JN:04560 - Apple Valley General Plan Circulation Element Traffic Study
Existing Traffic Condtions
With Existing Geometry

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #23 Apple Valley Road (NS) / Bear Valley Road (EW)

| | | | |
|---|---|---|---|
| Cycle (sec): | 130 | Critical Vol./Cap.(X): | 0.495 |
| Loss Time (sec): | 8 (Y+R=4.0 sec) | Average Delay (sec/veh): | 33.0 |
| Optimal Cycle: | 130 | Level Of Service: | C |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Ovl | | | Include | | | Ovl | | |
| Min. Green: | 10 | 34 | 34 | 10 | 34 | 34 | 10 | 31 | 31 | 10 | 31 | 31 |
| Lanes: | 2 0 2 0 1 | | | 2 0 1 0 2 | | | 2 0 2 0 1 | | | 1 0 3 0 1 | | |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 102 | 152 | 42 | 108 | 120 | 652 | 433 | 602 | 71 | 60 | 1167 | 85 |
| Growth 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 |
| Initial Bse: | 102 | 152 | 42 | 108 | 120 | 652 | 433 | 602 | 71 | 60 | 1167 | 85 |
| User 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 |
| PHF Adj: | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume: | 107 | 160 | 44 | 114 | 126 | 686 | 456 | 634 | 75 | 63 | 1228 | 89 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 107 | 160 | 44 | 114 | 126 | 686 | 456 | 634 | 75 | 63 | 1228 | 89 |
| PCE 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 |
| MLF 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 |
| FinalVolume: | 107 | 160 | 44 | 114 | 126 | 686 | 456 | 634 | 75 | 63 | 1228 | 89 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.95 | 0.85 | 0.92 | 1.00 | 0.75 | 0.92 | 0.95 | 0.85 | 0.95 | 0.91 | 0.85 |
| Lanes: | 2.00 | 2.00 | 1.00 | 2.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| Final Sat.: | 3502 | 3610 | 1615 | 3502 | 1900 | 2842 | 3502 | 3610 | 1615 | 1805 | 5187 | 1615 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.03 | 0.04 | 0.03 | 0.03 | 0.07 | 0.24 | 0.13 | 0.18 | 0.05 | 0.03 | 0.24 | 0.06 |
| Crit Moves: | **** | | | | **** | | **** | | | | **** | |
| Green/Cycle: | 0.08 | 0.26 | 0.26 | 0.08 | 0.26 | 0.47 | 0.21 | 0.45 | 0.45 | 0.15 | 0.39 | 0.46 |
| Volume/Cap: | 0.40 | 0.17 | 0.10 | 0.42 | 0.25 | 0.51 | 0.61 | 0.39 | 0.10 | 0.24 | 0.61 | 0.12 |
| Delay/Veh: | 58.1 | 37.2 | 36.6 | 58.3 | 38.2 | 24.0 | 47.8 | 23.7 | 20.4 | 49.6 | 32.5 | 19.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.1 | 37.2 | 36.6 | 58.3 | 38.2 | 24.0 | 47.8 | 23.7 | 20.4 | 49.6 | 32.5 | 19.8 |
| LOS by Move: | E | D | D | E | D | C | D | C | C | D | C | B |
| HCM2kAvgQ: | 3 | 3 | 1 | 3 | 4 | 11 | 9 | 9 | 2 | 2 | 15 | 2 |

Note: Queue reported is the number of cars per lane.

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Intersection #23 Apple Valley Road (NS) / Bear Valley Road (EW)

| | | | |
|---|---|---|---|
| Cycle (sec): | 130 | Critical Vol./Cap.(X): | 0.577 |
| Loss Time (sec): | 8 (Y+R=4.0 sec) | Average Delay (sec/veh): | 35.5 |
| Optimal Cycle: | 130 | Level Of Service: | D |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Ovl | | | Include | | | Ovl | | |
| Min. Green: | 10 | 34 | 34 | 10 | 34 | 34 | 10 | 31 | 31 | 10 | 31 | 31 |
| Lanes: | 2 0 2 | 0 1 | | 2 0 1 | 0 2 | | 2 0 2 | 0 1 | | 1 0 3 | 0 1 | |
| **Volume Module:** | | | | | | | | | | | | |
| Base Vol: | 82 | 174 | 122 | 131 | 183 | 475 | 784 | 1119 | 116 | 148 | 885 | 55 |
| Growth 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 |
| Initial Bse: | 82 | 174 | 122 | 131 | 183 | 475 | 784 | 1119 | 116 | 148 | 885 | 55 |
| User 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 |
| PHF Adj: | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume: | 86 | 183 | 128 | 138 | 193 | 500 | 825 | 1178 | 122 | 156 | 932 | 58 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 86 | 183 | 128 | 138 | 193 | 500 | 825 | 1178 | 122 | 156 | 932 | 58 |
| PCE 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 |
| MLF 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 |
| FinalVolume: | 86 | 183 | 128 | 138 | 193 | 500 | 825 | 1178 | 122 | 156 | 932 | 58 |
| **Saturation Flow Module:** | | | | | | | | | | | | |
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.95 | 0.85 | 0.92 | 1.00 | 0.75 | 0.92 | 0.95 | 0.85 | 0.95 | 0.91 | 0.85 |
| Lanes: | 2.00 | 2.00 | 1.00 | 2.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| Final Sat.: | 3502 | 3610 | 1615 | 3502 | 1900 | 2842 | 3502 | 3610 | 1615 | 1805 | 5187 | 1615 |
| **Capacity Analysis Module:** | | | | | | | | | | | | |
| Vol/Sat: | 0.02 | 0.05 | 0.08 | 0.04 | 0.10 | 0.18 | 0.24 | 0.33 | 0.08 | 0.09 | 0.18 | 0.04 |
| Crit Moves: | **** | | | | **** | | **** | | | | **** | |
| Green/Cycle: | 0.08 | 0.26 | 0.26 | 0.08 | 0.26 | 0.60 | 0.34 | 0.47 | 0.47 | 0.13 | 0.26 | 0.34 |
| Volume/Cap: | 0.32 | 0.19 | 0.30 | 0.51 | 0.39 | 0.29 | 0.69 | 0.69 | 0.16 | 0.69 | 0.69 | 0.11 |
| Delay/Veh: | 57.5 | 37.4 | 38.9 | 59.3 | 39.9 | 12.6 | 38.8 | 27.8 | 19.5 | 63.0 | 45.0 | 29.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 57.5 | 37.4 | 38.9 | 59.3 | 39.9 | 12.6 | 38.8 | 27.8 | 19.5 | 63.0 | 45.0 | 29.8 |
| LOS by Move: | E | D | D | E | D | B | D | C | B | E | D | C |
| HCM2kAvgQ: | 2 | 3 | 4 | 3 | 6 | 5 | 15 | 20 | 3 | 7 | 13 | 2 |

Note: Queue reported is the number of cars per lane.