2.9 Transportation and Traffic

This section presents a summary of the potential transportation-related impacts of the proposed Project. It is based on the Traffic Impact Study (TIS), Otay Ranch Resort Village Project (Village 13), prepared by Chen Ryan (March 2015), included as **Appendix C-12** to this EIR.

By way of background, the Otay Ranch SRP PEIR, adopted in 1993, provided a program-level analysis of the existing conditions and potential impacts related to transportation and traffic for the entire Otay Ranch area, including the Project site. The Otay Ranch PEIR identified significant cumulative impacts relative to short-term and long-term traffic operations. As a result, mitigation measures were adopted in the PEIR requiring that projects in the region construct appropriate improvements and contribute their proportionate share toward construction of regional facilities. The Otay Ranch PEIR is incorporated into this EIR by reference and is available for public inspection and review at the County of San Diego, PDS, 5510 Overland Ave., San Diego, California.

2.9.1 Analysis Methodology

The traffic impact analysis presented in this section was conducted by Chen Ryan Associates, Inc. in accordance with County and Chula Vista traffic impact guidelines; the enhanced California Environmental Quality Act (CEQA) project review process, and the SANTEC/ITE Guidelines for Traffic Impact Studies in San Diego.

2.9.1.1 Scenarios Analyzed

Based on direction provided by the County, the following six scenarios were analyzed as part of the traffic impact analysis:

1. Existing Conditions – used to establish the existing baseline of traffic operations within the Project study area.
2. Existing Plus Project (Phase I) Conditions – represents existing traffic conditions (volumes and roadway network) with the addition of traffic from Phase I of the proposed Project.
3. Existing Plus Project (Buildout) Conditions – represents existing traffic conditions (volumes and roadway network) with the addition of traffic from buildout of the proposed Project.
4. Cumulative Year (2025) Plus Project Traffic Conditions - represents cumulative traffic conditions, including existing baseline traffic, traffic from anticipated land development projects, and traffic from buildout of the proposed project.
5. Year 2030 Base Conditions – represents projected long-range (2030) without Project cumulative baseline traffic conditions against which traffic generated by the proposed Project can be compared.
6. Year 2030 Base Plus Project (Buildout) Conditions – represents 2030 baseline traffic conditions with the addition of traffic generated by buildout of the proposed Project.

Because the proposed Project would add 50 or more peak-hour trips to multiple intersections and roadway segments located within the jurisdiction of Chula Vista, and 25 or more peak-hour trips to facilities within the County's jurisdiction, each of the six scenarios addressed as part of this analysis considers the potential impacts to roadways located in both the County and Chula Vista. (See Section 2.9.1.8, Analysis Study Area, for further explanation regarding the scope of the traffic impact analysis study area.)

2.9.1.2 Level of Service Definition

Traffic-related impacts are assessed relative to the concept of level of service (LOS), which is a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passenger's perception of operations. LOS, which is measured on a scale of A to F, generally describes the operational conditions in terms of speed, travel time, freedom to maneuver, comfort, convenience, and safety. **Table 2.9-1** describes traffic flow quality for LOS A through LOS F. LOS calculation worksheets for all scenarios analyzed are provided in **Appendix C-12**.

2.9.1.3 Intersection Analysis Methodology

The following methodologies were used to perform peak-hour intersection capacity analysis for signalized and unsignalized intersections within the Project study area.

Signalized Intersection Analysis

The signalized intersection analysis used in this study is based on the operational analysis methodology outlined in the Highway Capacity Manual 2000 Transportation Research Board Special Report 209, Chapter 16 (referred to herein as HCM 2000 or HCM). The HCM 2000 methodology defines intersection LOS as a function of intersection control delay in terms of seconds per vehicle (sec/veh).

The HCM 2000 methodology sets 1,900 passenger cars per hour per lane (pcphpl) as the ideal saturation flow rate at signalized intersections, and is based on the minimum headway that can be sustained between departing vehicles at a signalized intersection. The service saturation flow rate, which reflects the saturation flow rate specific to the study facility, is determined by adjusting the ideal saturation flow rate for lane width, on-street parking, bus stops, pedestrian volume, traffic composition (or percentage of heavy vehicles), and shared lane movements (e.g., through and right-turn movements sharing the same lane). The LOS criteria used for this technique are described in **Table 2.9-2**. The computerized analysis of intersection operations was performed using the Traffix 8.0 R1 traffic analysis software.

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way- and all-way-stop controlled intersections, were analyzed using the methodology set forth in the HCM 2000, Chapter 17. The LOS for a two-way-stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. **Table 2.9-3** summarizes the LOS criteria for unsignalized intersections.

Both the County and Chula Vista consider LOS D during the AM and PM peak hours to be the minimum standard for intersection LOS.

2.9.1.4 Arterial Roadway Segment Analysis Methodology

The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast ADT volumes. **Tables 2.9-4 and 2.9-5** present the roadway segment capacity and LOS standards used to analyze roadway segments within the County and Chula Vista, respectively. These standards generally are used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is influenced heavily by the ability of the arterial intersections to accommodate peak-hour volumes.

The County General Plan Mobility Element and the Chula Vista General Plan Circulation Element establish the acceptable conditions for roadway segments. In the County, Mobility Element Policy M-2.1 establishes LOS D as acceptable; LOS C is considered acceptable for Circulation Element roadway segments within Chula Vista. Per the Otay Ranch General Development Plan, LOS D is permitted on the roadways to be constructed within Otay Ranch

2.9.1.5 Freeway and State Highway Analysis Methodology

Freeway LOS and performance were assessed based on procedures in the SANTEC/ITE Guidelines for Traffic Impact Study (TIS) in the San Diego Region (March 2000) and are derived from the HCM 2000. The procedure for calculating freeway LOS involves estimating a peak-hour volume-to-capacity (v/c) ratio. Peak-hour volumes are estimated based on application of the design hour (K), directional (D), and truck (T) factors relative to ADT volumes. The resulting v/c is then compared to acceptable ranges of v/c values corresponding to the various LOS for each facility classification, as shown in **Table 2.9-6**. The corresponding LOS represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour.

LOS D or better is used in this study as the threshold for acceptable freeway operations based on the Caltrans and SANDAG Regional Growth Management Strategy (RGMS) requirements (SANDAG 2010). For the purposes of this study, all of the traffic adjustment factors used in the analysis of existing and future conditions were obtained from Caltrans.

2.9.1.6 Two-Lane State Highway (SR-94) Analysis Methodology

The two-lane state highway SR-94, portions of which are signalized, was analyzed using both County and Caltrans methodologies. SR-94 is located within the geographic boundaries of the County; however, the highway is a state-owned facility subject to operational control by Caltrans.

County of San Diego

The County methodology is based on analysis of ADT segment operations. **Table 2.9-7** illustrates the County's two-lane state highway ADT thresholds for LOS E and LOS F when signalized intersection spacing is longer than 1 mile. For facilities where signalized intersection spacing is less than 1 mile, the LOS is determined based on the LOS of the intersections along the subject highway.

Caltrans

The Caltrans methodology for LOS analysis of two-lane state highways is based on peak-hour travel speed, as shown on **Table 2.9-8**. Since SR-94 is a state-owned facility subject to operational control by Caltrans, significant impacts were assessed using the Caltrans methodology.

2.9.1.7 Ramp Intersection Capacity Analysis Methodology

Consistent with Caltrans requirements, all signalized intersections at freeway ramps were analyzed using Intersecting Lane Volume (ILV) procedures as described in the Caltrans Highway Design Manual (HDM). The ILV analysis is used as a supplemental analysis to the HCM 2000 intersection analysis methodology, which is based on an assessment of each intersection as an isolated unit, without consideration of effects from adjacent intersections. Based on the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002), Intersection Lane Volume (ILV) is not a Measure of Effectiveness or a significant impact criteria, therefore, the ILV analysis included in this report is for informational purposes only. **Table 2.9-9** provides values of ILV per hour associated with various traffic-flow descriptions.

2.9.1.8 *Ramp Metering Analysis Methodology*

Ramp metering analysis was conducted based upon the *SANTEC/ITE Guidelines for Traffic Impact Studies* in the San Diego region to calculate delays and queues at the study area freeway on-ramps. Within the project study area, the I-805 northbound on-ramp at Telegraph Canyon Road is the only ramp with an activated ramp meter. Based upon data provided by Caltrans District 11, the I-805 northbound on-ramp at Telegraph Canyon Road meter is activated only between 5:30 AM and 9:30 AM. Thus, ramp metering analysis was conducted only during the AM peak hour under the various study scenarios.

2.9.1.9 Analysis Study Area

The SANDAG Series 11 Transportation Model was used to perform a Select Zone Analysis to identify the number of Project-related peak-hour trips that would be distributed across the transportation network. Consistent with jurisdictional requirements, all intersections and roadways where the proposed Project would add 50 or more peak-hour trips in either direction to the existing traffic were included in the study area for analysis. In addition, consistent with County requirements, the study area also included intersections and roadways in the County where the proposed Project would add 25 peak-hour trips.

Based on the above criteria, the study area for the traffic impact analysis was determined. The study area intersections, arterial roadway segments, and freeway and state highway facilities are listed below. The study area scope is depicted on **Figure 2.9-1**, Project Study Area.

Study Intersections

Based on the applicable criteria, the following 44 intersections, including eight (8) located within the County, three (3) in the City of San Diego, and thirty-three (33) within the City of Chula Vista (City), were analyzed in this study:

1. East H Street / Otay Lakes Road (City of CV)
2. Proctor Valley Road / Hunte Parkway (City of CV)
3. Telegraph Canyon Road / I-805 SB Ramps (City of CV)
4. Telegraph Canyon Road / I-805 NB Ramps (City of CV)
5. Telegraph Canyon Road / Oleander Avenue (City of CV)
6. Telegraph Canyon Road / Paseo Del Rey (City of CV)
7. Telegraph Canyon Road / Medical Center Drive (City of CV)
8. Telegraph Canyon Road / Paseo Ladera (City of CV)
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road (City of CV)
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road (City of CV)
11. Otay Lakes Road / Rutgers Avenue (City of CV)
12. Otay Lakes Road / SR-125 SB Ramps (City of CV)
13. Otay Lakes Road / SR-125 NB Ramps (City of CV)
14. Otay Lakes Road / Eastlake Parkway (City of CV)
15. Otay Lakes Road / Lane Avenue (City of CV)
16. Otay Lakes Road / Fenton Street (City of CV)
17. Otay Lakes Road / Hunte Parkway (City of CV)
18. Otay Lakes Road / Woods Drive (City of CV)
19. Otay Lakes Road / Lake Crest Drive (City of CV)
20. Otay Lakes Road / Wueste Drive (City of CV)
21. Otay Lakes Road / SR-94 (County)
22. Olympic Parkway / East Palomar Street (City of CV)
23. Olympic Parkway / SR-125 SB Ramps (City of CV)
24. Olympic Parkway / SR-125 NB Ramps (City of CV)
25. Olympic Parkway / Eastlake Parkway (City of CV)
26. Olympic Parkway / Hunte Parkway (City of CV)
27. Olympic Parkway / Olympic Vista Road (City of CV)
28. Olympic Parkway / Wueste Drive (City of CV)
29. Lake Crest Drive / Wueste Drive (City of CV)
30. Main Street / SR-125 SB Ramps* (City of CV)
31. Main Street / SR-125 NB Ramps* (City of CV)
32. Main Street / Eastlake Parkway* (City of CV)
33. Otay Valley Road / SR-125 SB Ramps* (City of CV)
34. Otay Valley Road / SR-125 NB Ramps* (City of CV)
35. Otay Mesa Road / La Media Road (City of SD)
36. Otay Mesa Road / SR-125 SB Ramps (City of SD)

37. Otay Mesa Road / SR-125 NB Ramps (City of SD)
38. Otay Mesa Road / Ellis Road* (County)
39. SR-94 / Proctor Valley Road/Jefferson Road (County)
40. SR-94 / Maxfield Road (County)
41. SR-94 / Melody Road (County)
42. Project Driveway #1/Intersection #42 ~~Project Driveway #1~~ @ Otay Lakes Road (County)*
43. Project Driveway #2/Intersection #43 @ Otay Lakes Road (County)*
44. Project Driveway #3/Intersection #44 @ Otay Lakes Road (County)*

Nine (9) of the above study area intersections, those denoted with an asterisk (*), currently are not constructed. However, these intersections are included in the respective County Mobility Element and the City Circulation Element and, therefore, are included in the 2025 and 2030 scenarios, as applicable.

Arterial Roadway Segments

Based on the applicable criteria, the following arterial roadway segments are included within the Project traffic study area:

1. Proctor Valley Road, between Lane Avenue and Hunte Parkway (City of CV)
2. Telegraph Canyon Road, between I-805 and La Media Road (City of CV)
3. Otay Lakes Road, between East H Street and Wueste Road (City of CV)
4. Olympic Parkway, between La Media Road and Wueste Road (City of CV)
5. Lane Avenue, between Proctor Valley Road and Otay Lakes Road (City of CV)
6. Hunte Parkway, between Proctor Valley Road and Eastlake Parkway (City of CV)
7. Otay Lakes Road, between Wueste Road and SR-94 (County)

Freeway and State Highway Facilities

Based on the applicable criteria, the following freeway and state highway facilities are included within the Project traffic study area:

1. I-805, between Bonita Road and Main Street
2. SR-125, between SR-54 and SR-905

Two-Lane Highway Segments

Based on the applicable criteria, the following two-lane highway segment is included within the Project traffic study area:

1. SR-94, between Lyons Valley Road and Otay Truck Trail (south of Otay Lakes Road)

2.9.1.10 Project Trip Generation

At buildout, the proposed Project will consist of 1,881 single-family dwelling units, 57 multi-family dwelling units, 28.6 acres of park facilities, a 2.1-acre public safety facility, a 10-acre elementary school site, up to 40,000 square feet of commercial uses, and a 200-room resort. The Project will be developed in two phases. Phase I will consist of an initial 925 single-family dwelling units in the western development area. The second phase of the Project will include buildout of the proposed land uses to full development. Site access is proposed via three driveways, each accessing Otay Lakes Road. The two driveways to the west will be constructed to serve Phase I access requirements.

Trip generation rates for the proposed Project were developed using SANDAG's Guide to Vehicular Traffic Generation Rates for the San Diego Region. **Table 2.9-10** depicts the daily and AM and PM peak-hour trip generation totals for each of the Project's traffic-generating components. Separate trip-generation totals are provided for Phase I and Project Buildout.

As shown in the table, the proposed Project at buildout would generate 27,191 daily trips, including 2,154 AM peak-hour trips (821 inbound/1,332 outbound) and 2,650 PM peak-hour trips (1,691 inbound/959 outbound). Under the Phase I scenario, the Project would generate 9,250 daily trips, including 740 AM peak-hour trips (222 inbound/518 outbound) and 925 PM peak-hour trips (647 inbound/278 outbound).

In light of the type of land uses that would be developed as part of the proposed Project, not all trips would leave the Project site. For example, a portion of the shopping trips would be satisfied by the commercial uses located within the proposed Project site, as would a certain percentage of school and recreational trips. Therefore, Project trips were disaggregated into those trips that would remain within the Project site (i.e., internally captured trips) and those that would leave the Project site (i.e., external trips). The estimates for internal versus external trip generation percentages were developed based on the likely origins/destinations for each land use type. These estimates were then cross-checked with the Project trip generation as estimated by the SANDAG Series 11 Year 2030 Transportation Model. Only external trips were distributed and assigned to the study area roadways.

Table 2.9-11 illustrates the proportion of internal and external Project trips. As shown, of the 27,191 total ADT to be generated by the Project, 5,275 of those trips (or approximately 19.4 percent) are expected to remain internal to the Project site, and 21,916 ADT are expected to be external trips, with 1,663 AM peak-hour trips (575 inbound/1,088 outbound) and 2,134 PM peak-hour trips (1,402 inbound/732 outbound).

2.9.1.11 Project Trip Distribution

The distribution of the external Project trips on the study area roadways was determined based on a computer-generated "Select Zone" analysis using the SANDAG Series 11 Year 2030 Transportation Model. Three different trip distributions were developed in conjunction with the anticipated roadway network under the various analysis scenarios and timeframes, as follows:

- Existing

- Cumulative (Year 2025)
- Year 2030

Figures 2.9-2, 2.9-3, and 2.9-4 illustrate the respective external Project trip distribution patterns, shown as a percentage of total external Project trips, associated with the various network scenarios and timeframes listed above.

Note that manual adjustments were made to project trip distribution patterns to reflect land use changes in Otay Ranch Planning Area 17 (Traffic Analysis Zone (TAZ) 4135) along Otay Lakes Road, east of the project site and west of SR-94. The model forecast (SANDAG Series 11 Southbay2, dated 1/14/2014) assumed the buildout of Otay Ranch Planning Area 17 in Traffic Analysis Zone 4135, which is expected to generate approximately 6,227 daily trips. However, with the adoption of the County of San Diego General Plan Update, the Planning Area 17 land uses have been redesignated as 296 Single Family Residential, with the remainder of the planning area designated as Open Space. As a result, approximately 1,000 project daily trips (1% of the project trips) were going to/coming from TAZ 4135. Manual adjustments were made by redistributing these 1,000 ADT to the adjacent roadway network. Of the 1,000 ADT, 80% were assumed to travel west to Chula Vista and the remaining 20% were assumed to travel east onto SR-94.

2.9.1.12 Project Trip Assignment

Based on the Project trip distribution percentages, the external daily and AM/PM peak-hour Project trips were assigned to the various roadway networks. The following four separate trip assignments were developed:

- Phase I land uses on the existing network
- Buildout land uses on the existing network
- Buildout land uses on the Year 2025 network
- Buildout land uses on the Year 2030 network

Figures 2.9-5 and 2.9-6 (Existing Plus Project - Phase I), **2.9-7 and 2.9-8** (Existing Plus Project - Buildout), **2.9-9 and 2.9-10** (Cumulative Year 2025 Plus Project Build), and **2.9-11 and 2.9-12** (Year 2030 Plus Project Buildout) illustrate the assignment of Project trips to the respective roadway networks and study area intersections.

2.9.2 Existing Conditions

This section describes the study area intersections, arterial roadway segments, and freeway/state highway segments, as well as existing peak-hour intersection traffic volumes, and daily roadway and freeway traffic volumes. LOS analysis results for all study area facilities under existing conditions are presented.

2.9.2.1 Study Area Roadways Description

Study Area Intersections

As noted above, the study area includes 44 intersections, including eight (8) located within the County, three (3) in the City of San Diego, and thirty-three (33) within the City of Chula Vista. See Section 2.9.1.8, Analysis Study Area. **Figure 2.9-13** illustrates the study area intersection lane geometrics under existing conditions.

The following is a description of the study area's north/south and east/west arterial roadway segments located within Chula Vista and County that form the study area intersections.

Study Area Arterial Roadway Segments

North/South Roadway Facilities

City of Chula Vista

Otay Lakes Road– The north/south portion of Otay Lakes Road runs from Bonita Road to Telegraph Canyon Road where it becomes La Media Road. Otay Lakes Road is a four-lane roadway with a raised median between East H Street and Telegraph Canyon Road. A section of this segment is being constructed to 6-lanes. This roadway is currently classified as a six-lane Prime Arterial in Chula Vista General Plan Circulation Element.

Lane Avenue – Lane Avenue is currently a four-lane roadway between Proctor Valley Road and Otay Lakes Road. It is classified as a four-lane Collector in the City General Plan Circulation Element.

Hunte Parkway – Hunte Parkway is currently a four-lane roadway with a raised median between Proctor Valley Road and Olympic Parkway. It is a six-lane roadway with a raised median between Olympic Parkway and its current southern terminus. Hunte Parkway is classified in the Chula Vista General Plan Circulation Element as a four-lane Major Street between Proctor Valley Road and Olympic Parkway, and a six-lane Prime Arterial south of Olympic Parkway.

County of San Diego

Jefferson Road – Jefferson Road is a two-lane roadway between Lyons Valley Road and SR-94 in the County of San Diego. It is classified as a two-lane Light Collector with Raised Median (2.2A) in the County General Plan Update Circulation Element.

Proctor Valley Road – Proctor Valley Road is a two-lane roadway and runs from I-805 in Chula Vista to SR-94 in the community of Jamul in the County of San Diego to the east. Within the County of San Diego, Proctor Valley Road is classified as a two-lane Light Collector (2.2E) in the County General Plan Update Circulation Element. A portion of Proctor Valley Road between SR-94 and Chula Vista is unpaved.

East/West Roadway Facilities

City of Chula Vista

Proctor Valley Road – Proctor Valley Road is a six-lane roadway with a raised median in Chula Vista. It is classified as a six-lane Prime Arterial between SR-125 and Hunte Parkway, and a four-lane Major Road between Hunte Parkway and the City's eastern border with the County of San Diego. A portion of Proctor Valley Road is currently an unpaved road in the County.

Telegraph Canyon Road –Telegraph Canyon Road is a seven-lane roadway between I-805 and Oleander Avenue, and a six-lane roadway with a raised median between Oleander Avenue and Otay Lakes Road. It is currently classified in the Chula Vista General Plan Circulation Element as a seven-lane Expressway between I-805 and Oleander Avenue, and a six-lane Prime Arterial between Oleander Avenue and Otay Lakes Road.

Otay Lakes Road – Otay Lakes Road is a six-lane roadway with a raised median between Telegraph Canyon Road and the eastern boundary of Chula Vista, just east of Wueste Road. It is currently classified as a six-lane Prime Arterial, with the exception of the segment between I-805 and Eastlake Parkway, which is classified as a seven-lane Expressway.

Olympic Parkway –Olympic Parkway, between La Media Road and Hunte Parkway is a six-lane roadway with a raised median with the exception of the segment between the SR-125 NB Ramp and Eastlake Parkway, which is an eight-lane roadway with a raised median. Between Hunte Parkway and Wueste Drive, Olympic Parkway narrows to a four-lane roadway with a raised median. Olympic Parkway is classified as a six-lane Prime Arterial between I-805 and the SR-125, an eight-lane Expressway between SR-125 and Eastlake Parkway, a six-lane Prime Arterial between Eastlake Parkway and Hunte Parkway, and a four-lane Major Street between Hunte Parkway and Wueste Road.

County of San Diego

Maxfield Road – Maxfield Road is a two-lane roadway in the community of Jamul. It is classified as a Local Public Road in the County General Plan Mobility Element.

Melody Road – Melody Road is a two-lane roadway in the community of Jamul. It is classified as a two-lane Light Collector (2.2E) in the County General Plan Mobility Element.

Honey Springs Road – Honey Springs Road is a two-lane roadway. It is classified as a two-lane Light Collector (2.2E) in the County General Plan Mobility Element.

Otay Lakes Road – Otay Lakes Road is a two-lane roadway within the County of San Diego. It is classified as a four-lane Major Road with Intermittent Turn Lane (4.1B) between the County/City boundary and the second Project driveway. However, the Project proposes to reclassify this segment from a 4.1B to a 4.2A Boulevard with Raised Median. With the proposed reclassifications, Otay Lakes Road, between ~~Wueste Road~~the City/County boundary & Project Driveway #2/Intersection #43 is projected to operate at LOS D or better under the Future Year

2030 Plus Project (Buildout) conditions. Therefore, this facility is being analyzed as a 4.2A this point forward. Otay Lakes Road, east of the second Project driveway is a 2-lane Community Collector with Improvement Options (2.1D) in the County General Plan Mobility Element.

Figure 2.9-14 illustrates the existing roadway geometrics for roadway facilities within the Project study area.

Study Area Freeway and State Highways

The following three Caltrans freeway and state highway facilities traverse the Project study area:

I-805 – I-805 ranges from 8-lanes to 10-lanes between Home Avenue and SR-905 within the study area. Construction of two new High Occupancy Vehicle (HOV) lanes on I-805, between Home Avenue and East Palomar Street has been recently completed.

SR-125 – SR-125 is a 4-lane state highway between East H Street and SR-905. It will operate as a toll road through the Year 2035. However, SANDAG has recently purchased this facility and could potentially convert this facility to a freeway sooner than the Year 2035.

SR-94 – Within the Project study area, SR-94 is a two-lane State Highway between Lyons Valley Road and the community of Tecate. No improvements are planned by Caltrans to the portions of SR-94 located within the study area.

2.9.2.2 Existing Roadway Volumes

Figure 2.9-15 illustrates the existing AM/PM peak-hour traffic volumes for the study area intersections. **Figure 2.9-16** illustrates the ADT volumes for the study area roadway and freeway segments. The roadway segment and study area intersection counts were conducted in April 2014, and are provided in **Appendix C-12**. Freeway segment counts were obtained from Caltrans.

2.9.2.3 Existing LOS Analysis

LOS analyses under existing conditions were conducted using the methodologies described above in Section 2.9.1, Analysis Methodology. Intersection, arterial roadway segment, freeway/state highway segment, and freeway ramp intersection LOS results each are addressed below.

Intersection Analysis

Table 2.9-12 illustrates the intersection LOS and average vehicle delay results for the study area intersections under existing conditions. LOS calculation worksheets for existing conditions are provided in the TIS (located in **Appendix C-12** to this EIR). As shown in the table, all of the study area intersections currently are operating at acceptable LOS D or better.

Arterial Roadway Segment Analysis

Table 2.9-13 illustrates the LOS analysis results for the study area roadway segments located within the City of Chula Vista under existing conditions. As shown in the table, Telegraph Canyon Rd, between Oleander Ave and Medical Center Drive is currently operating at an unacceptable LOS D under existing conditions.

Table 2.9-14 displays the LOS analysis results for the study area roadway segments located within the County under existing conditions. As shown in the table, all study roadways in the County currently are operating at acceptable LOS A or B. (Note that the analysis of Honey Springs Road, Melody Road, Maxfield Road, Jefferson Road, and Proctor Valley Road is not included in the Year 2025 and Year 2030 analysis scenarios, as the proposed Project would not contribute 25 peak-hour trips to these facilities. In addition, based on SANDAG traffic forecasts, these facilities are not anticipated to operate at unacceptable LOS in the future Year 2030.)

Freeway/State Highway Segment Analysis

Table 2.9-15 illustrates LOS analysis results for I-805 and SR-125 under existing conditions. As shown in the table, all study area I-805 freeway segments currently operate at acceptable LOS D or better under existing conditions. ADT data on SR-125 was not available; SR-125 is a privately operated toll road and ADT information is not made available to the public. However, based upon visual observations, all segments along SR-125 currently are operating at acceptable levels with free flow conditions.

Two-Lane Highway Segment Analysis

Tables 2.9-16 and 2.9-17 illustrate the LOS results for SR-94 under existing conditions. The analysis was performed using both County and Caltrans methodologies. The HCM analysis worksheets are included in **Appendix C-12**.

As shown on **Table 2.9-16**, SR-94 from Lyons Valley Road to south of Otay Lakes Road currently is operating at acceptable LOS C or better based on the County LOS criteria. Similarly, as shown on **Table 2.9-17**, SR-94 from Melody Road to south of Otay Lakes Road currently is operating at acceptable LOS C based on the Caltrans/HCM methodology. (Note that as a two-lane state highway SR-94, north of Melody Road, was not analyzed using the Caltrans/HCM methodology as the proposed project would not add 50 or more peak hour trips in either direction of SR-94 per SANTEC/ITE Guidelines.)

Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, the signalized freeway ramp intersections along I-805 at Telegraph Canyon Road and along SR-125 at Otay Lakes Road and Olympic Parkway were analyzed under existing conditions using the ILV procedures. The ILV analysis results are illustrated in **Table 2.9-18A** and analysis worksheets are provided in **Appendix C-12**. As shown in **Table 2.9-18A**, both I-805 ramp intersections along Telegraph Canyon Road currently operate "At Capacity" and/or "Under Capacity," with the exception of the I-805 northbound

ramp/Telegraph Canyon Road intersection, which currently operates at "Over Capacity" during the AM peak hour. All of the existing SR-125 ramp intersections along Otay Lakes Road and Olympic Parkway currently operate at "Under Capacity."

Ramp Metering Capacity Analysis

Table 2.9-18B displays the ramp metering analysis conducted at the I-805 NB On-Ramp at Telegraph Canyon Road under existing conditions. The ramp currently has three lanes, including one High Occupancy Vehicle (HOV) lane. Based upon field observations, approximately 20% of the total NB On-Ramp traffic utilizes the HOV lane and approximately 80% of the total arrival traffic (demand) utilizes the two non-HOV lanes.

As shown on **Table 2.9-18B**, the AM peak hour demand at the ramp is greater than the ramp's capacity, resulting in traffic queues of 800 feet per lane. The ramp's storage length is approximately 650 feet per lane. Thus, under existing conditions, the vehicle demand during the morning peak hour exceeds the available storage length, resulting in queuing along Telegraph Canyon Road. However, the delay is an estimated 1.8-minutes (less than 15 minutes), which is considered acceptable per the SANTEC/ITE Guidelines.

2.9.3 Analysis of Project Effects and Determination as to Significance

This section presents an analysis of the potential impacts of the proposed Project. The applicable guidelines for the determination of significance are provided, followed by analysis of potential impacts under four scenarios: Existing Plus Project Phase I, Existing Plus Project Buildout, Cumulative Year (2025), and 2030 Plus Project Buildout. The section concludes with analysis of the proposed Project's site access and on-site circulation plans.

Under Appendix G of the CEQA Guidelines, a project may have a potentially significant impact relative to transportation/traffic if it would do the following:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

b. Conflict with an applicable congestion management program including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

e. Result in inadequate emergency access; or

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

As to guidelines "a" and "b," specific thresholds relative to the performance of the circulation system, including traffic loads, street capacity, and congestion management agency standards are set forth below along with corresponding analyses. As to guideline "c," the proposed Project would not result in a change in air traffic patterns and, therefore, no further analysis is required in this regard. As to guideline "d," the proposed Project's impacts relative to transportation design features are addressed below in Section 2.9.3.6, Site Access and On-Site Circulation. As to guideline "e," potential impacts relative to emergency access are addressed in Section 3.6 of this EIR, Public Services. As to guideline "f," the proposed Project's consistency with alternative transportation programs is addressed below in Section 2.9.3.7, Alternative Transportation Programs. Although no longer specifically required by CEQA Guidelines Appendix G, the proposed Project's impacts relative to parking capacity are addressed below in Section 2.9.3.8, Parking Capacity.

2.9.3.1 Guidelines for the Determination of Significance

This section outlines the thresholds used to determine the significant Project-related impacts to intersections and roadway segments within the jurisdictions of the County and Chula Vista, as applicable, and for freeway/state highway facilities located within the jurisdiction of Caltrans. Application of the specific threshold is based on the jurisdictional location of the subject roadway facility. The thresholds are based on the County of San Diego Guidelines For Determining Significance, Transportation and Traffic (February 15, 2010), the Chula Vista General Plan Circulation Element and discussions with Chula Vista staff. A significant traffic-related impact will occur if the proposed Project exceeds these thresholds.

<u>County Thresholds</u>

Intersections

The significance criteria differ depending on whether the intersection is signalized or unsignalized.

Signalized Intersections

Traffic volume increases that result in the following will be considered to have a significant traffic volume or LOS traffic impact on a signalized intersection:

- The additional or redistributed ADT generated by the proposed Project will significantly increase congestion at a signalized intersection currently operating at LOS E or LOS F as specified in **Table 2.9-19**, or will cause a signalized intersection to operate at LOS E or LOS F.

Unsignalized Intersections

Traffic volume increases that result in one or more of the following criteria will be considered to have a significant traffic volume or LOS traffic impact on an unsignalized intersection:

- The additional or redistributed ADT generated by the proposed Project will add 20 or more peak-hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate below LOS D (see **Table 2.9-19**); or
- The additional or redistributed ADT generated by the proposed Project will add 20 or more peak-hour trips to a critical movement of an unsignalized intersection currently operating at LOS E (see **Table 2.9-19**); or
- The additional or redistributed ADT generated by the proposed Project will add five or more peak-hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F (see **Table 2.9-19**); or
- The additional or redistributed ADT generated by the proposed Project will add five or more peak-hour trips to a critical movement of an unsignalized intersection currently operating at LOS F (see **Table 2.9-19**); or
- Based on an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, it is found that a project's generation rate, while less than those specified above, would significantly impact the operations of the intersection.

Arterial Roadway Segments

Traffic volume increases that result in one or more of the following criteria will be considered to have a significant traffic volume or LOS traffic impact on a road segment, unless specific facts show that there are other circumstances that mitigate or avoid such impacts:

- The additional or redistributed ADT generated by the proposed Project will significantly increase congestion on a Circulation Element roadway or state highway currently operating at LOS E or LOS F as specified in **Table 2.9-20**, or will cause a Circulation Element roadway or state highway to operate at LOS E or LOS F as a result of the proposed Project; or
- The additional or redistributed ADT generated by the proposed Project will cause a residential street to exceed its design capacity.

Two-Lane Highways

The significance criteria applicable to two-lane highways differ depending on whether the signalized intersection spacing on the segment is greater than or less than 1 mile.

Signalized Intersection Spacing More Than 1 Mile

Traffic volume increases that result in the following criteria will be considered to have a significant traffic volume or LOS traffic impact on a two-lane highway facility with signalized intersection spacing more than 1 mile:

- The additional or redistributed ADT generated by the proposed Project will significantly increase congestion on a two-lane highway segment currently operating at LOS E or LOS F as specified in **Table 2.9-21**, or will cause a two-lane highway segment to operate at LOS E or LOS F as a result of the proposed Project.

Signalized Intersection Spacing Less Than 1 Mile

Traffic volume increases that result in the following criteria will be considered to have a significant traffic volume or LOS traffic impact on a two-lane highway facility with signalized intersection spacing less than 1 mile:

- The additional or redistributed ADT generated by the proposed Project will significantly increase congestion on a two-lane highway segment currently operating at LOS E or LOS F as specified in **Table 2.9-22**, or will cause a two-lane highway segment to operate at LOS E or LOS F as a result of the proposed Project.

Chula Vista Thresholds

Chula Vista defines traffic impacts as either "project-specific impacts" or "cumulative impacts." Project-specific impacts are those impacts for which the addition of project trips results in an identifiable degradation in LOS on roadway segments or intersections, triggering the need for specific project-related improvement strategies. Cumulative impacts are those impacts in which the project trips contribute to a poor LOS at a nominal level.

The following outlines the City criteria for determining whether a long-term project, such as the proposed Project that will not reach full buildout for 5 or more years, results in project-specific or cumulative impacts on intersections or roadway segments.

Intersections

Project-specific impacts would occur at intersections if both of the following conditions were found:

- The intersection is projected to operate at LOS E or LOS F; and
- The Project trips comprise 5 percent or more of entering volume.

The impact would be considered cumulative if the intersection is projected to operate at LOS E or F and none of the other criteria are triggered.

Roadway Segments

Project-specific impacts would occur to roadway segments if all of the following conditions were found:

- The roadway is projected to operate at LOS D, E, or F;
- The Project trips comprise 5 percent or more of total segment volume; and
- The Project adds more than 800 ADT to the roadway segment.

The impact would be considered cumulative if the segment is projected to operate at LOS D, E, or F, and none of the other criteria are triggered. However, based on the City's thresholds, in cases where roadway segments are projected to operate at LOS D or E under long-term conditions, but all intersections along this segment are projected to operate at LOS D or better, the roadway segment impact would *not* be considered significant since intersection analysis is more indicative of actual roadway system operations than segment analysis. Notwithstanding, if a roadway segment is projected to operate at LOS F under long-term conditions, the project impact would be significant regardless of intersection LOS.

Caltrans Thresholds

Impacts to Caltrans freeway/state highway facilities were assessed based on the threshold in the SANTEC/ITE Guidelines for Traffic Impact Study in the San Diego Region, as illustrated in **Table 2.9-23**. As shown, the Project would result in a significant freeway impact if the Project LOS is E or F, the v/c increases by more than 0.01, and travel speeds decrease by more than 1 mph. With respect to ramp metering, also as shown on Table 2.9-23, a significant impact would result if the Project increases delay by two minutes or more at those ramp meters with delays above 15 minutes without the Project.

2.9.3.2 Analysis – Existing Plus Project (Phase I)

This section presents an analysis of Project-related impacts under the scenario in which Phase I Project traffic volumes are added to existing traffic volumes on the existing roadway network. Intersection and roadway geometrics under this scenario are assumed to be identical to existing conditions, with the exception of Project Driveway #2 at Otay Lakes Road/Intersection #43. This intersection will be constructed by the project as a roundabout by the 1st EDU for frontage and access.~~with the addition of one of the two Project driveways, as follows:~~

~~Project Driveway #2 at Otay Lakes Road – roundabout.~~

Analysis of the Existing Plus Project (Phase I) scenario was conducted using the methodologies previously described in Section 2.9.1, Analysis Methodology. Intersection, roadway segment, and freeway/state highway LOS results are discussed below. Peak-hour traffic volumes at the study area intersections under Existing Plus Project (Phase I) conditions are presented in **Figure 2.9-17**, while average daily traffic volumes on the study area roadway segments under this scenario are illustrated in **Figure 2.9-18**.

Intersections

Table 2.9-24 illustrates the intersection LOS and average vehicle delay results under Existing Plus Project (Phase I) conditions. LOS calculation worksheets for this scenario are provided in **Appendix C-12**.

As shown in **Table 2.9-24**, under this scenario, all of the study area intersections would continue to operate at acceptable LOS D or better conditions during both the AM and PM peak hours. Thus, based on the applicable criteria, the addition of Project (Phase I) trips would not result in significant impact at any of the study area intersections.

Arterial Roadway Segments

Tables 2.9-25 and 2.9-26 illustrate the LOS analysis results for the study area roadway segments under Existing Plus Project conditions in the City and County, respectively.

As shown in **Tables 2.9-25 and 2.9-26**, the following five roadway segments, with three each located within the City of Chula Vista and two in the County, would operate at unacceptable LOS E, under Existing Plus Project (Phase I) conditions. However, as explained below, because additional criteria are applicable in assessing significant impacts, the proposed Project would not result in any significant impacts.

- Telegraph Canyon Rd, between Oleander Ave and Medical Center Dr (LOS E, City of CV) – Proposed Phase I project trips would comprise 1.6% (less than 5%) of the total segment volume, and would add 925 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Oleander Avenue and Telegraph Canyon Road/Medical Center Drive are projected to operate at acceptable LOS B during the peak hours, thus the project would not have a significant impact to this roadway segment.
- Otay Lakes Road, between Lake Crest Dr and Wueste Rd (LOS E, City of CV) – Proposed Phase I project trips would comprise 70.6% (more than 5%) of the total segment volume, and would also add 6,383 ADT (more than 800 ADT) to this roadway segment. However, the intersections of Otay Lakes Road / Lake Crest Drive and Otay Lakes Road / Wueste Road are projected to operate at acceptable LOS C or better, thus the project would not have a significant impact to this roadway segment.
- Otay Lakes Road, between Wueste Rd and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed Phase I project trips would comprise 73.8% (more than 5%) of the total segment volume, and would also add 8,230 ADT (more than 800 ADT) to this roadway segment. Even though, the intersections of Otay Lakes Road / Wueste Road are projected to operate at acceptable LOS C or better, since the project cause this roadway segment to operate at an unacceptable LOS F, the project would have a significant impact to this roadway segment.
- Otay Lakes Road, between the City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 (LOS E, County) – Proposed project would add more than 200 ADT to this failing 2-lane roadway segment. Thus, the project would have a significant impact to this roadway segment.

- Otay Lakes Road, between Project Driveway #1/Intersection #42 and Driveway #2 (LOS E, County) – Proposed project would add more than 200 ADT to this failing 2-lane roadway segment. Thus, the project would have a significant impact to this roadway segment.

Based upon the significant impact criteria described in Section 2.8, the addition of trips generated by Phase I development of the project, would cause ***significant direct impacts*** at the following three roadway segments*:*

- *Otay Lakes Road between Wueste Road and the City of Chula Vista/County boundary* (**Impact TR-1**);
- *Otay Lakes Road between City of Chula Vista/County Boundary and Project Driveway #1/Intersection #42* (**Impact TR-2**); and
- *Otay Lakes Road between Project Driveway #1/Intersection #42 and Driveway #2* (**Impact TR-3**).

Freeways/State Highways

Table 2.9-27 illustrates the resulting LOS for I-805 under Existing Plus Project (Phase I) conditions. As shown, all study area I-805 and SR-125 freeway segments would continue to operate at acceptable LOS D or better under Existing Plus Project (Phase I) conditions. As such, the addition of trips generated by ***Phase I of the proposed Project would not cause a significant impact*** to study area freeway/state highway segments.

Two-Lane Highways (SR-94)

Tables 2.9-28 and 2.9-29 illustrate LOS analysis results for SR-94 under Existing Plus Project (Buildout) conditions. The analysis was performed using both the County and Caltrans methodologies. The HCM analysis worksheets are included in **Appendix C-12.**

As shown in **Table 2.9-28**, SR-94 from Lyons Valley Road to south of Otay Lakes Road would operate under acceptable LOS D or better conditions based on the County criteria. Therefore, the addition of vehicle trips generated by full development of the proposed Project would not cause a significant impact to SR-94 based on the County criteria.

With respect to the Caltrans methodology, as shown in **Table 2.9-29**, SR-94 from Melody Road to south of Otay Lakes Road would operate under acceptable LOS C based on this methodology. Therefore, the addition of trips generated by full development of the ***proposed Project would not cause any significant traffic impacts*** to SR-94 using the Caltrans analysis methodology.

Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, the signalized freeway ramp intersections along I-805 at Telegraph Canyon Road and along SR-125 at Otay Lakes Road and Olympic Parkway were analyzed under Existing Plus Project (Phase I) conditions using the ILV procedures. The results

of the analysis are illustrated in **Table 2.9-30A** and the analysis worksheets are provided in **Appendix C-12**.

As shown in the table, both I-805 ramp intersections at Telegraph Canyon Road would continue to operate "At Capacity" and/or "Under Capacity," with the exception of the I-805 Northbound Ramps/Telegraph Canyon Road intersection, which would operate "Over Capacity" during the AM peak hour. All of the SR-125 ramp intersections along both Otay Lakes Road and Olympic Parkway would operate "At Capacity" and/or "Under Capacity" during both the AM and PM peak hours under the Existing Plus Project (Phase I) conditions. As noted above, the ILV analysis is provided for information purposes only and is not intended to be used as a means to assess Project impacts.

Ramp Metering Analysis

Table 2.9-30B displays the ramp metering analysis conducted at the I-805 NB On-Ramp at Telegraph Canyon Road under Existing plus Project (Phase I) conditions. Similar to existing conditions, and based upon field observations, it is assumed that approximately 20% of the total NB On-Ramp traffic utilizes the HOV lane and approximately 80% of the total arrival traffic (demand) utilizes the two non-HOV lanes.

As shown on **Table 2.9-30B**, the AM peak hour demand at the ramp would be greater than the capacity provided by the ramp meter under this scenario. However, based upon SANTEC/ITE Guidelines, the projected delay of 3.2 minutes (less than 15 minutes) would be acceptable. Therefore, the proposed project would not result in significant impacts at this on-ramp.

2.9.3.3 Analysis – Existing Plus Project Buildout

This section presents an analysis of Project-related impacts under the scenario in which full buildout Project traffic volumes are added to existing traffic volumes on the existing roadway network. Intersection and roadway geometrics under this scenario are assumed to be identical to Existing Plus Project (Phase I) conditions, with the construction of an additional two (2) project driveways for frontage and access, as follows:

- Project Driveway #1/Intersection #42 @ Otay Lakes Road construct as a signalized T-intersection by the 926th EDU; and

- Project Driveway #3/Intersection #44 @ Otay Lakes Road construct as a roundabout by the 1,729th EDU. ~~identical to existing conditions, with the addition of the three Project driveways, as follows:~~

~~Project Driveway #1 at Otay Lakes Road – signalized T-intersection (see **Appendix C-12**, Section 5.1, Traffic Signal Warrant);~~

~~Project Driveway #2 at Otay Lakes Road – roundabout; and~~

~~Project Driveway #3 at Otay Lakes Road – roundabout.~~

Mitigation Measures Carried forward from Phase 1

The following improvements (project feature and mitigation measures) would be implemented under Existing Plus Project (Phase I) scenario, and therefore are included as part of the Existing Plus Project (Buildout) roadway network:

- Widening of Otay Lakes Road, between the City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 (County) from 2 lanes to the proposed 4-lane Boulevard with Raised Median (County's 4.2A Public Road Classification); and
- Widening of Otay Lakes Road, between Project Driveway #1/Intersection #42 and Driveway #2 (County) from 2 lanes to the proposed 4-lane Boulevard with Raised Median (County's 4.2A Public Road Classification).

Analysis of the Existing Plus Project (Buildout) scenario was conducted using the methodologies previously described in Section 2.9.1, Analysis Methodology. Intersection, roadway segment, and freeway/state highway LOS results are discussed below. Peak-hour traffic volumes at the study area intersections under Existing Plus Project conditions are presented in **Figure 2.9-19**, while average daily traffic volumes on the study area roadway segments under this scenario are illustrated in **Figure 2.9-20**.

Intersections

Table 2.9-31 illustrates the intersection LOS and average vehicle delay results under Existing Plus Project (Buildout) conditions. LOS calculation worksheets for this scenario are provided in **Appendix C-12**.

As shown in **Table 2.9-31**, under this scenario, all of the study area intersections would continue to operate at acceptable LOS D or better conditions during both the AM and PM peak hours, with the exception of the unsignalized Otay Lakes Road/Wueste Road intersection, which is located within the City of Chula Vista limits. With the addition of Project traffic, this intersection (#20) would operate at unacceptable LOS E during the PM peak hour. Because the buildout Project traffic would comprise more than 5 percent of the total entering volumes, based on the applicable significance criteria, the addition of trips generated by Project buildout would cause a ***significant direct impact*** at this intersection (**Impact TR-4**).

Arterial Roadway Segments

Tables 2.9-32 and 2.9-33 illustrate the LOS analysis results for the study area roadway segments under Existing Plus Project conditions in the City of Chula Vista and County, respectively.

As shown in **Tables 2.9-32 and 2.9-33**, the following six roadway segments, with four each located within the City of Chula Vista and two in the County, would operate at unacceptable LOS D (only in Chula Vista), E, or F under Existing Plus Project (Buildout) conditions. However, as explained below, because additional criteria are applicable in assessing significant impacts, the proposed Project would result in significant impacts on three of the six roadway segments.

- Telegraph Canyon Rd, between Oleander Ave and Medical Center Dr (LOS E, City) – Proposed buildout project trips would comprise 3.8% (less than 5%) of the total segment volume, and would add 2,196 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Oleander Avenue and Telegraph Canyon Road / Medical Center Drive are projected to operate at an acceptable LOS B during the peak hours. Thus, the project would not have a significant impact to this roadway segment.
- Otay Lakes Road, between East H St and Telegraph Canyon Rd/Otay Lakes Road (LOS D, City) – Proposed buildout project trips would comprise 3.7% (less than 5%) of the total segment volume, and would add 1,098 ADT (more than 800 ADT). However, the intersections of East H Street / Otay Lakes Road and Telegraph Canyon Road / Otay Lakes Road/La Media Road are projected to operate at an acceptable LOS D during the peak hours. Thus, the project would not have a significant impact to this roadway segment.
- Otay Lakes Road, between SR-125 SB Ramps and SR-125 NB Ramps (LOS D, City) – Proposed buildout project trips would comprise 10.2% (more than 5%) of the total segment volume, and would also add 5,270 ADT (more than 800 ADT) to this roadway segment. However, the intersections of Otay Lakes Road / SR-125 SB Ramps and Otay Lakes Road / SR-125 NB Ramps are projected to operate at an acceptable LOS C during the peak hours. Thus, the project would not have a significant impact to this roadway segment.
- Otay Lakes Road, between Lake Crest Dr and Wueste Rd (LOS F, City of CV) – Proposed buildout project trips would comprise 86.0% (more than 5%) of the total segment volume, and would also add 16,310 ADT (more than 800 ADT) to this roadway segment. Additionally, the intersection of Otay Lakes Road / Wueste Road is projected to operate at unacceptable LOS E during the PM peak hour, thus the project would have a significant impact to this roadway segment.

Otay Lakes Road, between Wueste Rd and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed project trips would comprise 87.0% (more than 5%) of the total segment volume, and would also add 19,540 ADT (more than 800 ADT) to this roadway segment. Additionally, the intersection of Otay Lakes Road / Wueste Road is projected to operate at unacceptable LOS E during the PM peak hour, thus the project would have a significant impact to this roadway segment. Based on the City's significance criteria, the addition of trips generated by full Project buildout would cause ***significant direct impacts*** at the following two roadway segments:

- *Otay Lakes Road between Lake Crest Drive and Wueste Road* (**Impact TR-5**); and
- *Otay Lakes Road between Wueste Road and City of Chula Vista/County boundary* (**Impact TR-6**).

Freeways/State Highways

Table 2.9-34 illustrates the resulting LOS for I-805 and SR-125 under Existing Plus Project (Buildout) conditions. As shown, all study area I-805 and SR-125 freeway segments would continue to operate at acceptable LOS D or better under Existing Plus Project Buildout conditions.

As such, the addition of trips generated by full development of the proposed Project would not cause a significant impact to study area freeway/state highway segments.

Two-Lane Highways (SR-94)

Tables 2.9-35 and 2.9-36 illustrate LOS analysis results for SR-94 under Existing Plus Project (Buildout) conditions. The tables illustrate the analysis performed using the County and Caltrans methodologies, respectively. The HCM analysis worksheets are included in **Appendix C-12.**

As shown in **Table 2.9-35**, SR-94 from Lyons Valley Road to south of Otay Lakes Road would operate under acceptable LOS D or better conditions based on the County criteria. Therefore, the addition of vehicle trips generated by full development of the ***proposed Project would not cause a significant impact*** to SR-94 based on the County criteria.

With respect to the Caltrans methodology, as shown in **Table 2.9-36**, SR-94 from Melody Road to south of Otay Lakes Road would operate under acceptable LOS C based on this methodology. Therefore, the addition of trips generated by full development of the ***proposed Project would not cause any significant traffic impacts*** to SR-94 using the Caltrans analysis methodology.

Ramp Intersection Capacity Analysis

Consistent with Caltrans requirements, the signalized freeway ramp intersections along I-805 at Telegraph Canyon Road and along SR-125 at Otay Lakes Road and Olympic Parkway were analyzed under Existing Plus Project (Buildout) conditions using the ILV procedures. The results of the analysis are illustrated in **Table 2.9-37A** and the analysis worksheets are provided in **Appendix C-12**.

As shown in the table, both I-805 ramp intersections at Telegraph Canyon Road would continue to operate "At Capacity" and/or "Under Capacity," with the exception of the I-805 Northbound Ramps/Telegraph Canyon Road intersection, which would operate "Over Capacity" during the AM peak hour. All of the SR-125 ramp intersections along both Otay Lakes Road and Olympic Parkway would operate "At Capacity" and/or "Under Capacity" during both the AM and PM peak hours under the Existing Plus Project (Buildout) conditions. As noted above, the ILV analysis is provided for information purposes only and is not intended to be used as a means to assess Project impacts.

Ramp Metering Analysis

Table 2.9-37B displays the ramp metering analysis conducted at the I-805 NB On-Ramp at Telegraph Canyon Road under Existing plus Project (Buildout) conditions. Similar to existing conditions, and based upon field observations, it is assumed that approximately 20% of the total NB On-Ramp traffic utilizes the HOV lane and approximately 80% of the total arrival traffic (demand) utilizes the two non-HOV lanes.

As shown on **Table 2.9-37B**, the AM peak hour demand at the ramp would be greater than the capacity provided by the ramp meter under this scenario. However, based upon SANTEC/ITE

Guidelines, the projected delay of 4.6 minutes (less than 15 minutes) would be acceptable. Therefore, the proposed project would not result in significant impacts at this on-ramp.

