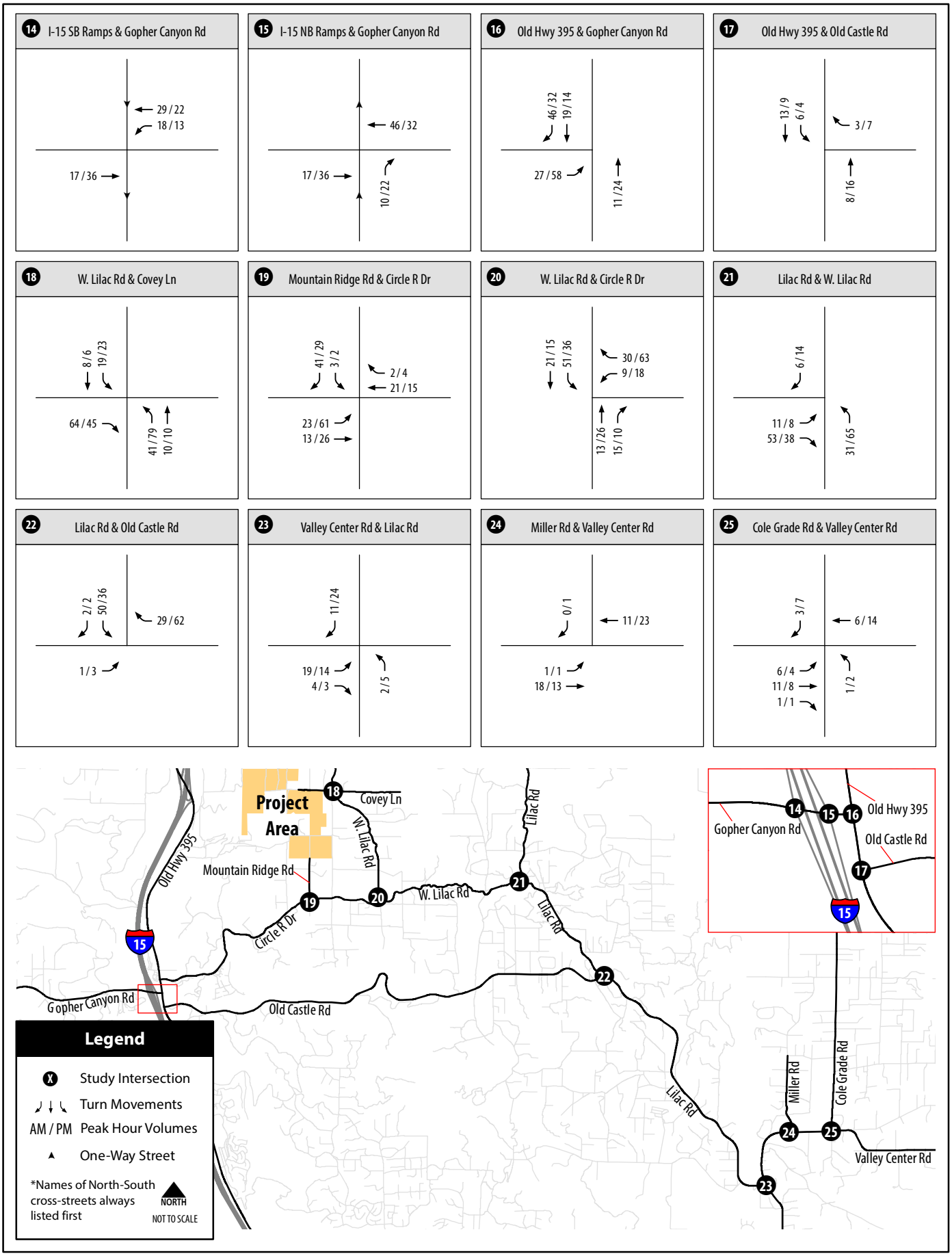


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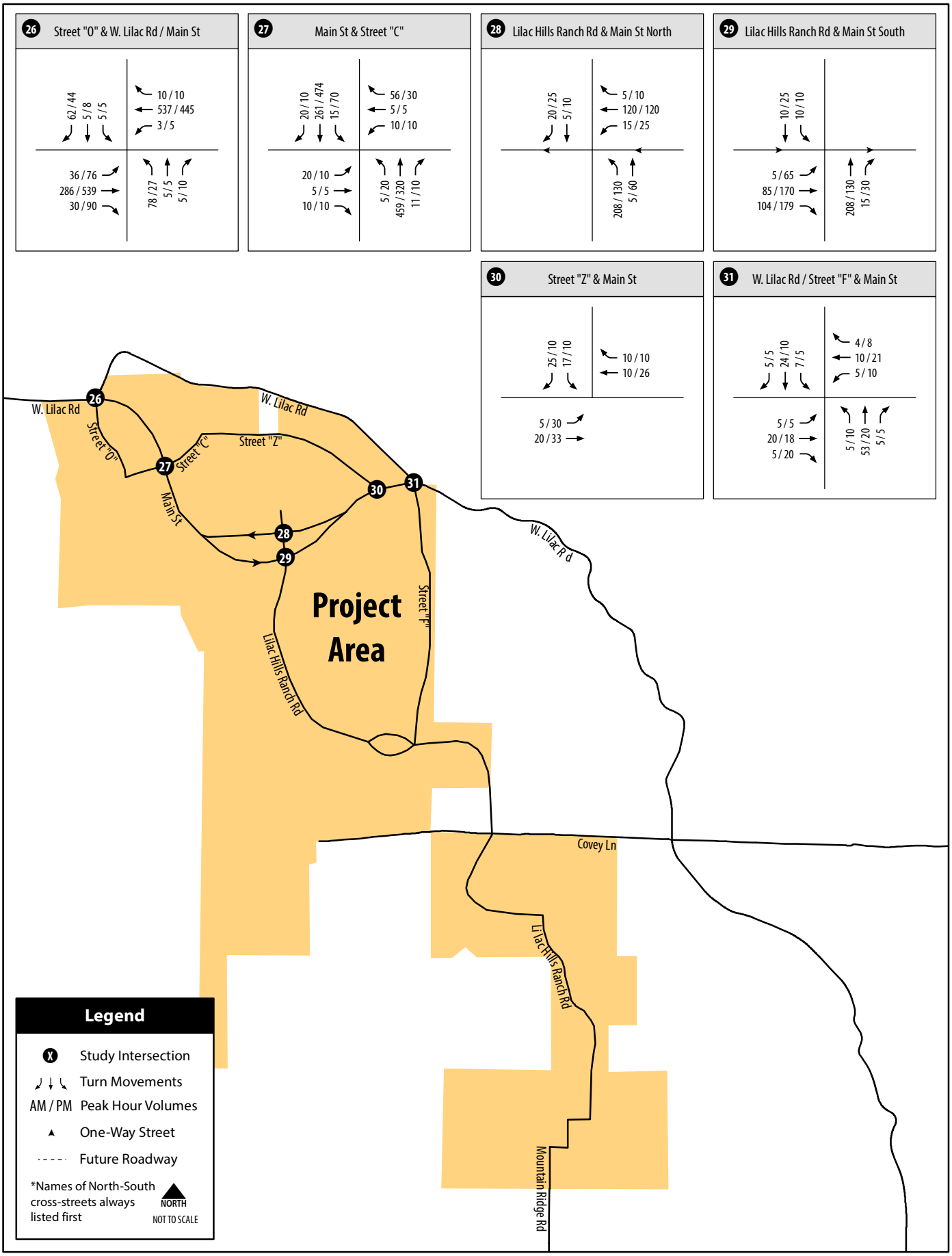
**Figure 4-14B (Intersections 14-25)**
**Project (Phase E, Buildout)**
**Trip Assignment (Intersection) - Existing Network**




