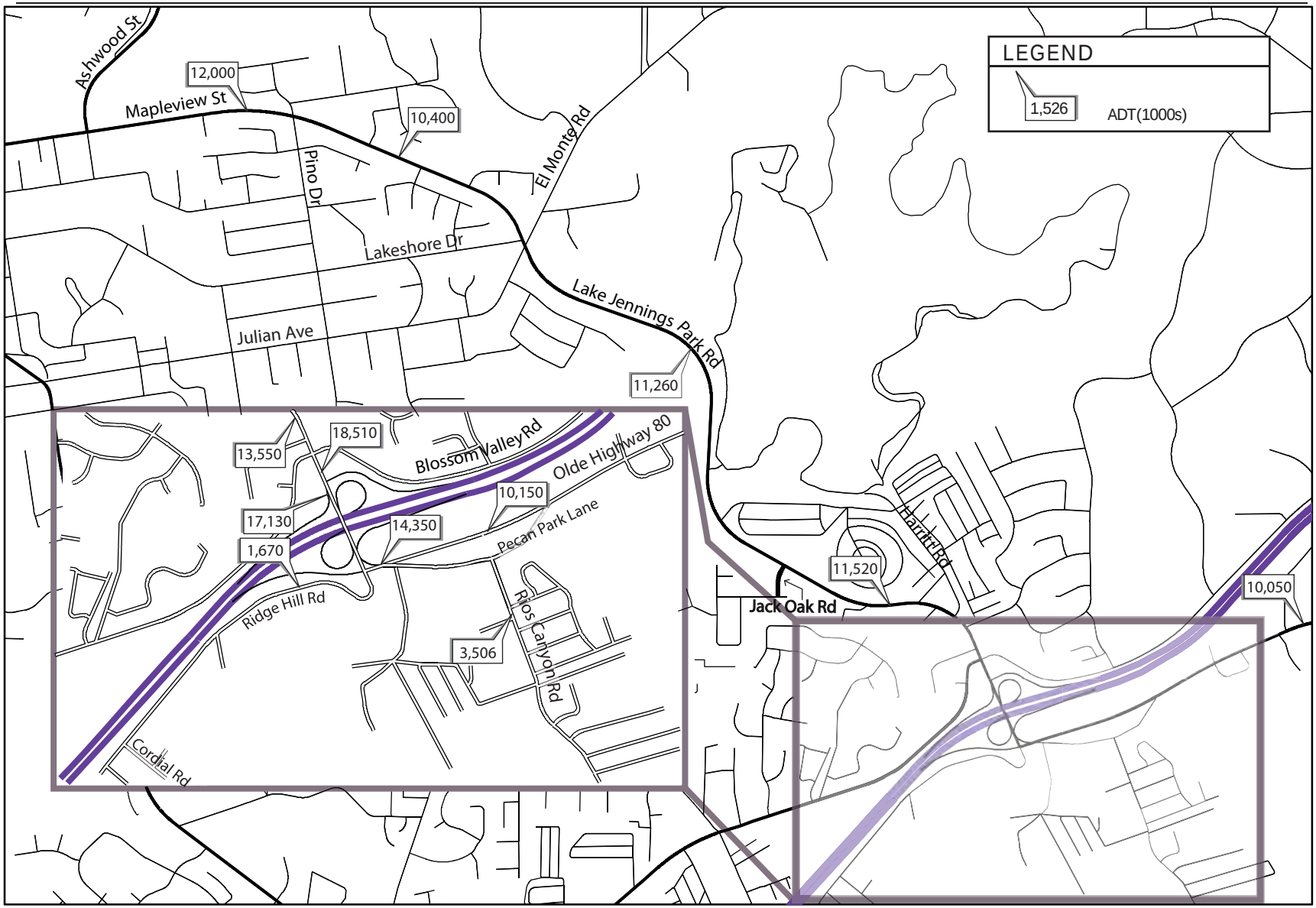
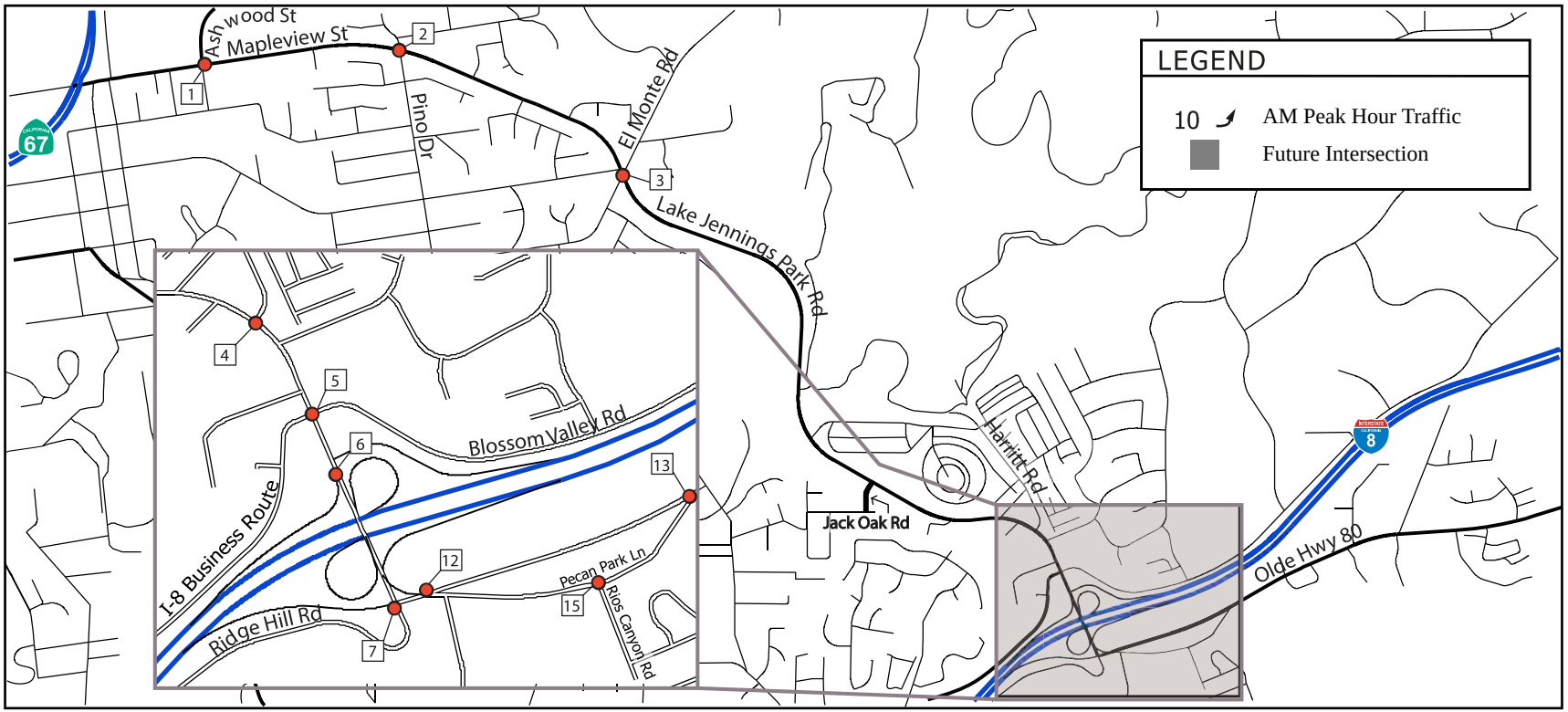