2.9.3.4 Analysis - Cumulative Year (2025)

This section presents an analysis of Cumulative Year (2025) traffic conditions, which includes cumulative land development projects anticipated to generate additional traffic within the study area. Potential traffic impacts to the existing transportation network due to the addition of cumulative projects and proposed project traffic were assessed.

SANDAG's Series 11 Year 2025 Transportation Model was utilized to forecast cumulative (Year 2025) traffic volumes. The most recent model approved by the City of Chula Vista (developed for the Otay Ranch Village Two Comprehensive SPA Amendment project) was utilized as a starting point to ensure the accuracy of the modeling assumptions within the City's jurisdiction. Land use assumption for the Otay Ranch Village Two Comprehensive SPA Amendment project model was developed in coordination with City of Chula Vista's staff. This land use includes an estimated growth for all of the Otay Ranch villages, as well as the future university, the eastern urban center, and other developments.

Outside of Chula Vista, SANDAG Year 2025 land use assumptions were examined and updated to ensure that anticipated land development projects identified by both the County and City of San Diego in the vicinity of the proposed project were accurately reflected in the model. Field review was conducted by Chen Ryan staff to verify that cumulative projects fully occupied and operational as of May 2014 are not included as a part of the cumulative (year 2025) model, as their traffic would already be included in the Existing Conditions.

Table 2.9-38 lists the approved and pending project list in East Otay Mesa by the Year 2025, which was incorporated in the SANDAG transportation model.

The Cumulative (Year 2025) roadway network was assumed to be identical to the existing plus project (buildout) network with the following exceptions:

- Completion of Heritage Road, between Olympic Parkway and Main Street including the signalization of the intersection of Heritage Road / Main Street (City of CV). Heritage Road is identified as a Mitigation Measure for multiple projects within the City of Chula Vista, including the Village Two Comprehensive SPA Amendment and the University Villages Project (identified as MM TCA-4 in the University Villages FEIR, SCH # 2013071077). It is also a Chula Vista Transportation Development Impact Fee (TDIF) facility (SMT 364 – Facility #57), and identified as a Six-Lane Prime Arterial in the Chula Vista General Plan Circulation Plan – East;
- Widening of Otay Lakes Road, between H Street and Telegraph Canyon Road from a 4-lane Major Road to a 6-lane Prime Arterial (City of CV), consistent with the classification identified in the City's currently adopted General Plan Circulation Element. This improvement project (STM355 – Otay Lakes Road Widening) is included in the Chula Vista adopted FY 2012-13 through FY 2016-17 Capital Improvement Program (CIP) and will be funded by Transportation Development Impact Fees; and

- Signalization of the County intersection of SR-94/Melody Road due to the completion of the Jamul Casino project (Final Tribal Environmental Evaluation – Jamul Indian Village Gaming Development Project / Jamul Indian Village Resolution No. 2013-03) (County).

The following three intersections will be constructed by the project for frontage and access:

- Project Driveway #1/Intersection #42 @ Otay Lakes Road – signalized T-intersection;
- Project Driveway #2/Intersection #43 @ Otay Lakes Road – roundabout; and
- Project Driveway #3/Intersection #43 @ Otay Lakes Road – roundabout.

The City of Chula Vista TDIF program was established in Chapter 3.54 of the City's Municipal Code and, specific to the area in the vicinity of the proposed Project was most recently updated in the Eastern Transportation Development Impact Fee, City of Chula Vista Public Works Department (September 2014) ("2014 TDIF Update"). Under the City's TDIF program, a development impact fee was established to pay for transportation improvements and facilities within the Eastern Territories of the City of Chula Vista. (Municipal Code section 3.54.010 (A); see also Cal Govt. Code section 66000 et seq.) The Eastern Territories generally means that area of the city located between Interstate 805 on the west, the city sphere of influence boundary on the east and northeast, the city boundary on the north, and the city's southern boundary on the south. (Municipal Code section 3.54.020 (G.)

Under the TDIF program, the fee is paid before the issuance of building permits "for each development project within the Eastern Territories of the City." (Municipal Code section 3.54.010; 2014 TDIF Update, p. 25.) In establishing the TDIF program, the City Council found that collection of the fees at the time of the building permit was "necessary to ensure that funds will be available for the construction of facilities concurrent with the need for those facilities and to ensure certainty in the capital facilities budgeting for the Eastern Territories." (Municipal Code section 3.54.010 (A); see also 2014 TDIF Update, p. 25.)

The Chula Vista TDIF has two main purposes: (1) to fund the construction of facilities needed to mitigate potential direct and cumulative impacts, and (2) to spread the costs associated with construction of the facilities equitably among the developing properties. (2014 TDIF Update, p. 2.) The TDIF is calculated by identifying the total cost of the road improvements to be constructed under the program, and dividing that number by the remaining development to be constructed within the TDIF "Area of Benefit." The recommended fee "is based on an equitable distribution of the estimated cost of the proposed program funding requirements, divided by the number of future EDUs [equivalent dwelling units] to be developed in the Area of Benefit." (2014 TDIF Update, p. 14.)

The Area of Benefit is "the area served by the proposed street projects" determined to be necessary to maintain an acceptable level of service on the City's circulation system as well as completing the city's General Plan Circulation Element east of I-805. (2014 TDIF Update, p. 6.) Importantly, the TDIF Area of Benefit does not include the Resort Village/Village 13 Project area. (2014 TDIF Update, Figure 1, Chula Vista Transportation Development Impact Fee Benefit Area.) Furthermore, the "remaining" development identified in the TDIF, which are those as yet unbuilt development projects upon which the TDIF is calculated, also does not include Village 13/Resort

Village. (2014 TDIF Update, Table A, p. 9; see also p. 6.) Nonetheless, the projects that are included in the 2014 TDIF Update "ensure that the remaining streets in the city's General Plan are fully funded for construction." (2014 TDIF Update, p. 6.)

TDIF-type programs, like the City's, are typically established in such manner that development within each respective TDIF jurisdiction pays for those improvements necessary to accommodate traffic generated both within and outside the jurisdiction through payment of the applicable TDIF. Correspondingly, it is not contemplated that such development would pay TDIF-type fees in adjacent TDIF jurisdictions, even though the Project may cause or contribute to impacts in the adjacent TDIF jurisdiction. Under this system, development within each respective jurisdiction that has adopted a TDIF-type program provides the necessary funding through payment of the TDIF for road improvements within its respective TDIF jurisdiction, while improvements in adjacent jurisdictions are funded by development in that jurisdiction.

Thus, in a manner similar to Chula Vista, the County has its own Transportation Impact Fee (TIF) program that provides funding for road improvements within the County of San Diego, and the Project applicant will pay the applicable County TIF as part of the County's approval process. (See EIR Mitigation Measures M-TR-11 and M-TR-12. For more information on the County's TIF program, please see County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic (August 24, 2011), Section 2.0, pages 4-6.)

The Otay Ranch Mitigation Monitoring Program (MMP) is consistent with both the City and County fee programs. The MMP was adopted by the County Board of Supervisors on October 28, 1993 in connection with Otay Ranch General Plan Amendment (GPA) 92-04, and is based on the mitigation required to implement the Subregional Plan of the County Recommended Plan for Otay Ranch. (MMP, p. 1.)

In relevant part, the MMP provides: "To the extent that Otay Ranch contributes to the need for a facility outside of its boundaries, the Project shall contribute (at the level at which it impacts the facility) to the mitigation of the impact by participating in impact fee programs or other means identified at the Specific Plan or tentative map level." (MMP, p. 46.) Thus, the MMP recognizes that mitigation would take the form of payments to impact fee programs, as well as "other means."

In this case, to the extent the proposed project would result in significant impacts outside of the Otay Ranch boundaries, the TIA and EIR identify appropriate mitigation both in the form of TIF payments to the County and the installation of specified road improvements within and outside the County that once implemented would reduce the identified impacts to less than significant. (See, Mitigation Measures M-TR-1 through M-TR-12.)

The Cumulative Year (2025) intersection and roadway geometrics are illustrated in **Figures 2.9-21 and 2.9-22**, respectively. **Figures 2.9-23 and 2.9-24** show the peak-hour intersection and average daily roadway volumes for the study area intersections and roadway segments, respectively, under Cumulative Year (2025) conditions. Traffic volumes for the Cumulative Year (2025) scenario were developed using the SANDAG Series 11 Year 2025 Transportation Model.

Analysis of the Cumulative Year (2025) condition is presented below. Intersection, arterial roadway segment, and freeway/state highway LOS were assessed using the methodologies described in Section 2.9.1, Analysis Methodology.

Intersections

Table 2.9-39 illustrates intersection LOS and average vehicle delay results for the study area intersections under both the Cumulative Year (2025) without and with Project conditions. As show in **Table 2.9-39**, all of the study area intersections would operate at acceptable LOS D or better under the Cumulative Year (2025) with Project conditions with the exception of the following two intersections:

- Otay Lakes Road / Wueste Road (City) - This intersection (#20) would operate at unacceptable LOS F during both the AM and PM peak hours with the addition of the project traffic. Based on the applicable significance criteria, the addition of ***Project trips would cause a significant direct impact*** to the Otay Lakes Road/Wueste Road intersection because the Project traffic would comprise more than 5 percent of the total entering volumes (**Impact TR-7**).
- Otay Lakes Road / SR-94 (County) - This intersection (#21) would operate at unacceptable LOS E and F during the AM and PM peak hours, respectively. Based on the applicable significance criteria, the additional traffic generated by the cumulative projects and the buildout of the ***Project would cause a significant cumulative impact*** to the Otay Lakes Road / SR-94 intersection (**Impact TR-8**).

Arterial Roadway Segments

Tables 2.9-40 and 2.9-41 illustrate the LOS analysis results for the study area roadway segments under without and with Project Cumulative Year (2025) conditions for the City of Chula Vista and County roadways, respectively. As shown in the tables, the following eleven roadway segments, nine located within the City and two located within the County, would operate at unacceptable LOS D (only in Chula Vista), E, or F under Cumulative Year (2025) conditions. However, as explained below, because additional criteria are applicable in assessing significant impacts, the proposed ***Project would result in significant impacts*** on four of the eleven roadway segments.

- Telegraph Canyon Rd, between Oleander Ave and Medical Center Dr (LOS E, City) – Proposed buildout project trips would comprise 3.6% (less than 5%) of the total segment volume, and would add 2,200 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Oleander Avenue and Telegraph Canyon Road / Medical Center Drive are projected to operate at acceptable LOS D or better during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.
- Telegraph Canyon Rd, between Medical Center Dr and Paseo Ladera (LOS E, City) – Proposed buildout project trips would comprise 4.2% (less than 5%) of the total segment volume, and would add 2,420 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Medical Center Drive and Telegraph Canyon Road / Paseo

Ladera are projected to operate at acceptable LOS D or better during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.

- Telegraph Canyon Rd, between Paseo Ladera and Paseo Ranchero/Heritage Rd (LOS E, City) – Proposed buildout project trips would comprise 4.5% (less than 5%) of the total segment volume, and would add 2,630 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Paseo Ladera and Telegraph Canyon Road / Paseo Ranchero/Heritage Road are projected to operate at acceptable LOS D during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.
- Telegraph Canyon Rd, between Paseo Ranchero/Heritage Rd and La Media Road (LOS D, City) – Proposed buildout project trips would comprise 5.5% (more than 5%) of the total segment volume, and would add 3,070 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Paseo Ranchero/Heritage Road and Telegraph Canyon Road / La Media Road are projected to operate at acceptable LOS D during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.
- Otay Lakes Road, between SR-125 SB Ramps and SR-125 NB Ramps (LOS D, City) – Proposed buildout project trips would comprise 9.9% (more than 5%) of the total segment volume, and would add 5,270 ADT (more than 800 ADT). However, the intersections of Otay Lakes Road / SR-125 SB Ramps and Otay Lakes Road / SR-125 NB Ramps are projected to operate at acceptable LOS B or better during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.
- Otay Lakes Road, between Lake Crest Dr and Wueste Rd (LOS F, City of CV) – Proposed buildout project trips would comprise 74.7% (more than 5%) of the total segment volume, and would add 15,810 ADT (more than 800 ADT). Additionally, the intersection Otay Lakes Road / Wueste Road is projected to operate at unacceptable LOS F during the peak hours. Thus, ***the project would have a significant impact*** to this roadway segment.
- Otay Lakes Road, between Wueste Road and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed buildout project trips would comprise 76.5% (more than 5%) of the total segment volume, and would add 19,540 ADT (more than 800 ADT). Additionally, the intersection of Otay Lakes Road / Wueste Road is projected to operate at unacceptable LOS F during the peak hours. Thus, ***the project would have a significant impact*** to this roadway segment.
- Olympic Parkway, between East Palomar Street and SR-125 SB Ramps (LOS D, City) – Proposed buildout project trips would comprise 1.2% (less than 5%) of the total segment volume, and would add 660 ADT (less than 800 ADT). However, the intersections of Olympic Parkway / East Palomar Street and Olympic Parkway / SR-125 SB Ramps are projected to operate at acceptable LOS C or better during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.
- Olympic Parkway, between SR-125 SB Ramps and SR-125 NB Ramps (LOS E, City) – Proposed buildout project trips would comprise 2.7% (less than 5%) of the total segment volume, and would add 1,540 ADT (more than 800 ADT). However, the intersections of Olympic Parkway / SR-125 SB Ramps and Olympic Parkway / SR-125 NB Ramps are

projected to operate at acceptable LOS B or better during the peak hours. Thus, ***the project would not have a significant impact*** to this roadway segment.

- Otay Lakes Road, between City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 (LOS F, County) – Proposed buildout project would add more than 200 ADT to this failing 2-lane roadway segment. Thus, ***the project would have a significant cumulative impact*** to this roadway segment.
- Otay Lakes Road, between Project Driveway #1/Intersection #42 and Driveway #2 (LOS F, County) – Proposed buildout project would add more than 200 ADT to this failing 2-lane roadway segment. Thus, the ***project would have a significant cumulative impact*** to this roadway segment.

Based on the application of the City's significance criteria, the addition of ***Project trips would cause significant impacts*** at the following three roadway segments as identified:

- *Otay Lakes Road between Lake Crest Drive and Wueste Road* (**Impact TR-9, Direct**);
- *Otay Lakes Road between Wueste Road and City of Chula Vista/County boundary* (**Impact TR-10, Direct**);
- *Otay Lakes Road between City of Chula Vista/County boundary and Project Driveway #1/Intersection #42* (**Impact TR-11, Cumulative**); and
- *Otay Lakes Road between Project Driveway #1/Intersection #42 and Driveway #2* (**Impact TR-12, Cumulative**).

Freeway/State Highways

Table 2.9-42 illustrates the resulting LOS for I-805 and SR-125 under Cumulative Year (2025) with Project conditions. As shown, all segments along I-805 and SR-125 would continue to operate at acceptable LOS D or better under this scenario, with the exception of I-805 between East H St and Telegraph Canyon Rd, which would operate at unacceptable LOS E. However, based on the applicable significance criteria, the addition of ***Project traffic would not cause a significant traffic impact*** to this freeway segment because the increase in v/c ratio is estimated to be less than 0.01.

Two-Lane Highways (SR-94)

The signalization of the SR-94/Melody Road intersection would result in intersection spacing of less than 1 mile at the following three SR-94 segments and, therefore, requires that the three segments be analyzed using the Two-Lane Highways with Signalized Intersection Spacing *Under* One Mile methodology, with the LOS to be determined by the intersection operations along the highway at these locations:

- SR-94 between Lyons Valley Road and Jefferson Road;
- SR-94 between Jefferson Road and Maxfield Road; and
- SR-94 between Maxfield Road and Melody Road.

As shown in **Table 2.9-39**, all of the intersections along the above three segments (Intersections #39, #40, and #41) are projected to operate at acceptable LOS D or better under with Project conditions. Thus, SR-94 between Lyons Valley Road and Melody Road (the three segments identified above) would operate at acceptable LOS under Cumulative Year (2025) with Project conditions.

The signalized intersection spacing for the remaining segments of SR-94 within the study area, those between Melody Road and Otay Lakes Road and south of Otay Lakes Road, is more than 1 mile; thus, these segments were analyzed using the Two-Lane Highways with Signalized Intersection Spacing *Over* One Mile methodology as presented below.

Tables 2.9-43 and 2.9-44 illustrate the LOS analysis results for these segments of SR-94 under Cumulative Year (2025) without and with Project conditions; this analysis was performed using both the County and Caltrans methodologies as the two respective tables illustrate.

As shown in **Table 2.9-43**, based on the County LOS criteria, the segment of SR-94 south of Otay Lakes Road would operate at unacceptable LOS E under Cumulative Year (2025) with Project conditions. Because the Project would add 370 ADT (more than the 325 County threshold), the additional Project trips would cause a significant cumulative traffic impact at this location under the County criteria. However, this segment of SR-94 also was analyzed using the Caltrans methodology; under this method, the peak-hour travel speeds were calculated at an acceptable LOS D (see **Table 2.9-44**). Because peak-hour operations typically are considered by traffic engineers to be the most accurate indicator of roadway operating conditions, combined with the fact that SR-94, as a state route, is a Caltrans facility, the analysis concluded, based on the Caltrans methodology that the Project would not result in a significant impact at the subject SR-94 segment.

As shown in **Table 2.9-44**, SR-94 from Melody Road to south of Otay Lakes Road would operate at acceptable LOS D based on the Caltrans/HCM methodology and, therefore, the addition of ***Project trips would not cause any significant traffic impacts*** to SR-94 utilizing this methodology.

Ramp Intersection Capacity Analysis

The signalized freeway ramp intersections along I-805 at Telegraph Canyon Road and along SR-125 at Otay Lakes Road and Olympic Parkway also were analyzed under Cumulative Year (2025) conditions using the ILV procedures. ILV analysis results are set forth in **Table 2.9-45A**.

As shown in the table, both I-805 ramp intersections would continue to operate "At Capacity" and/or "Under Capacity," with the exception of the I-805 Northbound Ramps/Telegraph Canyon Road intersection, which would operate at "Over Capacity" during the AM peak hour. All of the SR-125 ramp intersections would operate "At Capacity" and/or "Under Capacity" during both the AM and PM peak hours under Cumulative Year (2025) conditions. As noted above, the ILV analysis is provided for information purposes only and is not intended to be used as a means to assess Project impacts.

Ramp Metering Analysis

Table 2.9-45B displays the ramp metering analysis conducted at the I-805 NB On-Ramp at Telegraph Canyon Road under Cumulative (Year 2025) conditions. Similar to existing conditions, and based upon field observations, it is assumed that approximately 20% of the total NB On-Ramp traffic utilizes the HOV lane and approximately 80% of the total arrival traffic (demand) utilizes the two non-HOV lanes.

As shown on **Table 2.9-45B**, the AM peak hour demand at the ramp would be greater than the capacity provided by the ramp meter under this scenario. However, based upon SANTEC/ITE Guidelines, the projected delay of 4.2 minutes (less than 15 minutes) would be acceptable. Therefore, the proposed project would not result in significant impacts at this on-ramp.

2.9.3.5 Analysis – 2030 Plus Project Buildout

This section presents an analysis of Year 2030 traffic conditions both with and without the proposed Project at buildout. The scenarios analyzed in this section are as follows:

- Year 2030 Base Conditions
- Year 2030 Base Plus Project (Buildout) Conditions

With respect to the roadway network and land use assumptions used to conduct the analysis, representatives of the County, City, Caltrans, and the Project applicant determined that three network and land use combinations would be modeled preliminarily, with the worst case scenario (i.e., greatest intensity of development) selected for the analysis. Based on the model output comparisons, it was determined that the Year 2030 analysis would be based on the County General Plan Update (Referral Map) and the City's current adopted General Plan, with the addition of the latest land use assumptions for the City's University Villages project. The University Villages project would be located in the undeveloped southeast portion of Chula Vista, and includes significant increases in land use density and intensity, as compared to the City's current adopted General Plan.

Additionally, SANDAG's year 2030 forecast model assumed the buildout of Planning Area 17, which is expected to generate approximately 6,227 daily trips. However, with the adoption of the County of San Diego General Plan Update, the Planning Area 17 land uses have been designated as 296 Single Family Residential units, with the remainder of the planning area designated as Open Space. Based on SANDAG's *Guide to Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002), it is estimated that the 296 Single Family Residential units would generate 2,960 daily trips. Thus, Planning Area 17 would generate fewer trips than those assumed in the 2030 forecast model. Therefore 3,267 daily trips were reduced from the applicable traffic analysis zone, as well as from the surrounding roadway network, to reflect the adopted Planning Area 17 land uses.

The roadway network used for the analysis is based on buildout of the City General Plan Circulation Element and the County General Plan Mobility Element, which include the following improvements:

- Construction of Main Street, between Heritage Road and Eastlake Parkway - this segment of Main Street is included within the City's TDIF program and the first phase of the construction is included in the City's CIP Program for 2013-2016 (STM357 - #60A & #60B);
- Construction of Otay Valley Road, between Main Street and Eastlake Parkway – Otay Valley Road from Main Street to SR-125 western right-of-way (ROW), and Otay Valley Road from SR-125 eastern ROW to Eastlake Parkway is assumed to be constructed by the University Villages Project for access and frontage (University Villages FEIR, 5.3-105 & 5.3-116, SCH # 2013071077); ~~and~~
- Construction of two new interchanges along SR-125 at Main Street and Otay Valley Road – the SR-125/Main Street interchange (overpass and ramps) is included as part of the City of Chula Vista's TDIF program and was approved by the City Council on November 18, 2014 (STM-359 Facility #67). The SR-125/Otay Valley Road interchange (overpass and ramps) is included as part of the City of Chula Vista's TDIF program and was approved by the City Council on November 18, 2014 (STM-359 Facility #68);~~.~~
- Widening of Otay Lakes Road, between Lake Crest Drive and Wueste Road to a 6-lane Prime Arterial – this segment of Otay Lakes Road is included in the City's Circulation Element as a 6-lane Prime Arterial, and is included in the City's TDIF program and was approved by the City Council on November 18, 2014 (STM-359 Facility #28B);~~.~~
- Widening of Otay Lakes Road, between Wueste Road and the City of Chula Vista/County boundary to a 6-lane Prime Arterial – this segment of Otay Lakes Road is included in the City's Circulation Element as a 6-lane Prime Arterial. Based on information provided by the City of Chula Vista, it is anticipated that this segment of Otay Lakes Road would be included in the City's TDIF program by December of 2015;~~.~~
- Construction of Main Street, from Heritage Road to Eastlake Parkway - this segment of Main Street is included within the City's TDIF program and the first phase of construction is included in the City's CIP Program for 2013-2016 (STM357 #60A & #60B);
- Construction of Otay Valley Road, from Main Street to Eastlake Parkway– Otay Valley Road from Main Street to SR-125 western right-of-way (ROW), and Otay Valley Road from SR-125 eastern ROW to Eastlake Parkway would be constructed by the University Villages Project for access and frontage (University Villages FEIR, 5.3-105 & 5.3-116, SCH # 2013071077); and
- Construction of two new interchanges along SR-125 at Main Street and Otay Valley Road– the SR-125/Main Street interchange (overpass and ramps) is included as part of the City of Chula Vista's TDIF program and was approved by the City Council on November 18, 2014 (STM-359 Facility #67). The SR-125/Otay Valley Road interchange (overpass and ramps) is included as part of the City of Chula Vista's TDIF program and was approved by the City Council on November 18, 2014 (STM-359 Facility #68).

These improvements would be funded by the County's Transportation Impact Fee (TIF) program and the City's Transportation Development Impact Fees (TDIF), which require that new developments fund their fair share of the construction of planned transportation facilities affected by the proposed development. (See County Code, Section 77.201; City Municipal Code, Chapter

3.54.). It should be noted that the project is proposing to reclassify Otay Lakes Road, between the City/County boundary and the planned Project Driveway #2/Intersection #43 from 4.1B (classified in the currently adopted General Plan as a Major Road with Raised Median) to 4.2A (Boulevard with Raised Median). As a result, Otay Lakes Road, between ~~Wueste Road~~the City/County boundary and Project Driveway #2/Intersection #43, was analyzed based upon the proposed classifications (4.2A) instead of the currently adopted General Plan classification (4.1B).

Year 2030 intersection geometrics were developed by expanding the existing geometrics to match the planned roadway cross-sections. **Figures 2.9-25 and 2.9-26** illustrate the anticipated intersection and roadway geometrics for the study area under Year 2030 conditions. **Figures 2.9-27 and 2.9-28** illustrate the projected peak-hour intersection volumes and average daily roadway volumes for this scenario.

Analysis of Year 2030 Base conditions and Year 2030 Base Plus Project (Buildout) conditions is presented below. Intersection, arterial roadway segment, and freeway/state highway LOS were assessed using the methodologies described in Section 2.9.1, Analysis Methodology. Peak-hour traffic volumes at the study area intersections under the Project scenario are illustrated in **Figure 2.9-29**, while average daily traffic volumes on the study area roadway segments under this scenario are illustrated in **Figure 2.9-30**.

Intersections

Year 2030 Base Traffic Conditions

Table 2.9-46 illustrates intersection LOS and average vehicle delay results for the study area intersections under Year 2030 Base conditions. As show in **Table 2.9-46**, all of the study area intersections would operate at acceptable LOS D or better under Year 2030 Base conditions.

Year 2030 Base Plus Project (Buildout) Conditions

Table 2.9-47 illustrates intersection LOS and average vehicle delay results under Year 2030 Base Plus Project (Buildout) conditions. As shown in **Table 2.9-47**, all of the study area intersections would continue to operate at acceptable LOS D or better during both the AM and PM peak hours.

Arterial Roadway Segments

Year 2030 Base Traffic Conditions

Table 2.9-48 illustrates the LOS analysis results for study area roadway segments within the City under Year 2030 Base conditions. As shown in the table, the following six segments would operate at unacceptable LOS D or E under Year 2030 Base conditions:

- Telegraph Canyon Rd, between Oleander Ave and Medical Center Dr (LOS E);
- Telegraph Canyon Rd, between Medical Center Dr and Paseo Ladera (LOS E);
- Telegraph Canyon Rd, between Paseo Ladera and Paseo Ranchero/Heritage Rd (LOS E);
- Telegraph Canyon Rd, between Paseo Ranchero/Heritage Rd and La Media Rd (LOS D);
- Otay Lakes Road, between SR-125 NB Ramps and SR-125 SB Ramps (LOS D); and

- Olympic Pkwy, between SR-125 NB Ramps and East Lake Pkwy (LOS D).

Table 2.9-49 illustrates the LOS analysis results for study area roadway segments within the County under Year 2030 Base conditions. As shown in the table, all roadway segments within the County (i.e., the segment of Otay Lakes Road) would operate at acceptable LOS C or better under Year 2030 Base conditions.

Year 2030 Base Plus Project (Buildout) Conditions

Tables 2.9-50 and 2.9-51 illustrate the LOS analysis results for the study area roadway segments under Year 2030 Base Plus Project (Buildout) conditions in the City and County, respectively. As shown, the following nine roadway segments, each located within the City, would operate at unacceptable LOS D, or E under Year 2030 Base Plus Project (Buildout) conditions. However, as explained below, because additional criteria are applicable in assessing significant impacts, the proposed ***Project trips would not result in a significant impact*** at any of the nine segments:

- Telegraph Canyon Rd, between Oleander Ave and Medical Center Dr (LOS E) – Proposed buildout project trips would comprise 3.7% (less than 5%) of the total segment volume, and would add 2,200 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Oleander Avenue and Telegraph Canyon Road / Medical Center Drive are projected to operate at acceptable LOS D or better during the peak hours; thus, the ***project would not have a significant impact*** to this roadway segment.
- Telegraph Canyon Rd, between Medical Center Dr and Paseo Ladera (LOS E) – Proposed buildout project trips would comprise 4.1% (less than 5%) of the total segment volume, and would add 2,420 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Medical Center Drive and Telegraph Canyon Road / Paseo Ladera are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Telegraph Canyon Rd, between Paseo Ladera and Paseo Ranchero/Heritage Rd (LOS E) – Proposed buildout project trips would comprise 4.4% (less than 5%) of the total segment volume, and would add 2,630 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Paseo Ladera and Telegraph Canyon Road / Paseo Ranchero/Heritage Road are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Telegraph Canyon Rd, between Paseo Ranchero/Heritage Rd and La Media Rd (LOS E) – Proposed buildout project trips would comprise 5.2% (more than 5%) of the total segment volume, and would add 3,070 ADT (more than 800 ADT). However, the intersections of Telegraph Canyon Road / Paseo Ranchero/Heritage Road and Telegraph Canyon Road / La Media Road are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Otay Lakes Road, between La Media Road and Rutger Avenue (LOS D) – Proposed buildout project trips would comprise 9.4% (more than 5%) of the total segment volume, and would add 4,830 ADT (more than 800 ADT). However, the intersections of Otay Lakes Road / La Media Road and Otay Lakes Road / Rutger Avenue are projected to operate at

acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.

- Otay Lakes Road, between SR-125 SB Ramps and SR-125 NB Ramps (LOS D) – Proposed buildout project trips would comprise 9.4% (more than 5%) of the total segment volume, and would add 5,270 ADT (more than 800 ADT). However, the intersections of Otay Lakes Road / SR-125 SB Ramps and Otay Lakes Road / SR-125 NB Ramps are projected to operate at acceptable LOS B or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Olympic Pkwy, between SR-125 NB Ramps and Eastlake Pkwy (LOS D) – Proposed buildout project trips would comprise 0.4% (less than 5%) of the total segment volume, and would add 220 ADT (less than 800 ADT). Additionally, the intersections of Olympic Parkway / East Palomar Street and Olympic Parkway / SR-125 SB Ramps are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Otay Valley Road, between SR-125 NB Ramps and Main Street (LOS D) – Proposed buildout project trips would comprise 0.4% (less than 5%) of the total segment volume, and would add 220 ADT (less than 800 ADT). Additionally, the intersections of Otay Valley Road / SR-125 NB Ramps and Main Street / Otay Valley Road/Eastlake Pkwy are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.
- Main Street, between SR-125 NB Ramps and Eastlake Pkwy (LOS D) – Proposed buildout project trips would comprise 3.1% (less than 5%) of the total segment volume, and would add 1,700 ADT (more than 800 ADT). However, the intersections of Main Street / SR-125 NB Ramps and Main Street / Eastlake Parkway are projected to operate at acceptable LOS D or better during the peak hours. Thus, the ***project would not have a significant impact*** to this roadway segment.

Based on the City's significance criteria, none of the above roadway segments would be significantly impacted by the addition of Project traffic. With respect to County roadways, as shown in **Table 2.9-51**, all segments within the County study area are projected to operate at acceptable LOS D or better under Year 2030 Base Plus Project conditions and, therefore, the proposed ***Project would not result in significant impacts*** to County roadways.

Freeway/State Highways

Year 2030 Base Traffic Conditions

Table 2.9-52 illustrates the freeway LOS analysis results for I-805 and SR-125 under Year 2030 Base conditions. As shown in the table, all study area I-805 freeway segments would operate at acceptable LOS D or better under Year 2030 Base conditions, with the exception of the following segments:

- I-805, between Bonita Road and East H St (LOS E)
- I-805, between East H St and Telegraph Canyon Rd (LOS E)

All segments along SR-125 would operate at acceptable LOS D or better under Year 2030 Base conditions.

Year 2030 Base Plus Project (Buildout) Conditions

Table 2.9-53 illustrates the resulting LOS for I-805 and SR-125 under Year 2030 Base Plus Project (Buildout) conditions. As shown in the table, similar to base conditions, all segments along I-805 and SR-125 would continue to operate at acceptable LOS D or better under this scenario, with the exception of the following segments:

- I-805, between Bonita Road and East H St (LOS E)
- I-805, between East H St and Telegraph Canyon Rd (LOS E)

However, based on the applicable significance criteria, the addition of ***Project trips would not cause any significant traffic impact*** to the segment because the increase in v/c ratio is estimated to be less than 0.01.

Two-Lane Highways (SR-94)

Year 2030 Base Traffic Conditions

The signalization of the SR-94/Melody Road intersection would result in intersection spacing of less than 1 mile at the following three SR-94 segments and, therefore, requires that the segments be analyzed using the Two-Lane Highways with Signalized Intersection Spacing *Under* One Mile methodology, with the LOS determined by the intersection operations along the highway:

- SR-94 between Lyons Valley Road and Jefferson Road
- SR-94 between Jefferson Road and Maxfield Road
- SR-94 between Maxfield Road and Melody Road

As shown in **Table 2.9-46**, all of the intersections (Intersections #39, #40, and #41) along the above segments are projected to operate at acceptable LOS D or better under Year 2030 Base conditions. Thus, SR-94 between Lyons Valley Road and Melody Road (the three segments identified above) would operate at acceptable LOS under this scenario.

The signalized intersection spacing for the remaining segments of SR-94 within the study area, those between Melody Road and Otay Lakes Road and south of Otay Lakes Road, is more than 1 mile; thus, these segments were analyzed utilizing the Two-Lane Highways with Signalized Intersection Spacing *Over* One Mile methodology, as presented below.

Tables 2.9-54 and 2.9-56 illustrate the LOS analysis results for SR-94 under Year 2030 Base conditions. The analysis was performed using both the County and Caltrans methodologies. As shown in **Table 2.9-54**, based on the County criteria, the segment of SR-94 south of Otay Lakes Road is projected to operate at unacceptable LOS E under Year 2030 Base conditions. In comparison, using the Caltrans/HCM methodology, as shown on **Table 2.9-56**, SR-94 from

Melody Road to south of Otay Lakes Road would operate at acceptable LOS D under Year 2030 Base conditions.

Year 2030 Base Plus Project (Buildout) Conditions

As noted above, the signalization of the SR-94/Melody Road intersection would result in intersection spacing of less than 1 mile at the following three SR-94 segments and, therefore, requires the segments be analyzed using the Two-Lane Highways with Signalized Intersection Spacing *Under* One Mile methodology, with the LOS determined by the intersection operations along the highway:

- SR-94 between Lyons Valley Road and Jefferson Road;
- SR-94 between Jefferson Road and Maxfield Road; and
- SR-94 between Maxfield Road and Melody Road.

As shown in **Table 2.9-47**, all of the intersections (Intersections #39, #40, and #41) along the above segments are projected to operate at acceptable LOS D or better. Thus, SR-94 between Lyons Valley Road and Melody Road (the three segments identified above) would operate at acceptable LOS under Year 2030 Base Plus Project (Buildout) conditions.

The signalized intersection spacing for the remaining segments of SR-94 within the study area, those between Melody Road and Otay Lakes Road and south of Otay Lakes Road, is more than 1 mile; thus, these segments were analyzed using the Two-Lane Highways with Signalized Intersection Spacing *Over* One Mile methodology, as presented below.

Tables 2.9-55 and 2.9-57 illustrate the LOS analysis results for these segments of SR-94 under Year 2030 Base Plus Project (Buildout) conditions under the County and Caltrans methodologies, respectively.

As shown in **Table 2.9-55**, based on the County LOS criteria, the segment of SR-94 south of Otay Lakes Road would operate at unacceptable LOS E under Year 2030 Base Plus Project (Buildout) conditions and, therefore, the additional Project trips would cause a significant cumulative traffic impact at this location. However, this segment of SR-94 also was analyzed utilizing the Caltrans methodology; under this method, the peak-hour travel speeds were calculated at LOS D (see **Table 2.9-57**). Because peak-hour operations typically are considered by traffic engineers to be the most accurate indicator of roadway operating conditions, combined with the fact that SR-94, as a state route, is a Caltrans facility, the analysis concluded, based on the Caltrans methodology that the ***Project would not result in a significant impact*** at the subject SR-94 segment.

As shown in **Table 2.9-57**, SR-94 from Melody Road to south of Otay Lakes Road would operate at acceptable LOS D based on the Caltrans methodology and, therefore, ***the addition of Project trips would not cause a significant impact*** to SR-94 using this methodology.

Ramp Intersection Capacity Analysis

Year 2030 Base Traffic Conditions

Consistent with Caltrans requirements, the signalized I-805 freeway ramp intersections at Telegraph Canyon Road and along SR-125 at Otay Lakes Road, Olympic Parkway, Rock Mountain Road, and Otay Valley Road, were analyzed under Year 2030 Base conditions using the ILV procedures. The ILV analysis results are illustrated in **Table 2.9-58**.

As shown in the table, all of the I-805 and SR-125 ramp intersections would operate at "At Capacity" and/or "Under Capacity" during both the AM and PM peak hours under Future Year 2030 Base conditions with the exception of the following intersections, which would operate "Over Capacity":

- I-805 SB Ramps/Telegraph Canyon Road (PM peak hour);
- I-805 NB Ramps/Telegraph Canyon Road (AM peak hour); and
- SR-125 SB Ramps / Main Street (AM peak hour).

Year 2030 Base Plus Project (Buildout) Conditions

The signalized freeway ramp intersections along I-805 at Telegraph Canyon Road and along SR-125 at Otay Lakes Road, Olympic Parkway, Rock Mountain Road, and Otay Valley Road also were analyzed under Year 2030 Base Plus Project (Buildout) conditions using the ILV procedures. ILV analysis results are illustrated in **Table 2.9-59A**.

As shown in the table, all of the I-805 and SR-125 ramp intersections would operate "At Capacity" and/or "Under Capacity" during both the AM and PM peak hours under Year 2030 Plus Project (Buildout) conditions, with the exception of the following intersections, which would operate "Over Capacity":

- I-805 SB Ramps/Telegraph Canyon Road (PM peak hour);
- I-805 NB Ramps/Telegraph Canyon Road (AM peak hour);
- SR-125 SB Ramps / Otay Lakes Road (PM peak hour);
- SR-125 SB Ramps / Main Street (AM peak hour); and
- SR-125 NB Ramps / Main Street (PM peak hour).

However, as noted above, the ILV analysis is provided for information purposes only and is not intended to be used as a means to assess Project impacts.

Ramp Metering Analysis

Table 2.9-59B displays the ramp metering analysis conducted at the I-805 NB On-Ramp at Telegraph Canyon Road under Year 2030 Base Plus Project (Buildout) conditions. Similar to existing conditions, and based upon field observations, it is assumed that approximately 20% of the total NB On-Ramp traffic utilizes the HOV lane and approximately 80% of the total arrival traffic (demand) utilizes the two non-HOV lanes.

As shown on **Table 2.9-59B**, the AM peak hour demand at the ramp would be greater than the capacity provided by the ramp meter under this scenario. However, based upon SANTEC/ITE Guidelines, the projected delay of 8.9 minutes (less than 15 minutes) would be acceptable. Therefore, the proposed project would not result in significant impacts at this on-ramp.

2.9.3.6 Analysis – Site Access and On-Site Circulation

This section presents analysis relative to the proposed Project site access and on-site circulation plan, including potential impacts to pedestrians and bicyclists.

Site Access

Site access to the proposed Project is proposed via three driveways to be located off of Otay Lakes Road. Based on a review of the Project site utilization plan and field conditions, the following comments on site access are provided:

- The sight distance at each of the driveways is adequate and driveway locations are acceptable given appropriate driveway control.
- The proposed geometry at each of the Project driveways is illustrated in **Figure 2.9-27**. Project ~~d~~Driveway #1/Intersection #42 would be signalized while driveways #2 and #3 would be roundabout controlled. Based on the analyses presented in Sections 2.9.3.2, 2.9.3.3, 2.9.3.4 and 2.9.3.5, all three driveways would operate at acceptable LOS at Project buildout.
- Otay Lakes Road will be constructed as a 4-lane (County's 4.2A Public Road Classification) roadway from Wueste Road to the second project driveway, as proposed by the project; and a 2-lane (County's 2.1C Public Road Classification) roadway from the second driveway to SR-94, as designated in the County of San Diego General Plan Update. (The proposed Project incorporates this recommendation.)

On-Site Circulation

Based on buildout of the proposed Project land uses and trip generation as shown in **Table 2.9-10**, ADT volumes were estimated for the internal roadway segments to be constructed within the proposed Project site. Project trips were distributed and assigned to the internal roadway system based on the location and characteristics of the proposed land uses. **Figure 2.9-1** displays the resulting internal roadway ADTs for the proposed Project.

Based on discussions with County staff, recommended roadway classifications were developed for each of the internal roadways. **Table 2.9-60** displays the recommended classifications and the resulting LOS for these roadways; LOS D is considered acceptable conditions for the local internal roadways within Otay Ranch.

As shown in the table, and based on the recommended classifications, all of the internal roadway segments within the proposed Project site would operate at acceptable LOS D or better under Project buildout conditions.

Pedestrians and Bicyclists

The on-site circulation plan includes a pedestrian and bicyclist circulation system designed to minimize vehicle conflicts. As noted above, the Project site would be accessed by three entry points that would create a loop accessing all neighborhoods within the village. The Project's street design would provide a parkway between the street and sidewalk to enhance pedestrian comfort. Roundabouts, raised intersections, and neckdowns also are proposed to facilitate calmed traffic flow and to enhance the pedestrian orientation of the village. All roads would be designed and constructed according to the applicable standards.

The referenced roundabouts would be located at major intersections of the village to create focal points and facilitate traffic flow. Neckdowns would be located at regularly distanced intersections throughout, creating a rhythm in both traffic flow and neighborhood aesthetics. The neckdowns would be created by projecting curb lines out to the edge of the travel lane, creating a sense of side friction or roadway narrowing, which would slow traffic. Neckdowns at intersections also would provide pedestrians with a shorter roadway crossing distance. Raised intersections would be located along interior loop streets to also slow traffic while continuing movement through the Project site. The maximum speed limit in the proposed Project is projected to be 30 mph, which would enable bicyclists to share the street with vehicles. Additionally, the Resort Village Specific Plan's Circulation Plan (**Figure 1.0-4)** includes dedicated bicycle lanes on Otay Lakes Road from the City municipal boundary to the eastern Project boundary.

Community trails located on Otay Lakes Road and multi-use pathways would be continued within the Project site. Pathways are proposed to be 10 feet in width and would extend along Strada Piazza, the main Project thoroughfare, and into the residential areas along collector streets. The pathways would connect major activity centers, including the Mixed-Use area, the Village Core, and the Resort. The pathways would be separated from the street by landscaped parkways, which would serve as a barrier between vehicular traffic and pedestrians and bicyclists.

In addition to the multi-use pathways, the proposed Project would include a series of trails on existing, disturbed roads in the Preserve area. The trails would connect residential neighborhoods and Otay Lakes Road and create a series of loops for bicyclists and pedestrians. (Specific Plan **Exhibit 36~~20~~**, Trails Plan, depicts the existing, unimproved trails, and the proposed pathways and trails.)

For these reasons, the proposed Project would facilitate pedestrian and bicyclist travel and would ***not result in potentially significant impacts*** to pedestrians or bicyclists.

2.9.3.7 Analysis – Alternative Transportation Programs

Alternative transportation (transit use, cycling, and walking) is addressed in the County General Plan Mobility Element. The County Goal and Polices for alternative transportation are stated in the Mobility Element as follows:

GOAL M-8

Public Transit System. A public transit system that reduces automobile dependence and serves all segments of the population.

Policies

M-8.1 Maximize Transit Service Opportunities. Maximize opportunities for transit services in unincorporated communities. Coordinate with SANDAG, the CTSA, NCTD, and MTS to provide capital facilities and funding, where appropriate, to:

- Maximize the speed and efficiency of transit service through the development of transit priority treatments such as transit signal priority, transit queue jump lanes, and dedicated transit only lanes;
- Provide for transit-dependent segments of the population, such as the disabled, seniors, low income, and children, where possible; and
- Reserve adequate rights-of-way to accommodate existing and planned transit facilities including bus stops.

M-8.3 Transit Stops That Facilitate Ridership. Coordinate with SANDAG, NCTD, and MTS to locate transit stops and facilities in areas that facilitate transit ridership, and designate such locations as part of planning efforts for Town Centers, transit nodes, and large-scale commercial or residential development projects. Ensure that the planning of Town Centers and Village Cores incorporates uses that support the use of transit, including multi-family residential and mixed-use transit–oriented development, when appropriate.

M-8.5 Improved Transit Facilities. Require development projects, when appropriate, to improve existing nearby transit and/or park and ride facilities, including the provision of bicycle and pedestrian facilities, provisions for bus transit in coordination with NCTD and MTS as appropriate including, but not limited to, shelters, benches, boarding pads, and/or trash cans, and to provide safe, convenient, and attractive pedestrian connections.

GOAL M-11

Bicycle and Pedestrian Facilities.

Bicycle and pedestrian networks and facilities that provide safe, efficient, and attractive mobility options as well as recreational opportunities for County residents.

Policies

M-11.1 Bicycle Facility Design. Support regional and community-scaled planning of pedestrian and bicycle networks.

M-11.2 Bicycle and Pedestrian Facilities in Development. Require development and Town Center plans in Villages and Rural Villages to incorporate site design and on-site amenities for alternate modes of transportation, such as comprehensive bicycle and pedestrian networks and facilities, including both on-street facilities as well as off-street bikeways, to safely serve the full

range of intended users, along with areas for transit facilities, where appropriate and coordinated with the transit service provider.

M-11.3 Bicycle Facilities on Roads Designated in the Mobility Element. Maximize the provision of bicycle facilities on County Mobility Element roads in Semi-Rural and Rural Lands to provide a safe and continuous bicycle network in rural areas that can be used for recreation or transportation purposes, while retaining rural character.

Based on the County's Guidelines for Determining Significance, if a proposed project does not conform to the applicable alternative transportation policies, a significant impact may occur.

With respect to pedestrian movement and bicycle facilities, the Project objectives include the creation of an internal street system that is safe and efficient, and promotes walking, biking and community cohesiveness, and requires the provision of a continuous public trail system throughout the community with access to the Resort, the Village Core, and surrounding trails. In this regard, the Specific Plan's proposed Circulation Plan incorporates vehicular and non-vehicular modes of transportation to create an integrated system of roads, bike lanes, trails, pathways, and sidewalks. The proposed Project includes a system of public and private trails and pathways that would provide for meandering pathways adjacent to landscaped parkways and unimproved trails located in natural open space areas to the east. Pathways would be provided on residential streets, including dedicated pathways along Otay Lakes Road. (See Section 2.9.3.6, Site Access and On-Site Circulation, for additional information regarding the proposed Project's pedestrian and bicyclist facilities.) On-site streets are designed with a maximum speed of 30 MPH which would allow for shared bicycled traffic; however, all streets also have sidewalks.

With respect to transit, future bus service to the proposed Project may be provided by MTS. Currently, MTS provides bus service throughout the Chula Vista Eastern Territories, including the Eastlake Business Center and Southwestern College. Future expansion of transit service to the Project site may include a bus route to the Mixed-Use Planning Area; however, no such service is anticipated at this time. The proposed Project is neither a Town Center, nor a Village Core as defined by the General Plan. There is no indication that the proposed Project would increase transit ridership such that it would decrease the performance or safety of transit facilities.

Thus, the proposed Project conforms to and is consistent with the County's alternative transportation policies. As such, the ***proposed Project would not result in a significant impact*** relative to alternative transportation plans.

2.9.3.8 Analysis – Parking Capacity

This section discusses the proposed Project's potential impacts associated with parking capacity, which are determined relative to compliance with applicable County zoning requirements. The following describes the County's parking requirements for each of the Project's proposed land uses and the amount of parking to be provided by the Project:

- Single-Family Residential – The County Zoning Ordinance requires two parking spaces per dwelling unit, plus one additional space for every 10 dwelling units. The Project will

provide on-site parking for each lot in the single-family residential areas, as per the County requirement.

- Mixed-Use – The County Zoning Ordinance requires the following number of parking spaces for residential and commercial uses:
    - Multi-Family Residential
        - One-and-a-half parking spaces per dwelling unit (zero to two bedrooms)
        - Two parking spaces per dwelling unit ($\geq$ three bedrooms)
        - One additional parking space per every five dwelling units for guest parking
    - Commercial (less than 25,000 square feet)
        - Five parking spaces per 1,000 square feet

  The Project will provide the required number of parking spaces, which may be adjusted relative to the above requirements to account for the shared parking potential between the residential and commercial uses.

- Resort Hotel – The County Zoning Ordinance requires one parking space per guest unit, plus eight additional spaces for a resort with between 101 and 300 guest units. The Project will provide the County required number of parking spaces on-site.

- Elementary School – The County requirement for an elementary school is one space per employee, with five visitor parking spaces. The proposed Project would reserve the school site, which would be developed by the Chula Vista Elementary School District, who is responsible to ensure that applicable parking requirements are met.

- Neighborhood Park – The County currently does not have a specific parking requirement for neighborhood parks. The Conceptual Layout for Neighborhood Park P-5 includes 26 on-site parking spaces. In addition, approximately 280 on-street parking spaces are available to serve any overflow parking needs within the Village Core.

- Pocket Parks – The County currently does not have a specific parking requirement for pocket parks. On-street parking spaces will be provided at each pocket park. Off street parking spaces will not be provided at the eight pocket parks, to encourage residents to walk to these parks.

- Village Core On-Street Parking – At the request of the County DPW and Department of Parks and Recreation (DPR), Hunsaker and Associates has prepared an on-street parking exhibit for the Village Core (along Strada Piazza and down around the school). The exhibit illustrates approximately 280 on-street parking spaces will be available to serve the Neighborhood Park and overflow parking at the elementary school. Thus, adequate parking is provided for the Village Core.

In summary, the proposed Project would provide adequate parking per the County Zoning Ordinance and ***would not result in potentially significant impacts***.

2.9.4 Cumulative Impact Analysis

The Cumulative Year (2025) analysis presented in Section 2.9.3.4 was prepared using the SANDAG Series 11 Year 2025 Transportation Model to forecast Year 2025 traffic volumes. As explained in Section 2.9.3.4, the Model Year 2025 traffic volumes are based on land use assumptions that include both existing land uses and future development projects forecast by SANDAG, as well as anticipated land development identified by both the County and City of Chula Vista to be in place by Year 2025. Therefore, the Cumulative Year (2025) analysis is, by its nature, a cumulative impact analysis. Under this scenario, the proposed Project would have a project-specific significant impact on the following locations:

- The intersection of Otay Lakes Road/Wueste Road *(direct impact - City)* - (**Impact TR-7**)
- The intersection of Otay Lakes Road / SR-94 *(cumulative impact – County/Caltrans)* - (**Impact TR-8**)
- Otay Lakes Road between Lake Crest Drive and Wueste Road *(direct impact - City)* - (**Impact TR-9**);
- Otay Lakes Road between Wueste Road and City of Chula Vista/County boundary *(direct impact - City)* - (**Impact TR-10**);
- Otay Lakes Road between City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 *(cumulative impact - County)* - (**Impact TR-11**); and
- Otay Lakes Road between Project Driveway #1/Intersection #42 and Driveway #2 *(cumulative impact - County)* - (**Impact TR-12**).

Similarly, the 2030 Plus Project Buildout analysis presented in Section 2.9.3.5 was prepared using the SANDAG Series 11 Year 2030 Transportation Model to forecast Year 2030 traffic volumes. The Model Year 2030 traffic volumes are based on land use assumptions that include both existing land uses and future development projects forecast by SANDAG to be in place by the Year 2030. Therefore, the Year 2030 Plus Project Buildout analysis is, by its nature, also a cumulative impact analysis.

In contrast to the Cumulative Year (2025) analysis and the Year 2030 Plus Project Buildout analysis, the Existing Plus Project (Phase I) and Existing Plus Project (Buildout) analysis presented in Section 2.9.3.2 and section 2.9.3.3 respectively, was prepared using existing traffic volumes with the addition of Project traffic only. Therefore, the analysis presented under the Existing Plus Project (Phase I) and Existing Plus Project (Buildout) scenarios does not include traffic volumes from future projects and their related cumulative traffic volumes.