**Lilac Hills Ranch Traffic Impact Study**

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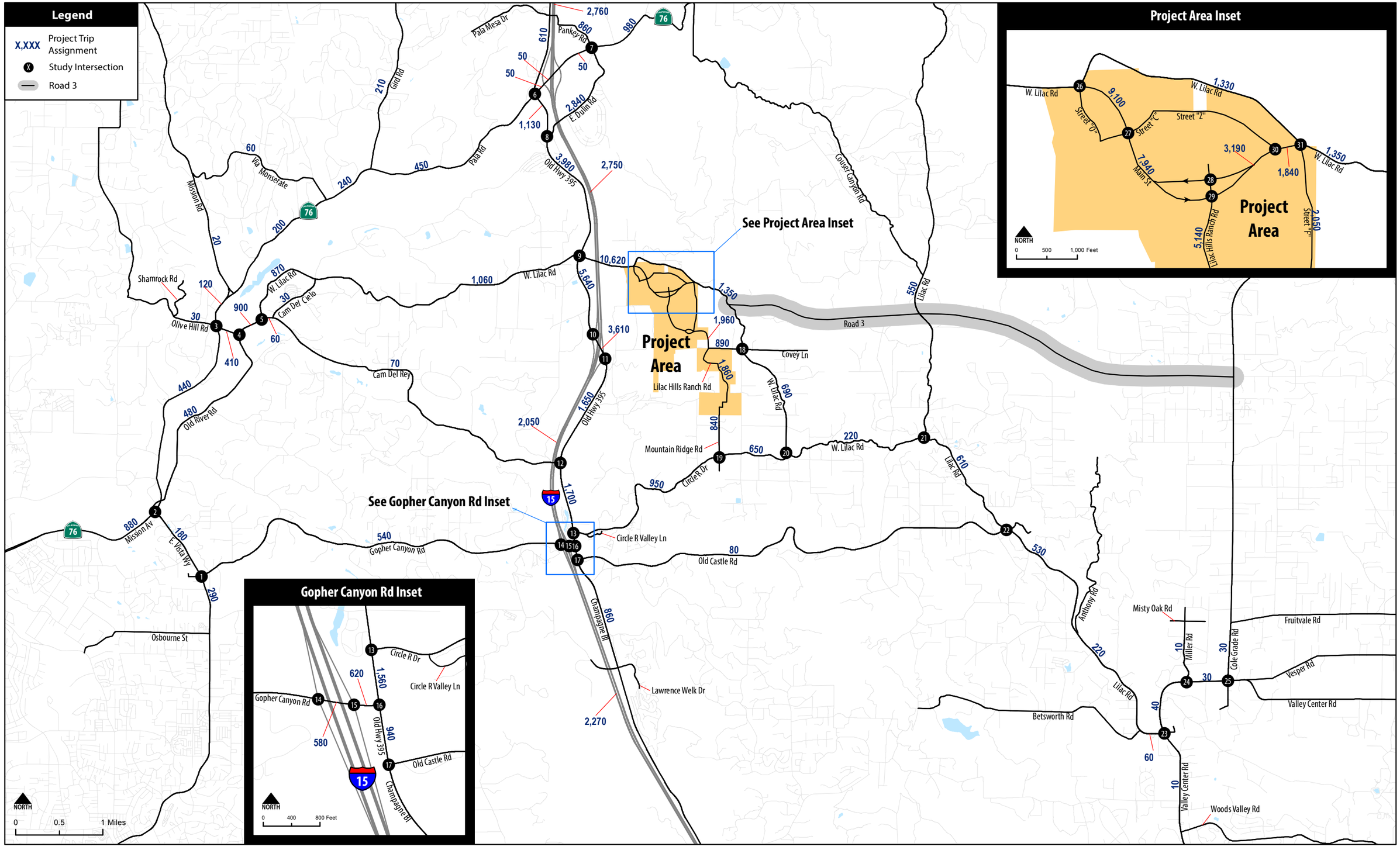
**Figure 4-14B (Intersections 26-31)**
**Project (Phase E, Buildout)**
**Trip Assignment (Intersection) - Existing Network**




**Lilac Hills Ranch Traffic Impact Study**

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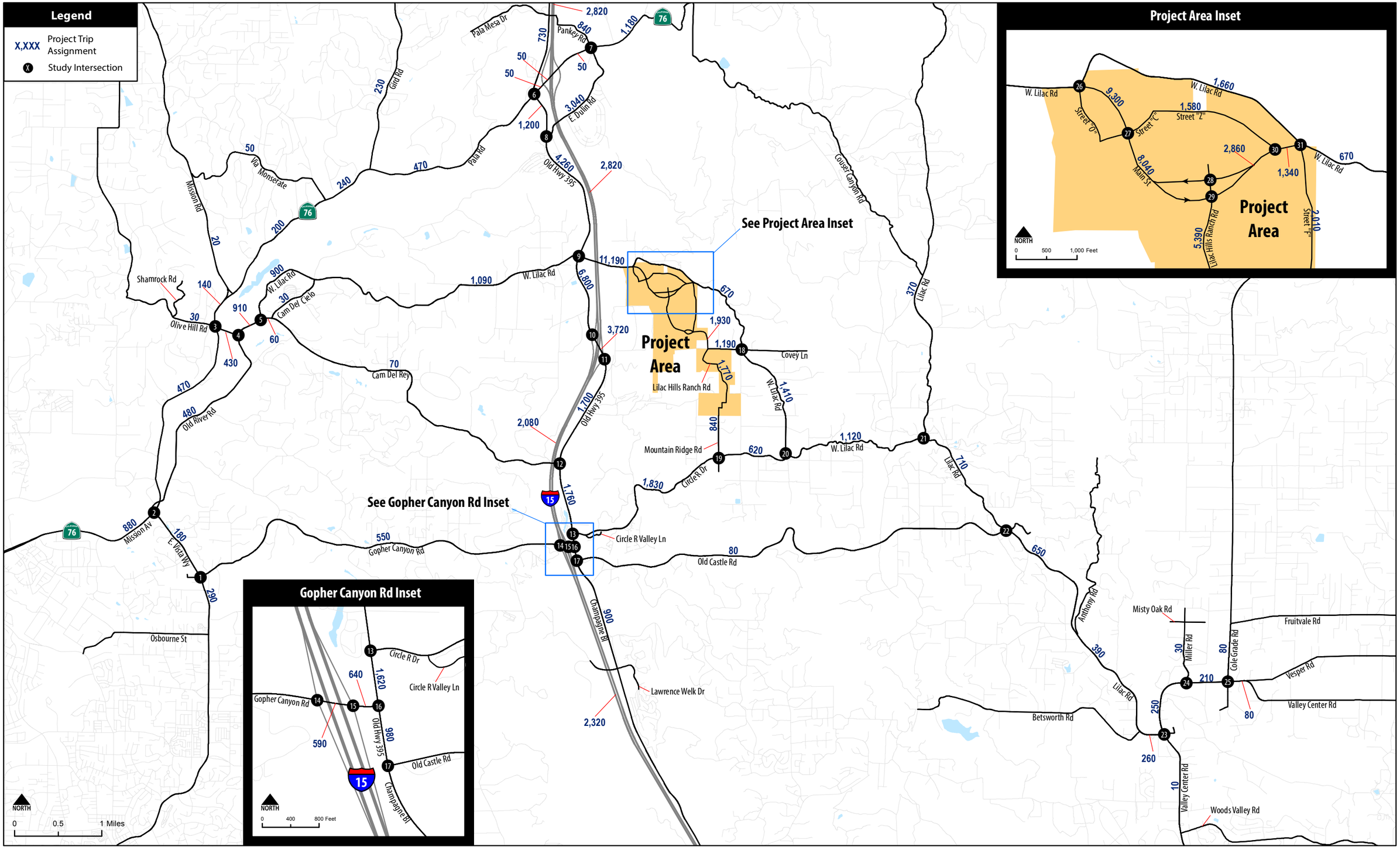
**Figure 4-15**
**Project (Buildout) Trip Assignment (Roadway) - Horizon Year Network with Road 3**




Lilac Hills Ranch Traffic Impact Study

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**Figure 4-16**
**Project (Buildout) Trip Assignment (Roadway) - Horizon Year Network without Road 3**

## 4.4 Vehicle Miles of Travel (VMT) Analysis

VMT is documented and compared in the form of average vehicular trip lengths in the Valley Center both with and without the proposed Lilac Hills Ranch project. Mode choice analyses and reports were derived from SANDAG model runs under the following six (6) scenarios:

*With Road 3*

1. **Without project and with Road 3:** Analyzes the average vehicular trip length within the Valley Center community without the proposed project and assuming the construction of Road 3. It is assumed that without the construction of the proposed project the project site would be developed based on the approved land uses contained in the *County of San Diego General Plan - Land Use Element*.

2. **With project and with Road 3:** Analyzes the average vehicular trip length within the Valley Center community assuming the development of the proposed project and assuming the construction of Road 3.

3. **Lilac Hills Ranch Project only with Road 3:** To provide a better understanding of how the vehicular trip lengths generated by the proposed project compares to the surrounding community, this scenario analyses the average vehicular trip length for the trips generated by the proposed Lilac Hills Ranch project, assuming the construction of Road 3.

*Without Road 3*

4. **Without project and without Road 3:** Analyzes the average vehicular trip length within the Valley Center community, without the construction of the proposed project and assuming that Road 3 would not be constructed. It is assumed that without the construction of the proposed project the project site would be developed based on the approved land uses contained in the *County of San Diego General Plan - Land Use Element*.

5. **With project and without Road 3**: Analyzes the average vehicular trip length within the Valley Center community assuming the development of the proposed project and assuming Road 3 would not be constructed.

6. **Lilac Hills Ranch Project only without Road 3:** To provide a better understanding of how the vehicular trip lengths generated by the proposed project compares to the surrounding community, this scenario analyses the average vehicular trip length for just the proposed Lilac Hills Ranch project, assuming Road 3 would not be constructed.

The Year 2050 Regional Model (Series 12) assumes the build out of both the regional roadway network and the development of regional land uses under Year 2050 conditions. **Table 4.11**

documents the assumed land use and roadway network under each of the analysis scenarios outlined above. Land use assumptions for each model run are provided in **Appendix M**.

TABLE 4.11
MODE CHOICE MODEL SCENARIOS

| Scenario | Model ID | Geographic Area Analyzed | Assumed Land Uses within Project Site | Network Assumption |
|---|---|---|---|---|
| Without project and with Road 3 | 2050rc11g | Valley Center CPA | General Plan Update | Regional Buildout with Road 3 |
| With project and with Road 3 | 2050rc11e1 | Valley Center CPA | Lilac Hills Ranch project | |
| Lilac Hills Ranch Project only with Road 3 | 2050rc11e2 | Project Only | Lilac Hills Ranch project | |
| Without project and without Road 3 | 2050rc11h | Valley Center CPA | General Plan Update | Regional Buildout without Road 3 |
| With project and without Road 3 | 2050rc11f1 | Valley Center CPA | Lilac Hills Ranch project | |
| Lilac Hills Ranch Project only without Road 3 | 2050rc11f2 | Project Only | Lilac Hills Ranch project | |

Source: SANDAG, Chen Ryan Associates; May 2014

**Table 4.12** displays a comparison of vehicles mile travel (VMT), the total number of vehicular trips generated, and the average vehicular trip length within the community and/or generated by the proposed project for each of the six analysis scenarios. The individual mode choice reports for each scenario are provided in **Appendix N**.

