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**DRAFT ADDITIONAL ANALYSIS  
TO THE  
SDSU 2007 CAMPUS MASTER PLAN REVISION FINAL EIR**

State Clearinghouse No. 2007021020



**SAN DIEGO STATE  
UNIVERSITY**

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**January 2018**

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## AA3.14 TRANSPORTATION/CIRCULATION AND PARKING<sup>1</sup>

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### AA3.14.1

### INTRODUCTION AND EXECUTIVE SUMMARY

In November 2007, The Board of Trustees of The California State University (CSU) approved the San Diego State University (SDSU) 2007 Campus Master Plan Revision (the Project). As approved, the 2007 Master Plan authorized: (i) an enrollment increase of 10,000 full-time equivalent (FTE) students over the next 15-20 years, from 25,000 to 35,000; and (ii) the near-term and future development of the following six project components:

1. Student Housing: The near-term and future development of 2,976 additional on-campus student housing beds to be constructed at various locations on campus. (The recently approved New Student Housing project, which was analyzed at the project-specific level in a separate document prepared under the California Environmental Quality Act (CEQA), would provide approximately 850 of those 2,976 beds.);
2. Alvarado Campus: The near-term and future development of up to 612,000 gross square feet (GSF) of instructional and research space to be developed on the main campus south of Alvarado Road;
3. Alvarado Hotel: The near-term development of a four-story hotel with up to 120 rooms and studio suites to accommodate guests of SDSU, visiting scholars, and conference attendees. The hotel would be operated in cooperation with the SDSU School of Hospitality and Tourism Management;
4. Adobe Falls Faculty/Staff Housing: The near-term and future development of housing units for faculty, retired faculty/staff, and graduate students, to be developed on a 33-acre site owned by CSU north of Interstate 8. Under a scenario in which access to and from the Adobe Falls housing would be provided through the Del Cerro community, a maximum number of 172 housing units would be built -- 48 housing units in the Upper Village in the near-term, and 124 housing units in the Lower Village in the long-term;

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<sup>1</sup> To distinguish the numbering of the subsections, tables, figures, and mitigation measures presented in this Draft Additional Analysis (DAA) from those presented in the 2007 Final Environmental Impact Report (EIR), the label "AA," which stands for additional analysis, is used preceding each reference number.

5. Student Union Expansion: The 2007 Campus Master Plan included the renovation and expansion of the existing student union building, the Aztec Center (the renovation and expansion of this building was completed following Master Plan approval); and,
6. Campus Conference Center: The future development of a campus conference center, to be constructed on the campus, adjacent to Cox Arena.<sup>2</sup>

Following the Trustees' approval of the 2007 Master Plan, the City of San Diego, San Diego Association of Governments (SANDAG), Metropolitan Transit System (MTS), and the Del Cerro Action Council each filed a lawsuit challenging the adequacy of the environmental impact report (EIR) prepared for the 2007 Master Plan under CEQA.<sup>3</sup>

The lawsuits raised multiple issues, and the litigation proceeded from Superior Court, to the Court of Appeal, to the California Supreme Court.<sup>4</sup> Ultimately, the courts dismissed many of the claims, finding that the EIR was adequate in most respects, with the following three limited exceptions relating to EIR section 3.14 Transportation/Circulation and Parking:

1. *Contingent Mitigation Payment Inadequate.* The court found that the EIR's traffic mitigation measures, which required payments to the City of San Diego for certain road improvements, were inadequate. The reason they were found inadequate was because the payment of monies to the City was made contingent upon Legislative appropriation, that is, CSU/SDSU was only required to pay the money if the Legislature specifically appropriated the funds;
2. *Transit Analysis Inadequate.* The court found that the EIR's analysis of transit-related impacts was inadequate, that the EIR did not properly analyze the potential impacts the long-term addition of 10,000 students would have on the bus and trolley system; and

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<sup>2</sup> For additional detailed information regarding the 2007 Campus Master Plan components, please see the SDSU 2007 Campus Master Plan Revision Final EIR (SCH No. 2007021020), which is available for review at [www.advancement.sdsu.edu/masterplan/2007/approval.html](http://www.advancement.sdsu.edu/masterplan/2007/approval.html). The 2007 Final EIR is comprised of Draft EIR Volumes I to III (June 2007) and Final EIR Volume IV of IV (November 2007). The 2007 Final EIR also can be accessed via the DAA link at <http://bfa.sdsu.edu/campus/facilities/planning/>

<sup>3</sup> The Del Cerro Action Council entered into a settlement and mutual release agreement with CSU/SDSU in 2010 and as a result is no longer a party to the litigation.

<sup>4</sup> See *City of San Diego et al. v. Board of Trustees of the California State University* (2015) 61 Cal.4th 945 [California Supreme Court] and *City of San Diego et al. v. Board of Trustees of the California State University* (2011) 201 Cal.App.4th 1134 [California Court of Appeal, Fourth District]. Copies of the two court opinions are provided in Appendix W to this Draft Additional Analysis.

3. *Transportation Demand Management Mitigation Inadequate.* Lastly, the court found that the EIR's mitigation measure requiring SDSU to prepare a Transportation Demand Management plan was inadequate because it improperly deferred preparation of the plan.<sup>5</sup>

In furtherance of the ruling, the court directed CSU/SDSU to "take any and all further action that may be necessary to bring SDSU into compliance with CEQA." This Draft Additional Analysis has been prepared in response to the court's ruling and it revises those portions of the 2007 EIR Transportation/Circulation and Parking section found inadequate by the court.

Specifically, all applicable traffic mitigation measures have been revised to remove the prior condition making their implementation and/or funding contingent upon legislative appropriation and now require that CSU/SDSU implement the necessary improvements where feasible (see subsection AA3.14.9). Additionally, the analysis of transit-related impacts (i.e., the Project's impacts to trolley and bus service) has been revised to include a quantitative analysis of potential impacts (see subsection AA3.14.8.2), and a mitigation measure requiring the future preparation of a Transportation Demand Management (TDM) program has been replaced with a mitigation measure requiring the implementation of specific TDM strategies, including the identification of a TDM coordinator, increased ride-share opportunities, improved bicycle and pedestrian facilities, and enhanced transit ridership incentives (see subsection AA3.14.9, Mitigation Measure AATCP-19). These three discrete areas are the only areas of the Master Plan EIR the courts found inadequate and, therefore, the only three areas required to be addressed by CSU/SDSU in this CEQA document. While not required by the court, the analysis presented here is based on updated traffic information, including updated traffic counts, an updated list of cumulative projects, and updated transit data. The analysis is based on the *SDSU 2007 Master Plan Update Transportation Impact Analysis* prepared by Linscott, Law & Greenspan, Engineers (LLG) (January 2018)(LLG TIA). A copy of the LLG TIA is provided in Appendix V to this Draft Additional Analysis.

### *Analysis Summary*

The analysis presented here is based on the same project as that proposed in 2007, which included an increase in the authorized maximum number of FTE students from 25,000 FTE to 35,000 FTE, with a corresponding increase in "headcount" from 33,441 students to 44,826.<sup>6</sup> As with the 2007

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<sup>5</sup> See *Notice of Entry of Peremptory Writ of Mandate*, December 4, 2015, and *Notice of Entry of Judgment*, December 4, 2015 (collectively, *Writ of Mandate*). A copy of the *Writ of Mandate* is provided in Appendix X to this Draft Additional Analysis.

<sup>6</sup> One FTE student is defined as one student taking 15 course units (which is considered to be a "full course load"). Two part-time students, each taking 7.5 course units, also would be considered one FTE student, although the associated headcount would be two. The 2007 Campus

analysis, this increase in headcount is analyzed under two different scenarios, a Near-Term scenario and a Horizon Year scenario. The Near-Term scenario (approximately 2022) corresponds to an increase in headcount of 2,096 students. The Horizon Year timeframe (approximately 2035) corresponds to Project buildout and a headcount increase of 11,385 students (i.e. 10,000 FTE). Year 2035 was chosen as it is consistent with the 2007 analysis and the forecast year used by SANDAG. In addition to the increase in FTE/headcount, the analysis also considered the trip generation and distribution associated with the Project's applicable physical improvements to the SDSU campus, which include the classroom/research facilities, student and faculty/staff housing, and a hotel.

The Project's impacts were analyzed at all study area intersections, street segments, freeway ramp meters, and freeway mainline segments, consistent with the 2007 analysis. Additionally, an analysis of the Project's impacts relative to transit (trolley and buses) was conducted. The following summarizes the Project's significant impacts and related level of service under both the Near-Term and Horizon Year analyses:

#### *Near-Term (Year 2022) Significant Impacts*

The Project would result in significant impacts under the Near-Term scenario at the following intersections:

- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS E during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

As to street segments, the Project would result in significant impacts under the Near-Term scenario at the following segments:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70th Street (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)

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Master Plan EIR projected that when FTE enrollment reaches 35,000, 44,826 total students (i.e. headcount) will be enrolled at the university, which equated to an enrollment increase of 11,385 students.

No significant Near-Term impacts to the freeway ramp meters or mainline segments were identified. Mitigation measures for each of the significant impacts identified under the Near-Term scenario are discussed in Section AA3.14.9.

#### *Horizon Year (Year 2035) Significant Impacts*

The Project would result in significant impacts under the Horizon Year scenario at the following intersections:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the PM peak hour)
- 55th Street / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- Campanile Drive / Montezuma Road (LOS F during the AM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the AM peak hour, LOS F during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS F during the AM and PM peak hours)
- College Avenue / Zura Way (LOS F during the AM and PM peak hours)
- College Avenue / Montezuma Road (LOS F during the AM and PM peak hours)
- Alvarado Court / Alvarado Road (LOS F during the PM peak hour)
- 70th Street / Alvarado Road (LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the AM and PM peak hours)
- Montezuma Road / Collwood Boulevard (LOS E during the PM peak hour)

As to street segments, the Project would result in significant impacts under the Horizon Year scenario at the following segments:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70th Street (LOS F)
- College Avenue: Del Cerro Boulevard to I-8 WB off-ramp (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Zura Way to Montezuma Road (LOS E)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: Collwood Boulevard to 55th Street (LOS F)
- Montezuma Road: 55th Street to College Avenue (LOS F)

Additionally, the Project would result in significant impacts under the Horizon Year scenario at the following freeway ramp meters:



- NB College Avenue to WB I-8 (AM peak hour)
- SB College Avenue to WB I-8 (AM peak hour)

Lastly, under the Horizon Year scenario, the Project would result in significant impacts at the following freeway mainline segments:

- I-8 between Fairmount Avenue and Waring Road, LOS F(1)–PM (EB)
- I-8 between Waring Road and College Avenue, LOS F(0)–PM (EB)
- I-8 between College Avenue and Lake Murray boulevard, LOS F(0)–AM (WB) and LOS F(1)–PM (EB)
- I-8 between Lake Murray Boulevard and Fletcher Parkway, LOS F(3)–AM (WB) and LOS F(0)–PM (EB)

Mitigation measures for each of the significant impacts identified under the Horizon Year scenario are discussed in Section AA3.14.9.

As to transit, a detailed transit analysis was conducted to determine if adequate capacity would exist in the transit system (i.e., trolley and bus) to absorb the additional riders that would be generated as a result of the Project. Based on the design passenger capacity of the trolley and buses serving the SDSU Transit Center, the analysis determined that sufficient capacity would be available to accommodate the forecasted increase in transit riders. Therefore, the Project would not result in significant impacts related to transit.

As previously noted, the analysis presented here also includes a mitigation measure requiring that SDSU implement certain identified TDM strategies to reduce vehicle trips to and from campus. These strategies include designation of a TDM Coordinator, providing increased rideshare opportunities, bicycle and pedestrian related improvements, and strategies designed to increase transit ridership. The TDM mitigation measure is presented in Section AA3.14.9, Mitigation Measure AATCP-19.

In summary, implementation of the Project would result in significant impacts to off-campus intersections, street segments, freeway ramp meters, and freeway mainline segments. Where feasible mitigation is available, such mitigation is identified and its implementation would reduce the corresponding impacts to less than significant. In numerous instances, mitigation is not feasible due to various reasons, including physical constraints and/or the absence of a funding plan or program to implement the necessary improvements. Therefore, impacts related to these off-campus roadway facilities would be significant and unavoidable. Impacts relating to transit would be less than significant.

### *Agency Meetings*

Beginning in October, representatives of SDSU started coordinating and meeting with representatives of the City of San Diego, SANDAG, MTS, and Caltrans in connection with the analysis presented here. SDSU provided copies of the LLG draft traffic technical report that serves as the basis for this Draft Additional Analysis to the appropriate technical personnel at each agency seeking review and comment on the draft document. All comments provided, verbal and written, were considered and responsive revisions were made to the draft report and corresponding analysis. Information relating to the agency meetings that have taken place to date is included in Appendix Y to this Draft Additional Analysis.

In January 2018, SDSU representatives will begin meeting with representatives of the City, SANDAG/MTS, and Caltrans to further discuss the analysis and the mitigation measures proposed in Section AA3.14.9. To that end, certain mitigation measures have already been revised in response to the technical meetings that began in October. Representatives of SDSU will continue to meet with representatives of the City, SANDAG/MTS, and Caltrans during the public comment period on this Draft Additional Analysis, and the Final Additional Analysis will include updated information pertaining to those meetings.

### *Public Review Process*

This Draft Additional Analysis is being circulated for a 45-day public review period commencing January 12, 2018 and concluding February 25, 2018. Written responses will be prepared to all comments raising issues within the scope of the analysis presented here. As previously noted, this Draft Additional Analysis has been prepared in specific response to a court order referred to as a Writ of Mandate issued following litigation.<sup>7</sup> The scope of the court's order is limited to three specific issues, and, CSU/SDSU, as the lead agency, requests that reviewers limit their comments to those subjects ruled inadequate by the court and the corresponding analyses presented in this Draft Additional Analysis.

Following preparation of responses to comments, a document entitled Final Additional Analysis will be prepared that will include the written responses to comments, and other responsive documentation. The Draft Additional Analysis, Final Additional Analysis, and 2007 Final EIR will then be presented to The Board of Trustees of The California State University for certification under CEQA and re-approval of the 2007 Campus Master Plan consistent with the court's order.

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<sup>7</sup> See footnote 5, *supra*.

### Project Location

The SDSU campus is located just south of the Interstate 8 freeway, between the Waring Road and Lake Murray Boulevard interchanges. The campus is bisected on its north-south axis by College Avenue, and generally bound by Interstate 8 and Del Cerro Boulevard/Adobe Falls Drive to the north, and Montezuma Road to the south. The project vicinity map is shown in **Figure AA3.14-1**. A more detailed project area map is shown in **Figure AA3.14-2**.

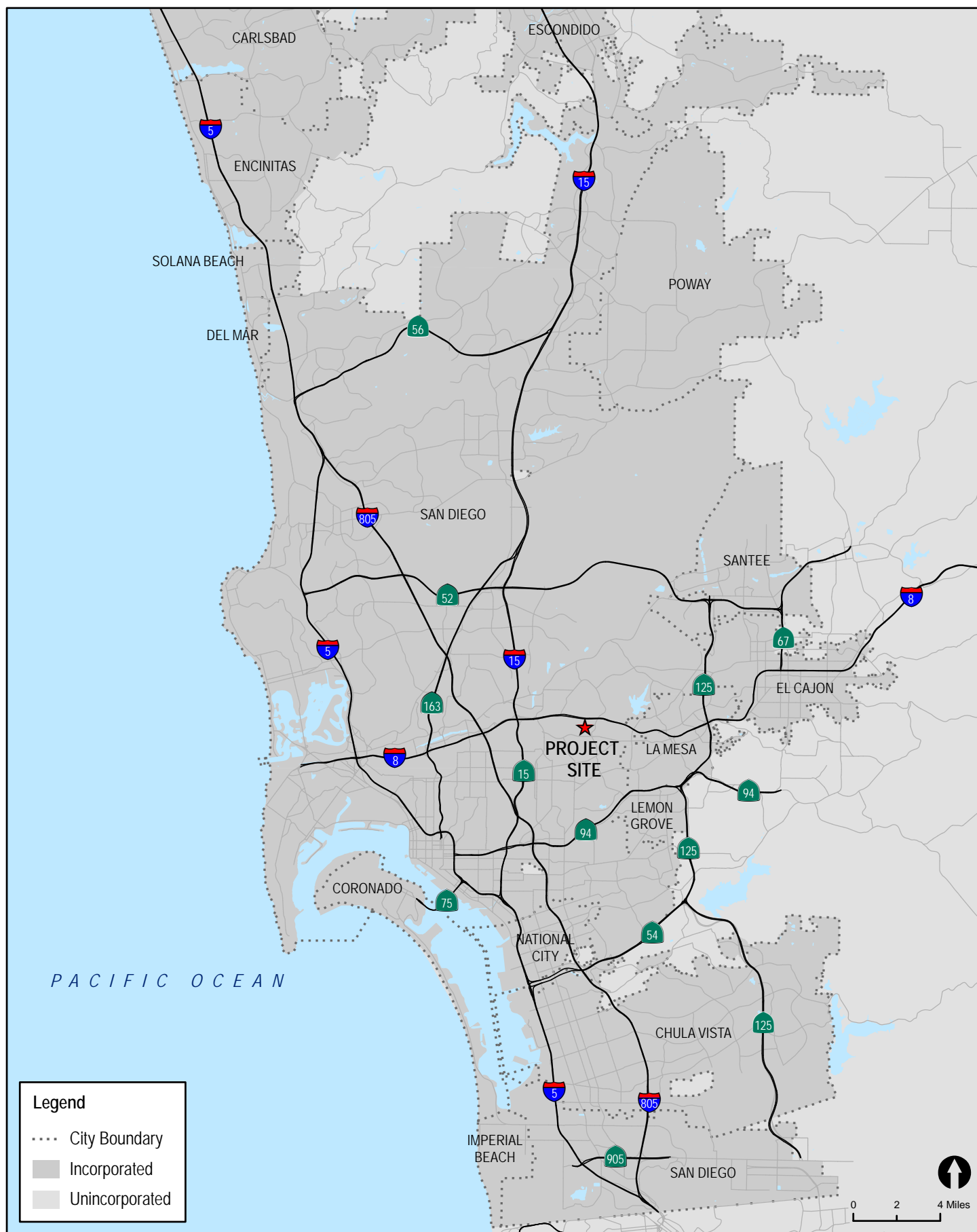
### Project Description

The SDSU 2007 Campus Master Plan traffic study was prepared in 2007. The present study was prepared in response to court rulings following litigation relating to the EIR prepared for the 2007 Master Plan. This study analyzes the same project as that proposed in 2007, which included an increase in FTE students from 25,000 FTE to 35,000 FTE,<sup>8</sup> and a corresponding increase “headcount” from 33,441 students to 44,826.<sup>9</sup> Similar to the 2007 analysis, this increase in headcount is analyzed under two different scenarios, a Near-Term scenario that extends out approximately five years (approximately 2022) and a Horizon Year scenario (approximately 2035). The Near-Term scenario corresponds to an increase in headcount of 2,096 students, while the Horizon Year scenario, which is consistent with the SANDAG forecast year, analyzes the impacts attributable to Project buildout, a headcount increase of 11,385 students (i.e. 10,000 FTE).

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<sup>8</sup> As explained in the 2007 Campus Master Plan Environmental Impact Report (EIR), one FTE student is defined as one student taking 15 course units (which is considered to be a “full course load”). Two part-time students, each taking 7.5 course units, also would be considered one FTE student, although the associated headcount would be two. The 2007 Campus Master Plan EIR projected that when FTE enrollment reaches 35,000, 44,826 total students (i.e. headcount) will be enrolled at the university. See, 2007 Campus Master Plan EIR, Section 1.0, Project Description, Table 1.0-3, SDSU Enrollment Planning Projections. During the 2006-07 academic year, 25,163 FTE attended SDSU, which equated to a student enrollment of 33,441 students. Therefore, the proposed project would result in an enrollment increase of 11,385 students.

<sup>9</sup> For comparative purposes, the 2016 SDSU headcount was 33,788, which is comparable to the base headcount (33,441) used for the present analysis. (Source: SDSU Analytic Studies and Institutional Research, <https://asir.sdsu.edu/enrollment-summary-data-table/>.)



**Figure AA3.14-1**



**SAN DIEGO STATE  
UNIVERSITY**

**Project Vicinity Map**

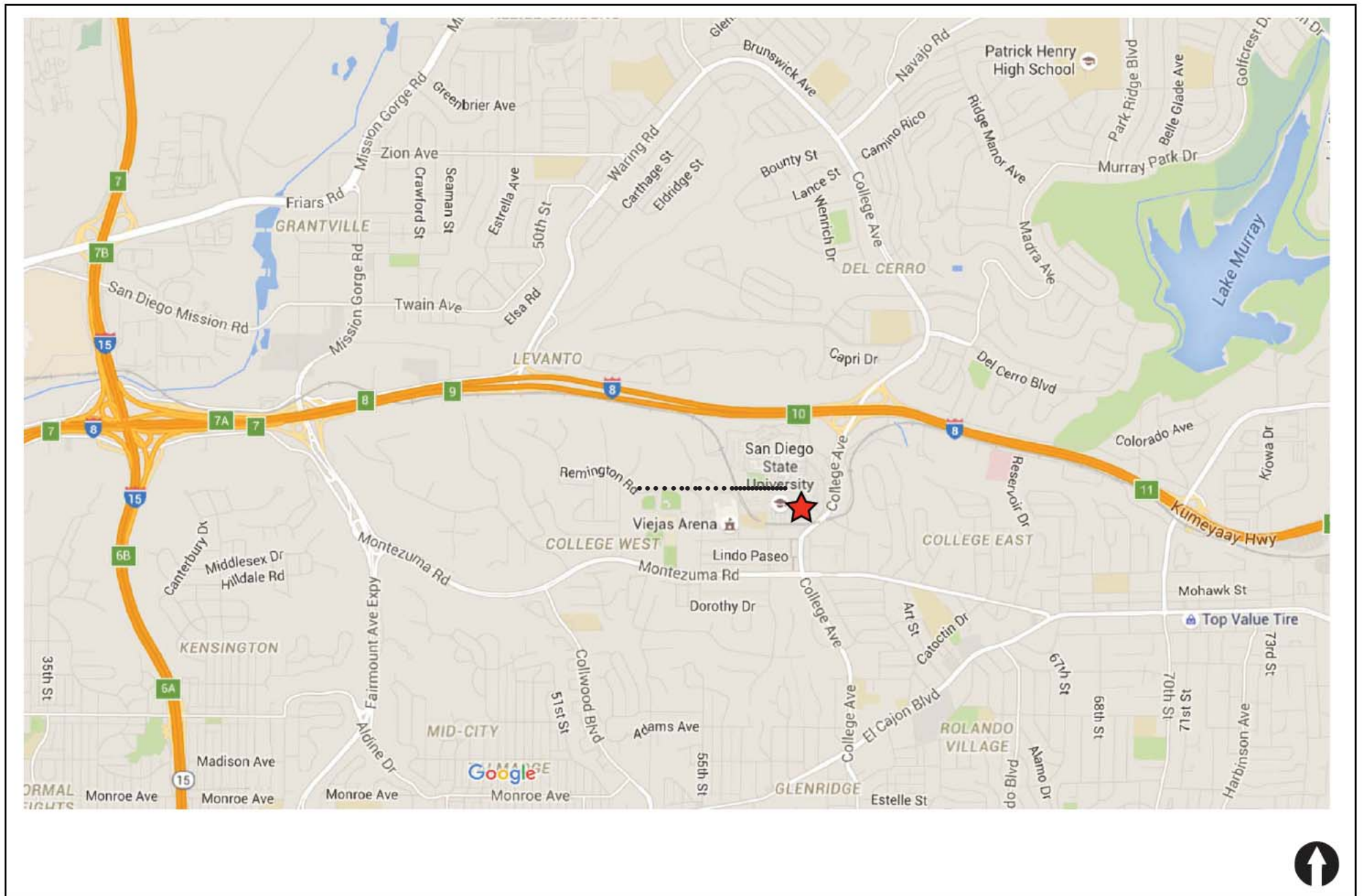


Figure AA3.14-2

Project Area Map

In addition to the increase in FTE/headcount, the Project also includes physical improvements to the SDSU Campus, which will occur at six distinct Campus locations. These physical improvements are: the Adobe Falls Faculty/Staff Housing; Alvarado Campus classroom and research facilities (to be constructed on Lot 17C [formerly Lot D] and the Alvarado Medical Center site); a renovated Student Union (constructed since 2007); a Campus Conference Center to provide meeting/conference space, office space, food and retail services; Student Housing (to be constructed on Lots 2A, 9, & 17 [formerly Lots G, U & C, respectively]); and the sites of the existing Maya and Olmeca halls respectively); and the Alvarado Hotel (to be constructed on Lot 17 [formerly Lot C]).

In addition to the increase in FTE enrollment, three of the six Project components are expected to generate measurable traffic volumes and affect circulation around the campus and, therefore, these facilities are addressed in this analysis. A brief description of these three Project components follows.

The Alvarado Campus site is located in the northeast corner of the SDSU Campus (former Lot D, now Lot 17C) and incorporates adjacent land and buildings to the east owned by the SDSU Research Foundation. It is assumed that the student headcount increase from 33,441 to 44,826, which, for purposes of this analysis, is assumed to be completed in the 2034 / 2035 academic year, would be partially accommodated in classroom facilities to be constructed on this site. The balance of the student increase would utilize classrooms on the existing campus. This Project component consists of constructing new instruction and administrative buildings along with a 2,000 space parking structure. Much of the new construction would replace the existing research medical center and adjacent surface parking lots. Access to the Alvarado Campus site from the west would be via College Avenue to Alvarado Road or from the east via 70<sup>th</sup> Street to Alvarado Road.

The Adobe Falls Faculty/Staff Housing Project component is located north of I-8 on undeveloped SDSU land. The site is bounded by Adobe Falls Drive to the north and the I-8 to the south. The Adobe Falls project is divided into an “Upper Village” and a “Lower Village.” The Upper Village would include 48 housing units. For the Lower Village, three (3) different access scenarios are contemplated with 124 units deemed the most likely of the three development scenarios. Therefore, for the purposes of this traffic analysis, a total of 172 units (48 units in the Upper Village + 124 units in the Lower Village) have been studied.

The Alvarado Hotel Project component is located south and east of Alvarado Road on an existing parking lot (Lot C) east of the SDSU Main Campus. The proposed hotel would consist of

approximately 120 rooms and studio suites, and facilities suitable for accommodating small conferences and business meetings.

### **AA3.14.3                      METHODOLOGY**

Level of service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis, taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

#### **Intersections**

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 16 of the *Highway Capacity Manual (HCM)*, with the assistance of the *Synchro* 9 computer software. Synchro provides the option to report methodologies for both 2010 and 2000 editions of the HCM. The 2010 version of the HCM is similar to the 2000 HCM methodologies but is focused more on specific controller set ups. Due to the changes in the 2010 HCM, there are several limitations within Synchro that do not allow results to be produced for an intersection. Some of these limitations include:

- Exclusive pedestrian phases
- Exclusive U-turn phases
- Right turn overlaps with through movements
- Permissive left turns yielding to pedestrians at a T-intersection
- Split phasing

Two (2) of the intersections within the study area do not produce results using the HCM 2010 methodology:

- Fairmount Avenue / I-8 EB Off Ramp (Exclusive U-turn phase)
- College Avenue / I-8 EB Ramps (Right turn overlaps with through movement)

Therefore, HCM 2000 methodology was used in the analysis of the above intersections. HCM 2010 methodology was used in the analysis of the remaining fifteen (15) intersections.



The delay values (represented in seconds) were qualified with a corresponding intersection LOS. Signalized intersection calculation worksheets and a more detailed explanation of the methodology are provided in LLG TIA Appendix B.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS were determined based upon the procedures found in Chapter 17 of the 2000 *Highway Capacity Manual (HCM)*, with the assistance of the *Synchro 9* computer software. Unsignalized intersection calculation worksheets and a more detailed explanation of the methodology are provided in LLG TIA Appendix B.

### **Street Segments**

Street segment analysis is based upon the comparison of average daily traffic volumes (ADTs) to the City of San Diego's *Roadway Classification, Level of Service, and ADT Table*. The ADT table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The College Area Circulation Element, City of San Diego's *Roadway Classification, Level of Service, and ADT Table* are provided in LLG TIA Appendix C.

### **Freeway Mainline**

Freeway segments were analyzed during the AM and PM peak hours based on the methodologies developed by CALTRANS District 11. Freeway segment LOS is based on the volume to capacity ratio on the freeway. The analysis of freeway segment LOS is based on the procedure developed by Caltrans District 11 based on methods described in the *Highway Capacity Manual*. The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C). The procedure for calculating freeway LOS involves the estimation of volume to capacity (V/C) ratio using the following equation:

$$V/C = \frac{(AADT \times \text{Peak Hour Percent} \times \text{Directional Factor})}{(\text{Truck Terrain Factor})}$$

*Lane Capacity*

*AADT* = Average Annual Daily Traffic

*Peak Hour Percent* = Percentage of ADT occurring during the peak hour.

*Directional Factor* = Percentage of peak hour traffic occurring in peak direction.

*Truck Factor* = Truck/terrain factor to represent influence of heavy vehicles & grades.



*Capacity* = 2,000 vehicles/lane/hour/lane for mainline, and 1,200 for auxiliary lanes.

The resulting V/C is then compared to accepted ranges of V/C values corresponding to the various LOS for each facility classification, as shown in **Table AA3.14-1**. The corresponding LOS represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour.

LLG TIA Appendix D contains the relevant “K” and “D” factors listed in the Caltrans *Peak Hour Volume Data* and the truck factors from the *2015 Annual Average Daily Truck Traffic on the California State Highway System* utilized in the analysis. The “D” factor is the percentage of traffic in the peak direction during the peak hour. Values are derived by dividing the measured peak hour volume (PHV) by the sum of both directions of travel during the peak hour. The “K” factor is the percentage of the Annual Average Daily Traffic (AADT) in both directions during the peak hour. Values are derived by dividing the measured 2-way PHV in the peak direction by the AADT.

**TABLE AA3.14-1**  
**FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS**

LOS <sup>a</sup>	V/C <sup>b</sup>	Congestion/Delay	Traffic Description
<i>USED FOR FREEWAYS, EXPRESSWAYS AND CONVENTIONAL HIGHWAYS</i>			
<b>A</b>	<0.41	None	Free flow
<b>B</b>	0.42-0.62	None	Free to stable flow, light to moderate volumes.
<b>C</b>	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
<b>D</b>	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
<b>E</b>	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
<i>USED FOR FREEWAYS AND EXPRESSWAYS</i>			
<b>F(0)</b>	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
<b>F(1)</b>	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
<b>F(2)</b>	1.36-1.45	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
<b>F(3)</b>	>1.46	Extremely Severe 3+ hours of delay	Gridlock

**Footnotes:**

- a. LOS = Level of Service
- b. V/C = Volume/Capacity

## Ramp Meters

The study area ramp meters were analyzed using the fixed rate method, which is based on the specific time intervals at which the ramp meter is programmed to release traffic. The ramp meter results are theoretical and based on Caltrans' most restrictive meter rates. Although the ramp meter rates fluctuate during the peak hour, to be conservative, the most restrictive rate was used for the analysis.

The fixed rate method generally tends to produce unrealistic queue lengths and delays since the approach does not take into account driver behavior such as "ramp shopping" or trip diversion. As a result, field observations were conducted to observe maximum delays and queues at the ramp meters. For the Existing and Near-Term analyses, at the ramp meters where the theoretical ramp meter analysis did not match field observations, the analysis was calibrated by decreasing the most restrictive discharge rates to match field conditions. No adjustments were made to the Horizon Year analysis as it is difficult to predict future operations based on existing performance. LLG TIA Appendix D contains a summary of the observed ramp meter operations.

The following on-ramps are within the study area:

- I-8 Eastbound On-Ramp / Southbound Fairmount Avenue - Metered during the PM peak hour
- I-8 Westbound On-Ramp / Northbound College Avenue – Metered during the AM peak hour
- I-8 Westbound On-Ramp / Southbound College Avenue – Metered during the AM peak hour
- I-8 Eastbound On-Ramp / Northbound College Avenue – Metered during the PM peak hour
- I-8 Eastbound On-Ramp / Southbound College Avenue – Metered during the PM peak hour
- I-8 Eastbound On-Ramp / Eastbound Alvarado Road – Not metered
- I-8 Westbound On-Ramp / Northbound Lake Murray Boulevard/70<sup>th</sup> Street – Metered during the AM peak hour

The following on-ramps were analyzed since the Project would add more than 20 peak hour trips:

- I-8 Eastbound On-Ramp / Southbound Fairmount Avenue - PM peak hour
- I-8 Westbound On-Ramp / Northbound College Avenue – AM peak hour
- I-8 Westbound On-Ramp / Southbound College Avenue – AM peak hour
- I-8 Eastbound On-Ramp / Northbound College Avenue – PM peak hour

- Other on-ramps in the area were not analyzed since the on-ramp is not metered or the project would add either no trips or less than 20 peak hour trips.
- LLG TIA Appendix D contains a copy of the existing ramp meter rates obtained from Caltrans.

#### **AA3.14.4 EXISTING CONDITIONS**

Effective evaluation of the traffic impacts associated with the proposed SDSU Master Plan Project requires an understanding of the existing transportation system within the project area. This section presents a description of the study area transportation facilities and analysis of their existing operations.

##### **AA3.14.4.1 DESCRIPTION**

The study area for the Project was determined using the *City of San Diego Traffic Impact Study Manual* standards, which require the analysis of facilities that would carry “50-directional peak hour trips” from the Project and any others that would be expected to be significantly impacted by the Project.<sup>10</sup> **Figure AA3.14-3** illustrates existing road conditions, including signalized intersections and lane configurations. **Figure AA3.14-4** illustrates the existing traffic volumes. The sections below provide a brief description of the existing conditions and volumes in the Project study area.

#### **Existing Street Network**

The following is a description of the existing street network in the study area.

Interstate 8 (I-8) is an interstate freeway operated by CALTRANS. I-8 is an east-west facility that extends from the San Diego area eastward to the California-Arizona border and beyond. It provides five (5) lanes eastbound and five (5) lanes westbound within the study area. This facility provides access to the Fairmount Avenue, Waring Road, College Avenue and Lake Murray / 70<sup>th</sup> Street interchanges within the project vicinity. The posted speed limit is 65 mph.