2.9.5 Significance of Impacts Prior to Mitigation

This section presents a brief summary of the impacts determined to be significant under each of the four analysis scenarios. Collectively, under the four scenarios, the proposed Project would result in significant impacts to one City intersection, one City road segment, one County intersection, and two County road segment.

2.9.5.1 Existing Plus Project Phase I

Impact Number	Description of Project's Effect	Significance of Impact
TR-1	Otay Lakes Road, between Wueste Rd and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed Phase I project trips would comprise 73.8% (more than 5%) of the total segment volume, and would also add 8,230 ADT (more than 800 ADT) to this roadway segment.	Potentially significant project-specific[19] impact
TR-2	Otay Lakes Road, between the City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 (LOS E, County) – Proposed project would add more than 200 ADT to this failing 2-lane roadway segment.	Potentially significant direct impact
TR-3	Otay Lakes Road, between Project Driveway #1/Intersection #42 and Driveway #2 (LOS E, County) – Proposed project would add more than 200 ADT to this failing 2-lane roadway segment.	Potentially significant direct impact

2.9.5.2 Existing Plus Project Buildout

Impact Number	Description of Project's Effect	Significance of Impact
TR-4	The unsignalized Otay Lakes Road/Wueste Road intersection (LOS E, City of Chula Vista) - With the addition of Project traffic, this intersection (#20) would operate at unacceptable LOS E during the PM peak hour and the buildout Project traffic would comprise more than 5 percent of the total entering volumes.	Potentially significant project-specific impact
TR-5	Otay Lakes Road, between Lake Crest Dr and Wueste Rd (LOS F, City of CV) – Proposed buildout project trips would comprise 86.0% (more than 5%) of the total segment volume, and would also add 16,310 ADT (more than 800 ADT) to this roadway segment. Additionally, the intersection of Otay Lakes	Potentially significant project-specific impact

[19] For purposes of comparison, a "project-specific" impact in the City of Chula Vista is comparable to a "direct" impact as defined by the County of San Diego.

Impact Number	Description of Project's Effect	Significance of Impact
	Road / Wueste Road is projected to operate at unacceptable LOS E during the PM peak hour.	
TR-6	Otay Lakes Road, between Wueste Rd and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed project trips would comprise 87.0% (more than 5%) of the total segment volume, and would also add 19,540 ADT (more than 800 ADT) to this roadway segment. Additionally, the intersection of Otay Lakes Road / Wueste Road is projected to operate at unacceptable LOS E during the PM peak hour.	Potentially significant project-specific impact

2.9.5.3 Cumulative Year (2025)

Impact Number	Description of Project's Effect	Significance of Impact
TR-7	Otay Lakes Road / Wueste Road (City of CV) - This intersection (#20) would operate at unacceptable LOS F during both the AM and PM peak hours with the addition of the project traffic because the Project traffic would comprise more than 5 percent of the total entering volumes.	Potentially significant project-specific impact
TR-8	Otay Lakes Road / SR-94 (County) - This intersection (#21) would operate at unacceptable LOS E and F during the AM and PM peak hours, respectively.	Potentially significant cumulative impact
TR-9	Otay Lakes Road, between Lake Crest Dr and Wueste Rd (LOS F, City of CV) – Proposed buildout project trips would comprise 74.7% (more than 5%) of the total segment volume, and would add 15,810 ADT (more than 800 ADT). Additionally, the intersection Otay Lake Road / Wueste Road is projected to operate at unacceptable LOS F during the peak hours.	Potentially significant project-specific impact
TR-10	Otay Lakes Road, between Wueste Road and the City of Chula Vista/County boundary (LOS F, City of CV) – Proposed buildout	Potentially significant project-specific impact

Impact Number	Description of Project's Effect	Significance of Impact
	project trips would comprise 76.5% (more than 5%) of the total segment volume, and would add 19,540 ADT (more than 800 ADT). Additionally, the intersection of Otay Lake Road / Wueste Road is projected to operate at unacceptable LOS F during the peak hours.	
TR-11	Otay Lakes Road, between City of Chula Vista/County boundary and Project Driveway #1/Intersection #42 (LOS F, County) – Proposed buildout project would add more than 200 ADT to this failing 2-lane roadway segment.	Potentially significant, cumulative impact
TR-12	Otay Lakes Road, between Project Driveway #1/Intersection #42 and Driveway #2 (LOS F, County) – Proposed buildout project would add more than 200 ADT to this failing 2-lane roadway segment.	Potentially significant cumulative impact

2.9.5.4 Year 2030 Plus Project Buildout

The proposed Project would not result in significant impacts to any City, County or Caltrans facilities.

2.9.6 Mitigation

The following mitigation measures are proposed to reduce the significant Project impacts identified under each of the four analysis scenarios to a less-than-significant level. Because similar mitigation is proposed under the varying scenarios, it is not necessary to implement each/all of the measures identified below in order to mitigate the Project's significant impacts. Specifically, the mitigation measures proposed under the Existing plus Project Phase I scenario (mitigation measures M-TR-1 through M-TR-3) and two of the measures proposed under the Existing Plus Project Buildout scenario (mitigation measures M-TR-4 & M-TR-5) are substantively equivalent to five of the mitigation measures proposed under the Cumulative Year (2025) scenario (mitigation measures M-TR-7, and M-TR-9 through M-TR-12). Therefore, implementation of mitigation measures M-TR-1 through M-TR-5 would reduce the identified significant impacts such that it would not be necessary to also implement mitigation measures M-TR-6, M-TR-7, and M-TR-9 through M-TR-12.

2.9.6.1 Existing Plus Project Phase I

M-TR-1 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be

constructed, the widening of Otay Lakes Road between Wueste Road and the City/County Boundary from two lanes to four lanes (4-Lane Major with Raised Median), such that the improvements are operational prior to construction of the 728th Equivalent Dwelling Unit (EDU). A preliminary design of this mitigation measure is shown in **Figure 2.9-32**.~~issuance of the 728th building permit.~~

M-TR-2 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the County of San Diego to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between the City/County Boundary and Project Driveway #1/Intersection #42 from two lanes to four lanes (4.2A Boulevard with Raised Median) such that the improvements are operational prior to construction of the 896th EDU.~~issuance of the 896th building permit.~~

M-TR-3 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the County of San Diego to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between Project Driveway #1/Intersection #42 and Driveway #2 from two lanes to four lanes (4.2A Boulevard with Raised Median) such that the improvements are operational prior to construction of the 896th EDU.~~issuance of the 896th building permit.~~

The improvements to Otay Lakes Road identified in mitigation measure M-TR-1 are consistent with the City of Chula Vista's Circulation Element. The Circulation Plan identifies the segment of Otay Lakes Road between Wueste Road and the City/County Boundary as a 6 Lane Prime road. Widening the segment from the current two-lane configuration to four lanes, as recommended by the mitigation measure, would not conflict with the City's long-range road widening plans (six lanes) because the mitigation improvements (widen from two to four lanes) do not foreclose or conflict with the City's ultimate build-out plans or programs.

If implemented, the mitigation improvements would fully mitigate the Project's Project-Specific (Direct) impacts to the segment of Otay Lakes Road between Lake Crest Drive and Wueste Road. However, because the necessary improvements would be constructed within the City of Chula Vista and, therefore, are outside of the County's jurisdiction and control, the County cannot assure that the City will permit implementation of the improvements. Therefore, although mitigation in the form of road improvements has been identified to reduce the corresponding impacts to less than significant, and although the Project applicant would implement the improvements consistent with the mitigation requirements, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Lake Crest Drive and Wueste Road are considered significant and unavoidable until such time as the City concurs with the mitigation.

2.9.6.2 Existing Plus Project Buildout

M-TR-4 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, a traffic signal at the intersection of Otay Lakes Road and Wueste Road such that the improvements are operational prior to the construction of the 1,500th EDU.~~1,500th building permit.~~

M-TR-5 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between Lake Crest Drive and Wueste Road from two lanes to four lanes (4-Lane Major with Raised Median) such that the improvements are operational prior to construction of the 910th EDU.~~issuance of the 910th building permit.~~

M-TR-6 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between Wueste Road and the City/County Boundary from two lanes to four lanes (4-Lane Major with Raised Median) such that the improvements are operational prior to construction of the 728th EDU.~~issuance of the 728th building permit.~~

The improvements to Otay Lakes Road and the Otay Lakes Road / Wueste Road intersection identified in mitigation measure M-TR-4, 5 and 6 are consistent with both the City of Chula Vista's Circulation Plan and the City's Transportation Development Impact Fee ("TDIF") program. The Circulation Plan identifies the segment of Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County Boundary as a 6 Lane Prime road, and the widening of the segment between Lake Crest Drive and Wueste to a six-lane Prime is an improvement identified in the City's TDIF program. Widening the segment from the current two-lane configuration to four lanes, as recommended by the mitigation measure, would not conflict with the City's long-range road widening plans (six lanes) because the mitigation improvements (widen from two to four lanes) do not foreclose or conflict with the City's ultimate build-out plans or programs.

If implemented, the mitigation improvements would fully mitigate the Project's Project-Specific (Direct) impacts to the segment of Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary. However, because the necessary improvements would be constructed within the City of Chula Vista and, therefore, are outside of the County's jurisdiction and control, the County cannot assure that the City will permit implementation of the improvements. Therefore, although mitigation in the form of road improvements has been identified to reduce the corresponding impacts to less than significant, and although the Project applicant would implement the improvements consistent with the mitigation requirements, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary are considered significant and unavoidable until such time as the City concurs with the mitigation.

2.9.6.3 Cumulative Year (2025)

M-TR-7 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, a traffic signal at the intersection of Otay Lakes Road and Wueste Road such that the improvements are operational prior to the construction of the 1,234th EDU.~~1,500th building permit.~~

M-TR-8 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with Caltrans to install, cause to be installed, or make a fair-share payment towards an approved plan or program for the signalization of the intersection of Otay Lakes Road and SR-94 such that the traffic signal is operational consistent with Caltrans requirements.

The necessary improvement identified by M-TR-8 (signalization of the intersection of Otay Lakes Road / SR-94) would be located within Caltrans right-of-way as a Caltrans facility and, therefore, implementation of the improvement is outside the County's jurisdiction and control. As such, the County cannot guarantee implementation of the improvement. In addition, Caltrans does not have a plan in place to install the necessary signal, nor does it have a funding program in place into which the project applicant could pay a fair-share towards the cost of installing the improvements. Therefore, mitigation is infeasible and the impacts would remain significant and unavoidable.

M-TR-9 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between Lake Crest Drive and Wueste Road and the City/County Boundary from two lanes to four lanes (4-Lane Major with Raised Median), such that the improvements are operational prior to construction of the 384th EDU.~~issuance of the 910th building permit.~~

M-TR-10 Prior to recordation of the first final map, the Project applicant shall enter into an agreement with the City of Chula Vista to secure and construct, or cause to be constructed, the widening of Otay Lakes Road between Wueste Road and the City/County Boundary from two lanes to four lanes (4-Lane Major with Raised Median), such that the improvements are operational prior to construction of the 384th EDU.~~issuance of the 728th building permit.~~

M-TR-11 Otay Lakes Road, between City/County Boundary and Project Driveway #1/Intersection #42 (County) - this roadway segment is included in the list of facilities included in the County's TIF Program and is classified as a Major Road (4.1B) in the County of San Diego General Plan Mobility Element. The project applicant proposes to change this roadway segment classification to a Boulevard (4.2A). Accordingly, the project applicant would be responsible for participating in an update to the TIF Program to reflect the change in classification. Subsequently, the project applicant would be responsible for complying with the updated TIF Program to mitigate for cumulative impacts.

M-TR-12 Otay Lakes Road, between Project Driveway #1/Intersection #42 and Project Driveway #2/Intersection #43 (County) - this roadway segment is included in the list of facilities included in the County's TIF Program and is classified as a Major Road (4.1B) in the County of San Diego General Plan Mobility Element. The project applicant proposes to change this roadway segment classification to a Boulevard (4.2A). Accordingly, the project applicant would be responsible for participating in an update to the TIF Program to reflect the change in classification.

Subsequently, the project applicant would be responsible for complying with the updated TIF Program to mitigate for cumulative impacts.

As described in M-TR-2 and M-TR-3, the project includes mitigation to improve Otay Lakes Road in the County. This facility is identified by the TIF Program as a TIF eligible facility. As such, pursuant to the County TIF Program, the applicants would be entitled to credit against payment of the TIF, or for reimbursement through the TIF Program, for that work performed on Otay Lakes Road that is eligible for a TIF credit.

The improvements to Otay Lakes Road and the Otay Lakes Road / Wueste Road intersection identified in mitigation measure M-TR-7, 9 and 10 are consistent with both the City of Chula Vista's Circulation Plan and the City's Transportation Development Impact Fee ("TDIF") program. The Circulation Plan identifies the segment of Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary as a 6 Lane Prime road, and the widening of the segment between Lake Crest Drive and Wueste Road to a six-lane Prime is an improvement identified in the City's TDIF program. Widening the segment from the current two-lane configuration to four lanes, as recommended by the mitigation measure, would not conflict with the City's long-range road widening plans (six lanes) because the mitigation improvements (widen from two to four lanes) do not foreclose or conflict with the City's ultimate build-out plans or programs.

If implemented, the mitigation improvements would fully mitigate both the Project's Project-Specific (Direct) and cumulative impacts to the segment of Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary. However, because the necessary improvements would be constructed within the City of Chula Vista and, therefore, are outside of the County's jurisdiction and control, the County cannot assure that the City will permit implementation of the improvements. Therefore, although mitigation in the form of road improvements has been identified to reduce the corresponding impacts to less than significant, and although the Project applicant would implement the improvements consistent with the mitigation requirements, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary are considered significant and unavoidable until such time as the City concurs with the mitigation.

2.9.6.4 Year 2030 Plus Project Buildout

No mitigation measure required.

2.9.7 Conclusion

2.9.7.1 Existing Plus Project (Phase I)

With implementation of the widening of Otay Lakes Road between Wueste Road and the City of Chula Vista/County boundary from two lanes to four lanes under M-TR-1, the impacted roadway segment would operate at acceptable LOS A. Similarly, within the County, with implementation of the widening of Otay Lakes Road between City of Chula Vista/County boundary and Project Driveway #1/Intersection #42, and between Project Driveway

#1/Intersection #42 and Driveway #2 from two lanes to four lanes under M-TR-2 and M-TR-3, both impacted roadway segments would operate at acceptable LOS A.

However, as stated above, since the mitigation measure required to mitigate TR-1 is outside of the County's jurisdiction, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Wueste Road and the City of Chula Vista/County boundary are considered significant and unavoidable until such time as the City concurs with the mitigation. ~~Once~~However, a Project Development and Cooperation A~~a~~greement with the City of Chula Vista ~~is~~was approved on December 19, 2019, and therefore impacts will be reduced to a **less than significant** level. As to the segment of Otay Lakes Road located within the County's jurisdiction (the segment between the City of Chula Vista/County boundary and Project Driveway #2/Intersection #43, implementation of mitigation measures TR-2 and TR-3 would reduce the identified significant impacts to **less than significant.**

2.9.7.2 Existing Plus Project (Buildout)

Table 2.9-61 illustrates the LOS analysis results for the signalized mitigated intersection of Otay Lakes Road / Wueste Road under Existing Plus Project (Buildout) conditions. Calculation worksheets are provided in the TIS (located in **Appendix C-12** to this EIR). As shown in **Table 2.9-61**, after implementation of the identified improvements, the impacted intersection would operate at acceptable LOS A during both the AM and PM peak hours.

With implementation of the widening of Otay Lakes Road between Lake Crest Drive and Wueste Road from two lanes to four lanes under M-TR-5, the impacted roadway segment would operate at acceptable LOS B. Similarly, with implementation of the widening of Otay Lakes Road between Wueste Road and the City of Chula Vista/County boundary, from two lanes to four lanes under M-TR-6, the impacted roadway segments would operate at acceptable LOS B.

However, as stated above, since the mitigation measures required to mitigate impacts TR-4 through TR-6 are outside of the County's jurisdiction, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary are considered significant and unavoidable until such time as the City concurs with the mitigation. -However, a Project Development and Cooperation Agreement with the City of Chula Vista was approved on December 19, 2019, therefore impacts will be reduced to a **less than significant** level.

2.9.7.3 Cumulative Year (2025)

Table 2.9-62 illustrates the LOS analysis results for the mitigated intersections of Otay Lakes Road / Wueste Road and Otay Lakes Road / SR-94 under Cumulative Year (2025) conditions. Calculation worksheets are provided in the TIS (located in **Appendix C-12** to this EIR). As shown in **Table 2.9-62**, with implementation of the identified improvements identified under M-TR-7 and M-TR-8, the impacted intersections would operate at acceptable LOS A and B during the AM and PM peak-hour conditions, respectively.

With implementation of the widening of Otay Lakes Road between Lake Crest Drive and Wueste Road from two lanes to four lanes under M-TR-9, and Otay Lakes Road between Wueste Road

and City of Chula Vista/County boundary from two lanes to four lanes under M-TR-10, the impacted roadway segments would operate at acceptable LOS B and LOS C, respectively.

However, as stated above, since the mitigation measures required to mitigate impacts TR-7, 9 and 10 are outside of the County's jurisdiction, for purposes of CEQA and this Draft EIR, the impacts to Otay Lakes Road between Lake Crest Drive and the City of Chula Vista/County boundary are considered **significant and unavoidable** until such time as the City concurs with the mitigation**.** Similarly, since the mitigation measure required to mitigate impact TR-8 is outside of the County's jurisdiction, and because Caltrans does not have a plan or program in place to install the necessary improvements, impact TR-8 would remain **significant and unavoidable**. However, a Project Development and Cooperation Agreement with the City of Chula Vista was approved on December 19, 2019, and once an agreement with Caltrans is reached, impacts will be reduced to a **less than significant** level.

Relative to Impacts TR-11 and TR-12, the County TIF program provides a mechanism for mitigating the impacts created by future growth within the unincorporated area. The TIF is a fee program designed to facilitate compliance with the CEQA mandate that development projects mitigate their indirect, cumulative traffic impacts. The County TIF program fee requirement applies to all new development resulting in new/added traffic. The primary purpose of the TIF is twofold: (1) to fund the construction of identified roadway facilities needed to reduce, or mitigate, projected cumulative traffic impacts resulting from future development within the County; and (2) to allocate the costs of these roadway facilities proportionally among future developing properties based upon their individual cumulative traffic impacts.

TIF fees are deposited into local Community Planning Area accounts, regional accounts, and regional freeway ramp accounts. TIF funds are only used to pay for improvements to roadway facilities identified for inclusion in the TIF program, which includes both County roads and Caltrans highway facilities. TIF funds collected for a specific local or regional area must be spent in the same area. By ensuring TIF funds are spent for the specific roadway improvements identified in the TIF program, the CEQA mitigation requirement is satisfied, and the Mitigation Fee Act nexus is met.

As part of the TIF program process, the transportation infrastructure needs are characterized as existing deficiencies, direct impacts of future development, or indirect (cumulative) impacts of future development. Existing roadway deficiencies are the responsibility of existing developed land uses and government agencies and cannot be addressed using impact fees. The TIF program is not intended to mitigate direct impacts which will continue to be the responsibility of individual development projects. The TIF program, therefore, is designed to address only the cumulative impacts associated with new growth.

Based on the individual area and regional TIF accounts and the incorporation of projected build-out traffic conditions into the adopted TIF Report, participation in the TIF Program is adequate mitigation for cumulative impacts on County roadways. The segments identified are within the County's jurisdiction are included in this TIF Program. Therefore, participation in the TIF Program constitutes adequate mitigation of the cumulative traffic impacts that would result from the project

and with payment of the required fee, cumulative traffic impacts would be reduced to **less than significant**.

2.9.7.4 Year 2030 Plus Project Buildout

The Project does not cause a significant impact to the Year 2030 Plus Project Buildout conditions, therefore no mitigation measure was needed.

Table 2.9-1
Level of Service Definitions

LOS	Congestion/Delay	Traffic Flow Quality
A	None	Low volumes, high speeds; Speed not restricted by other vehicles; All signal cycles clear with no vehicles waiting through more than one signal.
B	None	Operating speeds beginning to be affected by other traffic; Less than 10% of signal cycles have vehicles waiting through more than one signal cycle.
C	None to minimal	Operating speed and maneuverability closely controlled by other traffic; Between 10% and 30% of signal cycles have vehicles waiting through more than one signal cycle.
D	Minimal to substantial	Tolerable operating speeds; Between 30% and 70% of signal cycles have vehicles waiting through more than one signal cycle.
E	Significant	Capacity; Maximum traffic volume an intersection can accommodate; 70% to 100% of signal cycles have vehicles waiting through more than one signal cycle.
F	Considerable	Long queues of traffic; unstable flows; travel speeds can drop to zero.

Source: Highway Capacity Manual 2000

Table 2.9-2
Signalized Intersection Level of Service
Highway Capacity Manual Operational Analysis Method

Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	*LOS A* describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	*LOS B* describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	*LOS C* describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	*LOS D* describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	*LOS E* is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	*LOS F* describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: 2000 Highway Capacity Manual, TRB Special Report 2009

Table 2.9-3
Level of Service Criteria For
Stop Controlled Unsignalized Intersections

Average Control Delay (sec/veh)	Level of Service (LOS)
$\leq$10	A
>10 and $\leq$15	B
>15 and $\leq$25	C
>25 and $\leq$35	D
>35 and $\leq$50	E
>50	F

Source: 2000 Highway Capacity Manual, TRB Special Report 2009

Table 2.9-4
County of San Diego
Roadway Segment Daily Capacity and Level of Service Standards

No.	Travel Lanes	Design Speed	Road Classification	Level of Service (in ADT)				
				A	B	C	D	E
6.1	6	65 mph	Expressway	36,000	54,000	70,000	86,000	108,000
6.2	6	65 mph	Prime Arterial	22,200	37,000	44,600	50,000	57,000
4.1A	4	55 mph	Major Road with Raised Median	14,800	24,700	29,600	33,400	37,000
4.1B			Major Road with Intermittent Turn Lanes	13,700	22,800	27,400	30,800	34,200
4.2A	4	40 mph	Boulevard with Raised Median	18,000	21,000	24,000	27,000	30,000
4.2B			Boulevard with Intermittent Turn Lane	16,800	19,600	22,500	25,000	28,000
2.1A	2	45 mph	Community Collector with Raised Median	10,000	11,700	13,400	15,000	19,000
2.1B			Community Collector w/ Continuous Turn Lane	3,000	6,000	9,500	13,500	19,000
2.1C			Community Collector w/ Intermittent Turn Lane	3,000	6,000	9,500	13,500	19,000
2.1D			Community Collector with Improvement Options	3,000	6,000	9,500	13,500	19,000
2.1E			Community Collector	1,900	4,100	7,100	10,900	16,200
2.2A	2	40 mph	Light Collector with Raised Median	3,000	6,000	9,500	13,500	19,000
2.2B			Light Collector with Continuous Turn Lane	3,000	6,000	9,500	13,500	19,000
2.2C			Light Collector with Intermittent Turn Lanes	3,000	6,000	9,500	13,500	19,000
2.2D			Light Collector with Improvement Options	3,000	6,000	9,500	13,500	19,000
2.2E			Light Collector	1,900	4,100	7,100	10,900	16,200
2.2F			Light Collector with Reduced Shoulder	5,800	6,800	7,800	8,700	9,700
2.3A	2	35 mph	Minor Collector with Raised Median	3,000	6,000	7,000	8,000	9,000
2.3B			Minor Collector with Intermittent Turn Lane	3,000	6,000	7,000	8,000	9,000
2.3C			Minor Collector	1,900	4,100	6,000	7,000	8,000

Source: County of San Diego Public Road Standard (March 2012)

Table 2.9-5
City of Chula Vista
Roadway Segment Daily Capacity and Level of Service Standards

Circulation Element Roadway Classification	Level of Service				
	A	B	C	D	E
Expressway (7- or 8-lane)	52,500	61,300	**70,000**	78,800	87,500
Prime Arterial (6-lane)	40,800	47,600	54,400	**61,200**	68,000
Major Street (6-lane)	37,500	43,800	**50,000**	56,300	62,500
Major Street (4-lane)	30,000	35,000	**40,000**	45,000	50,000
Town Center Arterial	22,500	26,300	**30,000**	33,800	37,500
Class I Collector (4-lane)	37,500	43,800	**50,000**	56,300	62,500
Class II Collector (3-lane)	22,500	26,300	**30,000**	33,800	37,500
Class III Collector (2-lane)	16,500	19,300	**22,000**	24,800	27,500

Source: City of Chula Vista
Note: Bold numbers indicate the ADT thresholds for acceptable LOS.

Table 2.9-6
Freeway and State Highway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
"A"	<0.41	None	Free flow.
"B"	0.42-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

Source: SANTEC/ITE Guidelines for TIS in the San Diego Region
v/c = vehicles to capacity ratio

Table 2.9-7
County of San Diego
Two-Lane Highway Level of Service Thresholds
With Signalized Intersection Spacing Over 1 Mile

LOS	LOS Criteria
LOS E	>16,200 ADT
LOS F	>22,900 ADT

Source: County of San Diego
Note: Where detailed data are available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual.
ADT = average daily trips

Table 2.9-8
Caltrans District 11
Two-Lane State Highway Level of Service Definitions

LOS	Average Travel Speed (mph)
"A"	>55
"B"	>50 – 55
"C"	>45 – 50
"D"	>40 – 45
"E"	≤40
"F"	LOS F applies whenever the flow rate exceeds the segment capacity.

Source: Highway Capacity Manual 2000

Table 2.9-9
Traffic Flow Conditions at Ramp Intersections
at Various Levels of Operation

ILV/hr	**Description**
<1200: (Under Capacity)	Stable flow with slight, but acceptable delay. Occasional signal loading may develop. Free midblock operations.
1200-1500: (At Capacity)	Unstable flow with considerable delays possible. Some vehicles occasionally wait two or more cycles to pass through the intersection. Continuous backup occurs on some approaches.
>1500: (Over Capacity)	Stop-and-go operation with severe delay and heavy congestion.[1] Traffic volume is limited by maximum discharges rates of each phase. Continuous backup in varying degrees occurs on all approaches. Where downstream capacity is restrictive, mainline congestion can impede orderly discharge through the intersection.

Source: Caltrans Highway Design Manual, Topic 406

[1] The amount of congestion depends on how much the ILV/hr value exceeds 1500. Observed flow rates will normally not exceed 1500 ILV/hr, and the excess will be delayed in a queue.

ILV/hr = Intersecting Lane Volume per hour

Table 2.9-10
Otay Ranch Resort Village Project
Project Trip Generation

Land Use	Units	Trip Rate	Daily Trips	AM Peak Hour		PM Peak Hour	
				%	Trips	%	Trips
Phase I - Western Development Area							
Single-Family	925 DU	10 / Unit	9,250	8	740 (222-in / 518-out)	10	925 (647-in / 278-out)
Phase I Total			**9,250**		**740 (222-in / 518-out)**		**925 (647-in / 278-out)**
Buildout - Western Development Area							
Single-Family	1,408 DU	10 / Unit	14,080	8	1,126 (338-in / 788-out)	10	1,408 (986-in / 422-out)
Multi-Family	57 DU	8 / Unit	456	8	36 (7-in / 29-out)	10	46 (32-in / 14-out)
Park	21.8 Acres	5 / Acre	109	4	4 (2-in / 2-out)	8	9 (4-in / 5-out)
Public Safety	2.1 Acres	229 / Acre	481	10	48 (24-in / 24-out)	8	38 (19-in / 19-out)
Elementary School	10.0 Acres	90 / Acre	900	32	288 (173-in / 115-out)	9	81 (32-in / 49-out)
Commercial	20,000 SF	120 / 1,000 SF	2,400	4	96 (58-in / 38-out)	10	240 (120-in / 120-out)
Subtotal			*18,426*		*1,598 (601-in / 996-out)*		*1,822 (1,193-in / 629-out)*
Buildout - Central Development Area							
Single-Family	263 DU	10 / Unit	2,630	8	210 (63-in / 147-out)	10	263 (184-in / 79-out)
Park	2.9 Acres	5 / Acre	15	4	1 (0-in / 1-out)	8	1 (1-in / 0-out)
Subtotal			*2,645*		*211 (63-in / 148-out)*		*264 (185-in / 79-out)*
Buildout - Eastern Development Area							
Single-Family	210 DU	10 / Unit	2,100	8	168 (50-in / 118-out)	10	210 (147-in / 63-out)
Park	3.9 Acres	5 / Acre	20	4	1 (1-in / 0-out)	8	2 (1-in / 1-out)
Resort	200 Rooms	8 / Occupied Room	1,600	5	80 (48-in / 32-in)	7	112 (45-in / 67-in)
Commercial	20,000 SF	120 / 1,000 SF	2,400	4	96 (58-in / 38-out)	10	240 (120-in / 120-out)
Subtotal			*6,120*		*345 (157-in / 188-out)*		*564 (313-in / 251-out)*
Buildout Total			**27,191**		**2,154 (821-in / 1,332-out)**		**2,650 (1,691-in / 959-out)**

Source: SANDAG Trip Generation Manual (November 2010), Chen Ryan Associates, (August 2014)

Table 2.9-11
Otay Ranch Resort Village Project
Internal and External Project Trips

Land Use	Quantity	Total Trips			Internal Trips				External Trips			
		Daily	AM Peak Hour	PM Peak Hour	% Internal	Daily	AM Peak Hour	PM Peak Hour	% External	Daily	AM Peak Hour	PM Peak Hour
Phase I												
Single Family	925 DU	9,250	740 (222-in / 518-out)	925 (647-in / 278-out)	0%	0	0	0	100%	9,250	740 (222-in / 518-out)	925 (647-in / 278-out)
Phase I Total		**9,250**	**740 (222-in / 518-out)**	**925 (647-in / 278-out)**		**0**	**0**	**0**		**9,250**	**740 (222-in / 518-out)**	**925 (647-in / 278-out)**
Buildout												
Single Family	1,881 DU	18,810	1,505 (451-in / 1,054-out)	1,881 (1,317-in / 564-out)	10%	1,881	150 (45-in / 105-out)	188 (132-in / 56-out)	90%	16,929	1,354 (406-in / 948-out)	1,693 (1,185-in / 508-out)
Multi-Family	57 DU	456	36 (7-in / 29-out)	46 (32-in / 14-out)	10%	46	4 (1-in / 3-out)	5 (3-in / 2-out)	90%	410	33 (7-in / 26-out)	41 (29-in / 12-out)
Park	28.6 Acres	144	6 (3-in / 3-out)	12 (6-in / 6-out)	70%	100	4 (2-in / 2-out)	8 (4-in / 4-out)	30%	44	2 (1-in / 1-out)	4 (2-in / 2-out)
Public Safety	2.1 Acres	481	48 (24-in / 24-out)	38 (19-in / 19-out)	10%	48	4 (2-in / 2-out)	4 (2-in / 2-out)	90%	433	44 (22-in / 22-out)	34 (17-in / 17-out)
Elementary School	10.0 Acres	900	288 (173-in / 115-out)	81 (32-in / 49-out)	80%	720	230 (138-in / 92-out)	65 (26-in / 39-out)	20%	180	58 (35-in / 23-out)	16 (6-in / 10-out)

Table 2.9-11
Otay Ranch Resort Village Project
Internal and External Project Trips

Land Use	Quantity	Total Trips			Internal Trips				External Trips			
		Daily	AM Peak Hour	PM Peak Hour	% Internal	Daily	AM Peak Hour	PM Peak Hour	% External	Daily	AM Peak Hour	PM Peak Hour
Commercial	40,000 SF	4,800	192 (116-in / 76-out)	480 (240-in / 240-out)	50%	2,400	96 (58-in / 38-out)	240 (120-in / 120-out)	50%	2,400	96 (58-in / 38-out)	240 (120-in / 120-out)
Resort	200 Rooms	1,600	80 (48-in / 32-out)	112 (45-in / 67-out)	5%	80	4 (2-in / 2-out)	6 (2-in / 4-out)	95%	1,520	76 (46-in / 30-out)	106 (43-in / 63-out)
Grand Total		**27,191**	**2,154 (821-in / 1,332-out)**	**2,650 (1,691-in / 959-out)**		**5,275**	**492 (248-in / 244-out)**	**516 (289-in / 227-out)**		**21,916**	**1,663 (575-in / 1,088-out)**	**2,134 (1,402-in / 732-out)**

Source: SANDAG Trip Generation Manual, Chen Ryan Associates (March 2015)

Table 2.9-12
Peak Hour Intersection Level of Service Results
Existing Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. East H Street / Otay Lakes Road	34.0	C	28.5	C
2. Proctor Valley Road / Hunte Parkway	13.5	B	12.0	B
3. Telegraph Canyon Road / I-805 SB Ramps	15.7	B	40.9	D
4. Telegraph Canyon Road / I-805 NB Ramps	27.8	C	16.7	B
5. Telegraph Canyon Road / Oleander Avenue	15.5	B	16.9	B
6. Telegraph Canyon Road / Paseo Del Rey	11.9	B	27.4	C
7. Telegraph Canyon Road / Medical Center Drive	11.8	B	13.1	B
8. Telegraph Canyon Road / Paseo Ladera	33.7	C	25.3	C
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	32.2	C	23.7	C
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	27.1	C	26.4	C
11. Otay Lakes Road / Rutgers Avenue	11.8	B	10.2	B
12. Otay Lakes Road / SR-125 SB Ramps	5.9	A	8.8	A
13. Otay Lakes Road / SR-125 NB Ramps	2.9	A	3.5	A
14. Otay Lakes Road / Eastlake Parkway	26.7	C	27.9	C
15. Otay Lakes Road / Lane Avenue	12.4	B	14.6	B
16. Otay Lakes Road / Fenton Street	8.3	A	15.7	B
17. Otay Lakes Road / Hunte Parkway	23.7	C	23.4	C
18. Otay Lakes Road / Woods Drive	14.3	B	13.4	B
19. Otay Lakes Road / Lake Crest Drive	13.4	B	13.9	B
20. Otay Lakes Road / Wueste Road*	9.2	A	9.1	A
21. Otay Lakes Road / SR-94 (County)*	10.8	B	12.7	B
22. Olympic Parkway / East Palomar Street	26.3	C	28.2	C
23. Olympic Parkway / SR-125 SB Ramps	4.6	A	7.7	A
24. Olympic Parkway / SR-125 NB Ramps	1.7	A	3.6	A
25. Olympic Parkway / Eastlake Parkway	22.0	C	22.1	C
26. Olympic Parkway / Hunte Parkway	19.6	B	20.0	C
27. Olympic Parkway / Olympic Vista Road	18.7	B	19.0	B

Table 2.9-12
Peak Hour Intersection Level of Service Results
Existing Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
28. Olympic Parkway / Wueste Road	4.8	A	9.6	A
29. Lake Crest Drive / Wueste Road	12.3	B	7.7	A
30. Main Street / SR-125 SB Ramps	Does Not Exist			
31. Main Street / SR-125 NB Ramps	Does Not Exist			
32. Main Street / Eastlake Parkway	Does Not Exist			
33. Otay Valley Road / SR-125 SB Ramps	Does Not Exist			
34. Otay Valley Road / SR-125 NB Ramps	Does Not Exist			
35. Otay Mesa Road / La Media Road (SD)	44.3	D	37.8	D
36. Otay Mesa Road / SR-125 SB Ramps (SD)	9.7	A	8.5	A
37. Otay Mesa Road / SR-125 NB Ramps (SD)	2.3	A	6.3	A
38. Otay Mesa Road / Ellis Road (County)	Does Not Exist			
39. SR-94 / Melody Road (County)	13.3	B	17.7	C
40. SR-94 / Maxfield Road (County)*	12.9	B	20.4	C
41. SR-94 / Jefferson Road (County)	12.9	B	12.2	B
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	Does Not Exist			
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	Does Not Exist			
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	Does Not Exist			

Source: Chen Ryan Associates (March 2015)
Note: *For one or two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Table 2.9-13
Roadway Segment Level of Service Results
Existing Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	Average Daily Traffic (ADT)	LOS Threshold (LOS C)	Level of Service (LOS)
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln w/ RM	14,155	50,000	A
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln w/ RM	55,247	70,000	B
	I-805 NB Ramps to Oleander Ave		59,615		B
	Oleander Ave to Medical Center Dr	6-Ln w/ RM	55,776	50,000	**D**
	Medical Center Dr to Paseo Ladera		47,486		C
	Paseo Ladera to Paseo Ranchero/ Heritage Rd		44,404		C
	Paseo Ranchero/Heritage Rd to La Media Rd		35,495		A
Otay Lakes Road	East H St to Telegraph Canyon Rd/Otay Lakes Road	4-Ln w/ RM	28,912	30,000	C
	La Media Rd to Rutgers Ave	6-Ln w/ RM	42,142	50,000	B
	Rutgers Ave to SR-125 SB Ramps		41,931		B
	SR-125 SB Ramps to SR-125 NB Ramps		46,406		C
	SR-125 NB Ramps to Eastlake Pkwy	7-Ln w/ RM	40,291	70,000	A
	Eastlake Pkwy to Lane Ave	6-Ln w/ RM	26,054	50,000	A
	Lane Ave to Fenton St		18,832		A
	Fenton St to Hunte Pkwy		18,627		A
	Hunte Pkwy to Woods Dr		9,672		A
	Woods Dr to Lake Crest Dr		7,546		A
	Lake Crest Dr to Wueste Rd	2-Ln	2,654	7,500	A
	Wueste Rd to City of Chula Vista/County Boundary		2,927		A
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln w/ RM	33,412	50,000	A
	E Palomar St to SR-125 SB Ramps		35,139		A
	SR-125 SB Ramps to SR-125 NB Ramps		38,154		B
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln w/ RM	43,506	70,000	A
	Eastlake Pkwy to Hunte Pkwy	6-Ln w/ RM	16,289	50,000	A
	Hunte Pkwy to Olympic Vista Rd	4-Ln w/ RM	9,936	30,000	A
	East of Olympic Vista Rd	4-Ln w/ RM	4,075	30,000	A
Lane Ave	Proctor Valley Rd to Otay Lakes Road	4-Ln w/TWLTL	10,804	22,000	A
Hunte Pkwy	Proctor Valley Rd to Otay Lakes Road	4-Ln w/ RM	6,269	30,000	A

Table 2.9-13
Roadway Segment Level of Service Results
Existing Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	Average Daily Traffic (ADT)	LOS Threshold (LOS C)	Level of Service (LOS)
	Otay Lakes Road to Clubhouse Dr		10,897		A
	Clubhouse Dr to Olympic Pkwy		8,154		A
Hunte Pkwy	Olympic Pkwy to Eastlake Pkwy	6-Ln w/ RM	2,015	50,000	A

Source: Chen Ryan Associates (March 2015)
Notes: Bold letter indicates unacceptable LOS D, E, or F.
RM = Raised Median
TWLTL = Two-Way Left-Turn Lane

Table 2.9-14
Roadway Segment Level of Service Results
Existing Conditions
(County of San Diego)

Roadway	Segment	Cross-Section	Average Daily Traffic (ADT)	LOS Threshold (LOS D)	Level of Service (LOS)
Otay Lakes Road	City of Chula Vista/County boundary to SR-94	2-Ln	2,927	10,900	B
Jefferson Rd	Lyons Valley Rd to SR-94	2-Ln	3,100	10,900	B
Proctor Valley Rd	SR-94 to Maxfield Rd	2-Ln	2,900	10,900	B
Maxfield Rd	Proctor Valley Rd to SR-94	2-Ln	400	10,900	A
Melody Rd	Proctor Valley Rd to SR-94	2-Ln	400	10,900	A
Honey Springs Rd	East of SR-94	2-Ln	1,600	10,900	A

Source: Chen Ryan Associates (March 2015)

Table 2.9-15
Freeway/State Highway Segment Level of Service Results
Existing Conditions

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	V/C	LOS
I-805	Bonita Road to East H Street	206,000	7.1%	14,605	0.52	5M*	0.95	7.0%	1,656	0.690	C
	East H Street to Telegraph Canyon Road	191,000	7.1%	13,542	0.52	5M*	0.95	7.0%	1,536	0.640	C
	Telegraph Canyon Road to Olympic Parkway	151,000	7.1%	10,706	0.52	4M+1Aux*	0.95	7.0%	1,351	0.563	B
	Olympic Parkway to Main Street	141,000	7.1%	9,997	0.52	4M+1Aux*	0.95	7.0%	1,264	0.527	B
SR-125	SR-54 to Mt. Miguel Road	17,500	7.0%	1,225	0.58	2M	0.95	10.3%	398	0.166	A
	Mt Miguel Road to Proctor Valley Road	16,300	7.0%	1,141	0.58	2M	0.95	10.3%	365	0.152	A
	Proctor Valley Road to Otay Lakes Road	12,600	7.0%	882	0.58	2M	0.95	10.3%	288	0.120	A
	Otay Lakes Road to Olympic Parkway	4,700	7.0%	329	0.58	2M	0.95	10.3%	111	0.046	A
	Olympic Parkway to Birch Road	4,300	7.0%	301	0.58	2M	0.95	10.3%	100	0.042	A
	Birch Road to Main Street	4,600	7.0%	322	0.58	2M	0.95	10.3%	100	0.042	A
	Main Street to Otay Valley Road	4,600	7.0%	322	0.58	2M	0.95	10.3%	100	0.042	A
	Otay Valley Road to Lone Star Road	4,600	7.0%	322	0.58	2M	0.95	10.3%	100	0.042	A
	Lone Star Road to Otay Mesa Road	4,600	7.0%	322	0.58	2M	0.95	10.3%	100	0.042	A
	Otay Mesa Road to SR-905	Does Not Exist									

Source: Chen Ryan Associates (March 2015)
Notes: *2 new HOV lanes have been constructed recently. However, freeway ADT information is not available for these HOV lanes. The existing conditions analysis is based on pre HOV freeway geometrics and traffic volumes. This should represent the worst case scenario.
M = Mainline.
Aux = Auxiliary Lane.

Table 2.9-16
Two-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Existing Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS
SR-94	Lyons Valley Road to Jefferson Road	16,200	10,776	D or better
	Jefferson Road to Maxfield Road		9,049	D or better
	Maxfield Road to Melody Road		8,024	D or better
	Melody Road to Otay Lakes Road		6,945	D or better
	South of Otay Lakes Road		6,964	D or better

Source: Chen Ryan Associates (March 2015)

Table 2.9-17
Two-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Existing Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	Speed (mph)	LOS
SR-94	Melody Road to Otay Lakes Road	6,945	8.6%	595	0.67	1	0.92	5.0%	456	49.0	C
	South of Otay Lakes Road	6,964	9.2%	644	0.67	1	0.96	5.0%	473	49.7	C

Source: Chen Ryan Associates (March 2015)

Table 2.9-18A
Ramp Intersection Capacity Analysis
Existing Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,381	*1200-1500: (At Capacity)*
	PM	1,681	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,383	*1200-1500: (At Capacity)*
	PM	1,193	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	893	*<1200: (Under Capacity)*
	PM	1,191	*<1200: (Under Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	842	*<1200: (Under Capacity)*
	PM	1,121	*<1200: (Under Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	728	*<1200: (Under Capacity)*
	PM	1,015	*<1200: (Under Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	652	*<1200: (Under Capacity)*
	PM	974	*<1200: (Under Capacity)*
SR-125 SB Ramps / Rock Mountain Road	AM	Does Not Exist	
	PM		
SR-125 NB Ramps / Rock Mountain Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Mesa Road	AM	563	*<1200: (Under Capacity)*
	PM	315	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	325	*<1200: (Under Capacity)*
	PM	623	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-18B
Ramp Metering Analysis
Existing Conditions

Location	Peak Hour	Demand[1] (veh/hr)	Meter Rate[2] (veh/hr)	Excess Demand[3] (veh/hr)	Delay[4] (min)	Queue[5] (ft)
I-805 NB On-Ramp @ Telegraph Canyon Road	AM	1,880	1,824	56	1.8	800

Notes:
1. Demand is the peak hour demand expected to use the on-ramp.
2. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
3. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4. Delay = (Excess Demand / Meter Rate) X 60 min/hr.
5. Queue (Per Ramp Lane) = (Excess Demand) X 29 ft/veh/# of non-HOV lanes.

Source: Chen Ryan Associates; August 2014

Table 2.9-19
Measures of Significant Project Impacts to Congestion on Intersections:
Allowable Increases on Congested Intersections

Level of Service	Signalized	Unsignalized
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Source: County of San Diego

Table 2.9-20
Measures of Significant Project Impacts to Congestion on Road Segments:
Allowable Increases on Congested Road Segments

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Source: County of San Diego

Table 2.9-21
Measures of Significant Project Impacts to Congestion:
Allowable Increases on Two-Lane Highways
With Signalized Intersection Spacing Over One Mile

LOS	LOS Criteria	Impact Significance Level
LOS E	> 16,200 ADT	> 325 ADT
LOS F	> 22,900 ADT	> 225 ADT

Source: County of San Diego

Table 2.9-22
Measures of Significant Project Impacts to Congestion:
Allowable Increases on Two-Lane Highways
With Signalized Intersection Spacing Under 1 Mile

LOS	LOS Criteria
LOS E	Intersection delay of 2 seconds
LOS F	Intersection delay of 1 second, or 5 peak hour trips on a critical movement

Source: County of San Diego
Notes:
1. A critical movement is one that is experiencing excessive queues.
2. By adding proposed project trips to all other trips from a list of projects, this same table is used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable Level of Service, when such traffic uses a significant amount of remaining road capacity.

Table 2.9-23
Measure of Significant Project Traffic Impacts

Level of Service (LOS) with Project	Allowable Change Due to Impact					
E & F (or ramp meter delays above 15 min.)	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min.)
	0.01	1	0.02	1	2	2

Source: SANTEC/ITE Guidelines for TIS in the San Diego Region

Table 2.9-24
Peak Hour Intersection Level of Service Results
Existing Plus Project (Phase I) Conditions

Intersection	Existing + Project (Phase I)				Existing		Impact Criteria by Jurisdiction			
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	Significant Impact?
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
1. East H Street / Otay Lakes Road	36.9	D	28.6	C	34.0 / 28.5	C / C		0.6% / 0.8%		No
2. Proctor Valley Road / Hunte Parkway	13.6	B	12.0	B	13.5 / 12.0	B / B		1.9% / 3.6%		No
3. Telegraph Canyon Road / I-805 SB Ramps	20.0	B	46.2	D	15.7 / 40.9	B / D	4.3 / 5.3	0.6% / 1.3%		No
4. Telegraph Canyon Road / I-805 NB Ramps	31.5	C	17.0	B	27.8 / 16.7	C / B	3.7 / 0.3	1.3% / 1.6%		No
5. Telegraph Canyon Road / Oleander Avenue	16.0	B	17.1	B	15.5 / 16.9	B / B		1.5% / 1.8%		No
6. Telegraph Canyon Road / Paseo Del Rey	14.6	B	27.4	C	11.9 / 27.4	B / C		1.7% / 2.0%		No
7. Telegraph Canyon Road / Medical Center Drive	11.9	B	13.4	B	11.8 / 13.1	B / B		1.7% / 2.1%		No
8. Telegraph Canyon Road / Paseo Ladera	34.3	C	25.8	C	33.7 / 25.3	C / C		2.0% / 2.8%		No
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	33.5	C	24.0	C	32.2 / 23.7	C / C		1.9% / 2.7%		No
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	27.6	C	27.6	C	27.1 / 26.4	C / C		2.6% / 3.2%		No

Table 2.9-24
Peak Hour Intersection Level of Service Results
Existing Plus Project (Phase I) Conditions

Intersection	Existing + Project (Phase I)				Existing		Impact Criteria by Jurisdiction			
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	Significant Impact?
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
11. Otay Lakes Road / Rutgers Avenue	11.8	B	10.2	B	11.8 / 10.2	B / B		4.3% / 4.2%		No
12. Otay Lakes Road / SR-125 SB Ramps	6.1	A	9.2	A	5.9 / 8.8	A / A	0.2 / 0.4	5.5% / 5.3%		No
13. Otay Lakes Road / SR-125 NB Ramps	3.0	A	3.8	A	2.9 / 3.5	A / A	0.1 / 0.3	5.9% / 5.8%		No
14. Otay Lakes Road / Eastlake Parkway	28.0	C	28.4	C	26.7 / 27.9	C / C		6.9% / 6.1%		No
15. Otay Lakes Road / Lane Avenue	12.4	B	14.6	B	12.4 / 14.6	B / B		13.6% / 14.6%		No
16. Otay Lakes Road / Fenton Street	8.3	A	15.7	B	8.3 / 15.7	A / B		16.1% / 19.6%		No
17. Otay Lakes Road / Hunte Parkway	26.5	C	23.4	C	23.7 / 23.4	C / C		16.3% / 24.3%		No
18. Otay Lakes Road / Woods Drive	14.3	B	13.4	B	14.3 / 13.4	B / B		28.9% / 42.9%		No
19. Otay Lakes Road / Lake Crest Drive	15.0	B	13.9	B	13.4 / 13.9	B / B		42.1% / 53.0%		No
20. Otay Lakes Road / Wueste Road*	11.8	B	16.9	C	9.2 / 9.1	A / A		73.5% / 78.7%		No

Table 2.9-24
Peak Hour Intersection Level of Service Results
Existing Plus Project (Phase I) Conditions

Intersection	Existing + Project (Phase I)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
21. Otay Lakes Road / SR-94 (County)*	15.4	C	16.5	C	10.8 / 12.7	B / B	4.6 / 3.8		EBL: +31 / +17	No
22. Olympic Parkway / East Palomar Street	28.2	C	28.6	C	26.3 / 28.2	C / C		1.9% / 1.8%		No
23. Olympic Parkway / SR-125 SB Ramps	4.6	A	7.7	A	4.6 / 7.7	A / A	0.0 / 0.0	4.4% / 2.8%		No
24. Olympic Parkway / SR-125 NB Ramps	2.4	A	5.0	A	1.7 / 3.6	A / A	0.7 / 1.4	4.8% / 4.3%		No
25. Olympic Parkway / Eastlake Parkway	22.3	C	22.2	C	22.0 / 22.1	C / C		7.9% / 7.7%		No
26. Olympic Parkway / Hunte Parkway	20.7	C	20.7	C	19.6 / 20.0	B / C		17.2% / 17.9%		No
27. Olympic Parkway / Olympic Vista Road	18.7	B	19.0	B	18.7 / 19.0	B / B		20.4% / 20.6%		No
28. Olympic Parkway / Wueste Road	4.89	A	9.6	A	4.8 / 9.6	A / A		57.8% / 50.2%		No
29. Lake Crest Drive / Wueste Road	20.2	C	13.9	B	12.3 / 7.7	B / A		45.3% / 53.4%		No
30. Main Street / SR-125 SB Ramps	Does Not Exist									
31. Main Street / SR-125 NB Ramps	Does Not Exist									
32. Main Street / Eastlake Parkway	Does Not Exist									

Table 2.9-24
Peak Hour Intersection Level of Service Results
Existing Plus Project (Phase I) Conditions

Intersection	Existing + Project (Phase I)				Existing		Impact Criteria by Jurisdiction			
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	Significant Impact?
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
33. Otay Valley Road / SR-125 SB Ramps	Does Not Exist									
34. Otay Valley Road / SR-125 NB Ramps	Does Not Exist									
35. Otay Mesa Road / La Media Road (SD)	48.7	D	40.7	D	44.3 / 37.8	D / D	4.4 / 2.9			No
36. Otay Mesa Road / SR-125 SB Ramps (SD)	9.8	A	8.9	A	9.7 / 8.5	A / A	0.1 / 0.4			No
37. Otay Mesa Road / SR-125 NB Ramps (SD)	2.3	A	6.6	A	2.3 / 6.3	A / A	0.0 / 0.3			No
38. Otay Mesa Road / Ellis Road (County)	Does Not Exist									
39. SR-94 / Melody Road (County)	13.3	B	17.7	C	13.3 / 17.7	B / C	0.0 / 0.0		EBL: +0 / +0	No
40. SR-94 / Maxfield Road (County)*	15.7	C	21.6	C	12.9 / 20.4	B / C	2.8 / 1.2		EBL: +0 / +0	No
41. SR-94 / Jefferson Road (County)	13.0	B	12.3	B	12.9 / 12.2	B / B	0.1 / 0.1		SBL: +2 / +6	No
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	Does Not Exist									
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	4.5	A	4.8	A	Does Not Exist				SBL: +191 / +556	No

Table 2.9-24
Peak Hour Intersection Level of Service Results
Existing Plus Project (Phase I) Conditions

Intersection	Existing + Project (Phase I)				Existing		Impact Criteria by Jurisdiction			
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	Significant Impact?
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	Does Not Exist									

Source: Chen Ryan Associates (March 2015)
Notes: Bold letter indicates unacceptable LOS E of F.
* For two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.
RA = Roundabout. Rodel software is utilized for the peak hour operational analysis.