Figure 3-3
Existing Daily Roadway Segment Volumes

N
Not To Scale



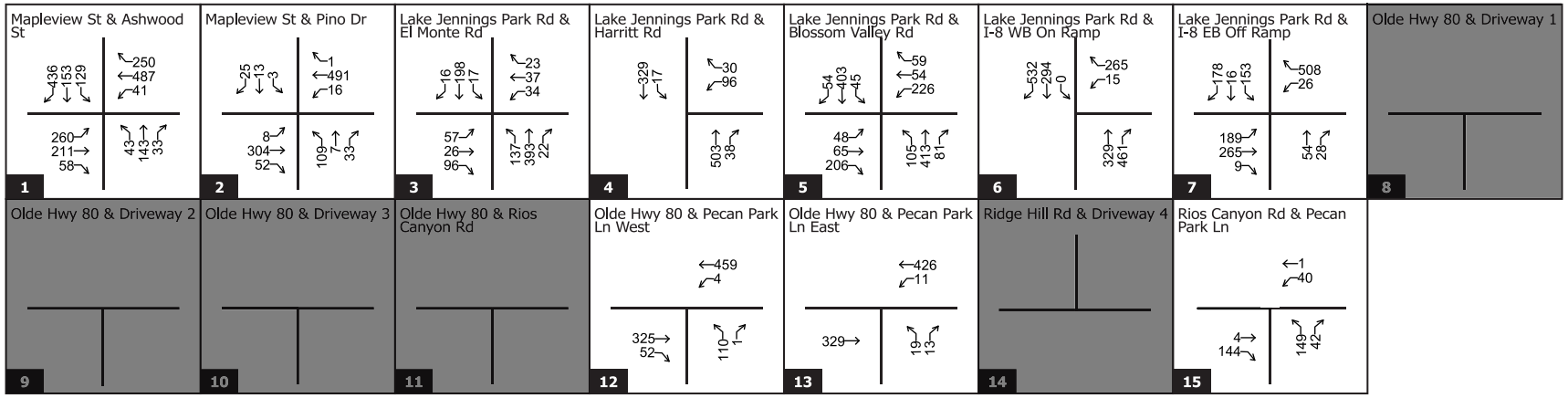
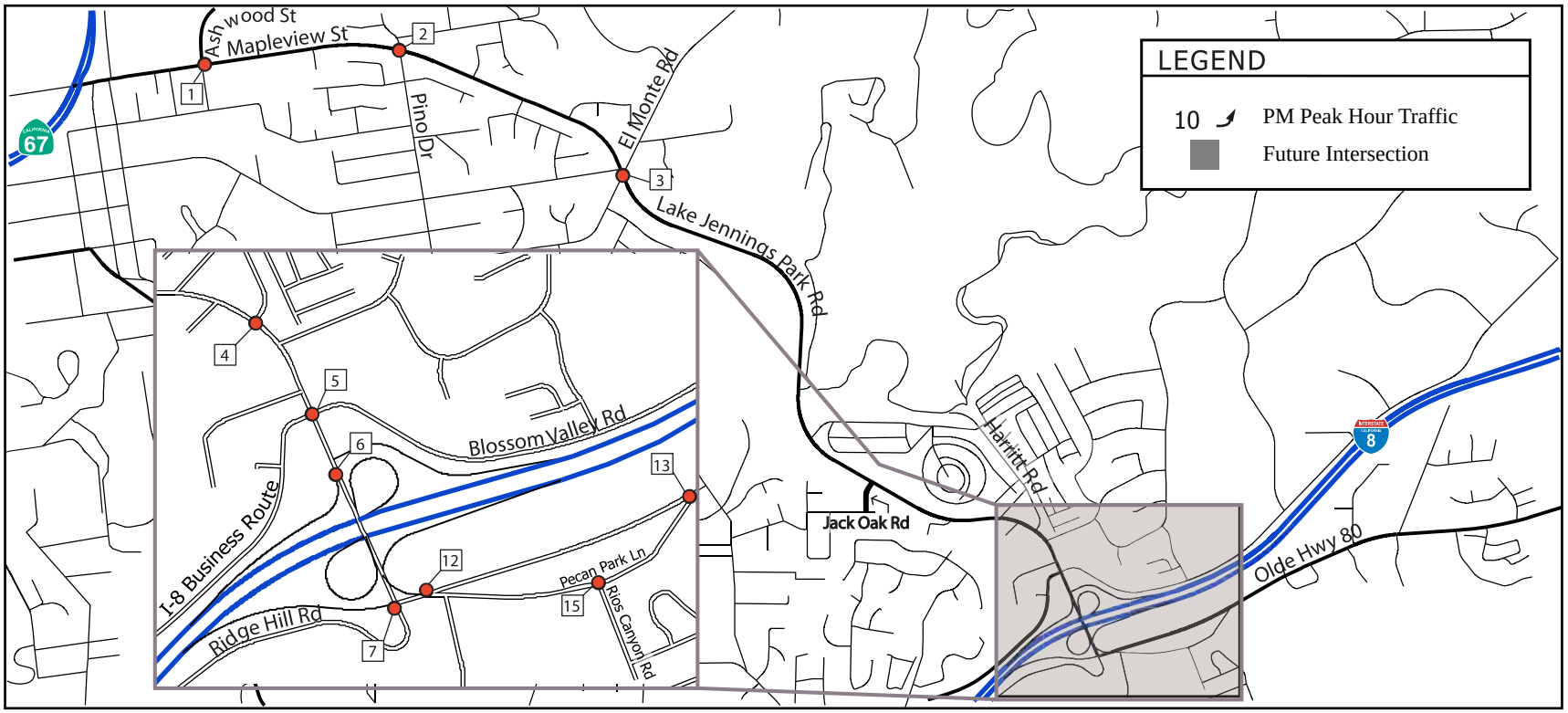




