 544 | 911 | 718 | | 444 | 895 | 302 | 313 | | |
| v/s Ratio Prot | | | | c0.29 | 0.23 | | | c0.23 | 0.11 | 0.01 | c0.20 | | |
| v/s Ratio Perm | | c0.18 | 0.04 | | | 0.01 | | | 0.10 | | | | |
| v/c Ratio | | 1.21 | 0.26 | 0.95 | 0.47 | 0.02 | | 0.95 | 0.36 | 0.07 | 1.15 | | |
| Uniform Delay, d1 | | 58.4 | 51.3 | 46.5 | 23.2 | 18.1 | | 51.4 | 17.2 | 47.7 | 56.9 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 115.5 | 1.0 | 25.4 | 0.1 | 0.0 | | 31.2 | 0.1 | 0.1 | 99.5 | | |
| Delay (s) | | 173.9 | 52.2 | 71.9 | 23.3 | 18.1 | | 82.5 | 17.3 | 47.8 | 156.4 | | |
| Level of Service | | F | D | E | C | B | | F | B | D | F | | |
| Approach Delay (s) | | 150.8 | | | 49.0 | | | 48.4 | | | 150.7 | | |
| Approach LOS | | F | | | D | | | D | | | F | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 83.7 | | HCM 2000 Level of Service | | | | | F | | | |
| HCM 2000 Volume to Capacity ratio | | | 1.03 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 137.3 | | Sum of lost time (s) | | | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 103.7% | | ICU Level of Service | | | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

















HCM 6th Signalized Intersection Summary 2: D Street & Petaluma Blvd North

Cumulative No Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 70 | 210 | 280 | 130 | 280 | 70 | 170 | 490 | 70 | 60 | 350 | 40 |
| Future Volume (veh/h) | 70 | 210 | 280 | 130 | 280 | 70 | 170 | 490 | 70 | 60 | 350 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.91 | 1.00 | | 0.92 | 1.00 | | 0.94 | 1.00 | | 0.93 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 73 | 219 | 64 | 135 | 292 | 16 | 177 | 510 | 69 | 62 | 365 | 13 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 115 | 396 | 306 | 177 | 461 | 360 | 226 | 582 | 79 | 79 | 526 | 415 |
| Arrive On Green | 0.06 | 0.21 | 0.21 | 0.10 | 0.25 | 0.25 | 0.13 | 0.36 | 0.36 | 0.04 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 1870 | 1448 | 1781 | 1870 | 1463 | 1781 | 1599 | 216 | 1781 | 1870 | 1474 |
| Grp Volume(v), veh/h | 73 | 219 | 64 | 135 | 292 | 16 | 177 | 0 | 579 | 62 | 365 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1448 | 1781 | 1870 | 1463 | 1781 | 0 | 1816 | 1781 | 1870 | 1474 |
| Q Serve(g_s), s | 2.3 | 5.9 | 2.1 | 4.2 | 7.9 | 0.4 | 5.5 | 0.0 | 17.0 | 2.0 | 9.9 | 0.3 |
| Cycle Q Clear(g_c), s | 2.3 | 5.9 | 2.1 | 4.2 | 7.9 | 0.4 | 5.5 | 0.0 | 17.0 | 2.0 | 9.9 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 115 | 396 | 306 | 177 | 461 | 360 | 226 | 0 | 660 | 79 | 526 | 415 |
| V/C Ratio(X) | 0.64 | 0.55 | 0.21 | 0.76 | 0.63 | 0.04 | 0.78 | 0.00 | 0.88 | 0.79 | 0.69 | 0.03 |
| Avail Cap(c_a), veh/h | 783 | 1019 | 789 | 626 | 855 | 669 | 438 | 0 | 1021 | 595 | 1216 | 959 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.0 | 20.0 | 18.5 | 25.0 | 19.1 | 9.3 | 24.1 | 0.0 | 16.9 | 26.9 | 18.3 | 7.6 |
| Incr Delay (d2), s/veh | 2.2 | 1.7 | 0.5 | 2.6 | 2.1 | 0.1 | 2.3 | 0.0 | 4.9 | 6.3 | 1.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 2.6 | 0.7 | 1.8 | 3.4 | 0.2 | 2.3 | 0.0 | 7.0 | 0.9 | 4.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 28.1 | 21.8 | 19.0 | 27.5 | 21.2 | 9.4 | 26.4 | 0.0 | 21.8 | 33.2 | 19.5 | 7.6 |
| LnGrp LOS | C | C | B | C | C | A | C | A | C | C | B | A |
| Approach Vol, veh/h | | 356 | | | 443 | | | 756 | | | 440 | |
| Approach Delay, s/veh | | 22.6 | | | 22.7 | | | 22.9 | | | 21.1 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.5 | 24.7 | 9.7 | 16.0 | 11.2 | 20.0 | 7.7 | 18.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.0 | 32.0 | 20.0 | 31.0 | 14.0 | 37.0 | 25.0 | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.0 | 19.0 | 6.2 | 7.9 | 7.5 | 11.9 | 4.3 | 9.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 1.7 | 0.2 | 1.6 | 0.2 | 1.2 | 0.1 | 1.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 22.4 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Cumulative No Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 110 | 190 | 40 | 20 | 200 | 50 | 90 | 320 | 10 | 40 | 410 | 70 |
| Future Volume (veh/h) | 110 | 190 | 40 | 20 | 200 | 50 | 90 | 320 | 10 | 40 | 410 | 70 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.98 | | 0.94 | 0.98 | | 0.94 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 120 | 207 | 33 | 22 | 217 | 37 | 98 | 348 | 9 | 43 | 446 | 66 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 256 | 343 | 48 | 120 | 476 | 77 | 223 | 617 | 15 | 133 | 654 | 93 |
| Arrive On Green | 0.32 | 0.32 | 0.34 | 0.32 | 0.32 | 0.34 | 0.44 | 0.44 | 0.43 | 0.44 | 0.44 | 0.43 |
| Sat Flow, veh/h | 405 | 1063 | 148 | 58 | 1474 | 237 | 247 | 1392 | 33 | 72 | 1477 | 209 |
| Grp Volume(v), veh/h | 360 | 0 | 0 | 276 | 0 | 0 | 455 | 0 | 0 | 555 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1616 | 0 | 0 | 1770 | 0 | 0 | 1672 | 0 | 0 | 1758 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.9 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 |
| Prop In Lane | 0.33 | | 0.09 | 0.08 | | 0.13 | 0.22 | | 0.02 | 0.08 | | 0.12 |
| Lane Grp Cap(c), veh/h | 646 | 0 | 0 | 672 | 0 | 0 | 855 | 0 | 0 | 880 | 0 | 0 |
| V/C Ratio(X) | 0.56 | 0.00 | 0.00 | 0.41 | 0.00 | 0.00 | 0.53 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1153 | 0 | 0 | 1258 | 0 | 0 | 1185 | 0 | 0 | 1256 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 11.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | 7.9 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.6 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 360 | | | 276 | | | 455 | | | 555 | |
| Approach Delay, s/veh | | 11.6 | | | 10.7 | | | 8.6 | | | 9.7 | |
| Approach LOS | | B | | | B | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 21.5 | | 16.9 | | 21.5 | | 16.9 | | | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | | 5.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 25.0 | | 26.0 | | 25.0 | | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.1 | | 8.9 | | 11.6 | | 6.7 | | | | |
| Green Ext Time (p_c), s | | 2.9 | | 1.2 | | 3.2 | | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 10.0 | | | | | | | | |
| HCM 6th LOS | | | | A | | | | | | | | |

Intersection

Intersection Delay, s/veh20.6

Intersection LOS C



















| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 30 | 40 | 30 | 40 | 50 | 40 | 40 | 380 | 20 | 40 | 400 | 30 |
| Future Vol, veh/h | 30 | 40 | 30 | 40 | 50 | 40 | 40 | 380 | 20 | 40 | 400 | 30 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 32 | 43 | 32 | 43 | 53 | 43 | 43 | 404 | 21 | 43 | 426 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|-------------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right NB | | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11.6 | 12.1 | 21.6 | 23.9 |
| HCM LOS | B | B | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 9% | 30% | 31% | 9% |
| Vol Thru, % | 86% | 40% | 38% | 85% |
| Vol Right, % | 5% | 30% | 31% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 440 | 100 | 130 | 470 |
| LT Vol | 40 | 30 | 40 | 40 |
| Through Vol | 380 | 40 | 50 | 400 |
| RT Vol | 20 | 30 | 40 | 30 |
| Lane Flow Rate | 468 | 106 | 138 | 500 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.718 | 0.202 | 0.258 | 0.759 |
| Departure Headway (Hd) | 5.519 | 6.838 | 6.725 | 5.464 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 651 | 528 | 537 | 655 |
| Service Time | 3.613 | 4.846 | 4.731 | 3.556 |
| HCM Lane V/C Ratio | 0.719 | 0.201 | 0.257 | 0.763 |
| HCM Control Delay | 21.6 | 11.6 | 12.1 | 23.9 |
| HCM Lane LOS | C | B | B | C |
| HCM 95th-tile Q | 6 | 0.7 | 1 | 7 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunnyslope Ave

Cumulative No Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  | |  |  | |
| Traffic Volume (veh/h) | 20 | 120 | 30 | 70 | 130 | 260 | 40 | 160 | 90 | 140 | 270 | 40 |
| Future Volume (veh/h) | 20 | 120 | 30 | 70 | 130 | 260 | 40 | 160 | 90 | 140 | 270 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.94 | 0.98 | | 0.94 | 1.00 | | 0.93 | 1.00 | | 0.94 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 158 | 30 | 92 | 171 | 287 | 53 | 211 | 94 | 184 | 355 | 45 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 524 | 91 | 146 | 210 | 306 | 40 | 316 | 141 | 210 | 581 | 74 |
| Arrive On Green | 0.38 | 0.38 | 0.40 | 0.38 | 0.38 | 0.40 | 0.02 | 0.26 | 0.28 | 0.12 | 0.36 | 0.38 |
| Sat Flow, veh/h | 98 | 1388 | 242 | 188 | 556 | 812 | 1781 | 1195 | 532 | 1781 | 1614 | 205 |
| Grp Volume(v), veh/h | 214 | 0 | 0 | 550 | 0 | 0 | 53 | 0 | 305 | 184 | 0 | 400 |
| Grp Sat Flow(s),veh/h/ln | 1729 | 0 | 0 | 1555 | 0 | 0 | 1781 | 0 | 1727 | 1781 | 0 | 1819 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 13.5 | 0.0 | 0.0 | 1.2 | 0.0 | 8.8 | 5.7 | 0.0 | 10.1 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 0.0 | 19.0 | 0.0 | 0.0 | 1.2 | 0.0 | 8.8 | 5.7 | 0.0 | 10.1 |
| Prop In Lane | 0.12 | | 0.14 | 0.17 | | 0.52 | 1.00 | | 0.31 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 724 | 0 | 0 | 662 | 0 | 0 | 40 | 0 | 457 | 210 | 0 | 654 |
| V/C Ratio(X) | 0.30 | 0.00 | 0.00 | 0.83 | 0.00 | 0.00 | 1.34 | 0.00 | 0.67 | 0.88 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 1137 | 0 | 0 | 779 | 0 | 0 | 238 | 0 | 1093 | 810 | 0 | 1151 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.3 | 0.0 | 0.0 | 16.4 | 0.0 | 0.0 | 27.4 | 0.0 | 18.3 | 24.4 | 0.0 | 14.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 | 164.8 | 0.0 | 2.4 | 4.6 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 | 2.3 | 0.0 | 3.4 | 2.5 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.4 | 0.0 | 0.0 | 22.6 | 0.0 | 0.0 | 192.3 | 0.0 | 20.7 | 28.9 | 0.0 | 16.0 |
| LnGrp LOS | B | A | A | C | A | A | F | A | C | C | A | B |
| Approach Vol, veh/h | | 214 | | | 550 | | | 358 | | | 584 | |
| Approach Delay, s/veh | | 12.4 | | | 22.6 | | | 46.1 | | | 20.1 | |
| Approach LOS | | B | | | C | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.1 | 19.3 | | 25.7 | 5.7 | 24.7 | | 25.7 | | | | |
| Change Period (Y+Rc), s | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | |
| Max Green Setting (Gmax), s | 26.5 | 36.5 | | 36.5 | 8.5 | 36.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.7 | 10.8 | | 6.7 | 3.2 | 12.1 | | 21.0 | | | | |
| Green Ext Time (p_c), s | 0.4 | 2.0 | | 0.7 | 0.0 | 2.6 | | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 25.4 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