Table 2.9-25
Roadway Segment Level of Service Results
Existing Plus Project (Phase I) Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln w/ RM	14,525	50,000	A				No
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln w/ RM	55,617	70,000	B				No
	I-805 NB Ramps to Oleander Ave		60,540		B				No
	Oleander Ave to Medical Center Dr	6-Ln w/ RM	56,701	50,000	**E**	1.6%	925	Yes	No
	Medical Center Dr to Paseo Ladera		48,504		C				No
	Paseo Ladera to Paseo Ranchero / Heritage Road		45,514		C				No
	Paseo Ranchero / Heritage Road to La Media Rd		36,790		A				No
Otay Lakes Road	East H St to Telegraph Canyon Road/Otay Lakes Road	4-Ln w/ RM	29,375	30,000	C				No
	La Media Rd to Rutgers Ave	6-Ln w/ RM	44,177	50,000	C				No
	Rutgers Ave to SR-125 SB Ramps		43,966		C				No
	SR-125 SB Ramps to SR-125 NB Ramps		48,626		C				No

Table 2.9-25
Roadway Segment Level of Service Results
Existing Plus Project (Phase I) Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Otay Lakes Road	SR-125 NB Ramps to Eastlake Pkwy	7-Ln w/ RM	43,251	70,000	A				No
	Eastlake Pkwy to Lane Ave	6-Ln w/ RM	29,384	50,000	A				No
	Lane Ave to Fenton St		22,532		A				No
	Fenton St to Hunte Pkwy		22,327		A				No
	Hunte Pkwy to Woods Dr		22,417		A				No
	Woods Dr to Lake Crest Dr		15,412		A				No
	Lake Crest Dr to Wueste Road	2-Ln	13,746	7,500	**E**	71.5%	6,660	Yes	No
	Wueste Rd to City of CV/County Boundary		11,157		**F**	75.0%	7,970	Yes	**Yes**
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln w/ RM	33,505	50,000	A				No
	E Palomar St to SR-125 SB Ramps		35,417		A				No
	SR-125 SB Ramps to SR-125 NB Ramps		38,802		B				No
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln w/ RM	44,894	70,000	A				No
	Eastlake Pkwy to Hunte Pkwy	6-Ln w/ RM	18,417	50,000	A				No

Table 2.9-25
Roadway Segment Level of Service Results
Existing Plus Project (Phase I) Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
	Hunte Pkwy to Olympic Vista Road	4-Ln w/ RM	11,416	30,000	A				No
	East of Olympic Vista Road		5,555		A				No
Lane Ave	Proctor Valley Road to Otay Lakes Road	4-Ln w/ TWLTL	11,174	22,000	A				No
Hunte Pkwy	Proctor Valley Road to Otay Lakes Road	4-Ln w/ RM	6,732	30,000	A				No
	Otay Lakes Road to Clubhouse Dr	4-Ln w/ RM	12,377	30,000	A				No
	Clubhouse Dr to Olympic Pkwy		9,357		A				No
	Olympic Pkwy to Eastlake Pkwy	6-Ln w/ RM	2,385	50,000	A				No

Source: Chen Ryan Associates (March 2015)
Notes: Bold letter indicates unacceptable LOS D, E, or F.
RM = Raised Median
TWLTL = Two-Way Left-Turn Lane

Table 2.9-26
Roadway Segment Level of Service Results
Existing Plus Project (Phase I) Conditions
(County of San Diego)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS D)	LOS w/ Project	LOS w/o Project	Significant Impact?
Otay Lakes Road	City of Chula Vista/County boundary to Driveway #1	2-Ln	11,157	10,900	**E**	B	**Yes (Direct)**
	Driveway #1 to Driveway #2		11,157		**E**	B	**Yes (Direct)**
	Driveway #2 to Driveway #3	2-Ln	3,947	10,900	C	B	No
	Driveway #3 to SR-94		3,947		C	B	No

Source: Chen Ryan Associates (March 2015)
Notes: Bold letter indicates unacceptable LOS E, or F.

Table 2.9-27
Freeway/State Highway Segment Level of Service Results
Existing Plus Project (Phase I) Conditions

Freeway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	V/C	LOS w/ Project	LOS w/o Project	Significant Impact?
I-805	Bonita Road to East H Street	206,800	7.1%	14,662	0.52	5M*	0.95	7.0%	1,667	0.695	C	0.005	No
	East H Street to Telegraph Canyon Road	191,800	7.1%	13,599	0.52	5M*	0.95	7.0%	1,547	0.645	C	0.005	No
	Telegraph Canyon Road to Olympic Parkway	151,100	7.1%	10,713	0.52	4M+1Aux*	0.95	7.0%	1,351	0.563	B	0.000	No
	Olympic Parkway to Main Street	141,300	7.1%	10,018	0.52	4M+1Aux*	0.95	7.0%	1,264	0.527	B	0.000	No
SR-125	SR-54 to Mt. Miguel Road	18,300	7.0%	1,281	0.58	2M	0.95	10.3%	410	0.171	A	0.005	No
	Mt Miguel Road to Proctor Valley Road	16,900	7.0%	1,183	0.58	2M	0.95	10.3%	376	0.157	A	0.005	No
	Proctor Valley Road to Otay Lakes Road	13,200	7.0%	924	0.58	2M	0.95	10.3%	299	0.125	A	0.005	No
	Otay Lakes Road to Olympic Parkway	4,900	7.0%	343	0.58	2M	0.95	10.3%	111	0.046	A	0.000	No
	Olympic Parkway to Birch Road	5,200	7.0%	364	0.58	2M	0.95	10.3%	122	0.051	A	0.009	No
	Birch Road to Main Street	5,500	7.0%	385	0.58	2M	0.95	10.3%	122	0.051	A	0.009	No
	Main Street to Otay Valley Road	5,500	7.0%	385	0.58	2M	0.95	10.3%	122	0.051	A	0.009	No
	Otay Valley Road to Lone Star Road	5,500	7.0%	385	0.58	2M	0.95	10.3%	122	0.051	A	0.009	No
	Lone Star Road to Otay Mesa Road	5,500	7.0%	385	0.58	2M	0.95	10.3%	122	0.051	A	0.009	No
	Otay Mesa Road to SR-905	Does Not Exist											

Source: Chen Ryan Associates (March 2015)
Notes: *2 new HOV lanes have been constructed very recently. However, freeway ADT information is not available for these HOV lanes. The existing conditions analysis is based on pre HOV freeway geometrics and traffic volumes. This should represent the worst case scenario.
M = Mainline.
Aux = Auxiliary Lane.

Table 2.9-28
Two-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Existing Plus Project (Phase I) Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Lyons Valley Road to Jefferson Road	16,200	10,869	D or better	D or better	No
	Jefferson Road to Maxfield Road		9,234	D or better	D or better	No
	Maxfield Road to Melody Road		8,304	D or better	D or better	No
	Melody Road to Otay Lakes Road		7,405	D or better	D or better	No
	South of Otay Lakes Road		7,334	D or better	D or better	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-29
Two-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Existing Plus Project (Phase I) Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	Speed (mph)	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	7,405	8.9%	659	0.67	1	0.92	5.0%	484	48.9	C	C	No
	South of Otay Lakes Road	7,334	8.4%	613	0.67	1	0.96	5.0%	450	49.7	C	C	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-30A
Ramp Intersection Capacity Analysis
Existing Plus Project (Phase I) Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,392	*1200-1500: (At Capacity)*
	PM	1,713	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,407	*1200-1500: (At Capacity)*
	PM	1,205	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	938	*<1200: (Under Capacity)*
	PM	1,265	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	888	*<1200: (Under Capacity)*
	PM	1,191	*<1200: (Under Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	742	*<1200: (Under Capacity)*
	PM	1,034	*<1200: (Under Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	697	*<1200: (Under Capacity)*
	PM	1,046	*<1200: (Under Capacity)*
SR-125 SB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 NB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Mesa Road	AM	587	*<1200: (Under Capacity)*
	PM	326	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	325	*<1200: (Under Capacity)*
	PM	649	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-30B
Ramp Metering Analysis
Existing Plus Project (Phase I) Conditions

Location	Peak Hour	Demand[1] (veh/hr)	Meter Rate[2] (veh/hr)	Excess Demand[3] (veh/hr)	Delay w/ Project[4] (min)	Queue[5] (ft)	Delay w/o Project (min)	Significant Impact?
I-805 NB On-Ramp @ Telegraph Canyon Road	AM	1,920	1,824	96	3.2	1,400	1.8	No

Notes:
1. Demand is the peak hour demand expected to use the on-ramp.
2. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
3. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4. Delay = (Excess Demand / Meter Rate) X 60 min/hr.
5. Queue (Per Ramp Lane) = (Excess Demand) X 29 ft/veh/# of non-HOV lanes.

Source: Chen Ryan Associates; August 2014

Table 2.9-31
Peak Hour Intersection Level of Service Results
Existing Plus Project (Buildout) Conditions

Intersection	Existing + Project (Buildout)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
1. East H Street / Otay Lakes Road	34.3	C	28.8	C	34.0 / 28.5	C / C		1.5% / 1.9%		No
2. Proctor Valley Road / Hunte Parkway	13.7	B	12.0	B	13.5 / 12.0	B / B		4.1% / 7.9%		No
3. Telegraph Canyon Road / I-805 SB Ramps	22.1	C	52.9	D	15.7 / 40.9	B / D	6.4 / 12.0	1.5% / 2.9%		No
4. Telegraph Canyon Road / I-805 NB Ramps	31.9	C	19.7	B	27.8 / 16.7	C / B	4.1 / 3.0	2.8% / 3.6%		No
5. Telegraph Canyon Road / Oleander Avenue	15.8	B	18.2	B	15.5 / 16.9	B / B		3.4% / 4.0%		No
6. Telegraph Canyon Road / Paseo Del Rey	14.8	B	27.5	C	11.9 / 27.4	B / C		3.6% / 4.4%		No
7. Telegraph Canyon Road / Medical Center Drive	12.1	B	13.9	B	11.8 / 13.1	B / B		3.9% / 4.8%		No
8. Telegraph Canyon Road / Paseo Ladera	35.1	D	26.4	C	33.7 / 25.3	C / C		4.5% / 6.2%		No
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	34.2	C	24.3	C	32.2 / 23.7	C / C		4.1% / 5.9%		No
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	28.4	C	30.5	C	27.1 / 26.4	C / C		5.7% / 7.0%		No

Table 2.9-31
Peak Hour Intersection Level of Service Results
Existing Plus Project (Buildout) Conditions

Intersection	Existing + Project (Buildout)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
11. Otay Lakes Road / Rutgers Avenue	11.8	B	10.2	B	11.8 / 10.2	B / B		9.2% / 9.2%		No
12. Otay Lakes Road / SR-125 SB Ramps	6.3	A	9.7	A	5.9 / 8.8	A / A	0.4 / 0.9	11.6% / 11.4%		No
13. Otay Lakes Road / SR-125 NB Ramps	3.1	A	4.2	A	2.9 / 3.5	A / A	0.2 / 0.7	12.4% / 12.3%		No
14. Otay Lakes Road / Eastlake Parkway	29.7	C	30.2	C	26.7 / 27.9	C / C		14.3% / 13.1%		No
15. Otay Lakes Road / Lane Avenue	12.4	B	14.6	B	12.4 / 14.6	B / B		26.1% / 28.3%		No
16. Otay Lakes Road / Fenton Street	8.3	A	15.7	B	8.3 / 15.7	A / B		30.1% / 36.0%		No
17. Otay Lakes Road / Hunte Parkway	26.5	C	24.4	C	23.7 / 23.4	C / C		27.0% / 36.6%		No
18. Otay Lakes Road / Woods Drive	16.0	B	13.4	B	14.3 / 13.4	B / B		47.7% / 63.4%		No
19. Otay Lakes Road / Lake Crest Drive	15.4	B	14.8	B	13.4 / 13.9	B / B		62.0% / 72.2%		No
20. Otay Lakes Road / Wueste Road*	15.5	C	43.6	**E**	9.2 / 9.1	A / A		86.1% / 89.5%		**Yes (Direct)**

Table 2.9-31
Peak Hour Intersection Level of Service Results
Existing Plus Project (Buildout) Conditions

Intersection	Existing + Project (Buildout)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
21. Otay Lakes Road / SR-94 (County)*	16.4	C	19.9	C	10.8 / 12.7	B / B	5.6 / 7.2		EBL: +65 / +44	No
22. Olympic Parkway / East Palomar Street	27.1	C	29.4	C	26.3 / 28.2	C / C		2.0% / 2.7%		No
23. Olympic Parkway / SR-125 SB Ramps	4.6	A	7.7	A	4.6 / 7.7	A / A	0.0 / 0.0	4.3% / 4.0%		No
24. Olympic Parkway / SR-125 NB Ramps	3.3	A	6.6	A	1.7 / 3.6	A / A	1.6 / 3.0	9.1% / 6.6%		No
25. Olympic Parkway / Eastlake Parkway	22.9	C	22.6	C	22.0 / 22.1	C / C		10.1% / 9.4%		No
26. Olympic Parkway / Hunte Parkway	21.6	C	22.4	C	19.6 / 20.0	B / C		16.2% / 16.2%		No
27. Olympic Parkway / Olympic Vista Road	18.7	B	19.0	B	18.7 / 19.0	B / B		31.8% / 33.3%		No
28. Olympic Parkway / Wueste Road	5.3	A	9.6	A	4.8 / 9.6	A / A		36.5% / 37.5%		No
29. Lake Crest Drive / Wueste Road	13.5	B	11.9	B	12.3 / 7.7	B / A		75.5% / 69.9%		No
30. Main Street / SR-125 SB Ramps	Does Not Exist									
31. Main Street / SR-125 NB Ramps	Does Not Exist									

Table 2.9-31
Peak Hour Intersection Level of Service Results
Existing Plus Project (Buildout) Conditions

Intersection	Existing + Project (Buildout)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
32. Main Street / Eastlake Parkway	Does Not Exist									
33. Otay Valley Road / SR-125 SB Ramps	Does Not Exist									
34. Otay Valley Road / SR-125 NB Ramps	Does Not Exist									
35. Otay Mesa Road / La Media Road (SD)	48.7	D	40.7	D	45.0 / 38.3	D / D	8.5 / 7.0			No
36. Otay Mesa Road / SR-125 SB Ramps (SD)	1.8	A	1.5	A	1.7 / 1.5	A / A	0.2 / 1.1			No
37. Otay Mesa Road / SR-125 NB Ramps (SD)	0.4	A	1.1	A	0.4 / 1.1	A / A	0.1 / 0.7			No
38. Otay Mesa Road / Ellis Road (County)	Does Not Exist									
39. SR-94 / Melody Road (County)	13.3	B	17.7	C	13.3 / 17.7	B / C	0.0 / 0.0		EBL: +0 / +0	No
40. SR-94 / Maxfield Road (County)*	16.2	C	23.4	C	12.9 / 20.4	B / C	3.3 / 3.0		EBL: +0 / +0	No
41. SR-94 / Jefferson Road (County)	13.1	B	12.4	B	12.9 / 12.2x	B / B	0.2 / 0.2		SBL: +6 / +14	No
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	7.7	A	6.6	A	Does Not Exist				EBL: +59 / +144	No

Table 2.9-31
Peak Hour Intersection Level of Service Results
Existing Plus Project (Buildout) Conditions

Intersection	Existing + Project (Buildout)				Existing		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour		Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Phase I Traffic to Critical Movements AM/PM	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS						
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	7.6	A	14.9	B	Does Not Exist				EBL: +384 / +940	No
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	3.6	A	3.8	A	Does Not Exist				EBL: +60 / + 148	No

Source: Chen Ryan Associates (March 2015)
Note: *For one- or two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Table 2.9-32
Roadway Segment Level of Service Results
Existing Plus Project (Buildout) Conditions
(City Of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln w/ RM	15,033	50,000	A				No
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln w/ RM	56,125	70,000	B				No
	I-805 NB Ramps to Oleander Ave		61,811		C				No
	Oleander Ave to Medical Center Dr	6-Ln w/ RM	57,972	50,000	**E**	3.8%	2,196	Yes	No
	Medical Center Dr to Paseo Ladera		49,901		C				No
	Paseo Ladera to Paseo Ranchero / Heritage Rd		47,039		C				No
	Paseo Ranchero / Heritage Rd to La Media Rd		38,569		B				No
Otay Lakes Road	East H St to Telegraph Canyon Rd/Otay Lakes Road	4-Ln w/ RM	30,010	30,000	**D**	3.7%	1,098	Yes	No
	La Media Rd to Rutgers Ave	6-Ln w/ RM	46,973	50,000	C				No
	Rutgers Ave to SR-125 SB Ramps		46,762		C				No
	SR-125 SB Ramps to SR-125 NB Ramps	6-Ln w/ RM	51,676	50,000	**D**	10.2%	5,270	Yes	No

Table 2.9-32
Roadway Segment Level of Service Results
Existing Plus Project (Buildout) Conditions
(City Of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Otay Lakes Road	SR-125 NB Ramps to Eastlake Pkwy	7-Ln w/ RM	47,318	70,000	A				No
	Eastlake Pkwy to Lane Ave	6-Ln w/ RM	33,959	50,000	A				No
	Lane Ave to Fenton St		27,615		A				No
	Fenton St to Hunte Pkwy		27,627		A				No
	Hunte Pkwy to Woods Dr		23,282		A				No
	Woods Dr to Lake Crest Dr		22,256		A				No
	Lake Crest Dr to Wueste Rd	2-Ln	18,464	7,500	**F**	81.5%	15,151	No	**Yes (Direct)**
	Wueste Road to City of CV/County boundary		22,467		**F**	86.9%	19,540	No	**Yes (Direct)**
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln w/ RM	33,632	50,000	A				No
	E Palomar St to SR-125 SB Ramps		35,798		A				No
	SR-125 SB Ramps to SR-125 NB Ramps		39,691		B				No
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln w/ RM	46,800	70,000	A				No
	Eastlake Pkwy to Hunte Pkwy	6-Ln w/ RM	21,339	50,000	A				No
	Hunte Pkwy to Olympic Vista Rd	4-Ln w/ RM	13,449	30,000	A				No

Table 2.9-32
Roadway Segment Level of Service Results
Existing Plus Project (Buildout) Conditions
(City Of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution >5%?	Project ADT >800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
	East of Olympic Vista Rd		7,588		A				No
Lane Ave	Proctor Valley Rd to Otay Lakes Road	4-Ln w/ TWLTL	11,682	22,000	A				No
Hunte Pkwy	Proctor Valley Rd to Otay Lakes Road	4-Ln w/ RM	7,367	30,000	A				No
	Otay Lakes Road to Clubhouse Dr	4-Ln w/ RM	14,410	30,000	A				No
	Clubhouse Dr to Olympic Pkwy		11,009		A				No
	Olympic Pkwy to Eastlake Pkwy	6-Ln w/ RM	2,893	50,000	A				No

Source: Chen Ryan Associates (March 2015)
Notes:
Bold letter indicates unacceptable LOS D, E or F.
RM = Raised Median.
TWLTL = Two-Way Left-Turn Lane.

Table 2.9-33
Roadway Segment Level of Service Results
Existing Plus Project (Buildout) Conditions
(County Of San Diego)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS D)	LOS w/ Project	LOS w/o Project	Significant Impact?
Otay Lakes Road	City of Chula Vista/County boundary to Driveway #1	4-Ln w/ RM	22,467	27,000	C	B	No
	Driveway #1 to Driveway #2		20,717		B	B	No
	Driveway #2 to Driveway #3	2-Ln	7,099	10,900	C	B	No
	Driveway #3 to SR-94		5,347		C	B	No

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-34
Freeway/State Highway Segment Level of Service Results
Existing Plus Project (Buildout) 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-805	Bonita Road to East H Street	208,000	7.1%	14,747	0.52	5M*	0.95	7.0%	1,678	0.699	C	0.009	No
	East H Street to Telegraph Canyon Road	193,000	7.1%	13,684	0.52	5M*	0.95	7.0%	1,558	0.649	C	0.009	No
	Telegraph Canyon Road to Olympic Parkway	151,200	7.1%	10,720	0.52	4M+1Aux*	0.95	7.0%	1,351	0.563	B	0.000	No
	Olympic Parkway to Main Street	141,700	7.1%	10,047	0.52	4M+1Aux*	0.95	7.0%	1,264	0.527	B	0.000	No
SR-125	SR-54 to Mt. Miguel Road	19,500	7.0%	1,365	0.58	2M	0.95	10.3%	443	0.185	A	0.019	No
	Mt Miguel Road to Proctor Valley Road	17,600	7.0%	1,232	0.58	2M	0.95	10.3%	398	0.166	A	0.014	No
	Proctor Valley Road to Otay Lakes Road	13,900	7.0%	973	0.58	2M	0.95	10.3%	310	0.129	A	0.009	No
	Otay Lakes Road to Olympic Parkway	5,100	7.0%	357	0.58	2M	0.95	10.3%	111	0.046	A	0.000	No
	Olympic Parkway to Birch Road	6,500	7.0%	455	0.58	2M	0.95	10.3%	144	0.060	A	0.018	No
	Birch Road to Main Street	6,800	7.0%	476	0.58	2M	0.95	10.3%	155	0.065	A	0.023	No
	Main Street to Otay Valley Road	6,800	7.0%	476	0.58	2M	0.95	10.3%	155	0.065	A	0.023	No
	Otay Valley Road to Lone Star Road	6,800	7.0%	476	0.58	2M	0.95	10.3%	155	0.065	A	0.023	No
	Lone Star Road to Otay Mesa Road	6,800	7.0%	476	0.58	2M	0.95	10.3%	155	0.065	A	0.023	No
	Otay Mesa Road to SR-905	Does Not Exist											

Source: Chen Ryan Associates (March 2015)
Notes: *2 new HOV lanes have been constructed very recently, however freeway ADT information is not available for these HOV lanes. The existing conditions analysis is based on pre HOV freeway geometrics and traffic volumes. This should represent the worst case scenario.
M = Mainline.
Aux = Auxiliary Lane.

Table 2.-9-35
2-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Existing Plus Project (Buildout) Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Lyons Valley Road to Jefferson Road	16,200	10,996	D or better	D or better	No
	Jefferson Road to Maxfield Road		9,488	D or better	D or better	No
	Maxfield Road to Melody Road		8,684	D or better	D or better	No
	Melody Road to Otay Lakes Road		8,045	D or better	D or better	No
	South of Otay Lakes Road		8,600	D or better	D or better	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-36
2-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Existing Plus Project (Buildout) Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	Speed (mph)	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	8,405	8.9%	716	0.67	1	0.92	5.0%	547	48.4	C	C	No
	South of Otay Lakes Road	7,842	8.4%	655	0.67	1	0.96	5.0%	481	48.9	C	C	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-37A
Ramp Intersection Capacity Analysis
Existing Plus Project (Buildout) Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,410	*1200-1500: (At Capacity)*
	PM	1,751	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,432	*1200-1500: (At Capacity)*
	PM	1,226	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	998	*<1200: (Under Capacity)*
	PM	1,356	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	944	*<1200: (Under Capacity)*
	PM	1,281	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	760	*<1200: (Under Capacity)*
	PM	1,060	*<1200: (Under Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	756	*<1200: (Under Capacity)*
	PM	1,136	*<1200: (Under Capacity)*
SR-125 SB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 NB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Mesa Road	AM	614	*<1200: (Under Capacity)*
	PM	344	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	325	*<1200: (Under Capacity)*
	PM	679	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-37B
Ramp Metering Analysis
Existing Plus Project (Buildout) Conditions

Location	Peak Hour	Demand[1] (veh/hr)	Meter Rate[2] (veh/hr)	Excess Demand[3] (veh/hr)	Delay w/ Project[4] (min)	Queue[5] (ft)	Delay w/o Project (min)	Significant Impact?
I-805 NB On-Ramp @ Telegraph Canyeron Road	AM	1,964	1,824	140	4.6	2,025	1.8	No

Notes:
1 Demand is the peak hour demand expected to use the on-ramp.
2 Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4 Delay = (Excess Demand / Meter Rate) X 60 min/hr.
5 Queue (Per Ramp Lane) = (Excess Demand) X 29 ft/veh/# of non-HOV lanes.
Source: Chen Ryan Associates; August 2014

Table 2.9-38
Approved / Pending Projects in East Otay Mesa

No.	Project Name	Location	Description
County of San Diego			
1	National Enterprises Storage and Recycling Facility (MUP98-001)	East and west side of Alta Rd north of Old Otay Mesa Rd	The project proposes to develop areas for interim use including automobile storage, scrap and recycling operations, and wood and green material recycling, and will include temporary office trailers of 720 s.f. each and 200 employee parking spaces. Project would provide space for approximately 11,000 vehicles.
2	Travel Plaza Truck Stop (TPM 20414; MUP 98-024)	East side of Enrico Fermi Drive north of Airway Rd and south of Old Otay Mesa	Four parcels, ranging from 7.35 to 42.16 acres each. Full-service truck stop travel plaza. Driver facilities, restaurant, convenience store, service bays, fuel sales, 122-room hotel, office building, parking.
3	Otay Tech Centre - Previously Sunroad Tech Centre (TM 5139)	Northeast of Otay Mesa Rd and Harvest Road	Technology business park and commercial retail on 289.5 gross acres.
4	Enrico Fermi Industrial (TM 5394)	Southwest corner of Old Otay Mesa Rd and Enrico Fermi Drive	79.37 acres of industrial development
5	Aron Construction Auto Auction Park (MUP00-012)	Northwest corner of Old Otay Mesa Rd and Alta Rd.	38.2 acres

Table 2.9-38
Approved / Pending Projects in East Otay Mesa

No.	Project Name	Location	Description
6	Airway Business Centre-(Saeed Industrial TM5304)	North side of Airway Road between Michael Faraday Drive and Paseo de las Americas	35 acres
7	PG&E Subdivision/Otay Mesa Generating Plant (TPM 2057)	East of Alta Rd. btw Loop Rd and Energy Centre Way	Natural gas-fired electric generating plan
8	Otay Mesa Generating Plant Industrial Outlots	East of Alta Rd, btw Loop Rd and Energy Centre Way	30.60 acres of industrial uses
9	Otay Hills Mineral Extraction (MUP04-004/RP04-001)	Eastern extension of Old Otay Mesa, 2.5 miles northeast of Otay Mesa crossing	Hard rock quarry on 210 acres
10	Rowland Property (MUP 03-001)	Northeast corner of Old Otay Mesa Road and Enrico Fermi Drive	Auto-storage and wrecking yard located on 40.44 acres
11	Otay 310	South of Old Otay Mesa Rd, east of Alta Rd.	311 acres mixed industrial, rural residential and SR11
12	Correctional Facility (Proposed Project)	West of Alta Rd near existing prison facility	2,112 Bed Correctional Detention Facility
13	Otay Business Park (Paragon)	South of Airway Rd, east of Enrico Fermi Drive	2202.8 KSF Business Park on 161.6 gross acres
14	Otay Logistics Industrial Park	East of Enrico Fermi Dr, BTW Airway Rd & Siempre Viva Rd.	277 ksf of warehousing
15	California Crossing (40 acres Commercial)	East of SR-125, north of Otay Mesa Road, west of Harvest Rd.	28.50 net acres of Community Shopping Center
16	Pilot Travel Centre	North quadrant of Piper Ranch & Otay Mesa Rd.	Construction of a 10,000-sq. ft. commercial center including Wendy's restaurant and driver amenities, gas station and parking (71 car and 139 truck spaces). 65 employees (18 – 20 per shift).
17	Piper Otay Park	Northeast quadrant of Piper Ranch & Otay Mesa Rd	25 gross acres (19.8 net acres) of light industrial use.
18	Donovan Health Facility	480 Alta Road	15 bed facility with approx. 1,200 staff and 75-100 visitors anticipated per day
19	International Industrial Park (TM 5549)	The project site is located in the East Otay Mesa Specific Plan Area, part of the Otay Subregional Planning Area, within unincorporated San Diego County. Parcels 1-5 would be accessed via Vann Centre Blvd. Parcel 7-10 would take access off Enrico Fermi Road.	133 acres of Technology/Business Park

Table 2.9-38
Approved / Pending Projects in East Otay Mesa

No.	Project Name	Location	Description
20	RTX (S08-022).	Immediately south of Via de la Amistad, east of Enrico Fermi Drive	18.75 acres of Truck Park and Storage
City of San Diego			
21	California Terraces	North of Otay Mesa Rd, off of Ocean View Hills Pkwy	Phase I = 644 MF dus, Phase II = 1585 dus, 2.4 acres commercial
22	La Media Truck Park site	Northeast corner of La Media Road & Lonestar	Industrial use (approx 70 acres)
23	Robinhood Ridge	West side of Otay Valley Road/Heritage Road north of Otay Mesa Road	3.8 acres of neighborhood commercial, 4.6 acres of light industrial
24	La Media Truck Park II	East side of La Media Road north of Windstock Street	40 acres
25	World Petrol III	North of Otay Mesa Rd, east of La Media	22 fueling stations, 3632 sf convenience market, 2041 restaurant, 290 sf office
26	Ingalls Property	South of Vista Santo Domingo	13 SF dus, 24 townhomes, 106 apts, 19700 sf office, 20396 sf retail, 39450 industrial
27	Otay Corporate Centre N; Otay Corporate Centre S	North and south of Otay Mesa Rd, west of Heritage Rd.	industrial park
28	San Ysidro High School (Expansion)	Southwest corner of Airway Rd & Caliente Ave	High School for 814 students
29	Semi-Trailer Storage Facility (Planned Development permit 12083)	Southwest corner of Otay Mesa Road and Inovative Drive	8.02 net acres
30	Southwestern Junior College	North of Airway Rd, btw Britannia & La Media	500 Students Higher Education Center
31	Sunroad Otay Park (TM 91-0394)	South of Otay Mesa Road and west of La Media	1,337,000 square feet of Small Industrial Park, 79.3 acres
32	Esplande	Northeast of Airway Rd & La Media Road	1,337 SF dus on 77.6 Acres
33	Interstate Industrial Centre (TPM 98-0759)	East side of Piper Ranch Road, South of Otay Mesa Road	453,000 square feet of Warehousing
34	Handler Otay Mesa	South off Otay Mesa Rd, west of Corporate Centre Dr	mixed commercial/retail/office project
35	Pardee Commercial	Southeast corner of Otay Mesa Rd/Palm Ave	16 acre commercial
36	Candlelight Villas West	West side of Caliente Ave, south of San Ysidro High School	223 MF dus on 23 Acres

Table 2.9-38
Approved / Pending Projects in East Otay Mesa

No.	Project Name	Location	Description
37	Southview	Southeast of Caliente Ave and Airway Rd.	553 MF dus
38	Candlelight	Southeast of Caliente Ave and Airway Rd.	435 MF dus
39	Brownfield Tech park	South of Otay Mesa Rd, west of Britannia Blvd.	741180 SF of business park on 50 acres
40	Las Californias	South of Siempre Viva Rd, btw Britannia & La Media	374,300 sq ft small industrial park, 305,90 sq ft large industrial park

Source: County of San Diego, City of San Diego, Chen Ryan Associates (March 2015)

Table 2.9-39
Peak Hour Intersection Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Intersection	Cumulative (Year 2025) + Project (Buildout)				Cumulative (Year 2025) w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Cumulative + Project Traffic to Critical Movements AM/PM	
1. East H Street / Otay Lakes Road	36.9	D	36.2	D	36.4 / 33.6	D / C		1.4% / 1.6%		No
2. Proctor Valley Road / Hunte Parkway	47.8	D	33.5	C	45.5 / 24.6	D / C		1.5% / 3.3%		No
3. Telegraph Canyon Road / I-805 SB Ramps	23.8	C	53.3	D	17.9 / 45.6	B / D	1.8 / 17.9	1.6% / 3.3%		No
4. Telegraph Canyon Road / I-805 NB Ramps	53.3	D	28.1	C	47.9 / 23.9	D / C	7.9 / 2.0	2.7% / 3.3%		No
5. Telegraph Canyon Road / Oleander Avenue	22.3	C	25.9	C	20.8 / 23.8	C / C		3.1% / 3.8%		No
6. Telegraph Canyon Road / Paseo Del Rey	36.6	D	35.8	D	34.8 / 35.4	C / D		3.8% / 4.6%		No
7. Telegraph Canyon Road / Medical Center Drive	15.3	B	20.0	B	14.8 / 18.0	B / B		3.6% / 4.5%		No
8. Telegraph Canyon Road / Paseo Ladera	52.7	D	39.9	D	50.0 / 37.6	D / D		3.8% / 5.2%		No
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	39.5	D	51.1	D	37.8 / 46.1	D / D		3.7% / 4.1%		No

Table 2.9-39
Peak Hour Intersection Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Intersection	Cumulative (Year 2025) + Project (Buildout)				Cumulative (Year 2025) w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Cumulative + Project Traffic to Critical Movements AM/PM	
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	49.7	D	50.7	D	43.6 / 40.8	D / D		5.1% / 5.6%		No
11. Otay Lakes Road / Rutgers Avenue	16.6	B	15.7	B	15.6 / 14.8	B / B		8.3% / 8.3%		No
12. Otay Lakes Road / SR-125 SB Ramps	6.5	A	11.0	B	6.1 / 9.9	A / A	0.4 / 1.1	11.5% / 11.7%		No
13. Otay Lakes Road / SR-125 NB Ramps	3.2	A	4.7	A	3.0 / 3.8	A / A	0.2 / 0.9	11.4% / 12.1%		No
14. Otay Lakes Road / Eastlake Parkway	39.5	D	36.0	D	32.2 / 31.8	C / C		11.3% / 11.5%		No
15. Otay Lakes Road / Lane Avenue	12.5	B	14.7	B	12.5 / 14.7	B / B		22.4% / 24.0%		No
16. Otay Lakes Road / Fenton Street	9.7	A	17.5	B	8.9 / 17.5	A / B		28.3% / 32.3%		No
17. Otay Lakes Road / Hunte Parkway	31.4	C	42.3	D	30.0 / 27.6	C / C		21.8% / 31.0%		No
18. Otay Lakes Road / Woods Drive	15.9	B	12.5	B	15.9 / 11.1	B / B		44.3% / 47.3%		No

Table 2.9-39
Peak Hour Intersection Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Intersection	Cumulative (Year 2025) + Project (Buildout)				Cumulative (Year 2025) w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Cumulative + Project Traffic to Critical Movements AM/PM	
19. Otay Lakes Road / Lake Crest Drive	25.8	C	52.0	D	14.9 / 14.9	B / B		56.8% / 53.3%		No
20. Otay Lakes Road / Wueste Road*	Overflow	**F**	Overflow	**F**	18.2 / 15.3	C / C		55.1% / 65.6%		**Yes (Direct)**
21. Otay Lakes Road / SR-94 (County)*	49.6	**E**	59.3	**F**	17.6 / 23.4	C / C	32.0 / 35.9		EBL: +65 / +44	**Yes (Cumulative)**
22. Olympic Parkway / East Palomar Street	27.7	C	33.9	C	27.7 / 31.3	C / C		2.6% / 3.1%		No
23. Olympic Parkway / SR-125 SB Ramps	5.4	A	6.4	A	5.4 / 6.4	A / A	0.0 / 0.0	5.3% / 4.9%		No
24. Olympic Parkway / SR-125 NB Ramps	6.2	A	11.4	B	5.5 / 8.0	A / A	0.7 / 3.4	6.0% / 7.2%		No
25. Olympic Parkway / Eastlake Parkway	34.7	C	36.7	D	32.4 / 33.8	C / C		7.8% / 7.8%		No
26. Olympic Parkway / Hunte Parkway	28.2	C	46.9	D	22.9 / 34.1	C / C		13.6% / 12.3%		No
27. Olympic Parkway / Olympic Vista Road	27.5	C	29.5	C	25.0 / 25.9	C / C		10.9% / 11.1%		No

Table 2.9-39
Peak Hour Intersection Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Intersection	Cumulative (Year 2025) + Project (Buildout)				Cumulative (Year 2025) w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Cumulative + Project Traffic to Critical Movements AM/PM	
28. Olympic Parkway / Wueste Road	7.7	A	6.0	A	7.7 / 6.0	A / A		45.4% / 47.6%		No
29. Lake Crest Drive / Wueste Road	24.2	C	18.0	B	12.4 / 10.6	B / B		39.1% / 36.6%		No
30. Main Street / SR-125 SB Ramps	Does Not Exist									
31. Main Street / SR-125 NB Ramps	Does Not Exist									
32. Main Street / Eastlake Parkway	Does Not Exist									
33. Otay Valley Road / SR-125 SB Ramps	Does Not Exist									
34. Otay Valley Road / SR-125 NB Ramps	Does Not Exist									
35. Otay Mesa Road / La Media Road (SD)	38.4	D	46.3	D	37.2 / 41.4	D / D	1.2 / 4.9			No
36. Otay Mesa Road / SR-125 SB Ramps (SD)	13.1	B	12.0	B	11.7 / 11.2	B / B	1.4 / 0.8			No
37. Otay Mesa Road / SR-125 NB Ramps (SD)	3.2	A	9.8	A	2.6 / 8.8	A / A	0.6 / 1.0			No
38. Otay Mesa Road / Ellis Road (County)	29.4	C	28.2	C	26.2 / 24.3	C / C			EBL: +22 / +15	No

Table 2.9-39
Peak Hour Intersection Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Intersection	Cumulative (Year 2025) + Project (Buildout)				Cumulative (Year 2025) w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Cumulative + Project Traffic to Critical Movements AM/PM	
39. SR-94 / Melody Road (County)	7.7	A	10.8	B	7.3 / 10.5	A / B	0.4 / 0.3		EBL: +0 / +0	No
40. SR-94 / Maxfield Road (County)*	15.9	C	21.4	C	15.4 / 20.3	C / C	0.5 / 1.1		EBL: +0 / +0	No
41. SR-94 / Jefferson Road (County)	22.6	C	26.0	C	20.6 / 25.2	C / C	2.0 / 0.8		SBL: +6 / +14	No
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	13.9	B	12.5	B	Does Not Exist				EBL: +101 / +247	No
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	8.7	A	34.8	D	Does Not Exist				EBL: +370 /+ 956	No
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	6.4	A	5.6	A	Does Not Exist				EBL: +19 / +47	No

Notes:
Bold letter indicates unacceptable LOS E of F.
* For two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.
RA = Roundabout. Rodel software is utilized for the peak hour operational analysis.

Table 2.9-40
Roadway Segment Level of Service Results
Cumulative (Year 2025) Traffic Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution > 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln w/ RM	31,080	50,000	A				No
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln w/ RM	59,580	70,000	B				No
	I-805 NB Ramps to Oleander Ave		64,100		C				No
	Oleander Ave to Medical Center Dr	6-Ln w/ RM	60,700	50,000	**E**	3.6%	2,200	Yes	No
	Medical Center Dr to Paseo Ladera		58,120		**E**	4.2%	2,420	Yes	No
	Paseo Ladera to Paseo Ranchero / Heritage Rd		58,830		**E**	4.5%	2,630	Yes	No
	Paseo Ranchero / Heritage Rd to La Media Rd		52,770		**D**	5.8%	3,070	Yes	No
Otay Lakes Road	East H St to Telegraph Canyon Rd/Otay Lakes Road	6-Ln w/ RM	33,200	30,000	A				No
	La Media Rd to Rutgers Ave		48,030	50,000	C				No
	Rutgers Ave to SR-125 SB Ramps		48,430		C				No
	SR-125 SB Ramps to SR-125 NB Ramps		52,970		**D**	9.9%	5,270	Yes	No

Table 2.9-40
Roadway Segment Level of Service Results
Cumulative (Year 2025) Traffic Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution > 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Otay Lakes Road	SR-125 NB Ramps to Eastlake Pkwy	7-Ln w/ RM	54,530	70,000	A				No
	Eastlake Pkwy to Lane Ave	6-Ln w/ RM	36,400	50,000	A				No
	Lane Ave to Fenton St		29,580		A				No
	Fenton St to Hunte Pkwy		28,800		A				No
	Hunte Pkwy to Woods Dr		27,910		A				No
	Woods Dr to Lake Crest Dr		31,410		A				No
	Lake Crest Dr to Wueste Rd	2-Ln	21,160	7,500	**F**	57.1%	15,150	No	**Yes (Direct)**
	Wueste Rd to City of CV/County boundary		25,540		**F**	76.5%	19,540	No	**Yes (Direct)**
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln w/ RM	35,520	50,000	A				No
	E Palomar St to SR-125 SB Ramps		54,660		**D**	1.2%	880	Yes	No
	SR-125 SB Ramps to SR-125 NB Ramps		56,540		**E**	2.7%	1,760	Yes	No
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln w/ RM	60,290	70,000	B				No
	Eastlake Pkwy to Hunte Pkwy	6-Ln w/ RM	38,050	50,000	B				No
	Hunte Pkwy to Olympic Vista Rd	4-Ln w/ RM	19,610	30,000	A				No

Table 2.9-40
Roadway Segment Level of Service Results
Cumulative (Year 2025) Traffic Conditions
(City of Chula Vista)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution > 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
	East of Olympic Vista Rd		10,410		A				No
Lane Ave	Proctor Valley Rd to Otay Lakes Road	4-Ln w/ TWLTL	19,380	22,000	C				No
Hunte Pkwy	Proctor Valley Rd to Otay Lakes Road	4-Ln w/ RM	13,800	30,000	A				No
	Otay Lakes Road to Clubhouse Dr	4-Ln w/ RM	18,510	30,000	A				No
	Clubhouse Dr to Olympic Pkwy		16,850		A				No
	Olympic Pkwy to Eastlake Pkwy	6-Ln w/ RM	19,080	50,000	A				No

Source: Chen Ryan Associates (March 2015)
Notes:
Bold letter indicates unacceptable LOS D, E or F.
RM = Raised Median.
TWLTL = Two-Way Left-Turn Lane.

Table 2.9-41
Roadway Segment Level of Service Results
Cumulative (Year 2025) Traffic Conditions
(County of San Diego)

Roadway	Segment	Cross-Section	ADT	LOS Threshold (LOS D)	LOS w/ Project	Significant Impact?
Otay Lakes Road	City of San Diego/County boundary to Driveway #1	2-Ln	25,540	10,900	**F**	**Yes (Cumulative)**
	Driveway #1 to Driveway #2		23,790		**F**	**Yes (Cumulative)**
	Driveway #2 to Driveway #3	2-Ln	10,170		D	No
	Driveway #3 to SR-94		8,420		D	No

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-42
Freeway/State Highway Segment Level of Service Results
Cumulative (Year 2025) Traffic Conditions

Freeway/ State Highway	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 2025 Base)	Significant Impact?
I-805	Bonita Road to East H Street	292,000	7.8%	22,776	0.50	5M+1HOV	0.95	7.0%	2,148	0.90	D	0.006	No
	East H Street to Telegraph Canyon Road	308,300	7.8%	24,047	0.50	5M+1HOV	0.95	7.0%	2,268	0.95	**E**	0.006	No
	Telegraph Canyon Road to Olympic Parkway	238,100	7.1%	16,905	0.51	4M+1Aux+ 1HOV	0.95	7.0%	1,774	0.74	C	0.001	No
	Olympic Parkway to Main Street	235,700	7.1%	16,735	0.51	4M+1Aux+ 1HOV	0.95	7.0%	1,756	0.73	C	0.002	No
SR-125	SR-54 to Mt. Miguel Road	26,700	7.0%	1,869	0.60	2M	0.95	10.3%	658	0.27	A	0.021	No
	Mt Miguel Road to Proctor Valley Road	29,400	7.0%	2,058	0.60	2M	0.95	10.3%	725	0.30	A	0.013	No
	Proctor Valley Road to Otay Lakes Road	22,400	7.0%	1,568	0.60	2M	0.95	10.3%	552	0.23	A	0.013	No
	Otay Lakes Road to Olympic Parkway	28,100	7.0%	1,967	0.60	2M	0.95	10.3%	692	0.29	A	0.004	No
	Olympic Parkway to Birch Road	28,200	7.0%	1,974	0.60	2M	0.95	10.3%	695	0.29	A	0.023	No
	Birch Road to Main Street	46,200	7.0%	3,234	0.60	2M	0.95	10.3%	1,139	0.47	B	0.023	No
	Main Street to Otay Valley Road	46,200	7.0%	3,234	0.60	2M	0.95	10.3%	1,139	0.47	B	0.023	No
	Otay Valley Road to Lone Star Road	46,200	7.0%	3,234	0.60	2M	0.95	10.3%	1,139	0.47	B	0.023	No
	Lone Star Road to Otay Mesa Road	46,200	7.0%	3,234	0.60	2M	0.95	10.3%	1,139	0.47	B	0.023	No
	Otay Mesa Road to SR-905	12,000	7.0%	840	0.60	2M	0.95	10.3%	296	0.12	A	0.009	No

Source: Chen Ryan Associates (March 2015)
Notes: M = Mainline.
Aux = Auxiliary Lane.
HOV = High Occupancy Vehicle lane.

Table 2.9-43
2-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Cumulative (Year 2025) Traffic Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS w/ Project	LOS w/o Project	Project ADT	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	16,200	15,980	D or better	D or better	280	No
	South of Otay Lakes Road		21,080	**E**	**E**	370 (>325)	**Yes (Cumulative)**

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-44
2-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Cumulative (Year 2025) Traffic Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	Speed (mph)	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	15,980	8.9%	1,422	0.67	1	0.92	5.0%	1,099	42.4	D	D	No
	South of Otay Lakes Road	21,080	8.4%	1,730	0.67	1	0.96	5.0%	1,271	42.0	D	D	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-45A
Ramp Intersection Capacity Analysis
Cumulative (Year 2025) Traffic Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,416	*1200-1500: (At Capacity)*
	PM	1,612	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,469	*1200-1500: (At Capacity)*
	PM	1,238	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	885	*<1200: (Under Capacity)*
	PM	1,225	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	955	*<1200: (Under Capacity)*
	PM	1,171	*<1200: (Under Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	954	*<1200: (Under Capacity)*
	PM	1,041	*<1200: (Under Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	921	*<1200: (Under Capacity)*
	PM	1,130	*<1200: (Under Capacity)*
SR-125 SB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 NB Ramps / Main Street	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Valley Road	AM	Does Not Exist	
	PM		
SR-125 SB Ramps / Otay Mesa Road	AM	624	*<1200: (Under Capacity)*
	PM	740	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	432	*<1200: (Under Capacity)*
	PM	869	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-45B
Ramp Metering Analysis
Cumulative (Year 2025) Traffic Conditions

Location	Peak Hour	Demand[1] (veh/hr)	Meter Rate[2] (veh/hr)	Excess Demand[3] (veh/hr)	Delay w/ Project[4] (min)	Queue[5] (ft)	Delay w/o Project (min)	Significant Impact?
I-805 NB On-Ramp @ Telegraph Canyon Road	AM	1,952	1,824	128	4.2	1,850	2.9	No

Notes:
1. Demand is the peak hour demand expected to use the on-ramp.
2. Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
3. Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4. Delay = (Excess Demand / Meter Rate) X 60 min/hr.
5. Queue (Per Ramp Lane) = (Excess Demand) X 29 ft/veh/# of non-HOV lanes.

Source: Chen Ryan Associates; August 2014

Table 2.9-46
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1. East H Street / Otay Lakes Road	40.4	D	38.1	D
2. Proctor Valley Road / Hunte Parkway	28.2	C	38.0	D
3. Telegraph Canyon Road / I-805 SB Ramps	31.1	C	36.3	D
4. Telegraph Canyon Road / I-805 NB Ramps	49.9	D	35.2	D
5. Telegraph Canyon Road / Oleander Avenue	28.5	C	41.5	D
6. Telegraph Canyon Road / Paseo Del Rey	33.0	C	52.2	D
7. Telegraph Canyon Road / Medical Center Drive	17.9	B	22.4	C
8. Telegraph Canyon Road / Paseo Ladera	39.4	D	30.2	C
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	44.7	D	40.2	D
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	36.5	D	36.6	D
11. Otay Lakes Road / Rutgers Avenue	13.1	B	12.7	B
12. Otay Lakes Road / SR-125 SB Ramps	4.4	A	8.0	A
13. Otay Lakes Road / SR-125 NB Ramps	4.5	A	4.3	A
14. Otay Lakes Road / Eastlake Parkway	39.3	D	39.0	D
15. Otay Lakes Road / Lane Avenue	19.3	B	22.7	C
16. Otay Lakes Road / Fenton Street	6.4	A	12.4	B
17. Otay Lakes Road / Hunte Parkway	27.3	C	26.2	C

Table 2.9-46
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
18. Otay Lakes Road / Woods Drive	11.2	B	5.4	A
19. Otay Lakes Road / Lake Crest Drive	17.7	B	11.4	B
20. Otay Lakes Road / Wueste Road*	4.7	A	8.4	A
21. Otay Lakes Road / SR-94 (County)*	18.9	B	28.0	C
22. Olympic Parkway / East Palomar Street	30.1	C	54.0	D
23. Olympic Parkway / SR-125 SB Ramps	9.5	A	8.9	A
24. Olympic Parkway / SR-125 NB Ramps	8.4	A	5.9	A
25. Olympic Parkway / Eastlake Parkway	28.6	C	31.3	C
26. Olympic Parkway / Hunte Parkway	30.4	C	29.9	C
27. Olympic Parkway / Olympic Vista Road	26.2	C	23.3	C
28. Olympic Parkway / Wueste Road	15.1	B	12.6	B
29. Lake Crest Drive / Wueste Road	8.3	A	8.4	A
30. Main Street / SR-125 SB Ramps	13.2	B	18.0	B
31. Main Street / SR-125 NB Ramps	18.1	B	45.1	D
32. Main Street / Eastlake Parkway	34.7	C	52.7	D
33. Otay Valley Road / SR-125 SB Ramps	11.4	B	15.4	B
34. Otay Valley Road / SR-125 NB Ramps	8.5	A	11.2	B
35. Otay Mesa Road / La Media Road (SD)	43.6	D	48.3	D
36. Otay Mesa Road / SR-125 SB Ramps (SD)	8.5	A	8.0	A
37. Otay Mesa Road / SR-125 NB Ramps (SD)	10.3	B	11.2	B
38. Otay Mesa Road / Ellis Road (County)	30.1	C	24.3	C
39. SR-94 / Melody Road (County)	9.6	A	12.6	B
40. SR-94 / Maxfield Road (County)*	15.8	C	22.9	C
41. SR-94 / Jefferson Road (County)	43.0	D	40.2	D
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	Does Not Exist			
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	Does Not Exist			
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	Does Not Exist			

Source: Chen Ryan Associates (March 2015)
Notes:
* For one or two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.
RA = Roundabout. Rodel software is utilized for the peak hour operational analysis.