Figure 3-4
Existing AM Peak Hour Intersection Volumes

N
Not To Scale



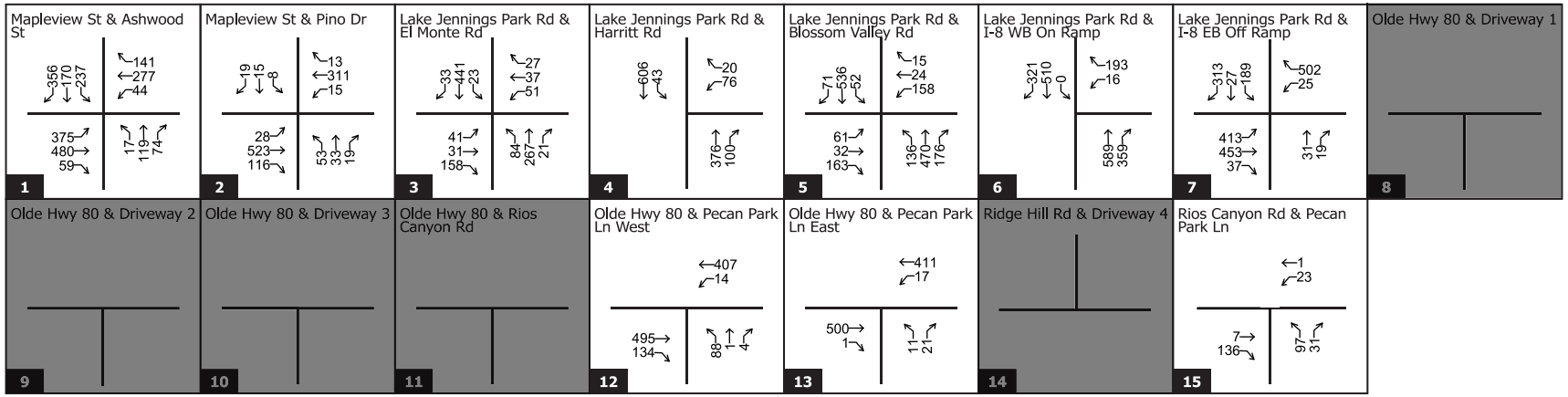




Figure 3-5
Existing PM Peak Hour Intersection Volumes

N
Not To Scale

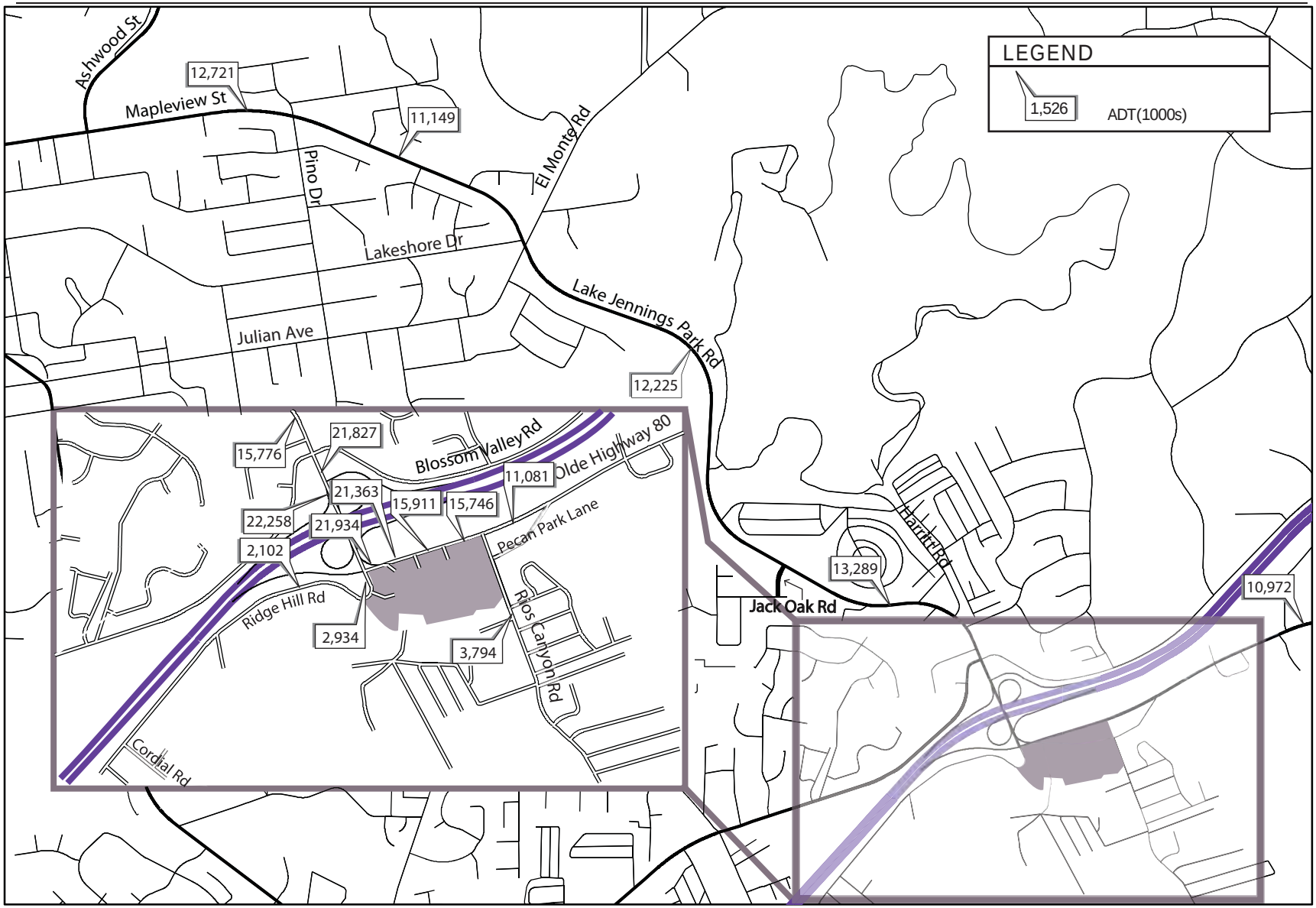
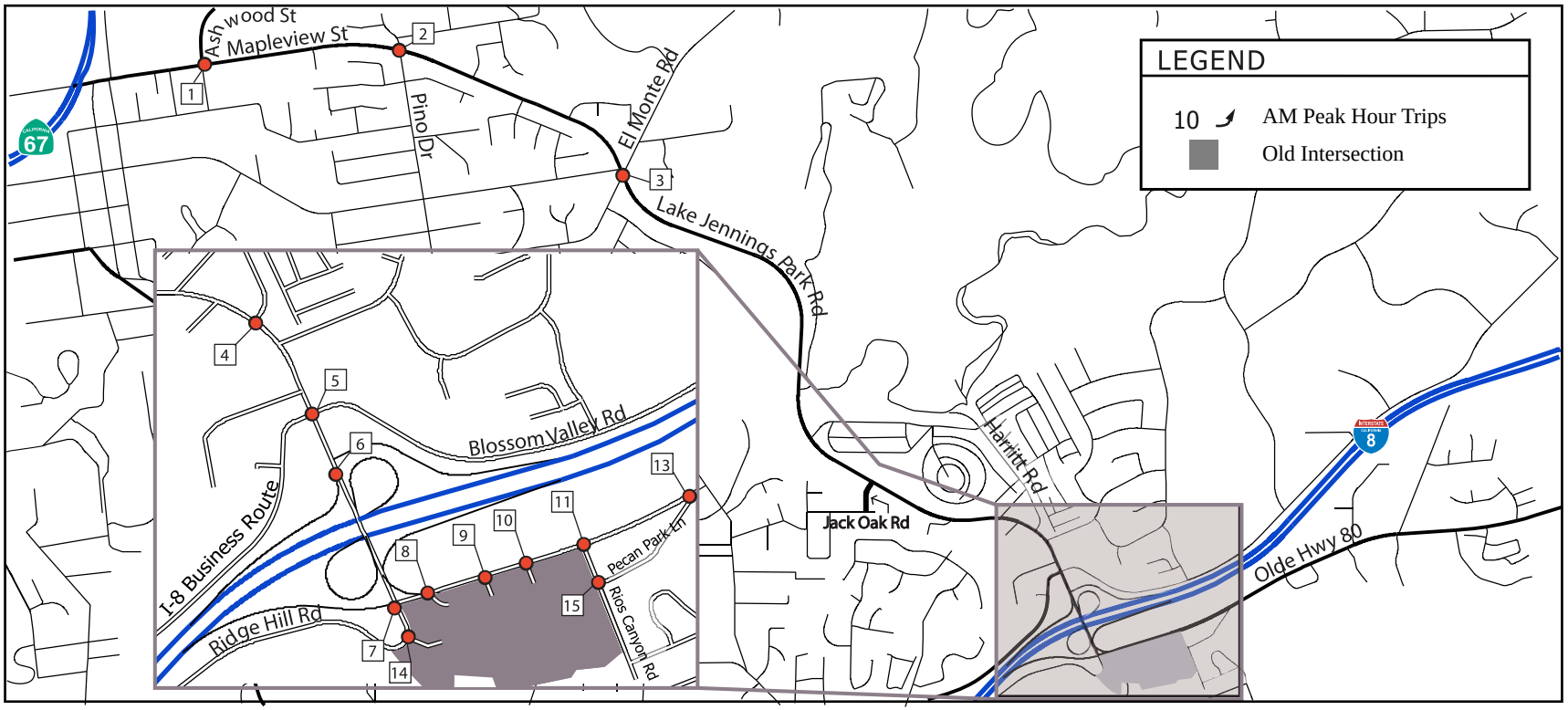