TABLE 4.12
VEHICLE MILES TRAVEL & AVERAGE TRIP LENGTH

| Scenarios | Geographic Area Analyzed | VMT (mi) | # of Vehicles | Trip Length (mi) |
|---|---|---|---|---|
| Without project and with Road 3 | Valley Center CPA | 991,157 | 120,162 | 8.25 |
| With project and with Road 3 | Valley Center CPA | 1,045,936 | 128,042 | 8.17 |
| Lilac Hills Ranch Project only with Road 3 | Project Only | 71,084 | 9,353 | 7.600 |
| Without project and without Road 3 | Valley Center CPA | 989,607 | 120,162 | 8.24 |
| With project and without Road 3 | Valley Center CPA | 1,043,747 | 128,034 | 8.15 |
| Lilac Hills Ranch Project only without Road 3 | Project Only | 71,055 | 9,346 | 7.603 |

Source: SANDAG Mode Choice Reports; May 2014

As shown in Table 4.12, the overall VMT and number of vehicles increase with the development of the proposed project, however, trip lengths within the Valley Center community are projected to be reduced by 0.08 miles, assuming the construction of Road 3, and 0.09 miles without the construction of Road 3. The proposed project is projected to have an average vehicular trip length

of 7.6 miles, which is over a half-mile lower than the rest of the Valley Center community, both with and without the construction of Road 3.

It should be noted that due the rural nature of the Valley Center community and the relevance of the trip length comparisons, this analysis was only conducted at the community and project level (not at the regional level). Based on the Year 2050 Regional Model, the average vehicular trip length within the San Diego region is 5.8 miles; however, this includes numerous urban and suburban communities and jurisdictions such as downtown, UTC, La Jolla, Mission Valley, Encinitas, etc. and is therefore not applicable to the rural Valley Center community.

# 5.0 Existing Plus Project Conditions

This section provides an analysis of existing traffic conditions with the addition of project trips under the various traffic analysis phases of the Lilac Hills Ranch project.

## 5.1 Existing Plus Project (Phase A) Conditions

### 5.1.1 Existing Plus Project (Phase A) Roadway Network and Traffic Volumes

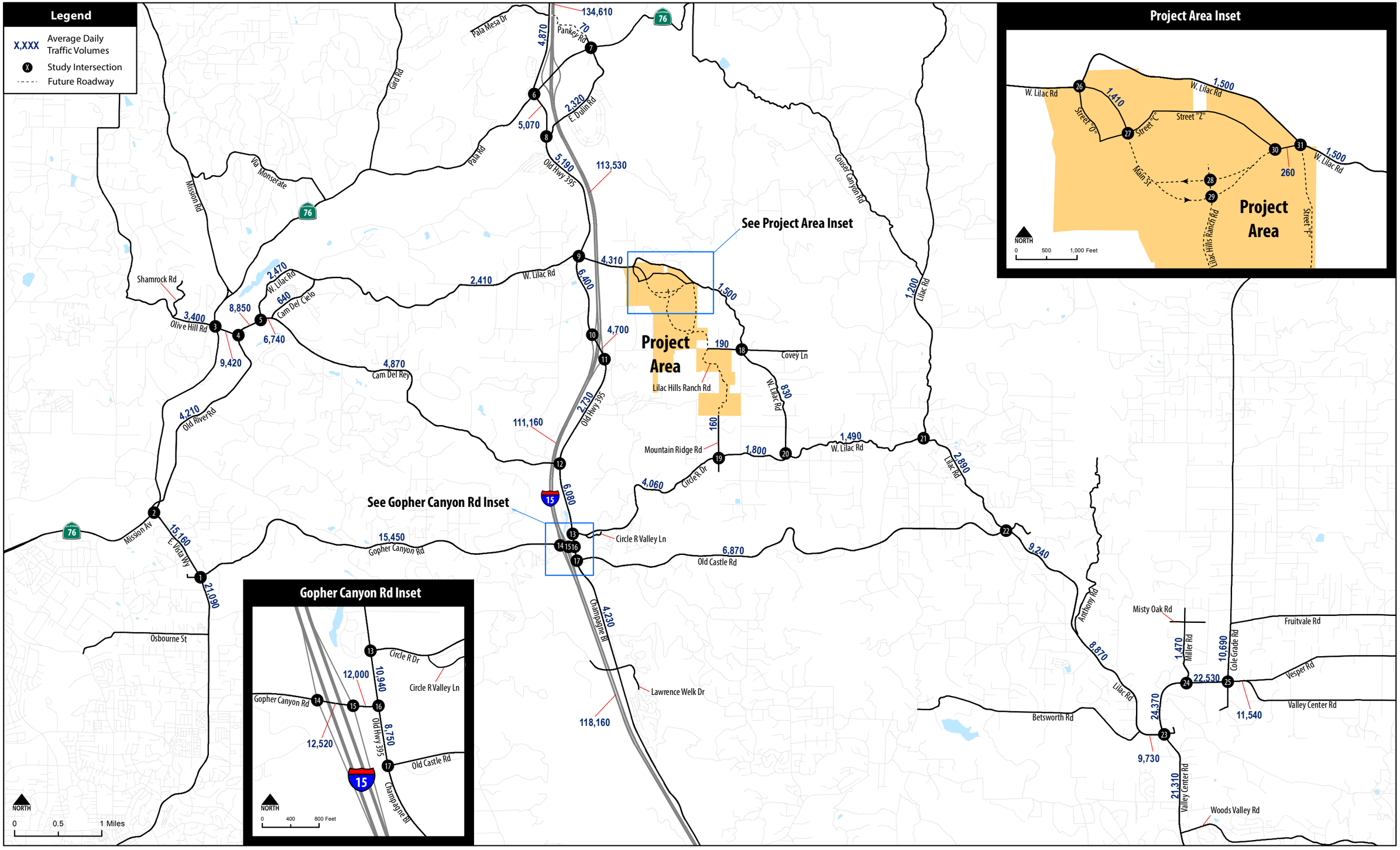
The Existing Plus Project (Phase A) scenario includes existing traffic volumes with the addition of traffic generated by traffic analysis Phase A. Intersection and roadway geometrics under Existing Plus Project conditions were assumed to be identical to Existing conditions, with the exception of the following roads and driveway intersections associated with project frontage and access:

- Main Street, between West Lilac Road and Street "C";
- Main Street, between Street "Z" and W. Lilac Road;
- Street "C" and Street "Z";
- Birdsong Drive, between Street "Z" and W. Lilac Road;
- Intersection # 26, Street "O" / W. Lilac Road/Main Street – proposed roundabout;
- Intersection # 27, Main Street / Street "C"– proposed roundabout;
- Intersection # 30, Street "Z" / Main Street – proposed one-way stop (southbound Street "Z" approach) controlled L-intersection; and
- Intersection # 31, Street "Z" / Main Street – proposed roundabout.

Note that Birdsong Drive, between Street "Z" and W. Lilac Road will serve as an interim secondary access route for the initial phase of Phase A (SFD-1 and SFD-2 as shown in Figure 1-3). After the construction of Main Street, between Street "Z" and W. Lilac Road, Birdsong Drive will revert to a private driveway for use by the owner of APN 128-280-56. **Appendix O** provided a detailed assessment for Birdsong Drive traffic operations under Phase A, and it concluded that the initial phase of Phase A (SFD-1 and SFD-2) would not have a significant impact at Birdsong Drive and W. Lilac Road intersection.

### 5.1.2 Existing Plus Project (Phase A) Traffic Conditions

Level of service analyses under Existing Plus Project (Phase A) conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment, intersection, two-lane highway, freeway segment, and ramp intersection level of service results are discussed separately below. Average daily traffic volumes on study area roadway segments are displayed in **Figure 5-1A**, while peak hour traffic volumes at the key study area intersections are displayed in **Figure 5-1B**.