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<sup>10</sup> In response to a request by the City of San Diego, traffic analyses of two (2) additional intersections in the Project area were conducted. The intersections are Montezuma Road / Collwood Boulevard and Montezuma Road / Yerba Santa Drive.

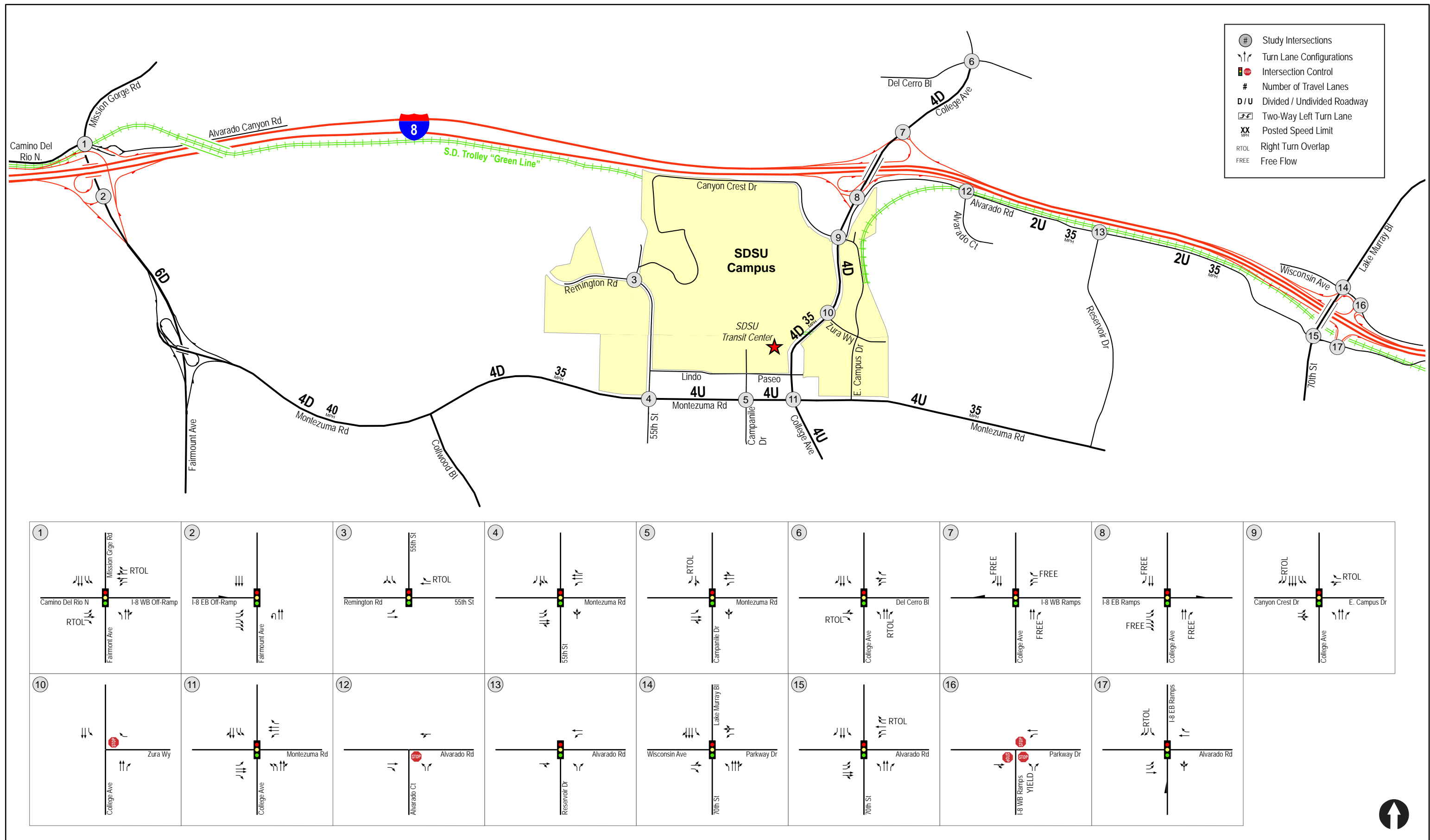


Figure AA3.14-3

Existing Conditions Diagram

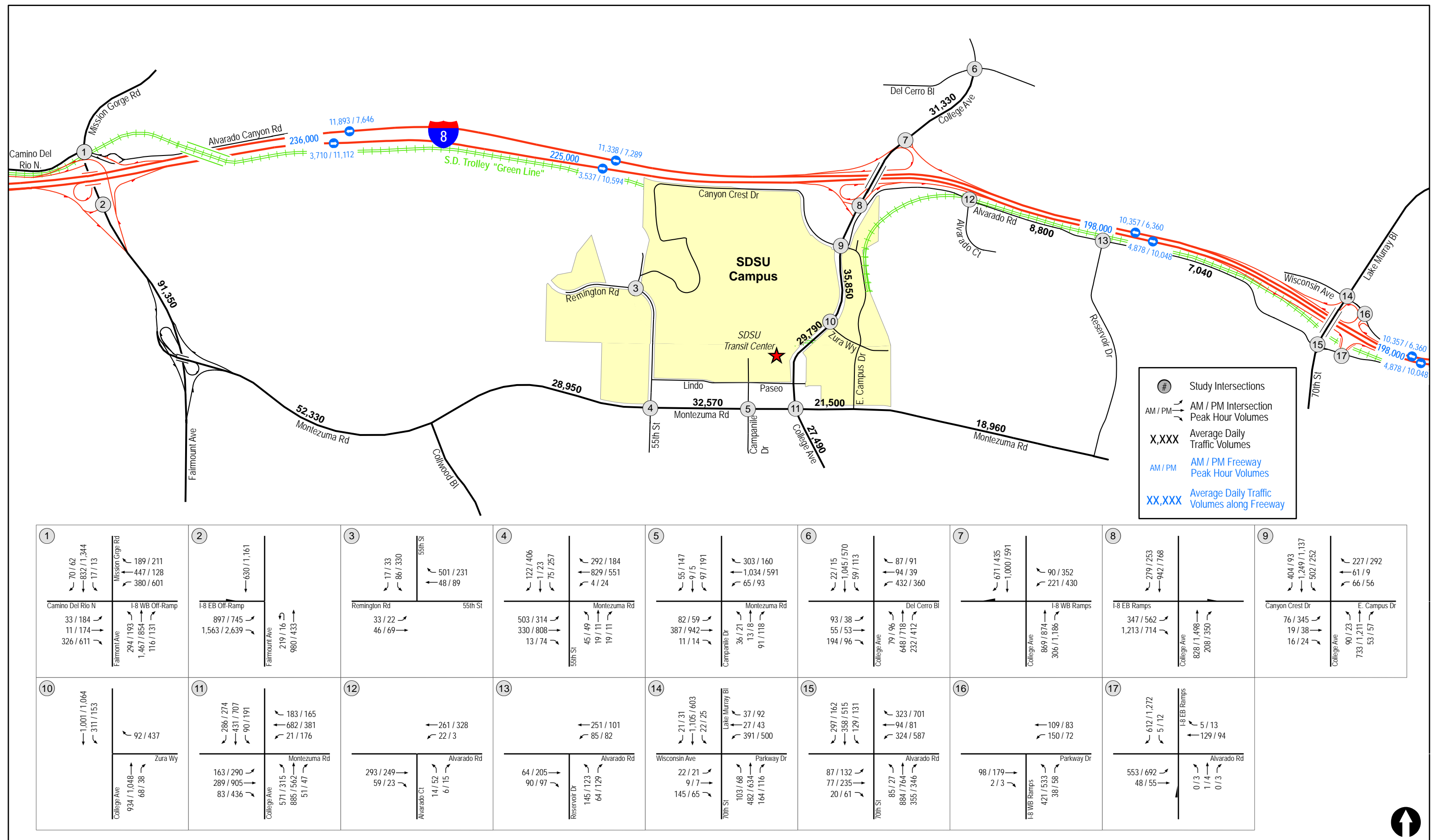


Figure AA3.14-4

Existing Traffic Volumes

Alvarado Road is an east-west roadway and is classified in the College Area Community plan as a 3-lane Collector between E. Campus Drive and 70th Street. Alvarado Road is currently constructed as a two-lane undivided roadway between College Avenue and 70th Street, running parallel with Interstate 8. Bike lanes are provided on both sides of the roadway between College Avenue and Reservoir Drive. On-street parking is generally prohibited between College Avenue and Reservoir Drive. Currently no bus facilities exist on Alvarado Road. The Green Line Trolley has an existing station at the Reservoir Drive intersection. The posted speed limit is 35 mph.

Alvarado Court is an unclassified roadway in the College Area Community Plan, and is currently constructed as a two-lane undivided roadway south of Alvarado Road. On-street parking is allowed on both sides of the roadway. Currently, no bicycle or transit facilities exist on Alvarado Court. There is currently no posted speed limit. Campanile Drive is an unclassified roadway in the College Area Community Plan. Campanile Drive is currently constructed as a 2-4 lane roadway north of Montezuma. Bike lanes are not provided along Campanile Drive. On-street parking is generally allowed south of Montezuma Road by permit only. There is a bus stop at Montezuma Road, and additional bus stops and a Green Line Trolley stop at the SDSU Transit Center. The posted speed limit is 25 mph.

Canyon Crest Drive / East Campus Drive is an unclassified roadway in the College Area Community Plan. Canyon Crest Drive / East Campus Drive is currently constructed as a two-lane undivided roadway west of College Avenue, as a two-lane one-way roadway between College Avenue and Zura Way, and as a two-lane undivided roadway south of Zura Way. On-street parking is generally prohibited. Currently, no bicycle or transit facilities exist on Canyon Crest Drive / East Campus Drive. The posted speed limit is 25 mph.

College Avenue is a north-south roadway and is classified as a 4-lane Major Street between Del Cerro Boulevard and I-8 in the Navajo Community Plan; as a 6-lane Major Street between Canyon Crest Drive and Montezuma Road; and as a 4-lane Major Street south of Montezuma Road in the College Area Community Plan, and. College Avenue is currently constructed as a four-lane, intermittently divided roadway between Del Cerro Boulevard and Montezuma Road. College Avenue is constructed as a 4-lane Collector between Montezuma Road and Cresita Drive. Bike lanes have been recently installed and provided along College Avenue between Zura Way and Montezuma Road. On-street parking is prohibited north of Montezuma Road but provided south between Montezuma Road and El Cajon Boulevard. Bus stops are provided at Del Cerro Boulevard, Canyon Crest Drive / East Campus Drive, Lindo Paseo and near College Avenue and El Cajon Boulevard. The posted speed limit is 40 mph between Del Cerro Boulevard and Zura Way, and 35 mph south of Zura Way.

Del Cerro Boulevard is an east-west roadway and is classified as a 2-lane Collector Street in the Navajo Community Plan. Del Cerro Boulevard is currently constructed as a two-lane divided roadway west of College Avenue in the Adobe Falls community, and as a four-lane roadway between College Avenue and Madra Avenue. Bike lanes are not provided along Del Cerro Boulevard. On-street parking is generally allowed. A bus stop is provided at College Avenue. The posted speed limit is 25 mph west of College Avenue, and 30 mph east of College Avenue.

Fairmount Avenue is a north-south roadway and is classified as a 6-lane Primary Arterial between Montezuma Road and I-8 in the College Area Community Plan. Fairmount Avenue is currently constructed as a six-lane divided expressway between Interstate 8 and Montezuma Road. Bike lanes are provided on both sides of the roadway. On-street parking is prohibited. Currently, no transit facilities exist along Fairmount Avenue. The posted speed limit is 35 mph between the I-8 ramps, and 50 mph south of the I-8 ramps.

Montezuma Road is an east-west roadway and is classified as a 4-lane Major Street between Fairmount Avenue and Reservoir Drive in the College Area Community Plan. Montezuma Road is currently constructed as a four-lane divided roadway between Fairmount Avenue and 55<sup>th</sup> Street, a four-lane undivided roadway between 55<sup>th</sup> Street and College Avenue, and as a four-lane undivided roadway with intermittent turn lanes east of College Avenue. Bike lanes are provided on Montezuma Road between Fairmount Avenue and 54<sup>th</sup> Street; and between Campanile Drive and College Avenue (westbound only). On-street parking is allowed on both sides of the roadway between 55<sup>th</sup> Street and Campanile Drive, and on the south side of the roadway intermittently east of College Avenue. Bus stops are provided along Montezuma Road at Collwood Boulevard, 54<sup>th</sup> Street, 55<sup>th</sup> Street, Campanile Drive, College Avenue, 63<sup>rd</sup> Street and E. Campus Drive. The posted speed limit is 50 mph from Fairmount Avenue to Collwood Boulevard, 40 mph eastbound and 45 mph westbound between Collwood Boulevard and 54<sup>th</sup> Street, 40 mph eastbound and 35 mph westbound between 54<sup>th</sup> Street and 55<sup>th</sup> Street, and 35 mph elsewhere.

Remington Road is an east-west roadway and is classified as a 2-lane Collector in the College Area Community Plan. Remington Road is currently constructed as a two-lane undivided roadway west of 55<sup>th</sup> Street. Bike lanes are provided on both sides of the roadway. On-street parking is generally prohibited. Currently no transit facilities exist on Remington Road. The posted speed limit is 25 mph.

Reservoir Drive is a north-south roadway and is classified as a 2-lane Collector in the College Area Community Plan. Reservoir Drive is currently constructed as a two-lane undivided roadway between Alvarado Road and Montezuma Road. Bike lanes are not provided along Reservoir Drive. On-street parking is generally allowed. There is a bus stop at Montezuma Road and a Green Line Trolley stop at Alvarado Road. The posted speed limit is 30 mph.



Zura Way is an unclassified roadway in the College Area Community Plan, and is currently constructed as a two-lane undivided roadway east of College Avenue and north of Montezuma Road. Zura Way connects College Avenue and Montezuma Road with East Campus Drive, parking structures 3 and 4, as well as surface lots 2B, 2, and 2A (formerly Lots E, F, and G). Bike lanes are not provided and on-street parking is prohibited. Currently no transit facilities exist on Zura Way. The posted speed limit is 15 mph.

55<sup>th</sup> Street is a north-south roadway and is classified as a 2-lane Collector north of Hardy Avenue and a 4-lane Collector between Hardy Avenue and Montezuma Road in the College Area Community Plan. 55<sup>th</sup> Street is currently constructed as a four-lane undivided roadway north of Montezuma Road, and as a two-lane undivided roadway north of Canyon Crest Drive. Bike lanes are provided south of Remington Road. On-street parking is prohibited except north of Canyon Crest Drive. There is a bus stop at Montezuma Road. The posted speed limit is 25 mph.

Collwood Boulevard is a north-south roadway and is classified as a 4-lane Major Street in the College Area Community Plan. Collwood Boulevard currently is constructed as a two-lane Collector with two-way left turn lane between College Avenue and 54<sup>th</sup> Street. Bike lanes are provided along Collwood Boulevard. On-street parking is generally allowed. Bus stops are provided at College Avenue. The posted speed limit is 40 mph.

Yerba Santa Drive is a north-south roadway and is classified as a 2-lane Collector in the College Area Community Plan. Yerba Santa Drive is currently constructed as a two-lane undivided roadway. Bike lanes are not provided along Yerba Santa Drive. On-street parking is allowed on the southbound direction side, north of College Avenue. There are no posted speed limit signs.

### **Existing Transit Conditions**

Transit service is provided to the area via the SDSU Transit Center, which serves seven (7) bus routes and the Green Line Trolley operated by the Metropolitan Transit System (MTS). Bus Routes 11, 14, 115, 215, 856, 936, and 955 are all serviced by the SDSU Transit Center and various other stops within the Project area. A brief description of the trolley and bus service is provided below.

#### ***MTS Trolley Green Line***

The MTS Trolley Green Line connects Downtown San Diego to Santee. A total of 27 stops currently exist along the Green Line with a dedicated SDSU Transit Center stop serving the campus. The general trolley hours of operation are from 3:53 AM until 12:30 AM. The trolley headways are typically 15 minutes on weekdays between 6:15 AM and 8:15 PM with headways increasing to 30 minutes during the off-peak times. A more detailed description of trolley conditions and operations is provided below.

### *MTS Bus Service*

Route 11 connects SDSU with Paradise Hills via Downtown; Route 14 connects SDSU with Lake Murray Village to the east and Grantville Trolley Station to the west; Route 115 connects SDSU with the El Cajon Transit Center; Route 215 is a Rapid connection serving SDSU and Downtown; Route 856 connects SDSU with Rancho San Diego and Cuyamaca College on weekdays; Route 936 connects SDSU with Lemon Grove Depot; Route 955 connects SDSU with the 8th Street Transit Center in National City. A more detailed description of bus conditions and operations is provided below.

### **Existing Traffic Volumes**

Existing AM and PM peak hour traffic volumes, as well as average daily traffic counts (ADTs), were conducted in 2016 while SDSU and all local schools were in session. **Table AA3.14-2** summarizes the ADTs based on the traffic counts. LLG TIA Appendix A contains the manual existing traffic volume count sheets.

**TABLE AA3.14-2  
EXISTING TRAFFIC VOLUMES**

<b>Street Segment</b>	<b>ADTa</b>
<b>Alvarado Road</b>	
E. Campus Drive to Reservoir Drive	8,800
Reservoir Drive to 70 <sup>th</sup> Street	7,040
<b>College Avenue</b>	
Del Cerro Boulevard to I-8 WB off-ramp	31,330
I-8 EB Ramps to Zura Way	35,850
Zura Way to Montezuma Road	29,790
Montezuma Road to Cresita Drive	27,490
<b>Montezuma Road</b>	
Fairmount Avenue to Collwood Boulevard	52,330
Collwood Boulevard to 55 <sup>th</sup> Street	28,950
55 <sup>th</sup> Street to College Avenue	32,570
College Avenue to E. Campus Drive	21,500
E. Campus Drive to Reservoir Drive	18,960
<b>Fairmount Avenue</b>	
Montezuma Road to I-8	91,350

*Footnotes:*

- a. Average Daily Traffic Volumes, April 19, 2016 (Tuesday).

The analysis of existing conditions includes the assessment of the study area intersections, street segments, and freeways using the methodologies described above in Section AA3.14.3.

### Existing Intersection Operations

Intersection capacity analyses were conducted for the study intersections under existing conditions. **Table AA3.14-3** reports the intersection operations during the peak hour conditions. As shown on the table, the following intersections currently operate at LOS E or F:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)
- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS E during the PM peak hour)

LLG TIA Appendix E contains the intersection analysis worksheets for the existing scenario.

**TABLE AA3.14-3**  
**EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay <sup>a</sup>	LOS <sup>b</sup>
1. Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	Signal	AM	82.2	F
		PM	122.5	F
2. Fairmount Avenue / I-8 EB Off Ramp	Signal	AM	37.6	D
		PM	106.1	F
3. 55 <sup>th</sup> Street / Remington Road	Signal	AM	8.4	A
		PM	10.2	B
4. 55 <sup>th</sup> Street / Montezuma Road	Signal	AM	33.5	C
		PM	50.2	D
5. Campanile Drive / Montezuma Road	Signal	AM	30.2	C
		PM	29.5	C
6. College Avenue / Del Cerro Boulevard	Signal	AM	31.1	C
		PM	23.2	C

**TABLE AA3.14-3  
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay <sup>a</sup>	LOS <sup>b</sup>
7. College Avenue / I-8 WB Ramps	Signal	AM PM	7.0 11.2	A B
8. College Avenue / I-8 EB Ramps	Signal	AM PM	19.6 50.0	B D
9. College Avenue / Canyon Crest Drive	Signal	AM PM	38.4 49.1	D D
10. College Avenue / Zura Way	MSSC <sup>c</sup>	AM PM	16.2 <b>112.3</b>	C <b>F</b>
11. College Avenue / Montezuma Road	Signal	AM PM	52.6 <b>67.7</b>	D <b>E</b>
12. Alvarado Court / Alvarado Road	MSSC <sup>d</sup>	AM PM	12.7 13.3	B B
13. Reservoir Drive / Alvarado Road	Signal	AM PM	9.1 10.1	A B
14. Lake Murray Boulevard / Parkway Drive	Signal	AM PM	31.8 31.2	C C
15. 70 <sup>th</sup> Street / Alvarado Road	Signal	AM PM	36.8 46.8	D D
16. I-8 WB Ramps / Parkway Drive	AWSC <sup>d</sup>	AM PM	20.4 <b>41.8</b>	C <b>E</b>
17. I-8 EB Ramps / Alvarado Road	Signal	AM PM	24.2 22.7	C C

**Footnotes:**

- Average delay expressed in seconds per vehicle.
- Level of Service.
- MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported. Left turns from Zura Way to College Avenue are not allowed.
- MSSC – Minor Street Stop Controlled intersection. Minor street left turn delay is reported.
- AWSC – All-Way Stop Controlled intersection.

**General Notes:**

- Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

## Existing Street Segment Operations

Existing street segment analyses were conducted for roadways in the study area. **Table AA3.14-4** reports the existing street segment daily operations. As shown on the table, the following segments currently operate at LOS E or F:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS E)
- College Avenue: Montezuma Road to Cresita Drive (LOS E)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: 55<sup>th</sup> Street to College Avenue (LOS F)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

**TABLE AA3.14-4**  
**EXISTING STREET SEGMENT OPERATIONS**

Street Segment	Classification	Capacity (LOS E) <sup>a</sup>	ADT <sup>b</sup>	LOS <sup>c</sup>	V/C <sup>d</sup>
<b>Alvarado Road</b>					
E. Campus Drive to Reservoir Drive	2-lane Collector (fronting property)	8,000	<b>8,800</b>	<b>F</b>	<b>1.100</b>
Reservoir Drive to 70 <sup>th</sup> Street	2-lane Collector (fronting property)	8,000	<b>7,040</b>	<b>E</b>	<b>0.880</b>
<b>College Avenue</b>					
Del Cerro Boulevard to I-8 WB off-ramp	4-lane Major Arterial	40,000	31,330	D	0.783
I-8 EB Ramps to Zura Way	4-lane Major Arterial	40,000	<b>35,850</b>	<b>E</b>	<b>0.896</b>
Zura Way to Montezuma Road	4-lane Major Arterial	40,000	29,790	C	0.745
Montezuma Road to Cresita Drive	4-lane Collector	30,000	<b>27,490</b>	<b>E</b>	<b>0.916</b>
<b>Montezuma Road</b>					
Fairmount Avenue to Collwood Boulevard	4-lane Major Arterial	40,000	<b>52,330</b>	<b>F</b>	<b>1.308</b>
Collwood boulevard to 55 <sup>th</sup> Street	4-lane Major Arterial	40,000	28,950	C	0.724
55 <sup>th</sup> Street to College Avenue	4-lane Collector	30,000	<b>32,570</b>	<b>F</b>	<b>1.086</b>
College Avenue to E. Campus Drive	4-lane Collector	30,000	21,500	D	0.717

E. Campus Drive to Reservoir Drive	4-lane Collector	30,000	18,960	C	0.632
<b>Fairmount Avenue</b>					
Montezuma Road to I-8	6-lane Prime Arterial	60,000	<b>91,350</b>	<b>F</b>	<b>1.523</b>

**Footnotes:**

- Capacities based on City of San Diego Roadway Classification Table.
- Average Daily Traffic Volumes.
- Level of Service.
- Volume to Capacity.

**General Notes:**

- Bold** typeface indicates segments operating at LOS E or F.

### Existing Freeway Ramp Meter Operations

Freeway entrance ramps that currently have ramp meters installed and in operation were analyzed under existing conditions. As shown in **Table AA3.14-5**, the following freeway ramp meter presently incurs a delay exceeding 15 minutes

- SB Fairmount Avenue to EB I-8 (PM peak hour)

**TABLE AA3.14-5  
EXISTING RAMP METER OPERATIONS**

Location/Scenario	Peak Hour	Peak Hour Demand	Ramp Meter Rate (Flow) <sup>a</sup>	Excess Demand	Delay per Lane <sup>b</sup>	Queue per Lane <sup>c</sup>
SB Fairmount Ave to EB I-8	PM	390	246	144	<b>35</b>	3,600
NB College Avenue to WB I-8	AM	306	<i>Restrictive: 318 Observed: 296</i>	10	2	250
SB College Avenue to WB I-8	AM	336	<i>Restrictive: 336 Observed: 300</i>	36	7	888
NB College Avenue to EB I-8	PM	350	<i>Restrictive: 570 Observed: 330</i>	20	4	500

**Footnotes:**

- While meter rates were obtained from Caltrans (see LLG TIA *Appendix D*), the rates were reduced to reflect existing ramp meter observations.
- Delay expressed in minutes per lane.
- Queue expressed in feet per lane.

**General Notes:**

- Bold** indicates meter delays exceeding 15 minutes.

### Residential Street Segment Operations

The 2007 Master Plan traffic study analyzed several residential neighborhood street segments in the vicinity of the proposed Adobe Falls faculty/staff housing. The 2007 analysis found that the

residential streets could accommodate the additional Project traffic. To determine whether this conclusion remains valid, a traffic count was conducted in April 2016 on Del Cerro Boulevard between Capri Drive and College Avenue, the entrance to the community where the Adobe Falls faculty/staff housing would be built.

Based on a count comparison between the 2007 and 2016 traffic counts, the 2016 volume on Del Cerro Boulevard was lower by 30% than the 2007 counts. LLG TIA Appendix F shows this calculation. Therefore, since the background traffic volumes have decreased since 2007, the available capacity actually has increased since that time. Therefore, the conclusion that the Adobe Falls area residential streets can accommodate the Project traffic without resulting in significant impacts still applies.

### **Existing Freeway Segment Operations**

The study area freeway segments were analyzed under existing conditions. LLG TIA Appendix G contains the detailed calculations sheets for the existing scenario. As shown in **Table AA3.14-6**, the following segments of I-8 currently operate at LOS E or F:

- I-8 between Fairmount Avenue and Waring Road, *LOS E-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between College Avenue and Lake Murray Boulevard, *LOS F(0)-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(1)-AM (WB) and LOS F(0)-PM (EB)*

**TABLE AA3.14-6**  
**EXISTING FREEWAY SEGMENT OPERATIONS**

Freeway and Segment	ADT <sup>a</sup>	AM Peak Hour				PM Peak Hour			
		Direction & Number of Lanes	Capacity <sup>b</sup>	V/C <sup>c</sup>	LOS <sup>d</sup>	Direction & Number of Lanes	Capacity <sup>b</sup>	V/C <sup>c</sup>	LOS <sup>d</sup>
I-8									
Fairmount Avenue to Waring Road	236,000	EB Mainlines 5M	10,000	0.371	B	EB Mainlines 5M	10,000	1.111	F(0)
		WB Mainlines 6M	12,000	0.991	E	WB Mainlines 6M	12,000	0.637	C
Waring Road to College Avenue	225,000	EB Mainlines 5M	10,000	0.354	B	EB Mainlines 5M	10,000	1.059	F(0)
		WB Mainlines 5M	10,000	1.134	F(0)	WB Mainlines 5M	10,000	0.729	C
College Avenue to Lake Murray Boulevard	198,000	EB Mainlines 4M+ 1A	9,200	0.530	B	EB Mainlines 4M+ 1A	9,200	1.092	F(0)
		WB Mainlines 5M	10,000	1.036	F(0)	WB Mainlines 5M	10,000	0.636	C
Lake Murray Boulevard to Fletcher Parkway	198,000	EB Mainlines 4M+ 1A	9,200	0.530	B	EB Mainlines 4M+ 1A	9,200	1.092	F(0)
		WB Mainlines 4M	8,000	1.295	F(1)	WB Mainlines 4M	8,000	0.795	C

**Footnotes:**

- Existing ADT volumes from *Caltrans' 2015 Traffic Volumes on California State Highways*.
- Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes*.
- Volume to Capacity.
- Level of Service.

**General Notes:**

- See *LLG TIA Appendix G* for calculation sheets.
- Bold** typeface indicates segments operating at LOS E or F.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		



### **AA3.14.5 CUMULATIVE PROJECTS**

In addition to the Project, there are other projects (i.e., cumulative projects) planned for development in the areas adjacent to the Project site that will add traffic to the roadways surrounding the Project location. Based on correspondence with the City of San Diego and SDSU staff, a total of twenty-five (25) cumulative projects were identified. The traffic that would be generated by each of these cumulative projects is accounted for in the analysis presented here in the Near-Term (Year 2022) and/or Horizon Year (Year 2035) analysis, as applicable.

**Table AA3.14-7** contains the list of cumulative projects. **Figure AA3.14-5** shows the cumulative projects traffic volumes.

**TABLE AA3.14-7  
CUMULATIVE PROJECTS SUMMARY**

C.P. #	Project Title	Project Location	Project Description	Status	Buildout Year
<b>City of San Diego Redevelopment Agency</b>					
<i>Crossroads Redevelopment Area</i>					
1a–1c	Crossroads Redevelopment Project	Three non-contiguous subareas within the following boundaries: (a) El Cajon Boulevard and University Avenue from 54th Street to the City of La Mesa, (b) the east side of 54th Street and north of College Grove Drive, and (c) Redwood and Thorn Streets, Martin Luther King Freeway, and 54th Street	Redevelopment project consisting of a variety of programmatic, residential, commercial, and public facilities with approximately 2,421 dwelling units ("DUs") proposed to be built over a 1,032-acre redevelopment area.	Approved	2032 (10% assumed in the Near-Term)
2	Chollas Triangle Redevelopment Project	South side of 5400 University Avenue	Pedestrian-oriented mixed-use project (possibly 500–600 DUs) on 36-acre site.	In planning process	Unknown (10% assumed in the Near-Term)
<i>College Community Redevelopment Area</i>					
3	Villa Paseo Apartments	5541 Linda Paseo	Construct a four-story, eight unit apartment building with street level parking.	Under Construction	2017
4	Delta Upsilon - CUP/PDP	5545 Hardy Ave	Demolish an existing residence for the construction of a 3-story, 15,343 sq ft, 16 bedrooms fraternity building with a deviation to lot coverage regulations.	Under construction	2017*

**TABLE AA3.14-7  
CUMULATIVE PROJECTS SUMMARY**

C.P. #	Project Title	Project Location	Project Description	Status	Buildout Year
5	Montezuma PDP / CUP / SDP	6213 Montezuma Road	Construct new Student Housing/Dormitory structure with 128 rooms over 3 levels of underground parking garage, totaling 7,220 square feet.	Under Review	Unknown*
6	6195 Montezuma Road	6195 Montezuma Road	Demolish two existing single-family DUs and construct a four-story structure with two levels of underground parking. Construct 40 DUs (22 four-bedroom DUs, 2 three-bedroom DUs, and 16 two-bedroom DUs), 84 on-site parking spaces, and associated improvements.	Vacant Lot in 2017	Through 2025
7	Capstone	5030 College Avenue	Construct 94 residential apartment units (374 beds)	Under Construction	2017*
<b>City of San Diego</b>					
8	Centrepont–Grantville (East & West)	Block bounded by Vandever Avenue, Fairmount Avenue, Twain Avenue, Mission Gorge Road	12-acre site for mixed-use development of 588 multi-family DUs and 135,228 SF of office, retail, and restaurant space.	Approved Ministerially	Unknown* (10% assumed in the Near-Term)
9	Grantville Trolley Station Transit Oriented Development (“TOD”)	4510 Alvarado Canyon Road	Approximately 900 beds	Application submitted	Unknown
10	Marburn Corp TM	5551 College Avenue	Subdivision of one existing vacant parcel into 24 single family residential lots and four HOA lots within environmentally	Approved	Unknown*

**TABLE AA3.14-7  
CUMULATIVE PROJECTS SUMMARY**

C.P. #	Project Title	Project Location	Project Description	Status	Buildout Year
			sensitive lands located at the northeast corner of Interstate 8 and College Ave.		
11	Grantville Veterans	4380 Alvarado Canyon Rd	Conversion of an existing motel to an 85 unit multi-family apartment building for permanent Veteran's Housing and Administrative Office.	Application submitted	Unknown*
12	Alvarado Lot 27/28 – SDP	5665 Toyon Road and 5660 Toyon Road	Create two single family residence on Lot 27 totaling 5,553 square feet and Lot 28 totaling 5,553 square feet.	Application submitted	Unknown*
13	Aztec Budget Inn Redevelopment	6050 El Cajon Blvd	Construct up to 65 for-sale residential units, including 7 affordable, and 3,000 square-feet of retail space	Proposed	Unknown*
<b><i>San Diego State University</i></b>					
14	College of Business Administration Building	Southeastern portion of SDSU, between College Avenue and East Campus Drive (existing Lot F)	170,000 SF College of Business building in Lot F.	Proposed	Unknown
15	Performing Arts Building	Adjacent to the existing Music Building in the central portion of campus	New five-story, 50,000 SF building to house a 400-seat black box performing arts theatre, dance studios, drama rehearsal space, and support space.	Proposed	Unknown
26	Softball Stadium Pressbox Addition	South of Remington Road, adjacent to Tony Gwynn Stadium	Construct press box at softball stadium.	On hold (possible future project)	Unknown
17	Children's Center	East side of campus, east of College Avenue, north of Zura	Landscape improvements.	In design	Unknown*

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*Draft Additional Analysis  
SDSU 2007 Campus Master Plan Revision Final EIR*

**TABLE AA3.14-7  
CUMULATIVE PROJECTS SUMMARY**

<b>C.P. #</b>	<b>Project Title</b>	<b>Project Location</b>	<b>Project Description</b>	<b>Status</b>	<b>Buildout Year</b>
	Landscape Upgrade	Way (north of South E Lot)			
18	Engineering and Interdisciplinary Sciences Building	South of Engineering Building	85,000 GSF of teaching and research lab, centers, offices, collaboration and meeting space.	Under construction	2018*
19	Open Air Theater Concourse Improvements	South of Love Library	Replace temporary restrooms and concession stands with permanent code-compliant structures. No seating increase.	Completed	2017*
20	SDSU Student Housing	Next to the existing Chapultepec Residence Hall on the northwest corner of the Remington Road/55 <sup>th</sup> Street intersection, on the west side of the San Diego State University (SDSU) campus.	The proposed Project consists of single-, double-, and triple-occupancy student housing that can accommodate up to a total of 850 beds.	Under construction	2019*

**TABLE AA3.14-7  
CUMULATIVE PROJECTS SUMMARY**

C.P. #	Project Title	Project Location	Project Description	Status	Buildout Year
<i>City of La Mesa</i>					
21	Jessie Avenue	4888 Jessie Avenue	47 townhomes and two commercial units.	Approved	Unknown*
22	Parks Avenue Townhomes	Parks Avenue and El Cajon Boulevard	10 townhomes and one live/work unit.	Approved	Unknown*
23	Comanche Apartments	Comanche Drive and El Cajon Boulevard	19 townhomes with a small commercial component	Under Review	Unknown*
24	Montebello North	5017 Thorne Drive	General Plan Amendment and rezone for multiple unit residential structure (mixed-use urban density at 24 to 40 units per acre)	Under Review	Unknown
25	Lowell Street	North end of Lowell Street	Five-unit planned residential development.	Under Review	Unknown*

*End of List*

**General Notes:**

\* Indicates Near-Term (Year 2022) cumulative projects.