Figure 3-6
Existing With Project Daily Roadway Segment Volumes

N
Not To Scale



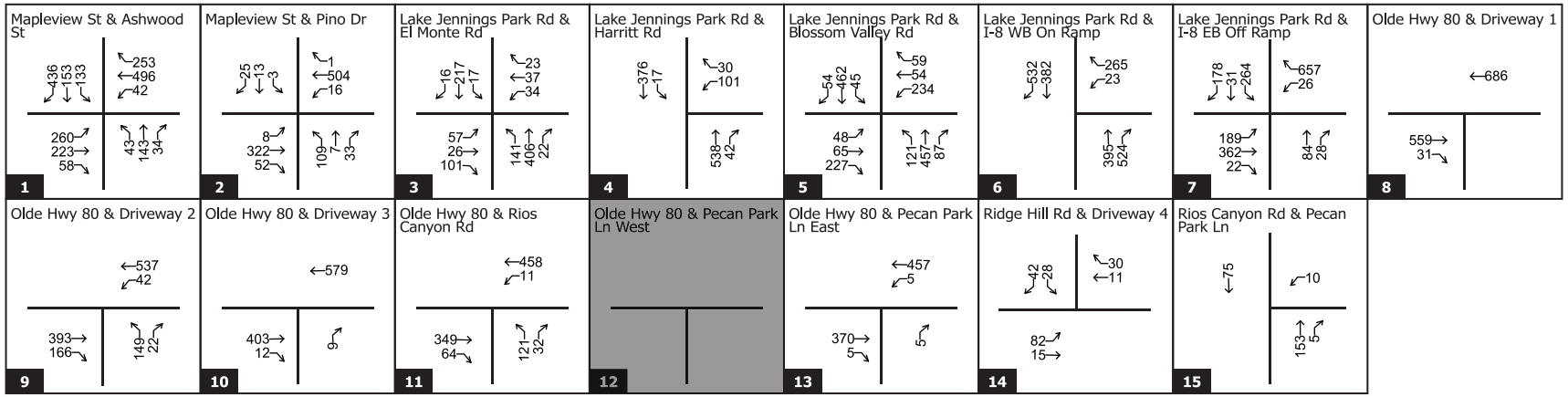
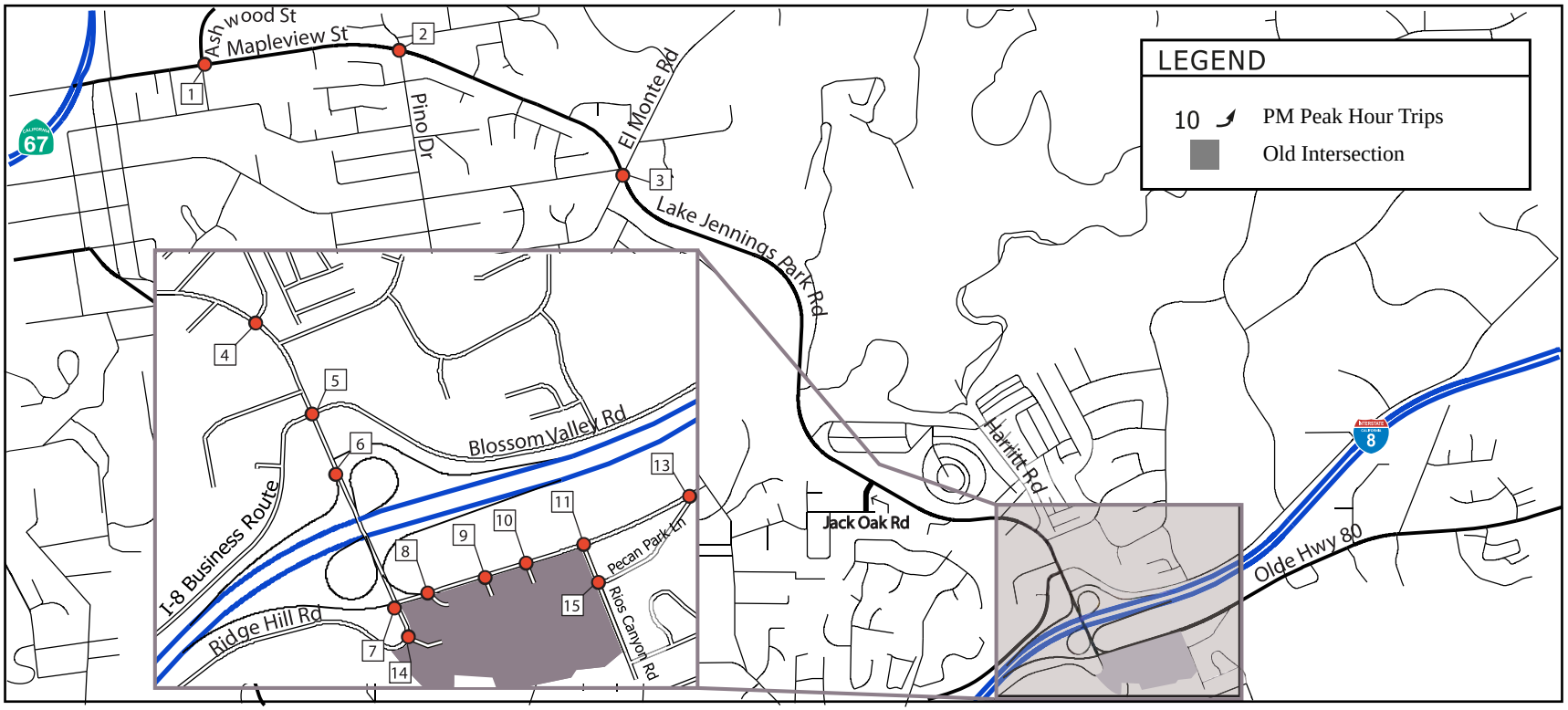