Lilac Hills Ranch Traffic Impact Study

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**Figure 5-1A**

**Roadway Average Daily Traffic Volumes - Existing Plus Project (Phase A) Conditions**

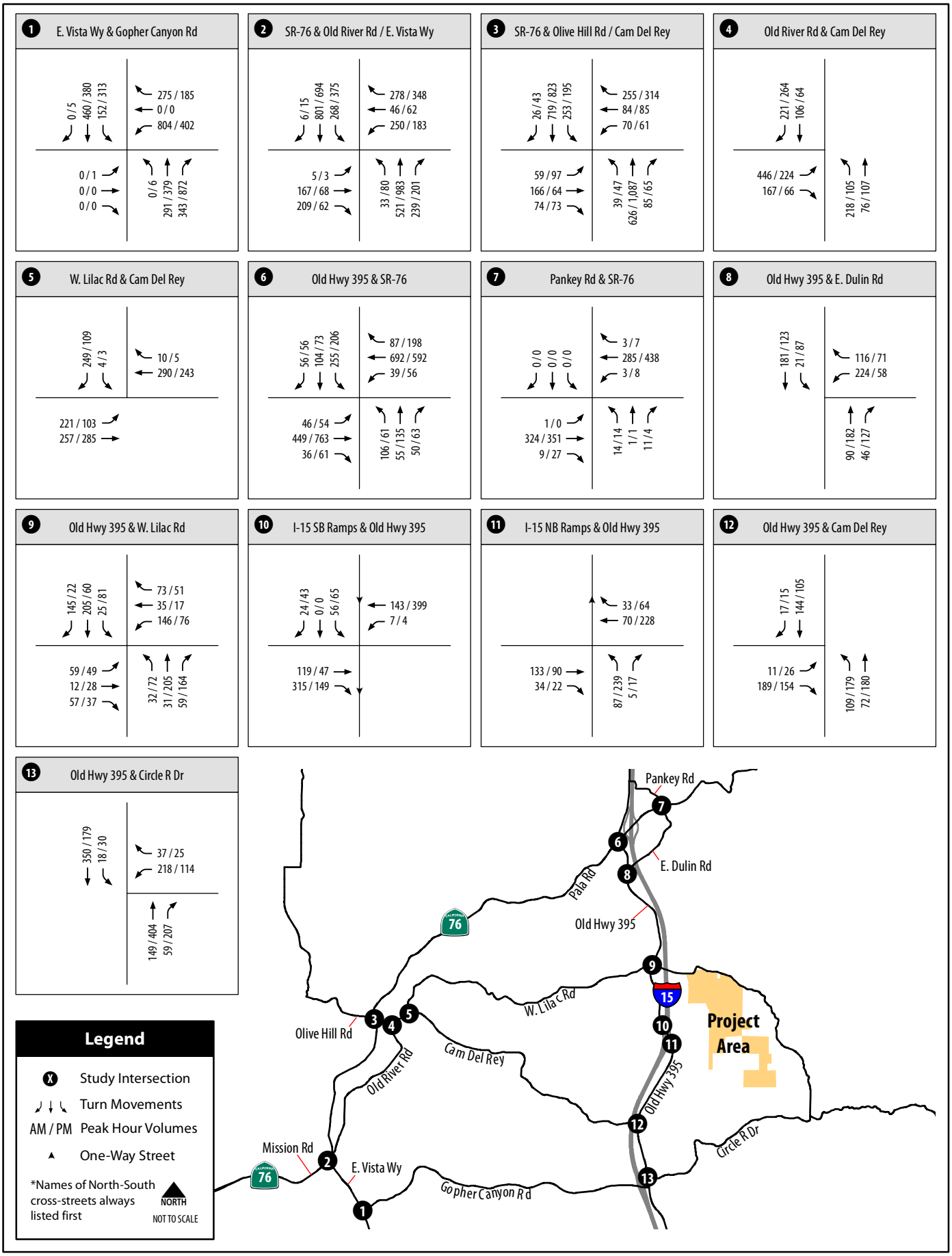


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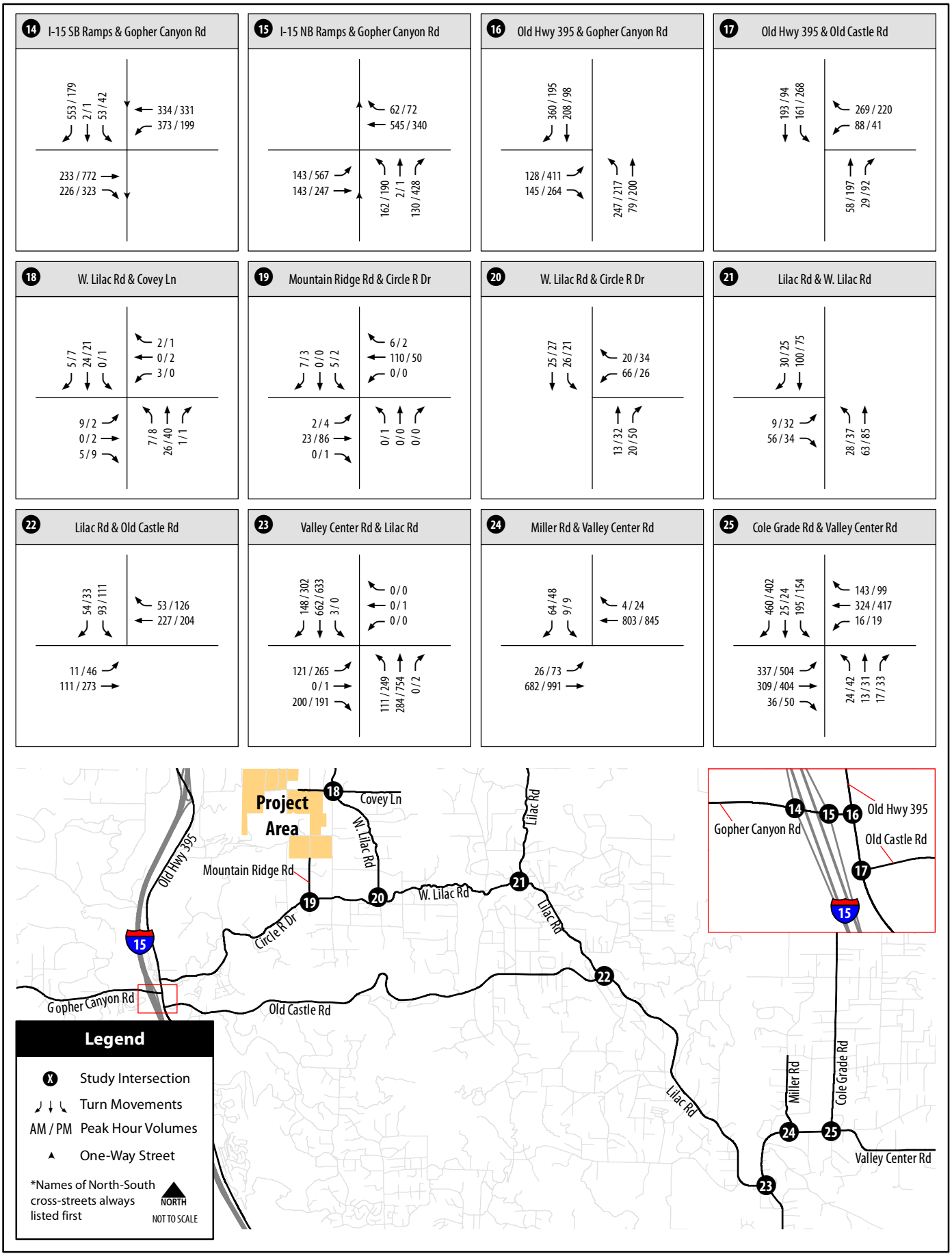
**Figure 5-1B (Intersections 1-13)**
**Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase A) Conditions**




**Lilac Hills Ranch Traffic Impact Study**

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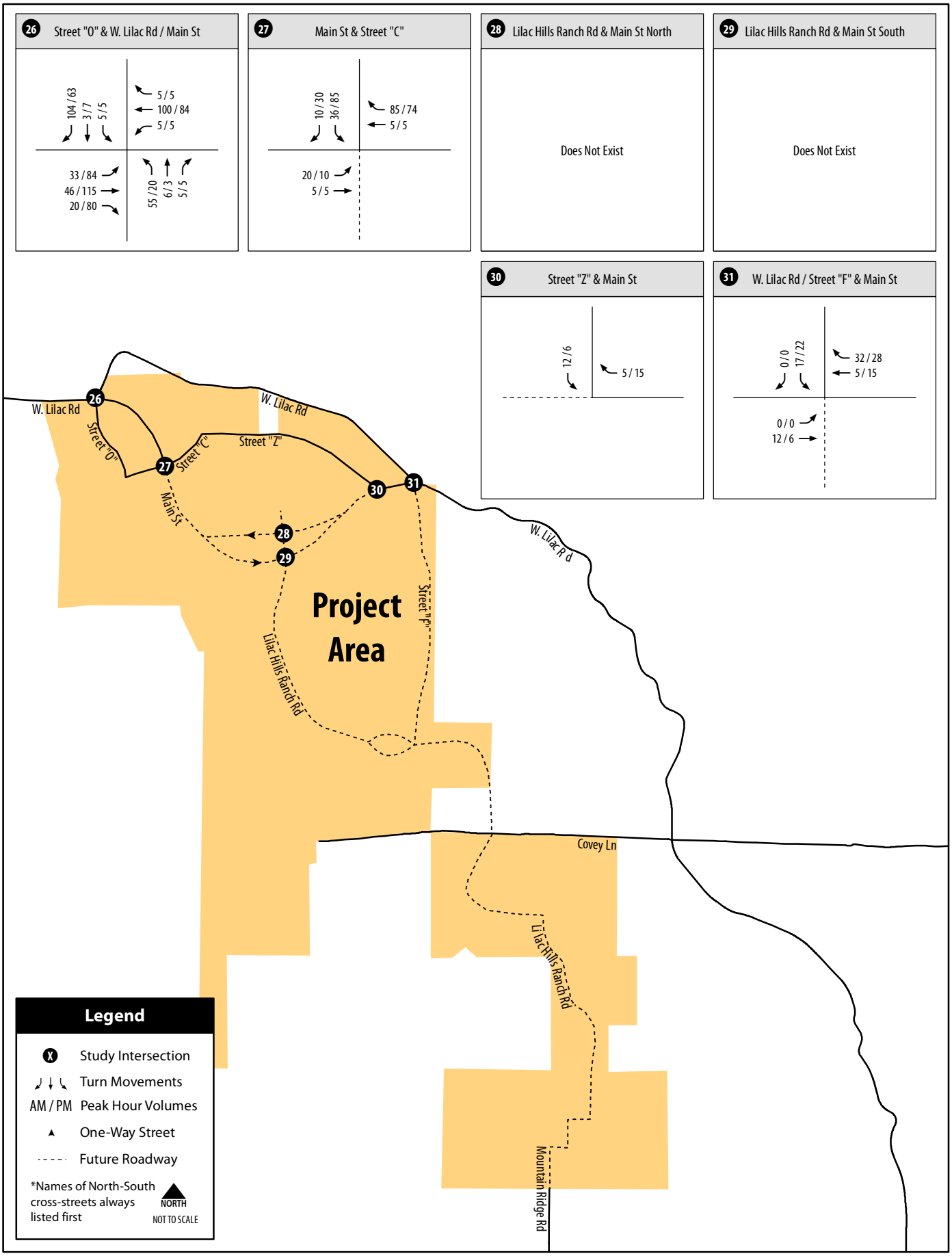
**Figure 5-1B (Intersections 14-25)**
**Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase A) Conditions**




Lilac Hills Ranch Traffic Impact Study

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**Figure 5-1B (Intersections 26-31)**
**Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase A) Conditions**

## Roadway Segment Analysis

**Table 5.1** displays the level of service analysis results for key roadway segments under Existing Plus Project (Phase A) conditions. As shown, similar to Existing conditions, the following three (3) roadway segments would continue to operate at substandard LOS E or F:

- Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps – LOS F;

  Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would result in a direct impact to this roadway segment since it would add more than 100 ADT on this facility which would operate at LOS F.