Table 2.9-47
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Traffic Conditions

Intersection	Future Year 2030 + Project (Buildout)				Future Year 2030 w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Project Traffic to Critical Movements AM/PM	
1. East H Street / Otay Lakes Road	41.1	D	40.4	D	40.4 / 38.1	D / D		1.6% / 1.9%		No
2. Proctor Valley Road / Hunte Parkway	28.8	C	38.4	D	28.2 / 38.0	C / D		1.9% / 2.6%		No
3. Telegraph Canyon Road / I-805 SB Ramps	34.5	C	46.6	D	31.1 / 36.3	C / D	3.4 / 10.3	1.2% / 2.3%		No
4. Telegraph Canyon Road / I-805 NB Ramps	53.5	D	37.1	D	49.9 / 35.2	D / D	3.6 / 1.9	2.7% / 3.0%		No
5. Telegraph Canyon Road / Oleander Avenue	29.5	C	48.7	D	28.5 / 41.5	C / D		3.0% / 3.3%		No
6. Telegraph Canyon Road / Paseo Del Rey	33.0	C	52.4	D	33.0 / 52.2	C / D		3.2% / 3.6%		No
7. Telegraph Canyon Road / Medical Center Drive	18.7	B	25.7	C	17.9 / 22.4	B / C		3.2% / 4.2%		No
8. Telegraph Canyon Road / Paseo Ladera	41.3	D	32.0	C	39.4 / 30.2	D / C		3.8% / 5.4%		No
9. Telegraph Canyon Road / Paseo Ranchero/Heritage Road	46.8	D	43.3	D	44.7 / 40.2	D / D		3.4% / 4.4%		No
10. Telegraph Canyon Road / Otay Lakes Road/La Media Road	40.9	D	41.5	D	36.5 / 36.6	D / D		4.8% / 6.1%		No
11. Otay Lakes Road / Rutgers Avenue	13.4	B	12.7	B	13.1 / 12.7	B / B		8.9% / 10.8%		No
12. Otay Lakes Road / SR-125 SB Ramps	5.0	A	10.1	B	4.4 / 8.0	A / A	0.6 / 2.1	10.1% / 9.8%		No
13. Otay Lakes Road / SR-125 NB Ramps	4.5	A	5.0	A	4.5 / 4.3	A / A	0.0 / 0.7	10.9% / 10.5%		No
14. Otay Lakes Road / Eastlake Parkway	44.1	D	41.4	D	39.3 / 39.0	D / D		11.2% / 10.9%		No

Table 2.9-47
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Traffic Conditions

Intersection	Future Year 2030 + Project (Buildout)				Future Year 2030 w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Project Traffic to Critical Movements AM/PM	
15. Otay Lakes Road / Lane Avenue	19.3	B	22.7	C	19.3 / 22.7	B / C		20.6% / 22.2%		No
16. Otay Lakes Road / Fenton Street	6.4	A	12.4	B	6.4 / 12.4	A / B		24.6% / 30.1%		No
17. Otay Lakes Road / Hunte Parkway	31.9	C	34.4	C	27.3 / 26.2	C / C		25.7% / 34.2%		No
18. Otay Lakes Road / Woods Drive	11.2	B	5.4	A	11.2 / 5.4	B / A		40.6% / 51.8%		No
19. Otay Lakes Road / Lake Crest Drive	17.7	B	11.4	B	17.7 / 11.4	B / B		42.5% / 51.4%		No
20. Otay Lakes Road / Wueste Road	6.6	A	12.7	B	4.7 / 8.4	A / A		55.5% / 59.6%		No
21. Otay Lakes Road / SR-94 (County)*	24.6	C	42.1	D	18.9 / 28.0	B / C	5.7 / 14.1		EBL: +65 / +44	No
22. Olympic Parkway / East Palomar Street	30.5	C	54.0	D	30.1 / 54.0	C / D		1.7% / 1.7%		No
23. Olympic Parkway / SR-125 SB Ramps	9.6	A	8.9	A	9.5 / 8.9	A / A	0.1 / 0.0	2.5% / 2.1%		No
24. Olympic Parkway / SR-125 NB Ramps	8.5	A	6.6	A	8.4 / 5.9	A / A	0.1 / 0.7	2.6% / 2.5%		No
25. Olympic Parkway / Eastlake Parkway	29.3	C	32.7	C	28.6 / 31.3	C / C		3.4% / 3.4%		No
26. Olympic Parkway / Hunte Parkway	31.3	C	32.3	C	30.4 / 29.9	C / C		12.1% / 13.2%		No
27. Olympic Parkway / Olympic Vista Road	26.2	C	23.3	C	26.2 / 23.3	C / C		7.0% / 8.1%		No

Table 2.9-47
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Traffic Conditions

Intersection	Future Year 2030 + Project (Buildout)				Future Year 2030 w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Project Traffic to Critical Movements AM/PM	
28. Olympic Parkway / Wueste Road	15.1	B	12.9	B	15.1 / 12.6	B / B		20.5% / 21.9%		No
29. Lake Crest Drive / Wueste Road	11.3	B	10.5	B	8.3 / 8.4	A / A		17.0% / 18.6%		No
30. Main Street / SR-125 SB Ramps	13.2	B	18.0	B	13.2 / 18.0	B / B		0.6% / 0.8%		No
31. Main Street / SR-125 NB Ramps	18.1	B	45.8	D	18.1 / 45.1	B / D		0.7% / 0.8%		No
32. Main Street / Eastlake Parkway	35.4	D	52.7	D	34.7 / 52.7	C / D		5.1% / 6.1%		No
33. Otay Valley Road / SR-125 SB Ramps	11.4	B	15.5	B	11.4 / 15.4	B / B		4.6% / 2.5%		No
34. Otay Valley Road / SR-125 NB Ramps	9.1	A	12.2	B	8.5 / 11.2	A / B		9.1% / 8.0%		No
35. Otay Mesa Road / La Media Road (SD)	44.6	D	48.3	D	43.6 / 48.3	D / D	1.0 / 0.0			No
36. Otay Mesa Road / SR-125 SB Ramps (SD)	9.4	A	8.5	A	8.5 / 8.0	A / A	0.9 / 0.5			No
37. Otay Mesa Road / SR-125 NB Ramps (SD)	10.4	B	11.5	B	10.3 / 11.2	B / B	0.1 / 0.3			No
38. Otay Mesa Road / Ellis Road (County)	32.0	C	26.1	C	30.1 / 24.3	C / C	1.9 / 1.8		EBL: +11 / +7	No
39. SR-94 / Melody Road (County)	9.7	A	13.2	B	9.6 / 12.6	A / B	0.1 / 0.6		EBL: +0 / +0	No
40. SR-94 / Maxfield Road (County)*	16.3	C	24.3	C	15.8 / 22.9	C / C	0.5 / 1.4		EBL: +0 / +0	No
41. SR-94 / Jefferson Road (County)	45.5	D	40.2	D	43.0 / 40.2	D / D	2.5 / 0.0		SBL: +6 / +14	No
42. Otay Lakes Road @ Project Driveway #1/Intersection #42 (County)	12.3	B	15.6	B	Does Not Exist				EBL: +59 / +144	No

Table 2.9-47
Peak Hour Intersection Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Traffic Conditions

Intersection	Future Year 2030 + Project (Buildout)				Future Year 2030 w/o Project		Impact Criteria by Jurisdiction			Significant Impact?
							Caltrans/ San Diego	Chula Vista	County	
	AM Peak Hour		PM Peak Hour							
	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.) AM/PM	LOS AM/PM	Change in Delay (sec.) AM/PM	Project % of Entering Volume AM/PM	Project Traffic to Critical Movements AM/PM	
43. Otay Lakes Road @ Project Driveway #2/Intersection #43[RA] (County)	8.8	A	34.7	D	Does Not Exist				EBL: +378 / +926	No
44. Otay Lakes Road @ Project Driveway #3/Intersection #44[RA] (County)	6.9	A	6.6	A	Does Not Exist				SBL: +59 / +144	No

Source: Chen Ryan Associates (March 2015)
Notes:
Bold letter indicates unacceptable LOS E of F.
* For two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.
RA = Roundabout. Rodel software is utilized for the peak hour operational analysis.

Table 2.9-48
Roadway Segment Level of Service Results
Future Year 2030 Base Conditions
(City of Chula Vista)

Roadway	Segment	Classification	Average Daily Traffic (ADT)	LOS Threshold (LOS C)	Level of Service (LOS)
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln Prime	28,700	50,000	A
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln Expressway	51,300	70,000	A
	I-805 NB Ramps to Oleander Ave		58,400		B
	Oleander Ave to Medical Center Dr	6-Ln Prime	56,400	50,000	**E**
	Medical Center Dr to Paseo Ladera		56,300		**E**
Telegraph Canyon Rd	Paseo Ladera to Paseo Ranchero/ Heritage Rd	6-Ln Prime	56,700	50,000	**E**
	Paseo Ranchero/Heritage Rd to La Media Rd		55,400		**D**
Otay Lakes Road	East H St to Telegraph Canyon Rd/Otay Lakes Road	6-Ln Prime	42,800	50,000	B
	La Media Rd to Rutgers Ave		46,700		C
	Rutgers Ave to SR-125 SB Ramps		42,600		B
	SR-125 SB Ramps to SR-125 NB Ramps		50,800		**D**
	SR-125 NB Ramps to Eastlake Pkwy	7-Ln Expressway	48,900	70,000	A
	Eastlake Pkwy to Lane Ave	6-Ln Prime	30,400	50,000	A
	Lane Ave to Fenton St		17,700		A
	Fenton St to Hunte Pkwy		16,800		A
	Hunte Pkwy to Woods Dr		13,200		A
	Woods Dr to Lake Crest Dr		13,000		A
	Lake Crest Dr to Wueste Rd		6,400		A
	Wueste Rd to City of CV/County Boundary		6,400		A
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln Prime	25,900	50,000	A
	E Palomar St to SR-125 SB Ramps		46,500		C
	SR-125 SB Ramps to SR-125 NB Ramps		48,300		C
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln Expressway	50,900	70,000	**D**
	Eastlake Pkwy to Hunte Pkwy	6-Ln Prime	33,700	50,000	A
	Hunte Pkwy to Olympic Vista Rd		20,100		A
	East of Olympic Vista Rd		10,400		A
Main Street	SR-125 NB Ramps to Eastlake Pkwy/Otay Valley Rd	6-ln Gateway	53,200	61,200 (LOS D)	C
Lane Ave	Proctor Valley Rd to Otay Lakes Road	4-Ln Class I Collector	20,200	22,000	C

Table 2.9-48
Roadway Segment Level of Service Results
Future Year 2030 Base Conditions
(City of Chula Vista)

Roadway	Segment	Classification	Average Daily Traffic (ADT)	LOS Threshold (LOS C)	Level of Service (LOS)
Hunte Pkwy	Proctor Valley Rd to Otay Lakes Road	4-Ln Major	11,300	30,000	A
	Otay Lakes Road to Clubhouse Dr		17,800		A
	Clubhouse Dr to Olympic Pkwy		18,600		A
Hunte Pkwy	Olympic Pkwy to Eastlake Pkwy	6-Ln Prime	23,500	50,000	A
Otay Valley Rd	La Media Rd to SR-125 SB Ramps	4-Ln Major	25,200	30,000	B
	SR-125 SB Ramps to SR-125 NB Ramps		28,100		C
	SR-125 NB Ramps to Main Street		29,700		C

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS D, E or F.

Table 2.9-49
Roadway Segment Level of Service Results
Future Year 2030 Base Conditions
(County of San Diego)

Roadway	Segment	Classification	Average Daily Traffic (ADT)	LOS Threshold (LOS D)	Level of Service (LOS)
Otay Lakes Road	City of CV/County boundary to Driveway #2	4.2A	6,400	27,000	A
	Driveway #2 to SR-94	2.1D	6,400	13,500	C

Source: Chen Ryan Associates (March 2015)

Table 2.9-50
Roadway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions
(City of Chula Vista)

Roadway	Segment	Classification	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution ≥ 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Proctor Valley Rd	Lane Ave to Hunte Pkwy	6-Ln Prime	29,600	50,000	A				No
Telegraph Canyon Rd	I-805 SB Ramps to I-805 NB Ramps	7-Ln Expressway	52,200	70,000	A				No
	I-805 NB Ramps to Oleander Ave		60,600		B				No
	Oleander Ave to Medical Center Dr	6-Ln Prime	58,600	50,000	E	3.8%	2,200	Yes	No
	Medical Center Dr to Paseo Ladera		58,700		E	4.1%	2,420	Yes	No
	Paseo Ladera to Paseo Ranchero/Heritage Rd		59,300		E	4.4%	2,630	Yes	No
	Paseo Ranchero/Heritage Rd to La Media Rd		58,500		E	5.2%	3,070	Yes	No
Otay Lakes Road	East H St to Telegraph Canyon Rd/Otay Lakes Road	6-Ln Prime	43,900	50,000	C				No
	La Media Rd to Rutgers Ave		51,500		D	9.4%	4,830	Yes	No
	Rutgers Ave to SR-125 SB Ramps		47,400		C				No
Otay Lakes Road	SR-125 SB Ramps to SR-125 NB Ramps	6-Ln Prime	56,100	50,000	D	9.4%	5,270	Yes	No
	SR-125 NB Ramps to Eastlake Pkwy	7-Ln Expressway	55,900	70,000	B				No
	Eastlake Pkwy to Lane Ave	6-Ln Prime	38,300	50,000	B				No
	Lane Ave to Fenton St		26,500		A				No
	Fenton St to Hunte Pkwy		25,820		A				No
	Hunte Pkwy to Woods Dr		26,820		A				No
	Woods Dr to Lake Crest Dr		27,740		A				No

Table 2.9-50
Roadway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions
(City of Chula Vista)

Roadway	Segment	Classification	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution ≥ 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
	Lake Crest Dr to Wueste Rd		22,160		A				No
	Wueste Rd to City of CV/County boundary		25,860		A				No
Olympic Pkwy	La Media Rd to E Palomar St	6-Ln Prime	26,100	50,000	A				No
	E Palomar St to SR-125 SB Ramps		46,700		C				No
	SR-125 SB Ramps to SR-125 NB Ramps		48,500		C				No
	SR-125 NB Ramps to Eastlake Pkwy	8-Ln Expressway	51,100	70,000	D	0.4%	220	Yes	No
Olympic Pkwy	Eastlake Pkwy to Hunte Pkwy	6-Ln Prime	35,200	50,000	A				No
	Hunte Pkwy to Olympic Vista Rd	4-Ln Major	23,600	30,000	B				No
	East of Olympic Vista Rd		13,900		A				No
Main Street	SR-125 NB Ramps to Eastlake Pkwy/Otay Valley Rd	6-ln Gateway	54,900	61,200 (LOS D)	D	3.1%	1,700	Yes	No
Lane Ave	Proctor Valley Rd to Otay Lakes Road	4-Ln Class I Collector	21,100	22,000	C				No
Hunte Pkwy	Proctor Valley Rd to Otay Lakes Road	4-Ln Major	12,400	30,000	A				No
	Otay Lakes Road to Clubhouse Dr		21,300		A				No
	Clubhouse Dr to Olympic Pkwy		21,400		A				No
	Olympic Pkwy to Eastlake Pkwy	6-Ln Prime	27,900	50,000	A				No

Table 2.9-50
Roadway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions
(City of Chula Vista)

Roadway	Segment	Classification	ADT	LOS Threshold (LOS C)	LOS w/ Project	Project Contribution ≥ 5%?	Project ADT > 800?	Intersection along Segment Operating @ LOS D or Better?	Significant Impact?
Otay Valley Rd	La Media Rd to SR-125 SB Ramps	4-Ln Major	26,700	30,000	C				No
	SR-125 SB Ramps to SR-125 NB Ramps		29,600		C				No
	SR-125 NB Ramps to Main Street		31,500		D	0.4%	220	Yes	No

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS D, E, or F.

Table 2.9-51
Roadway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions
(County of San Diego)

Roadway	Segment	Cross-Sections	ADT	LOS Threshold (LOS D)	LOS w/ Project	LOS w/o Project	Significant Impact?
Otay Lakes Road	Wueste Rd to Driveway #1	4.2A	25,860	27,000	D	A	No
	Driveway #1 to Driveway #2		24,060		C	A	No
	Driveway #2 to Driveway #3	2.1D	10,500	13,500	D	C	No
	Driveway #3 to SR-94		8,850		D	C	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-52
Freeway/State Highway Segment Level of Service Results
Future Year 2030 Base Conditions

Freeway / State Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	V/C	LOS
I-805	Bonita Road to East H Street	326,600	7.8%	25,475	0.50	5M+1HOV	0.95	1.7%	2,251	0.938	**E**
	East H Street to Telegraph Canyon Road	325,400	7.8%	25,381	0.50	5M+1HOV	0.95	1.9%	2,253	0.939	**E**
	Telegraph Canyon Road to Olympic Parkway	286,100	7.1%	20,284	0.51	4M+1Aux+ 1HOV	0.95	1.7%	1,996	0.832	D
	Olympic Parkway to Main Street	271,500	7.1%	19,249	0.51	4M+1Aux+ 1HOV	0.95	1.7%	1,890	0.788	C
SR-125	SR-54 to Mt. Miguel Road	34,600	7.0%	2,422	0.60	2M	0.95	10.3%	808	0.337	A
	Mt Miguel Road to Proctor Valley Road	29,100	7.0%	2,037	0.60	2M	0.95	10.3%	675	0.281	A
	Proctor Valley Road to Otay Lakes Road	33,600	7.0%	2,352	0.60	2M	0.95	10.3%	786	0.328	A
	Otay Lakes Road to Olympic Parkway	29,600	7.0%	2,072	0.60	2M	0.95	10.3%	686	0.286	A
	Olympic Parkway to Birch Road	38,500	7.0%	2,695	0.60	2M	0.95	10.3%	897	0.374	A
	Birch Road to Main Street	33,500	7.0%	2,345	0.60	2M	0.95	10.3%	775	0.323	A
	Main Street to Otay Valley Road	38,300	7.0%	2,681	0.60	2M	0.95	10.3%	885	0.369	A
	Otay Valley Road to Lone Star Road	51,000	7.0%	3,570	0.60	2M	0.95	10.3%	1,184	0.493	B
	Lone Star Road to Otay Mesa Road	89,200	7.0%	6,244	0.60	2M	0.95	10.3%	2,070	0.863	D
	Otay Mesa Road to SR-905	78,700	7.0%	5,509	0.60	2M	0.95	10.3%	1,826	0.761	C

Source: Chen Ryan Associates (March 2015)
Notes:
M = Mainline.
Aux = Auxiliary Lane.
HOV = High Occupancy Vehicle lane.

Table 2.9-53
Freeway/State Highway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions

Freeway / State Highway	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 2030 w/o project)	Significant Impact?
I-805	Bonita Road to East H Street	328,700	7.8%	25,639	0.50	5M+1HOV	0.95	1.7%	2,272	0.947	**E**	0.009	No
	East H Street to Telegraph Canyon Road	327,500	7.8%	25,545	0.50	5M+1HOV	0.95	1.9%	2,263	0.943	**E**	0.004	No
	Telegraph Canyon Road to Olympic Parkway	286,300	7.1%	20,299	0.51	4M+1Aux +1HOV	0.95	1.7%	1,996	0.832	D	0.000	No
	Olympic Parkway to Main Street	271,500	7.1%	19,249	0.51	4M+1Aux +1HOV	0.95	1.7%	1,890	0.788	C	0.000	No
SR-125	SR-54 to Mt. Miguel Road	35,500	7.0%	2,485	0.60	2M	0.95	10.3%	830	0.346	A	0.009	No
	Mt Miguel Road to Proctor Valley Road	30,900	7.0%	2,163	0.60	2M	0.95	10.3%	719	0.300	A	0.018	No
	Proctor Valley Road to Otay Lakes Road	34,900	7.0%	2,443	0.60	2M	0.95	10.3%	808	0.337	A	0.009	No
	Otay Lakes Road to Olympic Parkway	30,800	7.0%	2,156	0.60	2M	0.95	10.3%	719	0.300	A	0.014	No
	Olympic Parkway to Birch Road	38,900	7.0%	2,723	0.60	2M	0.95	10.3%	908	0.378	A	0.005	No
	Birch Road to Main Street	33,900	7.0%	2,373	0.60	2M	0.95	10.3%	786	0.328	A	0.005	No
	Main Street to Otay Valley Road	38,700	7.0%	2,709	0.60	2M	0.95	10.3%	897	0.374	A	0.005	No

Table 2.9-53
Freeway/State Highway Segment Level of Service Results
Future Year 2030 Base Plus Project (Buildout) Conditions

Freeway / State Highway	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 2030 w/o project)	Significant Impact?
SR-125	Otay Valley Road to Lone Star Road	51,700	7.0%	3,619	0.60	2M	0.95	10.3%	1,206	0.503	B	0.009	No
	Lone Star Road to Otay Mesa Road	90,700	7.0%	6,349	0.60	2M	0.95	10.3%	2,103	0.876	D	0.014	No
	Otay Mesa Road to SR-905	80,200	7.0%	5,614	0.60	2M	0.95	10.3%	1,859	0.775	C	0.014	No

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-54
2-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Future Year 2030 Base Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS
SR-94	Melody Road to Otay Lakes Road	16,200	11,700	D or better
	South of Otay Lakes Road		20,600	**E**

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-55
2-Lane Highway Segment Level of Service Results
County of San Diego LOS Criteria
Future Year 2030 Base Plus Project (Buildout) Conditions

Highway	Segment	LOS Threshold (LOS D)	ADT	LOS w/ Project	LOS w/o Project	Project ADT	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	16,200	12,800	D or better	D or better	880	No
	South of Otay Lakes Road		21,480	**E**	**E**	880	**Yes (Cumulative)**

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-56
2-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Future Year 2030 Base Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	%HV	Volume (pc/h/ln)	Speed (mph)	LOS
SR-94	Melody Road to Otay Lakes Road	11,700	8.90%	1,041	0.67	1	0.92	5.0%	798	44.8	D
	South of Otay Lakes Road	20,600	8.40%	1,730	0.67	1	0.96	5.0%	1,271	44.8	D

Source: Chen Ryan Associates (March 2015)

Table 2.9-57
2-Lane Highway Segment Level of Service Results
Caltrans and HCM Methodology
Future Year 2030 Base Plus Project (Buildout) Conditions

Highway	Segment	ADT	Peak Hour %	Peak Hour Volume	Directional Split	# of Lanes Per Direction	PHF	% HV	Volume (pc/h/ln)	Speed (mph)	LOS w/ Project	LOS w/o Project	Significant Impact?
SR-94	Melody Road to Otay Lakes Road	12,800	8.9%	1,139	0.67	1	0.92	5.0%	871	44.8	D	D	No
	South of Otay Lakes Road	21,480	8.4%	1,739	0.67	1	0.96	5.0%	1,277	44.1	D	D	No

Source: Chen Ryan Associates (March 2015)

Table 2.9-58
Ramp Intersection Capacity Analysis
Future Year 2030 Base Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,210	*1200-1500: (At Capacity)*
	PM	1,795	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,580	*>1500: (Over Capacity)*
	PM	1,358	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	908	*<1200: (Under Capacity)*
	PM	1,377	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	912	*<1200: (Under Capacity)*
	PM	1,301	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	903	*<1200: (Under Capacity)*
	PM	1,275	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	929	*<1200: (Under Capacity)*
	PM	1,300	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Main Street	AM	1,598	*>1500: (Over Capacity)*
	PM	1,367	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Main Street	AM	1,215	*1200-1500: (At Capacity)*
	PM	1,490	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Valley Road	AM	323	*<1200: (Under Capacity)*
	PM	533	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Valley Road	AM	335	*<1200: (Under Capacity)*
	PM	548	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	732	*<1200: (Under Capacity)*
	PM	772	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	567	*<1200: (Under Capacity)*
	PM	920	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-59A
Ramp Intersection Capacity Analysis
Future Year 2030 Base Plus Project (Buildout) Conditions

Ramp Intersection	Peak Hour	ILV / Hour	Description
I-805 SB Ramps / Telegraph Canyon Road	AM	1,416	*1200-1500: (At Capacity)*
	PM	1,865	*>1500: (Over Capacity)*
I-805 NB Ramps / Telegraph Canyon Road	AM	1,629	*>1500: (Over Capacity)*
	PM	1,238	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Otay Lakes Road	AM	1,016	*<1200: (Under Capacity)*
	PM	1,545	*>1500: (Over Capacity)*
SR-125 NB Ramps / Otay Lakes Road	AM	1,025	*<1200: (Under Capacity)*
	PM	1,447	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Olympic Parkway	AM	924	*<1200: (Under Capacity)*
	PM	1,304	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Olympic Parkway	AM	966	*<1200: (Under Capacity)*
	PM	1,351	*1200-1500: (At Capacity)*
SR-125 SB Ramps / Main Street	AM	1,603	*>1500: (Over Capacity)*
	PM	1,380	*1200-1500: (At Capacity)*
SR-125 NB Ramps / Main Street	AM	1,225	*1200-1500: (At Capacity)*
	PM	1,502	*>1500: (Over Capacity)*
SR-125 SB Ramps / Otay Valley Road	AM	350	*<1200: (Under Capacity)*
	PM	569	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Valley Road	AM	370	*<1200: (Under Capacity)*
	PM	594	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	776	*<1200: (Under Capacity)*
	PM	819	*<1200: (Under Capacity)*
SR-125 SB Ramps / Otay Mesa Road	AM	590	*<1200: (Under Capacity)*
	PM	1,004	*<1200: (Under Capacity)*

Source: Chen Ryan Associates (March 2015)

Table 2.9-59B
Ramp Metering Analysis
Future Year 2030 Base Plus Project (Buildout) Conditions

Location	Peak Hour	Demand[1] (veh/hr)	Meter Rate[2] (veh/hr)	Excess Demand[3] (veh/hr)	Delay w/ Project[4] (min)	Queue[5] (ft)	Delay w/o Project (min)	Significant Impact?
I-805 NB On-Ramp @ Telegraph Canyon Road	AM	2,097	1,824	273	8.9	3,950	5.4	No

Notes:
1 Demand is the peak hour demand expected to use the on-ramp.
2 Meter Rate is the peak hour capacity expected to be processed through the ramp meter. This value was obtained from Caltrans.
3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4 Delay = (Excess Demand / Meter Rate) X 60 min/hr.
5 Queue(Per Ramp Lane) = (Excess Demand) X 29 ft/veh/# of non-HOV lanes.
Source: Chen Ryan Associates; August 2014

Table 2.9-60
Resort Village Internal Roadway Segment Performance

Internal Roadway	Estimated ADT	Recommended Classification	LOS D Threshold	LOS
"A"	13,500	4.2A	27,000	C
"B"	11,800	2.2B	13,500	D
"C"	9,600	2.2E	10,900	D
"D"	5,900	2.3C	10,900	D
"E"	5,400	2.3C	10,900	D
"F"	2,700	Residential Collector	Design Capacity – LOS C at 4,500	C or better
"G"	3,100	Residential Collector	Design Capacity – LOS C at 4,500	C or better
"H"	2,800	Residential Collector	Design Capacity – LOS C at 4,500	C or better
"I"	2,300	Residential Collector	Design Capacity – LOS C at 4,500	C or better
"J"	1,100	Residential Collector	Design Capacity – LOS C at 4,500	C or better
"K"	4,600	2.3C	7,000	D
"L"	6,200	2.3C	7,000	D

Source: Chen Ryan Associates (March 2015)

Table 2.9-61
Mitigated Intersection Level of Service
Existing Plus Project (Buildout) Conditions

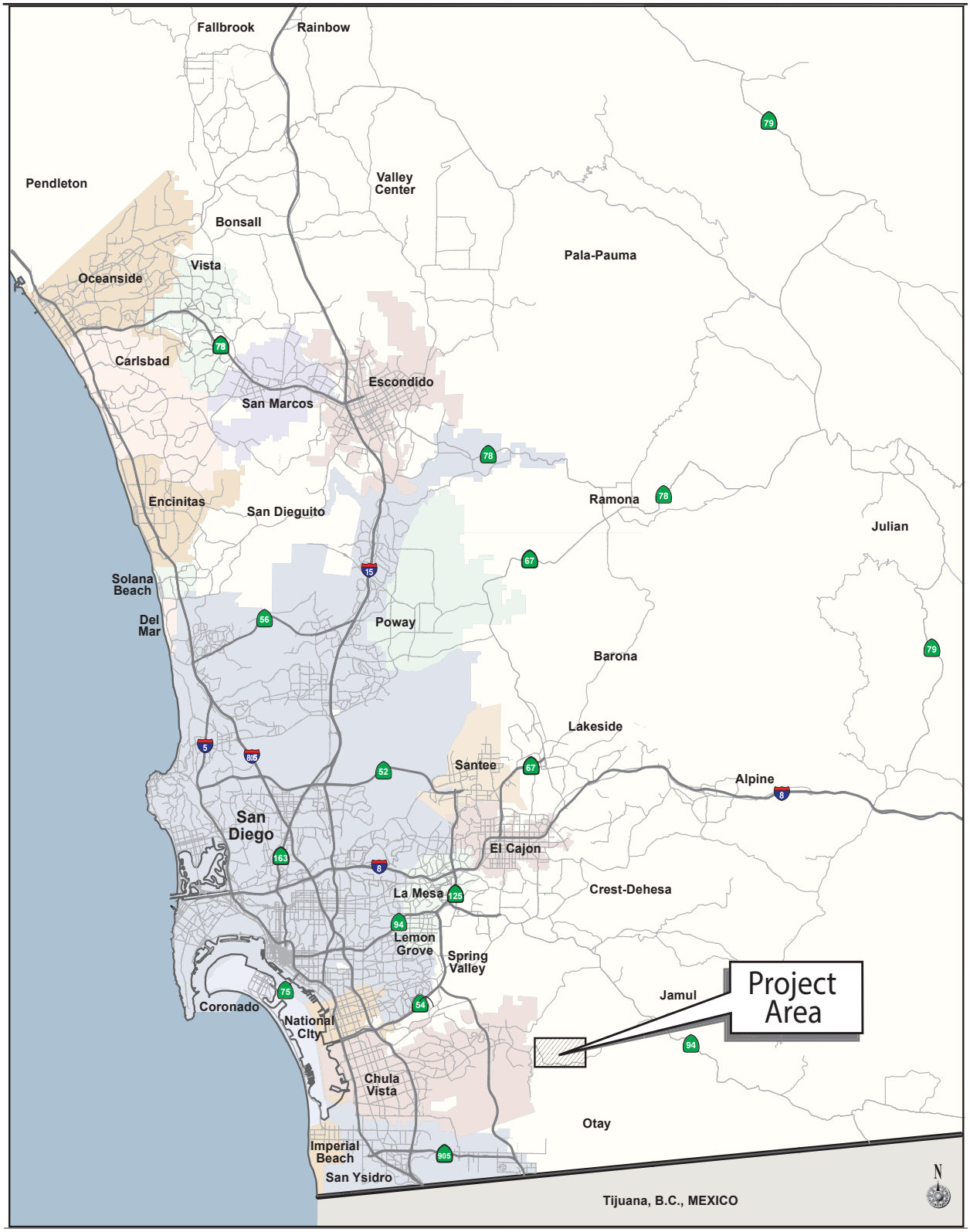
Intersection	Before Mitigation				After Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Avg. Delay (Sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
Otay Lakes Road / Wueste Road	15.5	C	43.6	**E**	8.4	A	8.7	**A**

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.

Table 2.9-62
Mitigated Intersection Level of Service
Near-Term Cumulative Year (2025) Conditions

Intersection	Before Mitigation				After Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Avg. Delay (Sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
Otay Lakes Road / Wueste Road	42.9	**E**	49.8	**E**	8.4	A	10.3	B
Otay Lakes Road / SR-94	49.6	**E**	59.3	**F**	8.2	A	10.6	B

Source: Chen Ryan Associates (March 2015)
Note: Bold letter indicates unacceptable LOS E or F.



Source: Chen Ryan Associates, 2015

Figure 2.9-1
Project Regional Location

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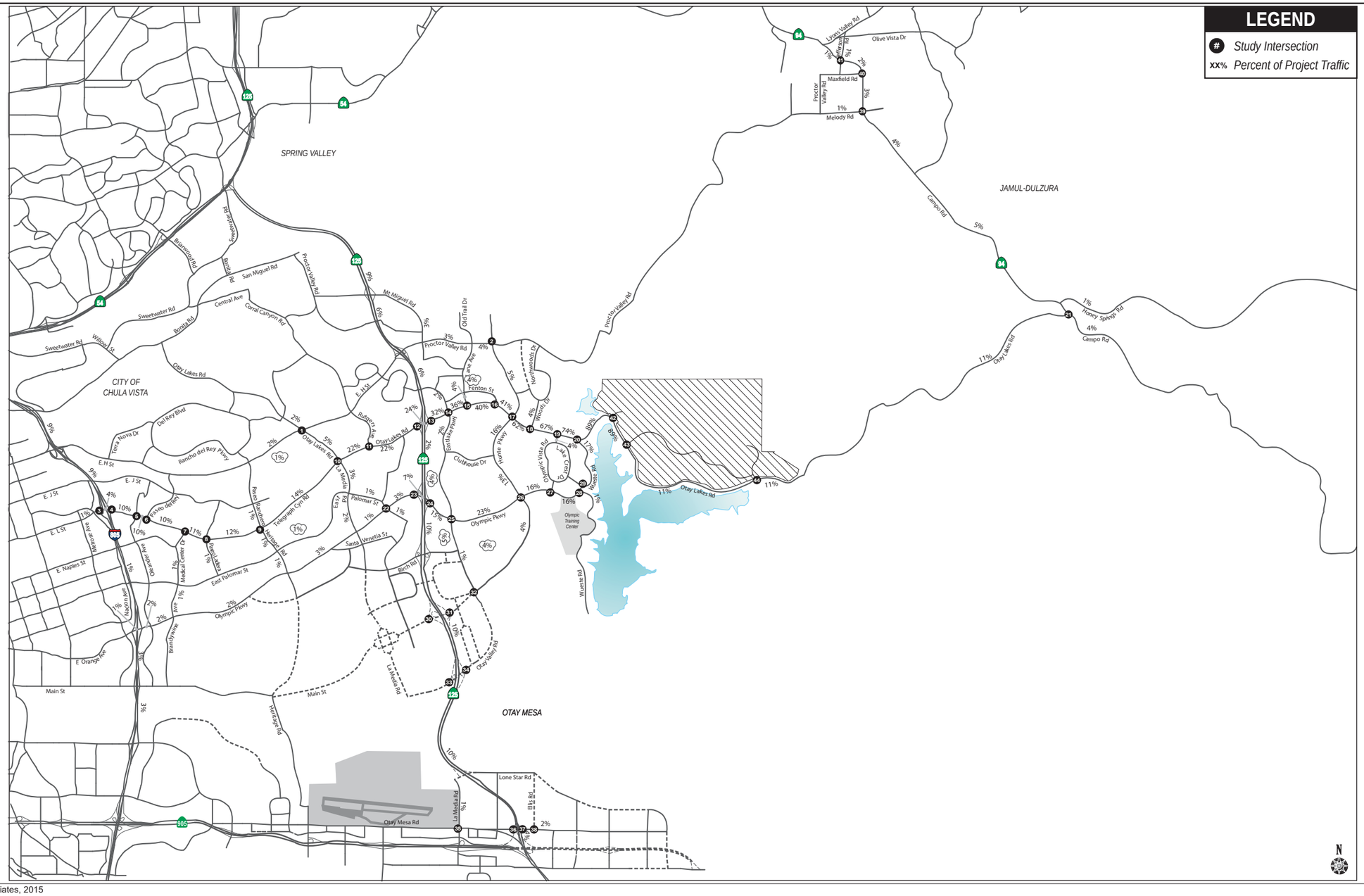
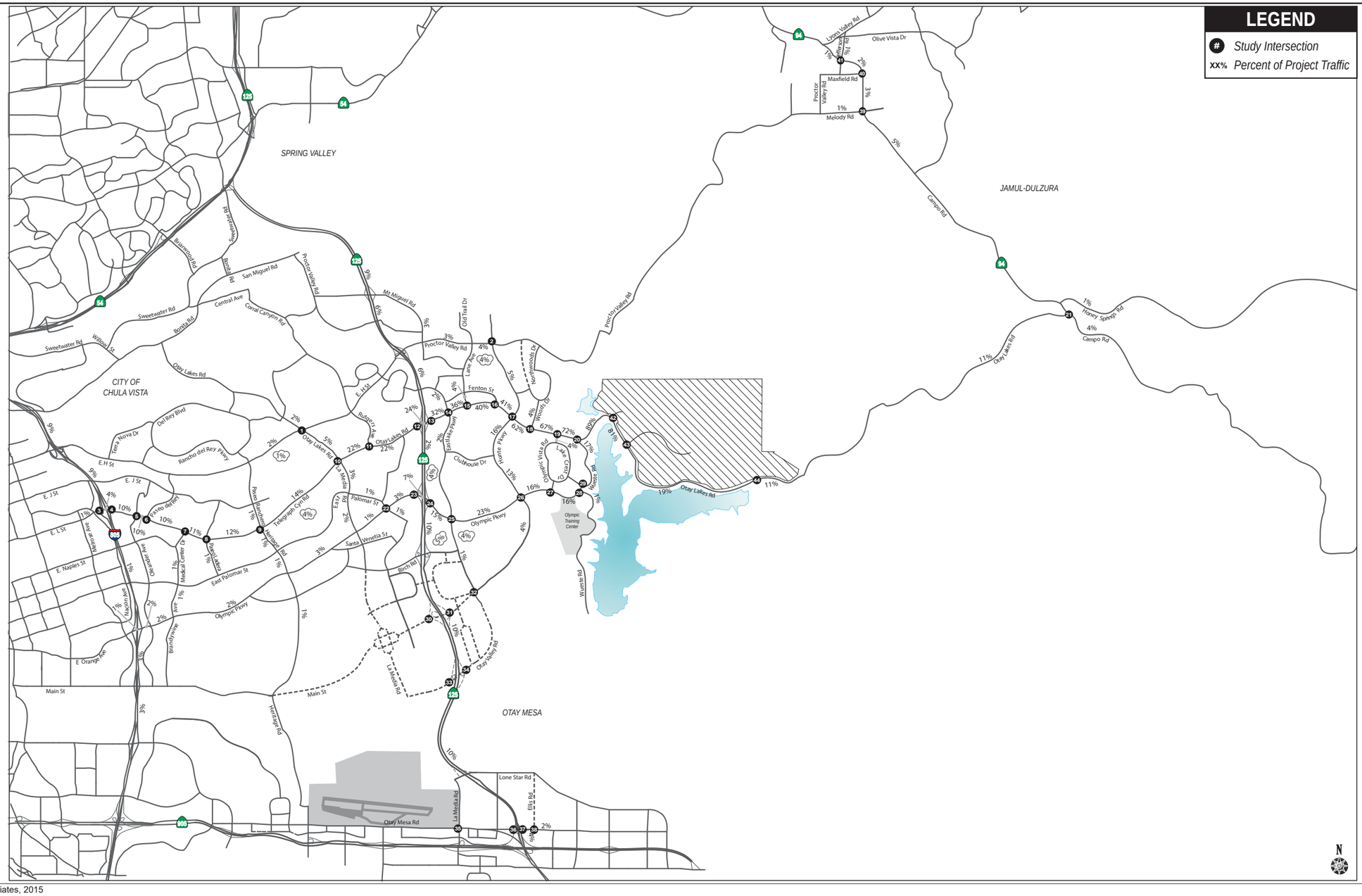


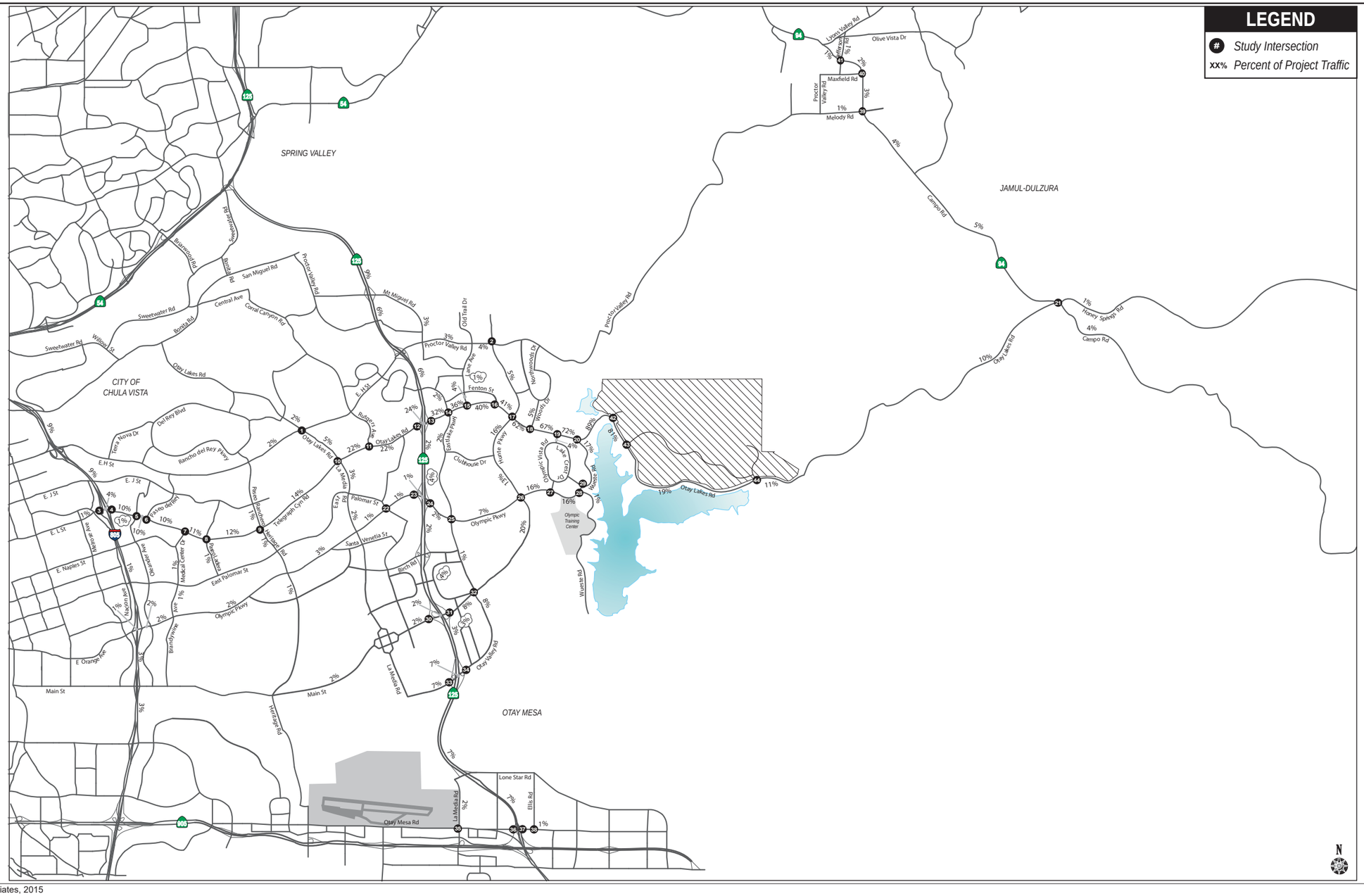
Source: Chen Ryan Associates, 2015

Figure 2.9-2
Project Trip Distribution - Existing Network



Source: Chen Ryan Associates, 2015

Figure 2.9-3
Project Trip Distribution - Buildout Cumulative (Year 2025) Network

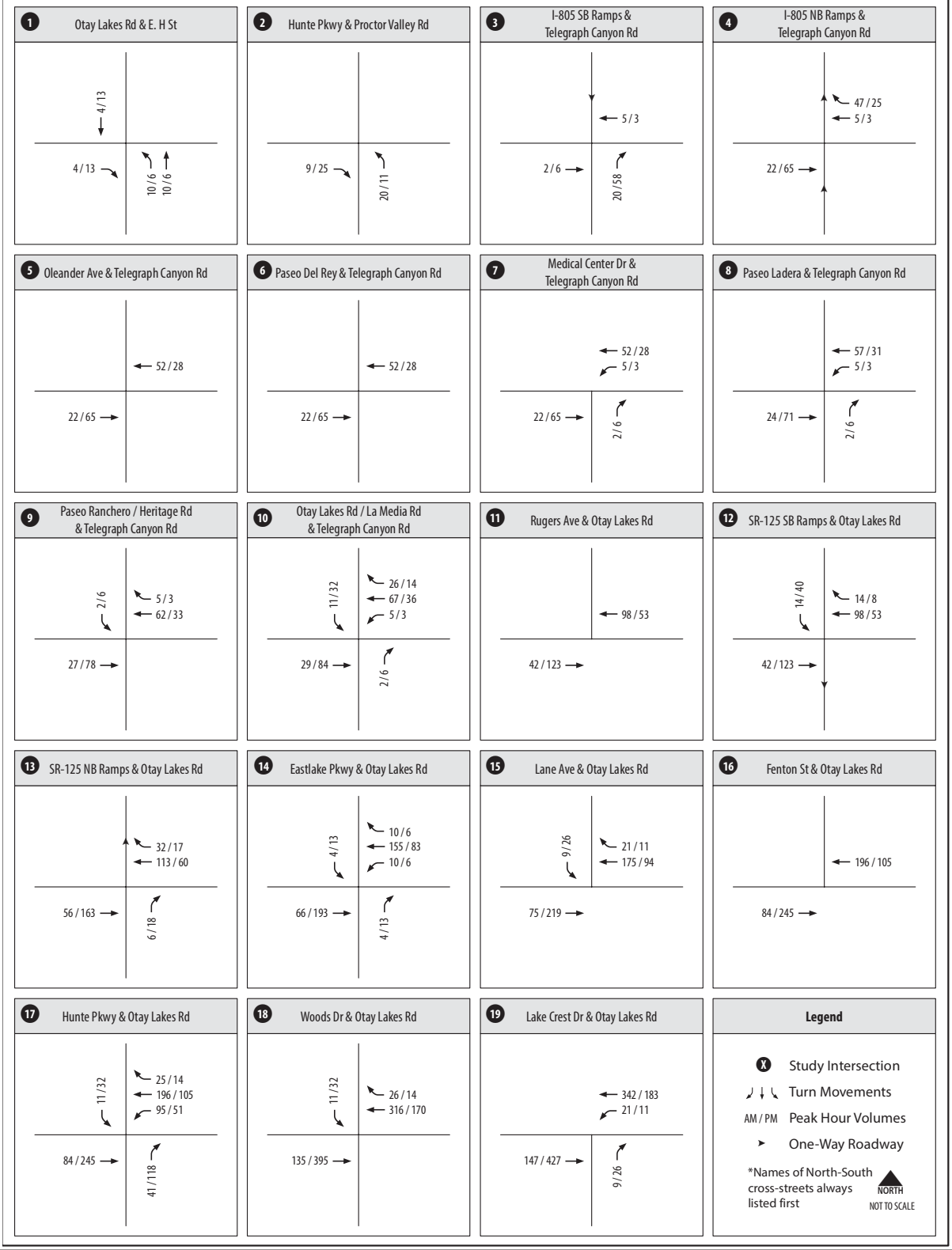


Source: Chen Ryan Associates, 2015

Figure 2.9-4
Project Trip Distribution - Year 2030 Network

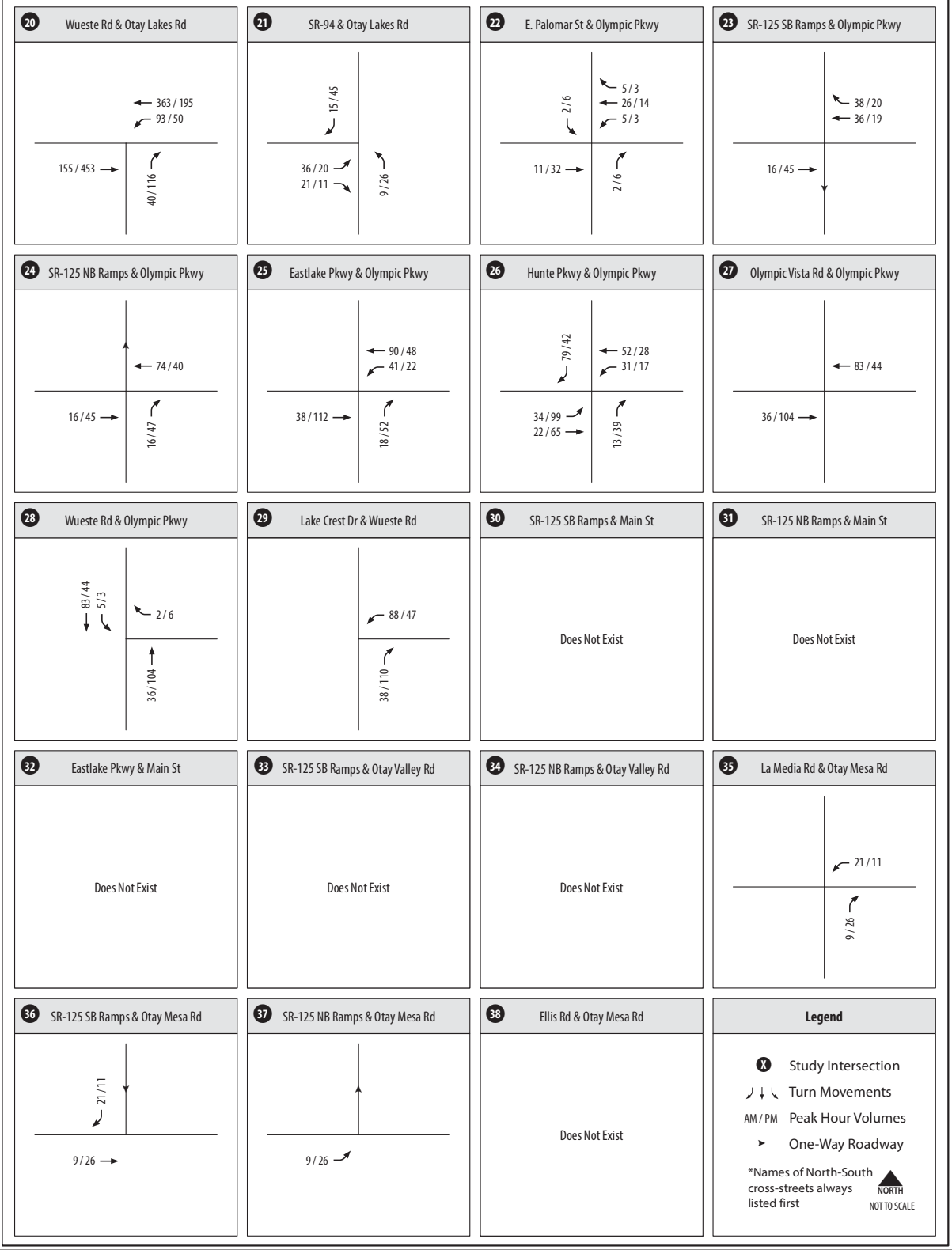
Source: Chen Ryan Associates, 2015

Figure 2.9-5
Project (Phase I) Trip Assignment (Roadway) - Existing Network



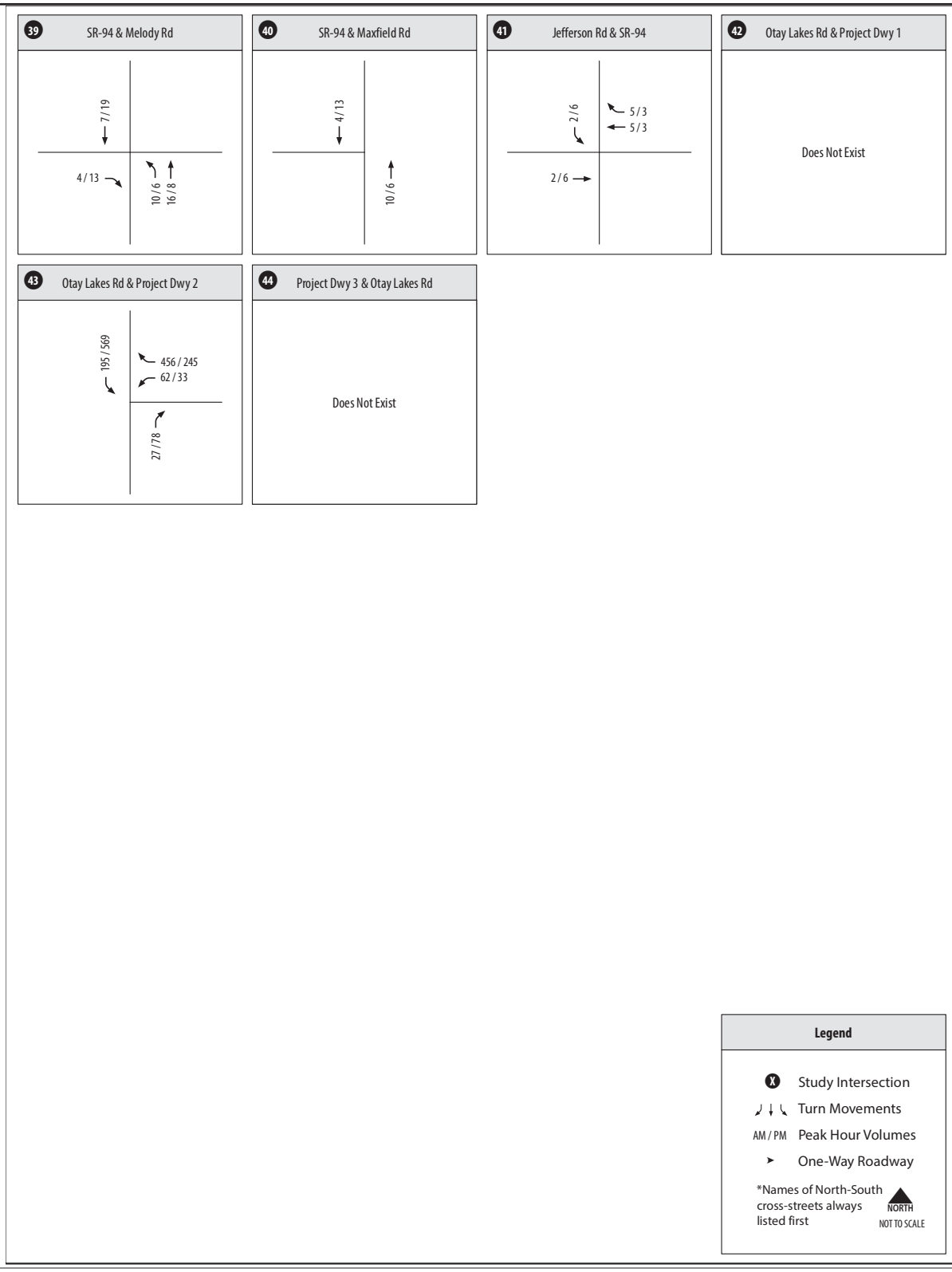
Source: Chen Ryan Associates, 2015

Figure 2.9-6
Project (Phase I) Trip Assignment (Intersection) - Existing Network (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-6
Project (Phase I) Trip Assignment (Intersection) - Existing Network (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-6
Project (Phase I) Trip Assignment (Intersection) - Existing Network (Intersections 39-44)