Figure 3-7
Existing With Project AM Peak Hour Intersection Volumes

N
Not To Scale



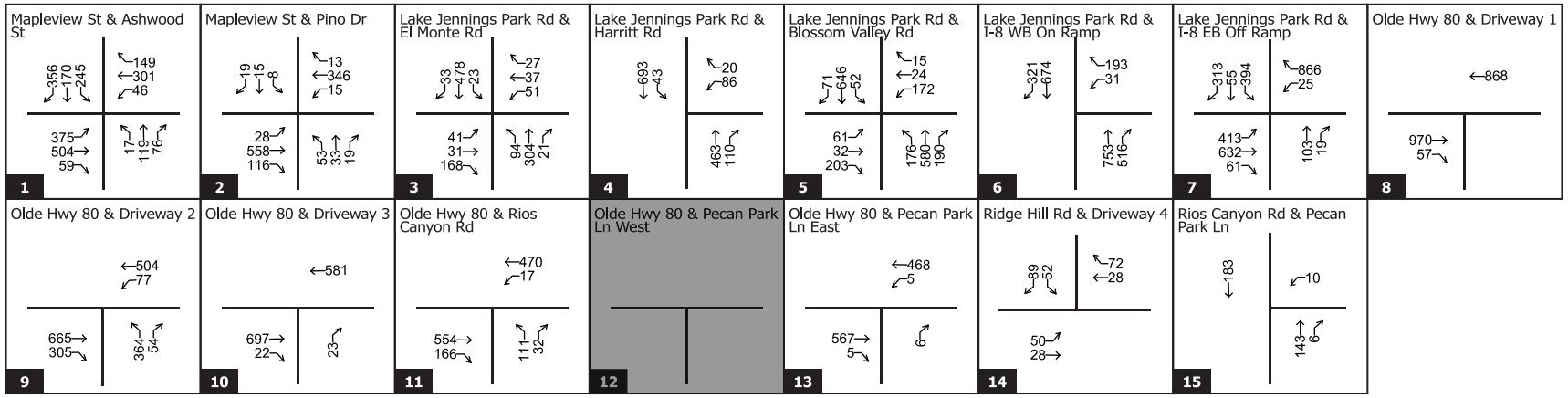




Figure 3-8
Existing With Project PM Peak Hour Intersection Volumes

N
Not To Scale

## 3.4 EXISTING WITH PROJECT CONDITIONS ROADWAY SEGMENT ANALYSIS

Table 3-1 summarizes the roadway segment analysis results for existing conditions without and with the project. The roadway segment analysis methodology is described in Section 2.2.1 of this report. Without any improvements by the project, there would be deficient and impacted segments at the following eight locations:

- Olde Highway 80 from Lake Jennings Park Road to Project Driveway 1
- Olde Highway 80 from Project Driveway 1 to Project Driveway 2
- Olde Highway 80 from Project Driveway 2 to Project Driveway 3
- Olde Highway 80 from Project Driveway 3 to Rios Canyon Road
- Olde Highway 80 from Rios Canyon Road to Pecan Park Lane
- Lake Jennings Park Road from Harritt Road to Blossom Valley Road
- Lake Jennings Park Road from Blossom Valley Road to I-8 Westbound Off-Ramp
- Lake Jennings Park Road from I-8 Westbound Off-Ramp to Olde Highway 80

As shown in Table 3-1, the above impacted segments would all be mitigated to avoid direct impacts assuming the project would make the fronting improvements along Olde Highway 80 and the off-site improvements proposed for Lake Jennings Park Road between Olde Highway 80 and Harritt Road. The recommended roadway improvements are shown in Appendix D.