- E. Vista Way, between SR-76 and Gopher Canyon Road – LOS E;

  Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would not result in direct impacts to this roadway segment since it would not add more than 200 daily trips.

- E. Vista Way, between Gopher Canyon Road and Osborne Street – LOS F.

  Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would not result in direct impacts to this roadway segment since it would not add more than 100 daily trips.

## Intersection Analysis

**Table 5.2** displays intersection level of service and average vehicle delay results under Existing Plus Project (Phase A) conditions. Level of service calculation worksheets for the Existing Plus Project (Phase A) conditions are provided in **Appendix P**. As shown in the table, the following three (3) study intersections would continue to operate at substandard LOS E or F under Existing Plus Project (Phase A) conditions:

- E. Vista Way / Gopher Canyon Road – LOS F during both the AM and PM peak hours, and the Phase A project traffic would add more than 5 peak hour trips to the critical movement, as well as more than 1 second of delay to this signalized intersection. Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would result in a direct impact to this intersection.

TABLE 5.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Roadway | From | To | With Project Phase A | | | | Existing | | Project Phase A ADT | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cross-Section | LOS Threshold (LOS D) | ADT | LOS | ADT | LOS | | |
| E. Dulin Road | Old Highway 395 | SR-76 | 2-Ln | 9,800 | 2,320 | B | 1,830 | B | 500 | No |
| W. Lilac Road | Camino Del Rey | Camino Del Cielo | 2-Ln | 7,800 | 2,470 | A | 2,270 | A | 210 | No |
| W. Lilac Road | Camino Del Cielo | Old Highway 395 | 2-Ln | 7,800 | 2,410 | A | 2,140 | A | 270 | No |
| W. Lilac Road | Old Highway 395 | Main Street | 2-Ln | 8,700 | 4,310 | A | 1,150 | A | 3,160 | No |
| W. Lilac Road | Main Street | Street "F" | 2-Ln | 7,800 | 1,500 | A | 1,150 | A | 350 | No |
| W. Lilac Road | Street "F" | Covey Lane | 2-Ln | 7,800 | 1,500 | A | 1,150 | A | 350 | No |
| W. Lilac Road | Covey Lane | Circle R Drive | 2-Ln | 7,800 | 830 | A | 480 | A | 350 | No |
| W. Lilac Road | Circle R Drive | Lilac Road | 2-Ln | 7,800 | 1,490 | A | 1,170 | A | 320 | No |
| Camino Del Cielo | Camino Del Rey | W. Lilac Road | 2-Ln | 10,900 | 640 | A | 630 | A | 10 | No |
| Olive Hill Road | Shamrock Road | SR-76 | 2-Ln | 8,700 | 3,400 | A | 3,380 | A | 20 | No |
| Camino Del Rey | SR-76 | Old River Road | 2-Ln | 10,900 | 9,420 | D | 9,350 | D | 70 | No |
| Camino Del Rey | Old River Road | W. Lilac Road | 2-Ln | 9,800 | 8,850 | D | 8,640 | D | 210 | No |
| Camino Del Rey | W. Lilac Road | Camino Del Cielo | 2-ln w/ SM | 13,500 | 6,740 | C | 6,730 | C | 10 | No |
| Camino Del Rey | Camino Del Cielo | Old Highway 395 | 2-Ln | 7,800 | 4,870 | A | 4,850 | A | 20 | No |
| Gopher Canyon Road | E. Vista Way | I-15 SB Ramps | 2-Ln | 9,800 | 15,450 | F | 15,320 | F | 130 | *Yes > 100ADT* |
| Gopher Canyon Road | I-15 SB Ramps | I-15 NB Ramps | 4-Ln | 30,800 | 12,520 | A | 12,390 | A | 130 | No |
| Gopher Canyon Road | I-15 NB Ramps | Old Highway 395 | 4-Ln | 30,800 | 12,000 | A | 11,870 | A | 130 | No |
| Circle R Drive | Old Highway 395 | Mountain Ridge Road | 2-Ln | 9,800 | 4,060 | C | 4,030 | C | 40 | No |
| Circle R Drive | Mountain Ridge Road | W. Lilac Road | 2-Ln | 9,800 | 1,800 | B | 1,770 | B | 40 | No |

TABLE 5.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Roadway | From | To | With Project Phase A | | | | Existing | | Project Phase A ADT | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cross-Section | LOS Threshold (LOS D) | ADT | LOS | ADT | LOS | | |
| Old Castle Road | Old Highway 395 | Lilac Road | 2-Ln | 9,800 | 6,870 | D | 6,840 | D | 30 | No |
| E. Vista Way | SR-76 | Gopher Canyon Road | 2-Ln w/ TWLTL | 13,500 | 15,160 | E | 15,120 | E | 50 | No < 200ADT |
| E. Vista Way | Gopher Canyon Road | Osborne Street | 2-Ln w/ TWLTL | 13,500 | 21,090 | F | 21,020 | F | 70 | No < 100ADT |
| Old River Road | SR-76 | Camino Del Rey | 2-Ln | 9,800 | 4,210 | C | 4,070 | C | 140 | No |
| Champagne Boulevard | Old Castle Road | Lawrence Welk Drive | 2-Ln | 10,900 | 4,230 | C | 4,170 | C | 60 | No |
| Pankey Road | Pala Mesa Drive | SR-76 | 2-Ln | 4,500 | 70 | A | 70 | A | 0 | No |
| Lilac Road | Couser Canyon Road | W. Lilac Road | 2-Ln | 7,800 | 1,200 | A | 1,150 | A | 50 | No |
| Lilac Road | W. Lilac Road | Old Castle Road | 2-Ln | 7,800 | 2,890 | A | 2,640 | A | 250 | No |
| Lilac Road | Old Castle Road | Anthony Road | 2-Ln | 10,900 | 9,240 | D | 9,010 | D | 240 | No |
| Lilac Road | Anthony Road | Betsworth Road | 2-Ln | 10,900 | 8,870 | D | 8,740 | D | 140 | No |
| Lilac Road | Betsworth Road | Valley Center Road | 2-Ln | 13,500 | 9,730 | D | 9,620 | D | 110 | No |
| Valley Center Road | Woods Valley Road | Lilac Road | 4/Ln w/ TWLTL/RM | 27,000 | 21,310 | C | 21,290 | C | 20 | No |
| Valley Center Road | Lilac Road | Miller Road | 4-Ln w/ RM | 33,400 | 24,370 | B | 24,280 | B | 90 | No |
| Valley Center Road | Miller Road | Cole Grade Road | 4-Ln w/ RM | 27,000 | 22,530 | C | 22,440 | C | 90 | No |
| Valley Center Road | Cole Grade Road | Vesper Road | 2-Ln | 13,500 | 11,540 | D | 11,490 | D | 50 | No |
| Miller Road | Misty Oak Road | Valley Center Road | 2-Ln | 7,000 | 1,470 | A | 1,460 | A | 0 | No |

TABLE 5.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Roadway | From | To | With Project Phase A | | | | Existing | | Project Phase A ADT | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cross-Section | LOS Threshold (LOS D) | ADT | LOS | ADT | LOS | | |
| Cole Grade Road | Fruitvale Road | Valley Center Road | 2-Ln w/ TWLTL | 13,500 | 10,690 | D | 10,660 | D | 30 | No |

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
RM = Raised Median.
SM = Striped Median.
TWLTL = Two-Way Left-Turn Lane.
Changes in this table are associated with "Change 3" as described in the "Summary of Major Changes to the TIS" section of the "Executive Summary".

TABLE 5.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Intersection | Traffic Control | With Project Phase A | | | | Existing | | Change in Delay (sec.) AM / PM | Phase A Traffic to Critical Movements AM / PM | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | Delay (sec.) AM / PM | LOS AM / PM | | | |
| | | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS | | | | | |
| 1. E. Vista Way / Gopher Canyon Road | Signal | 175.7 | F | 221.2 | F | 172.8 / 212.0 | F / F | 2.9 / 9.2 | WB:+7 / NB:+5 | *Yes County Int. > 5 trips >1 sec.* |
| 2. SR-76 / Old River Road/E. Vista Way | Signal | 24.1 | C | 32.0 | C | 23.7 / 32 | C / C | 0.4 / 0.0 | - | No |
| 3. SR-76 / Olive Hill Road/Camino Del Rey | Signal | 26.4 | C | 34.5 | C | 21.6 / 34.5 | C / C | 4.8 / 0.0 | - | No |
| 4. Old River Road / Camino Del Rey | OWSC | 23.4 | D | 12.2 | B | 23.2 / 12.2 | D / B | 0.2 / 0.0 | - | No |
| 5. W. Lilac Road / Camino Del Rey | OWSC | 16.2 | C | 11.1 | B | 15.7 / 11.0 | C / B | 0.5 / 0.1 | - | No |
| 6. Old Highway 395 / SR-76 | Signal | 29.3 | C | 41.8 | D | 29.0 / 39.8 | C / D | 0.3 / 2.0 | - | No |
| 7. Pankey Road / SR-76 | TWSC | 12.9 | B | 15.5 | C | 12.8 / 15.2 | B / C | 0.1 / 0.3 | - | No |
| 8. Old Highway 395 / E. Dulin Road | OWSC | 14.7 | B | 13.1 | B | 14.7 / 11.2 | B / B | 0.0 / 1.9 | - | No |
| 9. Old Highway 395 / W. Lilac Road | TWSC | 19.3 | C | 21.9 | C | 18.5 / 13.3 | C / B | 0.8 / 8.6 | - | No |
| 10. I-15 SB Ramps / Old Highway 395 | OWSC | 12.0 | B | 12.1 | B | 10.6 / 12.1 | B / B | 1.4 / 0.0 | - | No |
| 11. I-15 NB Ramps / Old Highway 395 | OWSC | 10.2 | B | 12.9 | B | 9.8 / 11.2 | A / B | 0.4 / 1.7 | - | No |