HCM 6th TWSC
6: D Street & Windsor Dr/Pinnacle Dr

Cumulative No Project
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Vol, veh/h | 110 | 10 | 70 | 0 | 10 | 10 | 10 | 110 | 10 | 10 | 340 | 70 |
| Future Vol, veh/h | 110 | 10 | 70 | 0 | 10 | 10 | 10 | 110 | 10 | 10 | 340 | 70 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 124 | 11 | 79 | 0 | 11 | 11 | 11 | 124 | 11 | 11 | 382 | 79 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 607 | 601 | 422 | 641 | 635 | 130 | 461 | 0 | 0 | 135 | 0 | 0 |
| Stage 1 | 444 | 444 | - | 152 | 152 | - | - | - | - | - | - | - |
| Stage 2 | 163 | 157 | - | 489 | 483 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 408 | 414 | 632 | 388 | 396 | 920 | 1100 | - | - | 1449 | - | - |
| Stage 1 | 593 | 575 | - | 850 | 772 | - | - | - | - | - | - | - |
| Stage 2 | 839 | 768 | - | 561 | 553 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 389 | 407 | 632 | 328 | 389 | 920 | 1100 | - | - | 1449 | - | - |
| Mov Cap-2 Maneuver | 389 | 407 | - | 328 | 389 | - | - | - | - | - | - | - |
| Stage 1 | 587 | 570 | - | 842 | 764 | - | - | - | - | - | - | - |
| Stage 2 | 808 | 760 | - | 478 | 549 | - | - | - | - | - | - | - |























| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 16.2 | | 11.9 | | 0.6 | | 0.2 | |
| HCM LOS | C | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1100 | - | - | 390 | 632 | 547 | 1449 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - | 0.346 | 0.124 | 0.041 | 0.008 | - | - |
| HCM Control Delay (s) | 8.3 | - | - | 19 | 11.5 | 11.9 | 7.5 | - | - |
| HCM Lane LOS | A | - | - | C | B | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.5 | 0.4 | 0.1 | 0 | - | - |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St
























Cumulative No Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  |
| Traffic Volume (vph) | 10 | 550 | 90 | 540 | 650 | 30 | 120 | 370 | 580 | 20 | 380 | 30 |
| Future Volume (vph) | 10 | 550 | 90 | 540 | 650 | 30 | 120 | 370 | 580 | 20 | 380 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 4.5 | 5.0 | 5.0 | 5.0 | | 4.5 | 5.0 | 4.5 | 4.5 | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp, ped/bikes | | 1.00 | 0.78 | 1.00 | 1.00 | 0.93 | | 1.00 | 0.96 | 1.00 | 0.99 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3536 | 1237 | 1770 | 1863 | 1465 | | 1840 | 1525 | 1770 | 1819 | |
| Flt Permitted | | 0.68 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 2410 | 1237 | 1770 | 1863 | 1465 | | 1840 | 1525 | 1770 | 1819 | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 10 | 556 | 91 | 545 | 657 | 30 | 121 | 374 | 586 | 20 | 384 | 30 |
| RTOR Reduction (vph) | 0 | 0 | 61 | 0 | 0 | 16 | 0 | 0 | 151 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 566 | 30 | 545 | 657 | 14 | 0 | 495 | 435 | 20 | 412 | 0 |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | |
| Actuated Green, G (s) | | 25.5 | 25.5 | 37.5 | 67.5 | 67.5 | | 35.0 | 72.5 | 25.0 | 25.0 | |
| Effective Green, g (s) | | 25.0 | 25.5 | 37.0 | 67.0 | 67.0 | | 34.5 | 71.5 | 24.5 | 24.5 | |
| Actuated g/C Ratio | | 0.18 | 0.18 | 0.26 | 0.48 | 0.48 | | 0.25 | 0.51 | 0.18 | 0.18 | |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | | | | 4.0 | 4.5 | 4.0 | 4.0 | |
| Vehicle Extension (s) | | 4.0 | 4.0 | 2.0 | | | | 2.5 | 2.0 | 2.5 | 2.5 | |
| Lane Grp Cap (vph) | | 430 | 225 | 467 | 891 | 701 | | 453 | 833 | 309 | 318 | |
| v/s Ratio Prot | | | | c0.31 | 0.35 | | | c0.27 | 0.14 | 0.01 | c0.23 | |
| v/s Ratio Perm | | c0.23 | 0.02 | | | 0.01 | | | 0.15 | | | |
| v/c Ratio | | 1.32 | 0.14 | 1.17 | 0.74 | 0.02 | | 1.09 | 0.52 | 0.06 | 1.30 | |
| Uniform Delay, d1 | | 57.5 | 48.0 | 51.5 | 29.4 | 19.2 | | 52.8 | 22.8 | 48.2 | 57.8 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 158.0 | 0.4 | 96.2 | 2.8 | 0.0 | | 69.7 | 0.3 | 0.1 | 154.8 | |
| Delay (s) | | 215.5 | 48.4 | 147.7 | 32.2 | 19.2 | | 122.5 | 23.1 | 48.3 | 212.6 | |
| Level of Service | | F | D | F | C | B | | F | C | D | F | |
| Approach Delay (s) | | 192.4 | | | 83.0 | | | 68.6 | | | 205.0 | |
| Approach LOS | | F | | | F | | | E | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 115.1 | | | | | | | | | F |
| HCM 2000 Volume to Capacity ratio | | | 1.20 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | | | | | | 19.0 |
| Intersection Capacity Utilization | | | 114.9% | | | | | | | | | H |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

HCM 6th Signalized Intersection Summary

















2: D Street & Petaluma Blvd North

Cumulative No Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 130 | 250 | 300 | 170 | 260 | 200 | 190 | 480 | 90 | 280 | 390 | 20 |
| Future Volume (veh/h) | 130 | 250 | 300 | 170 | 260 | 200 | 190 | 480 | 90 | 280 | 390 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 1.00 | | 0.91 | 1.00 | | 0.94 | 1.00 | | 0.94 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 135 | 260 | 105 | 177 | 271 | 34 | 198 | 500 | 89 | 292 | 406 | 7 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 198 | 337 | 258 | 214 | 354 | 272 | 232 | 524 | 93 | 327 | 740 | 593 |
| Arrive On Green | 0.11 | 0.18 | 0.18 | 0.12 | 0.19 | 0.19 | 0.13 | 0.34 | 0.34 | 0.18 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 1430 | 1781 | 1870 | 1436 | 1781 | 1528 | 272 | 1781 | 1870 | 1497 |
| Grp Volume(v), veh/h | 135 | 260 | 105 | 177 | 271 | 34 | 198 | 0 | 589 | 292 | 406 | 7 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1430 | 1781 | 1870 | 1436 | 1781 | 0 | 1801 | 1781 | 1870 | 1497 |
| Q Serve(g_s), s | 6.7 | 12.2 | 6.0 | 9.0 | 12.7 | 1.2 | 10.0 | 0.0 | 29.5 | 14.8 | 15.5 | 0.2 |
| Cycle Q Clear(g_c), s | 6.7 | 12.2 | 6.0 | 9.0 | 12.7 | 1.2 | 10.0 | 0.0 | 29.5 | 14.8 | 15.5 | 0.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.15 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 198 | 337 | 258 | 214 | 354 | 272 | 232 | 0 | 617 | 327 | 740 | 593 |
| V/C Ratio(X) | 0.68 | 0.77 | 0.41 | 0.83 | 0.77 | 0.13 | 0.85 | 0.00 | 0.95 | 0.89 | 0.55 | 0.01 |
| Avail Cap(c_a), veh/h | 483 | 629 | 481 | 386 | 527 | 405 | 270 | 0 | 625 | 367 | 750 | 601 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.4 | 36.0 | 33.4 | 39.6 | 35.5 | 13.8 | 39.2 | 0.0 | 29.6 | 36.8 | 21.5 | 7.7 |
| Incr Delay (d2), s/veh | 1.6 | 5.3 | 1.5 | 3.1 | 5.2 | 0.3 | 17.8 | 0.0 | 24.9 | 20.3 | 0.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 6.0 | 2.2 | 4.0 | 6.2 | 0.6 | 5.5 | 0.0 | 16.5 | 8.1 | 6.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.0 | 41.3 | 34.9 | 42.8 | 40.6 | 14.1 | 57.0 | 0.0 | 54.5 | 57.0 | 22.2 | 7.7 |
| LnGrp LOS | D | D | C | D | D | B | E | A | D | E | C | A |
| Approach Vol, veh/h | | 500 | | | 482 | | | 787 | | | 705 | |
| Approach Delay, s/veh | | 39.9 | | | 39.6 | | | 55.1 | | | 36.5 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 20.9 | 35.6 | 15.1 | 20.6 | 16.0 | 40.5 | 14.2 | 21.4 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.0 | 32.0 | 20.0 | 31.0 | 14.0 | 37.0 | 25.0 | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 16.8 | 31.5 | 11.0 | 14.2 | 12.0 | 17.5 | 8.7 | 14.7 | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 0.2 | 2.1 | 0.1 | 1.2 | 0.2 | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 43.7 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Cumulative No Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 60 | 220 | 50 | 10 | 190 | 40 | 90 | 520 | 20 | 40 | 410 | 110 |
| Future Volume (veh/h) | 60 | 220 | 50 | 10 | 190 | 40 | 90 | 520 | 20 | 40 | 410 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.98 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 62 | 227 | 38 | 10 | 196 | 26 | 93 | 536 | 20 | 41 | 423 | 101 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 164 | 387 | 59 | 100 | 470 | 60 | 176 | 689 | 24 | 124 | 630 | 143 |
| Arrive On Green | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 | 0.31 | 0.46 | 0.46 | 0.47 | 0.46 | 0.46 | 0.47 |
| Sat Flow, veh/h | 197 | 1296 | 196 | 25 | 1573 | 202 | 164 | 1512 | 53 | 63 | 1382 | 315 |
| Grp Volume(v), veh/h | 327 | 0 | 0 | 232 | 0 | 0 | 649 | 0 | 0 | 565 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1690 | 0 | 0 | 1800 | 0 | 0 | 1730 | 0 | 0 | 1760 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.6 | 0.0 | 0.0 | 4.2 | 0.0 | 0.0 | 12.6 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Prop In Lane | 0.19 | | 0.12 | 0.04 | | 0.11 | 0.14 | | 0.03 | 0.07 | | 0.18 |
| Lane Grp Cap(c), veh/h | 610 | 0 | 0 | 630 | 0 | 0 | 889 | 0 | 0 | 897 | 0 | 0 |
| V/C Ratio(X) | 0.54 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1140 | 0 | 0 | 1207 | 0 | 0 | 1122 | 0 | 0 | 1138 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 12.2 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.8 | 0.0 | 0.0 | 11.7 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | B | A | A | A | A | A |
| Approach Vol, veh/h | | 327 | | | 232 | | | 649 | | | | 565 |
| Approach Delay, s/veh | | 12.8 | | | 11.7 | | | 11.5 | | | | 9.8 |
| Approach LOS | | B | | | B | | | B | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.1 | | 16.7 | | 24.1 | | 16.7 | | | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | | 5.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 25.0 | | 26.0 | | 25.0 | | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 14.6 | | 8.6 | | 12.1 | | 6.2 | | | | |
| Green Ext Time (p_c), s | | 3.5 | | 1.0 | | 3.3 | | 0.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 11.2 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

| | | | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Intersection | | | | | | | | | | | | |
| Intersection Delay, s/veh48.7 | | | | | | | | | | | | |
| Intersection LOS E | | | | | | | | | | | | |



















| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 20 | 30 | 20 | 20 | 50 | 30 | 60 | 590 | 30 | 60 | 360 | 30 |
| Future Vol, veh/h | 20 | 30 | 20 | 20 | 50 | 30 | 60 | 590 | 30 | 60 | 360 | 30 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 21 | 32 | 21 | 21 | 53 | 32 | 64 | 628 | 32 | 64 | 383 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|------------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left SB | | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach RightNB | | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11.5 | 11.9 | 75.3 | 22.5 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 9% | 29% | 20% | 13% |
| Vol Thru, % | 87% | 43% | 50% | 80% |
| Vol Right, % | 4% | 29% | 30% | 7% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 680 | 70 | 100 | 450 |
| LT Vol | 60 | 20 | 20 | 60 |
| Through Vol | 590 | 30 | 50 | 360 |
| RT Vol | 30 | 20 | 30 | 30 |
| Lane Flow Rate | 723 | 74 | 106 | 479 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.064 | 0.145 | 0.203 | 0.732 |
| Departure Headway (Hd) | 5.293 | 7.279 | 7.116 | 5.66 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 687 | 496 | 507 | 641 |
| Service Time | 3.329 | 5.279 | 5.116 | 3.66 |
| HCM Lane V/C Ratio | 1.052 | 0.149 | 0.209 | 0.747 |
| HCM Control Delay | 75.3 | 11.5 | 11.9 | 22.5 |
| HCM Lane LOS | F | B | B | C |
| HCM 95th-tile Q | 19.3 | 0.5 | 0.8 | 6.3 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunnyslope Ave

Cumulative No Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  | |  |  | |
| Traffic Volume (veh/h) | 20 | 80 | 20 | 60 | 80 | 130 | 40 | 530 | 90 | 190 | 130 | 20 |
| Future Volume (veh/h) | 20 | 80 | 20 | 60 | 80 | 130 | 40 | 530 | 90 | 190 | 130 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.92 | 0.96 | | 0.92 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 86 | 13 | 65 | 86 | 102 | 43 | 570 | 93 | 204 | 140 | 18 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 337 | 45 | 141 | 156 | 151 | 46 | 660 | 108 | 245 | 866 | 111 |
| Arrive On Green | 0.24 | 0.24 | 0.25 | 0.24 | 0.24 | 0.25 | 0.03 | 0.42 | 0.43 | 0.14 | 0.54 | 0.55 |
| Sat Flow, veh/h | 162 | 1399 | 188 | 279 | 649 | 627 | 1781 | 1555 | 254 | 1781 | 1614 | 207 |
| Grp Volume(v), veh/h | 121 | 0 | 0 | 253 | 0 | 0 | 43 | 0 | 663 | 204 | 0 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1748 | 0 | 0 | 1556 | 0 | 0 | 1781 | 0 | 1808 | 1781 | 0 | 1821 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 1.5 | 0.0 | 20.3 | 6.8 | 0.0 | 2.7 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 1.5 | 0.0 | 20.3 | 6.8 | 0.0 | 2.7 |
| Prop In Lane | 0.18 | | 0.11 | 0.26 | | 0.40 | 1.00 | | 0.14 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 490 | 0 | 0 | 449 | 0 | 0 | 46 | 0 | 768 | 245 | 0 | 978 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.00 | 0.56 | 0.00 | 0.00 | 0.94 | 0.00 | 0.86 | 0.83 | 0.00 | 0.16 |
| Avail Cap(c_a), veh/h | 1064 | 0 | 0 | 729 | 0 | 0 | 234 | 0 | 1068 | 760 | 0 | 1075 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.8 | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | 29.6 | 0.0 | 15.9 | 25.6 | 0.0 | 7.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 25.1 | 0.0 | 6.4 | 2.8 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 | 0.9 | 0.0 | 8.5 | 2.9 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.0 | 0.0 | 0.0 | 21.5 | 0.0 | 0.0 | 54.7 | 0.0 | 22.3 | 28.4 | 0.0 | 7.3 |
| LnGrp LOS | B | A | A | C | A | A | D | A | C | C | A | A |
| Approach Vol, veh/h | | 121 | | | 253 | | | 706 | | | | 362 |
| Approach Delay, s/veh | | 19.0 | | | 21.5 | | | 24.2 | | | | 19.2 |
| Approach LOS | | B | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.4 | 29.9 | | 18.7 | 5.6 | 36.7 | | 18.7 | | | | |
| Change Period (Y+Rc), s | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | |
| Max Green Setting (Gmax), s | 26.5 | 36.5 | | 36.5 | 8.5 | 36.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.8 | 22.3 | | 5.3 | 3.5 | 4.7 | | 10.8 | | | | |
| Green Ext Time (p_c), s | 0.4 | 4.1 | | 0.4 | 0.0 | 0.9 | | 0.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 22.1 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

HCM 6th TWSC
6: D Street & Windsor Dr/Pinnacle Dr

Cumulative No Project
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | | ↔ | ↔ | | ↔ | ↔ | |
| Traffic Vol, veh/h | 50 | 10 | 20 | 0 | 10 | 10 | 120 | 740 | 10 | 10 | 190 | 70 |
| Future Vol, veh/h | 50 | 10 | 20 | 0 | 10 | 10 | 120 | 740 | 10 | 10 | 190 | 70 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 30 | - | - | - | 75 | - | - | 75 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 56 | 11 | 22 | 0 | 11 | 11 | 135 | 831 | 11 | 11 | 213 | 79 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1393 | 1387 | 253 | 1398 | 1421 | 837 | 292 | 0 | 0 | 842 | 0 | 0 |
| Stage 1 | 275 | 275 | - | 1107 | 1107 | - | - | - | - | - | - | - |
| Stage 2 | 1118 | 1112 | - | 291 | 314 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 119 | 143 | 786 | 118 | 136 | 367 | 1270 | - | - | 794 | - | - |
| Stage 1 | 731 | 683 | - | 255 | 286 | - | - | - | - | - | - | - |
| Stage 2 | 251 | 284 | - | 717 | 656 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 97 | 126 | 786 | 97 | 120 | 367 | 1270 | - | - | 794 | - | - |
| Mov Cap-2 Maneuver | 97 | 126 | - | 97 | 120 | - | - | - | - | - | - | - |
| Stage 1 | 654 | 673 | - | 228 | 256 | - | - | - | - | - | - | - |
| Stage 2 | 208 | 254 | - | 675 | 647 | - | - | - | - | - | - | - |























| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 72.6 | | 27.7 | | 1.1 | | 0.4 | |
| HCM LOS | F | | D | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1270 | - | - | 101 | 786 | 181 | 794 | - | - |
| HCM Lane V/C Ratio | 0.106 | - | - | 0.667 | 0.029 | 0.124 | 0.014 | - | - |
| HCM Control Delay (s) | 8.2 | - | - | 93.5 | 9.7 | 27.7 | 9.6 | - | - |
| HCM Lane LOS | A | - | - | F | A | D | A | - | - |
| HCM 95th %tile Q(veh) | 0.4 | - | - | 3.4 | 0.1 | 0.4 | 0 | - | - |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St

Cumulative Plus Project
AM Peak Hour
























| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 10 | 460 | 111 | 510 | 420 | 30 | 82 | 341 | 461 | 20 | 340 | 20 | |
| Future Volume (vph) | 10 | 460 | 111 | 510 | 420 | 30 | 82 | 341 | 461 | 20 | 340 | 20 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.5 | 4.0 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.78 | 1.00 | 1.00 | 0.93 | | 1.00 | 0.97 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3531 | 1240 | 1770 | 1863 | 1467 | | 1845 | 1530 | 1770 | 1829 | | |
| Flt Permitted | | 0.74 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 2628 | 1240 | 1770 | 1863 | 1467 | | 1845 | 1530 | 1770 | 1829 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 10 | 465 | 112 | 515 | 424 | 30 | 83 | 344 | 466 | 20 | 343 | 20 | |
| RTOR Reduction (vph) | 0 | 0 | 63 | 0 | 0 | 15 | 0 | 0 | 142 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 475 | 49 | 515 | 424 | 15 | 0 | 427 | 324 | 20 | 361 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 20.5 | 20.5 | 42.2 | 67.2 | 67.2 | | 33.8 | 76.0 | 24.0 | 24.0 | | |
| Effective Green, g (s) | | 20.5 | 21.0 | 42.2 | 67.2 | 67.2 | | 33.3 | 76.0 | 23.5 | 23.5 | | |
| Actuated g/C Ratio | | 0.15 | 0.15 | 0.31 | 0.49 | 0.49 | | 0.24 | 0.55 | 0.17 | 0.17 | | |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | | | | 4.0 | 4.5 | 4.0 | 4.0 | | |
| Vehicle Extension (s) | | 4.0 | 4.0 | 2.0 | | | | 2.5 | 2.0 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 391 | 189 | 543 | 910 | 716 | | 446 | 895 | 302 | 312 | | |
| v/s Ratio Prot | | | | c0.29 | 0.23 | | | c0.23 | 0.11 | 0.01 | c0.20 | | |
| v/s Ratio Perm | | c0.18 | 0.04 | | | 0.01 | | | 0.10 | | | | |
| v/c Ratio | | 1.21 | 0.26 | 0.95 | 0.47 | 0.02 | | 0.96 | 0.36 | 0.07 | 1.16 | | |
| Uniform Delay, d1 | | 58.5 | 51.4 | 46.6 | 23.3 | 18.2 | | 51.4 | 17.2 | 47.8 | 57.0 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 118.0 | 1.0 | 25.8 | 0.1 | 0.0 | | 31.5 | 0.1 | 0.1 | 101.0 | | |
| Delay (s) | | 176.5 | 52.4 | 72.4 | 23.4 | 18.2 | | 82.9 | 17.3 | 47.9 | 158.0 | | |
| Level of Service | | F | D | E | C | B | | F | B | D | F | | |
| Approach Delay (s) | | 152.8 | | | 49.3 | | | 48.7 | | | 152.2 | | |
| Approach LOS | | F | | | D | | | D | | | F | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 84.5 | | HCM 2000 Level of Service | | | | | F | | | |
| HCM 2000 Volume to Capacity ratio | | | 1.04 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 137.5 | | Sum of lost time (s) | | | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 103.8% | | ICU Level of Service | | | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM 6th Signalized Intersection Summary