## 3.5 EXISTING WITH PROJECT CONDITIONS INTERSECTION ANALYSIS

Table 3-2 summarizes the intersection operations analysis results for existing conditions without and with the project. The intersection operations analysis methodology is described in Section 2.2.3 of this report. Existing conditions intersection operations analysis worksheets are included in Appendix E. Existing With Project conditions intersection operations analysis worksheets are included in Appendix F. Without any improvements by the project, most of the study area intersections would operate at acceptable service levels except for the following two intersections where they would be directly impacted and would have less than adequate service levels, particularly during the PM peak hour:

- Lake Jennings Park Road and I-8 Westbound Off-Ramp
- Lake Jennings Park Road and I-8 Eastbound Off-Ramp

Again, the recommended roadway improvements shown in Appendix D would mitigate the intersection operations to avoid direct impacts at the I-8 Westbound and Eastbound Ramp intersections on Lake Jennings Park Road.

## 3.6 EXISTING WITH PROJECT CONDITIONS FREEWAY MAINLINE ANALYSIS

Table 3-3 summarizes the freeway mainline analysis results for existing conditions without and with the project. The intersection operations analysis methodology is described in Section 2.2.4 of this report. As shown in Table 3-3, the study area freeway mainline links would operate at adequate service levels and there is no direct impact by the project.

## Table 3-1 - Existing With Project Conditions Roadway Segment Analysis Summary

| Roadway Segment | Existing Lanes / Configuration | LOS E Cap. | Existing | | Existing With Project | | Δ Traffic | Significant? | With Mitigation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT | LOS | ADT | LOS | | | New Lanes/ Config. | New LOS E Cap. | LOS |
| **Olde Highway 80** | | | | | | | | | | | |
| Lake Jennings Park Rd. to Dwy 1 | 2CCITL | 19,000 | 14,350 | E | 21,934 | F | 7,584 | **Yes** | 4BITL | 28,000 | C |
| Project Dwy 1 to Dwy 2 | 2CCnM | 16,200 | 14,350 | E | 21,363 | F | 7,013 | **Yes** | 4BITL | 28,000 | C |
| Project Dwy 2 to Dwy 3 | 2CCnM | 16,200 | 14,350 | E | 15,911 | E | 1,561 | **Yes** | 4BITL | 28,000 | A |
| Project Dwy 3 to Old Rios Canyon Rd. | 2CCnM | 16,200 | 14,350 | E | 15,746 | E | 1,396 | **Yes** | 4BITL | 28,000 | A |
| Rios Canyon Rd. to Pecan Park Ln. | 2CCnM | 16,200 | 10,150 | D | 11,081 | E | 931 | **Yes** | 2CCITL | 19,000 | D |
| Pecan Park Ln. to Chimney Rock Ln. | 2CCITL | 19,000 | 10,050 | D | 10,972 | D | 922 | No | | | |
| **Mapleview Street** | | | | | | | | | | | |
| Ashwood St. to Pino Dr. | 4MRITL | 34,200 | 12,000 | A | 12,721 | A | 721 | No | | | |
| **Lake Jennings Park Road** | | | | | | | | | | | |
| Pino Dr. to El Monte Rd. | 4MRITL | 34,200 | 10,400 | A | 11,149 | A | 749 | No | | | |
| El Monte Rd. to Jack Oak Rd. | 2CCITL | 19,000 | 11,260 | D | 12,225 | D | 965 | No | | | |
| Jack Oak Rd. to Harritt Rd. | 2CCITL | 19,000 | 11,520 | D | 13,289 | D | 1,769 | No | | | |
| Harrit Rd. to Blossom Valley Rd. | 2CCITL | 19,000 | 13,550 | E | 15,776 | E | 2,226 | **Yes** | 4BITL | 28,000 | A |
| Blossom Valley Rd. to I-8 WB Off-Ramp | 2CCITL | 19,000 | 18,510 | E | 21,827 | F | 3,317 | **Yes** | 4BITL | 28,000 | C |
| I-8 WB Off-Ramp to Olde Highway 80 | 2CCnM | 16,200 | 17,130 | F | 22,258 | F | 5,128 | **Yes** | 4BITL | 28,000 | D |
| Olde Highway 80 to Driveway 4 | 2CCnM | 16,200 | 1,670 | A | 2,934 | B | 1,264 | No | | | |
| **Ridge Hill Road** | | | | | | | | | | | |
| Lake Jennings Park Rd. to Cordial Rd. | 2RC | 4,500 | 1,670 | Better | 2,102 | Better than C | 432 | No | | | |
| **Rios Canyon Road** | | | | | | | | | | | |
| South of Olde Highway 80 | 2LCRS | 9,700 | 3,506 | A | 3,794 | A | 288 | No | | | |

Abbreviations: 2CCnM is a 2 lane Community Collector with no Median.
2CCITL is a 2 lane Community Collector with an Itermittent Turn Lane.
4MRITL is a 4 lane Major Road with an Intermittent Turn Lane.
4BITL is a Boulevard with an Intermittent Turn Lane
2RC is a 2 lane Residential Collector
2LCRS is a 2 lane Light Collector with a Reduced Shoulder