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Source: Chen Ryan Associates, 2015

Figure 2.9-7

Project (Buildout) Trip Assignment (Roadway) - Existing Network

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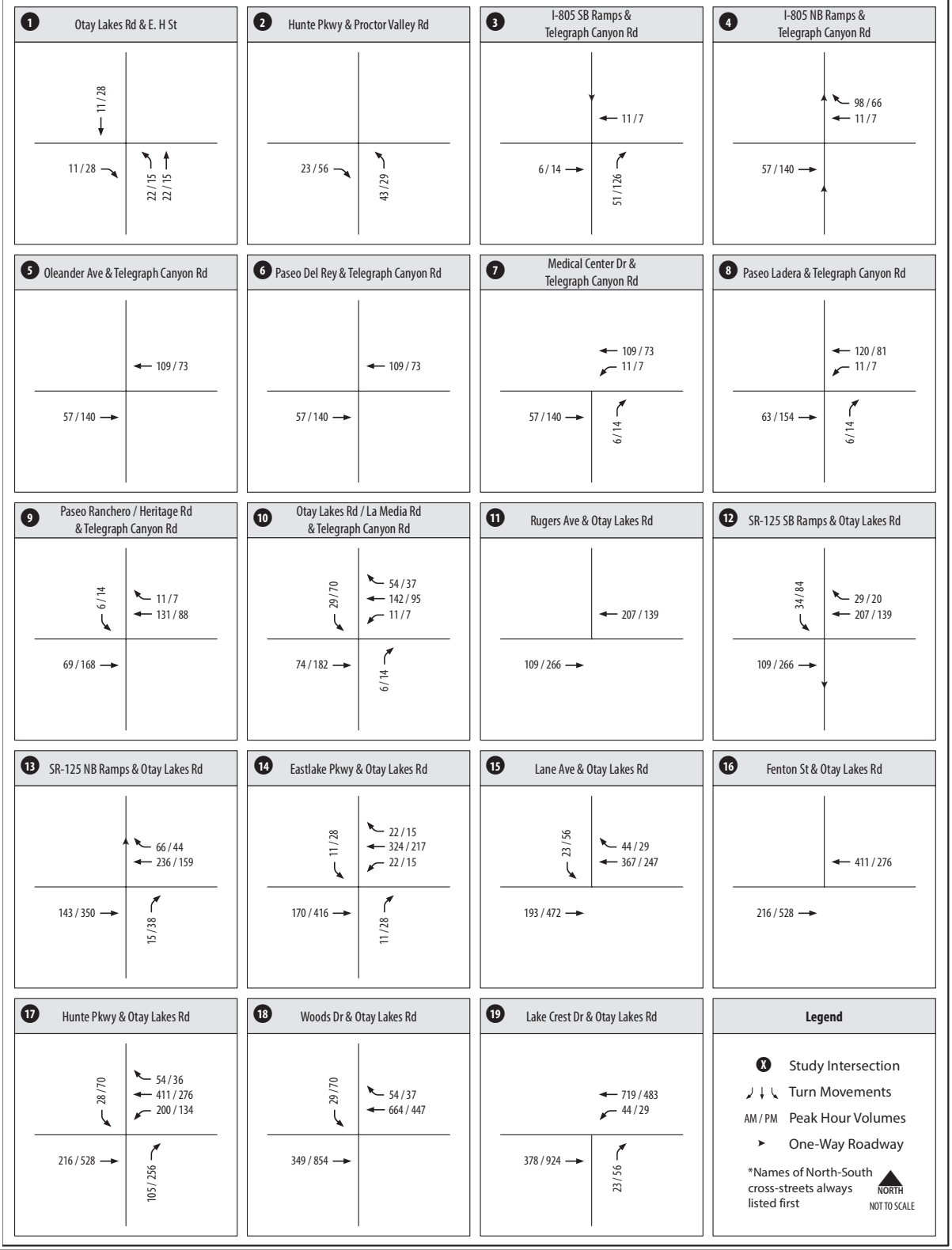
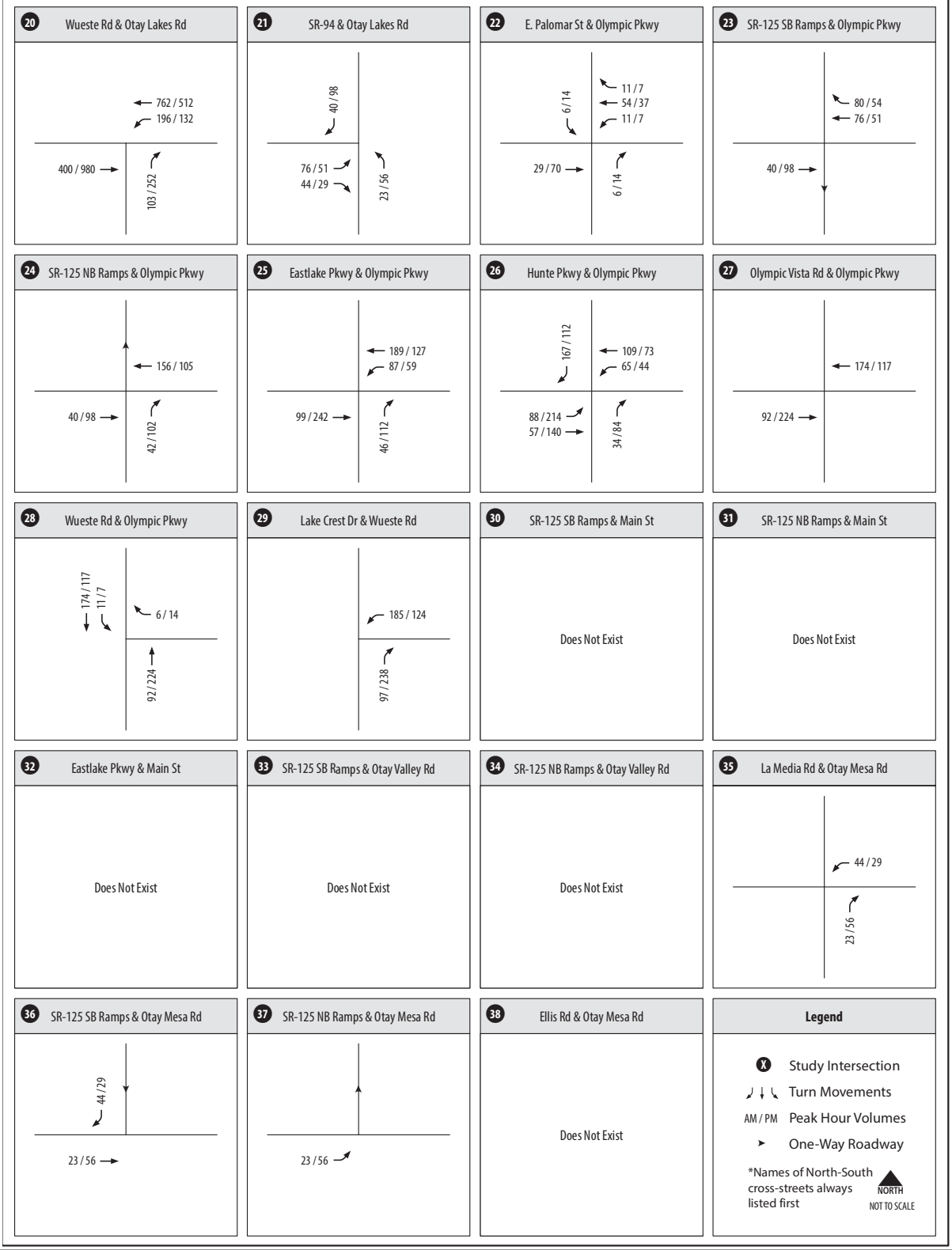


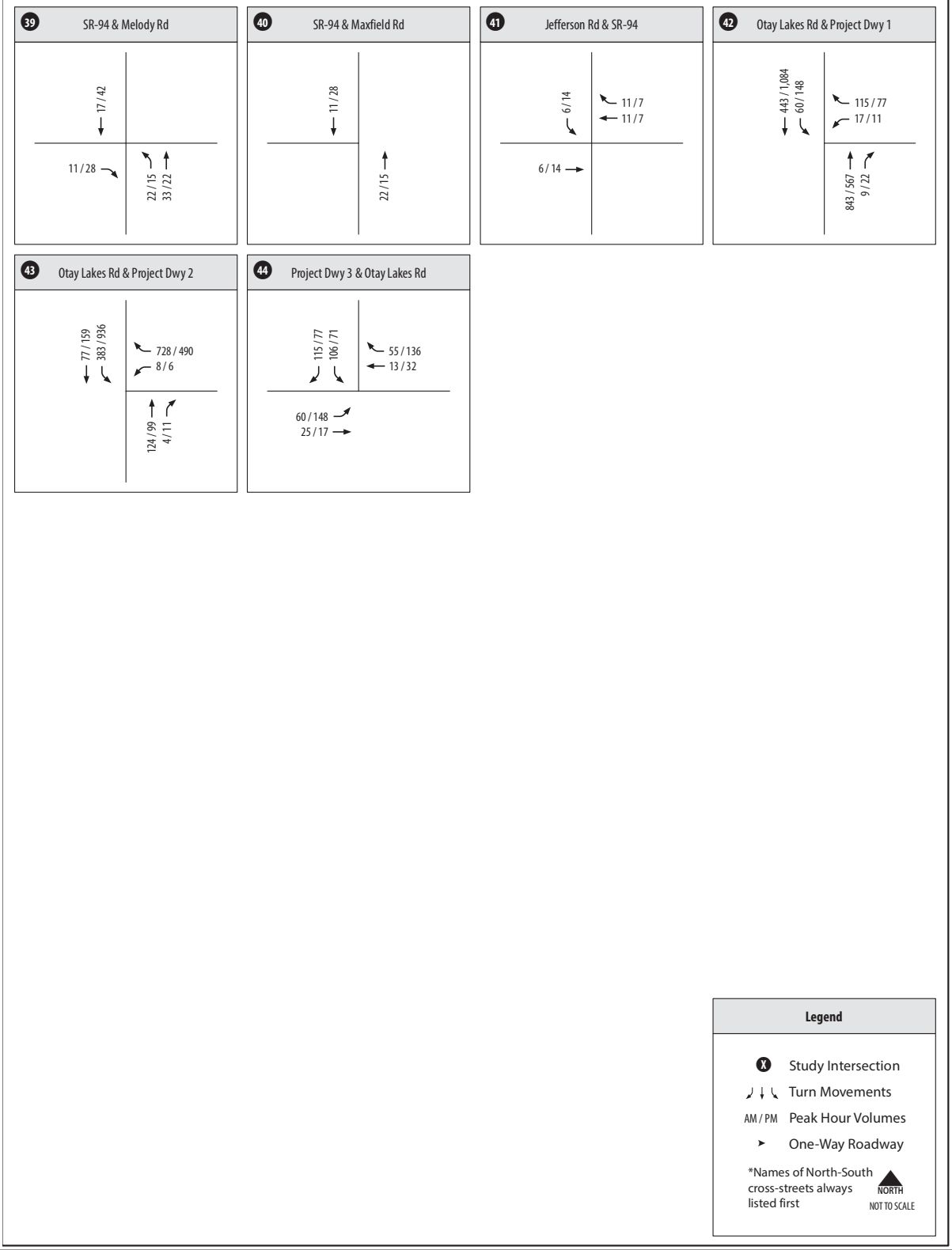
Source: Chen Ryan Associates, 2015

Figure 2.9-8
Project (Buildout) Trip Assignment (Intersection) - Existing Network (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-8
Project (Buildout) Trip Assignment (Intersection) - Existing Network (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-8
Project (Buildout) Trip Assignment (Intersection) - Existing Network (Intersections 39-44)

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Figure 2.9-9
Project (Buildout) Trip Assignment (Roadway) - Cumulative (Year 2025) Network

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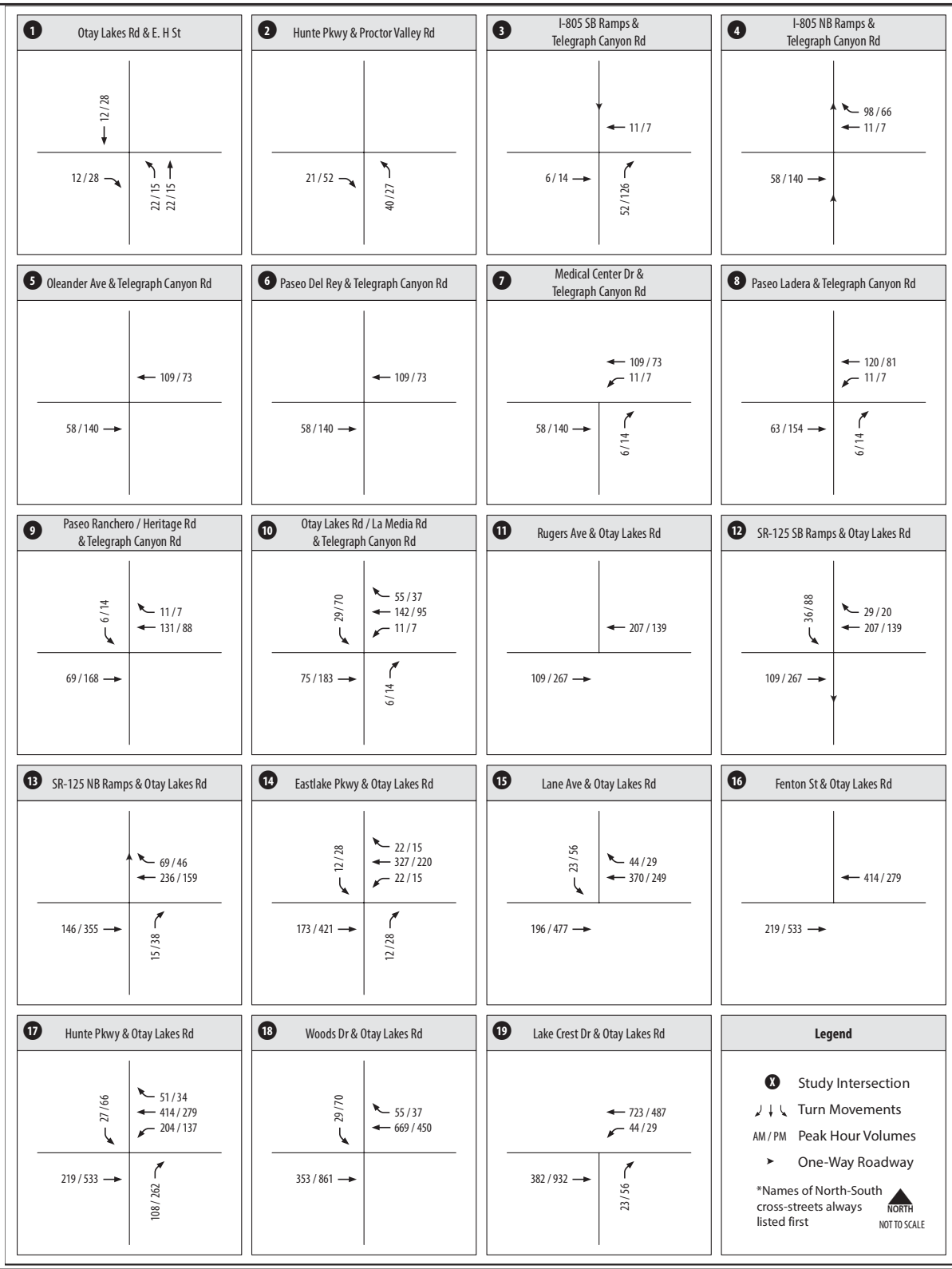
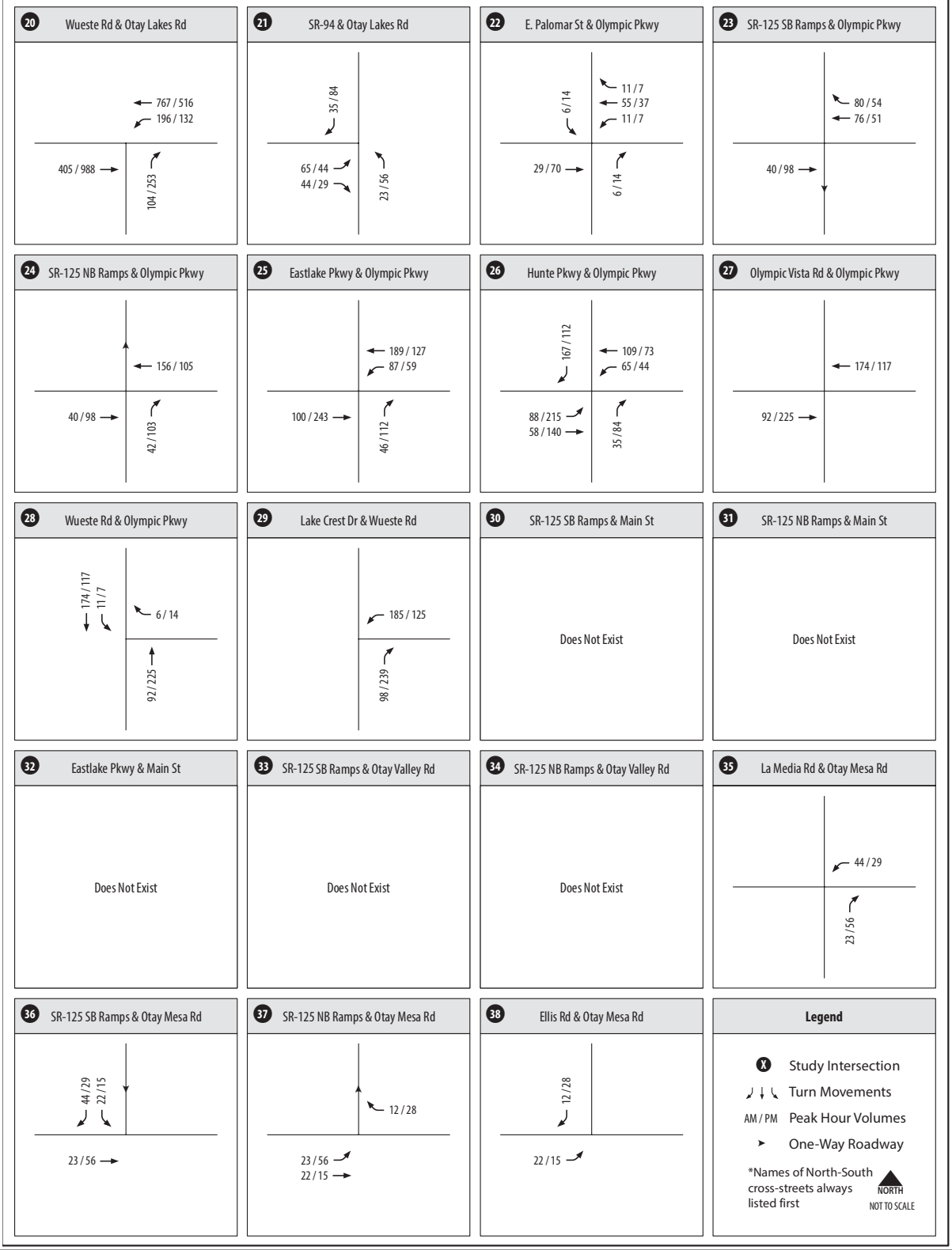


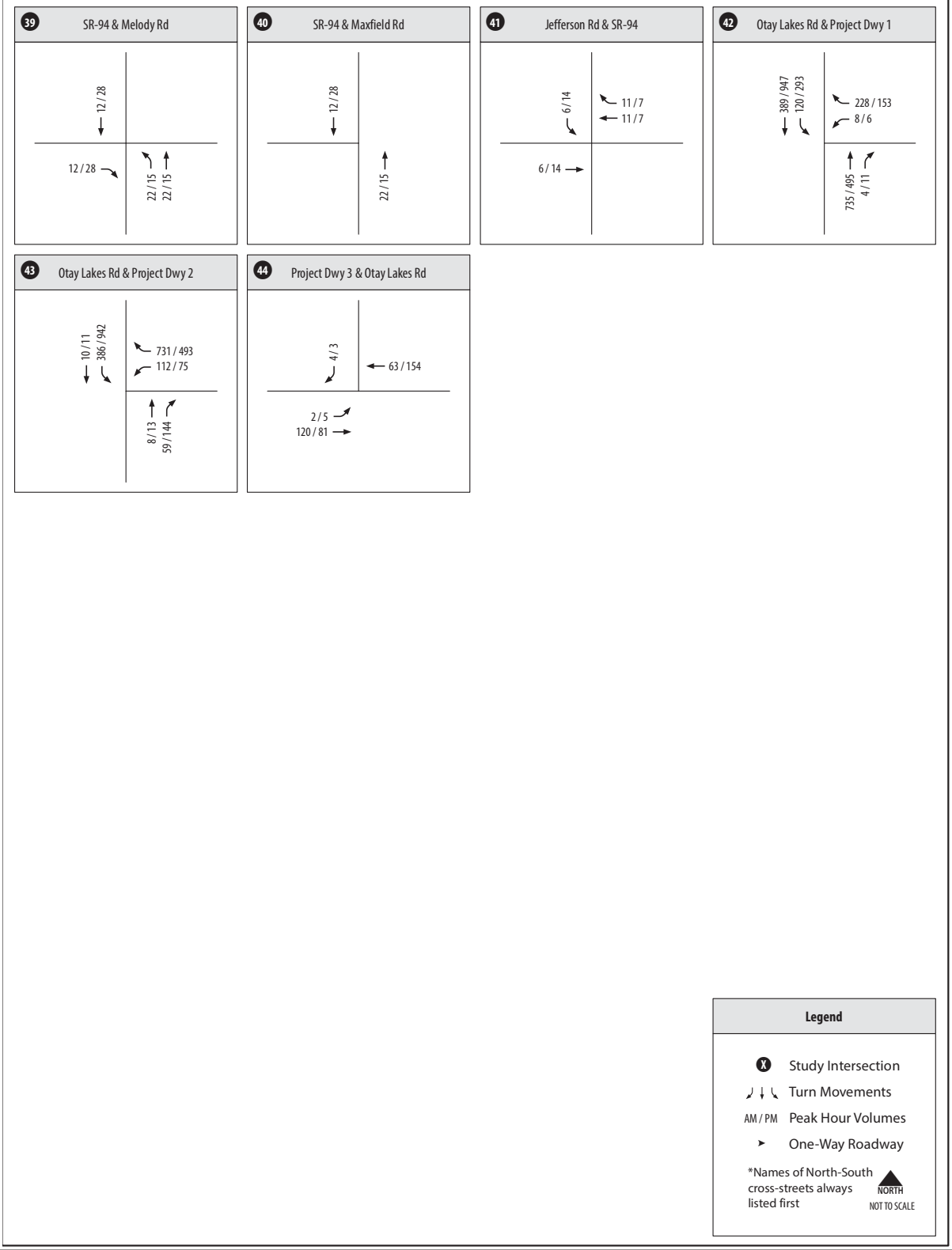
Source: Chen Ryan Associates, 2015

Figure 2.9-10
Project (Buildout) Trip Assignment (Intersection) - Cumulative (Year 2025) Network (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-10
Project (Buildout) Trip Assignment (Intersection) - Cumulative (Year 2025) Network (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-10
Project (Buildout) Trip Assignment (Intersection) - Cumulative (Year 2025) Network (Intersections 39-44)

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Source: Chen Ryan Associates, 2015

Figure 2.9-11
Project (Buildout) Trip Assignment - Year 2030 Network

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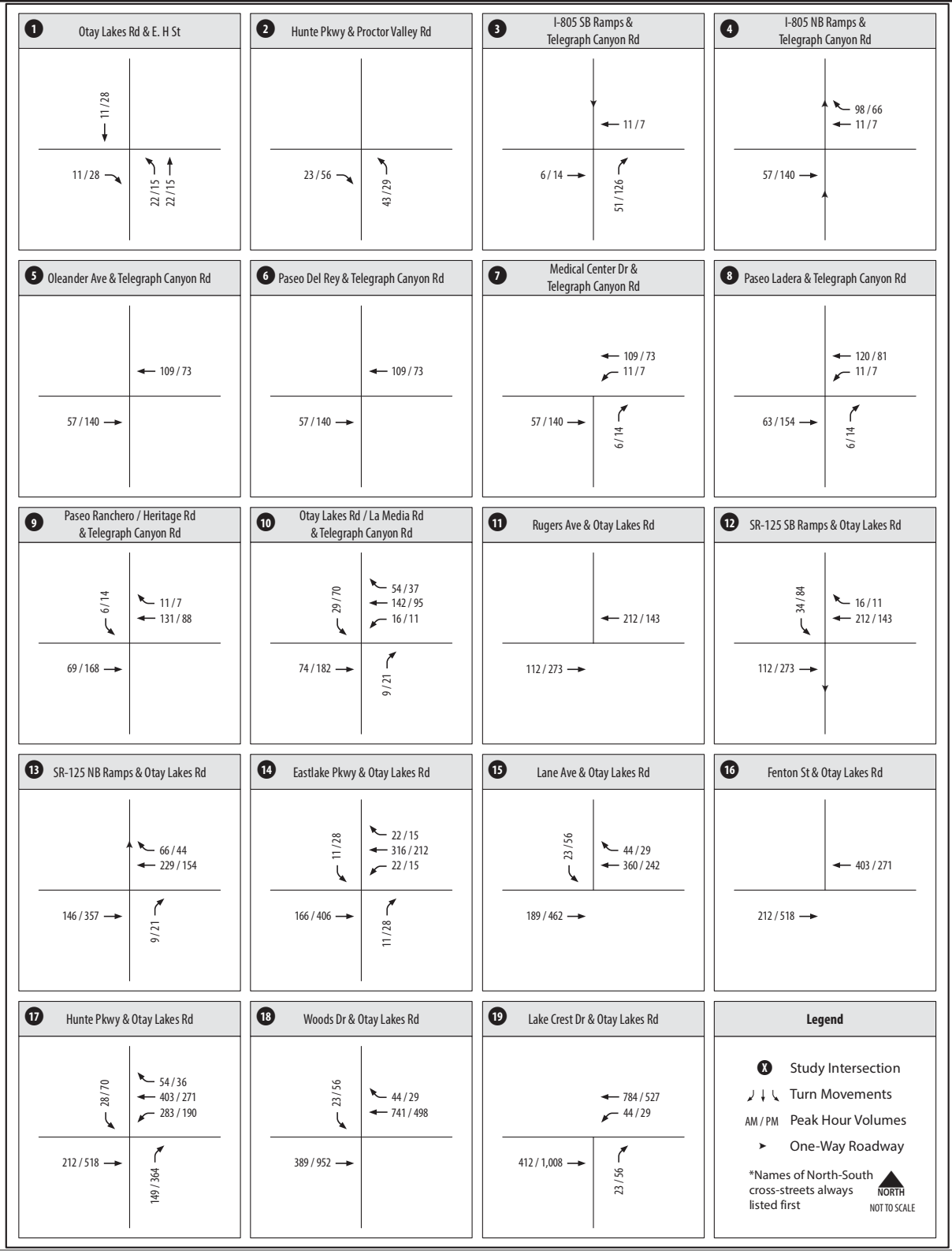
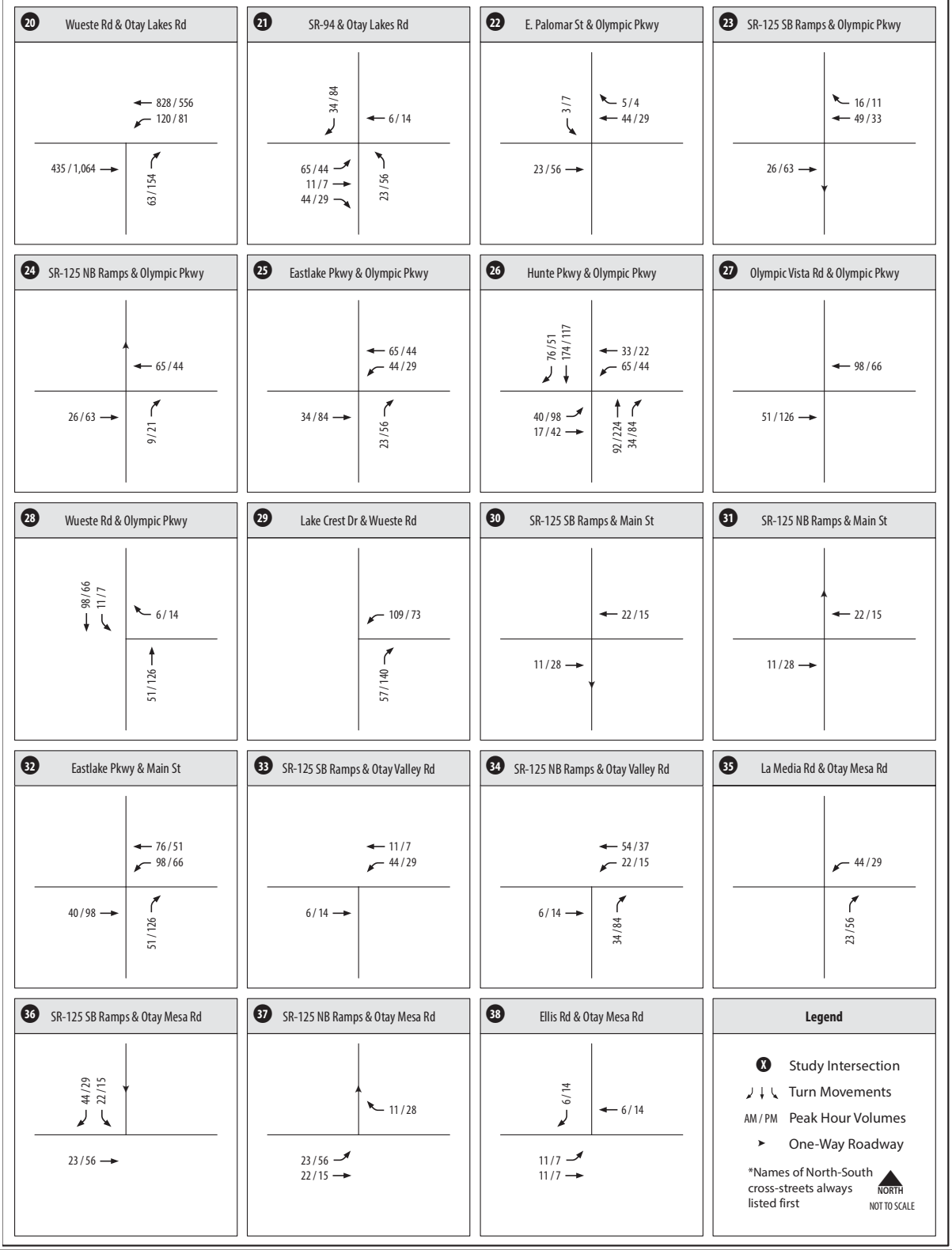


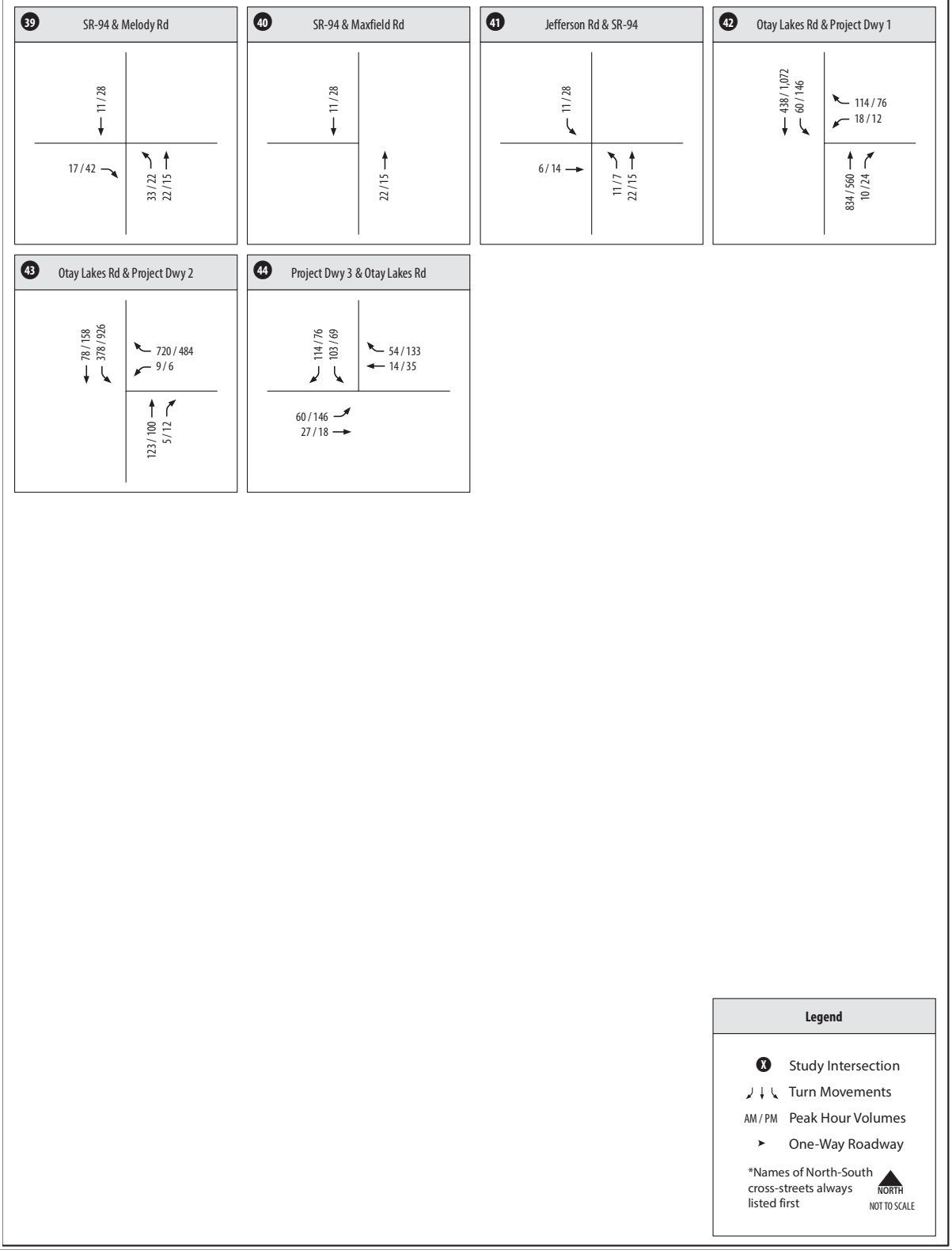
Source: Chen Ryan Associates, 2015

Figure 2.9-12
Project (Buildout) Trip Assignment (Intersection) - Year 2030 Network (Intersections 1-19)



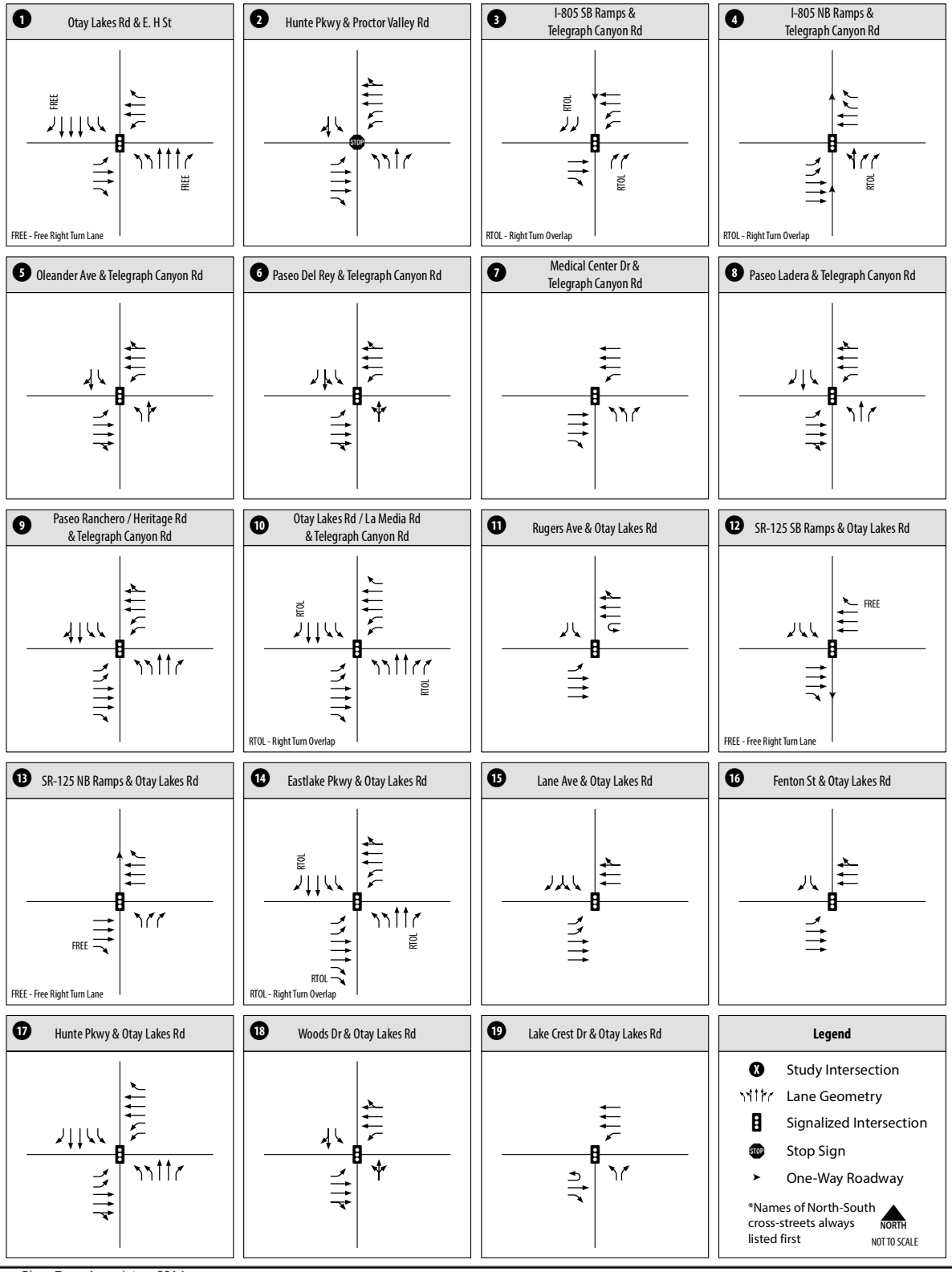
Source: Chen Ryan Associates, 2015

Figure 2.9-12
Project (Buildout) Trip Assignment (Intersection) - Year 2030 Network (Intersections 20-38)



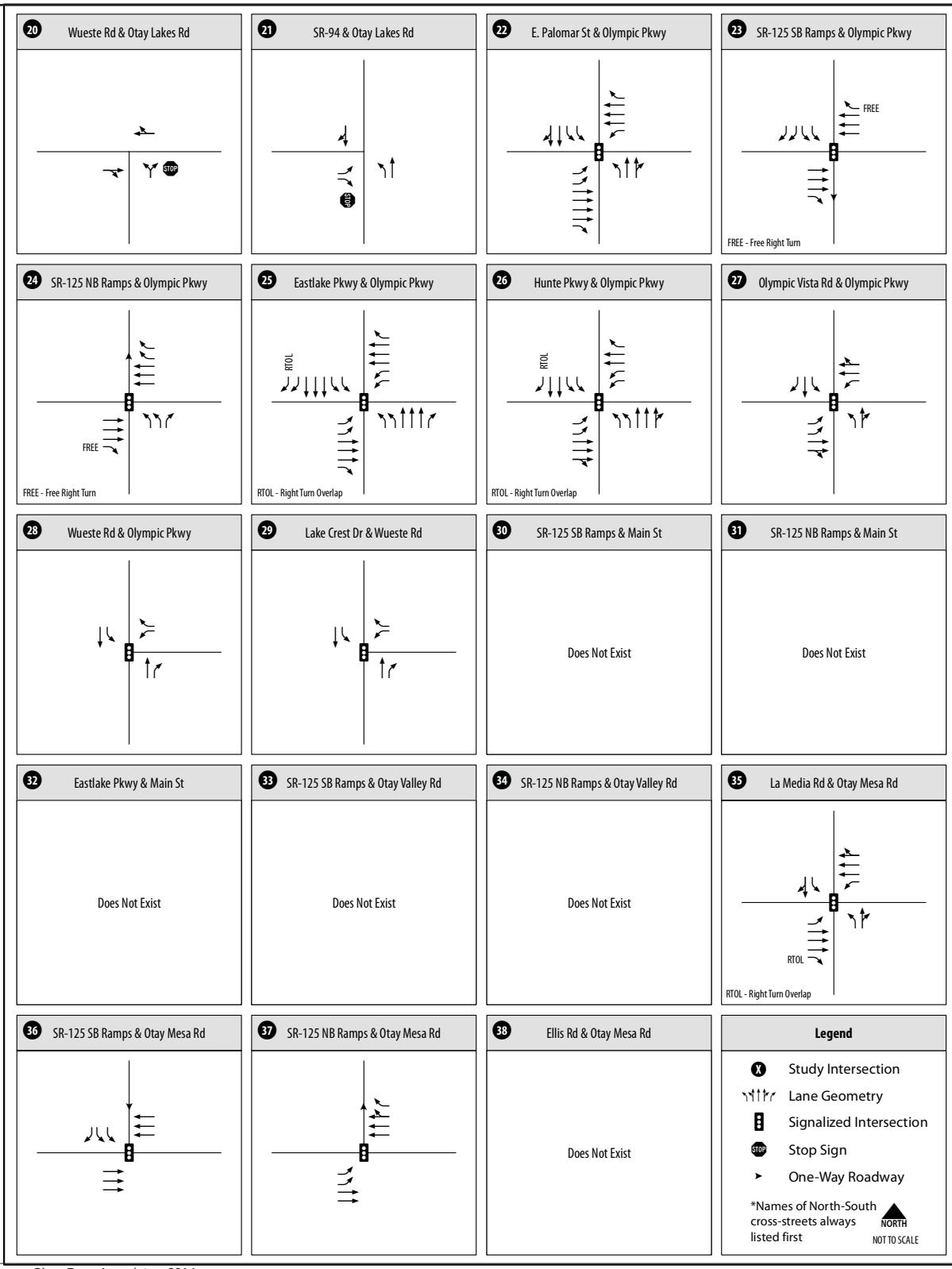
Source: Chen Ryan Associates, 2015

Figure 2.9-12
Project (Buildout) Trip Assignment (Intersection) - Year 2030 Network (Intersections 39-44)



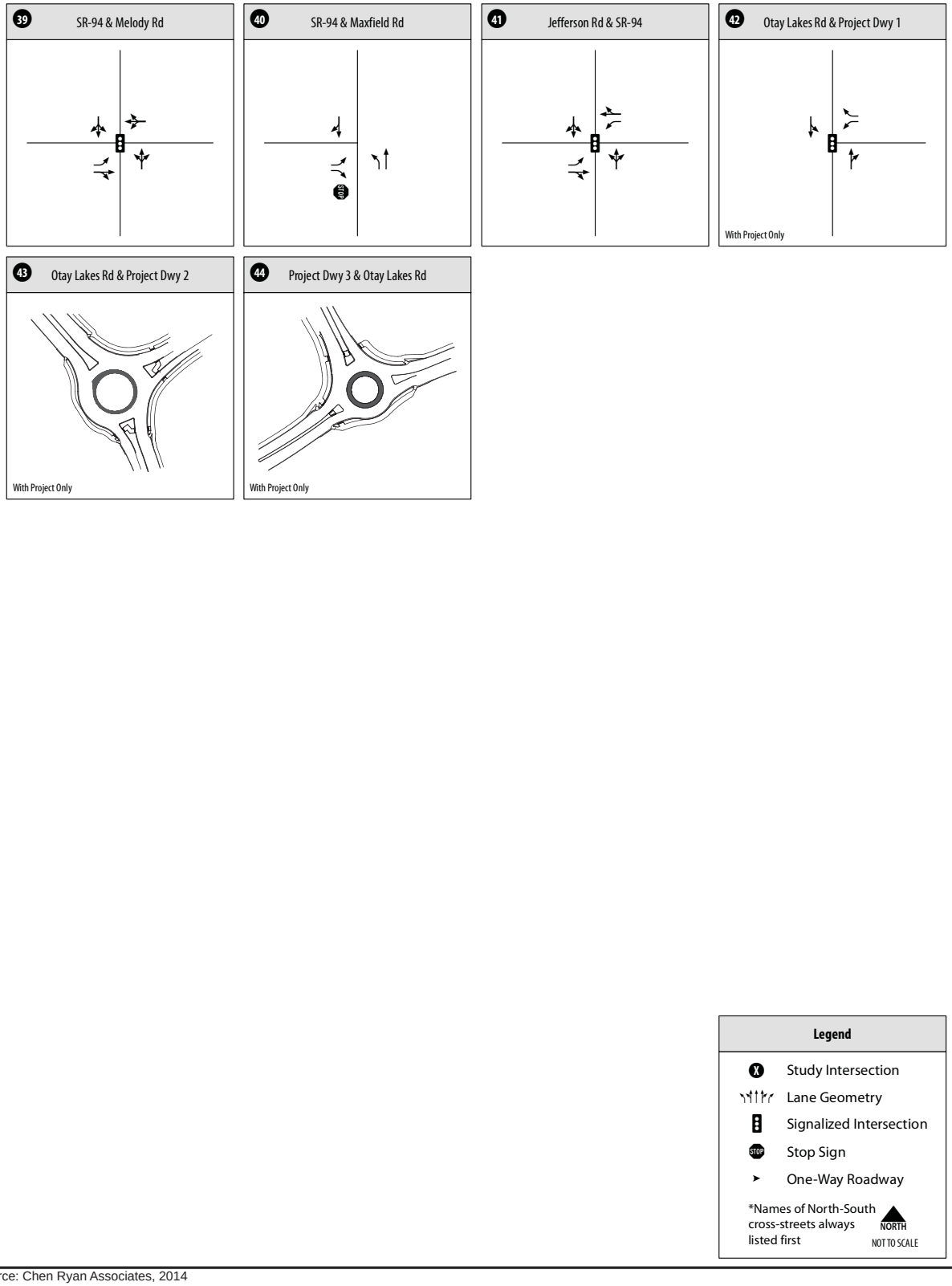
Source: Chen Ryan Associates, 2014

Figure 2.9-13
Intersection Geometrics - Existing Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2014

Figure 2.9-13
Intersection Geometrics - Existing Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2014

Figure 2.9-13
Intersection Geometrics -
Existing Conditions (Intersections 39-44)