2: D Street & Petaluma Blvd North

















Cumulative Plus Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 70 | 210 | 282 | 131 | 280 | 70 | 175 | 494 | 73 | 60 | 351 | 40 |
| Future Volume (veh/h) | 70 | 210 | 282 | 131 | 280 | 70 | 175 | 494 | 73 | 60 | 351 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.91 | 1.00 | | 0.92 | 1.00 | | 0.94 | 1.00 | | 0.93 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 73 | 219 | 65 | 136 | 292 | 16 | 182 | 515 | 72 | 62 | 366 | 13 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 106 | 383 | 296 | 178 | 459 | 359 | 231 | 587 | 82 | 79 | 529 | 417 |
| Arrive On Green | 0.06 | 0.20 | 0.20 | 0.10 | 0.25 | 0.25 | 0.13 | 0.37 | 0.37 | 0.04 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 1870 | 1445 | 1781 | 1870 | 1463 | 1781 | 1592 | 223 | 1781 | 1870 | 1475 |
| Grp Volume(v), veh/h | 73 | 219 | 65 | 136 | 292 | 16 | 182 | 0 | 587 | 62 | 366 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1445 | 1781 | 1870 | 1463 | 1781 | 0 | 1814 | 1781 | 1870 | 1475 |
| Q Serve(g_s), s | 2.3 | 6.0 | 2.1 | 4.2 | 7.9 | 0.4 | 5.6 | 0.0 | 17.1 | 2.0 | 9.9 | 0.3 |
| Cycle Q Clear(g_c), s | 2.3 | 6.0 | 2.1 | 4.2 | 7.9 | 0.4 | 5.6 | 0.0 | 17.1 | 2.0 | 9.9 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 106 | 383 | 296 | 178 | 459 | 359 | 231 | 0 | 669 | 79 | 529 | 417 |
| V/C Ratio(X) | 0.69 | 0.57 | 0.22 | 0.76 | 0.64 | 0.04 | 0.79 | 0.00 | 0.88 | 0.79 | 0.69 | 0.03 |
| Avail Cap(c_a), veh/h | 786 | 1024 | 791 | 629 | 859 | 671 | 440 | 0 | 1025 | 598 | 1222 | 963 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.1 | 20.3 | 18.8 | 24.8 | 19.1 | 9.3 | 23.9 | 0.0 | 16.7 | 26.8 | 18.1 | 7.6 |
| Incr Delay (d2), s/veh | 3.0 | 1.9 | 0.5 | 2.5 | 2.1 | 0.1 | 2.2 | 0.0 | 5.0 | 6.3 | 1.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 2.6 | 0.7 | 1.8 | 3.4 | 0.2 | 2.3 | 0.0 | 7.0 | 0.9 | 4.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.1 | 22.2 | 19.3 | 27.4 | 21.2 | 9.4 | 26.1 | 0.0 | 21.7 | 33.1 | 19.3 | 7.6 |
| LnGrp LOS | C | C | B | C | C | A | C | A | C | C | B | A |
| Approach Vol, veh/h | | 357 | | | 444 | | | 769 | | | 441 | |
| Approach Delay, s/veh | | 23.1 | | | 22.7 | | | 22.8 | | | 20.9 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.5 | 24.9 | 9.7 | 15.6 | 11.4 | 20.0 | 7.4 | 17.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.0 | 32.0 | 20.0 | 31.0 | 14.0 | 37.0 | 25.0 | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.0 | 19.1 | 6.2 | 8.0 | 7.6 | 11.9 | 4.3 | 9.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 1.8 | 0.2 | 0.9 | 0.2 | 1.2 | 0.1 | 1.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 22.4 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |

HCM 6th Signalized Intersection Summary

3: D Street & 6th Street

Cumulative Plus Project
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 110 | 190 | 40 | 20 | 200 | 50 | 91 | 332 | 11 | 40 | 414 | 70 |
| Future Volume (veh/h) | 110 | 190 | 40 | 20 | 200 | 50 | 91 | 332 | 11 | 40 | 414 | 70 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.98 | | 0.94 | 0.98 | | 0.94 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 120 | 207 | 33 | 22 | 217 | 37 | 99 | 361 | 10 | 43 | 450 | 66 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 255 | 343 | 48 | 120 | 475 | 76 | 220 | 619 | 16 | 132 | 657 | 92 |
| Arrive On Green | 0.32 | 0.32 | 0.34 | 0.32 | 0.32 | 0.34 | 0.44 | 0.44 | 0.43 | 0.44 | 0.44 | 0.43 |
| Sat Flow, veh/h | 405 | 1063 | 148 | 58 | 1474 | 237 | 242 | 1394 | 36 | 71 | 1478 | 207 |
| Grp Volume(v), veh/h | 360 | 0 | 0 | 276 | 0 | 0 | 470 | 0 | 0 | 559 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1616 | 0 | 0 | 1770 | 0 | 0 | 1672 | 0 | 0 | 1757 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.9 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 |
| Prop In Lane | 0.33 | | 0.09 | 0.08 | | 0.13 | 0.21 | | 0.02 | 0.08 | | 0.12 |
| Lane Grp Cap(c), veh/h | 645 | 0 | 0 | 671 | 0 | 0 | 856 | 0 | 0 | 881 | 0 | 0 |
| V/C Ratio(X) | 0.56 | 0.00 | 0.00 | 0.41 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1149 | 0 | 0 | 1253 | 0 | 0 | 1181 | 0 | 0 | 1251 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 11.1 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.6 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | A | A | A | A | A | A |
| Approach Vol, veh/h | | 360 | | | 276 | | | 470 | | | | 559 |
| Approach Delay, s/veh | | 11.6 | | | 10.7 | | | 8.8 | | | | 9.7 |
| Approach LOS | | B | | | B | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 21.6 | | 16.9 | | 21.6 | | 16.9 | | | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | | 5.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 25.0 | | 26.0 | | 25.0 | | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.5 | | 8.9 | | 11.7 | | 6.7 | | | | |
| Green Ext Time (p_c), s | | 3.0 | | 1.2 | | 3.3 | | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 10.0 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 21.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 30 | 40 | 30 | 40 | 50 | 40 | 40 | 394 | 20 | 40 | 405 | 30 |
| Future Vol, veh/h | 30 | 40 | 30 | 40 | 50 | 40 | 40 | 394 | 20 | 40 | 405 | 30 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 32 | 43 | 32 | 43 | 53 | 43 | 43 | 419 | 21 | 43 | 431 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11.7 | 12.2 | 23.1 | 24.9 |
| HCM LOS | B | B | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 9% | 30% | 31% | 8% |
| Vol Thru, % | 87% | 40% | 38% | 85% |
| Vol Right, % | 4% | 30% | 31% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 454 | 100 | 130 | 475 |
| LT Vol | 40 | 30 | 40 | 40 |
| Through Vol | 394 | 40 | 50 | 405 |
| RT Vol | 20 | 30 | 40 | 30 |
| Lane Flow Rate | 483 | 106 | 138 | 505 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.743 | 0.204 | 0.261 | 0.772 |
| Departure Headway (Hd) | 5.54 | 6.908 | 6.793 | 5.499 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 647 | 522 | 531 | 652 |
| Service Time | 3.639 | 4.918 | 4.799 | 3.595 |
| HCM Lane V/C Ratio | 0.747 | 0.203 | 0.26 | 0.775 |
| HCM Control Delay | 23.1 | 11.7 | 12.2 | 24.9 |
| HCM Lane LOS | C | B | B | C |
| HCM 95th-tile Q | 6.6 | 0.8 | 1 | 7.3 |

HCM 6th Signalized Intersection Summary

5: D Street & El Rose Dr/Sunnyslope Ave

Cumulative Plus Project
AM Peak Hour

























| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 20 | 120 | 30 | 71 | 130 | 260 | 40 | 174 | 92 | 140 | 275 | 40 |
| Future Volume (veh/h) | 20 | 120 | 30 | 71 | 130 | 260 | 40 | 174 | 92 | 140 | 275 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.94 | 0.98 | | 0.94 | 1.00 | | 0.93 | 1.00 | | 0.94 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 158 | 30 | 93 | 171 | 287 | 53 | 229 | 99 | 184 | 362 | 46 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 107 | 520 | 91 | 145 | 208 | 305 | 40 | 328 | 142 | 210 | 592 | 75 |
| Arrive On Green | 0.38 | 0.38 | 0.39 | 0.38 | 0.38 | 0.39 | 0.02 | 0.27 | 0.29 | 0.12 | 0.37 | 0.38 |
| Sat Flow, veh/h | 99 | 1381 | 241 | 191 | 553 | 809 | 1781 | 1208 | 522 | 1781 | 1614 | 205 |
| Grp Volume(v), veh/h | 214 | 0 | 0 | 551 | 0 | 0 | 53 | 0 | 328 | 184 | 0 | 408 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 0 | 0 | 1554 | 0 | 0 | 1781 | 0 | 1731 | 1781 | 0 | 1819 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 1.3 | 0.0 | 9.8 | 5.9 | 0.0 | 10.5 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | 1.3 | 0.0 | 9.8 | 5.9 | 0.0 | 10.5 |
| Prop In Lane | 0.12 | | 0.14 | 0.17 | | 0.52 | 1.00 | | 0.30 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 718 | 0 | 0 | 658 | 0 | 0 | 40 | 0 | 470 | 210 | 0 | 667 |
| V/C Ratio(X) | 0.30 | 0.00 | 0.00 | 0.84 | 0.00 | 0.00 | 1.33 | 0.00 | 0.70 | 0.88 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 1104 | 0 | 0 | 758 | 0 | 0 | 232 | 0 | 1066 | 788 | 0 | 1120 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.6 | 0.0 | 0.0 | 16.9 | 0.0 | 0.0 | 28.2 | 0.0 | 18.7 | 25.0 | 0.0 | 14.8 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 | 162.6 | 0.0 | 2.7 | 4.6 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.0 | 0.0 | 7.2 | 0.0 | 0.0 | 2.3 | 0.0 | 3.9 | 2.6 | 0.0 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.8 | 0.0 | 0.0 | 23.9 | 0.0 | 0.0 | 190.8 | 0.0 | 21.4 | 29.6 | 0.0 | 16.1 |
| LnGrp LOS | B | A | A | C | A | A | F | A | C | C | A | B |
| Approach Vol, veh/h | | 214 | | | 551 | | | 381 | | | | 592 |
| Approach Delay, s/veh | | 12.8 | | | 23.9 | | | 45.0 | | | | 20.3 |
| Approach LOS | | B | | | C | | | D | | | | C |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.3 | 20.1 | | 26.2 | 5.8 | 25.6 | | 26.2 | | | | |
| Change Period (Y+Rc), s | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | |
| Max Green Setting (Gmax), s | 26.5 | 36.5 | | 36.5 | 8.5 | 36.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.9 | 11.8 | | 6.8 | 3.3 | 12.5 | | 21.6 | | | | |
| Green Ext Time (p_c), s | 0.4 | 2.2 | | 0.7 | 0.0 | 2.7 | | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 25.9 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.9 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 233 | 22 | 148 | 477 |
| Demand Flow Rate, veh/h | 238 | 22 | 151 | 487 |
| Vehicles Circulating, veh/h | 402 | 282 | 165 | 23 |
| Vehicles Exiting, veh/h | 108 | 33 | 475 | 281 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 6.7 | 3.7 | 4.3 | 6.1 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 238 | 22 | 151 | 487 |
| Cap Entry Lane, veh/h | 916 | 1035 | 1166 | 1348 |
| Entry HV Adj Factor | 0.978 | 0.990 | 0.983 | 0.980 |
| Flow Entry, veh/h | 233 | 22 | 148 | 477 |
| Cap Entry, veh/h | 896 | 1025 | 1147 | 1321 |
| V/C Ratio | 0.260 | 0.021 | 0.129 | 0.361 |
| Control Delay, s/veh | 6.7 | 3.7 | 4.3 | 6.1 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 1 | 0 | 0 | 2 |