## Table 3-2 - Existing With Project Conditions
## Intersection Operations Analysis Summary

| Intersection | Existing | | Existing With Project | | Δ Delay | PH Trips on Critical Movement | Signif? | With Mitigation | |
|---|---|---|---|---|---|---|---|---|---|
| | Delay | LOS | Delay | LOS | | | | Delay | LOS |
| AM Peak Hour | | | | | | | | | |
| 1. Mapleview Street and Ashwood Street | 27.7 | C | 27.5 | C | -0.2 | - | No | | NA |
| 2. Mapleview Street and Pino Drive | 18.6 | B | 18.5 | B | -0.1 | - | No | | NA |
| 3. Lake Jennings Park Road and El Monte Road | 14.5*** | B | 15.3*** | C | 0.8 | - | No | | NA |
| 4. Lake Jennings Park Road and Harrit Road | 11.6 | B | 11.7 | B | 0.1 | - | No | | NA |
| 5. Lake Jennings Park Road and Blossom Valley Road | 30.6 | C | 35.3 | D | 4.7 | - | No | | NA |
| 6. Lake Jennings Park Road and I-8 WB Off Ramp* | 13.6 | B | 15.3 | C | 1.7 | - | No | 12.2 | B |
| 7. Lake Jennings Park Road and I-8 EB Off Ramp** | 9.5*** | A | 12.7*** | B | 3.2 | - | No | 15.3 | B |
| 8. Olde Highway 80 and Project Driveway 1 | NA | NA | 0.0 | A | NA | - | No | | NA |
| 9. Olde Highway 80 and Project Driveway 2 | NA | NA | 10.7 | B | NA | - | No | | NA |
| 10. Olde Highway 80 and Project Driveway 3 | NA | NA | 9.2 | A | NA | - | No | | NA |
| 11. Olde Highway 80 and Rios Canyon Road | NA | NA | 15.5 | C | NA | - | No | | NA |
| 12. Olde Highway 80 and Pecan Park Lane West | 23.3 | C | NA | NA | NA | - | No | | NA |
| 13. Olde Highway 80 and Pecan Park Lane East | 14.1 | B | 10.5 | B | -3.6 | - | No | | NA |
| 14. Ridge Hill Drive and Project Driveway 4 | NA | NA | 7.5 | A | NA | - | No | | NA |
| 15. Rios Canyon Road and Pecan Park Lane | 10.7 | B | 9.9 | A | -0.8 | - | No | | NA |
| PM Peak Hour | | | | | | | | | |
| 1. Mapleview Street and Ashwood Street | 32.6 | C | 35.2 | D | 2.6 | - | No | | NA |
| 2. Mapleview Street and Pino Drive | 19.6 | B | 19.6 | B | 0.0 | - | No | | NA |
| 3. Lake Jennings Park Road and El Monte Road | 13.9*** | B | 15.6*** | C | 1.7 | - | No | | NA |
| 4. Lake Jennings Park Road and Harrit Road | 8.6 | A | 9.6 | A | 1.0 | - | No | | NA |
| 5. Lake Jennings Park Road and Blossom Valley Road | 32.8 | C | 54.9 | D | 22.1 | - | No | | NA |
| 6. Lake Jennings Park Road and I-8 WB Off Ramp* | 19.0 | C | 72.8 | F | 53.8 | 20 | Yes | 18.8 | C |
| 7. Lake Jennings Park Road and I-8 EB Off Ramp** | 15.3*** | C | 59.4*** | F | 44.1 | 205 | Yes | 24.4 | C |
| 8. Olde Highway 80 and Project Driveway 1 | NA | NA | 0.0 | A | NA | - | No | | NA |
| 9. Olde Highway 80 and Project Driveway 2 | NA | NA | 19.6 | B | NA | - | No | | NA |
| 10. Olde Highway 80 and Project Driveway 3 | NA | NA | 9.2 | A | NA | - | No | | NA |
| 11. Olde Highway 80 and Rios Canyon Road | NA | NA | 19.6 | C | NA | - | No | | NA |
| 12. Olde Highway 80 and Pecan Park Lane West | 29.0 | D | NA | NA | NA | - | No | | NA |
| 13. Olde Highway 80 and Pecan Park Lane East | 14.8 | B | 12.3 | B | -2.5 | - | No | | NA |
| 14. Ridge Hill Drive and Project Driveway 4 | NA | NA | 7.7 | A | NA | - | No | | NA |
| 15. Rios Canyon Road and Pecan Park Lane | 9.8 | A | 10.6 | B | 1.1 | - | No | | NA |

* Mitigation: Expand Lake Jennings Park Road from a 2 lane Community Collector to a 4 lane Major Road

** Mitigation: Signalize the intersection

*** Average delay calculation for the AWS intersection

## Table 3-3 - Existing With Project Conditions Freeway Mainline Analysis Summary

| Freeway Mainline Segment | Direction of Travel | Lanes (1-way) | Capacity (1) | ADT One-Way | Peak Hour Volume at LJPR | Peak Hour One-Way Volume | Peak Hour Factor | Truck Factor (3) | Existing | | | Existing With Project | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Peak Volume (PCE) (4) | V/C | LOS (5) | Peak Volume (PCE) | V/C | LOS (5) | Increase in VC | Signifi-cant? |
| Weekday AM Peak Hour | | | | | | | | | | | | | | | | |
| I-8 West of Lake Jennings Park Road | West | 2 | 4,600 | 68,000 | 2,220 | 3,224 | 95.0% | 97.18% | 3,492 | 0.763 | C | 3,509 | 0.763 | C | 0.004 | No |
| I-8 East of Lake Jennings Park Road | West | 2 | 4,600 | 53,000 | 2,220 | 2,513 | 95.0% | 97.18% | 2,722 | 0.59 | B | 2,724 | 0.59 | B | 0.000 | No |
| Weekday PM Peak Hour | | | | | | | | | | | | | | | | |
| I-8 West of Lake Jennings Park Road | East | 2 | 4,600 | 68,000 | 2,481 | 3,311 | 95.0% | 97.18% | 3,586 | 0.78 | C | 3,627 | 0.788 | C | 0.009 | No |
| I-8 East of Lake Jennings Park Road | East | 2 | 4,600 | 53,000 | 2,481 | 2,581 | 95.0% | 97.18% | 2,796 | 0.61 | B | 2,801 | 0.61 | B | 0.001 | No |

1. Obtained from balancing Caltrans peak hour mainline volume by the Caltrans

2. This is the peak hour peak direction volume before adjusting for heavy vehicles. In the weekay PM peak hour and Saturday Midday hour, the peak direction is NB on Interstate 15.

3. Assume 4% trucks and 2%recreational vehicles for a total of 6% heavy vehicles.

HVF = 1/(1+Percent Truck(Truck Factor-1) + Percent Recreation Vehicle(RV Factor-1))

Truck Factor (<2% grade, 5% trucks) = 1.5

RV Factor (<2% grade, 2% RV) = 1.2

HVF= 97.18%

4. PCE=PHV/(PHF*HVF)

5. Level of service based on *SANTEC Guidelines Attachment C* D/C ratio.

## 3.7 EXISTING WITH PROJECT CONDITIONS RAMP METER ANALYSIS

Table 3-4 summarizes the ramp meter analysis results for existing conditions without and with the project. The ramp meter analysis methodology is described in Section 2.2.5 of this report. As shown in Table 3-4, there is no direct impact by the project on the ramp meter queuing.

## Table 3-4 - Existing With Project Conditions Ramp Meter Analysis Summary

| | | | Existing | | | | Existing With Project | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Location* | *Peak* | *Meter* | *Demand* | *Excess Demand* | *Avg. Delay* | *Avg. Queue* | *Demand* | *Excess Demand* | *Avg.* | *Avg. Queue* | *Increase in Delay (Minutes)* | *Significant?* |
| I-8 WB from NB Lake Jennings Park Road | AM | 636 | 449 | 0 | 0 | 0 | 532 | 0 | 0 | 0 | 0 | No |
| I-8 WB from SB Lake Jennings Park Road | AM | 636 | 532 | 0 | 0 | 0 | 532 | 0 | 0 | 0 | 0 | No |

# CHAPTER 4
# CUMULATIVE CONDITIONS

Cumulative baseline conditions represent opening day of the proposed project. Project traffic is added to the Cumulative baseline volumes to create the "With Project" scenario.