TABLE 5.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Intersection | Traffic Control | With Project Phase A | | | | Existing | | Change in Delay (sec.) AM / PM | Phase A Traffic to Critical Movements AM / PM | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | Delay (sec.) AM / PM | LOS AM / PM | | | |
| | | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS | | | | | |
| 12. Old Highway 395 / Camino Del Rey | OWSC | 10.2 | B | 11.3 | B | 10.1 / 11.0 | B / B | 0.1 / 0.3 | - | No |
| 13. Old Highway 395 / Circle R Drive | OWSC | 21.5 | C | 23.6 | C | 20.4 / 22.5 | C / C | 1.1 / 1.1 | - | No |
| 14. I-15 SB Ramps / Gopher Canyon Road | OWSC | 469.6 | F | 173.0 | F | 468.2 / 173.0 | F / F | 1.4 / 0.0 | - | No Caltrans Int. < 2 sec. |
| 15. I-15 NB Ramps / Gopher Canyon Road | OWSC | 31.3 | D | 1945.5 | F | 30.5 / 1945.4 | D / F | 0.8 / 0.1 | - | No Caltrans Int. < 2 sec. |
| 16. Old Highway 395 / Gopher Canyon Road | Signal | 13.4 | B | 14.9 | B | 11.0 / 14.7 | B / B | 2.4 / 0.2 | - | No |
| 17. Old Highway 395 / Old Castle Road | Signal | 13.9 | B | 16.2 | B | 13.9 / 15.7 | B / B | 0.0 / 0.5 | - | No |
| 18. W. Lilac Road / Covey Lane | TWSC | 9.0 | A | 9.3 | A | 8.8 / 9.3 | B / A | 0.2 / 0.0 | - | No |
| 19. Mountain Ridge Road / Circle R Drive | TWSC | 9.3 | A | 9.6 | A | 9.3 / 9.6 | A / A | 0.0 / 0.0 | - | No |
| 20. W. Lilac Road / Circle R Drive | OWSC | 9.6 | A | 9.3 | A | 9.3 / 9.3 | A / A | 0.3 / 0.0 | - | No |
| 21. Lilac Road / W. Lilac Road | OWSC | 9.7 | A | 10.2 | B | 9.6 / 9.9 | A / A | 0.1 / 0.3 | - | No |
| 22. Lilac Road / Old Castle Road | OWSC | 12.2 | B | 18.6 | C | 11.8 / 17.8 | B / C | 0.4 / 0.8 | - | No |
| 23. Valley Center Rd / Lilac Road | Signal | 10.6 | B | 22.8 | C | 10.5 / 22.6 | B / C | 0.1 / 0.2 | - | No |

TABLE 5.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Intersection | Traffic Control | With Project Phase A | | | | Existing | | Change in Delay (sec.) AM / PM | Phase A Traffic to Critical Movements AM / PM | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | Delay (sec.) AM / PM | LOS AM / PM | | | |
| | | Avg. Delay (sec.) | LOS | Avg. Delay (sec.) | LOS | | | | | |
| 24. Miller Road / Valley Center Road | OWSC | 17.0 | C | 25.3 | D | 16.9 / 25.0 | C / D | 0.1 / 0.3 | - | No |
| 25. Cole Grade Road / Valley Center Road | Signal | 31.1 | C | 34.9 | C | 31.1 / 34.9 | C / C | 0.0 / 0.0 | - | No |
| 26. Street "O" / W. Lilac Road/Main Street | RA | 4.6 | A | 5.4 | A | DNE | DNE | 4.6 / 5.4 | - | No |
| 27. Main Street / Street "C" | RA | 3.9 | A | 4.1 | A | DNE | DNE | 3.9 / 4.1 | - | No |
| 28. Lilac Hills Ranch Road / Main Street North | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 29. Lilac Hills Ranch Road / Main Street South | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE | DNE |
| 30. Street "Z" / Main Street | OWSC | 8.6 | A | 8.6 | A | DNE | DNE | 8.6 / 8.6 | - | No |
| 31. W. Lilac Road/Street "F" / Main Street | RA | 3.5 | A | 3.5 | A | DNE | DNE | 3.5 / 3.5 | - | No |

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E of F.
AWSC = All-Way Stop Controlled.
TWSC = Two-Way Stop Controlled.
OWSC = One-Way Stop Controlled.
RA = Roundabout.
DNE = Does Not Exist.
For OWSC and TWSC intersections, the delay shown is the worst delay experienced by any of the approaches.

- I-15 SB Ramps / Gopher Canyon Road (Caltrans) – LOS F during both the AM and PM peak hours, and the Phase A project traffic would not add two seconds or more of additional delay to this intersection. Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would not result in any direct impact to this intersection.
- I-15 NB Ramps / Gopher Canyon Road (Caltrans) – LOS F during the PM peak hour, and the Phase A project traffic would not add two seconds or more of additional delay to this intersection. Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the Lilac Hills Ranch project would not result in any direct impact to this intersection.

### Two-lane Highway Analysis

**Table 5.3** displays two-lane highway level of service analysis results for Old Highway 395 under Existing Plus Project (Phase A) conditions. The two-lane highway level of service analysis was performed utilizing the methodology presented in Chapter 2.0.

As shown in the table, all segments along Old Highway 395 would continue to operate at acceptable LOS D or better under Existing Plus Project (Phase A) conditions and the additional traffic generated by Phase A of the project would not cause any direct impacts to Old Highway 395.

### Freeway Segment Analysis

The freeway segment level of service analysis was performed utilizing the methodology presented in Chapter 2.0. **Table 5.4** displays the resulting level of service for I-15 under Existing Plus Project (Phase A) conditions.

As shown in the table, all of the study area freeway segments along I-15 would continue to operate at LOS D or better under Existing Plus Project (Phase A) conditions. Based upon the significance criteria discussed in Section 2.8, the additional traffic generated by Phase A of the project would not cause any direct impacts to study area freeway segments.

TABLE 5.3
TWO-LANE HIGHWAY LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| 2-Ln Highway | From | To | With Project Phase A | | | Existing | | Project Phase A ADT | Direct Impact? |
|---|---|---|---|---|---|---|---|---|---|
| | | | LOS Threshold (LOS D) | ADT | LOS | ADT | LOS | | |
| Old Highway 395 | Pala Mesa Drive | SR-76 | 16,200 | 4,870 | D or better | 4,770 | D or better | 100 | No |
| Old Highway 395 | SR-76 | E. Dulin Road | 16,200 | 5,070 | D or better | 4,720 | D or better | 350 | No |
| Old Highway 395 | E. Dulin Road | W. Lilac Road | 16,200 | 5,190 | D or better | 4,340 | D or better | 850 | No |
| Old Highway 395 | W. Lilac Road | I-15 SB Ramps | 16,200 | 6,400 | D or better | 4,450 | D or better | 1,950 | No |
| Old Highway 395 | I-15 SB Ramps | I-15 NB Ramps | 16,200 | 4,700 | D or better | 3,600 | D or better | 1,110 | No |
| Old Highway 395 | I-15 NB Ramps | Camino Del Rey | 16,200 | 2,730 | D or better | 2,430 | D or better | 300 | No |
| Old Highway 395 | Camino Del Rey | Circle R Drive | 16,200 | 6,080 | D or better | 5,820 | D or better | 270 | No |
| Old Highway 395 | Circle R Drive | Gopher Canyon Road | 16,200 | 10,940 | D or better | 10,710 | D or better | 230 | No |
| Old Highway 395 | Gopher Canyon Road | Old Castle Road | 16,200 | 8,750 | D or better | 8,660 | D or better | 90 | No |

Source: Chen Ryan Associates; May 2014

TABLE 5.4
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Freeway | Segment | ADT | Peak Hour % | Peak Hour Volume | Directional Split | # of Lanes Per Direction | PHF | % of Heavy Vehicle | Volume (pc/h/ln) | V/C | LOS w/ Project | Change in V/C (compare to Existing) | Significant Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I-15 | Riverside County Boundary to Old Highway 395 | 134,590 | 8.4% | 11,371 | 0.64 | 4 | 0.95 | 6.75% | 1,965 | 0.836 | D | 0.004 | No |
| I-15 | Old Highway 395 to SR-76 | 134,610 | 7.4% | 10,014 | 0.73 | 4 | 0.95 | 6.75% | 1,993 | 0.848 | D | 0.004 | No |