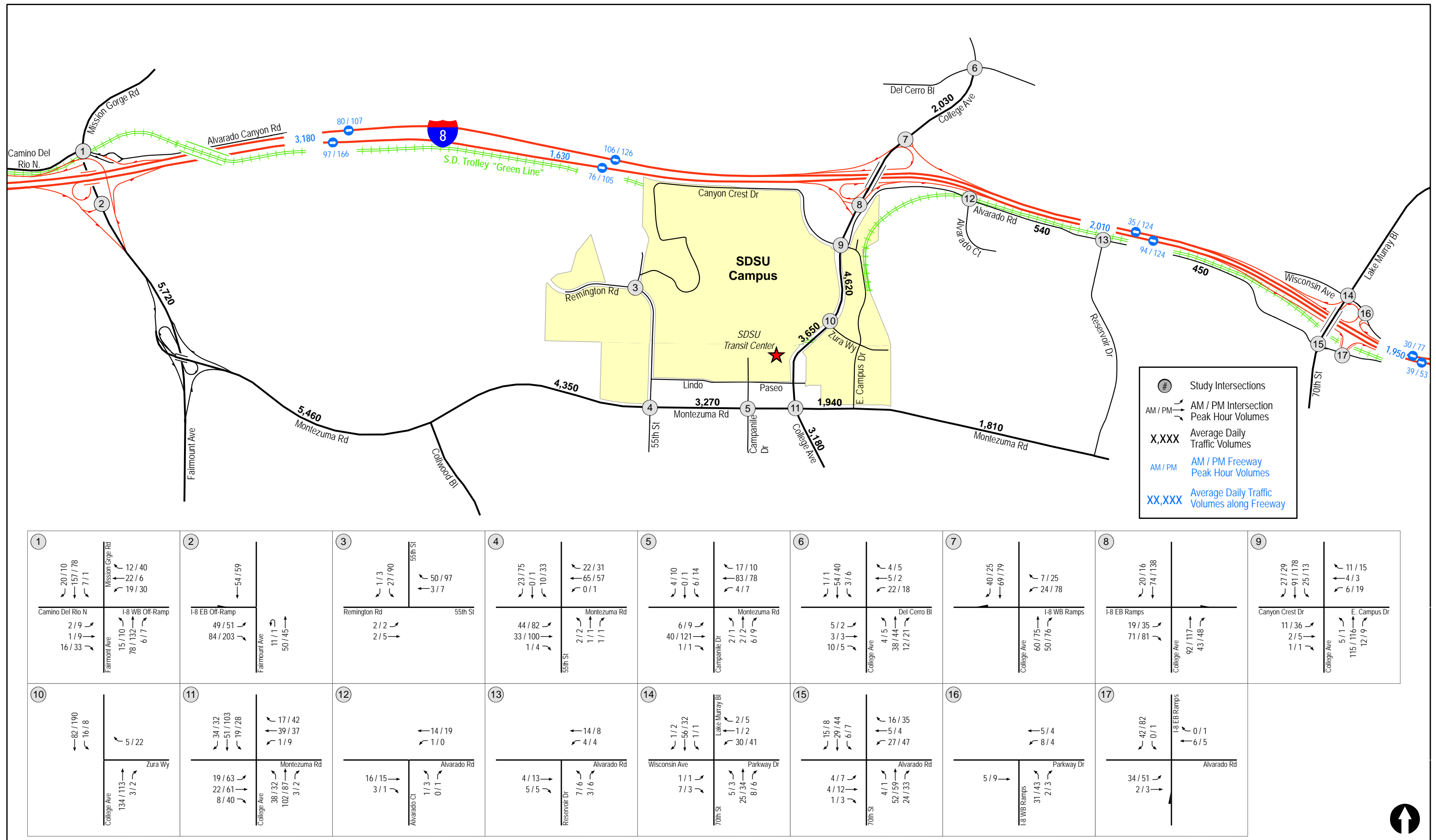


Figure AA3.14-5

The following is a summary of the Project trip generation, and the traffic distribution and assignment to the local and regional network. For additional information regarding Project trip generation, distribution, and assignment, please see the 2007 Final EIR, Section AA3.14.7.

### **Trip Generation, Distribution and Assignment**

As previously discussed, the description of the Project is unchanged from the 2007 analysis. Additionally, the travel patterns to/from the campus have not changed measurably over the years with College Avenue and Montezuma Road still providing the principal access to the campus. As a result, the trip generation, trip distribution, and traffic assignment calculated for the 2007 analysis were not modified for this analysis. Figures AA3.14-7A-1, -2, and -3 illustrate the Project trip distribution. For additional information regarding trip generation, please see the LLG TIA, Appendix G1.

**Tables AA3.14-8A, B, & C** depict the Near-Term trip generation calculations. **Tables AA3.14-9A, B, & C** depict the Horizon Year trip generation calculations. **Figures AA3.14-6 and AA3.14-7** show the Near-Term and Horizon Year illustrate the Project buildout traffic volumes.



**TABLE AA3.14-8A**  
**NEAR-TERM PROJECT TRIP GENERATION (YEAR 2022)**

Trip Generation Project Components	Size	Daily Trip Ends (ADT <sup>a</sup> )		AM Peak Hour				PM Peak Hour			
		Rate	Volume	% of ADT	In:Out Split	Volume		% of ADT	In:Out Split	Volume	
<b>SDSU Student Headcount Increase</b>											
Non-Resident Student Headcount Increase <sup>b</sup>	1,466 Students	2.47 <sup>c</sup> /Student	3,621	5%	90:10	163	18	7%	30:70	76	177
Resident Student Headcount Increase	628 Students	0.64 <sup>d</sup> /Student	402	5%	90:10	18	2	7%	30:70	8	20
<b>Subtotal</b>	2,094 Students	—	4,023			181	20			84	197
<b>Adobe Falls Faculty/Staff Housing</b>											
Upper Village Town homes	48 DU	8/DU <sup>e</sup>	384	8%	20:80	6	25	10%	70:30	27	11
<b>Alvarado Hotel</b>	120 Room	10/Room <sup>e</sup>	1,200	6%	60:40	43	29	8%	60:40	58	38
<b>Total</b>		—	<b>5,607</b>	—	—	<b>230</b>	<b>74</b>	—	—	<b>169</b>	<b>246</b>

**Footnotes:**

- Average Daily Traffic
- Near-Term (Year 2022) student headcount increase calculated as 2,094 students (35,535 minus 33,441 equals 2,094 students). It should be noted that 70% of the student headcount increase are assumed to consist of non-resident students, and 30% of the student headcount increase will consist of resident students.
- SDSU rates are based on actual counts taken in November 2006. This rate includes SDSU faculty, staff, vendors, visitors, and students.
- The resident student rate is based on the Community College Redevelopment EIR that assumed 4.4 trips per student dwelling unit (with a reduction of 2.8 trips per DU based on students with new commute but would instead relocate and occupy the on-campus housing).
- Rates were taken from the City of San Diego Trip Generation Manual, May 2003.

**General Notes:**

- DU = Dwelling Units

**TABLE AA3.14-8B**  
**SHIFT FROM DRIVING TO TROLLEY (NEAR-TERM)**

SDSU boardings Increase (Near-Term)	2,460 students <sup>a</sup>
79% boardings are not transfers	1,943 students <sup>b</sup>
Vehicle Occupancy Rate	1,620 students <sup>c</sup>
95 % of shift to trolley is from private vehicle	1,538 students <sup>d</sup>
Total ADT diverted from private vehicle to trolley	3,076 (5 % during AM peak = 154 trips and 7 % during PM peak = 215 trips)

**Footnotes:**

- Source: SANDAG Trolley Boarding Data
- Source: SANDAG
- Accounts for fact that not all drivers that shift from trolley were driving alone, some carpool (5% assumed).
- Accounts for fact that some future users of trolley would shift from other transit opportunities, and not from private vehicles

**TABLE AA3.14-8C**  
**NET INCREASE IN TRAFFIC (NEAR-TERM)**

1. Proposed project trips (without any increased trolley usage) = 5,607 ADT
2. Future Shift from driving to trolley = 3,076 ADT
3. Net increase in traffic = 2,531 ADT (150 AM peak hour trips and 200 PM peak hour trips)

**TABLE AA3.14-9A**  
**HORIZON YEAR PROJECT TRIP GENERATION (YEAR 2035)**

Trip Generation Project Components	Size	Daily Trip Ends (ADT <sup>a</sup> )		AM Peak Hour				PM Peak Hour			
		Rate	Volume	% of ADT	In:Out Split	Volume		% of ADT	In:Out Split	Volume	
<b>SDSU Student Headcount Increase</b>											
Non-Resident Student Headcount Increase <sup>b</sup>	7,401 Students	2.47 /Student <sup>c</sup>	18,280	5%	90:10	823	91	7%	30:70	384	896
Resident Student Headcount Increase	3,984 Students	0.64 /Student <sup>d</sup>	2,550	5%	90:10	115	13	7%	30:70	54	125
<b>Subtotal</b>	<b>11,385 Students</b>	<b>—</b>	<b>20,830</b>			<b>938</b>	<b>104</b>			<b>438</b>	<b>1,021</b>
<b>Adobe Falls Faculty/Staff Housing</b>											
Upper Village Town homes	48 DU	8 /DU <sup>e</sup>	384	8%	20:80	6	25	10%	70:30	27	11
Lower Village Townhomes	124 DU	8 /DU <sup>e</sup>	992	8%	20:80	16	63	10%	70:30	66	28
<b>Alvarado Hotel</b>	120 Rooms	10 /Room <sup>e</sup>	1,200	6%	60:40	43	29	8%	60:40	58	38
<b>Total</b>		<b>—</b>	<b>23,406</b>	<b>—</b>	<b>—</b>	<b>1,003</b>	<b>221</b>	<b>—</b>	<b>—</b>	<b>589</b>	<b>1,098</b>

**Footnotes:**

- Average Daily Traffic
- Horizon Year (Year 2035) student headcount increase calculated as 11,385 students (44,826 minus 33,441 equals 11,385 students). It should be noted that 65% of the student headcount increase are assumed to consist of non-resident students, and 35% of the student headcount increase will consist of resident students.
- SDSU rates are based on actual counts taken in November 2006. This rate includes SDSU faculty, staff, vendors, visitors, and students.
- The resident student rate is based on the Community College Redevelopment EIR that assumed 4.4 trips per student dwelling unit (with a reduction of 2.8 trips per DU based on students with new commute but would instead relocate and occupy the on-campus housing).
- Rates were taken from the City of San Diego Trip Generation Manual, May 2003.

**General Notes:**

- DU = Dwelling Units

**TABLE AA3.14-9B**  
**SHIFT FROM DRIVING TO TROLLEY (HORIZON YEAR)**

SDSU boardings Increase (Horizon Year)	8,732 students <sup>a</sup>
79% boardings are not transfers	6,898 students <sup>b</sup>
Vehicle Occupancy Rate	5,748 students <sup>c</sup>
95 % of shift to trolley is from private vehicle	5,460 students <sup>d</sup>
Total ADT diverted from private vehicle to trolley	10,920 (5 % during AM peak = 546 trips and 7 % during PM peak = 764 trips)

**Footnotes:**

- Source: SANDAG Trolley Boarding Data
- Source: SANDAG
- Accounts for fact that not all drivers that shift from trolley were driving alone, some carpool (5% assumed).
- Accounts for fact that some future users of trolley would shift from other transit opportunities, and not from personal vehicles

**TABLE AA3.14-9C**  
**NET INCREASE IN TRAFFIC (HORIZON YEAR)**

1. Proposed project trips (without any increased trolley usage) = 23,404 ADT
2. Future Shift from driving to trolley = 10,920 ADT
3. Net increase in traffic = 12,484 ADT (678 AM peak hour trips and 923 PM peak hour trips)

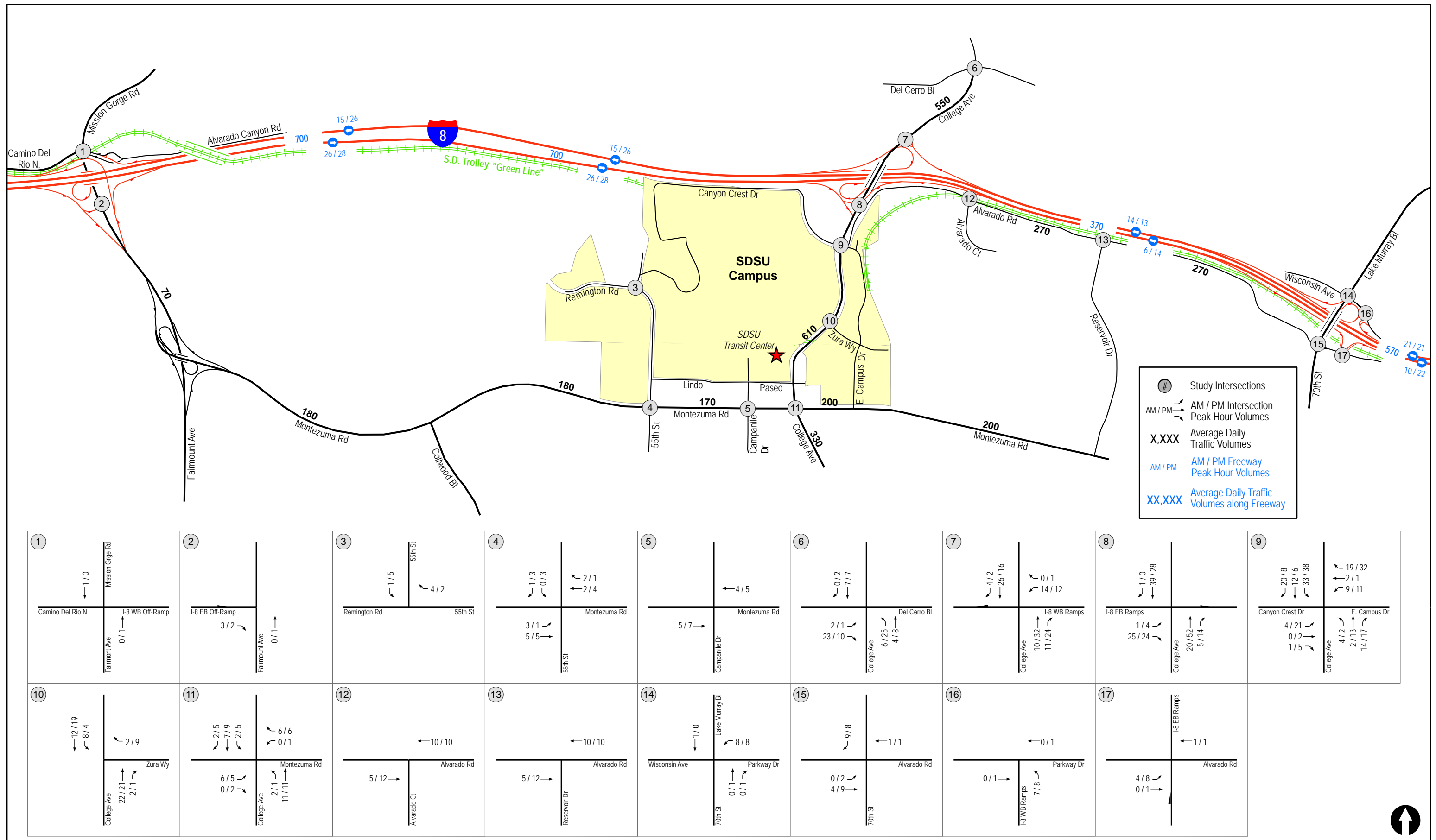


Figure AA3.14-6

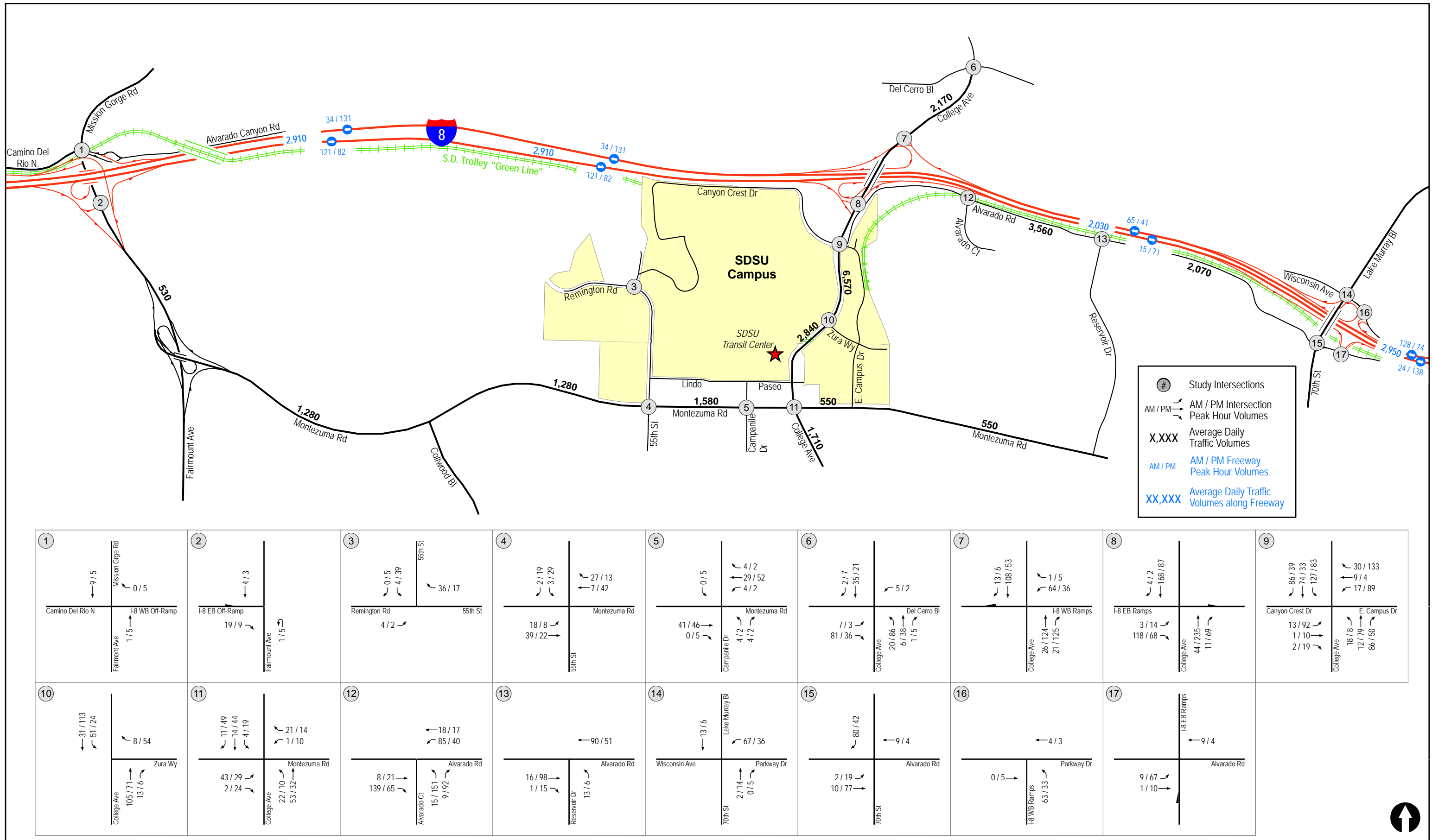


Figure AA3.14-7

Horizon Year (Year 2035) Total Project Traffic Volumes

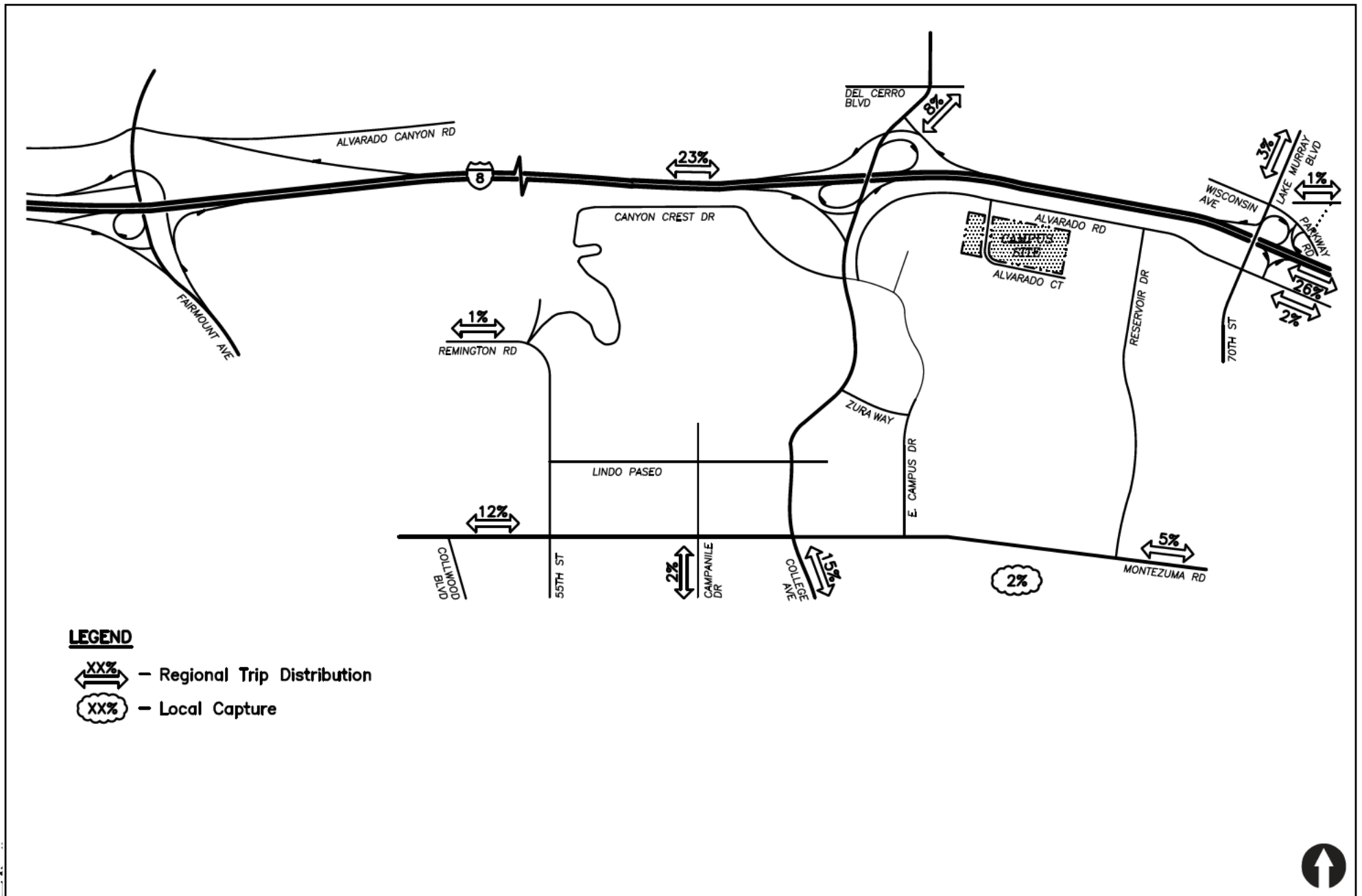


Figure AA3.14-7A-1

January 2018



Alvarado Campus Project Traffic Distribution  
(Near-Term & Horizon Year)

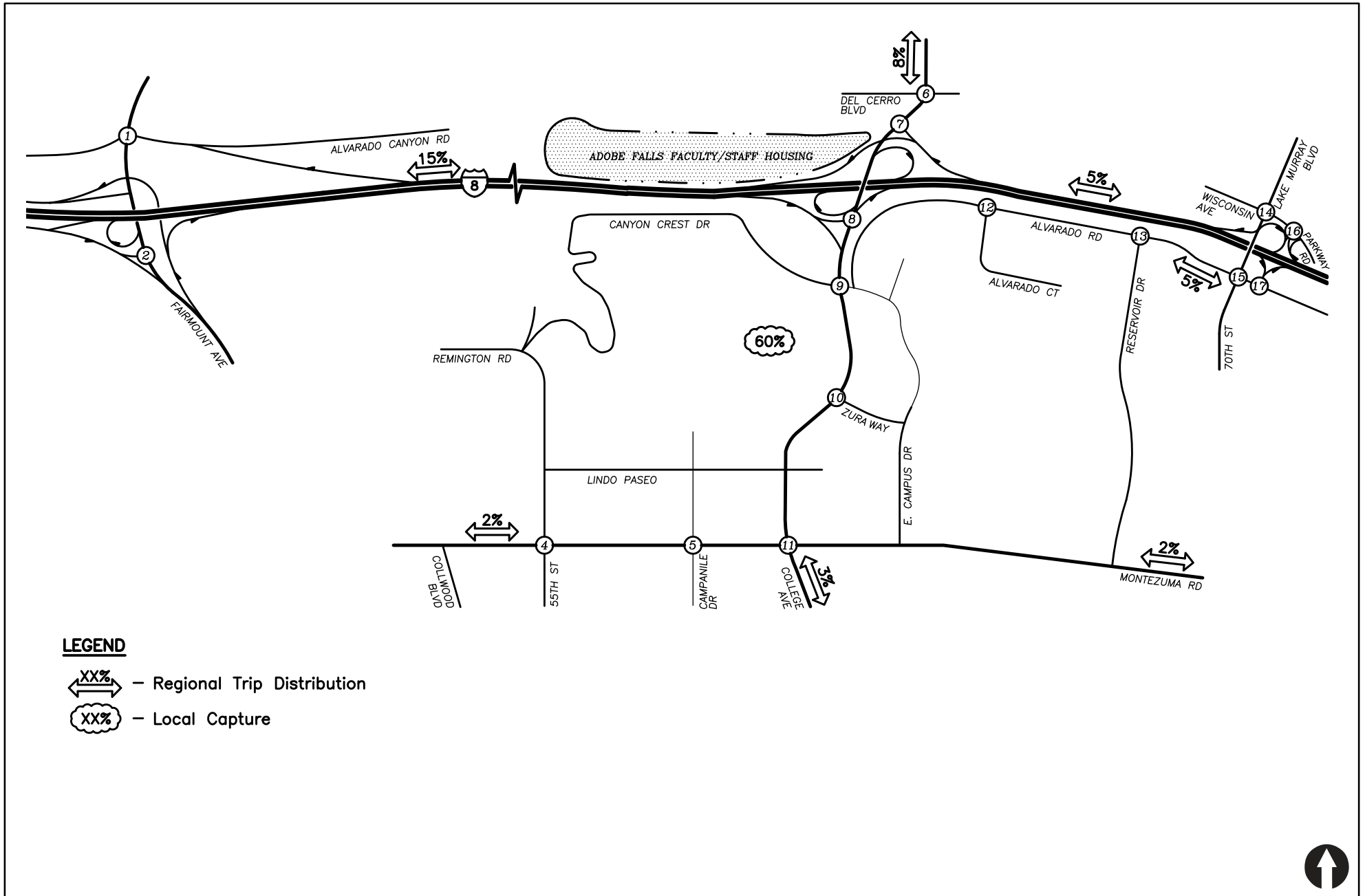


Figure AA3.14-7A-2

January 2018



# Adobe Falls Faculty/Staff Housing Traffic Distribution (Near-Term & Horizon Year)

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SDSU 2007 Campus Master Plan Revision Final EIR

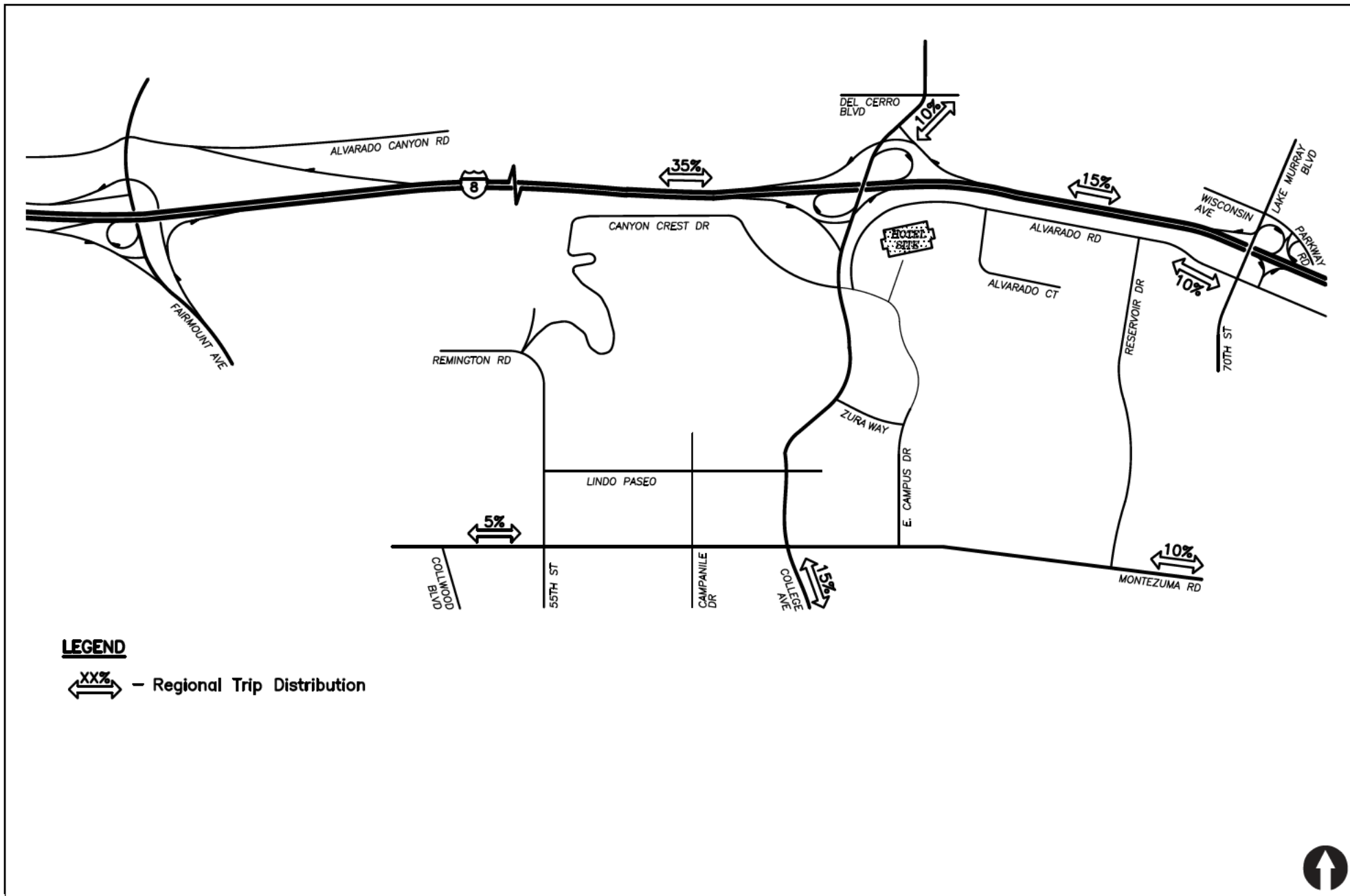


Figure AA3.14-7A-3

As a state agency, CSU/SDSU generally is not subject to local planning and related regulations. As such, application of local agency thresholds of significance is not mandatory for analyses conducted by CSU/SDSU. However, consistent with the 2007 Master Plan EIR, which assessed the Project's impacts relative to the City of San Diego's significance thresholds, the same approach is applied in this Draft Additional Analysis and impacts are assessed based on the City's thresholds. For information purposes, a comparative analysis of the Project's impacts relative to the applicable CSU significance criteria also is provided.

According to the City of San Diego's *Significance Determination Thresholds* dated January 2011, a project is considered to have a significant impact if project traffic would decrease the operations of surrounding roadways by a defined threshold. For projects deemed complete on or after January 1, 2011, the City defined thresholds are shown in **Table AA3.14-10**.

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds*,

*"Direct traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term)."*

*"Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned buildout (long-term cumulative)."*

It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact."

For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions."

If the project exceeds the thresholds in **Table AA3.14-10**, then the project is considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project



causes the LOS to degrade from D to E, even if the allowable increases in **Table AA3.14-10** are not exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

**TABLE AA3.14-10**  
**CITY OF SAN DIEGO**  
**TRAFFIC IMPACT SIGNIFICANT THRESHOLDS**

Level of Service with Project <sup>b</sup>	Allowable Increase Due to Project Impacts <sup>a</sup>			
	Freeways	Roadway Segments	Intersections	Ramp Metering <sup>c</sup>
	V/C	V/C	Delay (sec.)	Delay (min.)
E	0.010	0.02	2.0	2.0
F	0.005	0.01	1.0	1.0

**Footnotes:**

- a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.
- b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
- c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and upstream freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and upstream freeway LOS F is 1 minute.

**General Notes:**

1. Delay = Average control delay per vehicle measured in seconds for intersections or minutes for ramp meters
2. LOS = Level of Service
3. V/C = Volume to Capacity ratio

As reported in the CSU *Transportation Impact Study Manual* (November 2012), a Project would result in significant impacts relative to Off-Site Traffic Operations if:

- A roadway segment or intersection operates at LOS D or better under a no project scenario and the addition of project trips causes overall traffic operations on the facility to operate at LOS E or F;
- A roadway segment or intersection operates at LOS E or F under a no project scenario and the project adds both 10 or more peak hour trips and 5 seconds or more of peak hour delay [at intersections] during the same peak hour, [or in the case of segments, the project increase in volume to capacity (v/c) ratio is 0.02 or more]; and
- If an intersection [or segment] operates at a very poor LOS F (control delay of 120 seconds or more [for intersections, and v/c of 1.50 or more for segments]), the significance criterion [for

intersections] shall be an increase in v/c ratio of 0.02 or more [and for segments, the significance criterion shall be an increase in v/c ratio of 0.01 or more].