## 4.1 CUMULATIVE BASELINE TRAFFIC VOLUMES

Traffic growth on roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth.

For this analysis it is conservatively assumed that every parcel builds out to the General Plan designation as modeled by SANDAG for the year 2035 and that all General Plan Amendments within the study area are approved and implemented. Two cumulative projects have been identified that we included data for in our analysis. They are the Lakeside Tractor Supply project directly across the street from the shopping center which has approximately 900 daily trips, and the other project is an 18 unit residential project on Lake Jennings Park Road just to the north of I-8 which generates 180 daily trips. For more specific information concerning these cumulative projects see Appendix G.

The Cumulative Without Project daily traffic volumes are shown in Figure 4-1. The Cumulative Without Project AM and PM peak hour intersection volumes are shown in Figures 4-2 and 4-3, respectively.

## 4.2 CUMULATIVE WITH PROJECT CONDITIONS TRAFFIC VOLUMES

The Cumulative With Project daily traffic volumes are shown in Figure 4-4. The Cumulative With Project AM and PM peak hour intersection volumes are shown in Figures 4-5 and 4-6, respectively.

## 4.3 CUMULATIVE WITH PROJECT CONDITIONS ROADWAY SEGMENT ANALYSIS

Table 4-1 summarizes the roadway segment analysis results for Cumulative conditions without and with the project. The roadway segment analysis methodology is described in Section 2.2.1 of this report. Without any improvements by the project, there would be deficient and impacted segments at the following nine locations:

- Olde Highway 80 from Lake Jennings Park Road to Project Driveway 1
- Olde Highway 80 from Project Driveway 1 to Project Driveway 2
- Olde Highway 80 from Project Driveway 2 to Project Driveway 3
- Olde Highway 80 from Project Driveway 3 to Rios Canyon Road
- Olde Highway 80 from Rios Canyon Road to Pecan Park Lane
- Lake Jennings Park Road from Jack Oak Road to Harritt Road
- Lake Jennings Park Road from Harritt Road to Blossom Valley Road
- Lake Jennings Park Road from Blossom Valley Road to I-8 Westbound Off-Ramp
- Lake Jennings Park Road from I-8 Westbound Off-Ramp to Olde Highway 80

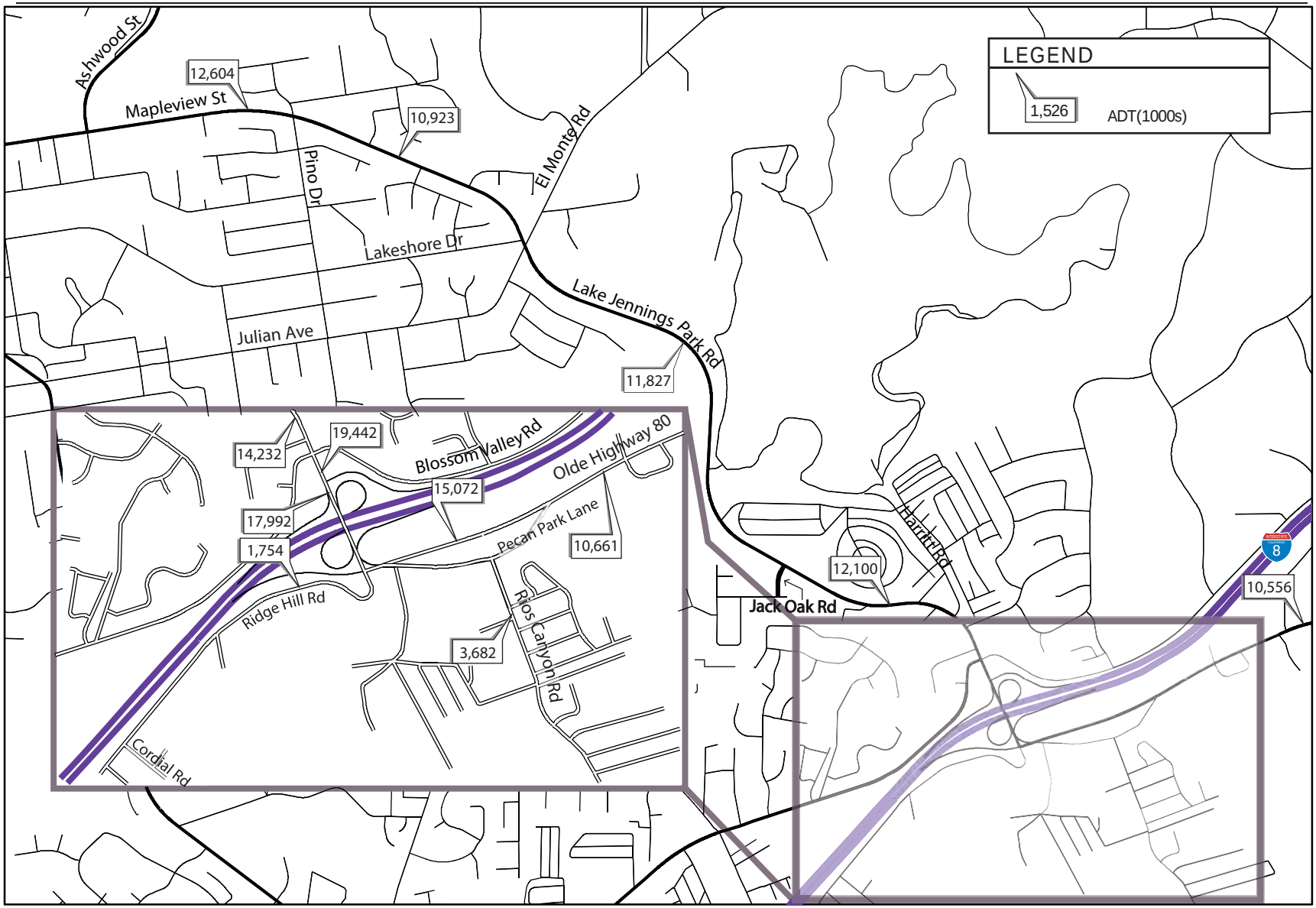



Figure 4-1
Cumulative Without Project Daily Roadway Segment Volumes

N
Not To Scale