HCM Signalized Intersection Capacity Analysis

1: D Street & Lakeville St

Cumulative Plus Project
PM Peak Hour
























| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | |  |  |  |  |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 10 | 550 | 92 | 542 | 650 | 30 | 121 | 371 | 582 | 20 | 381 | 30 | |
| Future Volume (vph) | 10 | 550 | 92 | 542 | 650 | 30 | 121 | 371 | 582 | 20 | 381 | 30 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 5.0 | 4.5 | 5.0 | 5.0 | 5.0 | | 4.5 | 5.0 | 4.5 | 4.5 | | |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frbp, ped/bikes | | 1.00 | 0.78 | 1.00 | 1.00 | 0.93 | | 1.00 | 0.96 | 1.00 | 0.99 | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (prot) | | 3536 | 1237 | 1770 | 1863 | 1465 | | 1840 | 1525 | 1770 | 1819 | | |
| Flt Permitted | | 0.68 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | |
| Satd. Flow (perm) | | 2410 | 1237 | 1770 | 1863 | 1465 | | 1840 | 1525 | 1770 | 1819 | | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Adj. Flow (vph) | 10 | 556 | 93 | 547 | 657 | 30 | 122 | 375 | 588 | 20 | 385 | 30 | |
| RTOR Reduction (vph) | 0 | 0 | 61 | 0 | 0 | 16 | 0 | 0 | 151 | 0 | 2 | 0 | |
| Lane Group Flow (vph) | 0 | 566 | 32 | 547 | 657 | 14 | 0 | 497 | 437 | 20 | 413 | 0 | |
| Confl. Peds. (#/hr) | 50 | | 50 | | | 50 | 50 | | 50 | 50 | | 50 | |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 | |
| Turn Type | Perm | NA | Perm | Prot | NA | Perm | Split | NA | pm+ov | Split | NA | | |
| Protected Phases | | 4 | | 3 | 3 | 8 | 2 | 2 | 3 | 6 | 6 | | |
| Permitted Phases | 4 | | 4 | | | 3 | 8 | | 2 | | | | |
| Actuated Green, G (s) | | 25.5 | 25.5 | 37.5 | 67.5 | 67.5 | | 35.0 | 72.5 | 25.0 | 25.0 | | |
| Effective Green, g (s) | | 25.0 | 25.5 | 37.0 | 67.0 | 67.0 | | 34.5 | 71.5 | 24.5 | 24.5 | | |
| Actuated g/C Ratio | | 0.18 | 0.18 | 0.26 | 0.48 | 0.48 | | 0.25 | 0.51 | 0.18 | 0.18 | | |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | | | | 4.0 | 4.5 | 4.0 | 4.0 | | |
| Vehicle Extension (s) | | 4.0 | 4.0 | 2.0 | | | | 2.5 | 2.0 | 2.5 | 2.5 | | |
| Lane Grp Cap (vph) | | 430 | 225 | 467 | 891 | 701 | | 453 | 833 | 309 | 318 | | |
| v/s Ratio Prot | | | | c0.31 | 0.35 | | | c0.27 | 0.14 | 0.01 | c0.23 | | |
| v/s Ratio Perm | | c0.23 | 0.03 | | | 0.01 | | | 0.15 | | | | |
| v/c Ratio | | 1.32 | 0.14 | 1.17 | 0.74 | 0.02 | | 1.10 | 0.52 | 0.06 | 1.30 | | |
| Uniform Delay, d1 | | 57.5 | 48.1 | 51.5 | 29.4 | 19.2 | | 52.8 | 22.9 | 48.2 | 57.8 | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Incremental Delay, d2 | | 158.0 | 0.4 | 97.9 | 2.8 | 0.0 | | 71.2 | 0.3 | 0.1 | 156.1 | | |
| Delay (s) | | 215.5 | 48.5 | 149.4 | 32.2 | 19.2 | | 124.0 | 23.2 | 48.3 | 213.9 | | |
| Level of Service | | F | D | F | C | B | | F | C | D | F | | |
| Approach Delay (s) | | 191.9 | | | 83.8 | | | 69.4 | | | 206.3 | | |
| Approach LOS | | F | | | F | | | E | | | F | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 115.7 | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | | | 1.20 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | | | | | | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | | | 115.0% | | | | | | | | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

c Critical Lane Group

HCM 6th Signalized Intersection Summary

















2: D Street & Petaluma Blvd North

Cumulative Plus Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Traffic Volume (veh/h) | 130 | 250 | 306 | 173 | 260 | 200 | 193 | 483 | 92 | 280 | 395 | 20 |
| Future Volume (veh/h) | 130 | 250 | 306 | 173 | 260 | 200 | 193 | 483 | 92 | 280 | 395 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 1.00 | | 0.91 | 1.00 | | 0.94 | 1.00 | | 0.94 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 135 | 260 | 109 | 180 | 271 | 34 | 201 | 503 | 91 | 292 | 411 | 7 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 201 | 336 | 257 | 217 | 352 | 270 | 235 | 524 | 95 | 326 | 739 | 591 |
| Arrive On Green | 0.11 | 0.18 | 0.18 | 0.12 | 0.19 | 0.19 | 0.13 | 0.34 | 0.34 | 0.18 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 1430 | 1781 | 1870 | 1436 | 1781 | 1524 | 276 | 1781 | 1870 | 1497 |
| Grp Volume(v), veh/h | 135 | 260 | 109 | 180 | 271 | 34 | 201 | 0 | 594 | 292 | 411 | 7 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1430 | 1781 | 1870 | 1436 | 1781 | 0 | 1800 | 1781 | 1870 | 1497 |
| Q Serve(g_s), s | 6.8 | 12.3 | 6.3 | 9.2 | 12.8 | 1.2 | 10.3 | 0.0 | 30.1 | 14.9 | 15.9 | 0.2 |
| Cycle Q Clear(g_c), s | 6.8 | 12.3 | 6.3 | 9.2 | 12.8 | 1.2 | 10.3 | 0.0 | 30.1 | 14.9 | 15.9 | 0.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.15 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 201 | 336 | 257 | 217 | 352 | 270 | 235 | 0 | 619 | 326 | 739 | 591 |
| V/C Ratio(X) | 0.67 | 0.77 | 0.42 | 0.83 | 0.77 | 0.13 | 0.85 | 0.00 | 0.96 | 0.89 | 0.56 | 0.01 |
| Avail Cap(c_a), veh/h | 478 | 623 | 476 | 383 | 522 | 401 | 268 | 0 | 619 | 364 | 744 | 595 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.6 | 36.4 | 33.9 | 39.9 | 35.9 | 14.0 | 39.5 | 0.0 | 29.9 | 37.1 | 21.8 | 7.7 |
| Incr Delay (d2), s/veh | 1.5 | 5.4 | 1.6 | 3.1 | 5.4 | 0.3 | 18.9 | 0.0 | 26.4 | 20.8 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 6.0 | 2.3 | 4.2 | 6.3 | 0.6 | 5.7 | 0.0 | 17.0 | 8.2 | 6.9 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.1 | 41.8 | 35.5 | 43.1 | 41.3 | 14.3 | 58.4 | 0.0 | 56.3 | 57.9 | 22.6 | 7.7 |
| LnGrp LOS | D | D | D | D | D | B | E | A | E | E | C | A |
| Approach Vol, veh/h | | 504 | | | 485 | | | 795 | | | 710 | |
| Approach Delay, s/veh | | 40.2 | | | 40.1 | | | 56.8 | | | 37.0 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 21.1 | 36.0 | 15.3 | 20.7 | 16.3 | 40.8 | 14.5 | 21.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.0 | 32.0 | 20.0 | 31.0 | 14.0 | 37.0 | 25.0 | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 16.9 | 32.1 | 11.2 | 14.3 | 12.3 | 17.9 | 8.8 | 14.8 | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.0 | 0.2 | 2.1 | 0.1 | 1.2 | 0.2 | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 44.6 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