## **AA3.14.8 PROJECT IMPACTS**

### **AA3.14.8.1 VEHICLE IMPACTS**

This section presents an assessment of the impacts of Project traffic volumes in relation to Existing, Near-Term (Year 2022) and Horizon Year (Year 2035) conditions. The section includes analysis of intersections, street segments, freeway ramp meters, and freeway mainline operations.

#### **Existing + Project Analysis**

The Existing + Project traffic analysis is an assessment of the impact of the total project (i.e. the project at buildout) in relation to the existing conditions. Since the project in this case is a long-term project that will not reach build out for many years, the “Existing + Project” analysis is hypothetical in that it is not an accurate scenario upon which to assess significant impacts. This is because the Existing + Project scenario does not take into account future increases in background, or cumulative, traffic and, as a result, the analysis under this scenario potentially understates impacts by assuming more capacity than actually would be available; in contrast, both the Near-Term and Horizon Year analyses do take background traffic into account. Therefore, the Existing + Total Project analysis is provided in this case for informational purposes only; the impacts of the Project are assessed under the Near-Term and Horizon Year scenarios, which both account for future increases in background traffic and infrastructure improvements, as applicable. **Figure AA3.14-8** depicts the Existing + Project traffic volumes.

#### ***Intersection Analysis***

Intersection capacity analyses were conducted for the study intersections under Existing + Project conditions. **Table AA3.14-11** reports the intersection operations during the peak hour conditions. Under this scenario, the following intersections would operate at LOS E or F:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)

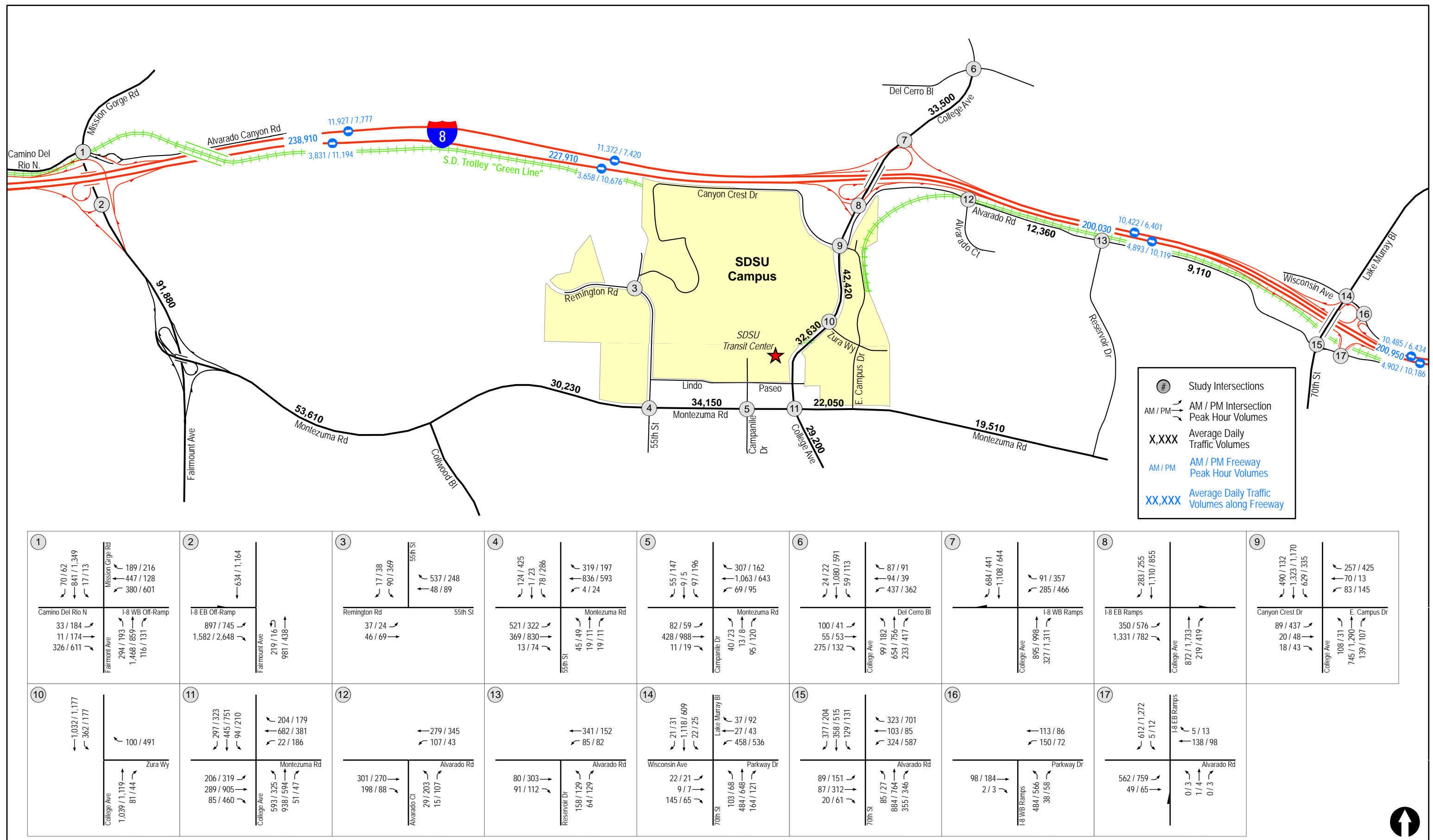


Figure AA3.14-8

Existing + Project Traffic Volumes

- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the PM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS E during the AM peak hour, LOS F during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

LLG TIA Appendix H and Appendix S contain the intersection analysis worksheets for the Existing + Project scenario.

Based on the City of San Diego thresholds, the Project would result in significant impacts at the following intersections under the Existing + Project scenario:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the PM peak hours)
- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS E during the AM peak hour, LOS F during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

**TABLE AA3.14-11**  
**EXISTING + PROJECT INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing		Existing + Total Project	
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS
1. Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	Signal	AM	<b>82.2</b>	<b>F</b>	<b>82.4</b>	<b>F</b>
		PM	<b>122.5</b>	<b>F</b>	<b>125.6</b>	<b>F</b>
2. Fairmount Avenue / I-8 EB Off Ramp	Signal	AM	37.6	D	37.9	D
		PM	<b>106.1</b>	<b>F</b>	<b>107.0</b>	<b>F</b>
3. 55 <sup>th</sup> Street / Remington Road	Signal	AM	8.4	A	8.5	A
		PM	10.2	B	10.4	B
4. 55 <sup>th</sup> Street / Montezuma Road	Signal	AM	33.5	C	33.9	C
		PM	50.2	D	52.9	D
5. Campanile Drive / Montezuma Road	Signal	AM	30.2	C	30.3	C
		PM	29.5	C	29.9	C
6. College Avenue / Del Cerro Boulevard	Signal	AM	31.1	C	37.6	D
		PM	23.2	C	27.0	C
7. College Avenue / I-8 WB Ramps	Signal	AM	7.0	A	9.1	A
		PM	11.2	B	11.3	B
8. College Avenue / I-8 EB Ramps	Signal	AM	19.6	B	22.3	C
		PM	50.0	D	<b>66.7</b>	<b>E</b>
9. College Avenue / Canyon Crest Drive	Signal	AM	38.4	D	<b>58.4</b>	<b>E</b>
		PM	49.1	D	<b>119.0</b>	<b>F</b>
10. College Avenue / Zura Way	MSSC <sup>c</sup>	AM	16.2	C	22.1	C
		PM	<b>112.3</b>	<b>F</b>	<b>195.8</b>	<b>F</b>
11. College Avenue / Montezuma Road	Signal	AM	52.6	D	<b>58.0</b>	<b>E</b>
		PM	<b>67.7</b>	<b>E</b>	<b>82.0</b>	<b>F</b>
12. Alvarado Court / Alvarado Road	MSSC <sup>d</sup>	AM	12.7	B	16.0	C
		PM	13.3	B	23.6	C

**TABLE AA3.14-11**  
**EXISTING + PROJECT INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing		Existing + Total Project	
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS
13. Reservoir Drive / Alvarado Road	Signal	AM	9.1	A	9.2	A
		PM	10.1	B	10.2	B
14. Lake Murray Boulevard / Parkway Drive	Signal	AM	31.8	C	33.6	C
		PM	31.2	C	32.1	C
15. 70 <sup>th</sup> Street / Alvarado Road	Signal	AM	36.8	D	37.4	D
		PM	46.8	D	48.3	D
16. I-8 WB Ramps / Parkway Drive	AWSC <sup>e</sup>	AM	20.4	C	30.2	D
		PM	<b>41.8</b>	<b>E</b>	<b>54.2</b>	<b>F</b>
17. I-8 EB Ramps / Alvarado Road	Signal	AM	24.2	C	24.3	C
		PM	22.7	C	22.9	C
18. Montezuma Road / Collwood Boulevard	Signal	AM	21.5	C	21.7	C
		PM	25.3	C	25.7	C
19. Montezuma Road / Yerba Santa Drive	Signal	AM	9.4	A	11.2	B
		PM	9.2	A	9.4	A

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported.
- d. MSSC – Minor Street Stop Controlled intersection. Minor street approach delay is reported. Left turns from Zura Way to College Avenue are not allowed.
- e. AWSC – All-Way Stop Controlled intersection.

**General Notes:**

1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

### *Segment Analysis*

Existing + Project street segment analyses were conducted for the roadways in the study area. **Table AA3.14-12** reports the Existing + Project daily street segment operations. As shown on the table, the following segments would operate at LOS E or F under the Existing + Project conditions:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS F)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS E)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: 55<sup>th</sup> Street to College Avenue (LOS F)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

Based on the City of San Diego thresholds, the Project would result in significant impacts at the following segments under the Existing + Project scenario:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS F)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS E)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: 55<sup>th</sup> Street to College Avenue (LOS F)

**TABLE AA3.14-12**  
**EXISTING + PROJECT SEGMENT OPERATIONS**

Segment	Functional Classification	LOS E Capacity <sup>a</sup>	Existing			Existing + Total Project		
			Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS	V/C
<b>Alvarado Road</b>								
E. Campus Drive to Reservoir Drive	2-lane Collector (fronting property)	8,000	<b>8,800</b>	<b>F</b>	<b>1.100</b>	<b>12,360</b>	<b>F</b>	<b>1.545</b>
Reservoir Drive to 70th Street	2-lane Collector (fronting property)	8,000	<b>7,040</b>	<b>E</b>	<b>0.880</b>	<b>9,110</b>	<b>F</b>	<b>1.139</b>
<b>College Avenue</b>								
Del Cerro Boulevard to I-8 WB off-ramp	4-lane Major Arterial	40,000	31,330	D	0.783	33,500	D	0.838
I-8 EB Ramps to Zura Way	4-lane Major Arterial	40,000	<b>35,850</b>	<b>E</b>	<b>0.896</b>	<b>42,420</b>	<b>F</b>	<b>1.061</b>
Zura Way to Montezuma Road	4-lane Major Arterial	40,000	29,790	C	0.745	32,630	D	0.816
Montezuma Road to Cresita Drive	4-lane Collector	30,000	<b>27,490</b>	<b>E</b>	<b>0.916</b>	<b>29,200</b>	<b>E</b>	<b>0.973</b>
<b>Montezuma Road</b>								
Fairmount Avenue to Collwood Boulevard	4-lane Major Arterial	40,000	<b>52,330</b>	<b>F</b>	<b>1.308</b>	<b>53,610</b>	<b>F</b>	<b>1.340</b>
Collwood Boulevard to 55th Street	4-lane Major Arterial	40,000	28,950	C	0.724	30,230	D	0.756
55th Street to College Avenue	4-lane Collector	30,000	<b>32,570</b>	<b>F</b>	<b>1.086</b>	<b>34,150</b>	<b>F</b>	<b>1.138</b>
College Avenue to E. Campus Drive	4-lane Collector	30,000	21,500	D	0.717	22,050	D	0.735
E. Campus Drive to Reservoir Drive	4-lane Collector	30,000	18,960	C	0.632	19,510	C	0.650
<b>Fairmount Avenue</b>								
Montezuma Road to I-8	6-lane Prime Arterial	60,000	<b>91,350</b>	<b>F</b>	<b>1.523</b>	<b>91,880</b>	<b>F</b>	<b>1.531</b>

**Footnotes:**

- a. Capacities based on City of San Diego's Roadway Classification & LOS table (See LLG TIA Appendix C).
- b. Level of Service.
- c. Volume to Capacity ratio.

**General Notes:**

- 1. **Bold** typeface indicates segments operating at LOS E or F.



### *Ramp Meter Analysis*

Freeway entrance ramps that currently have ramp meters installed and in operation were analyzed under Existing + Project conditions. As shown in **Table AA3.14-13**, the following freeway ramp meters are calculated to incur a delay exceeding 15 minutes:

- SB Fairmount Avenue to EB I-8 (PM peak hour)
- NB College Avenue to EB I-8 (PM peak hour)

Based on the City of San Diego thresholds, the Project would result in significant impacts at the NB College Avenue to EB I-8 ramp meter under the Existing + Project scenario.

**TABLE AA3.14-13**  
**EXISTING + PROJECT RAMP METER OPERATIONS**

Location/Condition	Peak Hour	Peak Hour Demand	Ramp Meter Rate (Flow) <sup>a</sup>	Excess Demand	Delay per Lane <sup>b</sup>	Queue per Lane <sup>c</sup>
<b>SB Fairmount Ave to EB I-8</b>						
Existing	PM	390	246	144	35	3600
Existing + Total Project	PM	392	246	146	36	3650
Project Increase	PM	2	NA	2	1	50
<b>NB College Avenue to WB I-8</b>						
Existing	AM	306	296	10	2	250
Existing + Total Project	AM	327	296	31	6	775
Project Increase	AM	21	NA	21	4	525
<b>SB College Avenue to WB I-8</b>						
Existing	AM	336	300	36	7	888
Existing + Total Project	AM	342	300	42	8	1050
Project Increase	AM	6	NA	6	1	162
<b>NB College Avenue to EB I-8</b>						
Existing	PM	350	330	20	4	500
Existing + Total Project	PM	419	330	89	16	2225
Project Increase	PM	69	NA	69	12	1725

**Footnotes:**

- a. While meter rates were obtained from Caltrans, the rates were reduced to reflect existing ramp meter observations.
- b. Delay expressed in minutes per lane.
- c. Queue expressed in feet per lane.

**General Notes:**

1. **Bold** typeface indicates meter delays exceeding 15 minutes.
2. NA = Not Applicable.

### *Freeway Mainline Analysis*

Freeway segments were analyzed under Existing + Project conditions. LLG TIA Appendix G contains the detailed calculations sheets. **Tables AA3.14-14A** and **AA3.14-14B** report the Existing + Project freeway segment operations. As shown on the tables, the following segments would operate at LOS E or F under the Existing + Project conditions:

- I-8 between Fairmount Avenue and Waring Road, *LOS E-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(1)-AM (WB) and LOS F(0)-PM (EB)*

Based on the City of San Diego thresholds, the Project would result in significant impacts at the following freeway mainline segments under the Existing + Project scenario:

- I-8 between Fairmount Avenue and Waring Road, *LOS F(0)-PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)-PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)-AM (WB) and LOS F(0)-PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(1)-AM (WB) and LOS F(0)-PM (EB)*

**TABLE AA3.14-14A**  
**EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS— AM PEAK HOUR**

Freeway and Segment	Existing + Total Project ADT	Direction &Number of Lanes		Capacity <sup>a</sup>	Existing		Existing + Total Project	
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS
I-8								
Fairmount Avenue to Waring Road	238,910	EB Mainlines	5M	10,000	0.371	B	0.383	B
		WB Mainlines	6M	12,000	0.991	E	0.994	E
Waring Road to College Avenue	227,910	EB Mainlines	5M	10,000	0.354	B	0.366	B
		WB Mainlines	5M	10,000	1.134	F(0)	1.137	F(0)
College Avenue to Lake Murray Boulevard	200,030	EB Mainlines	4M+ 1A	9,200	0.530	B	0.532	B
		WB Mainlines	5M	10,000	1.036	F(0)	1.042	F(0)
Lake Murray Boulevard to Fletcher Parkway	200,950	EB Mainlines	4M+ 1A	9,200	0.530	B	0.533	B
		WB Mainlines	4M	8,000	1.295	F(1)	1.311	F(1)

**Footnotes:**

- Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example:* 4M+2A=4 Mainlines + 2 Auxiliary Lanes).
- Volume to Capacity.
- Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

- See LLG TIA Appendix G for calculation sheets.
- Bold** typeface indicates segments operating at LOS E or F.

**PEAK TABLE AA3.14-14B**  
**EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS — PM HOUR**

Freeway and Segment	Existing + Total Project ADT	Direction &Number of Lanes		Capacity <sup>a</sup>	Existing		Existing + Total Project	
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS
I-8								
Fairmount Avenue to Waring Road	238,910	EB Mainlines	5M	10,000	1.111	F(0)	1.119	F(0)
		WB Mainlines	6M	12,000	0.637	C	0.648	C
Waring Road to College Avenue	227,910	EB Mainlines	5M	10,000	1.059	F(0)	1.068	F(0)
		WB Mainlines	5M	10,000	0.729	C	0.742	C
College Avenue to Lake Murray Boulevard	200,030	EB Mainlines	4M+ 1A	9,200	1.092	F(0)	1.100	F(0)
		WB Mainlines	5M	10,000	0.636	C	0.640	C
Lake Murray Boulevard to Fletcher Parkway	200,950	EB Mainlines	4M+ 1A	9,200	1.092	F(0)	1.107	F(0)
		WB Mainlines	4M	8,000	0.795	C	0.804	D

**Footnotes:**

- a. Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes.*
- b. Volume to Capacity.
- c. Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

1. See *LLG TIA Appendix G* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.

### **Near-Term Analysis (Year 2022)**

The Near-Term with and without Project traffic volumes were calculated using the existing traffic volumes and the addition of Near-Term cumulative projects traffic as described in Section AA3.14.5. No roadway network improvements were assumed in the Near-Term analyses. **Figure AA3.14-9** depicts the Near-Term traffic volumes. **Figure AA3.14-10** depicts the Near-Term + Project traffic volumes.

#### ***Intersection Analysis***

Intersection capacity analyses were conducted for the study intersections under Near-Term without Project conditions. **Table AA3.14-15** reports the intersection operations during the peak hour conditions. Under Near-Term without Project conditions, the following intersections would operate at LOS E or F:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)
- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the AM and PM peak hours)
- 55<sup>th</sup> Street / Montezuma Road (LOS E during the PM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS E during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

LLG TIA Appendix I and Appendix S contain the intersection analysis worksheets for the Near-Term scenario.

Intersection capacity analyses also were conducted for the study intersections under Near-Term with Project conditions. **Table AA3.14-15** reports the intersection operations during the peak hour conditions. As shown on the table, the following intersections would operate at LOS E or F under the Near-Term with Project scenario:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)
- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the AM and PM peak hours)
- 55<sup>th</sup> Street / Montezuma Road (LOS E during the PM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)

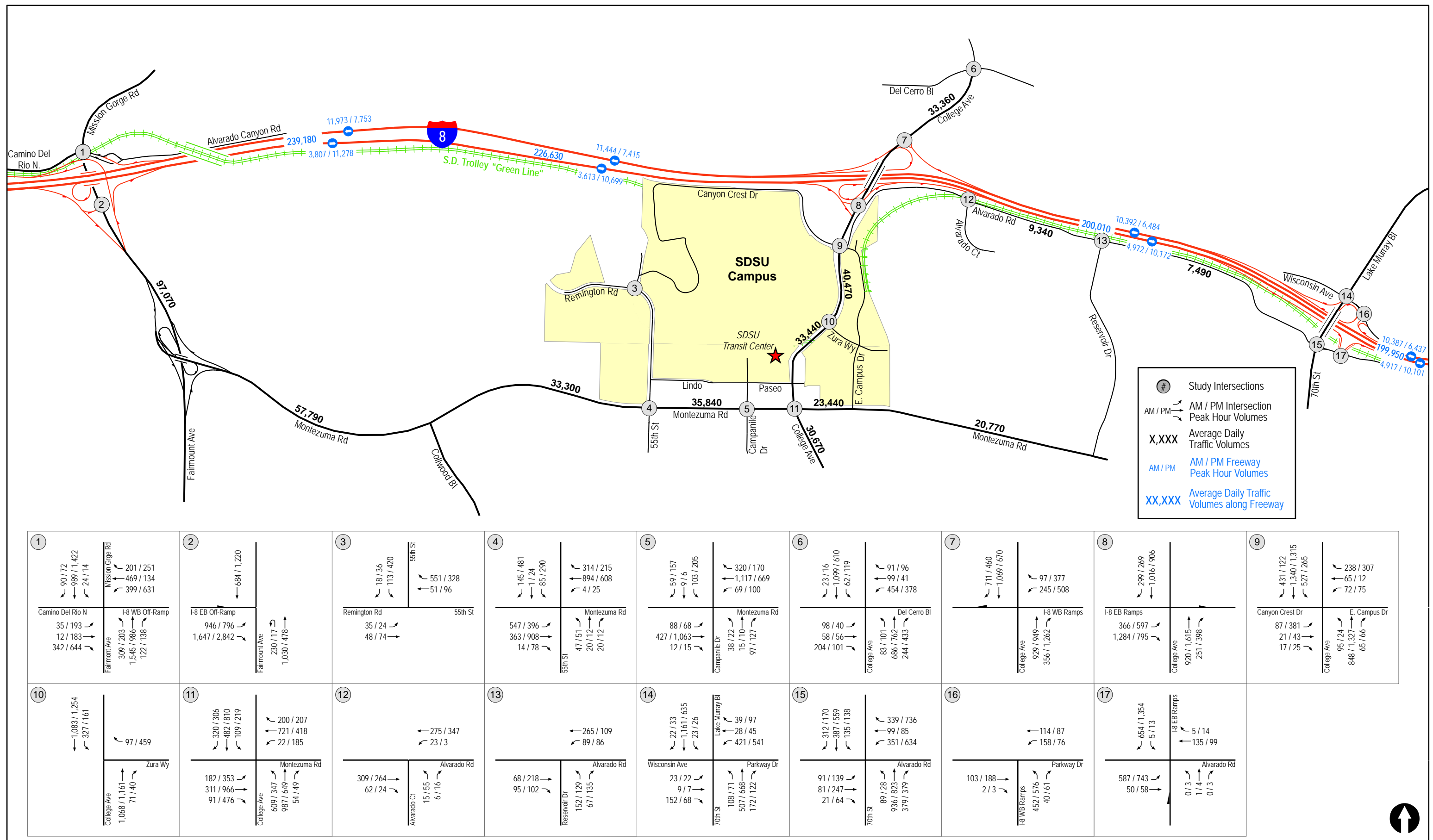


Figure AA3.14-9

Near-Term (Year 2022) Without Project Traffic Volumes

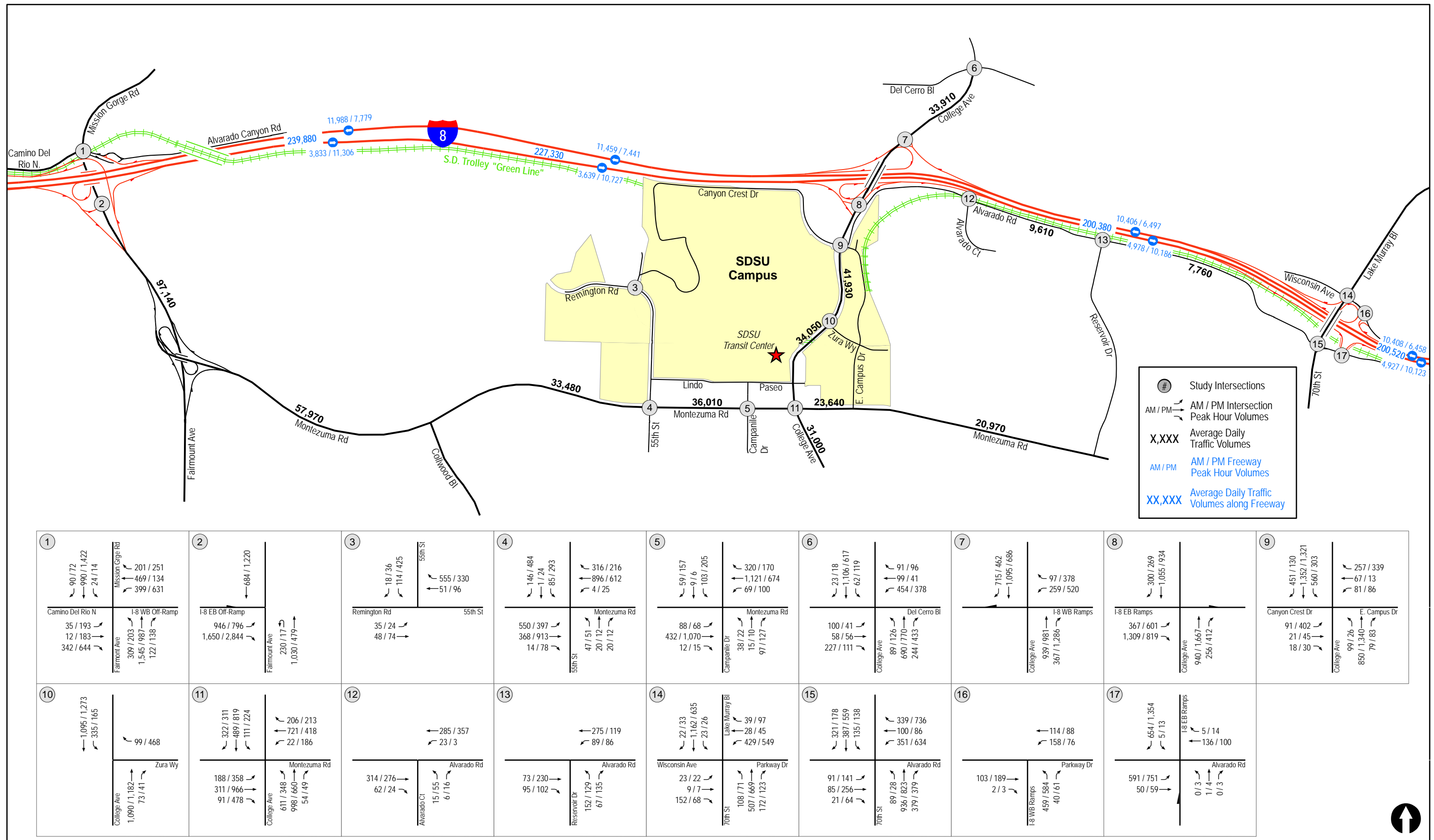


Figure AA3.14-10

Near-Term (Year 2022) With Project Traffic Volumes



- College Avenue / Canyon Crest Drive (LOS E during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

Based on the City of San Diego's significance criteria, **significant direct impacts** are identified at the following intersections as the project traffic contribution exceeds the allowable threshold:

- College Avenue / I-8 EB Ramps (LOS E during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS E during the PM peak hour)
- College Avenue / Zura Way (LOS F during the PM peak hour)
- College Avenue / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the PM peak hour)

Mitigation measures for this impact are addressed below in Section AA3.14.9. Under the CSU thresholds, the Project would result in significant impacts at the same intersections, with the exception of the I-8 WB Ramps / Parkway Drive intersection, where impacts would be less than significant.

LLG TIA Appendix J contains the intersection analysis worksheets for the Near-Term + Project scenario.

**TABLE AA3.14-15**  
**NEAR-TERM (YEAR 2022) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Near-Term (Year 2022)		Near-Term (Year 2022)+ Project		$\Delta^c$	Significant Impact?
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS		
1. Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	Signal	AM	<b>100.2</b>	<b>F</b>	<b>100.5</b>	<b>F</b>	0.3	No
		PM	<b>139.2</b>	<b>F</b>	<b>139.4</b>	<b>F</b>	0.2	No
2. Fairmount Avenue / I-8 EB Off Ramp	Signal	AM	<b>112.3</b>	<b>F</b>	<b>112.4</b>	<b>F</b>	0.1	No
		PM	<b>125.3</b>	<b>F</b>	<b>125.5</b>	<b>F</b>	0.2	No
3. 55th Street / Remington Road	Signal	AM	8.6	A	8.7	A	0.1	No
		PM	10.3	B	10.4	B	0.1	No
4. 55th Street / Montezuma Road	Signal	AM	41.0	D	41.3	D	0.3	No
		PM	<b>64.4</b>	<b>E</b>	<b>65.0</b>	<b>E</b>	0.6	No
5. Campanile Drive / Montezuma Road	Signal	AM	33.8	C	33.9	C	0.1	No
		PM	31.9	C	32.1	C	0.2	No
6. College Avenue / Del Cerro Boulevard	Signal	AM	33.3	C	34.7	C	1.4	No
		PM	24.3	C	25.0	C	0.7	No
7. College Avenue / I-8 WB Ramps	Signal	AM	7.6	A	8.0	A	0.4	No
		PM	11.7	B	12.1	B	0.4	No
8. College Avenue / I-8 EB Ramps	Signal	AM	20.8	C	21.4	C	0.6	No
		PM	<b>74.3</b>	<b>E</b>	<b>79.3</b>	<b>E</b>	<b>5.0</b>	<b>Yes</b>
9. College Avenue / Canyon Crest Drive	Signal	AM	41.6	D	46.8	D	5.2	No
		PM	<b>56.1</b>	<b>E</b>	<b>70.2</b>	<b>E</b>	<b>14.1</b>	<b>Yes</b>
10. College Avenue / Zura Way	MSSC <sup>d</sup>	AM	20.7	C	22.2	C	1.5	No
		PM	<b>178.9</b>	<b>F</b>	<b>199.5</b>	<b>F</b>	<b>20.6</b>	<b>Yes</b>
11. College Avenue / Montezuma Road	Signal	AM	<b>65.4</b>	<b>E</b>	<b>71.1</b>	<b>E</b>	<b>5.7</b>	<b>Yes</b>
		PM	<b>91.0</b>	<b>F</b>	<b>109.2</b>	<b>F</b>	<b>18.2</b>	<b>Yes</b>
12. Alvarado Court / Alvarado Road	MSSC <sup>e</sup>	AM	13.1	B	13.3	B	0.2	No
		PM	13.9	B	14.2	B	0.3	No

**TABLE AA3.14-15**  
**NEAR-TERM (YEAR 2022) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Near-Term (Year 2022)		Near-Term (Year 2022)+ Project		$\Delta^c$	Significant Impact?
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS		
13. Reservoir Drive / Alvarado Road	Signal	AM	9.2	A	9.3	A	0.1	No
		PM	10.2	B	10.3	B	0.1	No
14. Lake Murray Boulevard / Parkway Drive	Signal	AM	33.9	C	34.1	C	0.2	No
		PM	32.7	C	32.9	C	0.2	No
15. 70th Street / Alvarado Road	Signal	AM	39.2	D	39.3	D	0.1	No
		PM	51.2	D	51.9	D	0.7	No
16. I-8 WB Ramps / Parkway Drive	AWSC <sup>f</sup>	AM	24.8	C	25.9	D	1.1	No
		PM	<b>59.2</b>	<b>F</b>	<b>62.1</b>	<b>F</b>	<b>2.9</b>	<b>Yes</b>
17. I-8 EB Ramps / Alvarado Road	Signal	AM	24.7	C	25.1	C	0.4	No
		PM	23.0	C	23.1	C	0.1	No
18. Montezuma Road / Collwood Boulevard	Signal	AM	21.6	C	21.9	C	.3	No
		PM	31.9	C	32.1	C	.2	No
19. Montezuma Road / Yerba Santa Drive	Signal	AM	9.5	A	11.4	B	1.9	No
		PM	9.4	A	9.5	A	0.1	No

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. " $\Delta$ " denotes the project-induced increase in delay.
- d. MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported. Left turns from Zura Way to College Avenue are not allowed.
- e. MSSC – Minor Street Stop Controlled intersection. Minor street approach delay is reported.
- f. AWSC – All-Way Stop Controlled intersection.

**General Notes:**

1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

### *Segment Analysis*

Near-Term without Project street segment analyses were conducted for the roadways in the study area. **Table AA3.14-16** reports the Near-Term without Project street segment operations. Under the Near-Term without Project scenario, the following street segments would operate at LOS E or F:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: 55<sup>th</sup> Street to College Avenue (LOS F)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

Near-Term with Project street segment analyses were conducted for roadways in the study area. **Table AA3.14-16** reports the Near-Term with Project street segment operations. As shown on the table, the following street segments would operate at LOS E or F under the Near-Term with Project scenario:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: 55<sup>th</sup> Street to College Avenue (LOS F)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

Based on the City of San Diego's significance criteria, **significant direct impacts** are identified on the following street segments as the project traffic contribution exceeds the allowable thresholds:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)

Mitigation measures for these impacts are discussed in detail in Section AA3.14.9. Under the CSU thresholds, the Project would result in significant impacts at the same segments, with the exception of College Avenue: Montezuma Road to Cresita Drive, where impacts would be less than significant.