Source: Chen Ryan Associates, 2014

Figure 2.9-14
Roadway Geometrics - Existing Conditions

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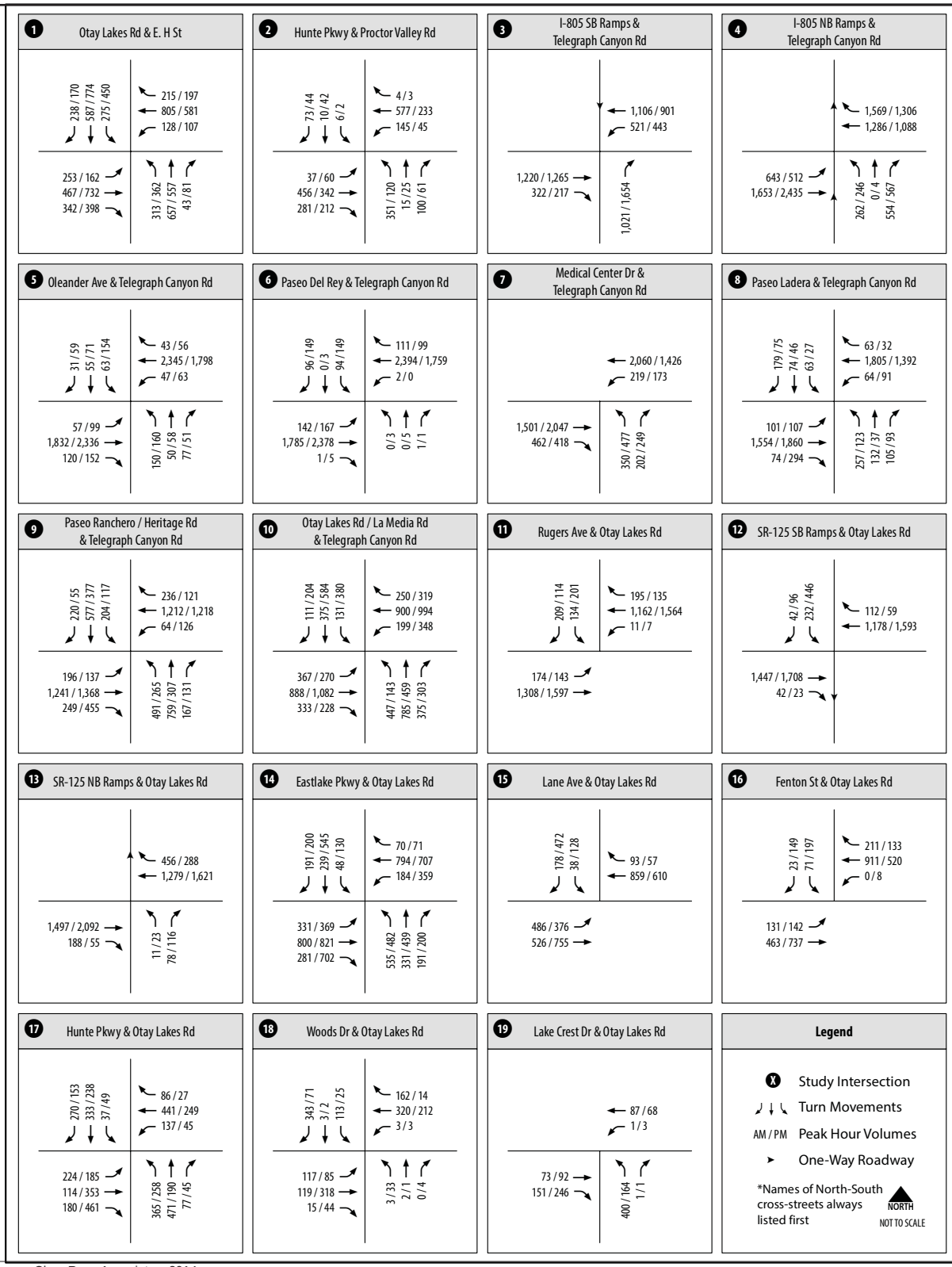
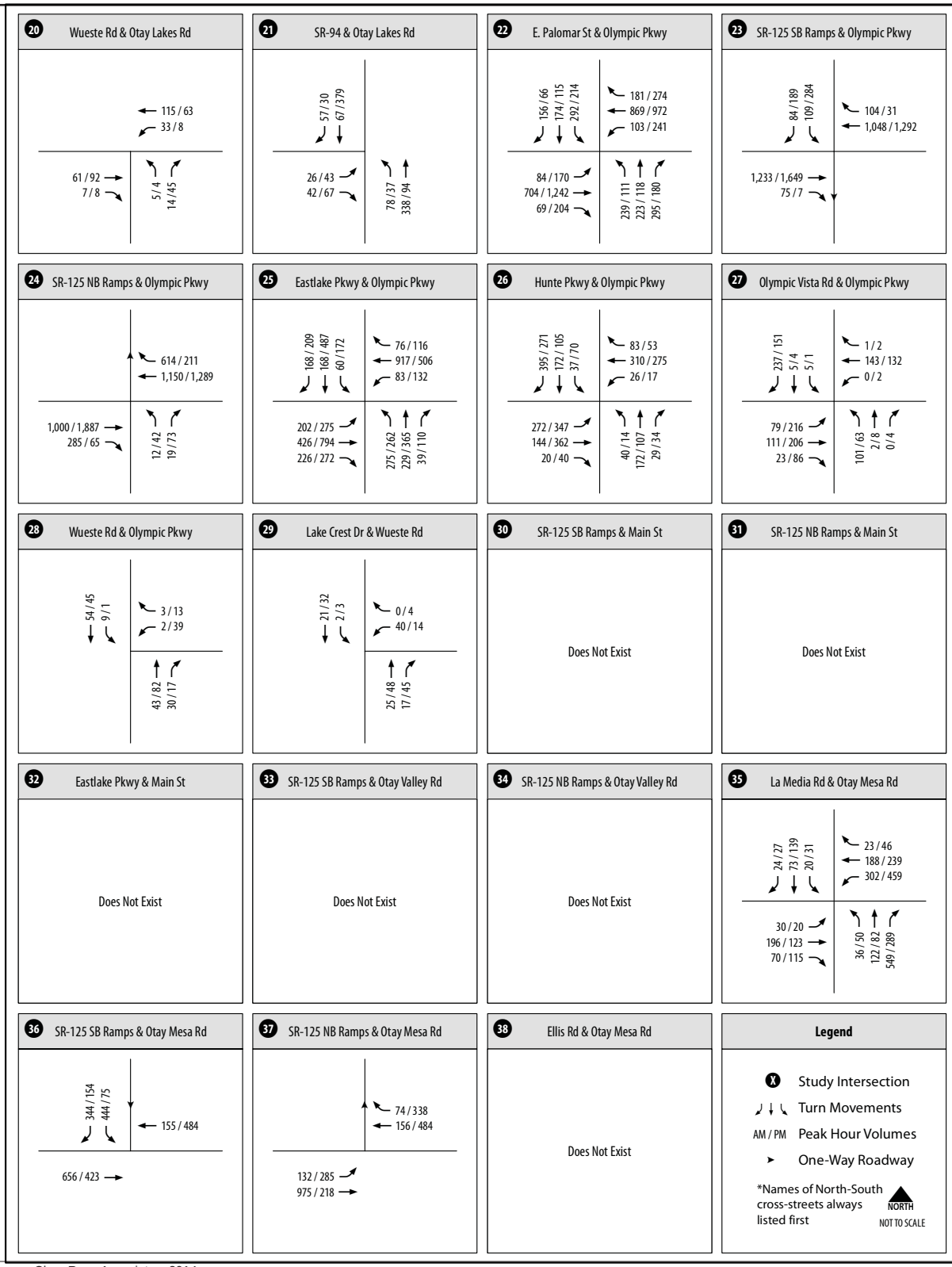


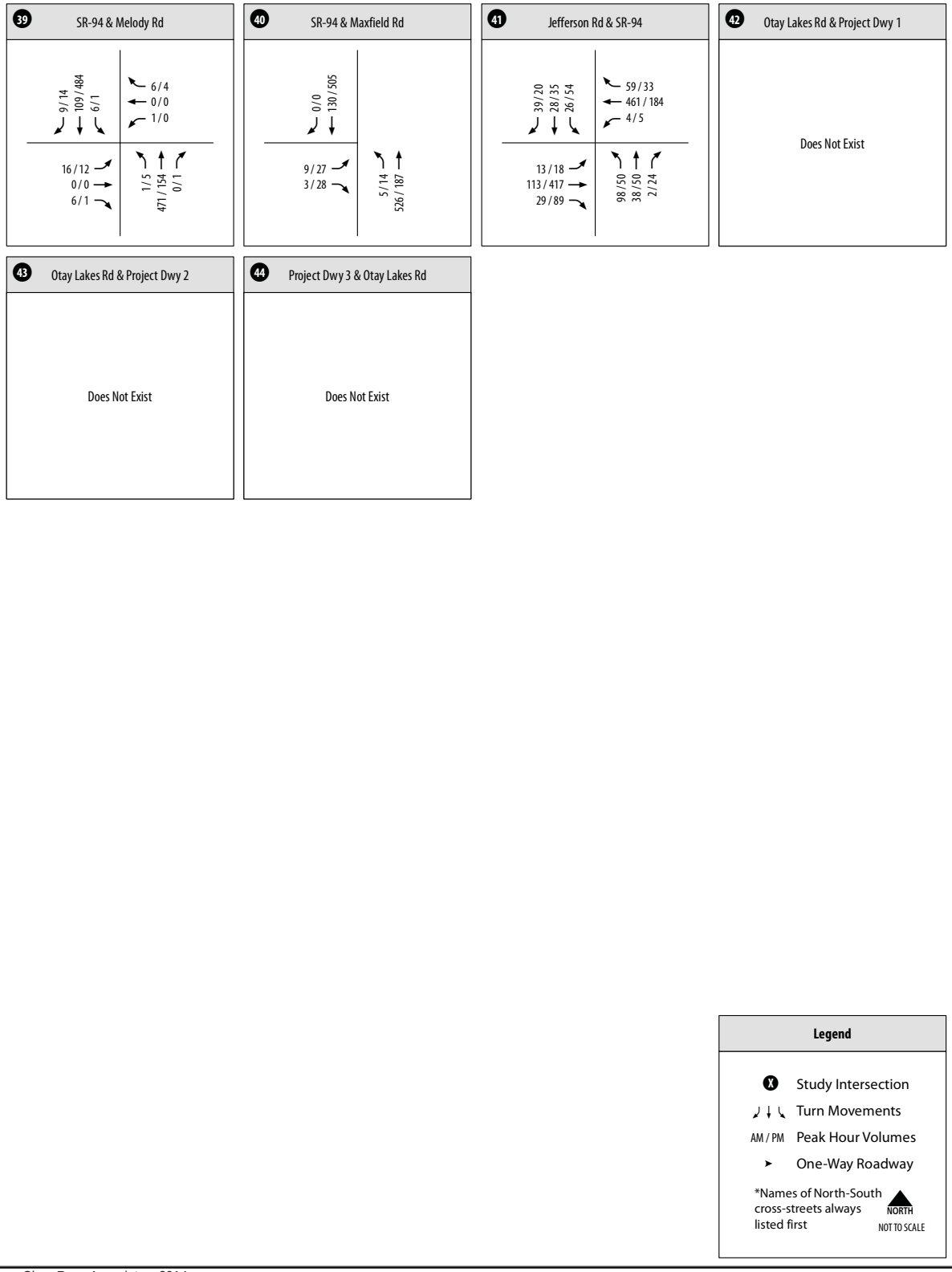
Source: Chen Ryan Associates, 2014

Figure 2.9-15
Intersection Peak Hour Traffic Volumes - Existing Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2014

Figure 2.9-15
Intersection Peak Hour Traffic Volumes - Existing Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2014

Figure 2.9-15
Intersection Peak Hour Traffic Volumes - Existing Conditions (Intersections 39-44)

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Source: Chen Ryan Associates, 2014

Figure 2.9-16
Average Daily Traffic Volumes - Existing Conditions

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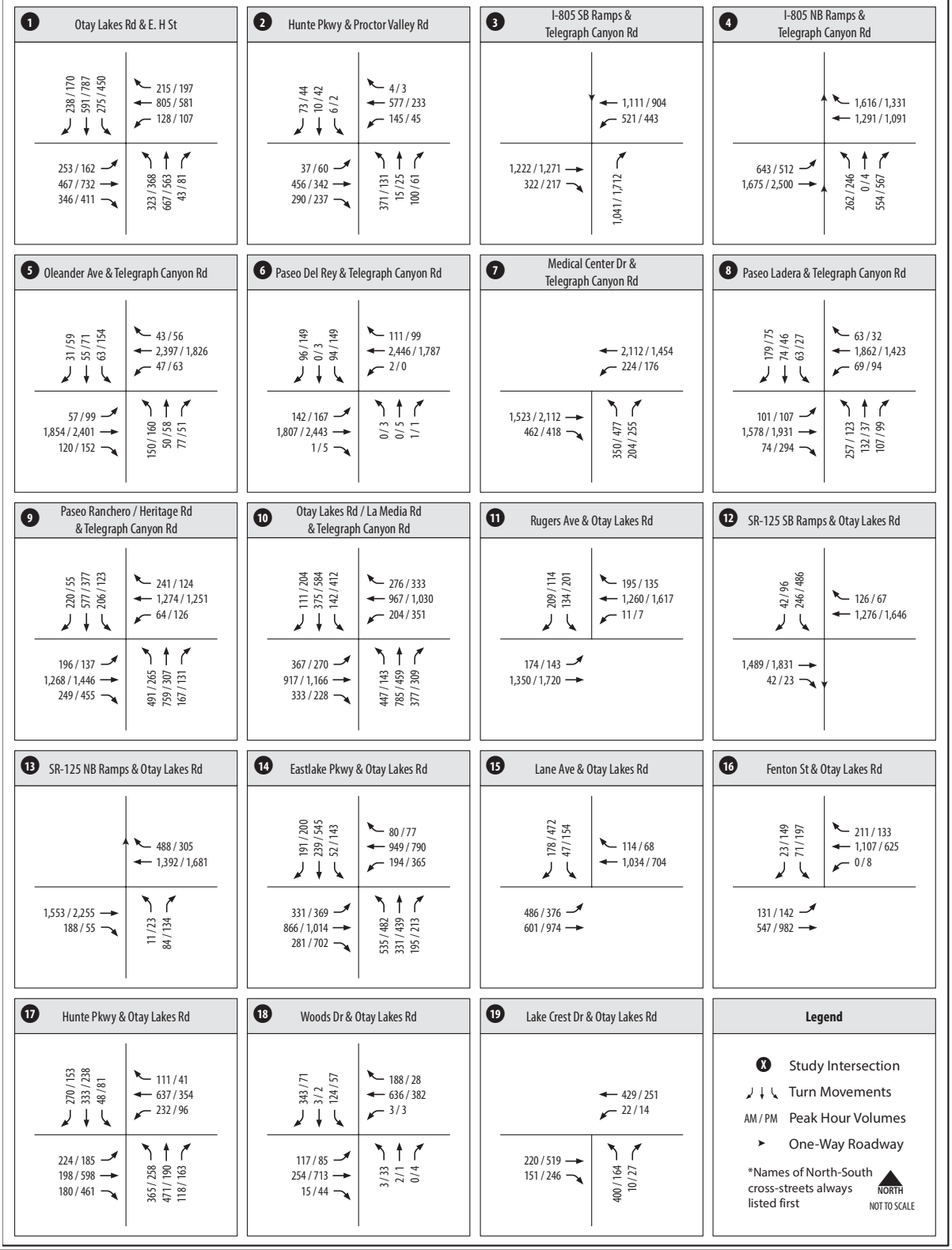
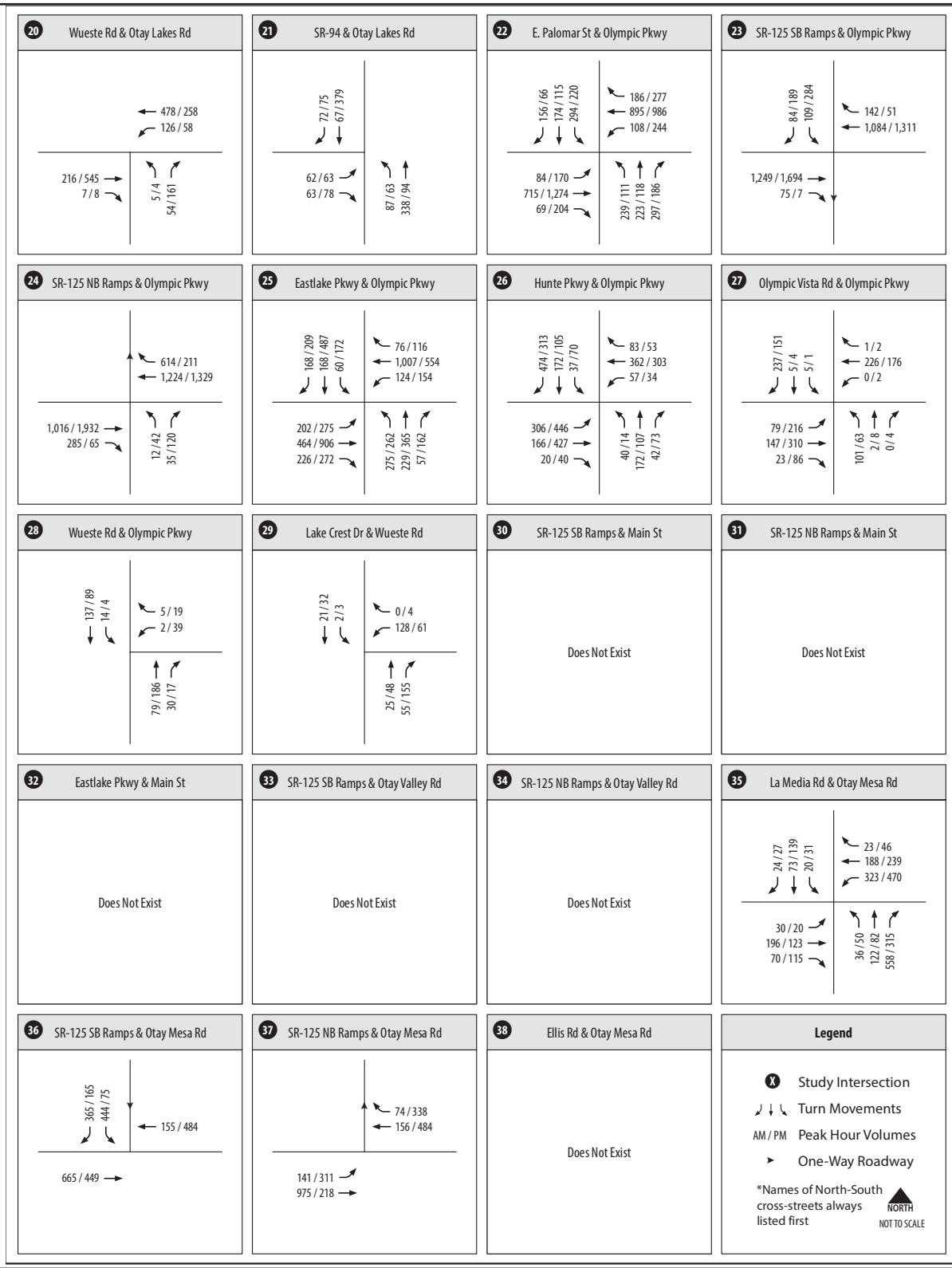


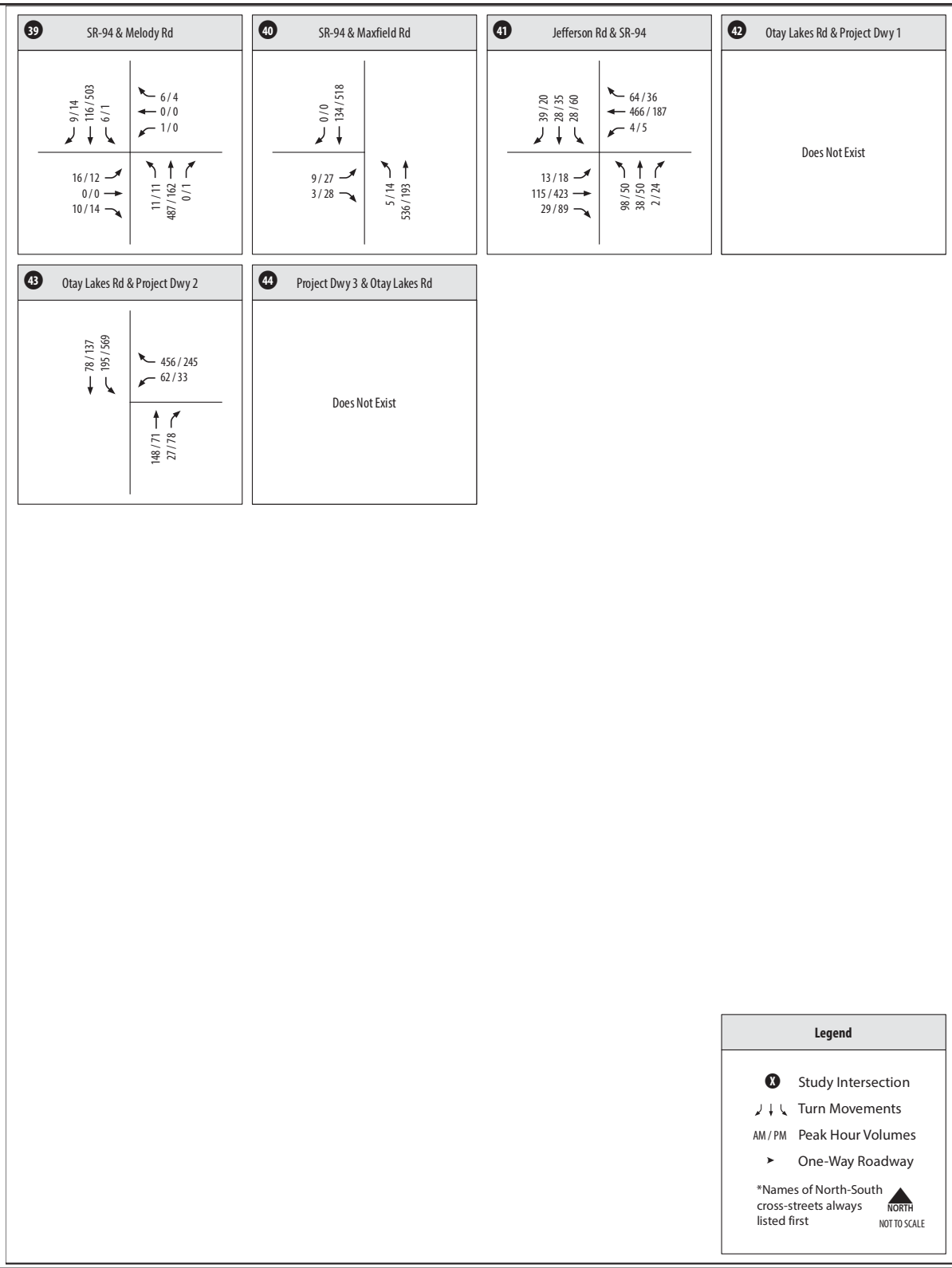
Source: Chen Ryan Associates, 2015

Figure 2.9-17
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase I) Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-17
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase I) Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-17
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Phase I) Conditions (Intersections 39-44)

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Source: Chen Ryan Associates, 2015

Figure 2.9-18

Average Daily Traffic Volumes - Existing Plus Project (Phase I) Conditions

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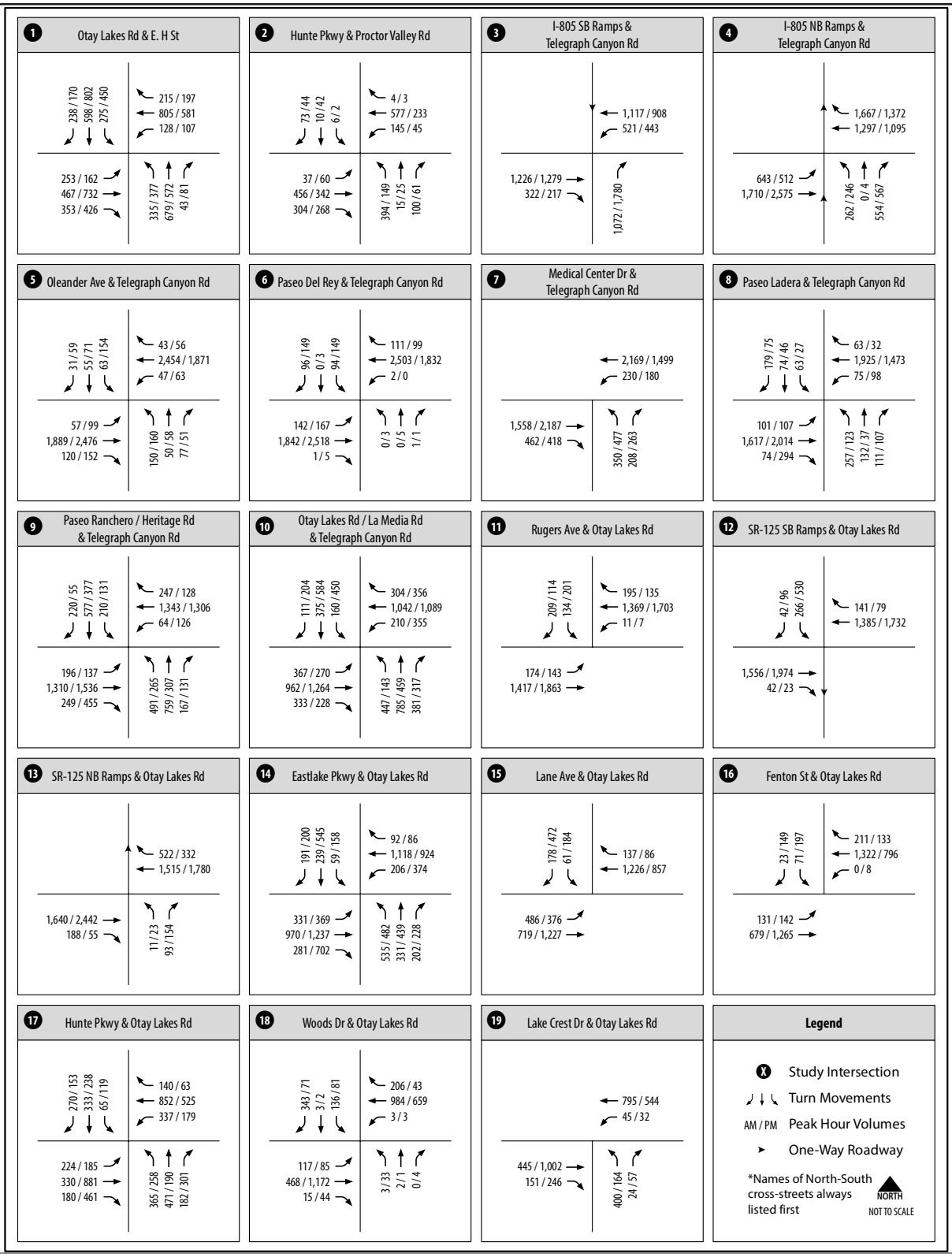
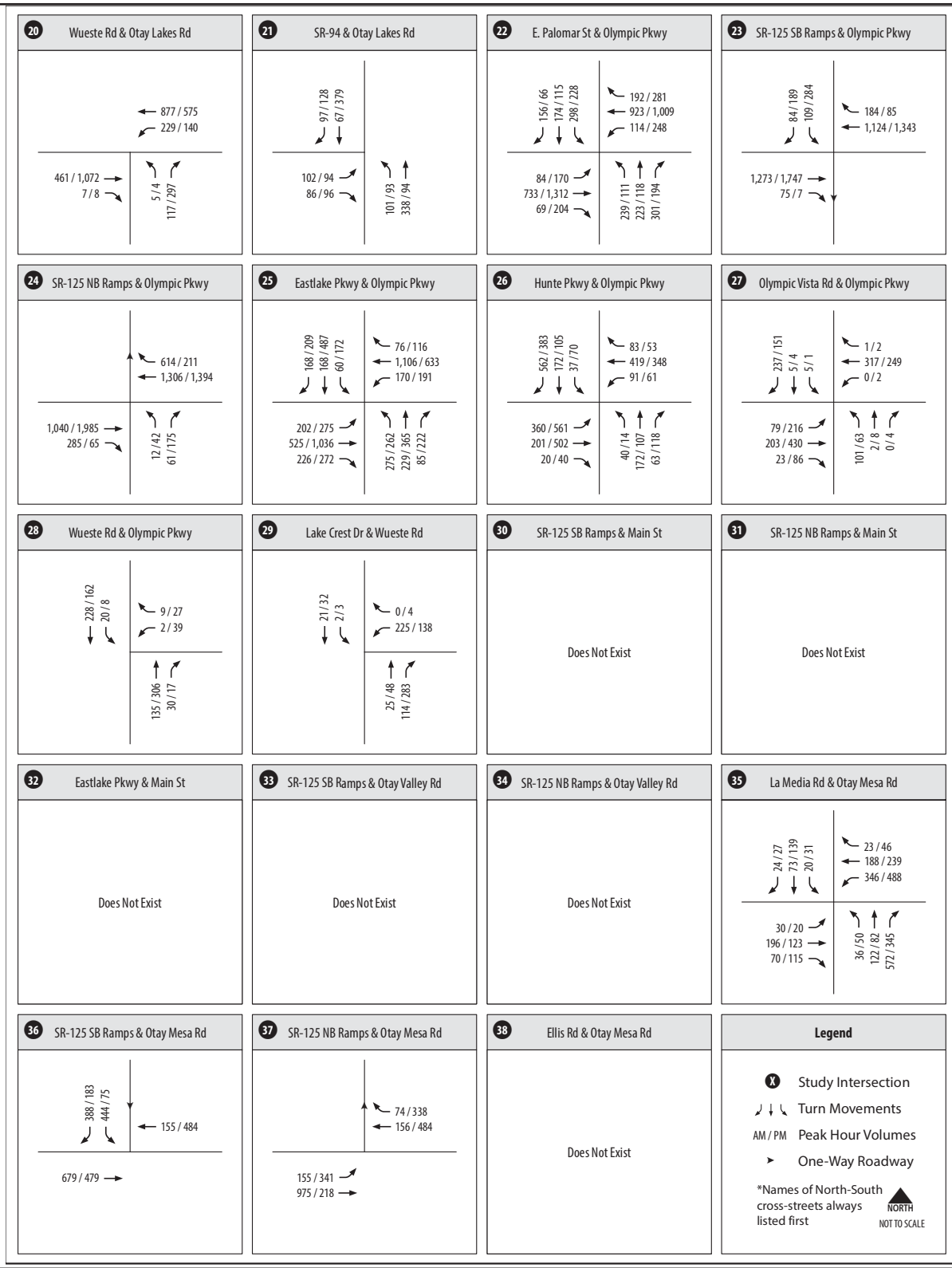


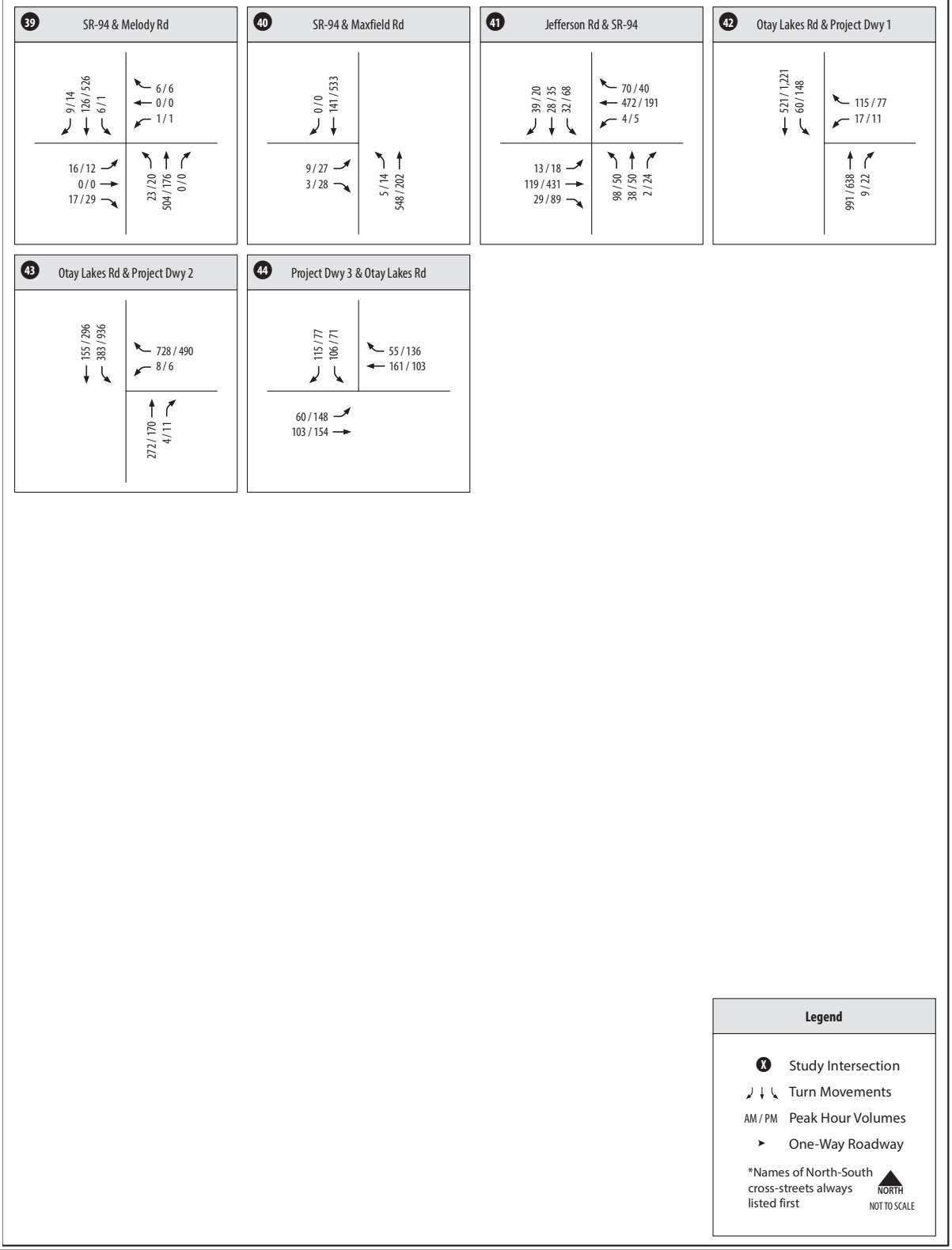
Source: Chen Ryan Associates, 2015

Figure 2.9-19
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Buildout) Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-19
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Buildout) Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-19
Intersection Peak Hour Traffic Volumes - Existing Plus Project (Buildout) Conditions (Intersections 39-44)

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Source: Chen Ryan Associates, 2015

Figure 2.9-20
Average Daily Traffic Volumes - Existing Plus Project (Buildout) Conditions

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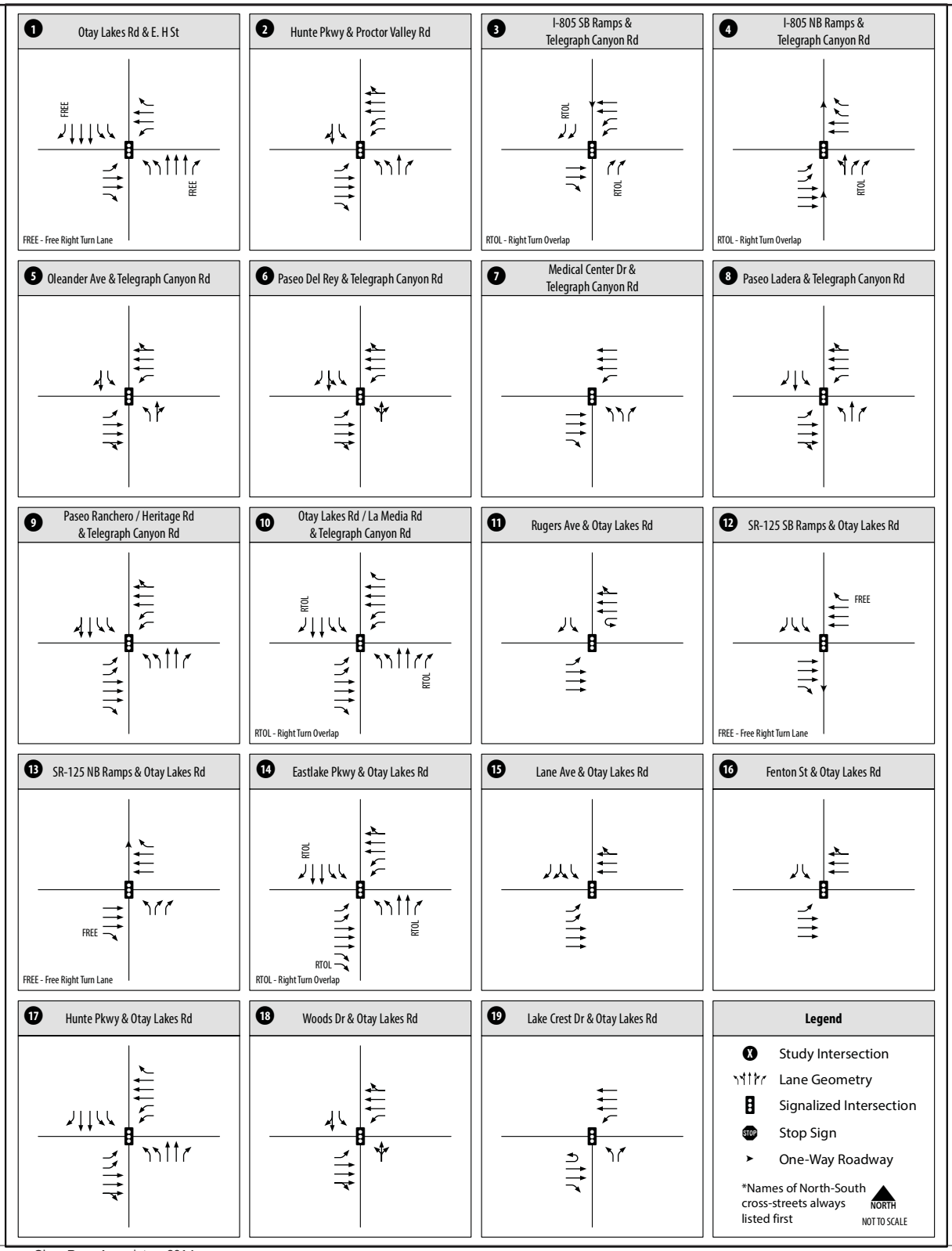
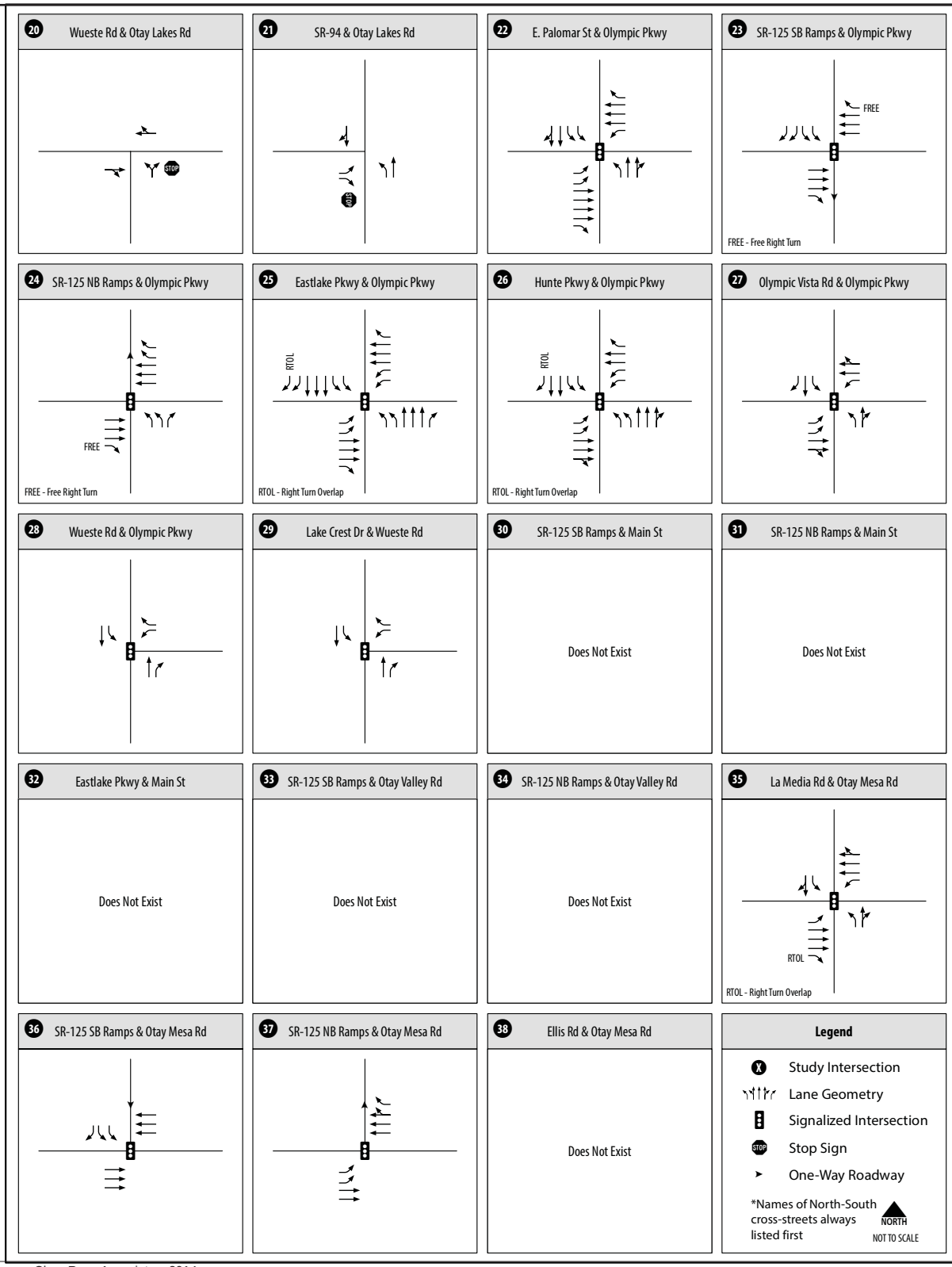


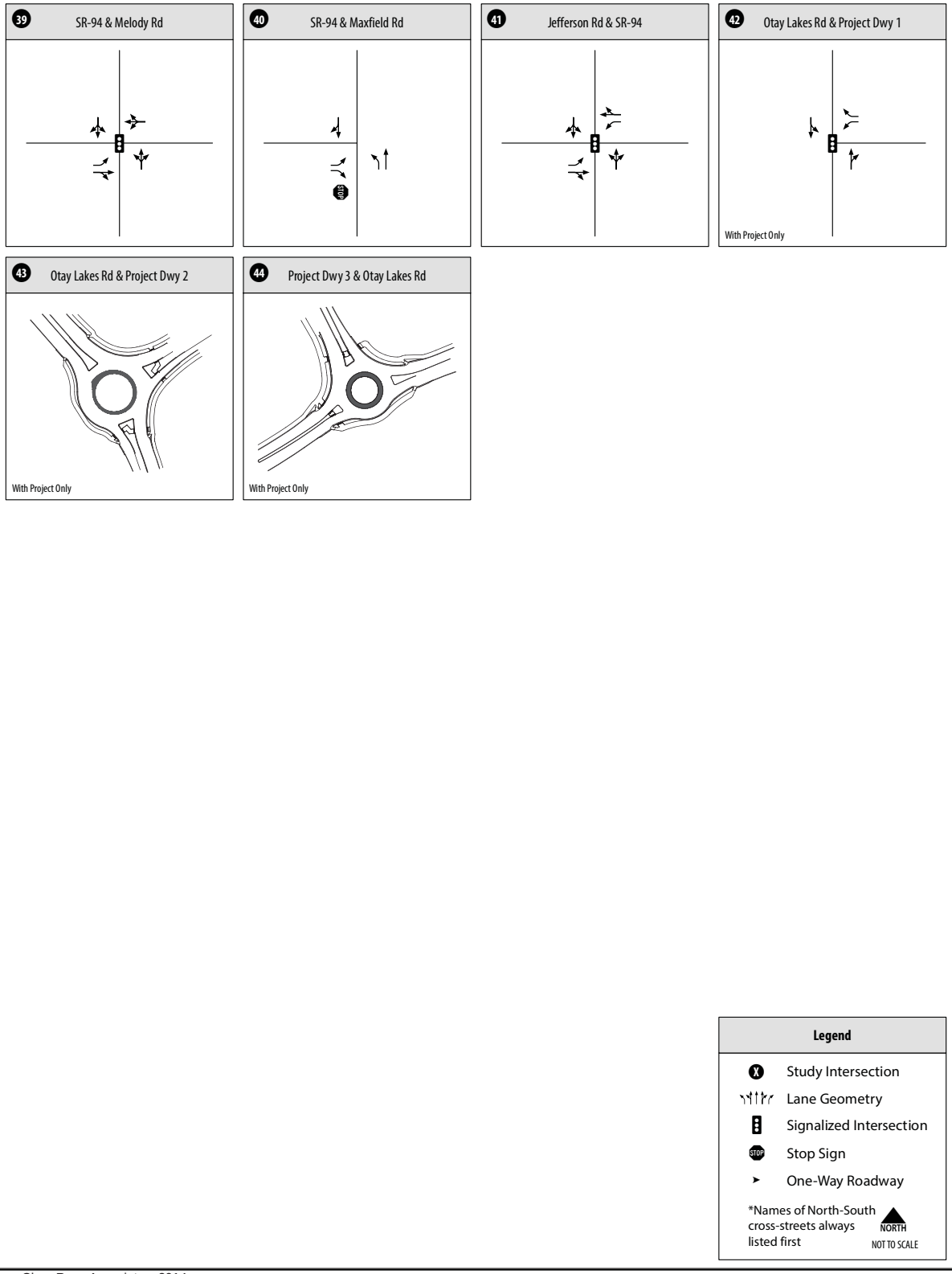
Source: Chen Ryan Associates, 2014

Figure 2.9-21
Intersection Geometrics - Cumulative (Year 2025) Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2014

Figure 2.9-21
Intersection Geometrics -
Cumulative (Year 2025) Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2014

Figure 2.9-21
Intersection Geometrics -
Cumulative (Year 2025) Conditions (Intersections 39-44)

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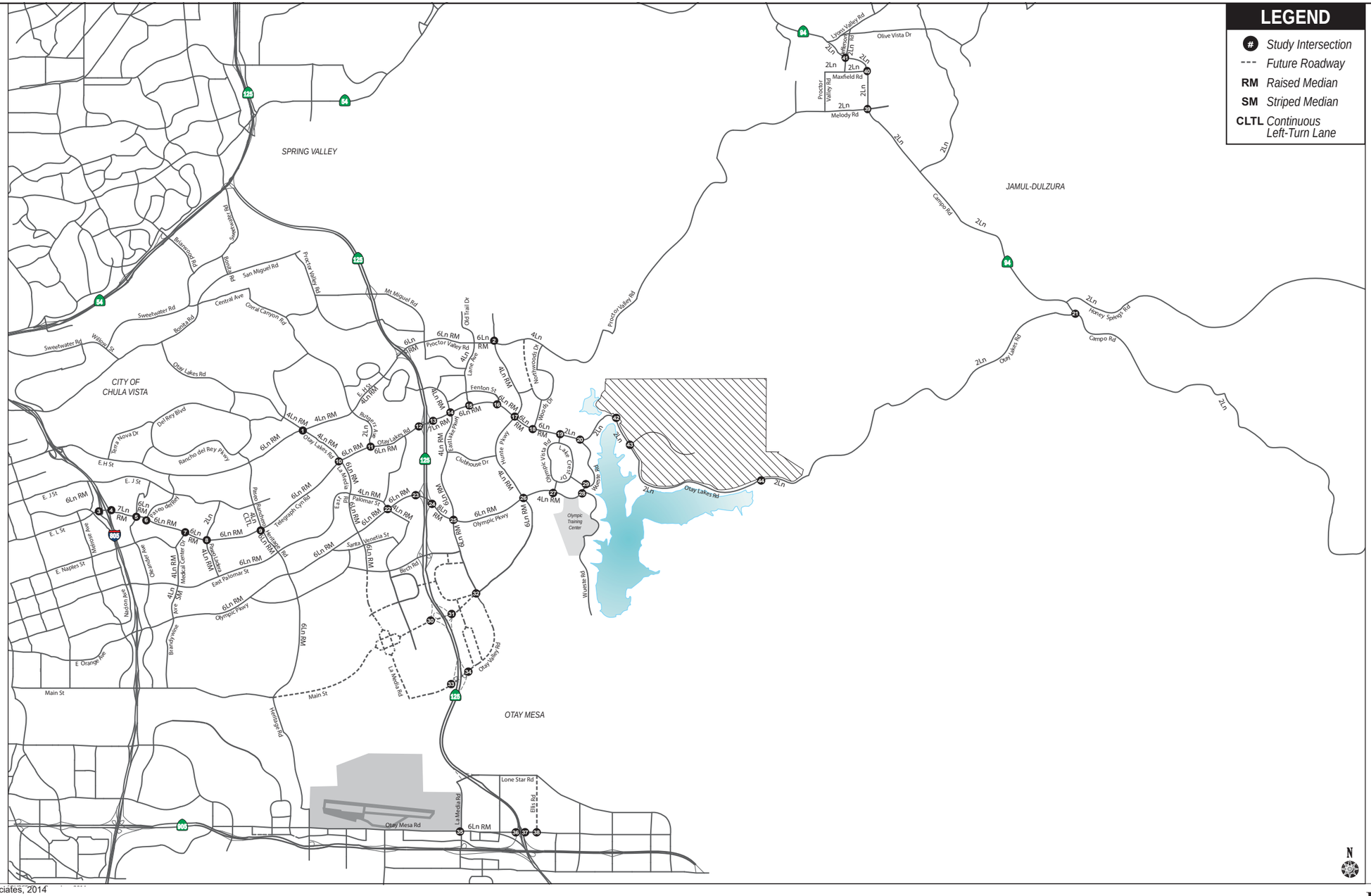