HCM 6th Signalized Intersection Summary
3: D Street & 6th Street

Cumulative Plus Project
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (veh/h) | 60 | 220 | 51 | 11 | 190 | 40 | 91 | 528 | 21 | 40 | 424 | 110 |
| Future Volume (veh/h) | 60 | 220 | 51 | 11 | 190 | 40 | 91 | 528 | 21 | 40 | 424 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.93 | 0.98 | | 0.93 | 0.99 | | 0.95 | 0.99 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 62 | 227 | 39 | 11 | 196 | 26 | 94 | 544 | 20 | 41 | 437 | 101 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 163 | 385 | 60 | 100 | 468 | 60 | 175 | 692 | 24 | 122 | 640 | 141 |
| Arrive On Green | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 | 0.31 | 0.46 | 0.46 | 0.47 | 0.46 | 0.46 | 0.47 |
| Sat Flow, veh/h | 197 | 1291 | 201 | 28 | 1569 | 201 | 164 | 1508 | 52 | 62 | 1395 | 308 |
| Grp Volume(v), veh/h | 328 | 0 | 0 | 233 | 0 | 0 | 658 | 0 | 0 | 579 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1689 | 0 | 0 | 1798 | 0 | 0 | 1724 | 0 | 0 | 1765 | 0 | 0 |
| Q Serve(g_s), s | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.7 | 0.0 | 0.0 | 4.2 | 0.0 | 0.0 | 13.0 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Prop In Lane | 0.19 | | 0.12 | 0.05 | | 0.11 | 0.14 | | 0.03 | 0.07 | | 0.17 |
| Lane Grp Cap(c), veh/h | 608 | 0 | 0 | 628 | 0 | 0 | 891 | 0 | 0 | 903 | 0 | 0 |
| V/C Ratio(X) | 0.54 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 | 0.74 | 0.00 | 0.00 | 0.64 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1128 | 0 | 0 | 1193 | 0 | 0 | 1108 | 0 | 0 | 1129 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 12.4 | 0.0 | 0.0 | 11.6 | 0.0 | 0.0 | 9.4 | 0.0 | 0.0 | 8.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 2.4 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.9 | 0.0 | 0.0 | 11.9 | 0.0 | 0.0 | 11.8 | 0.0 | 0.0 | 10.0 | 0.0 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | B | A | A | B | A | A |
| Approach Vol, veh/h | | 328 | | | 233 | | | 658 | | | | 579 |
| Approach Delay, s/veh | | 12.9 | | | 11.9 | | | 11.8 | | | | 10.0 |
| Approach LOS | | B | | | B | | | B | | | | B |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.4 | | 16.8 | | 24.4 | | 16.8 | | | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | | 5.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 25.0 | | 26.0 | | 25.0 | | 26.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 15.0 | | 8.7 | | 12.5 | | 6.2 | | | | |
| Green Ext Time (p_c), s | | 3.5 | | 1.0 | | 3.4 | | 0.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 11.5 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 52.8 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 20 | 30 | 20 | 20 | 50 | 30 | 60 | 599 | 30 | 60 | 376 | 30 |
| Future Vol, veh/h | 20 | 30 | 20 | 20 | 50 | 30 | 60 | 599 | 30 | 60 | 376 | 30 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 21 | 32 | 21 | 21 | 53 | 32 | 64 | 637 | 32 | 64 | 400 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11.6 | 12 | 82.1 | 24.4 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 9% | 29% | 20% | 13% |
| Vol Thru, % | 87% | 43% | 50% | 81% |
| Vol Right, % | 4% | 29% | 30% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 689 | 70 | 100 | 466 |
| LT Vol | 60 | 20 | 20 | 60 |
| Through Vol | 599 | 30 | 50 | 376 |
| RT Vol | 30 | 20 | 30 | 30 |
| Lane Flow Rate | 733 | 74 | 106 | 496 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.085 | 0.146 | 0.204 | 0.76 |
| Departure Headway (Hd) | 5.33 | 7.359 | 7.192 | 5.687 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 682 | 490 | 502 | 640 |
| Service Time | 3.362 | 5.359 | 5.192 | 3.687 |
| HCM Lane V/C Ratio | 1.075 | 0.151 | 0.211 | 0.775 |
| HCM Control Delay | 82.1 | 11.6 | 12 | 24.4 |
| HCM Lane LOS | F | B | B | C |
| HCM 95th-tile Q | 20.5 | 0.5 | 0.8 | 7 |

HCM 6th Signalized Intersection Summary
5: D Street & El Rose Dr/Sunnyslope Ave

Cumulative Plus Project
PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Volume (veh/h) | 20 | 80 | 20 | 62 | 80 | 130 | 40 | 539 | 91 | 190 | 146 | 20 |
| Future Volume (veh/h) | 20 | 80 | 20 | 62 | 80 | 130 | 40 | 539 | 91 | 190 | 146 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.97 | | 0.92 | 0.96 | | 0.92 | 1.00 | | 0.95 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 86 | 13 | 67 | 86 | 102 | 43 | 580 | 94 | 204 | 157 | 18 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 108 | 336 | 45 | 143 | 154 | 149 | 46 | 667 | 108 | 245 | 886 | 102 |
| Arrive On Green | 0.24 | 0.24 | 0.25 | 0.24 | 0.24 | 0.25 | 0.03 | 0.43 | 0.44 | 0.14 | 0.54 | 0.55 |
| Sat Flow, veh/h | 164 | 1399 | 188 | 289 | 643 | 621 | 1781 | 1556 | 252 | 1781 | 1638 | 188 |
| Grp Volume(v), veh/h | 121 | 0 | 0 | 255 | 0 | 0 | 43 | 0 | 674 | 204 | 0 | 175 |
| Grp Sat Flow(s),veh/h/ln | 1750 | 0 | 0 | 1552 | 0 | 0 | 1781 | 0 | 1809 | 1781 | 0 | 1826 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 1.5 | 0.0 | 21.0 | 6.9 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | 3.4 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 | 1.5 | 0.0 | 21.0 | 6.9 | 0.0 | 3.0 |
| Prop In Lane | 0.18 | | 0.11 | 0.26 | | 0.40 | 1.00 | | 0.14 | 1.00 | | 0.10 |
| Lane Grp Cap(c), veh/h | 489 | 0 | 0 | 446 | 0 | 0 | 46 | 0 | 776 | 245 | 0 | 987 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.00 | 0.57 | 0.00 | 0.00 | 0.94 | 0.00 | 0.87 | 0.83 | 0.00 | 0.18 |
| Avail Cap(c_a), veh/h | 1046 | 0 | 0 | 715 | 0 | 0 | 230 | 0 | 1049 | 746 | 0 | 1059 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 0.0 | 21.1 | 0.0 | 0.0 | 30.2 | 0.0 | 16.1 | 26.1 | 0.0 | 7.2 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 25.4 | 0.0 | 7.0 | 2.8 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 | 0.9 | 0.0 | 9.0 | 3.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.4 | 0.0 | 0.0 | 22.0 | 0.0 | 0.0 | 55.6 | 0.0 | 23.1 | 28.9 | 0.0 | 7.3 |
| LnGrp LOS | B | A | A | C | A | A | E | A | C | C | A | A |
| Approach Vol, veh/h | | 121 | | | 255 | | | 717 | | | | 379 |
| Approach Delay, s/veh | | 19.4 | | | 22.0 | | | 25.0 | | | | 18.9 |
| Approach LOS | | B | | | C | | | C | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.5 | 30.6 | | 18.9 | 5.6 | 37.6 | | 18.9 | | | | |
| Change Period (Y+Rc), s | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | |
| Max Green Setting (Gmax), s | 26.5 | 36.5 | | 36.5 | 8.5 | 36.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.9 | 23.0 | | 5.4 | 3.5 | 5.0 | | 11.0 | | | | |
| Green Ext Time (p_c), s | 0.4 | 4.1 | | 0.4 | 0.0 | 1.0 | | 0.7 | | | | |

Intersection Summary

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

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 13.2 | | | |
| Intersection LOS | B | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 92 | 22 | 983 | 322 |
| Demand Flow Rate, veh/h | 94 | 22 | 1003 | 328 |
| Vehicles Circulating, veh/h | 232 | 1049 | 79 | 152 |
| Vehicles Exiting, veh/h | 248 | 33 | 246 | 919 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.1 | 8.3 | 16.5 | 5.7 |
| Approach LOS | A | A | C | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 94 | 22 | 1003 | 328 |
| Cap Entry Lane, veh/h | 1089 | 473 | 1273 | 1182 |
| Entry HV Adj Factor | 0.976 | 0.990 | 0.980 | 0.981 |
| Flow Entry, veh/h | 92 | 22 | 983 | 322 |
| Cap Entry, veh/h | 1063 | 469 | 1248 | 1159 |
| V/C Ratio | 0.086 | 0.046 | 0.788 | 0.278 |
| Control Delay, s/veh | 4.1 | 8.3 | 16.5 | 5.7 |
| LOS | A | A | C | A |
| 95th %tile Queue, veh | 0 | 0 | 9 | 1 |

TDM STRATEGY EVALUATION - CAPCOA Strategies and New Research Since 2010



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Application to Scott Ranch EIR

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|--------------------|----------|---|---|--|---|--|--|--------------------------------|
| | | | | | New information | Change in VMT reduction compared to CAPCOA | Literature or Evidence Cited | |
| | | | | | | | | |
| Land Use/Location | 3.1.1 | LUT-1 Increase Density | 0.8% - 30% VMT reduction due to increase in density | Adequate | <p>Increasing residential density is associated with lower VMT per capita. Increased residential density in areas with high jobs access may have a greater VMT change than increases in regions with lower jobs access.</p> <p>The range of reductions is based on a range of elasticities from -0.04 to -0.22. The low end of the reductions represents a -0.04 elasticity of demand in response to a 10% increase in residential units or employment density and a -0.22 elasticity in response to 50% increase to residential/employment density.</p> | 0.4% -10.75% | <p>Primary sources: Boarnet, M. and Handy, S. (2014). Impacts of Residential Density on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm</p> <p>Secondary source: Stevens, M. (2017). Does Compact Development Make People Drive Less? Journal of the American Planning Association, 83(1), 7-18.</p> | 2 |
| Land Use/Location | 3.1.9 | LUT-9 Improve Design of Development | 3.0% - 21.3% reduction in VMT due to increasing intersection density vs. typical ITE suburban | Adequate | No update to CAPCOA literature; advice applying CAPCOA measure only to large developments with significant internal street structure. | Same | N/A | 2,4 |
| Land Use/Location | 3.1.4 | LUT-4 Increase Destination Accessibility | 6.7%-20% VMT reduction due to decrease in distance to major job center or downtown | Adequate | Reduction in VMT due to increased regional accessibility (jobs gravity). Locating new development in areas with good access to destinations reduces VMT by reducing trip lengths and making walking, biking, and transit trips more feasible. Destination accessibility is measured in terms of the number of jobs (or other attractions) reachable within a given travel time, which tends to be highest at central locations and lowest at peripheral ones. | 0.5%-12% | <p>Primary sources: Handy, S. et al. (2014). Impacts of Network Connectivity on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm</p> <p>Handy, S. et al. (2013). Impacts of Regional Accessibility on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm</p> <p>Secondary source:</p> | 3 |
| Land Use/ Location | 3.1.3 | LUT-3 Increase Diversity of Urban and Suburban Developments | 9%-30% VMT reduction due to mixing land uses within a single development | Adequate | <p>1) VMT reduction due to mix of land uses within a single development. Mixing land uses within a single development can decrease VMT (and resulting GHG emissions), since building users do not need to drive to meet all of their needs. 2) Reduction in VMT due to regional change in entropy index of diversity. Providing a mix of land uses within a single neighborhood can decrease VMT (and resulting GHG emissions), since trips between land use types are shorter and may be accommodated by non-auto modes of transport. For example when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs. At the regional level, reductions in VMT are measured in response to changes in the entropy index of land use diversity.</p> | <p>1) 0%-12%</p> <p>2) 0.3%-4%</p> | <p>1) Ewing, R. and Cervero, R. (2010). Travel and the Built Environment - A Meta-Analysis. Journal of the American Planning Association, 76(3), 265-294. Cited in California Air Pollution Control Officers Association. (2010). Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf</p> <p>Frank, L., Greenwald, M., Kavage, S. and Devlin, A. (2011). An Assessment of Urban Form and Pedestrian and Transit Improvements as an Integrated GHG Reduction Strategy. WSDOT Research Report WA-RD 765.1. Washington State Department of Transportation. Retrieved from: http://www.wsdot.wa.gov/research/reports/fullreports/765.1.pdf</p> <p>Nasri, A. and Zhang, L. (2012). Impact of Metropolitan-Level Built Environment on Travel Behavior. Transportation Research Record: Journal of the Transportation Research Board, 2323(1), 75-79.</p> <p>Sadek, A. et al. (2011). Reducing VMT through Smart Land-Use Design. New York State Energy Research and Development Authority. Retrieved from: https://www.dot.ny.gov/divisions/engineering/technical-services/trans-r-and-d-repository/C-08-29%20Final%20Report_December%202011%20%282%29.pdf</p> <p>Spears, S. et al. (2014). Impacts of Land-Use Mix on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm</p> <p>2) Zhang, Wengia et al. "Short- and Long-Term Effects of Land Use on Reducing Personal Vehicle Miles of Travel."</p> | 2 |
| Land Use/ Location | 3.1.5 | LUT-5 Increase Transit Accessibility | 0.5%-24.6% reduce in VMT due to locating a project near high-quality transit | Adequate | <p>1) VMT reduction when transit station is provided within 1/2 mile of development (compared to VMT for sites located outside 1/2 mile radius of transit). Locating high density development within 1/2 mile of transit will facilitate the use of transit by people traveling to or from the Project site. The use of transit results in a mode shift and therefore reduced VMT.</p> <p>2) Reduction in vehicle trips due to implementing TOD. A project with a residential/commercial center designed around a rail or bus station, is called a transit-oriented development (TOD). The project description should include, at a minimum, the following design features: <ul style="list-style-type: none"> • A transit station/stop with high-quality, high-frequency bus service located within a 5-10 minute walk (or roughly 1/4 mile from stop to edge of development), and/or • A rail station located within a 20 minute walk (or roughly 1/2 mile from station to edge of development) • Fast, frequent, and reliable transit service connecting to a high percentage of regional destinations • Neighborhood designed for walking and cycling </p> | <p>1) 0%-5.8%</p> <p>2) 0%-7.3%</p> | <p>1) Lund, H. et al. (2004). Travel Characteristics of Transit-Oriented Development in California. Oakland, CA: Bay Area Rapid Transit District, Metropolitan Transportation Commission, and Caltrans.</p> <p>Tal, G. et al. (2013). Policy Brief on the Impacts of Transit Access (Distance to Transit) Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/cc/sb375/policies/transitaccess/transit_access_brief120313.pdf</p> <p>2) Zamir, K. R. et al. (2014). Effects of Transit-Oriented Development on Trip Generation, Distribution, and Mode Share in Washington, D.C., and Baltimore, Maryland. Transportation Research Record: Journal of the Transportation Research Board, 2413, 45-53. DOI: 10.3141/2413-05</p> | 1 |