**TABLE AA3.14-16**  
**NEAR-TERM (YEAR 2022) + PROJECT SEGMENT OPERATIONS**

Segment	Functional Classification	LOS E Capacity <sup>a</sup>	Near-Term (Year 2022)			Near-Term (Year 2022) + Total Project			V/C Increase	Sig?
			Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS	V/C		
<b>Alvarado Road</b>										
E. Campus Dr to Reservoir Dr	2-lane Collector (fronting property)	8,000	9,340	F	1.168	9,610	F	1.201	0.033	Yes
Reservoir Dr to 70th St	2-lane Collector (fronting property)	8,000	7,490	E	0.936	7,760	E	0.970	0.034	Yes
<b>College Avenue</b>										
Del Cerro Blvd to I-8 WB off-ramp	4-lane Major Arterial	40,000	33,360	D	0.834	33,910	D	0.848	0.014	No
I-8 EB Ramps to Zura Way	4-lane Major Arterial	40,000	40,470	F	1.012	41,930	F	1.048	0.036	Yes
Zura Way to Montezuma Rd	4-lane Major Arterial	40,000	33,440	D	0.836	34,050	D	0.851	0.015	No
Montezuma Rd to Cresita Drive	4-lane Collector	30,000	30,670	F	1.022	31,000	F	1.033	0.011	Yes
<b>Montezuma Road</b>										
Fairmount Ave to Collwood Blvd	4-lane Major Arterial	40,000	57,790	F	1.445	57,970	F	1.449	0.004	No
Collwood Blvd to 55th St	4-lane Major Arterial	40,000	33,300	D	0.833	33,480	D	0.837	0.004	No
55th St to College Ave	4-lane Collector	30,000	35,840	F	1.195	36,010	F	1.200	0.005	No
College Ave to E. Campus Dr	4-lane Collector	30,000	23,440	D	0.781	23,640	D	0.788	0.007	No
E. Campus Drive to Reservoir Drive	4-lane Collector	30,000	20,770	D	0.692	20,970	D	0.699	0.007	No

**TABLE AA3.14-16**  
**NEAR-TERM (YEAR 2022) + PROJECT SEGMENT OPERATIONS**

Segment	Functional Classification	LOS E Capacity <sup>a</sup>	Near-Term (Year 2022)			Near-Term (Year 2022) + Total Project			V/C Increase	Sig?
			Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS	V/C		
<b>Fairmount Avenue</b>										
Montezuma Rd to I-8	6-lane Prime Arterial	60,000	<b>97,070</b>	<b>F</b>	<b>1.618</b>	<b>97,140</b>	<b>F</b>	<b>1.619</b>	0.001	No

**Footnotes:**

- a. Capacities based on City of San Diego's Roadway Classification & LOS table (See *LLG TIA Appendix C*).
- b. Level of Service.
- c. Volume to Capacity ratio.

**General Notes:**

- 1. **Bold** typeface indicates intersections operating at LOS E or F.

### *Ramp Meter Analysis*

Freeway entrance ramps that currently have ramp meters installed and in operation were analyzed under Near-Term without and with Project conditions. As shown in **Table AA3.14-17**, the following freeway ramp meter would incur a delay exceeding 15 minutes under Near-Term without and with Project scenarios:

- SB Fairmount Avenue to EB I-8 (PM peak hour)

Based on the City of San Diego's significance criteria, ***no significant direct impact*** is identified on the above ramp meter as the Project contribution to this ramp meter does not exceed the allowable thresholds.

**TABLE AA3.14-17**  
**NEAR-TERM (YEAR 2022) + PROJECT RAMP METER OPERATIONS**

Location/Condition	Peak Hour	Peak Hour Demand	Ramp Meter Rate (Flow) <sup>a</sup>	Excess Demand	Delay per Lane <sup>b</sup>	Queue per Lane <sup>c</sup>
<b>SB Fairmount Ave to EB I-8</b>						
Near-Term (Year 2022)	PM	419	246	173	42	4325
Near-Term (Year 2022) + Project	PM	419	246	173	42	4325
Project Increase	PM	0	NA	0	0	0
<b>NB College Avenue to WB I-8</b>						
Near-Term (Year 2022)	AM	356	296	60	12	1500
Near-Term (Year 2022) + Project	AM	367	296	71	14	1775
Project Increase	AM	11	NA	11	2	275
<b>SB College Avenue to WB I-8</b>						
Near-Term (Year 2022)	AM	356	300	56	11	1388
Near-Term (Year 2022) + Project	AM	358	300	58	12	1438
Project Increase	AM	2	NA	2	1	50
<b>NB College Avenue to EB I-8</b>						
Near-Term (Year 2022)	PM	398	330	68	12	1700
Near-Term (Year 2022) + Project	PM	412	330	82	15	2050
Project Increase	PM	14	NA	14	3	350

**Footnotes:**

- a. While meter rates were obtained from Caltrans, the rates were calibrated to reflect existing ramp meter observations.
- b. Delay expressed in minutes per lane.
- c. Queue expressed in feet per lane.

**General Notes:**

1. Bold & shading represents a potential significant impact.
2. NA = Not Applicable.



### *Freeway Mainline Analysis*

Freeway segments were analyzed under Near-Term without Project conditions. LLG TIA Appendix K contains the detailed calculations sheets. **Tables AA3.14–18A** and **AA3.14–18B** report the Near-Term without Project freeway segment operations. As shown on the tables, the following segments would operate at LOS E or F under the Near-Term without Project scenario:

- I-8 between Fairmount Avenue and Waring Road, *LOS E–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(1)–AM (WB) and LOS F(0)–PM (EB)*

Freeway segments also were analyzed under Near-Term + Project conditions. LLG TIA Appendix K contains the detailed calculations sheets. **Tables AA3.14-18a** and **AA3.14-18b** report the Near-Term + Project freeway segment operations. As shown on the tables, the following segments would operate at LOS E or F under the Near-Term with Project scenario:

- I-8 between Fairmount Avenue and Waring Road, *LOS E–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(1)–AM (WB) and LOS F(0)–PM (EB)*

Based on the City of San Diego’s significance criteria, there are ***no significant direct impacts*** identified on the above freeway segments as the Project contribution to these segments does not exceed the allowable thresholds.

**TABLE AA3.14-18A**  
**NEAR-TERM (YEAR 2022) + PROJECT FREEWAY SEGMENT OPERATIONS—AM PEAK HOUR**

Freeway and Segment	Near-Term (Year 2022) + Project ADT	Direction & Number of Lanes		Capacity <sup>a</sup>	Near-Term (Year 2022)		Near-Term (Year 2022) + Project		V/C Delta	Significant
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS		
I-8										
Fairmount Avenue to Waring Road	239,880	EB Mainlines	5M	10,000	0.381	B	0.383	B	0.002	No
		WB Mainlines	6M	12,000	0.998	E	0.999	E	0.001	No
Waring Road to College Avenue	227,330	EB Mainlines	5M	10,000	0.361	B	0.364	B	0.003	No
		WB Mainlines	5M	10,000	1.144	F(0)	1.146	F(0)	0.002	No
College Avenue to Lake Murray Boulevard	200,380	EB Mainlines	4M+ 1A	9,200	0.540	B	0.541	B	0.001	No
		WB Mainlines	5M	10,000	1.039	F(0)	1.041	F(0)	0.002	No
Lake Murray Boulevard to Fletcher Parkway	200,520	EB Mainlines	4M+ 1A	9,200	0.534	B	0.536	B	0.002	No
		WB Mainlines	4M	8,000	1.298	F(1)	1.301	F(1)	0.003	No

**Footnotes:**

- Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes*.
- Volume to Capacity.
- Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

- See *LLG TIA Appendix K* for calculation sheets.
- Bold** typeface indicates segments operating at LOS E or F.

**TABLE AA3.14-18B**  
**NEAR-TERM (YEAR 2022) + PROJECT FREEWAY SEGMENT OPERATIONS — PM PEAK HOUR**

Freeway and Segment	Near-Term (Year 2022) + Project ADT	Direction & Number of Lanes		Capacity <sup>a</sup>	Near-Term (Year 2022)		Near-Term (Year 2022) + Project		V/C Delta	Significant
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS		
I-8										
Fairmount Avenue to Waring Road	239,880	EB Mainlines	5M	10,000	1.128	F(0)	1.131	F(0)	0.003	No
		WB Mainlines	6M	12,000	0.646	C	0.648	C	0.002	No
Waring Road to College Avenue	227,330	EB Mainlines	5M	10,000	1.070	F(0)	1.073	F(0)	0.003	No
		WB Mainlines	5M	10,000	0.742	C	0.744	C	0.002	No
College Avenue to Lake Murray Boulevard	200,380	EB Mainlines	4M+ 1A	9,200	1.106	F(0)	1.107	F(0)	0.001	No
		WB Mainlines	5M	10,000	0.648	C	0.650	C	0.002	No
Lake Murray Boulevard to Fletcher Parkway	200,520	EB Mainlines	4M+ 1A	9,200	1.098	F(0)	1.100	F(0)	0.002	No
		WB Mainlines	4M	8,000	0.805	D	0.807	D	0.002	No

**Footnotes:**

- Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes*.
- Volume to Capacity.
- Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

- See *LLG TIA Appendix K* for calculation sheets.
  - Bold** typeface indicates segments operating at LOS E or F.
- January 2018

### **Horizon Year (Year 2035) Analysis**

A Horizon Year with and without Project analysis was conducted to assess the potential impact of total project traffic volumes in relation to the Horizon Year (Year 2035) conditions. This section includes the analysis results of the intersection, street segment, ramp meter, and freeway mainline operations.

The forecast volumes for the Project were calculated using the SANDAG Series 12 model. LLG TIA Appendix K1 contains screenshots of the Year 2035 Series 12 model forecast volumes. No roadway network improvements were assumed as a part of the Horizon Year analysis. **Figure AA3.14-11** depicts the Horizon Year (Year 2035) Without Project traffic volumes, and **Figure AA3.14-12** depicts the Horizon Year (Year 2035) With Project traffic volumes for the study area.

### ***Intersection Analysis***

Intersection capacity analyses were conducted for the study area intersections under Horizon Year without Project conditions. **Table AA3.14-19** reports the intersection operations during the peak hour conditions. As shown on the table, under the Horizon Year without Project scenario, the following intersections would operate at LOS E or F:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)
- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the AM and PM peak hours)
- 55<sup>th</sup> Street / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- Campanile Drive / Montezuma Road (LOS F during the AM peak hour)
- College Avenue / Del Cerro Boulevard (LOS E during the AM peak hour)
- College Avenue / I-8 EB Ramps (LOS F during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS F during the AM and PM peak hours)
- College Avenue / Zura Way (LOS F during the AM and PM peak hours)
- College Avenue / Montezuma Road (LOS F during the AM and PM peak hours)
- 70th Street / Alvarado Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the AM and PM peak hours)
- Montezuma Road / Collwood Boulevard (LOS E during the PM peak hour)

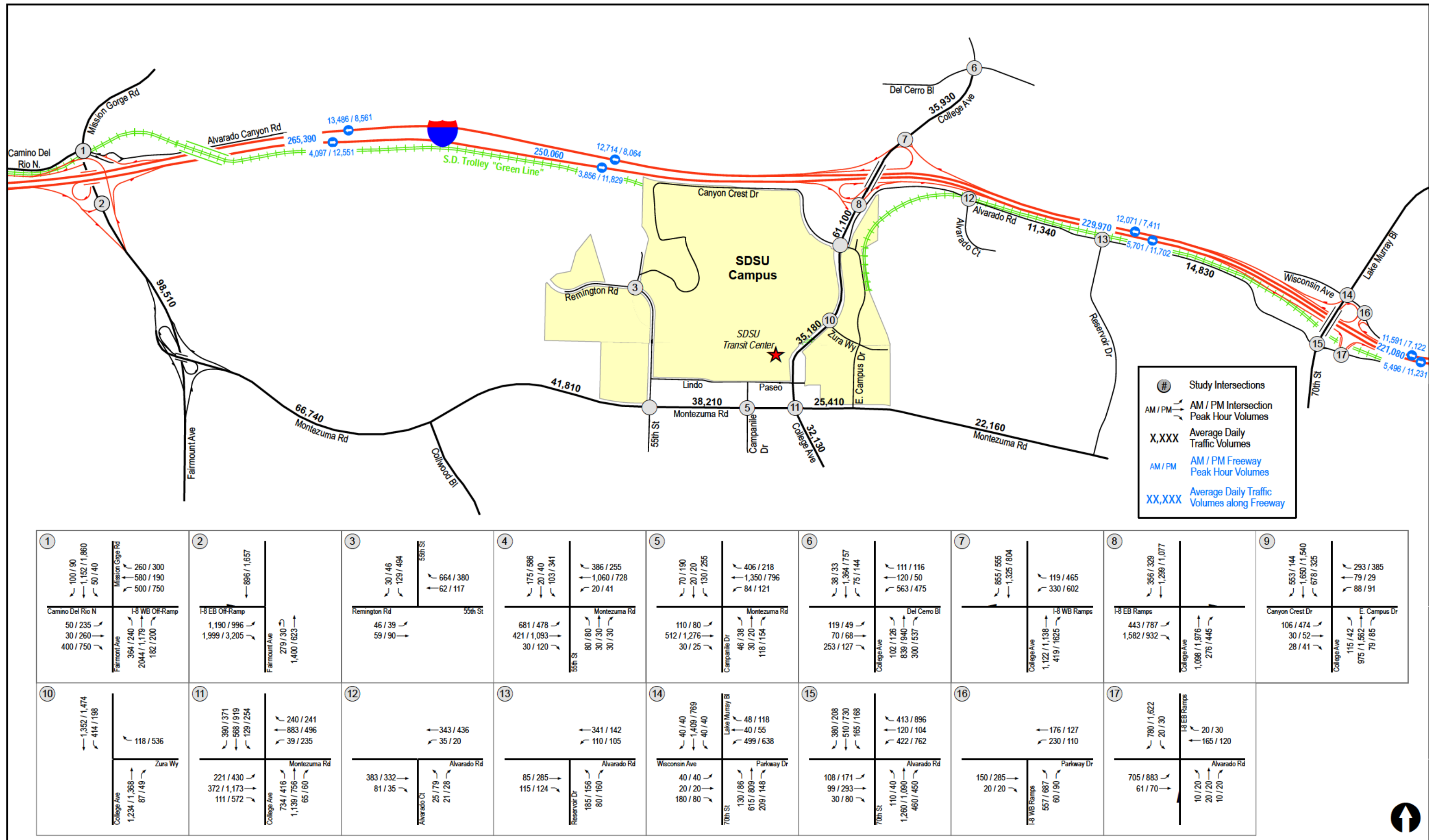


Figure AA3.14-11

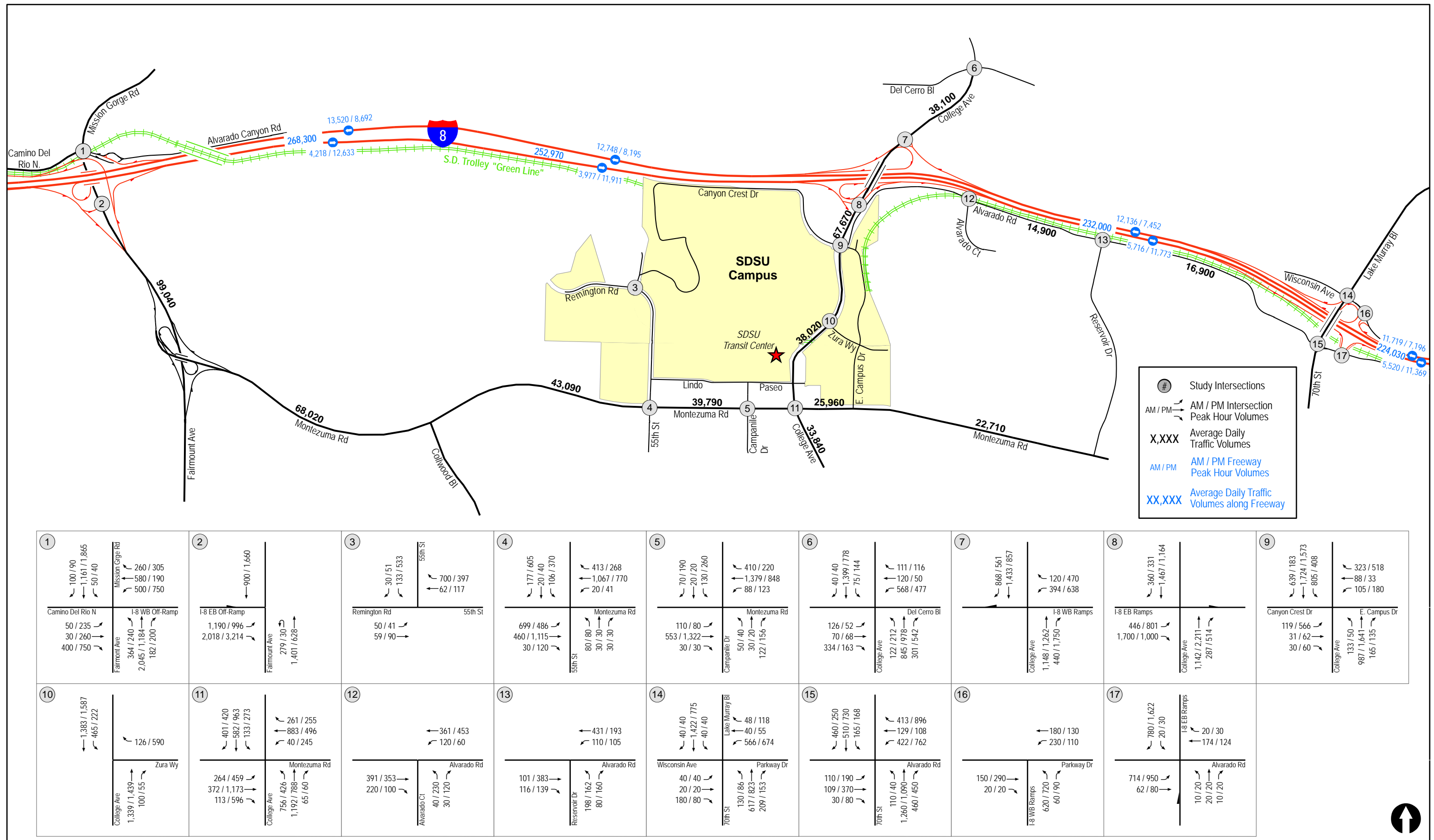


Figure AA3.14-12

LLG TIA Appendix L and Appendix S contain the intersection analysis worksheets for the Horizon Year scenario.

Intersection capacity analyses also were conducted for the study area intersections under Horizon Year with Project conditions. **Table AA3.14-19** reports the intersection operations during the peak hour conditions. As shown on the table, the following intersections would operate at LOS E or F under the Horizon Year with Project scenario:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the AM and PM peak hours)
- Fairmount Avenue / I-8 EB Off Ramp (LOS F during the AM and PM peak hours)
- 55<sup>th</sup> Street / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- Campanile Drive / Montezuma Road (LOS F during the AM peak hour)
- College Avenue / Del Cerro Boulevard (LOS E during the AM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the AM peak hour, LOS F during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS F during the AM and PM peak hours)
- College Avenue / Zura Way (LOS F during the AM and PM peak hours)
- College Avenue / Montezuma Road (LOS F during the AM and PM peak hours)
- Alvarado Court / Alvarado Road (LOS F during the PM peak hour)
- 70th Street / Alvarado Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the AM and PM peak hours)
- Montezuma Road / Collwood Boulevard (LOS E during the PM peak hour)

Based on the City of San Diego's significance criteria, **significant impacts** are identified at the following intersections as the Project traffic contribution would exceed the allowable threshold:

- Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. (LOS F during the PM peak hour)
- 55<sup>th</sup> Street / Montezuma Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- Campanile Drive / Montezuma Road (LOS F during the AM peak hour)
- College Avenue / I-8 EB Ramps (LOS E during the AM peak hour, LOS F during the PM peak hour)
- College Avenue / Canyon Crest Drive (LOS F during the AM and PM peak hours)
- College Avenue / Zura Way (LOS F during the AM and PM peak hours)
- College Avenue / Montezuma Road (LOS F during the AM and PM peak hours)
- Alvarado Court / Alvarado Road (LOS F during the PM peak hour)
- 70<sup>th</sup> Street / Alvarado Road (LOS F during the PM peak hour)
- I-8 WB Ramps / Parkway Drive (LOS F during the AM and PM peak hours)
- Montezuma Road / Collwood Boulevard (LOS E during the PM peak hour)

Mitigation measures for these impacts are addressed in Section AA3.14.9. Under the CSU thresholds, the Project would result in significant impacts at the same intersections, with the exception of Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N. and 70<sup>th</sup> Street / Alvarado Road, where impacts would be less than significant.

LLG TIA Appendix M and Appendix S contain the intersection analysis worksheets for the Horizon Year + Project scenario.

**TABLE AA3.14-19**  
**HORIZON YEAR (YEAR 2035) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Horizon Year (Year 2035)		Horizon Year (Year 2035)+ Project		$\Delta^c$	Significant Impact?
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS		
1. Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	Signal	AM	221.2 <sup>g</sup>	F	221.5 <sup>g</sup>	F	0.3	No
		PM	241.7 <sup>g</sup>	F	243.8 <sup>g</sup>	F	2.1	Yes
2. Fairmount Avenue / I-8 EB Off Ramp	Signal	AM	240.7 <sup>g</sup>	F	241.5 <sup>g</sup>	F	0.8	No
		PM	194.8 <sup>g</sup>	F	195.6 <sup>g</sup>	F	0.8	No
3. 55th Street / Remington	Signal	AM	10.0	A	10.7	B	0.7	No



**TABLE AA3.14-19**  
**HORIZON YEAR (YEAR 2035) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Horizon Year (Year 2035)		Horizon Year (Year 2035)+ Project		$\Delta^c$	Significant Impact?
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS		
Road		PM	11.0	B	11.1	B	0.1	No
4. 55th Street / Montezuma Road	Signal	AM	<b>59.0</b>	<b>E</b>	<b>66.0</b>	<b>E</b>	<b>7.0</b>	<b>Yes</b>
		PM	<b>107.8</b>	<b>F</b>	<b>110.7</b>	<b>F</b>	<b>2.9</b>	<b>Yes</b>
5. Campanile Drive / Montezuma Road	Signal	AM	<b>93.4</b>	<b>F</b>	<b>105.9</b>	<b>F</b>	<b>12.5</b>	<b>Yes</b>
		PM	47.1	D	53.4	D	6.3	No
6. College Avenue / Del Cerro Boulevard	Signal	AM	<b>74.8</b>	<b>E</b>	<b>76.1</b>	<b>E</b>	1.3	No
		PM	30.8	C	37.3	D	6.5	No
7. College Avenue / I-8 WB Ramps	Signal	AM	11.5	B	20.0	C	8.5	No
		PM	44.3	D	50.8	D	6.5	No
8. College Avenue / I-8 EB Ramps	Signal	AM	45.3	D	<b>55.1</b>	<b>E</b>	<b>9.8</b>	<b>Yes</b>
		PM	<b>140.0</b>	<b>F</b>	<b>182.4</b>	<b>F</b>	<b>42.4</b>	<b>Yes</b>
9. College Avenue / Canyon Crest Drive	Signal	AM	<b>81.6</b>	<b>F</b>	<b>91.4</b>	<b>F</b>	<b>9.8</b>	<b>Yes</b>
		PM	<b>102.9</b>	<b>F</b>	<b>193.6<sup>g</sup></b>	<b>F</b>	<b>90.7</b>	<b>Yes</b>
10. College Avenue / Zura Way	MSSC <sup>d</sup>	AM	<b>50.9</b>	<b>F</b>	<b>114.8</b>	<b>F</b>	<b>63.9</b>	<b>Yes</b>
		PM	<b>393.8<sup>g</sup></b>	<b>F</b>	<b>528.3<sup>g</sup></b>	<b>F</b>	<b>134.5</b>	<b>Yes</b>
11. College Avenue / Montezuma Road	Signal	AM	<b>107.3</b>	<b>F</b>	<b>121.9</b>	<b>F</b>	<b>14.6</b>	<b>Yes</b>
		PM	<b>135.6</b>	<b>F</b>	<b>155.0</b>	<b>F</b>	<b>19.4</b>	<b>Yes</b>
12. Alvarado Court / Alvarado Road	MSSC <sup>e</sup>	AM	14.6	B	20.2	C	5.6	No
		PM	18.3	C	<b>72.2</b>	<b>F</b>	<b>53.9</b>	<b>Yes</b>

**TABLE AA3.14-19**  
**HORIZON YEAR (YEAR 2035) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Horizon Year (Year 2035)		Horizon Year (Year 2035)+ Project		$\Delta^c$	Significant Impact?
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS		
13. Reservoir Drive / Alvarado Road	Signal	AM	9.6	A	9.7	A	0.1	No
		PM	10.7	B	10.9	B	0.2	No
14. Lake Murray Boulevard / Parkway Drive	Signal	AM	51.0	D	54.5	D	3.5	No
		PM	39.4	D	40.8	D	1.4	No
15. 70th Street / Alvarado Road	Signal	AM	<b>78.9</b>	<b>E</b>	<b>79.7</b>	<b>E</b>	0.8	No
		PM	<b>94.9</b>	<b>F</b>	<b>98.2</b>	<b>F</b>	<b>3.3</b>	<b>Yes</b>
16. I-8 WB Ramps / Parkway Drive	AWSC <sup>f</sup>	AM	<b>65.6</b>	<b>F</b>	<b>94.7</b>	<b>F</b>	<b>29.1</b>	<b>Yes</b>
		PM	<b>128.6</b>	<b>F</b>	<b>147.6</b>	<b>F</b>	<b>19.0</b>	<b>Yes</b>
17. I-8 EB Ramps / Alvarado Road	Signal	AM	30.7	C	31.2	C	0.5	No
		PM	33.8	C	34.3	C	0.5	No
18. Montezuma Road / Collwood Boulevard	Signal	AM	24.8	C	30.4	C	5.6	No
		PM	<b>55.0</b>	<b>E</b>	<b>59.6</b>	<b>E</b>	<b>4.6</b>	<b>Yes</b>
19. Montezuma Road / Yerba Santa Drive	Signal	AM	11.7	B	13.9	B	2.2	No
		PM	11.6	B	12.2	B	0.6	No

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. " $\Delta$ " denotes the project-induced increase in delay.
- d. MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported. Left turns from Zura Way to College Avenue are not allowed.
- e. MSSC – Minor Street Stop Controlled intersection. Minor street approach delay is reported.
- f. AWSC – All-Way Stop Controlled intersection.
- g. Delays over 180 seconds exceed calculable delay.

**General Notes:**

1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

### *Street Segment Analysis*

Horizon Year without Project street segment analyses were conducted for the roadways in the study area. **Table AA3.14-20** reports the Horizon Year without Project daily street segment operations. As shown on the table, under the Horizon Year without Project scenario, the following street segments would operate at LOS E or F:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70th Street (LOS F)
- College Avenue: Del Cerro Boulevard to I-8 WB off-ramp (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Zura Way to Montezuma Road (LOS E)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: Collwood Boulevard to 55th Street (LOS F)
- Montezuma Road: 55th Street to College Avenue (LOS F)
- Montezuma Road: College Avenue to E. Campus Drive (LOS E)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

Horizon Year (Year 2035) with Project street segment analyses also were conducted for the roadways in the study area. **Table AA3.14-20** reports the Horizon Year with Project daily street segment operations. As shown on the table, the following street segments would operate at LOS E or F under the Horizon Year with Project scenario:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70th Street (LOS F)
- College Avenue: Del Cerro Boulevard to I-8 WB off-ramp (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Zura Way to Montezuma Road (LOS E)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: Collwood Boulevard to 55th Street (LOS F)
- Montezuma Road: 55th Street to College Avenue (LOS F)
- Montezuma Road: College Avenue to E. Campus Drive (LOS E)
- Fairmount Avenue: Montezuma Road to I-8 (LOS F)

Based on the City of San Diego's and significance criteria, **significant impacts** are identified on the following street segments as the Project traffic contribution exceeds the allowable thresholds:

- Alvarado Road: E. Campus Drive to Reservoir Drive (LOS F)
- Alvarado Road: Reservoir Drive to 70th Street (LOS F)
- College Avenue: Del Cerro Boulevard to I-8 WB off-ramp (LOS E)
- College Avenue: I-8 EB Ramps to Zura Way (LOS F)
- College Avenue: Zura Way to Montezuma Road (LOS E)
- College Avenue: Montezuma Road to Cresita Drive (LOS F)
- Montezuma Road: Fairmount Avenue to Collwood Boulevard (LOS F)
- Montezuma Road: Collwood Boulevard to 55th Street (LOS F)
- Montezuma Road: 55th Street to College Avenue (LOS F)

Mitigation measures for these impacts are addressed in Section AA3.14.9. Under the CSU thresholds, the Project would result in significant impacts at the same segments.

**TABLE AA3.14-20**  
**HORIZON YEAR (YEAR 2035) + PROJECT SEGMENT OPERATIONS**

Segment	Functional Classification	LOS E Capacity <sup>a</sup>	Horizon Year (Year 2035)			Horizon Year (Year 2035) + Total Project			V/C Increase	Sig?
			Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS	V/C		
<b>Alvarado Road</b>										
E. Campus Dr to Reservoir Dr	2-lane Collector (fronting property)	8,000	11,340	F	1.418	14,900	F	1.863	0.445	Yes
Reservoir Dr to 70th St	2-lane Collector (fronting property)	8,000	14,830	F	1.854	16,900	F	2.113	0.259	Yes
<b>College Avenue</b>										
Del Cerro Blvd to I-8 WB off-ramp	4-lane Major Arterial	40,000	35,930	E	0.898	38,100	E	0.953	0.055	Yes
I-8 EB Ramps to Zura Way	4-lane Major Arterial	40,000	61,100	F	1.528	67,670	F	1.692	0.164	Yes
Zura Way to Montezuma Rd	4-lane Major Arterial	40,000	35,180	E	0.880	38,020	E	0.951	0.071	Yes
Montezuma Rd to Cresita Drive	4-lane Collector	30,000	32,130	F	1.071	33,840	F	1.128	0.057	Yes
<b>Montezuma Road</b>										
Fairmount Ave to Collwood Blvd	4-lane Major Arterial	40,000	66,740	F	1.669	68,020	F	1.701	0.032	Yes
Collwood Blvd to 55th St	4-lane Major Arterial	40,000	41,810	F	1.045	43,090	F	1.077	0.032	Yes
55th St to College Ave	4-lane Collector	30,000	38,210	F	1.274	39,790	F	1.326	0.052	Yes
College Ave to E. Campus Dr	4-lane Collector	30,000	25,410	E	0.847	25,960	E	0.865	0.018	No
E. Campus Drive to Reservoir Drive	4-lane Collector	30,000	22,160	D	0.739	22,710	D	0.757	0.018	No

**TABLE AA3.14-20**  
**HORIZON YEAR (YEAR 2035) + PROJECT SEGMENT OPERATIONS**

Segment	Functional Classification	LOS E Capacity <sup>a</sup>	Horizon Year (Year 2035)			Horizon Year (Year 2035) + Total Project			V/C Increase	Sig?
			Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS	V/C		
<b>Fairmount Avenue</b> Montezuma Rd to I-8	6-lane Prime Arterial	60,000	<b>98,510</b>	<b>F</b>	<b>1.642</b>	<b>99,040</b>	<b>F</b>	<b>1.651</b>	0.009	No

**Footnotes:**

- a. Capacities based on City of San Diego's Roadway Classification & LOS table (See *LLG TIA Appendix C*).
- b. Level of Service.
- c. Volume to Capacity ratio.

**General Notes:**

- 1. **Bold** typeface indicates intersections operating at LOS E or F.

### *Ramp Meter Analysis*

Freeway entrance ramps that currently have ramp meters installed and in operation were analyzed under Horizon Year without and with Project conditions. As shown in **Table AA3.14-21**, the following freeway ramp meters would incur a delay exceeding 15 minutes under Horizon Year without and with Project conditions:

- SB Fairmount Avenue to EB I-8 (PM peak hour)
- NB College Avenue to WB I-8 (AM peak hour)
- SB College Avenue to WB I-8 (AM peak hour)

Based on the City of San Diego's significance criteria, **significant impacts** are identified on the following ramp meters as the Project contribution to this ramp meter exceeds the allowable thresholds:

- NB College Avenue to WB I-8 (AM peak hour)
- SB College Avenue to WB I-8 (AM peak hour)

Mitigation measures for these impacts are addressed in Section AA3.14.9.

**TABLE AA3.14-21**  
**HORIZON YEAR (YEAR 2035) + PROJECT RAMP METER OPERATIONS**

Location/Condition	Peak Hour	Peak Hour Demand	Ramp Meter Rate (Flow) <sup>a</sup>	Excess Demand	Delay per Lane <sup>b</sup>	Queue per Lane <sup>c</sup>
<b>SB Fairmount Ave to EB I-8</b>						
Horizon Year (Year 2035)	PM	489	246	243	59	6075
Horizon Year (Year 2035) + Project	PM	491	246	245	60	6125
Project Increase	PM	2	NA	2	1	50
<b>NB College Avenue to WB I-8</b>						
Horizon Year (Year 2035)	AM	419	318	101	19	2525
Horizon Year (Year 2035) + Project	AM	440	318	122	23	3050
Project Increase	AM	21	NA	21	4	525
<b>SB College Avenue to WB I-8</b>						
Horizon Year (Year 2035)	AM	428	336	92	16	2288
Horizon Year (Year 2035) + Project	AM	434	336	98	18	2450
Project Increase	AM	6	NA	6	2	162
<b>NB College Avenue to EB I-8</b>						
Horizon Year (Year 2035)	PM	445	570	0	0	0
Horizon Year (Year 2035) + Project	PM	514	570	0	0	0
Project Increase	PM	69	NA	0	0	0

**Footnotes:**

- a. Meter Rates were obtained from Caltrans.
- b. Delay expressed in minutes per lane.
- c. Queue expressed in feet per lane.

**General Notes:**

- 1. Bold & shading represents a potential significant impact.
- 2. NA = Not Applicable.



### *Freeway Mainline Analysis*

Freeway segments were analyzed under Horizon Year without Project conditions. LLG TIA Appendix N contains the detailed calculations sheets. **Tables AA3.14-22A** and **AA3.14-22B** report the Horizon Year without Project freeway segment operations. As shown on the tables, the following segments would operate at LOS E or F under the Horizon Year without Project scenario:

- I-8 between Fairmount Avenue and Waring Road, *LOS F(0)–AM (WB) and LOS F(1)–PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(1)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)–AM (WB) and LOS F(1)–PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(2)–AM (WB) and LOS F(0)–PM (EB)*

Freeway segments also were analyzed under Horizon Year + Project conditions. LLG TIA Appendix N contains the detailed calculations sheets. **Tables AA3.14-22A** and **AA3.14-22B** report the Horizon Year + Project freeway segment operations. As shown on the tables, the following segments would operate at LOS E or F under the Horizon Year with Project scenario:

- I-8 between Fairmount Avenue and Waring Road, *LOS F(0)–AM (WB) and LOS F(1)–PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(1)–AM (WB) and LOS F(0)–PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)–AM (WB) and LOS F(1)–PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(3)–AM (WB) and LOS F(0)–PM (EB)*

Based on the City of San Diego's significance criteria, **significant impacts** are identified on the following freeway segments as the Project contribution to these freeway mainline segments would exceed the allowable thresholds:

- I-8 between Fairmount Avenue and Waring Road, *LOS F(1)–PM (EB)*
- I-8 between Waring Road and College Avenue, *LOS F(0)–PM (EB)*
- I-8 between College Avenue and Lake Murray boulevard, *LOS F(0)–AM (WB) and LOS F(1)–PM (EB)*
- I-8 between Lake Murray Boulevard and Fletcher Parkway, *LOS F(3)–AM (WB) and LOS F(0)–PM (EB)*

Mitigation measures for these impacts are addressed in Section AA3.14.9.