Figure 2.9-22
Roadway Geometrics - Cumulative (Year 2025) Conditions

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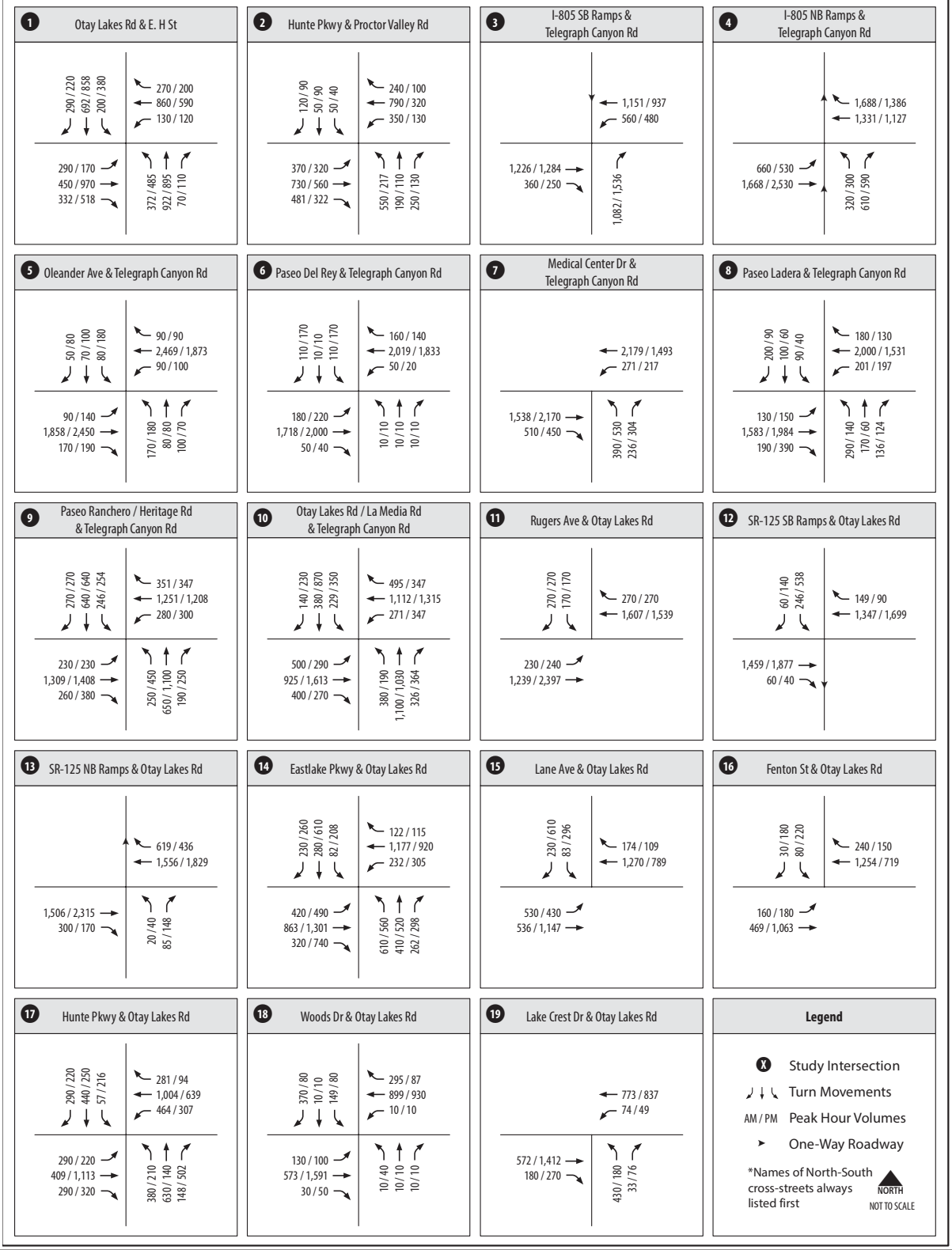
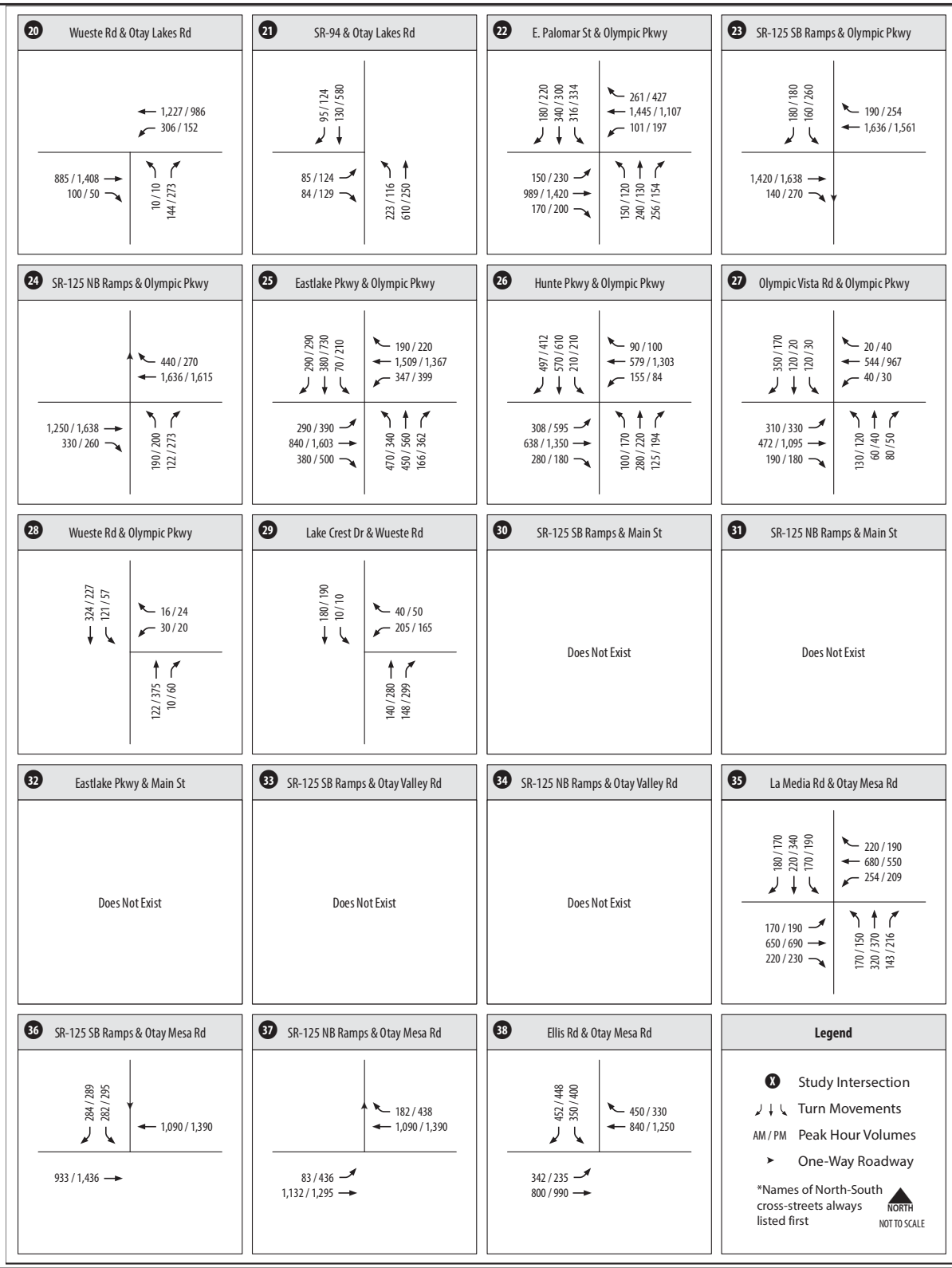


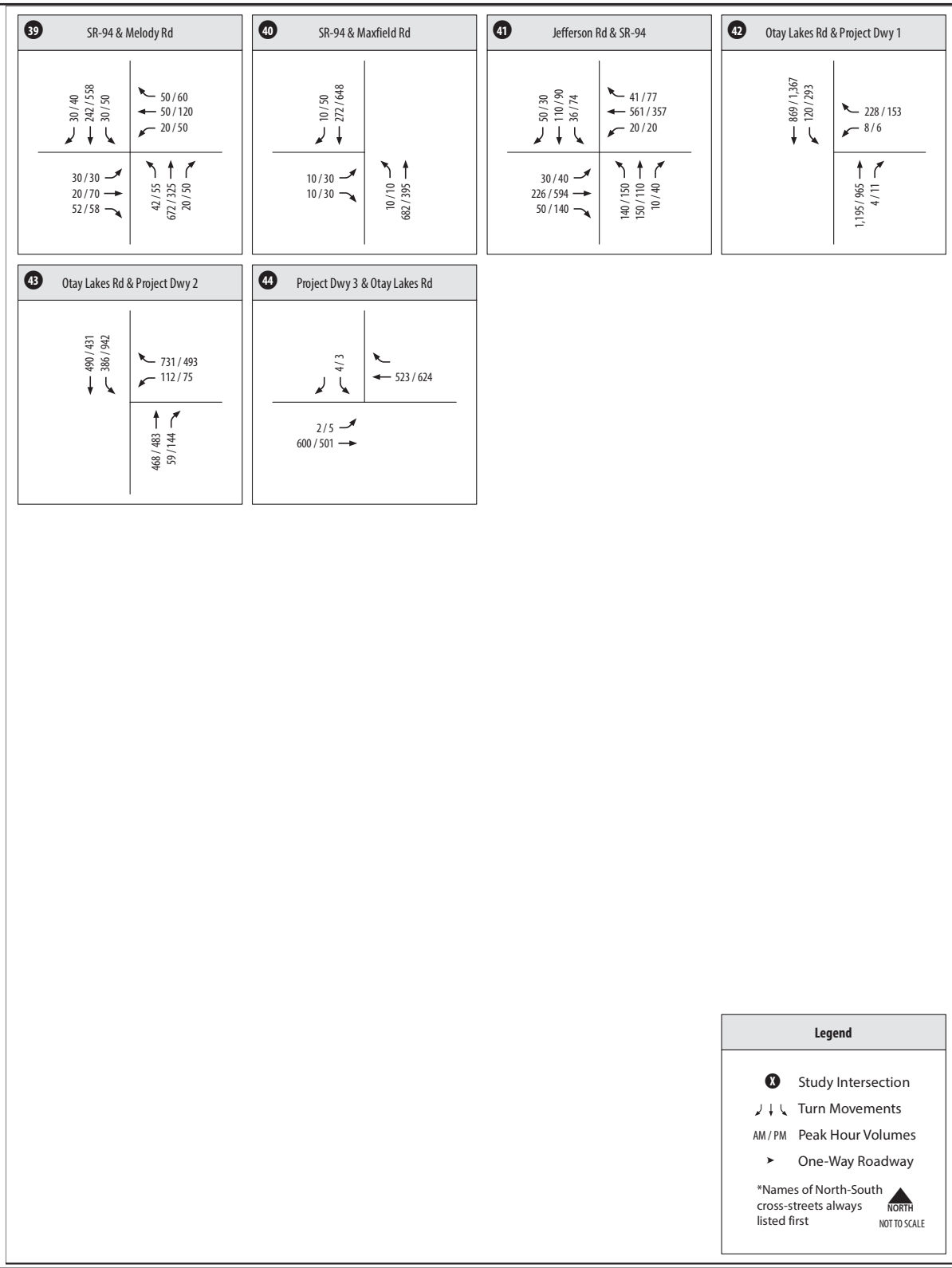
Source: Chen Ryan Associates, 2015

Figure 2.9-23
Intersection Peak Hour Traffic Volumes - Cumulative (Year 2025) Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-23
Intersection Peak Hour Traffic Volumes - Cumulative (Year 2025) Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-23
Intersection Peak Hour Traffic Volumes - Cumulative (Year 2025) Conditions (Intersections 39-44)

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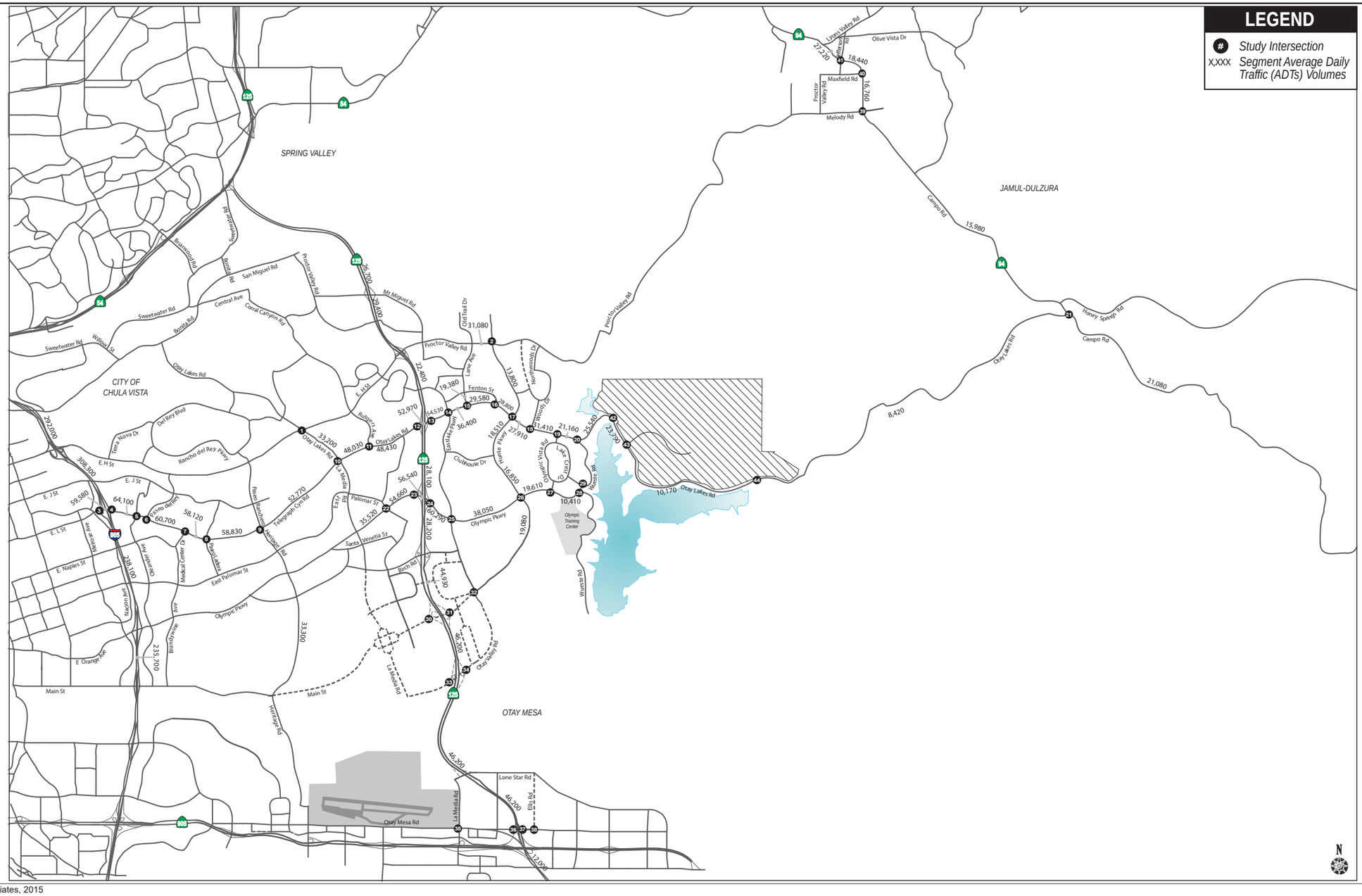

Source: Chen Ryan Associates, 2015

Figure 2.9-24

Average Daily Traffic Volumes - Cumulative (Year 2025) Base Plus Project (Buildout) Conditions

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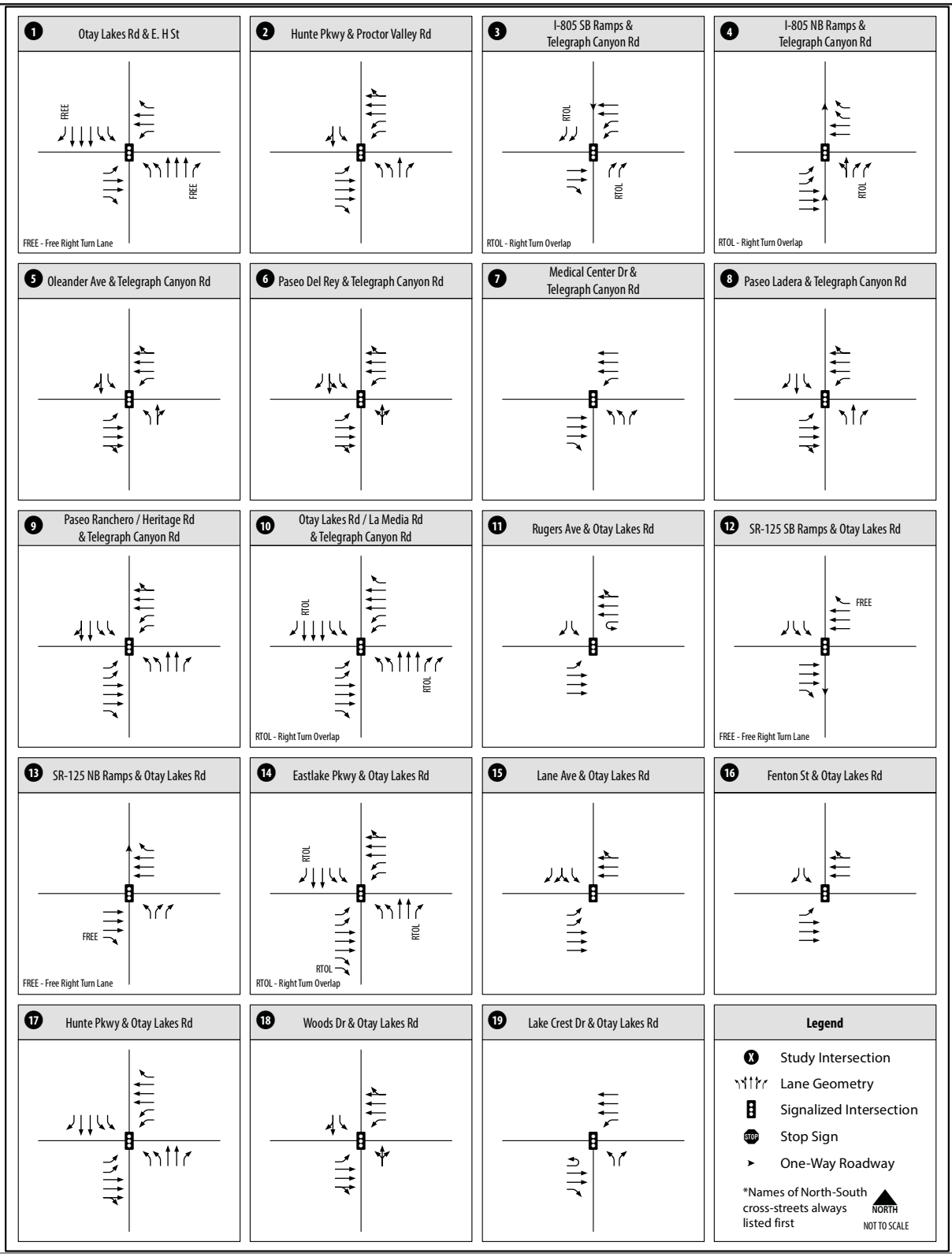
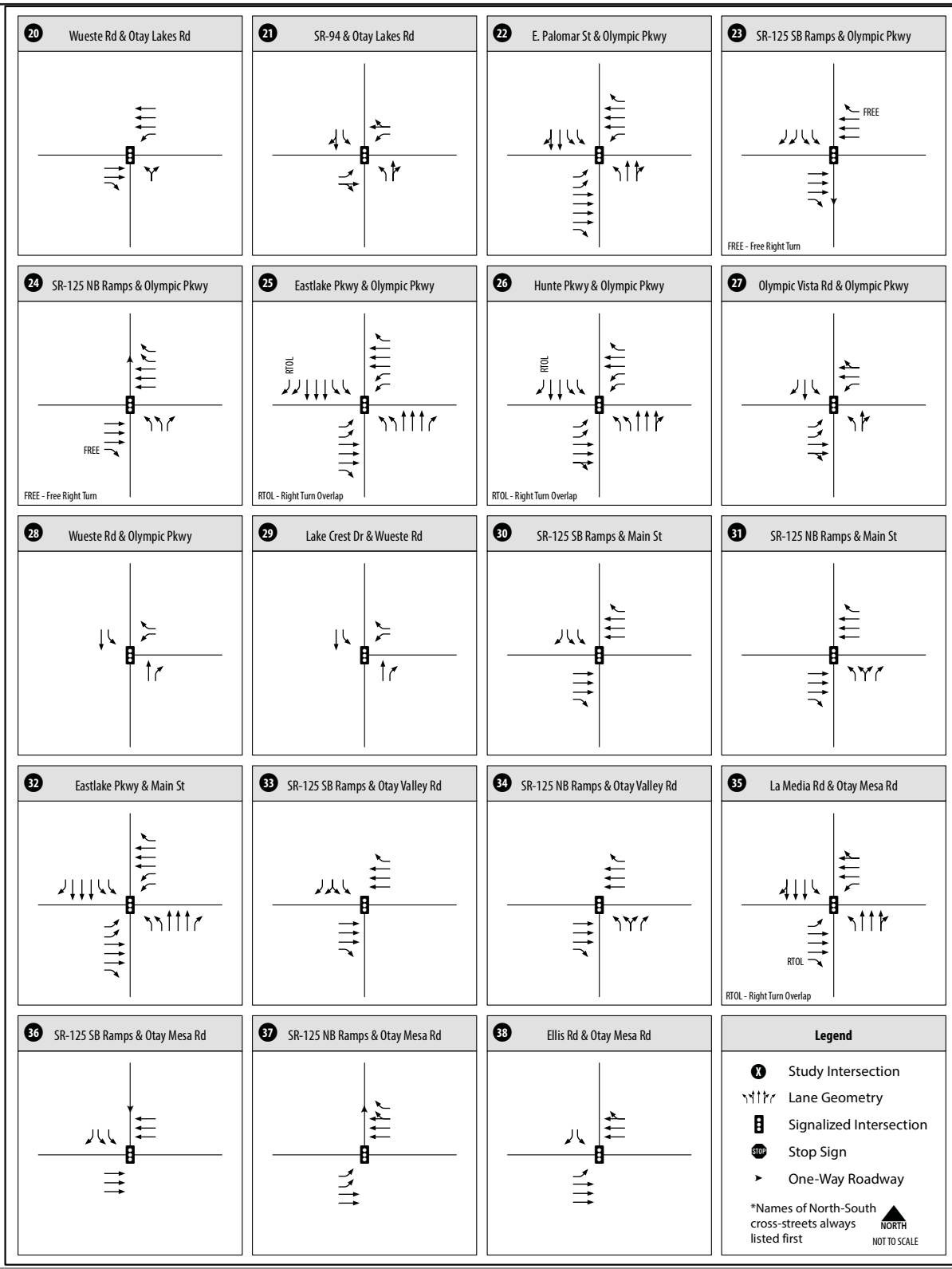


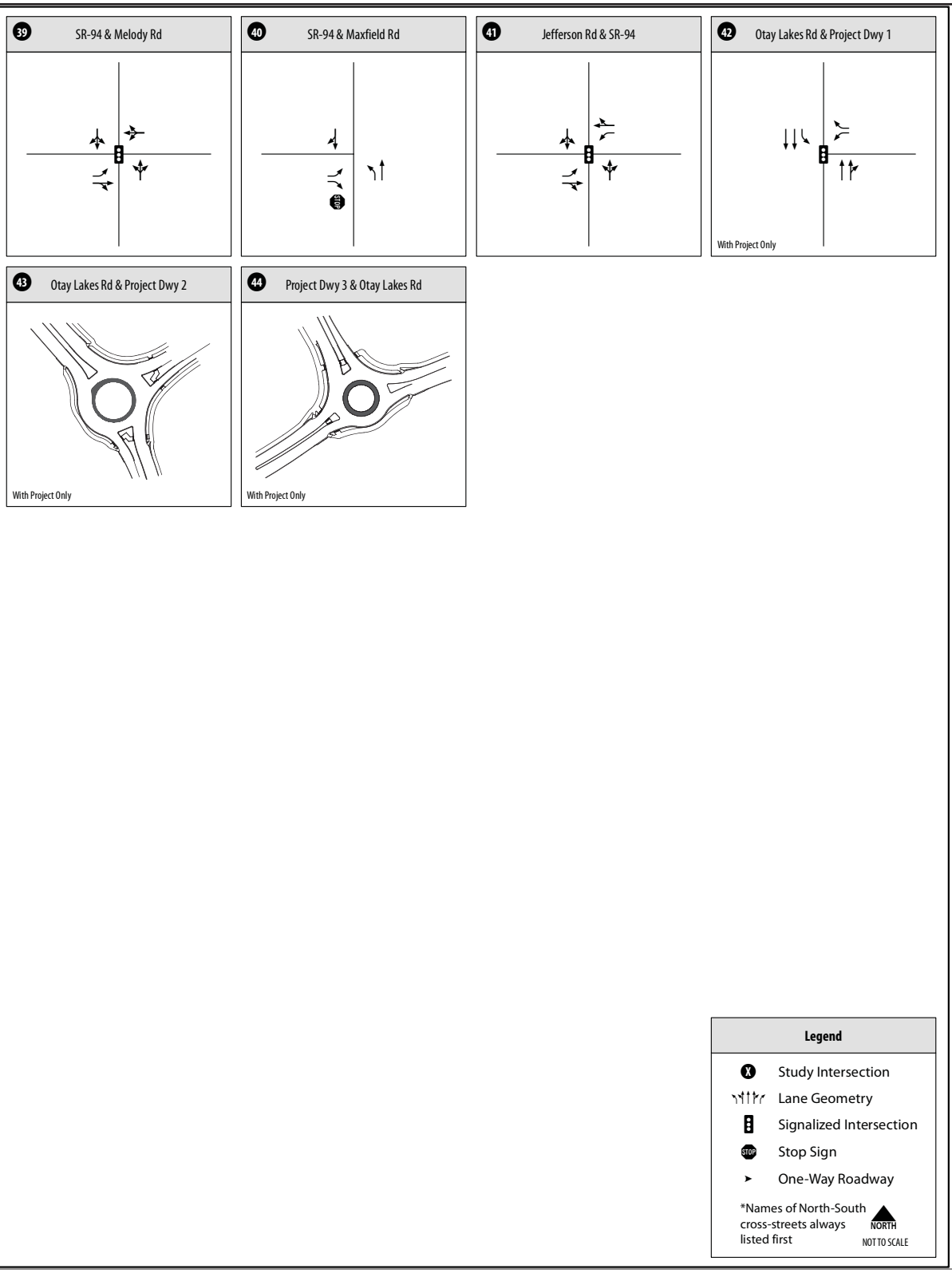
Source: Chen Ryan Associates, 2015

Figure 2.9-25
Intersection Geometrics - Future Year 2030 Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-25
Intersection Geometrics -
Future Year 2030 Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-25
Intersection Geometrics -
Future Year 2030 (Intersections 39-44)

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Source: Chen Ryan Associates, 2014

Figure 2.9-26
Roadway Geometrics - Future Year 2030 Conditions

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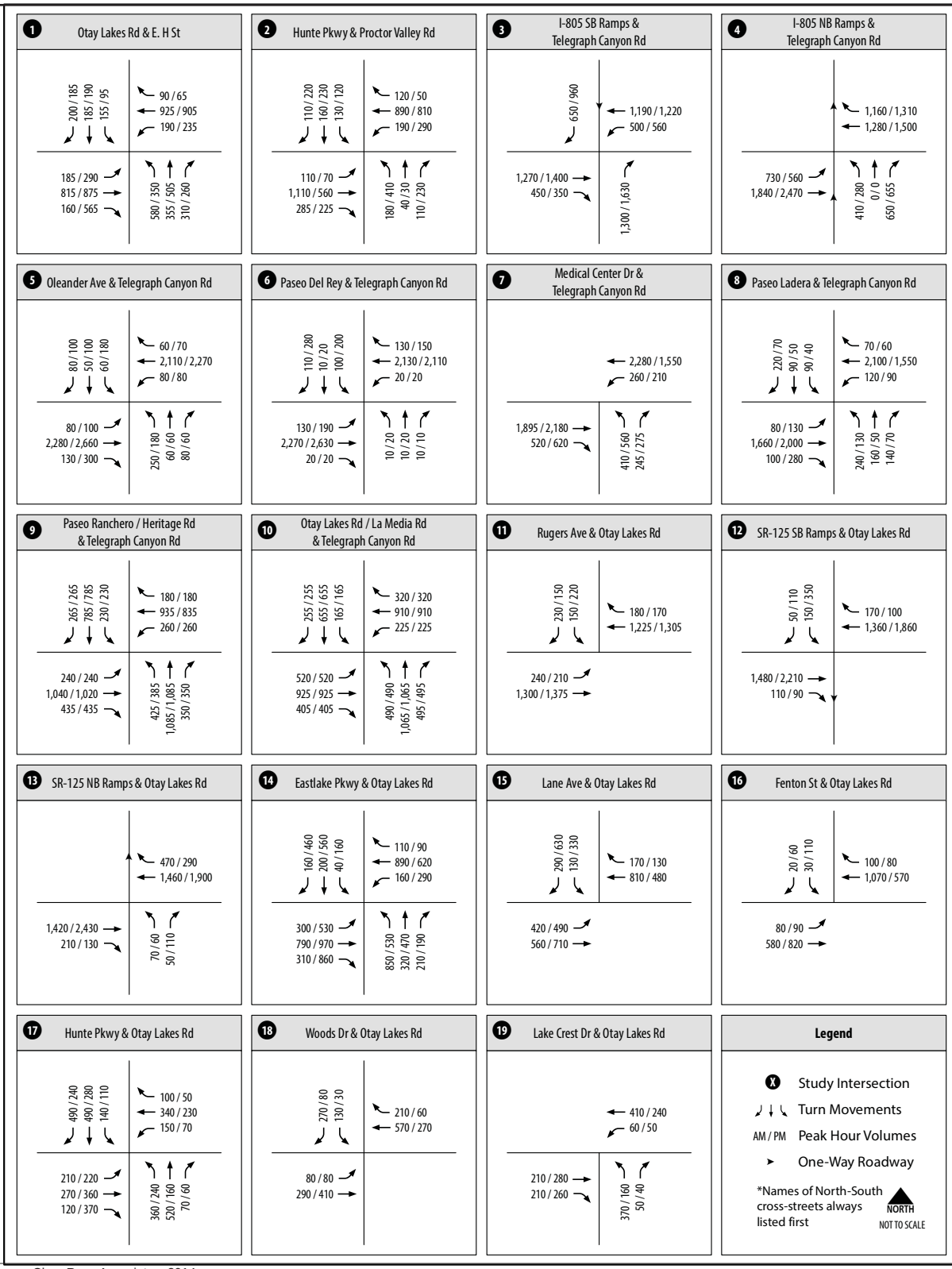
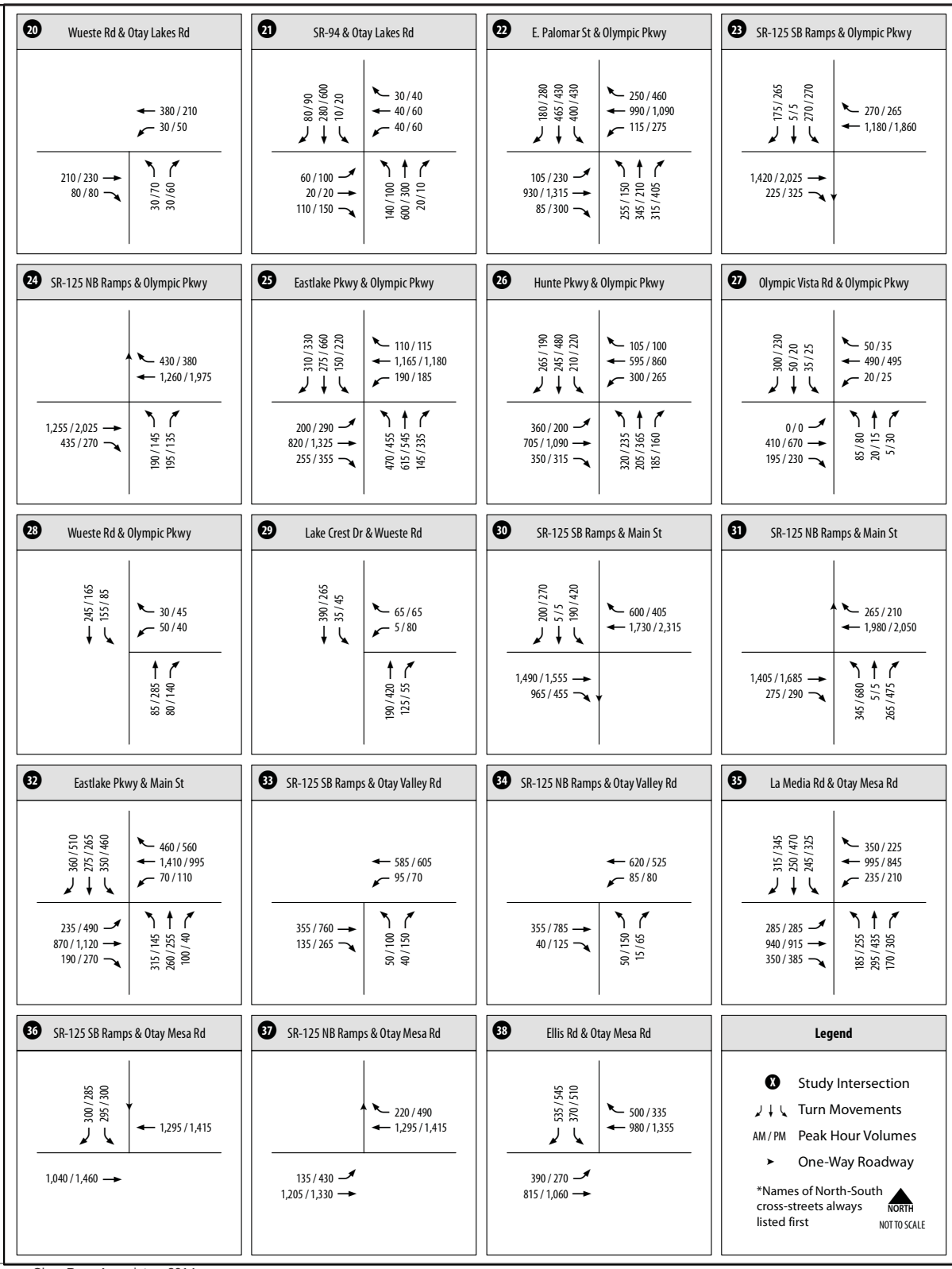


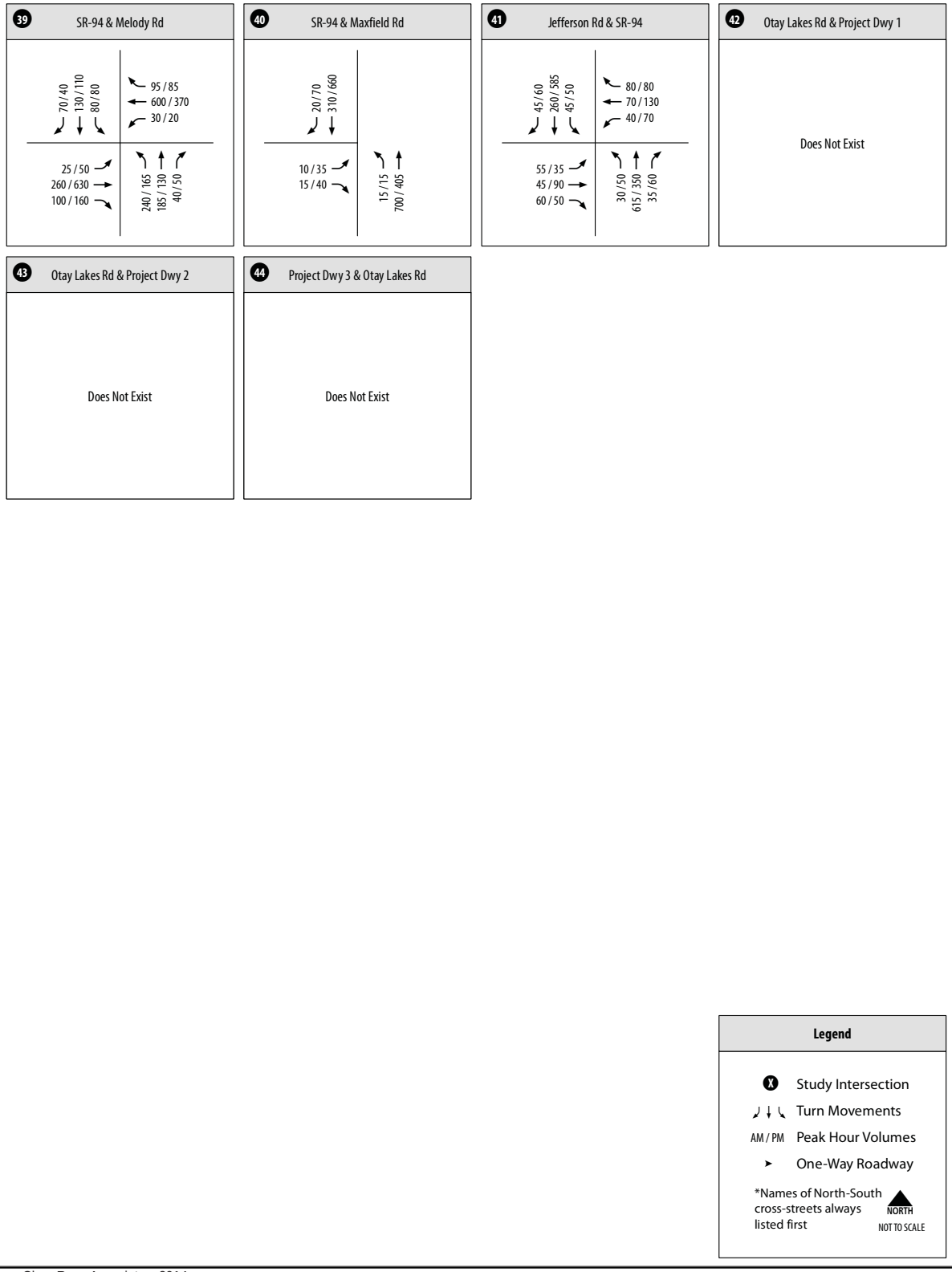
Source: Chen Ryan Associates, 2014

Figure 2.9-27
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2014

Figure 2.9-27
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2014

Figure 2.9-27
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Conditions (Intersections 39-44)

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Source: Chen Ryan Associates, 2014

Figure 2.9-28
Average Daily Traffic Volumes - Year 2030 Base Conditions

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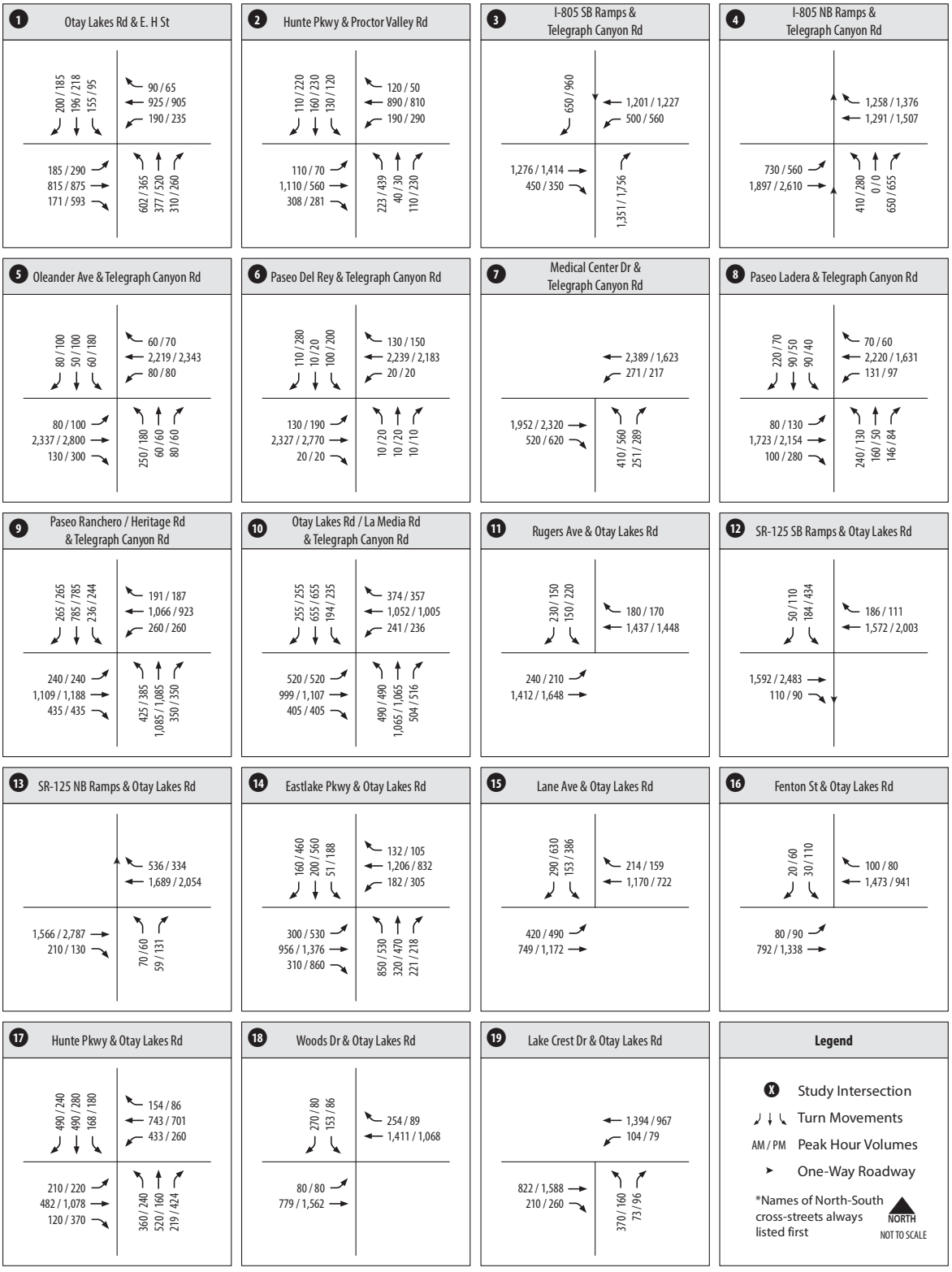
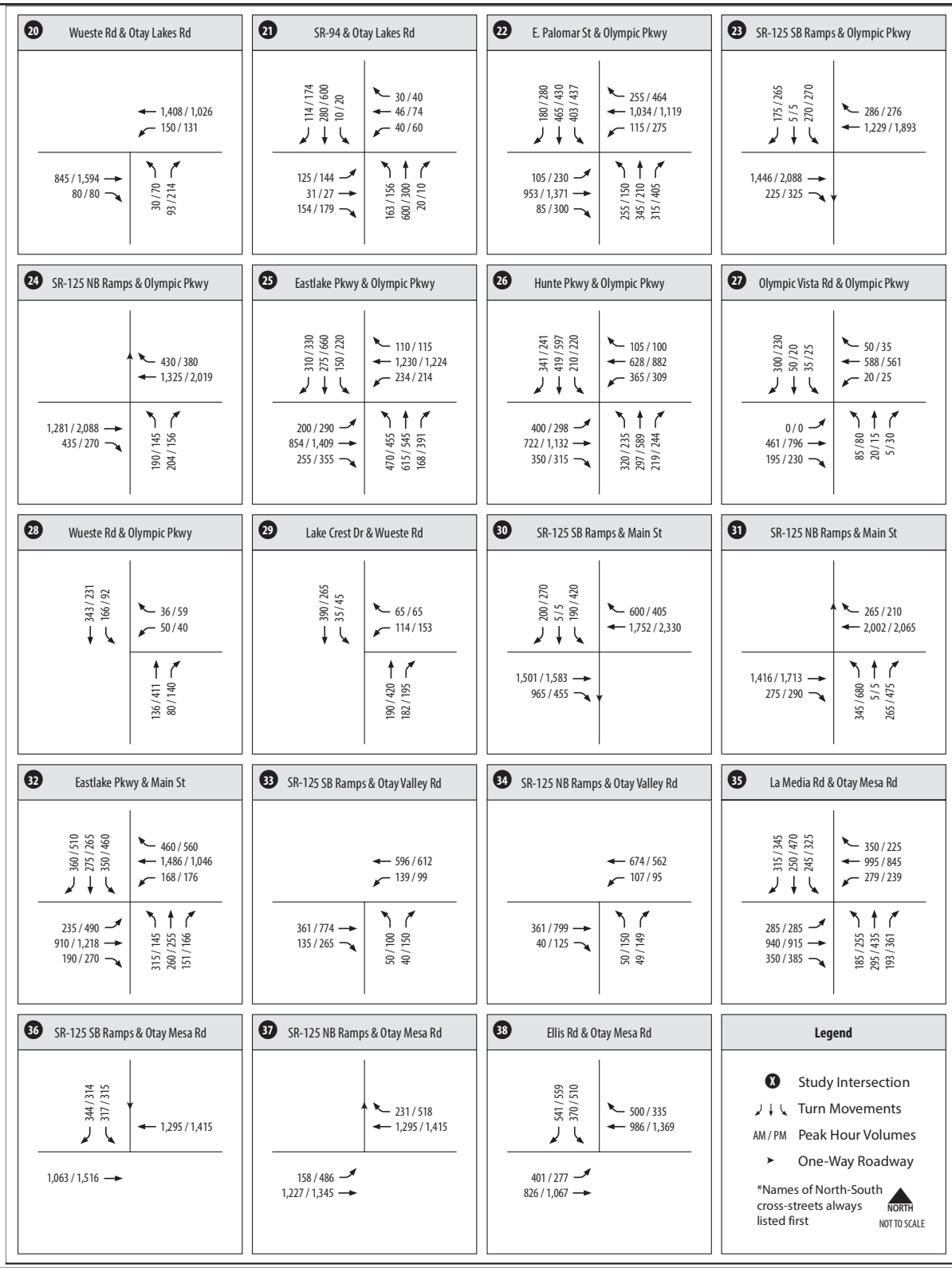


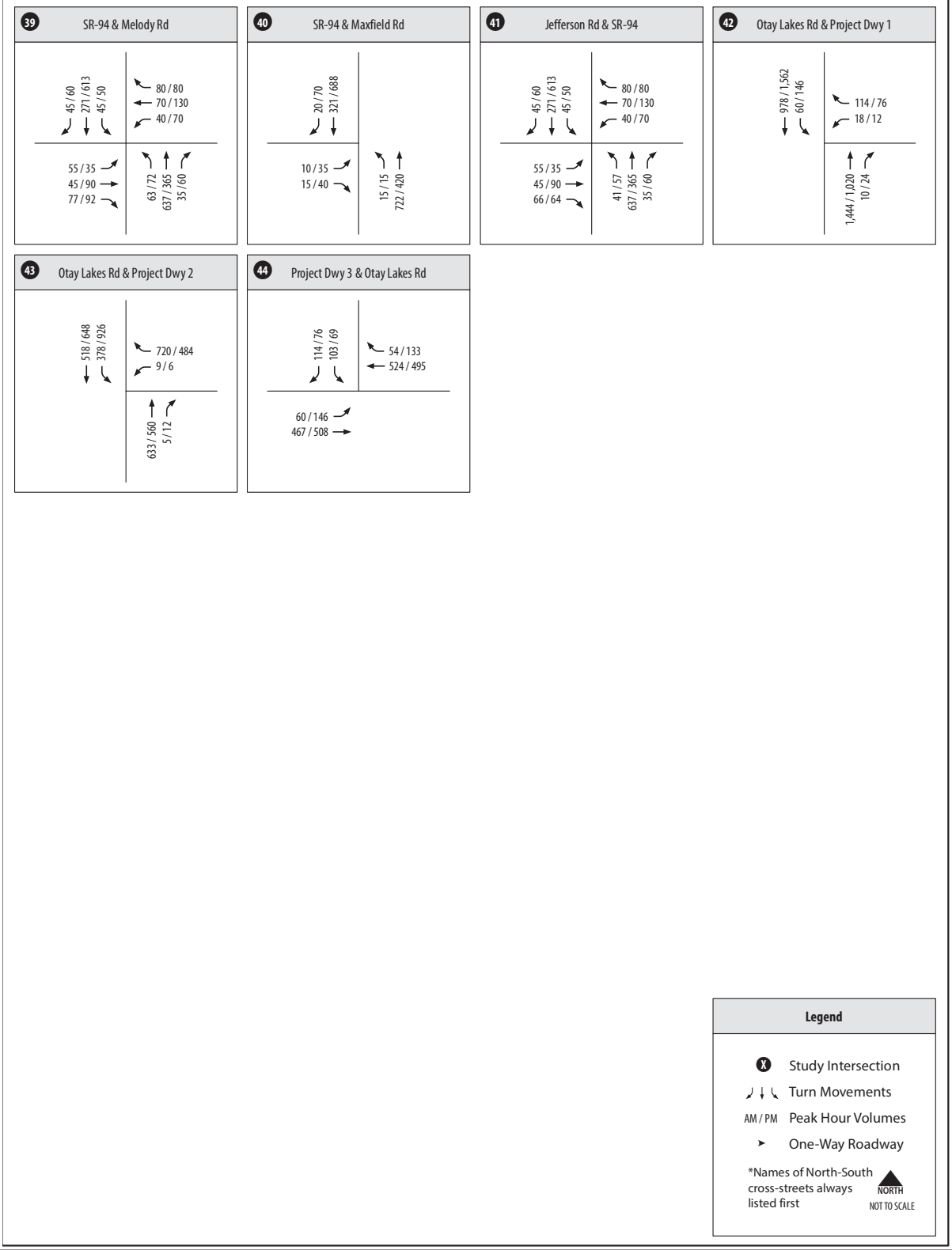
Source: Chen Ryan Associates, 2015

Figure 2.9-29
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Plus Project (Buildout) Conditions (Intersections 1-19)



Source: Chen Ryan Associates, 2015

Figure 2.9-29
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Plus Project (Buildout) Conditions (Intersections 20-38)



Source: Chen Ryan Associates, 2015

Figure 2.9-29
Intersection Peak Hour Traffic Volumes - Future Year 2030 Base Plus Project (Buildout) Conditions (Intersections 39-44)

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Source: Chen Ryan Associates, 2014

Figure 2.9-30
Average Daily Traffic Volumes - Year 2030 Base Plus Project Conditions

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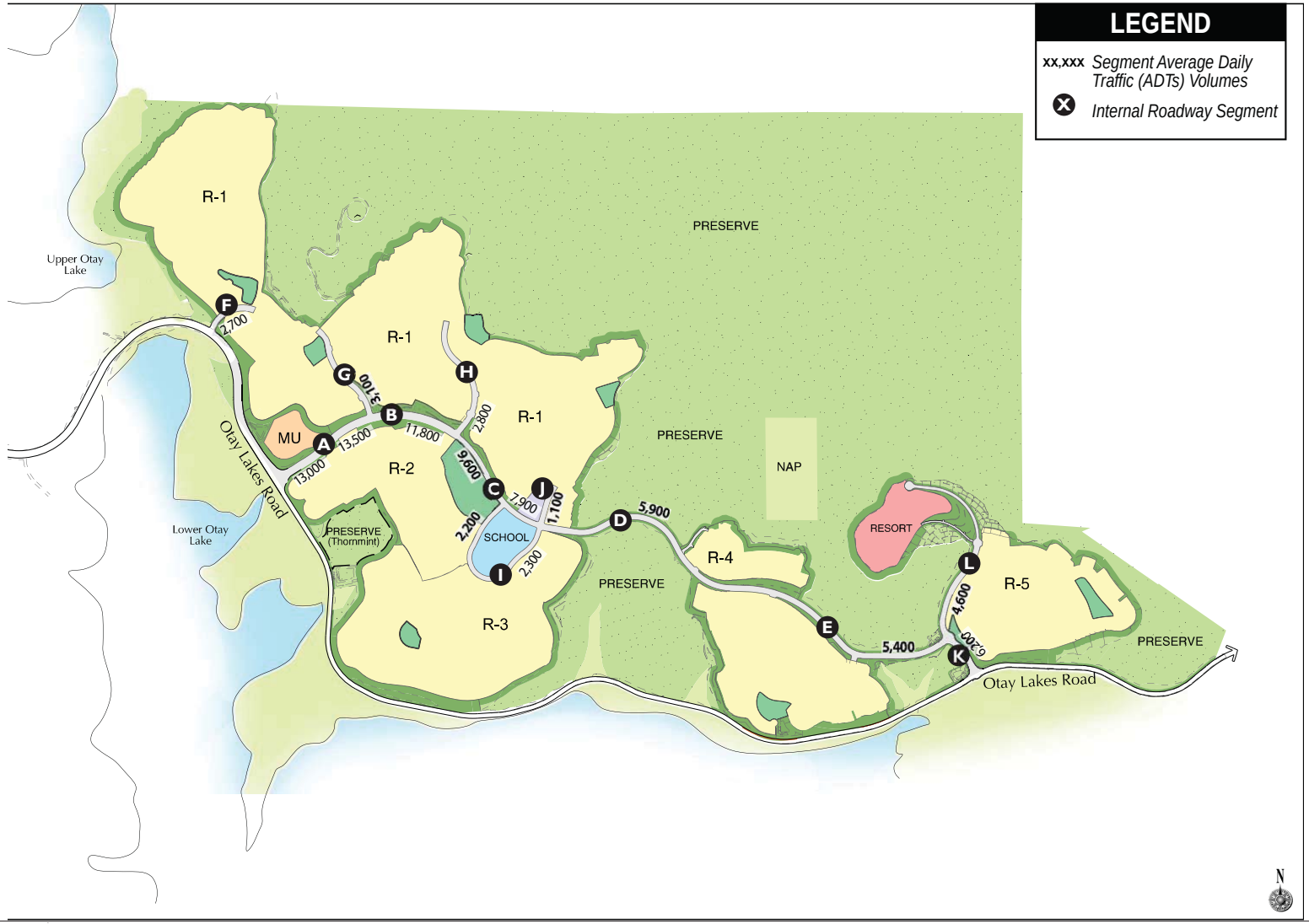

Source: Chen Ryan Associates, 2014

Figure 2.9-31
Resort Village Internal Roadway ADTs

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