TDM STRATEGY EVALUATION - CAPCOA Strategies and New Research Since 2010



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Application to Scott Ranch EIR

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|--------------------------------|----------|--|--|---|--|--|--|--------------------------------|
| | | | | | New information | Change in VMT reduction compared to CAPCOA | Literature or Evidence Cited | |
| Land Use/ Location | 3.1.6 | LUT-6 Integrate Affordable and Below Market Rate Housing | 0.04%-1.20% reduction in VMT for making up to 30% of housing units BMR | Weak - Should only be used where supported by local data on affordable housing trip generation. | Observed trip generation indicates substantial local and regional variation in trip making behavior at affordable housing sites. Recommend use of ITE rates or local data for senior housing. | N/A | "Draft Memorandum: Infill and Complete Streets Study, Task 2.1. Local Trip Generation Study." <i>Measuring the Miles: Developing new metrics for vehicle travel in LA.</i> City of Los Angeles, April 19, 2017. | 2 |
| Neighborhood Site Enhancements | 3.2.1 | SDT-1 Provide Pedestrian Network Improvements | 0%-2% reduction in VMT for creating a connected pedestrian network within the development and connecting to nearby | Adequate | VMT reduction due to provision of complete pedestrian networks. Only applies if located in an area that may be prone to having a less robust sidewalk network. | 0.5%-5.7% | Handy, S. et al. (2014). Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 1 |
| Neighborhood Site Enhancements | 3.2.2 | SDT-2 Provide Traffic Calming Measures | 0.25%-1% VMT reduction due to traffic calming on streets within and around the development | Adequate | Reduction in VMT due to expansion of bike networks in urban areas. Strategy only applies to bicycle facilities that provide a dedicated lane for bicyclists or a completely separated right-of-way for bicycles and pedestrians. Project-level definition: Enhance bicycle network citywide (or at similar scale), such that a building entrance or bicycle parking is within 200 yards walking or bicycling distance from a bicycle network that connects to at least one of the following: at least 10 diverse uses; a school or employment center, if the project total floor area is 50% or more residential; or a bus rapid transit stop, light or heavy rail station, commuter rail station, or ferry terminal. All destinations must be 3-mile bicycling distance from project site. Include educational campaigns to encourage bicycling. | 0%-1.7% | Zahabi, S. et al. (2016). Exploring the link between the neighborhood typologies, bicycle infrastructure and commuting cycling over time and the potential impact on commuter GHG emissions. Transportation Research Part D: Transport and Environment. 47, 89-103. | 1 |
| Neighborhood Site Enhancements | 3.2.3 | SDT-3 Implement an NEV Network | 0.5%-12.7% VMT reduction for GHG-emitting vehicles, depending on level of local NEV penetration | Weak - not recommended without supplemental data. | Limited evidence and highly limited applicability. Use with supplemental data only. | N/A | City of Lincoln, MMH Engineers & Surveyors, Neighborhood Electric Vehicle Transportation Program Final Report, Issued 04/05/05, and City of Lincoln, A Report to the California Legislature as required by Assembly Bill 2353, Neighborhood Electric Vehicle Transportation Plan Evaluation, January 1, 2008. Cited in: California Air Pollution Control Officers Association. (2010). Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf | 3,4 |
| Neighborhood Site Enhancements | 3.4.9 | TRT-9 Implement Car-Sharing Program | 0.4% - 0.7% VMT reduction due to lower vehicle ownership rates and general shift to non-driving modes | Adequate | Vehicle trip reduction due to car-sharing programs; reduction assumes 1%-5% penetration rate. Implementing car-sharing programs allows people to have on-demand access to a shared fleet of vehicles on an as-needed basis, as a supplement to trips made by non-SOV modes. Transit station-based programs focus on providing the "last-mile" solution and link transit with commuters' final destinations. Residential-based programs work to substitute entire household based trips. Employer-based programs provide a means for business/day trips for alternative mode commuters and provide a guaranteed ride home option. The reduction shown here assumes a 1%-5% penetration rate. | 0.3%-1.6% | Lovejoy, K. et al. (2013). Impacts of Carsharing on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm <i>Need to verify with more recent UCD research.</i> | 4 |
| Parking Pricing | 3.3.1 | PDT-1 Limit Parking Supply | 5%-12.5% VMT reduction in response to reduced parking supply vs. ITE parking generation rate | Weak - not recommended. Fehr & Peers has developed new estimates for residential land use only that may be used. | CAPCOA reduction range derived from estimate of reduced vehicle ownership, not supported by observed trip or VMT reductions. Evidence is available for mode shift due to presence/absence of parking in high-transit urban areas; additional investigation ongoing | Higher | Fehr & Peers estimated a linear regression formula based on observed data from multiple locations. Resulting equation produces maximum VMT reductions for residential land use only of 30% in suburban locations and 50% in urban locations based on parking supply percentage reductions. | 4 |
| Parking Pricing | 3.3.2 | PDT-2 Unbundle Parking Costs from Property Cost | 2.6% -13% VMT reduction due to decreased vehicle ownership rates | Adequate - conditional on the agency not requiring parking minimums and pricing/managing on-street parking (i.e., residential parking permit districts, etc.) | Reduction in VMT, primarily for residential uses, based on range of elasticities for vehicle ownership in response to increased residential parking fees. Does not account for self-selection. Only applies if the city does not require parking minimums and if on-street parking is priced and managed (i.e., residential parking permit districts). | 2%-12% | Victoria Transport Policy Institute (2009). Parking Requirement Impacts on Housing Affordability. Retrieved March 2010 from: http://www.vtpi.org/park-hou.pdf . | 4 |

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| Parking Pricing | 3.3.3 | PDT-3 Implement Market Price Public Parking | 2.8%-5.5% VMT reduction due to "park once" behavior and disincentive to driving | Adequate | Implement a pricing strategy for parking by pricing all central business district/employment center/retail center on-street parking. It will be priced to encourage park once" behavior. The benefit of this measure above that of paid parking at the project only is that it deters parking spillover from project supplied parking to other public parking nearby, which undermine the vehicle miles traveled (VMT) benefits of project pricing. It may also generate sufficient area-wide mode shifts to justify increased transit service to the area. VMT reduction applies to VMT from visitor/customer trips only. Reductions higher than top end of range from CAPCOA report apply only in conditions with highly constrained on-street parking supply and lack of comparably-priced off-street parking. | 2.8%-14.5% | Clinch, J.P. and Kelly, J.A. (2003). Temporal Variance Of Revealed Preference On-Street Parking Price Elasticity. Dublin: Department of Environmental Studies, University College Dublin. Retrieved from: http://www.ucd.ie/gsep/research/workingpapers/2004/04-02.pdf . Cited in Victoria Transport Policy Institute (2017). Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior. Retrieved from: http://www.vtpi.org/tadm/tadm11.htm Hensher, D. and King, J. (2001). Parking Demand and Responsiveness to Supply, Price and Location in Sydney Central Business District. Transportation Research A. 35(3), 177-196. Millard-Ball, A. et al. (2013). Is the curb 80% full or 20% empty? Assessing the impacts of San Francisco's parking pricing experiment. Transportation Research Part A. 63(2014), 76-92. Shoup, D. (2011). The High Cost of Free Parking. APA Planners Press. p. 290. Cited in Pierce, G. and Shoup, D. (2013). Getting the Prices Right. Journal of the American Planning Association. 79(1), 67-81. | 4 |
| Transit System | 3.5.3 | TST-3 Expand Transit Network | 0.1-8.2% VMT reduction in response to increase in transit network coverage | Adequate | Reduction in vehicle trips due to increased transit service hours or coverage. Low end of reduction is typical of project-level implementation (payment of impact fees and/or localized improvements). | 0.1%-10.5% | Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 3 |
| Transit System | 3.5.4 | TST-4 Increase Transit Service Frequency/Speed | 0.02%-2.5% VMT reduction due to reduced headways and increased speed and reliability | Adequate | Reduction in vehicle trips due to increased transit frequency/decreased headway. Low end of reduction is typical of project-level implementation (payment of impact fees and/or localized improvements). | 0.3%-6.3% | Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 3 |
| Transit System | 3.5.1 | TST-1 Provide a Bus Rapid Transit System | 0.02%-3.2% VMT reduction by converting standard bus system to BRT system | Adequate | No new information identified. | Same | N/A | 3 |
| Commute Trip Reduction | 3.4.1 | TRT-1 Implement CTR Program - Voluntary | 1.0%-6.2% commute VMT reduction due to employer-based mode shift program | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-2 Implement CTR Program - Required Implementation/Monitoring" or with CAPCOA strategies TRT-3.4.3 through TRT-3.4.9. | Reduction in vehicle trips in response to employer-led TDM programs. The CTR program should include all of the following to apply the effectiveness reported by the literature: • Carpooling encouragement • Ride-matching assistance • Preferential carpool parking • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (parking, showers and lockers) | 1.0%-6.0% | Boarnet, M. et al. (2014). Impacts of Employer-Based Trip Reduction Programs and Vanpools on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 2 |
| Commute Trip Reduction | 3.4.2 | TRT-2 Implement CTR Program - Required Implementation/Monitoring | 4.2%-21.0% commute VMT reduction due to employer-based mode shift program with required monitoring and reporting | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or with CAPCOA strategies TRT-3.4.3 through TRT-3.4.9. | Limited evidence available. Anecdotal evidence shows high investment produces high VMT/vehicle trip reductions at employment sites with monitoring requirements and specific targets. | Same | Nelson/Hygaard (2008). South San Francisco Mode Share and Parking Report for Genentech, Inc. (p. 8) Cited in: California Air Pollution Control Officers Association. (2010). Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf | 2 |
| Commute Trip Reduction | 3.4.4 | TRT-4 Implement Subsidized or Discounted Transit Program | 0.3%-20% commute VMT reduction due to transit subsidy of up to \$6/day | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or "TRT-2 Implement CTR Program - Required Implementation/Monitoring." | 1) Reduction in vehicle trips in response to reduced cost of transit use, assuming that 10-50% of new bus trips replace vehicle trips; 2) Reduction in commute trip VMT due to employee benefits that include transit; 3) Reduction in all vehicle trips due to reduced transit fares system-wide, assuming 25% of new transit trips would have been vehicle trips. | 1) 0.3%-14% 2) 0-16% 3) 0.1% to 6.9% | 1) Victoria Transport Policy Institute. (2017). Understanding Transport Demands and Elasticities. Online TDM Encyclopedia. Retrieved from: http://www.vtpi.org/tadm/tadm11.htm 2) Carolina, P. et al. (2016). Do Employee Commuter Benefits Increase Transit Ridership? Evidence from the NY-NJ Region. Washington, DC. Transportation Research Board. 96th Annual Meeting. 3) Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 2 |
| Commute Trip Reduction | 3.4.15 | TRT-15 Employee Parking Cash-Out | 0.6%-7.7% commute VMT reduction due to implementing employee parking cash-out | Weak - Effectiveness is building/tenant specific. Research data is over 10 years old (1997). | Shoup case studies indicate a reduction in commute vehicle trips due to implementing cash-out without implementing other trip-reduction strategies. | 3%-7.7% | Shoup, D. (1997). Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies. Transport Policy. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/research/apr/past/93-308a.pdf . This citation was listed as an alternative literature in CAPCOA. | 2 |