**TABLE AA3.14-22A**  
**HORIZON YEAR (YEAR 2035) + PROJECT FREEWAY SEGMENT OPERATIONS — AM PEAK HOUR**

Freeway and Segment	Horizon Year (Year 2035) + Project ADT	Direction &Number of Lanes		Capacity <sup>a</sup>	Horizon Year (Year 2035)		Horizon Year (Year 2035) + Project		V/C Delta	Significant
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS		
I-8										
Fairmount Avenue to Waring Road	268,300	EB Mainlines	5M	10,000	0.410	B	0.422	B	0.012	No
		WB Mainlines	6M	12,000	<b>1.124</b>	<b>F(0)</b>	<b>1.127</b>	<b>F(0)</b>	0.003	No
Waring Road to College Avenue	252,970	EB Mainlines	5M	10,000	0.386	B	0.398	B	0.012	No
		WB Mainlines	5M	10,000	<b>1.271</b>	<b>F(1)</b>	<b>1.275</b>	<b>F(1)</b>	0.004	No
College Avenue to Lake Murray Boulevard	232,000	EB Mainlines	4M+ 1A	9,200	0.620	B	0.621	C	0.001	No
		WB Mainlines	5M	10,000	<b>1.207</b>	<b>F(0)</b>	<b>1.214</b>	<b>F(0)</b>	<b>0.007</b>	<b>Yes</b>
Lake Murray Boulevard to Fletcher Parkway	224,030	EB Mainlines	4M+ 1A	9,200	0.597	B	0.600	B	0.003	No
		WB Mainlines	4M	8,000	<b>1.449</b>	<b>F(2)</b>	<b>1.465</b>	<b>F(3)</b>	<b>0.016</b>	<b>Yes</b>

**Footnotes:**

- a. Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes*.
- b. Volume to Capacity.
- c. Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

1. See *LLG TIA Appendix N* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.

**TABLE AA3.14-22B**  
**HORIZON YEAR (YEAR 2035) + PROJECT FREEWAY SEGMENT OPERATIONS—PM PEAK HOUR**

Freeway and Segment	Horizon Year (Year 2035) + Project ADT	Direction &Number of Lanes		Capacity <sup>a</sup>	Horizon Year (Year 2035)		Horizon Year (Year 2035) + Project		V/C Delta	Significant
					V/C <sup>b</sup>	LOS <sup>c</sup>	V/C	LOS		
I-8										
Fairmount Avenue to Waring Road	268,300	EB Mainlines	5M	10,000	<b>1.255</b>	<b>F(1)</b>	<b>1.263</b>	<b>F(1)</b>	<b>0.008</b>	<b>Yes</b>
		WB Mainlines	6M	12,000	0.713	C	0.724	C	0.011	No
Waring Road to College Avenue	252,970	EB Mainlines	5M	10,000	<b>1.183</b>	<b>F(0)</b>	<b>1.191</b>	<b>F(0)</b>	<b>0.008</b>	<b>Yes</b>
		WB Mainlines	5M	10,000	0.806	D	0.820	D	0.014	No
College Avenue to Lake Murray Boulevard	232,000	EB Mainlines	4M+ 1A	9,200	<b>1.272</b>	<b>F(1)</b>	<b>1.280</b>	<b>F(1)</b>	<b>0.008</b>	<b>Yes</b>
		WB Mainlines	5M	10,000	0.741	C	0.745	C	0.004	No
Lake Murray Boulevard to Fletcher Parkway	224,030	EB Mainlines	4M+ 1A	9,200	<b>1.221</b>	<b>F(0)</b>	<b>1.236</b>	<b>F(0)</b>	<b>0.015</b>	<b>Yes</b>
		WB Mainlines	4M	8,000	0.890	D	0.900	D	0.010	No

**Footnotes:**

- Capacity calculated at 2,000 vehicles / hour per mainline lane, 1,200 vehicles / hour per HOV lane and 1,200 vehicles / hour per aux lane (M: Mainline, HOV: High Occupancy Vehicle, A: Auxiliary Lane). *Example: 4M+2A=4 Mainlines + 2 Auxiliary Lanes*.
- Volume to Capacity.
- Level of Service.

LOS	V/C	LOS	V/C
A	<0.41	F(0)	1.25
B	0.62	F(1)	1.35
C	0.80	F(2)	1.45
D	0.92	F(3)	>1.46
E	1.00		

**General Notes:**

- See *LLG TIA Appendix N* for calculation sheets.
- Bold** typeface indicates segments operating at LOS E or F.

The following section presents the analysis of the Project's impacts on transit facilities and was prepared in direct response to paragraph 3.(b) of the Writ of Mandate.

### Existing Transit Setting

The SDSU Transit Center is conveniently located on the SDSU campus north of Hardy Avenue, between College Avenue and Campanile Drive. The Transit Center currently is served by the below grade MTS Green Line trolley, as well as seven (7) bus routes operated by MTS. The sections below provide a brief description of the trolley and buses that serve SDSU.

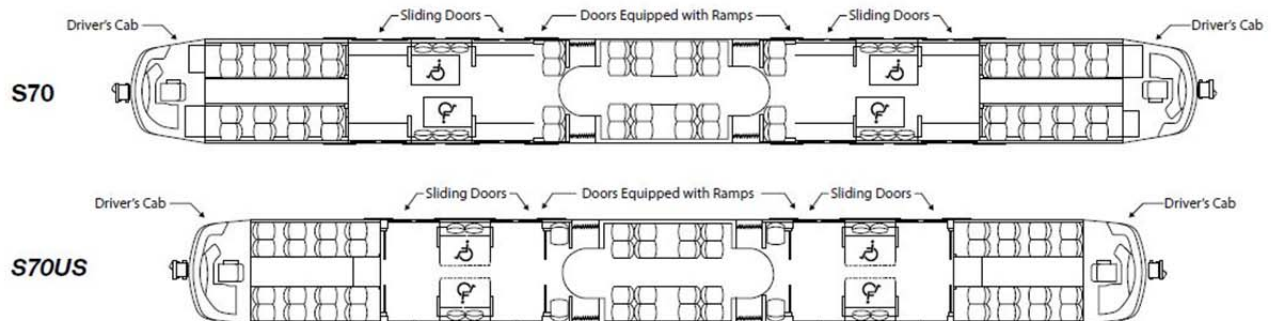
#### *MTS Trolley Green Line*

The MTS Trolley Green Line connects Downtown San Diego to Santee. A total of 27 stops currently exist along the Green Line with a dedicated SDSU Transit Center stop serving the campus. The general trolley hours of operation are from 3:53 AM until 12:30 AM. The trolley headways are typically 15 minutes between the hours of 6:15 AM and 8:15 PM on weekdays, with headways increasing to 30 minutes during the off-peak times.

To adequately conduct a trolley ridership analysis, LLG coordinated extensively with SANDAG and MTS to obtain information on trolley car specifications such as vehicle type, passenger capacity, and the number of cars per train.



*Siemens S70 trolley vehicle*



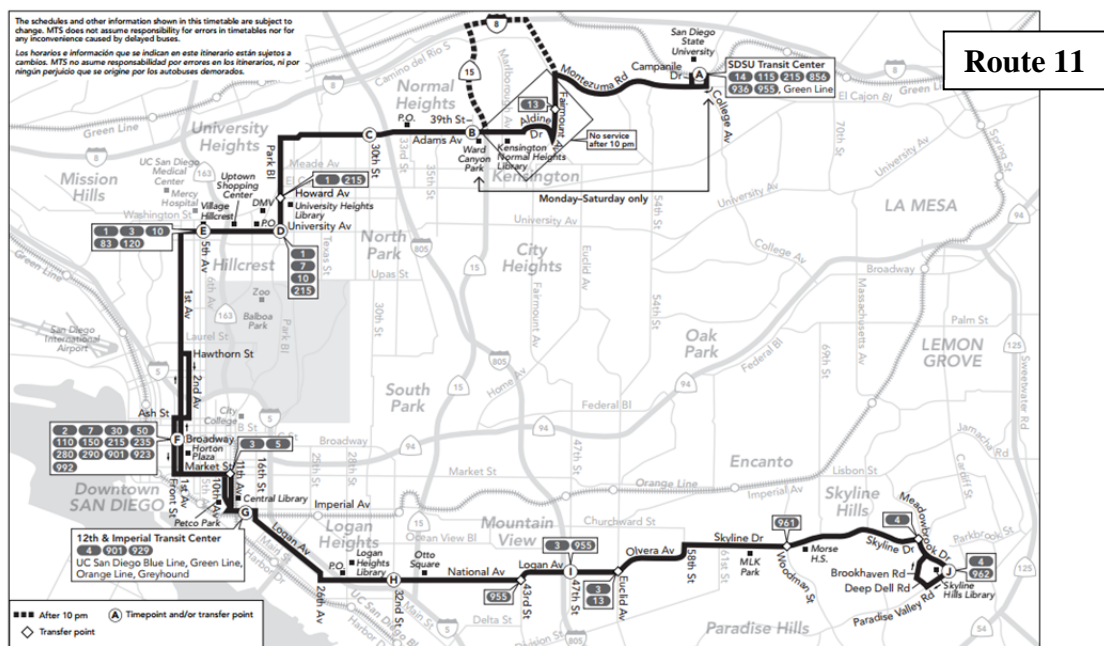
*Green Line Trolley typical seating arrangement*

The Green Line trolley operates the S70 and S70US trolley models by Siemens USA, with a commute capacity of 120 passengers per car with 3 cars per train.

### MTS Bus Routes

There currently are seven (7) bus routes serving the SDSU Transit Center. The information provided below reflects schedule updates by MTS as of June 2017.

**Route 11** runs west and south from the SDSU Transit Center to Downtown San Diego, and then travels east to Paradise Valley Road in the Paradise Hills community. Within the College Area community, Route 11 runs east along Montezuma Road and south along Fairmount Avenue, except after 10 PM, when Route 11 runs north along Fairmount Avenue to Interstate 8. Route 11 contains 104 stops along its route. Route 11 currently operates between 4:27 AM and 11:42 PM on weekdays, between 4:37 AM and 11:41 PM on

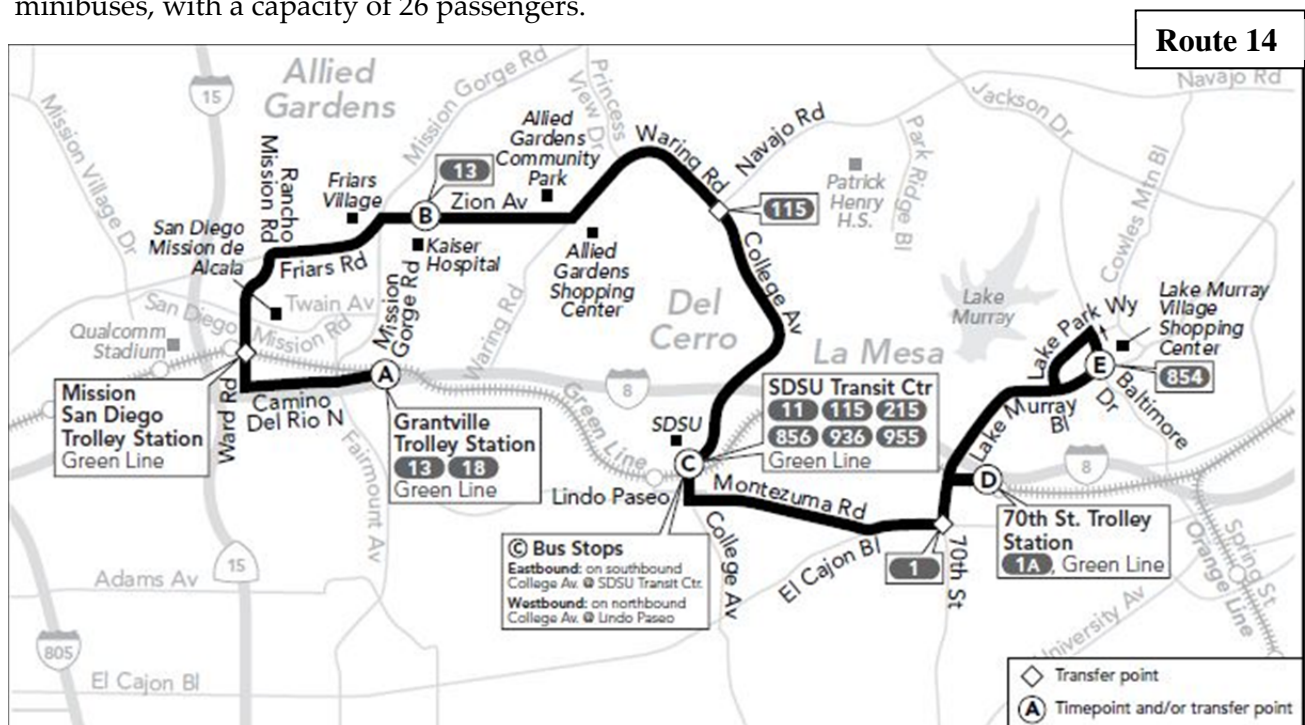


**MTS Standard 40' Bus (Routes 11, 115, 856, 936, and 955)**

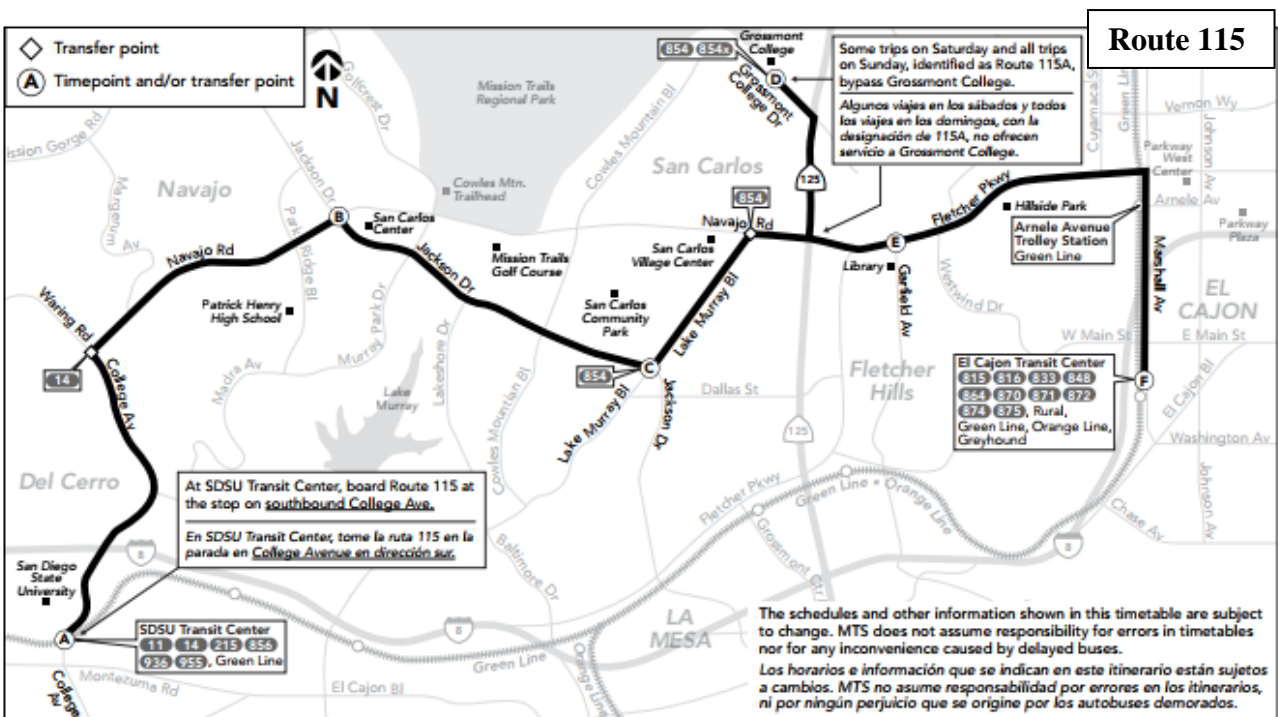


Saturdays, and between 5:22 AM and 9:39 PM on Sundays. Route 11 runs at 15-minute headways between 6:00 AM and 6:30 PM on weekdays, and at 30-minute headways during the remaining hours of service. Route 11 operates with standard 40-foot buses, with an average capacity of 37 passengers.

**Route 14** runs east from the Grantville Trolley Station in the Navajo community to the Lake Murray Village Shopping Center in the City of La Mesa. Within the College Area community, Route 14 runs south along College Avenue to the SDSU Transit Center, and then east along Montezuma Road. Route 14 contains 35 stops along its route. Route 14 currently operates between 5:45 AM and 7:24 PM on weekdays, with headways of 60 minutes for all hours of service. Route 14 operates with minibuses, with a capacity of 26 passengers.

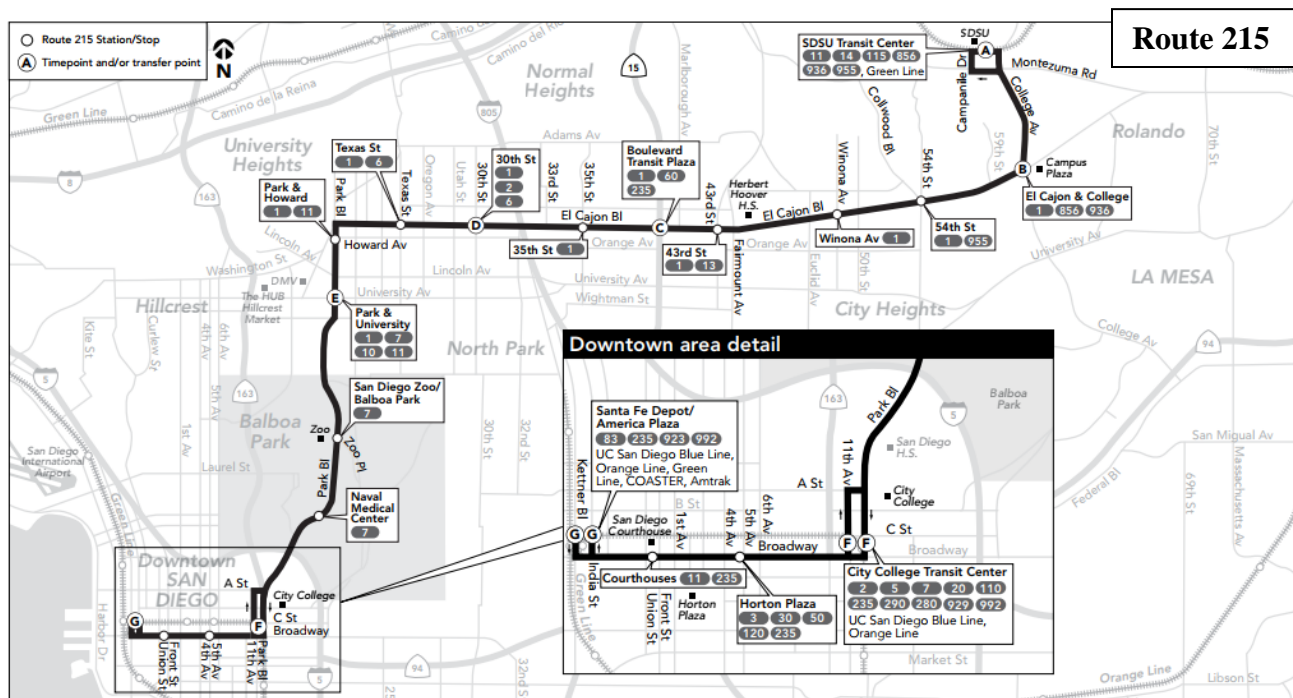


**Route 115** runs east from the SDSU Transit Center to the El Cajon Transit Center in the City of El Cajon. Within the College Area community, Route 115 runs north along College Avenue towards Interstate 8. Route 115 contains 33 stops along its route. Trips after 4:25 PM on Saturday and all trips on Sunday bypass the Grossmont College stop. Route 115 currently operates between 6:09 AM and 10:34 PM on weekdays, between 6:36 AM and 9:06 PM on Saturdays, and between 6:38 AM and 6:52 PM on Sundays. Route 115 runs at 30-minute headways on weekdays before 5:56 PM, and at 60-minute headways on weekdays after 5:56 PM and on weekends. Route 115 operates with standard 40-foot buses, with an average capacity of 37 passengers.

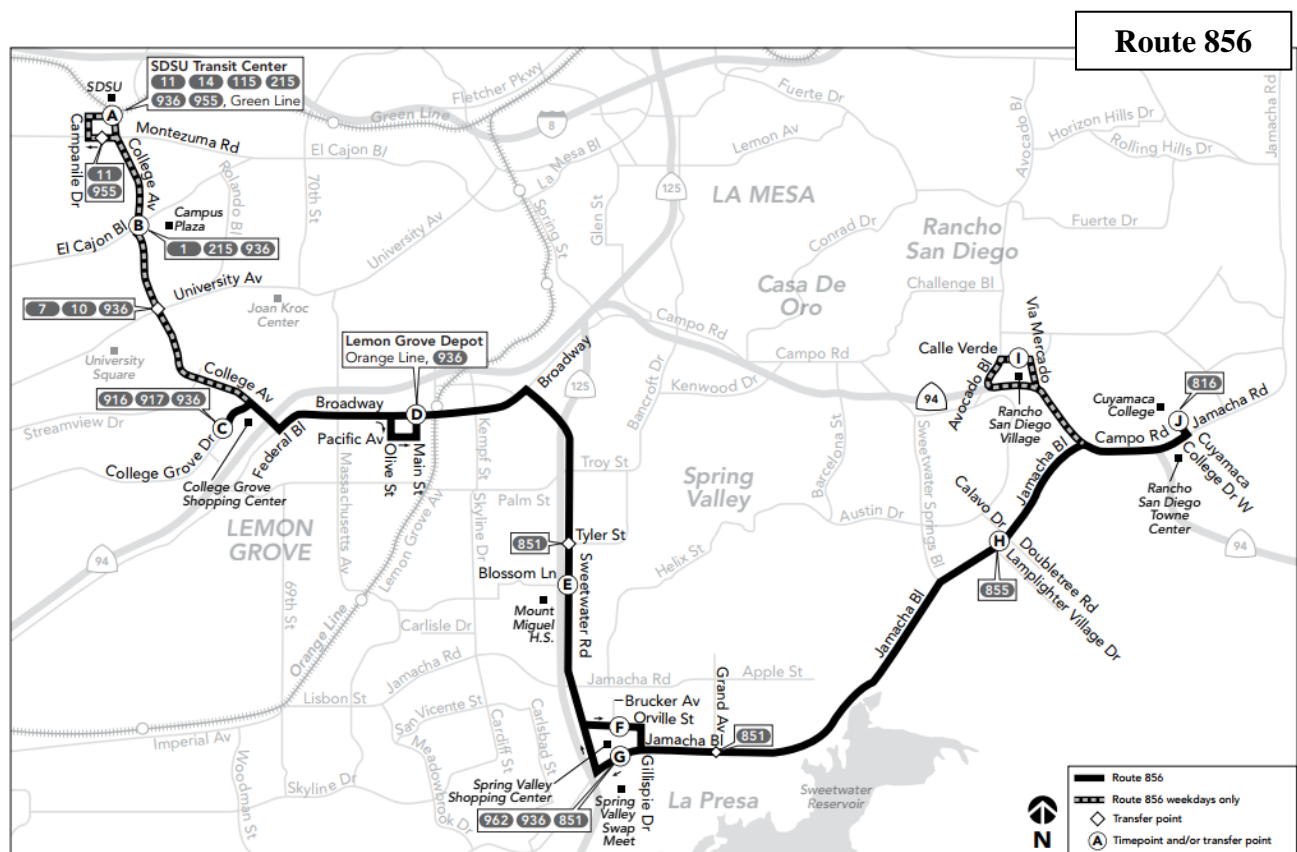




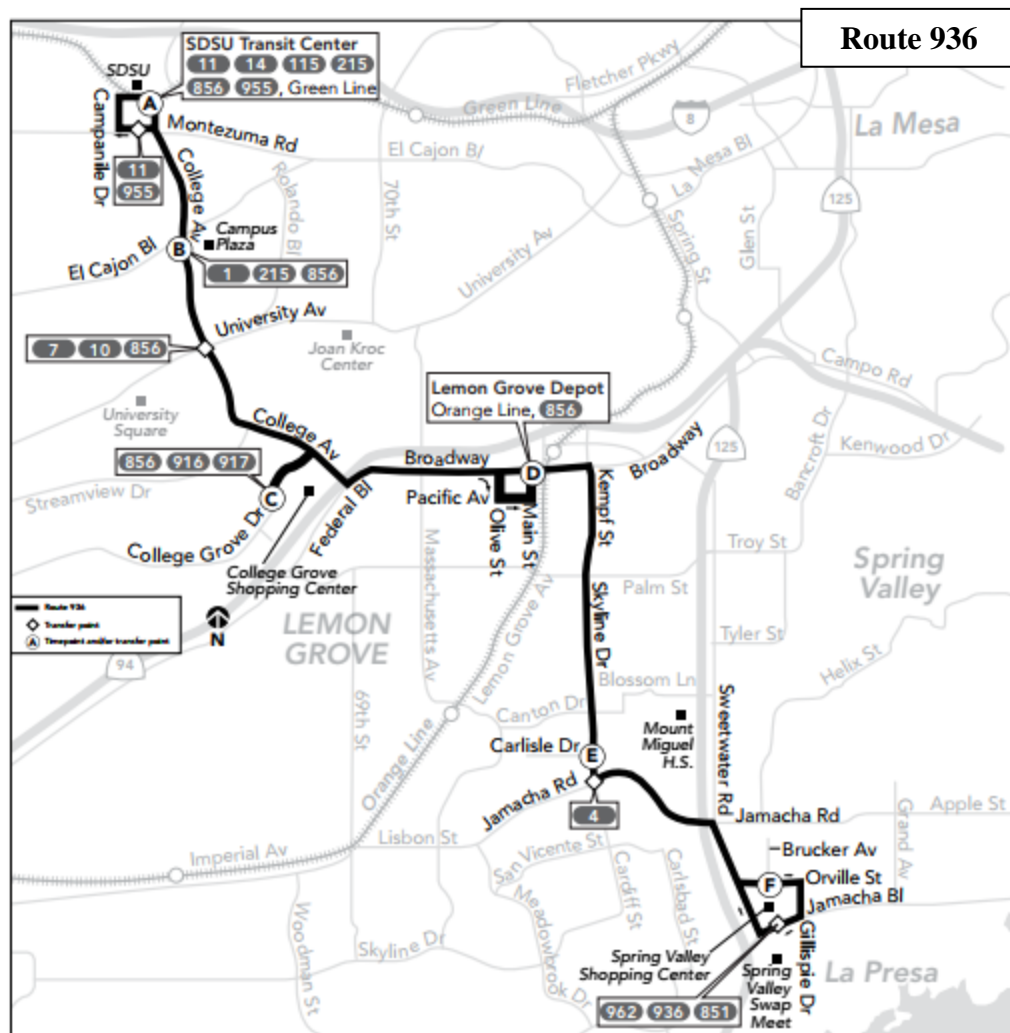
**Route 215** runs south and west from the SDSU Transit Center to Downtown San Diego and is one of eight (8) bus rapid transit lines currently operated by MTS. Within the College Area community, Route 215 runs south along College Avenue, then travels west along El Cajon Boulevard towards North Park. Route 215 contains 18 stops along its route. Route 215 currently operates between 4:28 AM and 1:42 AM on weekdays and between 4:50 AM and 1:42 AM on weekends. Route 215 runs at 10-minute headways during weekday peak hours, at 30-minute headways on weekdays after 9:00 PM, and at 15-minute headways during other weekday off-peak hours and weekends. Route 215 operates with 60-foot articulated buses, with a capacity of 59 passengers.



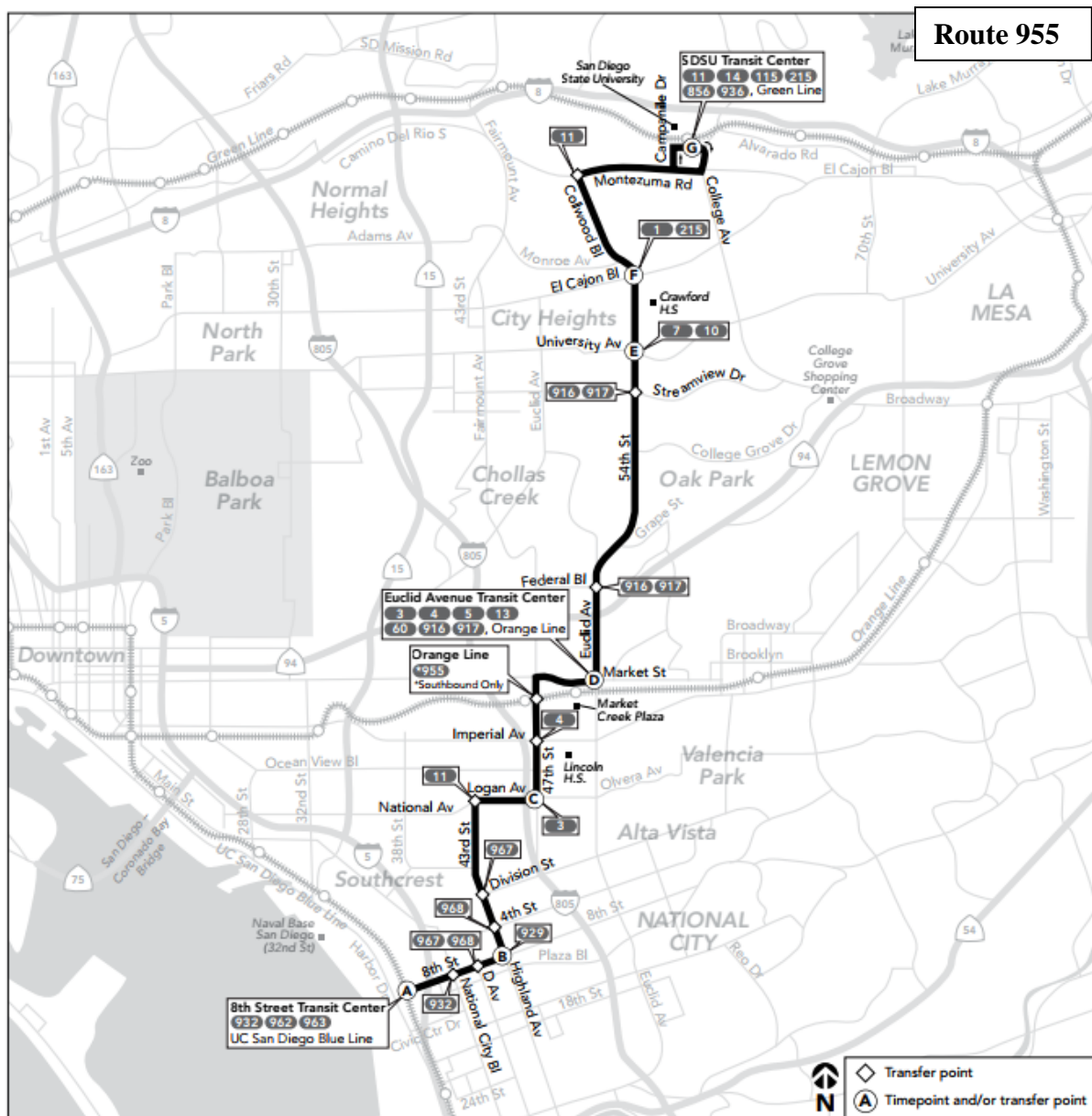
**Route 856** runs south and east from the SDSU Transit Center to Cuyamaca College in Rancho San Diego. Within the College Area community, Route 856 runs south along College Avenue towards El Cajon Boulevard. Route 856 contains 51 stops along its route. On weekends, Route 856 does not operate between SDSU and College Grove Shopping Center, nor between Jamacha Boulevard and Rancho San Diego Village. Route 856 currently operates between 4:29 AM and 11:11 PM on weekdays, between 5:26 AM and 10:06 PM on Saturdays, and between 6:26 AM and 7:15 PM on Sundays. Route 856 runs at 30-minute headways on weekdays, and at 60-minute headways on weekends. Route 856 operates with standard 40-foot buses, with an average capacity of 37 passengers.



**Route 936** runs south from the SDSU transit Center to Spring Valley Shopping Center in La Presa. Within the College Area community, Route 936 runs south along College Avenue towards El Cajon Boulevard. Route 936 contains 36 stops along its route. Route 936 currently operates between 4:57 AM and 10:13 PM on weekdays, between 5:14 AM and 10:13 PM on Saturdays, and between 5:14 AM and 7:55 PM on Sundays. Route 936 runs at 30-minute headways on weekdays, Saturdays, and between 11:30 AM and 4:30 PM on Sundays, and at 60-minute headways for the remaining hours of service. Route 936 operates with standard 40-foot buses, with an average capacity of 37 passengers.



**Route 955** runs south from the SDSU Transit Center to the 8<sup>th</sup> Street Trolley Station in National City. Within the College Area community, Route 955 runs west along College Avenue and south along Collwood Boulevard. Route 955 contains 48 stops along its route. Route 955 currently runs between 4:55 AM and 11:40 PM on weekdays, between 5:34 and 11:40 PM on Saturdays, and between 5:58 AM and 9:41 PM on Sundays. Route 955 runs at 15-minute headways during its weekday peak and midday periods, 20-minute headways on Saturdays, and 30-minute headways during the remaining hours of service. Route 955 operates with standard 40-foot buses, with an average capacity of 37 passengers.