TABLE 5.4
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Freeway | Segment | ADT | Peak Hour % | Peak Hour Volume | Directional Split | # of Lanes Per Direction | PHF | % of Heavy Vehicle | Volume (pc/h/ln) | V/C | LOS w/ Project | Change in V/C (compare to Existing) | Significant Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I-15 | SR-76 to Old Highway 395 | 113,530 | 7.8% | 8,880 | 0.69 | 4 | 0.95 | 8.40% | 1,669 | 0.710 | C | 0.003 | No |
| I-15 | Old Highway 395 to Gopher Canyon Road | 111,160 | 8.1% | 8,977 | 0.67 | 4 | 0.95 | 8.40% | 1,644 | 0.700 | C | 0.007 | No |
| I-15 | Gopher Canyon Road to Deer Springs Road | 118,160 | 8.1% | 9,543 | 0.67 | 4 | 0.95 | 13.20% | 1,788 | 0.761 | C | 0.007 | No |
| I-15 | Deer Springs Road to Centre City Parkway | 117,940 | 8.0% | 9,475 | 0.66 | 4 | 0.95 | 13.20% | 1,766 | 0.751 | C | 0.006 | No |
| I-15 | Centre City Parkway to El Norte Parkway | 111,750 | 8.0% | 8,978 | 0.66 | 4 | 0.95 | 13.20% | 1,673 | 0.712 | C | 0.005 | No |
| I-15 | El Norte Parkway to SR-78 | 127,690 | 7.9% | 10,050 | 0.66 | 4 | 0.95 | 10.00% | 1,846 | 0.786 | C | 0.004 | No |
| I-15 | SR-78 to W Valley Parkway | 192,510 | 8.1% | 15,667 | 0.60 | 5+2ML | 0.95 | 10.00% | 1,484 | 0.631 | C | 0.002 | No |
| I-15 | W Valley Parkway to Auto Parkway | 179,430 | 8.1% | 14,603 | 0.60 | 5+2ML | 0.95 | 10.00% | 1,383 | 0.589 | B | 0.001 | No |
| I-15 | Auto Parkway to W Citracado Parkway | 172,420 | 7.8% | 13,372 | 0.60 | 5+2ML | 0.95 | 10.00% | 1,259 | 0.536 | B | 0.001 | No |
| I-15 | W Citracado Parkway to Via Rancho Parkway | 196,370 | 7.8% | 15,230 | 0.60 | 5+2ML | 0.95 | 7.00% | 1,413 | 0.601 | B | 0.001 | No |
| I-15 | Via Rancho Parkway to Bernardo Drive | 198,340 | 7.4% | 14,597 | 0.58 | 5+2ML | 0.95 | 7.00% | 1,314 | 0.559 | B | 0.001 | No |

TABLE 5.4
FREEWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Freeway | Segment | ADT | Peak Hour % | Peak Hour Volume | Directional Split | # of Lanes Per Direction | PHF | % of Heavy Vehicle | Volume (pc/h/ln) | V/C | LOS w/ Project | Change in V/C (compare to Existing) | Significant Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I-15 | Bernardo Drive to Rancho Bernardo Road | 201,320 | 7.4% | 14,817 | 0.58 | 5+2ML | 0.95 | 7.00% | 1,334 | 0.568 | B | 0.001 | No |
| I-15 | Rancho Bernardo Road to Bernardo Center Drive | 209,200 | 7.3% | 15,359 | 0.54 | 5+2ML | 0.95 | 7.00% | 1,281 | 0.545 | B | 0.001 | No |
| I-15 | Bernardo Center Drive to Camino Del Norte | 214,290 | 7.3% | 15,733 | 0.54 | 5+2ML | 0.95 | 7.00% | 1,312 | 0.558 | B | 0.001 | No |

Source: Chen Ryan Associates; May 2014

Notes:
Bold letter indicates unacceptable LOS E or F.
ML = Managed Lane.

### Ramp Intersection Capacity Analysis

Consistent with Caltrans' requirements, the signalized intersections along SR-76 within the study area were analyzed under Existing Plus Project (Phase A) conditions using the ILV procedures as described in Chapter 2.0. ILV analysis results are displayed in **Table 5.5** and analysis worksheets for the Existing Plus Project (Phase A) conditions are provided in **Appendix Q**.

TABLE 5.5
RAMP INTERSECTION CAPACITY ANALYSIS
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Ramp Intersection | Peak Hour | ILV / Hour | Description |
|---|---|---|---|
| SR-76 / Old River Road/E. Vista Way | AM | 1,517 | *>1500: (Over Capacity)* |
| | PM | 1,270 | *1200-1500: (At Capacity)* |
| SR-76 / Olive Hill Road/Camino Del Rey | AM | 1,204 | *1200-1500: (At Capacity)* |
| | PM | 1,372 | *1200-1500: (At Capacity)* |
| SR-76 / Old Highway 395 | AM | 1,018 | *<1200: (Under Capacity)* |
| | PM | 1,062 | *<1200: (Under Capacity)* |

Source: Chen Ryan Associates; May 2014

As shown in the table, all three (3) intersections along SR-76 would operate at "At Capacity" and/or "Under Capacity", with the exception of the SR-76 / Old River Road/E. Vista Way intersection, which would operate at "Over Capacity" during the AM peak hour under the Existing Plus Project (Phase A) conditions.

### 5.1.3 Existing Plus Project (Phase A) Impact Significance and Mitigation

This section identifies required mitigation measures for roadway, intersection, two-lane highway, and freeway facilities that would be significantly impacted by project-related traffic under Existing Plus Project (Phase A) conditions.

***Roadway Segments***

Phase A of the project traffic would result in direct impact at one (1) of the study area roadway segment. The following improvements would be required to mitigate the identified impact:

- Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps – The project would add 130 daily trips (approximately 0.8% of the total ADT) to this roadway which is approximately 7 miles away from the project site.

The mitigation for this direct impact is the provision of a dedicated right-turn lane at the westbound Gopher Canyon Road approach of the East Vista Way / Gopher Canyon Road intersection, the constraining intersection along the impacted segment. The arterial analysis shown in **Appendix R** and summarized in **Table 5.6** below shows that the mitigation would increase the AM peak hour average travel speed along this segment to better than the Existing conditions, and would maintain the same PM peak hour average travel speed as the Existing

conditions. Therefore, the direct impact at the segment of Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps would be mitigated.

TABLE 5.6
ARTERIAL LEVEL OF SERVICE RESULTS AFTER MITIGATION
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Arterial | After Mitigation | | | | Existing | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | Speed (mph) | LOS | Speed (mph) | LOS | Speed (mph) | LOS | Speed (mph) | LOS |
| Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps | 40.8 | B | 44.3 | A | 30.6 | C | 44.3 | A |

Source: Chen Ryan Associates; May 2014

***Intersections***

Phase A of the project traffic would have a direct impact on the study area intersection of *E. Vista Way / Gopher Canyon Road* intersection. The following intersection improvement would be required to mitigate the identified traffic impact:

- *E. Vista Way / Gopher Canyon Road* (signal) (County) – Construction of a dedicated right-turn lane at the westbound Gopher Canyon Road approach of the East Vista Way / Gopher Canyon Road intersection. This mitigation measure would be required by 238$^{th}$ EDU to mitigate direct project impact.

**Table 5.7** displays level of service analysis results for the mitigated intersection under the Existing Plus Project (Phase A) conditions. Calculation worksheets for the intersection analysis are provided in **Appendix S**.

TABLE 5.7
MITIGATED INTERSECTION LEVEL OF SERVICE
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Intersection | After Mitigation | | | | Existing | |
|---|---|---|---|---|---|---|
| | AM Peak Hour | | PM Peak Hour | | Delay (sec.) AM / PM | LOS AM / PM |
| | Delay (Sec.) | LOS | Delay (sec.) | LOS | | |
| 1. E. Vista Way / Gopher Canyon Road | 113.6 | F | 177.9 | F | 172.8 / 212.0 | F / F |

Source: Chen Ryan Associates; May 2014

Note: Bold letter indicates unacceptable LOS E or F.

As shown in the table, after the proposed mitigation measures, the intersection of E. Vista Way / Gopher Canyon Road would continue to operate at LOS F during the peak hours. However, the intersection delays are significantly reduced to less than existing conditions, and hence the direct impact would be mitigated.

***Two-Lane Highways***

None of the study area two-lane highway facilities would be significantly impacted, and therefore no mitigation measures would be required under Existing Plus Project (Phase A) conditions.

***Freeways***

None of the study area freeway facilities would be significantly impacted, and therefore no mitigation measures would be required under Existing Plus Project (Phase A) conditions.

**Table 5.8** summarizes potential impacts and recommended mitigation measures associated with Phase A of the Lilac Hills Ranch project.

TABLE 5.8
IMPACT AND MITIGATION SUMMARY
EXISTING PLUS PROJECT (PHASE A) CONDITIONS

| Impacted Facility | Mitigation Measures |
|---|---|
| *Roadway Segment* | |
| Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps | Construction of a dedicated WB right-turn lane at the intersection of E. Vista Way / Gopher Canyon Road by 238th EDU. |
| *Intersection* | |
| E. Vista Way / Gopher Canyon Road | Construction of a dedicated WB right-turn lane at the intersection of E. Vista Way / Gopher Canyon Road by 238th EDU. |
| *Two-Lane Highway* | |
| None | - |
| *Freeway* | |
| None | - |

Source: Chen Ryan Associates; May 2014

## 5.2 Existing Plus Project (Phase B) Conditions

### 5.2.1 Existing Plus Project (Phase B) Roadway Network and Traffic Volumes

The Existing Plus Project (Phase B) scenario includes existing traffic volumes with the addition of traffic generated by traffic analysis Phase B. Intersection and roadway geometrics under Existing Plus Project conditions were assumed to be identical to Existing conditions, with the exception of the following roads and driveway intersections associated with project frontage and access:

- Main Street, between West Lilac Road and Street "C";
- Main Street, between Street "Z" and W. Lilac Road;
- Street "C" and Street "Z";
- Covey Lane, west of W. Lilac Road;

- Intersection # 26, Street "O" / W. Lilac Road/Main Street – proposed roundabout;
- Intersection # 27, Main Street / Street "C"– proposed roundabout;
- Intersection # 30, Street "Z" / Main Street – proposed one-way stop (southbound Street "Z" approach) controlled L-intersection; and
- Intersection # 31, Street "Z" / Main Street – proposed roundabout.