TDM STRATEGY EVALUATION - CAPCOA Strategies and New Research Since 2010



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- 4- Not applicable given geographical and/or land use context; would be ineffective as mitigation.

Application to Scott Ranch EIR

| CAPCOA Category | CAPCOA # | CAPCOA Strategy | CAPCOA Reduction | Strength of Substantial Evidence for CEQA Impact Analysis? | New Information Since CAPCOA Was Published in 2010 | | Application to Scott Ranch EIR | |
|-------------------------|----------|---|---|--|---|--|---|---|
| | | | | | New information | Change in VMT reduction compared to CAPCOA | | |
| Commuter Trip Reduction | 3.4.14 | TRT-14 Price Workplace Parking | 0.1%-19.7% commute VMT reduction due to mode shift | Adequate - Effectiveness is building/tenant specific. | Reduction in commute vehicle trips due to priced workplace parking; effectiveness depends on availability of alternative modes. Workplace parking pricing may include: explicitly charging for parking, implementing above market rate pricing, validating parking only for invited guests, not providing employee parking and transportation allowances, and educating employees about available alternatives. | 0.5%-14% | Primary sources: Concas, S. and Nayak, N. (2012). A Meta-Analysis of Parking Price Elasticity. Washington, DC: Transportation Research Board, 2012 Annual Meeting. Dale, S. et al. (2016). Evaluating the Impact of a Workplace Parking Levy on Local Traffic Congestion: The Case of Nottingham UK. Washington, DC: Transportation Research Board, 96th Annual Meeting. Secondary sources: Victoria Transport Policy Institute. (2017). Understanding Transport Demands and Elasticities. Online TDM Encyclopedia. Retrieved from: http://www.vtpi.org/tdm/tdm11.htm Spears, S. et al. (2014). Impacts of Parking Pricing on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm | 2 |
| Commuter Trip Reduction | 3.4.6 | TRT-6 Encourage Telecommuting and Alternative Work Schedules | 0.07%-5.5% commute VMT reduction due to reduced commute trips | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or "TRT-2 Implement CTR Program - Required Implementation/Monitoring." | VMT reduction due to adoption of telecommuting. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks. | 0.2%-4.5% | Handy, S. et al. (2013). Policy Brief on the Impacts of Telecommuting Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/cc/sb375/policies/telecommuting/telecommuting_brief120313.pdf | 2 |
| Commuter Trip Reduction | 3.4.7 | 1) TRT-7 Implement CTR Marketing 2) Launch Targeted Behavioral Interventions | 0.8%-4.0% commute VMT reduction due to employer marketing of alternatives | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or "TRT-2 Implement CTR Program - Required Implementation/Monitoring." | 1) Vehicle trips reduction due to CTR marketing; 2) Reduction in VMT from institutional trips due to targeted behavioral intervention programs | 1) 0.0% to 26% 2) 1%-6% | 1) Pratt, Dick. Personal communication regarding the Draft of TCRP 95 Traveler Response to Transportation System Changes - Chapter 19 Employer and Institutional TDM Strategies. Transit Cooperative Research Program. Cited in California Air Pollution Control Officers Association. (2010). Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf Dill, J. and Mohr, C. (2010). Long-Term Evaluation of Individualized Marketing Programs for Travel Demand Management. Portland, OR: Transportation Research and Education Center (TREC). Retrieved from: http://pdxscholar.library.pdx.edu/usp_fac 2) Brown, A. and Ralph, K. (2017). "The Right Time and Place to Change Travel Behavior: An Experimental Study." Washington, DC: Transportation Research Board, 2017 Annual Meeting. Retrieved from: https://trid.trb.org/view.aspx?id=1437253 | 2 |
| Commuter Trip Reduction | 3.4.11 | TRT-11 Provide Employer-Sponsored Vanpool/Shuttle | 0.3%-13.4% commute VMT reduction due to employer-sponsored vanpool and/or shuttle service | Adequate - Effectiveness is building/tenant specific. | 1) Reduction in commute vehicle trips due to implementing employer-sponsored vanpool and shuttle programs; 2) Reduction in commute vehicle trips due to vanpool incentive programs; 3) Reduction in commute vehicle trips due to employer shuttle programs | 1) 0.5%-5.0% 2) 0.3%-7.4% 3) 1.4%-6.8% | 1) Concas, Sisinnio, Winters, Philip, Wambalaba, Francis, (2005). Fare Pricing Elasticity, Subsidies, and Demand for Vanpool Services. Transportation Research Record: Journal of the Transportation Research Board, 1924, pp 215-223. 2) Victoria Transport Policy Institute. (2015). Ridesharing: Carpooling and Vanpooling. Online TDM Encyclopedia. Retrieved from: http://vtpi.org/tdm/tdm34.htm 3) ICF. (2014). GHG Impacts for Commuter Shuttles Pilot Program. | 2 |
| Commuter Trip Reduction | 3.4.3 | TRT-3 Provide Ride-Sharing Programs | 1%-15% commute VMT reduction due to employer ride share coordination and facilities | Adequate - Effectiveness is building/tenant specific. Do not use with "TRT-1 Implement CTR Program - Voluntary" or "TRT-2 Implement CTR Program - Required Implementation/Monitoring." | Commuter vehicle trips reduction due to employer ride-sharing programs. Promote ride-sharing programs through a multi-faceted approach such as: - Designating a certain percentage of parking spaces for ride sharing vehicles - Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles - Providing an app or website for coordinating rides | 2.5%-8.3% | Victoria Transport Policy Institute. (2015). Ridesharing: Carpooling and Vanpooling. Online TDM Encyclopedia. Retrieved from: http://vtpi.org/tdm/tdm34.htm | 2 |
| Commuter Trip Reduction | 3.4.10 | TRT-10 Implement a School Pool Program | 7.2%-15.8% reduction in school VMT due to school pool implementation | Adequate - School VMT only. | Limited new evidence available, not conclusive | Same | Transportation Demand Management Institute of the Association for Commuter Transportation. TDM Case Studies and Commuter Testimonials. Prepared for the US EPA. 1997. (p. 10, 36-38) WayToGo 2015 Annual Report. Accessed on March 12, 2017 from http://www.waytogo.org/sites/default/files/attachments/waytogo-annual-report-2015.pdf | 1 |
| Commuter Trip Reduction | 3.4.13 | TRT-13 Implement School Bus Program | 38%-63% reduction in school VMT due to school bus service implementation | Adequate - School VMT only. | VMT reduction for school trips based on data beyond a single school district. School district boundaries are also a factor to consider. VMT reduction does not appear to be a factor that was considered in a select review of CA boundaries. VMT reductions apply to school trip VMT only. | 5%-30% | Wilson, E. et al. (2007). The implications of school choice on travel behavior and environmental emissions. Transportation Research Part D: Transport and Environment 12(2007), 506-518. | 1 |

TDM STRATEGY EVALUATION - CAPCOA Strategies and New Research Since 2010



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Application to Scott Ranch EIR

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|--|--|--|--|--|---|--|--|--------------------------------|
| | | | | | New information | Change in VMT reduction compared to CAPCOA | Literature or Evidence Cited | |
| Not Applicable - not a CAPCOA strategy | Not Applicable - not a CAPCOA strategy | Not Applicable - not a CAPCOA strategy | Not Applicable - not a CAPCOA strategy | Not Applicable - not a CAPCOA strategy | <p>Bikeshare car trip substitution rate of 7-19% based on data from Washington DC, and Minneapolis/St. Paul. Annual VMT reduction of 151,000 and 57,000, respectively. Includes VMT for rebalancing and maintenance.</p> <p>VMT reduction of 0.023 miles per day per bikeshare member estimated for Bay Area bikeshare, utilizing Minneapolis/St. Paul data from study above.</p> | <p>57,000-151,000 annual VMT reduction, based on two large US cities.</p> <p>VMT reduction of 0.023 miles per day per member, based on one large US city estimate.</p> | <p>Fishman, E., Washington, S., & Haworth, N. (2014). Bike share's impact on car use: Evidence from the United States, Great Britain, and Australia. Transportation Research Part D: Transport and Environment, 31, 13-20.</p> <p>TDM Methodology: Impact of Carsharing Membership, Transit Passes, Bikesharing Membership, Unbundled Parking, and Parking Supply Reductions on Driving. Center for Neighborhood Technology, Peter Haas and Cindy Copp, with Transform staff, May 5, 2016.</p> | 3,4 |