## Analysis Approach and Methodology

The following analysis is based on passenger capacity methodology published in Chapters 6 and 8 of the *Transit Capacity and Quality of Service Manual, 3<sup>rd</sup> Edition*. Chapter 6 provides procedures to evaluate capacities for bus transit, and Chapter 8 addresses rail transit capacities.

Both chapters include passenger capacity calculations based on several bus/rail vehicle parameters. The design passenger capacity for each transit type (bus vs. light rail) is then compared to the forecasted ridership to determine if future demand can be met with the existing available capacity; as such, the analysis presented below is conservative in that it assumes increases in background transit ridership although it does not assume any increases in available capacity. The analysis addresses design passenger capacity calculations for trolleys and buses, as well as existing and proposed ridership projections.

### *Trolley Capacity*

The passenger capacity of a trolley route is determined based on the following equation:

$$P = TN_cP_c(PHF)$$

where:

$P$  = design person capacity (persons per hour (p/h)),

$T$  = line capacity (4 trains per hour),

$N_c$  = number of cars per train (3 cars per train),

$P_c$  = maximum schedule load per car (120 persons per car), and

$PHF$  = peak-hour factor – obtained from Spring 2016 ridership counts conducted by SANDAG (included in LLG TIA Appendix O):

- 0.88 Eastbound direction – AM peak hour,
- 0.86 Westbound direction – AM peak hour,
- 0.95 Eastbound direction – PM peak hour,
- 0.82 Westbound direction – PM peak hour.

### *Bus Capacity*

Bus passenger capacity is calculated as follows:

$$P_s = \sum_{i=1}^n P_{max,i} (PHF) N_i$$

where:

$P_s$  = scheduled person capacity (p/h),

$P_{max,i}$  = maximum schedule load for bus model  $i$  (p/bus),  
 $n$  = number of different bus models operated on the facility,  
 $N_i$  = number of buses of bus model  $i$  scheduled to use the facility during the peak hour (bus/h), and  
 $PHF$  = peak-hour factor.

LLG TIA Appendix O shows the maximum schedule loads, number of buses during the peak hour, and peak-hour factors for each bus route heading inbound towards SDSU and outbound from SDSU.

### ***Trolley and Bus Ridership***

Existing trolley and bus ridership counts (Spring 2016) were obtained from SANDAG. SANDAG utilizes Automatic Passenger Counting (APC) technology to compile the data.

#### ***Trolley Ridership***

Project trolley trips were estimated based on the trolley calculations shown in **Tables AA3.14-8B** (Near-Term) and **AA3.14-9B** (Horizon Year). As shown on the tables, the Project trolley trips would comprise 5% of the total ADT (diverted from private vehicle to trolley) in the AM peak hour, and 7% of the total ADT (diverted from private vehicle to trolley) in the PM peak hour. Therefore, in the Near-Term, 5% (of 3,076 ADT) equating to 154 AM Project trolley trips and 7% (of 3,076 ADT) equating to 215 PM Project trolley trips would be generated. The in/out split is based on the 90:10 (AM) and 30:70 (PM) split shown in **Tables AA3.14-8B** and **AA3.14-9B**. Existing trolley ridership data at the SDSU Transit Center station shows 60% of trolley riders depart to/arrive from the west and 40% of trolley riders depart to/arrive from the east. Similar methodology was utilized to calculate the Horizon Year trolley trips.

To estimate the background growth in trolley ridership, past trolley ridership data was reviewed. Data obtained from SANDAG shows a decrease in Green Line ridership of approximately 3.9 percent between 2013 and 2015. However, to be conservative, a 2 percent per year increase in ridership for 6 and 19 years (approximately 2022 and 2035) was assumed in the Near-Term and Horizon Year scenarios, respectively. LLG TIA Appendix O contains the detailed calculations sheets.

#### ***Bus Ridership***

Project bus trips were estimated based on the existing bus to trolley ridership ratio. Based on a comparison of Year 2016 trolley and bus ridership data at the SDSU Transit Center provided by



SANDAG, bus ridership was approximately 75 percent of trolley ridership; that is, for every 100 passengers who ride the trolley to/from the SDSU Transit Center, there are 75 passengers who ride the bus. Therefore, for analysis purposes, Project bus ridership was assumed as 75 percent of the trolley ridership.

To estimate the background growth in bus ridership, past bus ridership data was reviewed. Bus ridership data obtained from SANDAG indicates an increase in passenger boardings of approximately 2.3 percent per year (2015-2016) for bus routes serving the SDSU Transit Center. Thus, a 2.5 percent per year increase in ridership for 6 and 19 years was assumed for the Near-Term and Horizon Year scenarios, respectively. LLG TIA Appendix O contains the detailed calculations sheets.

### **Transit Capacity Analyses**

The sections below provide trolley and bus analyses for the Existing + Project, Near-Term (Year 2022) + Project and Horizon Year (Year 2035) + Project scenarios.

#### ***Green Line Trolley Analysis***

**Tables AA3.14-23, AA3.14-24, and AA3.14-25** report the results of the Green Line trolley analysis under Existing + Project, Near-Term + Project, and Horizon Year + Project conditions, respectively. As shown on the tables, even with the addition of the trolley riders from the Project, and assuming no increase in existing capacity, sufficient capacity is available to accommodate the projected ridership increase. Therefore, no trolley capacity constraints are identified and the Project would not result in significant impacts to available trolley capacity.

**TABLE AA3.14-23**  
**TROLLEY ANALYSIS – EXISTING + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Existing Volume (Riders/hr)<sup>a</sup></b>		<b>Project Ridership (Riders/hr)<sup>b</sup></b>		<b>Existing + Project Volume (Riders/hr)</b>		<b>V&gt;C?</b>	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT
<i>Eastbound</i>	AM	1,268	261	144	295	22	556	166	No	No
	PM	1,368	473	446	138	214	611	660	No	No
<i>Westbound</i>	AM	1,239	443	413	197	33	640	446	No	No
	PM	1,181	225	289	92	321	317	610	No	No

**Footnotes:**

- Existing trolley ridership data obtained from SANDAG Assistance to Transit Operations and Planning (ATOP) program, Year 2016.
- Project trolley ridership is calculated as shown in Table AA3.14-9B, which shows 546 total AM trips and 764 total PM trips. The in/out split is consistent with 90:10 (AM) and 30:70 (PM) per trip generation calculation. For EB and WB splits, 60%/40% was calculated based on existing trolley ridership data.
- Existing capacity calculated using the equation shown in Section AA3.14.8.2. For e.g.: 4 trains / hour \* 3 cars/ train \* 120 persons/car \* 0.88 PHF = 1,268 persons/hour.

**General Notes:**

- The In scenario refers to the inbound trolley towards SDSU Transit Center. The Out scenario refers to the outbound trolley from SDSU Transit Center. The total In ridership demand (i.e. Existing + Project) was calculated and compared to the existing capacity to determine if the transit demand from the project can be met. Similar methodology was used for the total Out ridership demand.

**TABLE AA3.14-24**  
**TROLLEY ANALYSIS – NEAR-TERM (YEAR 2022) + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Near-Term (Year 2022) Volume (Riders/hr)<sup>a</sup></b>		<b>Project Ridership (Riders/hr)<sup>b</sup></b>		<b>Near-Term (Year 2022) + Project Volume (Riders/hr)</b>		<b>V&gt;C?</b>	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT
<i>Eastbound</i>	AM	1,268	293	162	83	6	376	168	No	No
	PM	1,368	532	502	39	60	571	562	No	No
<i>Westbound</i>	AM	1,239	541	465	55	9	596	474	No	No
	PM	1,181	254	352	26	90	280	442	No	No

**Footnotes:**

- Trolley ridership data obtained from SANDAG shows a decrease in Green Line ridership of approximately 3.9% between 2013 and 2015. However, to be conservative, a 2%/year increase in ridership for 6 years was assumed for the Near-Term (Year 2022) scenario.
- Project trolley ridership is calculated as shown in Table AA3.14-8B, which shows 154 total AM trips and 215 total PM trips. The in/out split is consistent with 90:10 (AM) and 30:70 (PM) per trip generation calculation. For EB and WB splits, 60%/40% was calculated based on existing trolley ridership data.



- c. Existing capacity calculated using the equation shown above under *Analysis Approach and Methodology*. For e.g.: 4 trains / hour \* 3 cars/ train \* 120 persons/car \* 0.88 PHF = 1,268 persons/hour.

**General Notes:**

1. The In scenario refers to inbound trolley towards SDSU Transit Center. The Out scenario refers to the outbound trolley from SDSU Transit Center. The total In ridership demand (i.e. Near-Term (Year 2022) + Project) was calculated and compared to the existing capacity to determine if the transit demand from the project can be met. Similar methodology was used for the total Out ridership demand.

**TABLE AA3.14-25**  
**TROLLEY ANALYSIS – HORIZON YEAR (YEAR 2035) + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Horizon Year (Year 2035) Volume (Riders/hr)<sup>a</sup></b>		<b>Project Ridership (Riders/hr)<sup>b</sup></b>		<b>Horizon Year (Year 2035) + Project Volume (Riders/hr)</b>		<b>V&gt;C?</b>	
			<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>
<i>Eastbound</i>	AM	1,268	381	210	295	22	676	232	No	No
	PM	1,368	689	650	138	214	827	864	No	No
<i>Westbound</i>	AM	1,239	645	602	197	33	842	635	No	No
	PM	1,181	327	421	92	321	419	742	No	No

**Footnotes:**

- a. Trolley ridership data obtained from SANDAG shows a decrease in Green Line ridership of approximately 3.9% between 2013 and 2015. However, to be conservative, a 2%/year increase in ridership for 19 years was assumed for the Horizon Year (Year 2035) scenario.
- b. Project trolley ridership is calculated as shown in Table AA3.14-9B, which shows 546 total AM trips and 764 total PM trips. The in/out split is consistent with 90:10 (AM) and 30:70 (PM) per trip generation calculation. For EB and WB splits, 60%/40% was calculated based on existing trolley ridership data.
- c. Existing capacity calculated using the equation shown in Section 11.2.1. For e.g.: 4 trains / hour \* 3 cars/ train \* 120 persons/car \* 0.88 PHF = 1,268 persons/hour.

**General Notes:**

1. The In scenario refers to inbound trolley towards SDSU Transit Center, The Out scenario refers to the outbound trolley from SDSU Transit Center. The total In ridership demand (i.e. Horizon Year (Year 2035) + Project) was calculated and compared to the existing capacity to determine if the transit demand from the project can be met. Similar methodology was used for the total Out ridership demand.

### ***MTS Bus Analysis***

Tables AA3.14-26, AA3.14-27, and AA3.14-28 report the results of the MTS Bus analysis under Existing + Project, Near-Term + Project, and Horizon Year + Project conditions, respectively. As shown on the tables, even with the addition of the bus riders from the Project, sufficient capacity is available to accommodate the increased ridership. Therefore, no bus capacity constraints are identified and the Project would not result in significant impacts to bus capacity.

**TABLE AA3.14-26**  
**MTS BUS ANALYSIS – EXISTING + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Existing Volume (Riders/hr)<sup>a</sup></b>	<b>Project Ridership (Riders/hr)<sup>b</sup></b>	<b>Existing + Project Volume (Riders/hr)</b>	<b>V&gt;C?</b>
<i>Inbound (towards SDSU)</i>	AM	758	242	324	566	No
	PM	717	117	173	290	No
<i>Outbound (from SDSU)</i>	AM	771	114	41	155	No
	PM	804	237	401	638	No

**Footnotes:**

- Existing MTS Bus ridership data obtained from SANDAG *Assistance to Transit Operations and Planning (ATOP)* program, Year 2016.
- Based on a comparison of Year 2016 trolley and bus ridership data at the SDSU Transit Center, the bus ridership was calculated as 75% of the trolley ridership. Therefore, the project bus ridership was assumed as 75% of the trolley ridership.
- Existing capacity was calculated using the equation shown above under *Analysis Approach and Methodology*. The SDSU Transit Center is served by different types of buses with varying capacities. The calculations for the bus capacity are shown in LLG TIA *Appendix O*. The total ridership demand (i.e. Existing + Project) was calculated and compared to the existing capacity to determine if the bus demand from the project can be met.

**TABLE AA3.14-27**  
**MTS BUS ANALYSIS – NEAR-TERM (YEAR 2022) + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Near-Term (Year 2022) Volume (Riders/hr)<sup>a</sup></b>	<b>Project Ridership (Riders/hr)<sup>b</sup></b>	<b>Near-Term (Year 2022) + Project Volume (Riders/hr)</b>	<b>V&gt;C?</b>
<i>Inbound (towards SDSU)</i>	AM	758	281	104	385	No
	PM	717	136	49	185	No
<i>Outbound (from SDSU)</i>	AM	771	133	11	144	No
	PM	804	275	113	388	No

**Footnotes:**

- Bus ridership data obtained from SANDAG indicates an increase in passenger boardings of approximately 2.29%/year for bus routes serving the SDSU Transit Center. Thus, a 2.5%/year increase in ridership for 6 years was assumed for the Near-Term (Year 2022) scenario.
- Based on a comparison of Year 2016 trolley and bus ridership data at the SDSU Transit Center, the bus ridership was calculated as 75% of the trolley ridership. Therefore, the project bus ridership was assumed as 75% of the trolley ridership.
- Existing capacity calculated using the equation shown above under *Analysis Approach and Methodology*. The SDSU Transit Center is served by different types of buses with varying capacities. The calculations for the bus capacity are shown in LLG TIA *Appendix O*. The total ridership demand (i.e. Near-Term (Year 2022) + Project) was calculated and compared to the existing capacity to determine if the bus demand from the project can be met.

**TABLE AA3.14-28**  
**MTS BUS ANALYSIS – HORIZON YEAR (YEAR 2035) + PROJECT**

<i>Direction</i>	<b>Peak Hour</b>	<b>Existing Capacity (Riders/hr)<sup>c</sup></b>	<b>Horizon Year (Year 2035) Volume (Riders/hr)<sup>a</sup></b>	<b>Project Ridership (Riders/hr)<sup>b</sup></b>	<b>Horizon Year (Year 2035) + Project Volume (Riders/hr)</b>	<b>V&gt;C?</b>
<i>Inbound (towards SDSU)</i>	AM	758	387	324	711	No
	PM	717	188	173	361	No
<i>Outbound (from SDSU)</i>	AM	771	183	41	224	No
	PM	804	379	401	780	No

**Footnotes:**

- a. Bus ridership data obtained from SANDAG indicates an increase in passenger boardings of approximately 2.29%/year for bus routes serving the SDSU Transit Center. Thus, a 2.5%/year increase in ridership for 19 years was assumed for the Horizon Year (Year 2035) scenario.
- b. Based on a comparison of Year 2016 trolley and bus ridership data at the SDSU Transit Center, the bus ridership was calculated as 75% of the trolley ridership. Therefore, the project bus ridership was assumed as 75% of the trolley ridership.
- c. Existing capacity calculated using the equation shown above under *Analysis Approach and Methodology*. The SDSU Transit Center is served by different types of buses with varying capacities. The calculations for the bus capacity are shown in LLG TIA *Appendix O*. The total ridership demand (i.e. Horizon Year (Year 2035) + Project) was calculated and compared to the existing capacity to determine if the bus demand from the project can be met.

In conclusion, based on the design passenger capacity of the trolley and buses serving the SDSU Transit Center, sufficient capacity is available to accommodate the forecasted increase in transit riders from the Project. Therefore, the Project would not result in significant impacts related to transit.

#### **AA3.14.9 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Based on the City of San Diego's significance criteria, the Project would result in significant impacts at several study area intersections, street segments, ramp meters, and mainline freeway segments in the Near-Term and Horizon Year scenarios.

## **Near-Term (Year 2022)**

### ***Significant Impacts – Direct<sup>11</sup>***

The Project would result in significant direct impacts at the following locations under the Near-Term scenario.

#### ***Intersections***

College Avenue / I-8 Eastbound Ramps (PM peak hour)

College Avenue / Canyon Crest Drive (PM peak hour)

College Avenue / Zura Way (PM peak hour)

College Avenue / Montezuma Road (AM and PM peak hours)

I-8 WB Ramps / Parkway Drive (PM peak hour)

#### ***Street Segments***

Alvarado Road: E. Campus Drive to Reservoir Drive

Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street

College Avenue: I-8 Eastbound Ramps to Zura Way

College Avenue: Montezuma Road to Cresita Drive

#### ***Ramp Meters***

None

#### ***Freeway Mainline***

None

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<sup>11</sup> While the City's significance thresholds identify impacts under this analysis scenario as "direct," because the analysis considers traffic generated by "other developments not presently operational but which are anticipated to be operational at that time (near term)," the impacts are more accurately described as "cumulative" for purposes of CEQA analysis.

## *Mitigation Measures*

The mitigation measures presented in this section were prepared in direct response to Paragraph 3.(a) of the Writ of Mandate.

The improvements listed below would mitigate the project's significant direct impacts identified under the Near-Term (Year 2022) scenario.

### *Intersections*

**AATCP-1** College Avenue / I-8 Eastbound Ramps (Intersection #8). The improvement necessary to mitigate the Project's significant impact at the College Avenue / I-8 Eastbound Ramp is to widen the northbound College Avenue approach to the on-ramp to provide an additional lane on College Avenue between Canyon Crest Drive and the I-8 EB on-ramp.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 25,211<sup>12</sup> or its equivalent, SDSU shall widen the northbound College Avenue approach to the College Avenue / I-8 Eastbound Ramp to provide an additional (third) northbound lane between Canyon Crest Drive and the I-8 EB on-ramp. To implement the improvements, SDSU shall prepare design plans and submit such plans to the City of San Diego and Caltrans for review and approval. Following City and Caltrans approval, SDSU shall obtain any necessary construction permits and provide bond assurances to the reasonable satisfaction of Caltrans and the City Engineer prior to constructing the subject improvements consistent with the approved City and Caltrans plans. In the event the proposed improvements are not approved and constructed in a timely manner, the impact would remain temporarily significant and unavoidable. (Note: The phrase "or its equivalent" as used in this and other mitigation measures refers to the fact that the near-term construction of the Alvarado Hotel, in combination with construction of a portion of the Adobe Falls Faculty/Staff Housing, could trigger the identified significant impact prior to FTE enrollment actually reaching the designated number, in this case, 25,211. Accordingly, Table AA3.14-34, Mitigation Trigger Analysis, of this Draft Additional Analysis, identifies

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<sup>12</sup>For 2017/2018, the FTE for capacity and master planning purposes is projected to be 24,555. (See LLG TIA Appendix T.) The total FTE trigger is then calculated as follows: baseline FTE (i.e. 24,555) + FTE trigger shown in Table AA3.14-34. For e.g.: *Impact A-1*: 24,555 baseline FTE + 656 FTE increase = 25,211 total FTE. Similar methodology was followed for other impacted locations.

the number of FTE equivalent hotel rooms and faculty/staff housing that would trigger the identified impact requiring mitigation.)

**AATCP-2** College Avenue / Canyon Crest Drive (Intersection #9). The improvement necessary to mitigate the Project's significant impact at the College Avenue / Canyon Crest Drive intersection is to widen the northbound College Avenue approach to the intersection to provide an additional lane.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 25,251 or its equivalent, SDSU shall widen the northbound College Avenue approach to the College Avenue / Canyon Crest Drive intersection to provide an additional (third) northbound through lane, to the reasonable satisfaction of the City of San Diego Engineer.

**AATCP-3** College Avenue / Zura Way (Intersection #10). The improvement necessary to mitigate the Project's significant impact at the College Avenue / Zura Way intersection is to install a traffic signal at the intersection. A signal warrant analysis is included in LLG TIA Appendix P, which concludes that a signal is warranted at the College Avenue / Zura Way intersection.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 24,608 or its equivalent, SDSU shall install a traffic signal at the College Avenue / Zura Way intersection, to the reasonable satisfaction of the City of San Diego Engineer.

**AATCP-4** College Avenue / Montezuma Road (Intersection #11). The improvement necessary to mitigate the Project's significant impact at the College Avenue / Montezuma Road intersection is to re-stripe the eastbound Montezuma Road approach to the intersection to provide an additional (second) eastbound left-turn lane on Montezuma Road to northbound College Avenue, and also to install an overlap phase for the eastbound right-turn to southbound College Avenue at the intersection traffic signal.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 25,912 or its equivalent, SDSU shall re-stripe the eastbound Montezuma Road approach to the College Avenue / Montezuma Road intersection to provide an additional (second) eastbound left-turn lane on Montezuma Road to northbound College Avenue and also shall install an overlap phase for the eastbound right-turn to southbound

College Avenue at the intersection traffic signal, to the reasonable satisfaction of the City of San Diego Engineer.

- AATCP-5** I-8 Westbound Ramp / Parkway Drive (Intersection #16). The improvement necessary to mitigate the Project's significant impacts at the I-8 Westbound Ramp / Parkway Drive intersection is to install either a traffic signal or a roundabout at the intersection, dependent upon the results of an Intersection Control Evaluation (ICE) analysis. The improvement ultimately decided upon shall be determined based on input provided by Caltrans and the City of La Mesa (the local jurisdiction), and also shall account for any queuing that could affect adjacent intersections, including the 70<sup>th</sup> Street/Parkway Drive intersection.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 24,795 or its equivalent, SDSU shall install either a traffic signal or a roundabout at the I-8 Westbound Ramp / Parkway Drive intersection, dependent upon the results of an ICE analysis. To implement the improvements, SDSU shall prepare design plans and submit such plans to Caltrans and the City of La Mesa for review and approval. Following Caltrans and La Mesa approval, SDSU shall install the traffic signal or roundabout consistent with the approved plans. In the event the proposed improvements are not approved and constructed in a timely manner, the impact would remain temporarily significant and unavoidable.

### *Street Segments*

- AATCP-6** Alvarado Road: E. Campus Drive to Reservoir Drive. The improvement necessary to mitigate the Project's significant impact on the segment of Alvarado Road from East Campus Drive to Reservoir Drive is to widen and re-stripe Alvarado Road to add a two-way center left-turn lane or add left turn pockets at the Alvarado Road intersections at Alvarado Court and the Villa Alvarado Apartments driveway. This improvement would require the removal of on-street parking on a portion of the segment, which is noted in the College Area Community Plan. The removal of on-street parking may not be feasible, however, since alternative parking spaces may not be available, although SDSU would be able to retain the on-street parking on a portion of Alvarado Road by widening the segment that fronts SDSU property between Alvarado Court and approximately 250 feet west of the Alvarado Medical Center driveway.

Assuming the removal of on-street parking where necessary is feasible, prior to Full-Time Equivalent (FTE) enrollment reaching 24,910 or its equivalent, SDSU shall, to the reasonable satisfaction of the City of San Diego Engineer, re-stripe and widen, where feasible, Alvarado Road between E. Campus Drive and Reservoir Drive to add a two-way center left-turn lane or add left turn pockets at the Alvarado Road intersections at Alvarado Court and the Villa Alvarado Apartments driveway. However, if the removal of on-street parking where necessary is not feasible, the improvements cannot be fully implemented due to right-of-way limitations and the impact would remain significant and unavoidable.

- AATCP-7** Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street. The improvement necessary to mitigate the Project's significant impact on the segment of Alvarado Road from Reservoir Drive to 70<sup>th</sup> Street is to restripe this segment of Alvarado Road to add a two-way center left-turn lane or add left turn pockets at the major apartment and retail driveways along Alvarado Road. This improvement would require the removal of on-street parking, which is noted in the College Area Community Plan, although the removal may not be feasible since alternative parking spaces may not be available.

Assuming the removal of on-street parking where necessary is feasible, prior to Full-Time Equivalent (FTE) enrollment reaching 25,465 or its equivalent, SDSU shall, to the reasonable satisfaction of the City of San Diego Engineer, re-stripe where feasible, Alvarado Road between Reservoir Drive and 70<sup>th</sup> Street to add a two-way center left-turn lane or add left turn pockets at the major apartments and retail driveways along Alvarado Road. However, if the removal of on-street parking where necessary is not feasible, the improvements cannot be fully implemented due to right-of-way limitations and the impact would remain significant and unavoidable.

- AATCP-8** College Avenue: I-8 Eastbound Ramp to Zura Way. The improvement necessary to mitigate the Project's significant impact on the segment of College Avenue from Zura Way to the I-8 Eastbound Ramp is to widen this segment of College Avenue to provide an additional (third) northbound travel lane.

Prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 24,862 or its equivalent, SDSU shall widen northbound College Avenue from Zura Way to the I-8 Eastbound Ramp to provide an additional (third) northbound travel lane. To implement the improvements, SDSU shall prepare design plans and submit such



plans to the City of San Diego and Caltrans for review and approval. Following City and Caltrans approval, SDSU shall obtain any necessary construction permits and provide bond assurances satisfactory to Caltrans and the City Engineer prior to constructing the subject improvements consistent with the approved City and Caltrans plans. In the event the proposed improvements are not approved and constructed in a timely manner, the impact would remain temporarily significant and unavoidable.

*College Avenue: Montezuma Road to Cresita Drive.* The improvement necessary to mitigate the Project's significant impact on the segment of College Avenue from Montezuma Road to Cresita Drive is to widen College Avenue and construct a raised median. However, this mitigation is infeasible because: (i) the installation of a raised median would require road widening, which in turn would require the acquisition of additional right-of-way on College Avenue between Montezuma Road and Cresita Drive that is owned by multiple individual third parties; and (ii) installation of a raised median would restrict access to the residential uses fronting College Avenue. Therefore, the road widening and installation of a raised median is infeasible and, as a result, this impact is considered significant and unavoidable.

As an alternate strategy, SDSU could widen the sidewalks on the segment of College Avenue between Montezuma Road and Cresita Drive to facilitate increased pedestrian travel, and/or re-stripe the road to provide for bicycle lanes, although this latter improvement would require removal of the limited existing curbside parking. However, neither bicycle lanes nor widened sidewalks would reduce the identified vehicular level of service impact to less than significant.

### ***Post Mitigation Operations***

**Tables AA3.14-29 and AA3.13-30** report the results of intersection and street segment mitigation analysis for the Near-Term + Project conditions. As shown in the tables, if implemented, the proposed mitigation measures would reduce the Project impacts to a level of less than significant. However, as previously explained, implementation of certain improvements is not feasible and, therefore, impacts at these locations are considered significant and unavoidable. LLG TIA Appendix P contains the post mitigation analysis worksheets. LLG TIA Appendix Q includes a conceptual sketch of each of the proposed improvements.

**TABLE AA3.14-29**  
**NEAR-TERM (YEAR 2022) INTERSECTION MITIGATION ANALYSIS**

Intersection	Control Type	Peak Hour	Near-Term (Year 2022) without Project		Near-Term (Year 2022) + Project			Near-Term (Year 2022) + Project With Mitigation		Mitigation
			Delay <sup>a</sup>	LOS <sup>b</sup>	Delay	LOS	$\Delta^c$	Delay	LOS	
8. College Avenue / I-8 EB Ramps	Signal	PM	74.3	E	79.3	E	<b>5.0</b>	37.0	D	Construct an additional (third) northbound lane on College Avenue between the I-8 EB on-ramp and Canyon Crest Drive (feasible).
9. College Avenue / Canyon Crest Drive	Signal	PM	57.9	E	71.8	E	<b>13.9</b>	43.5	D	Construct an additional (third) northbound through lane (feasible).
10. College Avenue / Zura Way	MSSC <sup>d</sup>	PM	178.9	F	199.5	F	<b>20.6</b>	31.4	C	Install a traffic signal (feasible).
11. College Avenue / Montezuma Rd	Signal	AM	65.4	E	71.1	E	<b>5.7</b>	51.7	D	Restripe to provide a second eastbound left-turn lane on Montezuma Road to northbound College Avenue; and install an overlap phase on the eastbound right-turn to southbound College Avenue (feasible).
		PM	91.0	F	109.2	F	<b>18.2</b>	63.4	E	
16. I-8 WB Ramps / Parkway Dr	AWSC <sup>e</sup>	PM	59.2	F	62.1	F	<b>2.9</b>	13.8	B	Install a traffic signal (feasible).

**Footnotes:**

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c.  $\Delta$  denotes the project-induced delay increase.
- d. MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported. Left turns from Zura Way to College Avenue are not allowed.
- e. AWSC – All-Way Stop Controlled intersection.

**General Notes:**

1. Bold represents a significant impact

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

**TABLE AA3.14-30**  
**NEAR-TERM (YEAR 2022) SEGMENT MITIGATION ANALYSIS**

Segment	LOS E Capacity <sup>a</sup>	Near-Term (Year 2022) without Project			Near-Term (Year 2022) with Project				Mitigated LOS E Capacity <sup>a</sup>	Near-Term (Year 2022) + Project With Mitigation			Mitigation
		Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	V/C $\Delta$		Volume	LOS	V/C	
<b>Alvarado Road</b>													
E. Campus Dr to Reservoir Dr	8,000	9,340	F	1.168	9,610	F	1.201	<b>0.033</b>	15,000	9,610	C	0.641	Widen/restripe Alvarado Road to include a two-way left-turn lane or left turn pockets (feasible/infeasible).
Reservoir Dr to 70 <sup>th</sup> Street	8,000	7,490	E	0.936	7,760	E	0.970	<b>0.034</b>	15,000	7,760	C	0.517	Restripe Alvarado Road to include a two-way left-turn lane or left turn pockets (feasible/infeasible).
<b>College Avenue</b>													
I-8 EB Ramps to Zura Way	40,000	40,470	F	1.012	41,930	F	1.048	<b>0.036</b>	50,000	41,930	D	0.839	Widen to provide an additional (third) northbound lane (feasible).
Montezuma Rd to Cresita Drive	30,000	30,670	F	1.022	31,000	F	1.033	0.011	40,000	31,000	D	0.775	Widen to provide a raised median or provide bike lanes by removing parking (infeasible)

**Footnotes**

- a. Capacities based on City of San Diego's Roadway Classification & LOS table.
- b. Average Daily Traffic
- c. Volume to Capacity ratio

**General Notes:**

- 1. Bold and shading represents a potential significant impact

## **Horizon Year (Year 2035)**

### ***Significant Impacts – Cumulative***

The Project would result in significant direct impacts at the following locations under the Horizon Year scenario.

#### ***Intersections***

Fairmount Avenue / I-8 Westbound Off Ramp / Camino Del Rio N. (PM peak hour)

55<sup>th</sup> Street / Montezuma Road (PM peak hour)

Campanile Drive / Montezuma Road (AM peak hour)

College Avenue / I-8 Eastbound Ramps (AM and PM peak hours)

College Avenue / Canyon Crest Drive (AM and PM peak hours)

College Avenue / Zura Way (AM and PM peak hours)

College Avenue / Montezuma Road (AM and PM peak hours)

Alvarado Court / Alvarado Road (PM peak hour)

70<sup>th</sup> Street / Alvarado Road (PM peak hour)

I-8 WB Ramps / Parkway Drive (AM and PM peak hours)

Montezuma Road / Collwood Boulevard (PM peak hour)

#### ***Street Segments***

Alvarado Road: E. Campus Drive to Reservoir Drive

Alvarado Road: Reservoir Drive to 70th Street

College Avenue: Del Cerro Boulevard to I-8 Westbound off-ramp

College Avenue: I-8 Eastbound Ramps to Zura Way

College Avenue: Zura Way to Montezuma Road

College Avenue: Montezuma Road to Cresita Drive

Montezuma Road: Fairmount Avenue to Collwood Boulevard

Montezuma Road: Collwood Boulevard to 55th Street

Montezuma Road: 55th Street to College Avenue

### ***Ramp Meters***

Northbound College Avenue to Westbound I-8

Southbound College Avenue to Westbound I-8

### ***Freeway Mainline***

Interstate 8: Fairmount Avenue to Waring Road (eastbound)

Interstate 8: Waring Road to College Avenue (eastbound)

Interstate 8: College Avenue to Lake Murray Boulevard (eastbound)

Interstate 8: College Avenue to Lake Murray Boulevard (westbound)

Interstate 8: Lake Murray Boulevard to Fletcher Parkway (eastbound)

Interstate 8: Lake Murray Boulevard to Fletcher Parkway (westbound)

### ***Mitigation Measures***

The improvements listed below would mitigate the Project's significant cumulative impacts identified under the Horizon Year scenario.

### ***Intersections***

*Fairmount Avenue / I-8 Westbound Off Ramp / Camino Del Rio N* (Intersection #1). The improvement necessary to mitigate the Project's significant cumulative impact at the Fairmount Avenue / I-8 Westbound Off Ramp / Camino Del Rio North intersection is to widen the eastbound approach to provide an additional (second) eastbound exclusive right-turn lane on Camino Del Rio N. to southbound Fairmount Avenue at this intersection.

However, there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (0.9%), nor is there a plan or program in place to construct the necessary improvements at this intersection. Therefore, the identified improvements are infeasible as they are not capable of being accomplished in a successful manner within a reasonable period of time and, as a result, this impact is considered significant and unavoidable.

**AATCP-9** 55<sup>th</sup> Street / Montezuma Road (Intersection #4). The improvements necessary to mitigate the Project's significant cumulative impact at the 55<sup>th</sup> Street / Montezuma Road intersection are to modify the traffic signal and restripe the 55<sup>th</sup> Street southbound approach to include: one (1) dedicated southbound right-turn lane; one (1) shared southbound right/thru/left-turn lane; and one (1) dedicated southbound left-turn lane.

Since there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (10.9%), nor is there a plan or program in place to construct the necessary improvements at this intersection, SDSU has agreed to fully fund and implement the necessary improvements. To that end, prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 28,762 or its equivalent, SDSU shall restripe the 55<sup>th</sup> Street southbound approach to the 55<sup>th</sup> Street / Montezuma Road intersection to include: one (1) dedicated southbound right-turn lane; one (1) shared southbound right/thru/left-turn lane; and one (1) dedicated southbound left-turn lane, and also shall coordinate with the City regarding signal modification. To implement the improvements, SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval. Following City approval, and prior to commencing construction, SDSU shall obtain any necessary construction permits and provide bond assurances satisfactory to the City Engineer.

**AATCP-10** Campanile Drive / Montezuma Road (Intersection #5). The improvement necessary to mitigate the Project's significant cumulative impact at the Campanile Drive / Montezuma Road intersection is to restripe the Montezuma Road westbound approach to the intersection to provide an exclusive westbound right-turn lane on Montezuma Road to northbound Campanile Drive.