In addition to the project access and frontage roads assumed above, mitigation measure from Phase A was also carried forward into this Phase, including:

- Construction of a dedication right-turn lane at the westbound Gopher Canyon Road approach of the intersection of E. Vista Way and Gopher Canyon Road.

### 5.2.2 Existing Plus Project (Phase B) Traffic Conditions

Level of service analyses under Existing Plus Project (Phase B) conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment, intersection, two-lane highway, freeway segment, and ramp intersection level of service results are discussed separately below. Average daily traffic volumes on study area roadway segments are displayed in **Figure 5-2A**, while peak hour traffic volumes at the key study area intersections are displayed in **Figure 5-2B**.

#### Roadway Segment Analysis

**Table 5.9** displays the level of service analysis results for key roadway segments under Existing Plus Project (Phase B) conditions. As shown, similar to Existing conditions, the following three (3) roadway segments would continue to operate at substandard LOS E or F:

- Gopher Canyon Road, between E. Vista Way and I-15 SB Ramps – LOS F;

  The construction of a dedicated right-turn lane at the westbound Gopher Canyon Road approach of the intersection of E. Vista Way and Gopher Canyon Road was identified under the Existing Plus Project (Phase A) conditions as a mitigation measure. With this mitigation measure, the arterial analysis for Existing Plus Project (Phase B) shown in **Appendix T** and summarized in **Table 5.10** shows that the mitigation would increase the AM peak hour average travel speed along this segment to better than the Existing conditions, and would maintain the same PM peak hour average travel speed as the Existing conditions. Therefore, with the mitigation measure from Phase A, the additional traffic generated by Phase B of the Lilac Hills Ranch project would not result in a direct impact at this segment.

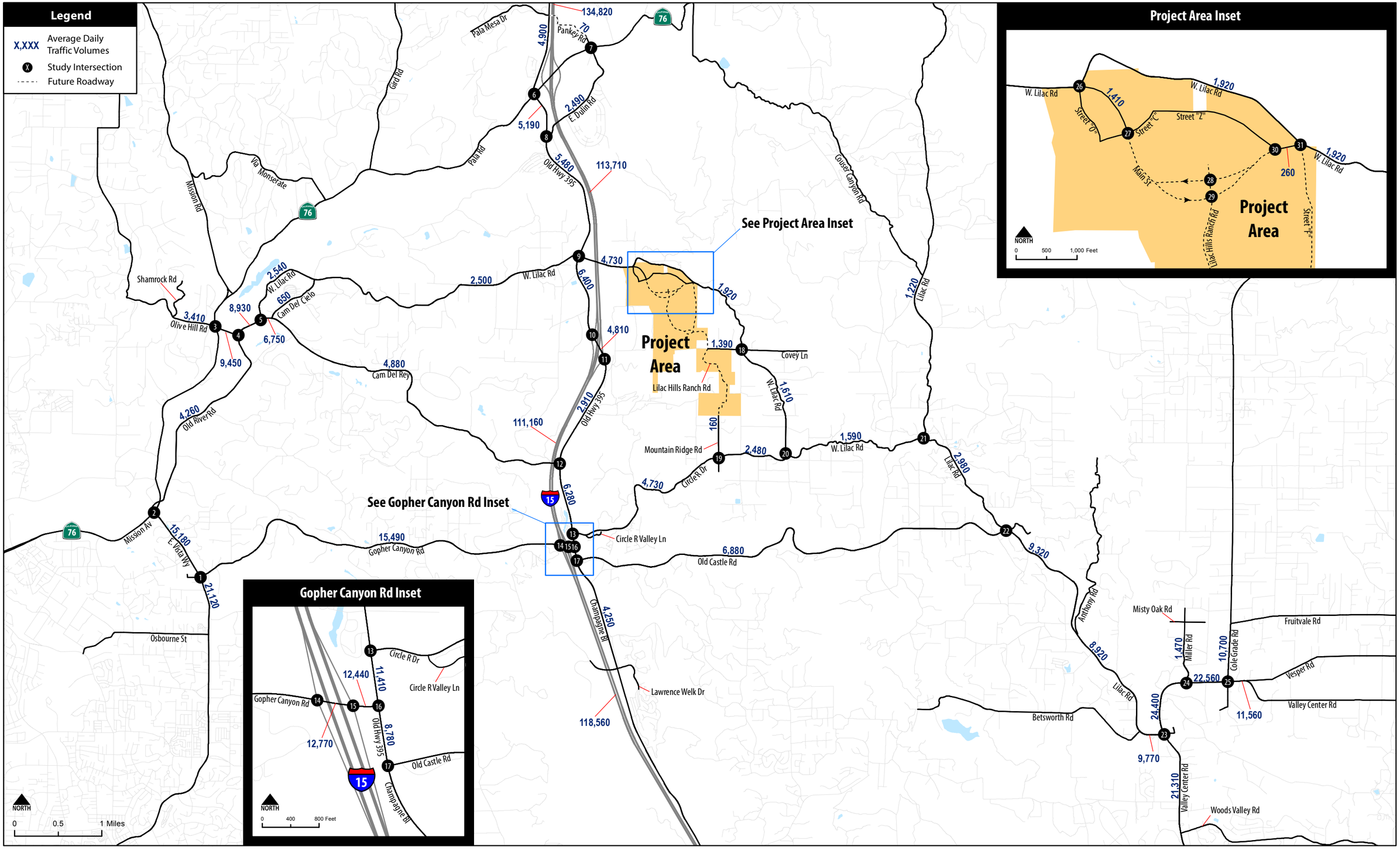


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**Figure 5-2A**

**Roadway Average Daily Traffic Volumes - Existing Plus Project (Phase B) Conditions**

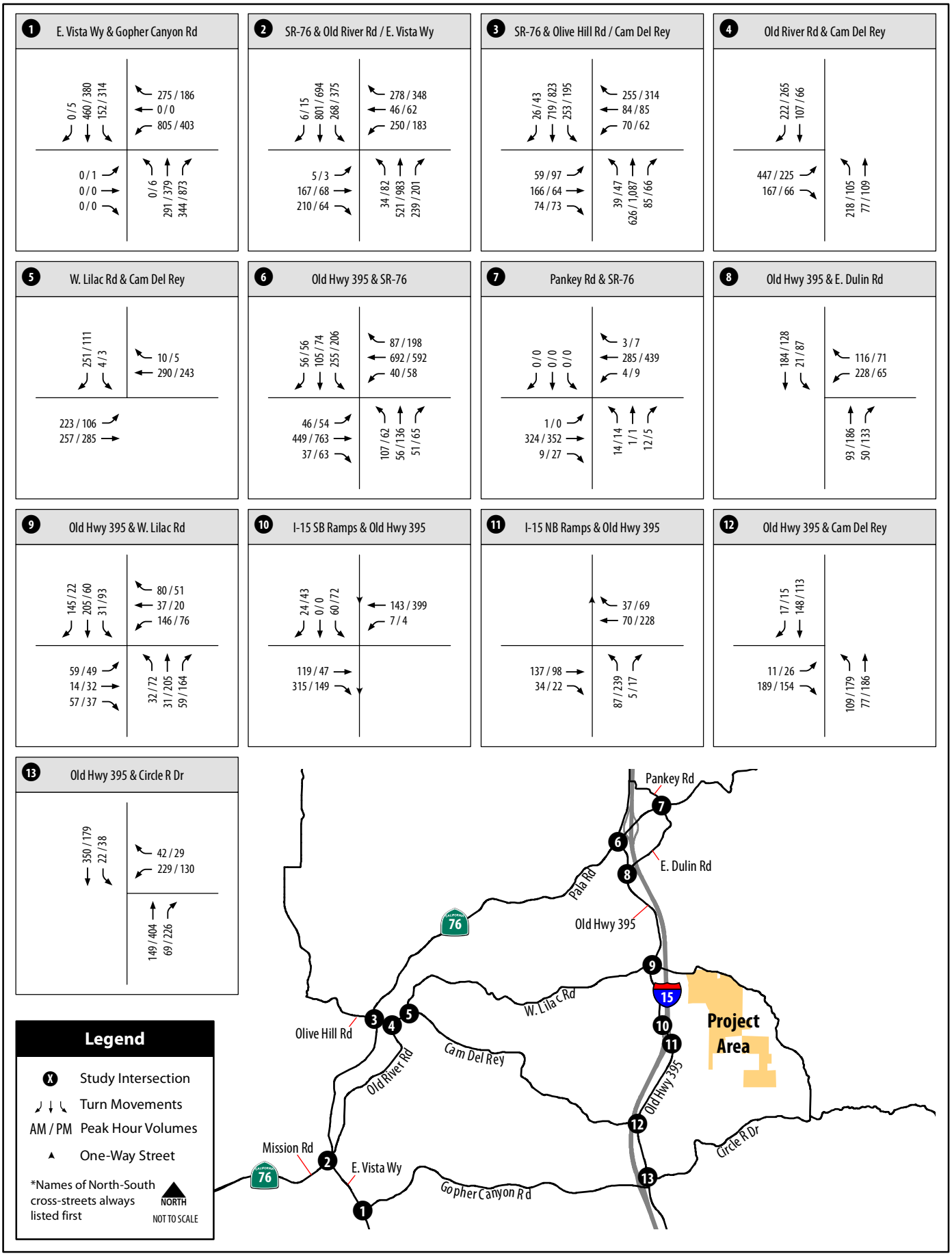


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**Figure 5-2B (Intersections 1-13)**
**Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase B) Conditions**