Since there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (12.1%), nor is there a plan or program in place to construct the necessary improvements at this intersection, SDSU has agreed to fully fund and implement the necessary improvements. To that end, prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 28,670 or its equivalent,

SDSU shall restripe the Montezuma Road westbound approach to the Campanile Drive / Montezuma Road intersection to provide an exclusive westbound right-turn lane on Montezuma Road to northbound Campanile Drive. To implement the improvements, SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval. Following City approval, and prior to commencing construction, SDSU shall obtain any necessary construction permits and provide bond assurances satisfactory to the City Engineer.

*College Avenue / I-8 Eastbound Ramp* (Intersection #8). The improvements to be implemented as mitigation for the Project's direct impact to the College Avenue / I-8 Eastbound Ramp intersection (provide a third northbound lane on College Avenue between Canyon Crest Drive and I-8 [AATCP-1]) would also mitigate the Project's significant cumulative impact and no further mitigation is necessary.

*College Avenue / Canyon Crest Drive* (Intersection #9). The improvements to be implemented as mitigation for the Project's direct impact to the College Avenue / Canyon Crest Drive intersection (widen the intersection to provide an additional (third) northbound lane [AATCP-2]) would also mitigate the Project's significant cumulative impact at this location and no further mitigation is necessary.

*College Avenue / Zura Way* (Intersection #10). The improvements to be implemented as mitigation for the Project's direct impact to the College Avenue / Zura Way intersection (install a traffic signal [AATCP-3]) would also mitigate the Project's significant cumulative impact at this location and no further mitigation is necessary.

*College Avenue / Montezuma Road* (Intersection #11). The improvements to be implemented as mitigation for the Project's direct impact to the College Avenue / Montezuma Road intersection (restripe the eastbound approach to include an additional (second) eastbound left-turn lane on Montezuma Road to northbound College Avenue and install a right-turn overlap phase [AATCP-4]) would also mitigate the Project's significant cumulative impact at this location and no further mitigation is necessary.

*Alvarado Court / Alvarado Road* (Intersection #12). The improvement necessary to mitigate the Project's significant cumulative impact at the Alvarado Court / Alvarado Road intersection is to install a traffic signal at the intersection. A signal warrant analysis is included in LLG TIA Appendix P, which concludes that a signal is warranted at the Alvarado Court / Alvarado Road intersection.

However, there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (59.8%), nor is there a plan or program in place to construct the necessary improvements at this intersection. Therefore, the identified improvement is infeasible and, as a result, this impact is considered significant and unavoidable.

**AATCP-11** 70<sup>th</sup> Street / Alvarado Road (Intersection #15). The improvement necessary to mitigate the Project's significant cumulative impact at the 70<sup>th</sup> Street / Alvarado Road intersection is to install an overlap phase on the northbound right-turn to eastbound Alvarado Road at the intersection traffic signal.

Since there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (10.2%), nor is there a plan or program in place to construct the necessary improvements at this intersection, SDSU has agreed to fully fund and implement the necessary improvements. To that end, prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 29,359, SDSU shall coordinate with the City to install an overlap phase on the northbound right-turn to eastbound Alvarado Road at the 70<sup>th</sup> Street/Alvarado Road intersection traffic signal. To implement the improvements, SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval. Following City approval, SDSU shall obtain any necessary construction permits and provide bond assurances satisfactory to the City Engineer.

*Interstate 8 Westbound Ramps / Parkway Drive* (Intersection #16). The improvements to be implemented as mitigation for the Project's direct impact at the I-8 Westbound Ramps / Parkway Drive intersection (install a traffic signal [AATCP-5]) would also mitigate the Project's significant cumulative impact at this location and no further mitigation is necessary.

**AATCP-12** Montezuma Road / Collwood Boulevard (Intersection #18). The improvement necessary to mitigate the Project's significant cumulative impact at the Montezuma Road / Collwood Boulevard intersection is to modify the traffic signal at the intersection to provide a right-turn overlap phase on the northbound approach.

Since there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (9.7%), nor is there a plan or program in place to construct the necessary improvements at this intersection, SDSU has agreed to fully fund and implement the necessary improvements. To that end, prior to SDSU Full-Time Equivalent (FTE) enrollment reaching 30,386 or its equivalent, SDSU shall modify the traffic signal at the Montezuma Road / Collwood Boulevard



intersection to provide a right-turn overlap phase on the northbound approach. To implement the improvement, SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval, and prior to commencing construction, SDSU shall obtain any necessary construction permits and provide bond assurances to the reasonable satisfaction of the City Engineer.

### ***Street Segments***

*Alvarado Road: E. Campus Drive to Reservoir Drive.* The improvements identified to mitigate the Project's direct impact to the segment of Alvarado Road from E. Campus Drive to Reservoir Drive (widen and restripe Alvarado Road to construct a two-way center left-turn lane or add left turn pockets) would, if implemented, also mitigate the Project's significant cumulative impact at this location.

However, as previously explained in Mitigation Measure AATCP-6, the improvements identified to mitigate the direct impacts at this location may be infeasible. If that is the case, cumulative impacts at this location would be significant and unavoidable.

*Alvarado Road: Reservoir Drive to 70<sup>th</sup> Street.* The improvements identified to mitigate the Project's direct impact to the segment of Alvarado Road from Reservoir Drive to 70<sup>th</sup> Street (restripe Alvarado Road to construct a two-way center left-turn lane or add left turn pockets) would, if implemented, also mitigate the Project's significant cumulative impact at this location.

However, as previously explained in Mitigation Measure AATCP-7, the improvements identified to mitigate the direct impacts at this location may be infeasible. If that is the case, cumulative impacts at this location would be significant and unavoidable.

*College Avenue: Del Cerro Boulevard to I-8 WB off-Ramp.* The improvement necessary to mitigate the Project's significant cumulative impact to the segment of College Avenue from Del Cerro Boulevard to Interstate-8 WB off-ramp is to restripe northbound College Avenue to provide an additional lane.

However, there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (32.1%), nor is there a plan or program in place to construct the necessary improvements at this segment. Furthermore, the addition of a lane to this segment of College Avenue would conflict with the Navajo Community Plan designation. Therefore, the identified improvements are infeasible and, as a result, this impact is considered significant and unavoidable.

*College Avenue: I-8 Eastbound Ramps to Zura Way.* The improvements to be implemented as mitigation for the Project's direct impact to the segment of College Avenue from the I-8 Eastbound Ramps to Zura Way (widen College Avenue to provide an additional (third) northbound lane [AATCP-6]) would also mitigate the Project's significant cumulative impact at this location and no further mitigation is necessary.

*College Avenue: Zura Way to Montezuma Road.* The improvement necessary to mitigate the Project's significant cumulative impact to the segment of College Avenue from Zura Way to Montezuma Road is to widen the four-lane portion of College Avenue to provide an additional travel lane.

However, implementation of the necessary improvement is infeasible because the right-of-way necessary to add a fifth lane is not available due to the proximity of buildings fronting College Avenue at this location. While the College Area Community Plan depicts College Avenue as six lanes between Zura Way and Montezuma Road, there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (34.5%), nor is there a plan or program in place to construct the necessary improvements at this segment. Therefore, the addition of a fifth lane is infeasible and, as a result, this impact is considered significant and unavoidable.

*College Avenue: Montezuma Road to Cresita Drive.* The improvements identified to mitigate the Project's direct impact to the segment of College Avenue from Montezuma Road to Cresita Drive (widen College Avenue to construct a raised median) would, if implemented, also mitigate the Project's significant cumulative impact at this location. However, as previously explained, the improvements identified to mitigate the direct impacts at this location are infeasible and, therefore, the cumulative impact mitigation also is infeasible and, as a result, cumulative impacts at this location are considered significant and unavoidable.

*Montezuma Road: Fairmount Avenue to Collwood Boulevard.* The improvement necessary to mitigate the Project's significant cumulative impact to the segment of Montezuma Road from Fairmount Avenue to Collwood Boulevard is to widen this segment of Montezuma Road to provide an additional eastbound travel lane.

However, implementation of the necessary improvement is infeasible because: (i) the right-of-way necessary to add a lane is not available due to the existing topography; and (ii) there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (8.2%), nor is there a plan or program in place to construct the necessary improvements at this location. Therefore, the identified improvements are infeasible and, as a result, this impact is considered significant and unavoidable.

*Montezuma Road: Collwood Boulevard to 55<sup>th</sup> Street.* The improvement necessary to mitigate the Project's significant cumulative impact to the segment of Montezuma Road from Collwood Boulevard to 55<sup>th</sup> Street is to widen this segment of Montezuma Road to provide an additional travel lane.

However, implementation of the necessary improvements is infeasible because: (i) the right-of-way necessary to add a lane is not available due to the existing topography; and (ii) there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (9.1%), nor is there a plan or program in place to construct the necessary improvements at this location. Therefore, the identified improvements are infeasible and, as a result, this impact is considered significant and unavoidable.

*Montezuma Road: 55<sup>th</sup> Street to College Avenue.* The improvement necessary to mitigate the Project's significant cumulative impact to the segment of Montezuma Road from 55<sup>th</sup> Street to College Avenue is to install a raised median along this segment of Montezuma Road.

However, there is no plan or program in place to provide the necessary funding in combination with the Project's fair-share (21.9%), nor is there a plan or program in place to construct the necessary improvements at this location. Therefore, the identified improvement is infeasible and, as a result, this impact is considered significant and unavoidable.

### ***Ramp Meters***

**AATCP-13** Northbound College Avenue to I-8 Westbound. The improvement necessary to mitigate the Project's identified significant cumulative impact at the Northbound College Avenue to I-8 Westbound ramp meter is to provide additional capacity on the I-8 westbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at the Interstate-8 / College Avenue interchange including the Northbound College Avenue to I-8 Westbound on-ramp. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent on the outcome of the study, California State University/SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the costs to implement the capital improvements identified in the Study. However, as there presently are no capacity improvements planned for this on-ramp, mitigation to reduce the identified

significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

- AATCP-14** Southbound College Avenue to I-8 Westbound. The improvement necessary to mitigate the Project's identified significant cumulative impact at the Southbound College Avenue to I-8 Westbound ramp meter is to provide additional capacity on the I-8 westbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at the Interstate-8 / College Avenue interchange including the Southbound College Avenue to I-8 Westbound on-ramp. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent on the outcome of the study, California State University/SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the costs to implement the capital improvements identified in the Study. However, as there presently are no capacity improvements planned for this on-ramp, mitigation to reduce the identified significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

### *Freeway Mainline*

- AATCP-15** Interstate 8: Fairmount Avenue to Waring Road (eastbound). The improvement necessary to mitigate the Project's identified significant cumulative impact (5.4%) to the eastbound segment of Interstate-8 between Fairmount Avenue and Waring Road is to provide additional capacity on the I-8 eastbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support-Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at either the I-8 / Fairmount Avenue or I-8 / Waring Road interchange and, relatedly, on the segment of I-8 between Fairmount Avenue and Waring Road. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent upon the outcome of the Study, California State University / SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the costs to implement the capital

improvements identified in the Study. However, as there presently are no capacity improvements planned for this segment of I-8, mitigation to reduce the identified significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

**AATCP-16** Interstate 8: Waring Road to College Avenue (eastbound). The improvement necessary to mitigate the Project's identified significant cumulative impact (6.2%) to the eastbound segment of Interstate-8 between Waring Road and College Avenue is to provide additional capacity on the I-8 eastbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support-Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at the I-8 / College Avenue Interchange and, relatedly, on the segment of I-8 between Waring Road and College Avenue. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent upon the outcome of the Study, California State University / SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the costs to implement the capital improvements identified in the Study. However, as there presently are no capacity improvements planned for this segment of I-8, mitigation to reduce the identified significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

**AATCP-17** Interstate 8: College Avenue to Lake Murray Boulevard (eastbound and westbound). The improvement necessary to mitigate the Project's identified significant cumulative impact to the eastbound (4.1%) and westbound (3.7%) segments of Interstate-8 between College Avenue and Lake Murray Boulevard is to provide additional capacity on the I-8 eastbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support-Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at the I-8 / College Avenue Interchange and, relatedly, on the segment of I-8 between College Avenue and Lake Murray Boulevard. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent upon the outcome of the Study, California State University / SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the

costs to implement the capital improvements identified in the Study. However, as there presently are no capacity improvements planned for this segment of I-8, mitigation to reduce the identified significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

**AATCP-18** Interstate 8: Lake Murray Boulevard to Fletcher Parkway (eastbound and westbound). The improvement necessary to mitigate the Project's identified significant cumulative impact to the eastbound (10.4%) and westbound (9.4%) segments of Interstate-8 between Lake Murray Boulevard and Fletcher Parkway is to provide additional capacity on the I-8 eastbound mainline. To that end, California State University / SDSU shall support Caltrans in its efforts to obtain funding from the state Legislature for the costs to prepare a Project Study Report-Project Development Support-Project Initiation Document (Study) to evaluate alternatives to increase capacity, improve mobility, and relieve congestion at the I-8 / Fletcher Parkway or I-8 / Lake Murray Boulevard interchange and, relatedly, on the segment of I-8 between Lake Murray Boulevard and Fletcher Parkway. Alternatives to be considered could include enhanced acceleration/deceleration lanes and interconnecting ramp meters. Dependent upon the outcome of the Study, California State University / SDSU shall continue to support Caltrans in its efforts to obtain funding from the state Legislature for the costs to implement the capital improvements identified in the Study. However, as there presently are no capacity improvements planned for this segment of I-8, mitigation to reduce the identified significant impact to less than significant is infeasible and the impact is considered significant and unavoidable.

#### *Transportation Demand Management*

As part of the 2007 Campus Master Plan, The Board of Trustees of the California State University adopted a mitigation measure requiring SDSU to develop a campus transportation demand management (TDM) program that facilitates a balanced approach to mobility, with the ultimate goal of reducing vehicle trips to and from campus in favor of alternative modes of travel. The adequacy of the mitigation measure was challenged in court, and while the litigation was pending, SDSU retained a transportation consulting firm to prepare a study evaluating potential TDM measures that would reduce the number of single-rider vehicle trips generated by SDSU students,

faculty, and staff in favor of alternative forms of transportation. Following review and input by SANDAG and the Metropolitan Transit System, the study was made final.<sup>13</sup>

The TDM Study included a transportation and parking existing conditions analysis, a screening process for potential TDM strategies, and the development of a multi-phase implementation plan. The Study was intended “to assist and guide SDSU in its efforts to maximize its transportation resources and provide specific strategies to enable the university to invest in a transportation system that supports all modes of travel.” (TDM Study, page 1-1.)

Included within the TDM Study is a series of strategies to be considered and further evaluated for implementation by SDSU. The strategies include: identifying a TDM coordinator; increasing ride-sharing and car-sharing opportunities; enhancing the existing bicycle and pedestrian network; facilitating transit ridership through various means, including financial incentives; and, prioritizing investments in on-campus housing and amenities. (TDM Study, pages 1-2 to 1-3.)

Following its review and consideration of the TDM Study strategies, and in direct response to Paragraph 3.(c) of the Writ of Mandate, SDSU recommends the Board of Trustees adopt the following mitigation measure to reduce to the extent possible the number of single-rider vehicle trips generated by the SDSU campus:

**AATCP-19** Following re-approval of the 2007 Campus Master Plan by The Board of Trustees of the California State University, and no later than commencement of the Fall 2019 semester unless otherwise noted, SDSU shall take the following actions to implement or, as applicable, continue to implement, on-campus transportation demand management (TDM) strategies designed to reduce the number of vehicle trips generated by SDSU students, faculty, and staff:

1. **TDM Coordinator.** Immediately following Master Plan approval, identify the SDSU employment position with primary responsibility for overseeing implementation of TDM measures on campus including, but not limited to, the TDM measures listed in this mitigation measure, and task such position with conducting the appropriate implementation, outreach, and marketing activities.
2. **Increase RideShare Opportunities.** SDSU, or the TDM Coordinator as applicable, shall:

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<sup>13</sup> *Transportation Demand Management Program Final Report* (June 2013), Nelson Nygaard (TDM Study). A copy of the TDM Study is provided in Appendix V to the LLG TIA.

- a. Provide a central digital platform location for information relating to available alternative transportation opportunities;
- b. Provide preferential vanpool/carpool parking spaces in each parking lot commensurate with demand;
- c. Allow use of shared parking passes for carpools and vanpools (shared parking passes authorize the use of one parking pass that is shared amongst all of the drivers of a designated carpool or vanpool);
- d. Connect the existing Enterprise Rent-A-Car VanPool system to the Human Resources (HR) database for more efficient ride-matching (the HR database includes information regarding home address and employment department, thereby facilitating carpool matches based on location and work schedule);
- e. Provide dedicated parking spaces and subsidies, funded through SANDAG and SDSU, towards leasing and fuel costs associated with vanpools operated through the Enterprise Rent-A-Car VanPool system;
- f. Promote ZimRide (a rideshare platform) and SANDAG's iCommute program by all appropriate means including, but not limited to, providing informational packets to all resident students during student orientation;
- g. Expand hours of operation, increase frequency, and expand the service area of the on-campus SDSU Red & Black shuttle;
- h. Facilitate continued operation of private shuttles operating between off-campus apartments and campus by identifying off-campus pick-up/drop-off locations; and,
- i. Designate on campus locations for ride-hailing services, including, but not limited to, Uber, Lyft (see Figure AA3.14-13, On Campus Student Housing and Amenities, for location of existing and planned future rideshare locations).

3. **Facilitate Bicycle and Pedestrian Travel.** SDSU, or the TDM Coordinator as applicable, shall:



- a. Establish a Bike-Share pilot program on campus;
- b. Upgrade existing Class III bicycle facilities to Class II facilities along 54<sup>th</sup> Street from Collwood Boulevard to El Cajon Boulevard, and upgrade the existing Class III bicycle facilities to Class II facilities along Collwood Boulevard from Monroe Avenue to 54<sup>th</sup> Street;
- c. Install a bike lane within the existing curb lines on Canyon Crest Drive between Lot 16 (former A Lot) and Lot 15 (former X lot) in order to improve bicycle access to/from and within campus;
- d. Provide shared lane markings (sharrows) on Aztec Circle Drive to alert motorists that bicyclists may be using the full travel lane;
- e. Provide on-campus Class I bike paths between Hardy Road and Hilltop Way, and between Union Street and Viejas Arena (Aztec Walk)(installed since 2007);
- f. Provide Class II bike lanes on College Avenue between Montezuma Road and Zura Way (installed since 2007);
- g. Maintain existing on-campus bike racks and continue to monitor need for additional racks as necessary; and
- h. Provide pedestrian improvements, including pedestrian signals, widened sidewalks, and bulb-outs at South Campus Plaza (east side of College Avenue), and Montezuma Road and Campanile Drive (installed since 2007).

4. **Facilitate Transit Ridership.** SDSU, or the TDM Coordinator as applicable, shall:

- a. Maintain discounted Metropolitan Transit System (MTS) transit pass program for students and enable purchases by credit card;
- b. Establish a pre-tax payroll deduction program for faculty and staff purchase of MTS transit passes, provided SDSU meets the state/CSU required minimum participation level;

- c. Provide reduced cost transit passes for faculty and staff, provided SDSU meets the MTS required minimum participation level. Cost reduction will be between 10% and 25%, depending on participation level; and,
- d. Increase on-campus vehicle parking rates for single-rider student vehicles by 2025.

In light of the ongoing evolution of transportation technology and advancements, the strategies set forth above may be modified or replaced, as necessary, with alternative strategies of equal or enhanced effectiveness. Therefore, the TDM Coordinator shall annually evaluate the above strategies to ensure that the strategies are meeting the needs and priorities of the SDSU students, faculty, and staff. As new technologies and strategies become available, the strategies included in this mitigation measure can be modified in order to implement alternative technologies and/or strategies of equal or enhanced effectiveness.

In addition to the above TDM strategies, since approval in 2007 of the Campus Master Plan, SDSU has adopted student residency policies and constructed a substantial number of student housing units and amenities both on and adjacent to or within walking distance of campus that have assisted in reducing vehicle trips and related vehicle miles traveled (VMT). Since 2010, SDSU has required Freshmen enrolling from out of the SDSU service area to live on campus, and, beginning in Fall 2019, all out of service area Sophomores also will be required to live on campus. To meet these requirements and the increased demand to live on campus, SDSU has added approximately 1,350 on-campus student housing beds since 2007, and additional housing presently is being constructed and/or planned for construction on and adjacent to campus (within one block of Montezuma Road) that would house an additional approximate 1,630 students by 2019 (1,330 on campus and 300 adjacent to campus). Thus, by Fall 2019, SDSU will be housing approximately 2,980 more students on and adjacent to campus than it did in 2007. In addition, since 2007, SDSU has added over 35,000 gross square feet (GSF) of retail amenities within walking distance of campus. These amenities, which include a grocery store (Trader Joe's), several restaurants, and a Verizon store, reduce the need for students, faculty, and staff to drive from the campus to shop for their goods and services. Please see Figure AA3.14-13 for illustration of the housing and amenities added since 2007.

#### *2007 FEIR Mitigation Measures*

In addition to the mitigation measures listed above, the following mitigation measures were adopted as part of the 2007 Final EIR and, for that reason, the measures are carried forward here, with revised numbering:

**AATCP-20<sup>14</sup>** Del Cerro Residential Streets. Following occupancy of the Adobe Falls Faculty/Staff Housing Lower Village, SDSU, or its designee, shall prepare a Traffic Calming Study to determine the methods available to control and/or reduce vehicle speeds on residential roadways in the Del Cerro community. Thereafter, SDSU, or its designee, shall conduct traffic counts on Adobe Falls Road, Mill Peak Road, Capri Drive, Arno Drive, and Genoa Drive, to determine existing roadway average daily trips ("ADT"). At such time as the ADT generated by the Adobe Falls Faculty/Staff Housing Upper and Lower Villages reaches 80% of the total ADT forecast in this EIR, SDSU shall institute regular shuttle service to the community to ensure project-generated ADT do not exceed the levels forecast in this EIR.

**AATCP-21<sup>15</sup>** Construction-Related Impacts. Prior to the commencement of construction activities associated with the proposed project, SDSU shall work with the City of San Diego to prepare a Traffic Control Plan ("TCP") to minimize the impacts to the surrounding roadways that may result during project construction activities. Special attention shall be paid to Alvarado Road and the potential effect of construction related traffic on Alvarado Hospital emergency access. The TCP shall require that a minimum of one lane of travel on Alvarado Road remain open at all times during project construction; that flagmen be utilized to assist in the direction of traffic when necessary; that area emergency response providers be given notice of road closures; and that construction activities, including road closures and the movement of heavy equipment, occur during off-peak periods to the maximum extent feasible.

**AATCP-22<sup>16</sup>** During project-specific review of the Adobe Falls Faculty/Staff Housing Lower Village, SDSU, or its designee, shall conduct a peak-hour intersection analysis of the project's impacts on the Adobe Falls Road/Waring Road intersection.

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<sup>14</sup> See 2007 Campus Master Plan FEIR, mitigation measure TCP-23

<sup>15</sup> See 2007 Campus Master Plan FEIR, mitigation measure TCP-25

<sup>16</sup> See 2007 Campus Master Plan FEIR, mitigation measure TCP-26

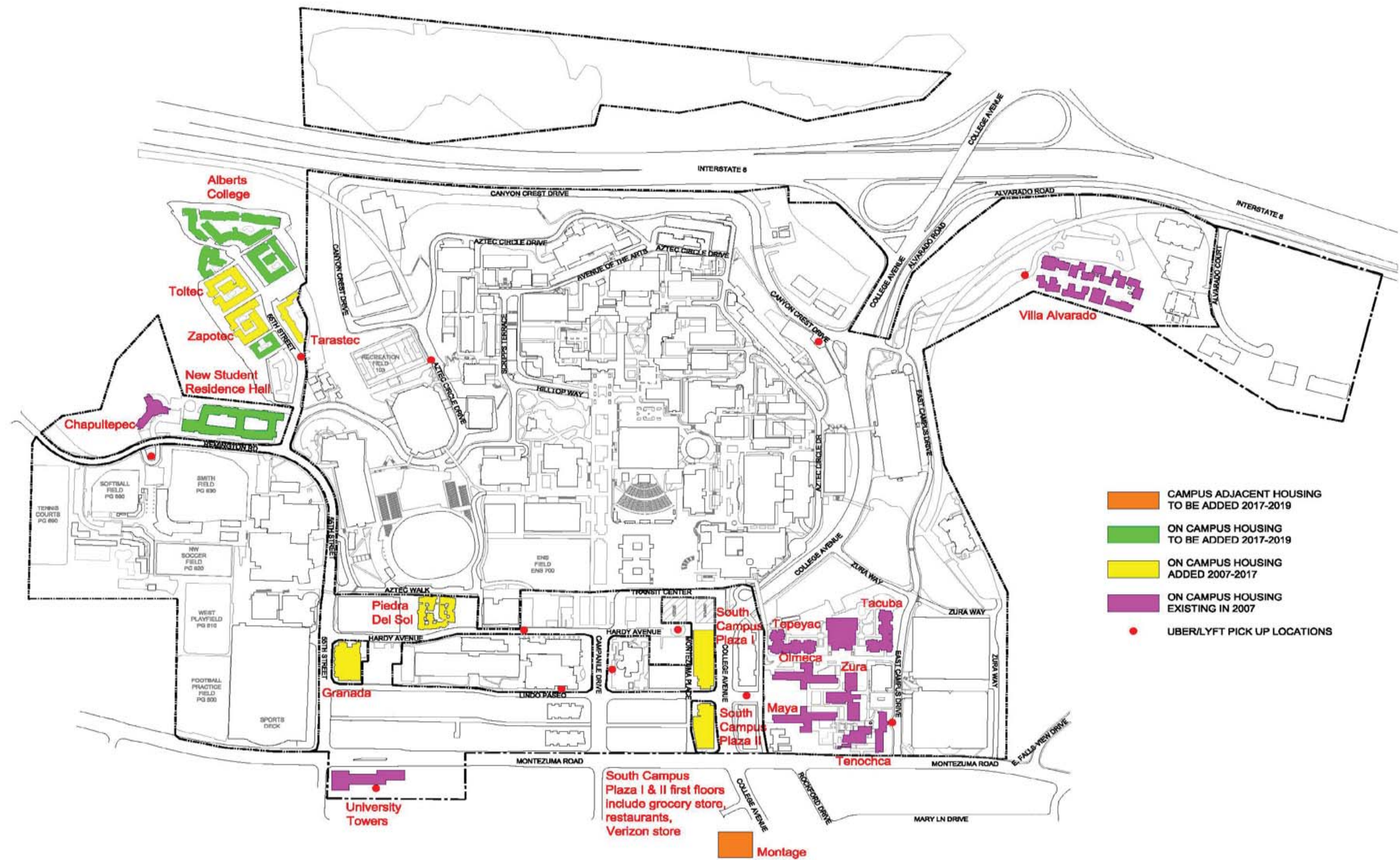


Figure AA3.14-13 (Page 1 of 2)

Campus Housing Capacity

Name	Beds	Location	Type
Campus Adjacent Housing to be Added 2017-2019			
Montage	300	Campus Adjacent	New Construction, leased from private party and managed by SDSU Housing
Total	300		
On Campus Housing to be Added 2017-2019			
New Student Residence Hall	800	On Campus	New Construction
Alberts College	530	On Campus	Lease Additional Apartments
Total	1330		
On Campus Housing Added 2007-2017			
Piedra Del Sol	258	On Campus	Leased for SDSU housing
Granada	272	On Campus	Acquired and converted to SDSU housing
Toltec	62	On Campus	Leased for SDSU housing
Zpaotec	62	On Campus	Leased for SDSU housing
Tarastec	82	On Campus	Leased for SDSU housing
South Campus Plaza	632	On Campus	Constructed by SDSU as Residence Hall
	1368		
On Campus Housing Existing in 2007			
Chapultepec	604	On Campus	Constructed by SDSU as Residence Hall
Maya	204	On Campus	Constructed by SDSU as Residence Hall
Olmecca	204	On Campus	Constructed by SDSU as Residence Hall
Tacuba	379	On Campus	Constructed by SDSU as Residence Hall
University Towers	542	On Campus	Acquired and converted to SDSU housing
Tenochca	382	On Campus	Constructed by SDSU as Residence Hall
Tepayac	379	On Campus	Constructed by SDSU as Residence Hall
Villa Alvarado	332	On Campus	Constructed by SDSU as Residence Hall
Zura	612	On Campus	Constructed by SDSU as Residence Hall
Total	3638		
Additional Potential Capacity			
South Campus Plaza	110	On Campus	Add density by adding more occupants per room
Alberts College	130	On Campus	Add density by adding more occupants per room
Triple Zura	110	On Campus	Add density by adding more occupants per room
Triple Tenochca	194	On Campus	Add density by adding more occupants per room
Triple Maya	102	On Campus	Add density by adding more occupants per room
Triple Olmecca	102	On Campus	Add density by adding more occupants per room
Triple Chapultepec	202	On Campus	Add density by adding more occupants per room
Total	950		

Figure AA3.14-13 (Page 2 of 2)



### *Post Mitigation Operations*

**Tables AA3.14-31** and **AA3.14-32** report the results of the intersection and street segment mitigation analysis for the Horizon Year (Year 2035) + Project conditions. As shown in the tables, if implemented, the recommended improvements would reduce the project's impacts to intersections and street segments to less than significant. However, as previously explained, implementation of certain improvements is not feasible and, therefore, impacts at these locations are considered significant and unavoidable. Additionally, mitigation to provide additional capacity to the I-8 mainline and related ramps also is infeasible and, therefore, impacts to Caltrans facilities are considered significant and unavoidable. LLG TIA Appendix P and Appendix S contain the post mitigation analysis worksheets.

A review of potential impacts to pedestrian & bicycle movement that could result from implementation of the mitigation measures was conducted by LLG. Based on that review, none of the mitigation measures identified here would result in the removal of existing bike lanes or sidewalks, nor would they result in a decrease in width of these facilities. In the one instance where a potential conflict would arise (re-striping the southbound approach to the Montezuma Road / 55<sup>th</sup> Street intersection to provide two southbound right turn movements [AATCP-9]), since there is no pedestrian crossing allowed on the west leg of the intersection, the right turn improvements would not present a pedestrian or bicycle conflict. Therefore, implementation of the recommended mitigation would not significantly impact existing pedestrian and bicycle facilities.

Additionally, several of the recommended improvements would improve bicycle/pedestrian safety. For example, the installation of a bike lane along Canyon Crest Drive would improve the safety conditions for bicyclists along Canyon Crest. In addition, the installation of a new traffic signal at College Avenue and Zura Way would allow for a controlled crossing of College Avenue where one does not presently exist. This would be a positive safety improvement for both bicyclists and pedestrians.

LLG also conducted a review of the potential conflicts between the recommended bicycle improvements and transit circulation. No conflicts were identified as no travel lanes utilized by transit would be removed in order to provide the recommended improvements.

**TABLE AA3.14-31**  
**HORIZON YEAR (YEAR 2035) INTERSECTION MITIGATION ANALYSIS**

Intersection	Control Type	Peak Hour	Horizon Year (Year 2035) without Project		Horizon Year (Year 2035) with Project			With Mitigation		Mitigation (fair-share)
			Delay	LOS	Delay	LOS	$\Delta^f$	Delay	LOS	
1. Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	Signal	PM	241.7	F	243.8	F	2.1	178.6	F	Widen to provide an additional (second) eastbound exclusive right-turn lane on Camino Del Rio N. to southbound Fairmount Avenue (infeasible).
4. 55th Street / Montezuma Road	Signal	AM	59.0	E	66.0	E	7.0	56.7	E	Restripe the southbound approach on the 55th Street/Montezuma Road intersection to provide: one (1) dedicated southbound right-turn lane; one (1) shared southbound right/thru/left-turn lane; and one (1) dedicated southbound left-turn lane (feasible).
		PM	107.8	F	110.7	F	2.9	103.2	F	
5. Campanile Dr / Montezuma Rd	Signal	AM	93.4	F	105.9	F	12.5	47.4	D	Restripe to provide an exclusive westbound right-turn lane on Montezuma Road to northbound Campanile Drive (feasible).
8. College Ave / I-8 EB Ramps	Signal	AM	45.3	D	55.1	E	9.8	54.3	D	Provide an additional (third) northbound lane between I-8 EB off-ramp and Canyon Crest Drive (feasible).
		PM	140.0	F	182.4	F	42.4	44.3	D	
9. College Ave / Canyon Crest Dr	Signal	AM	81.6	F	91.4	F	9.8	76.5	E	Provide an additional (third) northbound through lane (feasible).
		PM	103.7	F	194.3	F	90.6	92.4	F	
10. College Ave / Zura Way	MSSC <sup>c</sup>	PM	393.8	F	528.3	F	134.5	38.3	D	Provide a traffic signal (feasible).



**TABLE AA3.14-31**  
**HORIZON YEAR (YEAR 2035) INTERSECTION MITIGATION ANALYSIS**

Intersection	Control Type	Peak Hour	Horizon Year (Year 2035) without Project		Horizon Year (Year 2035) with Project			With Mitigation		Mitigation (fair-share)
			Delay	LOS	Delay	LOS	$\Delta^f$	Delay	LOS	
11. College Ave / Montezuma Rd	Signal	AM	107.3	F	121.9	F	<b>14.6</b>	80.3	F	Restripe to provide an additional (second) exclusive eastbound left-turn lane on Montezuma Road to northbound College Avenue; and an overlap phase on the eastbound right-turn to southbound College Avenue (feasible).
		PM	135.6	F	155.0	F	<b>19.4</b>	106.1	F	
12. Alvarado Ct / Alvarado Rd	MSSC <sup>d</sup>	PM	18.3	C	72.2	F	<b>53.9</b>	9.6	A	Install a traffic signal and provide a dedicated left-turn lane on the westbound approach (infeasible).
15. 70 <sup>th</sup> St / Alvarado Rd	Signal	PM	94.9	F	98.2	F	<b>3.3</b>	86.8	F	Provide an overlap phase on northbound 70 <sup>th</sup> Street to eastbound Alvarado Road (feasible).
16. I-8 WB Ramps / Parkway Dr.	AWSC <sup>e</sup>	AM	65.6	F	94.7	F	<b>29.1</b>	18.9	B	Provide a traffic signal (feasible).
		PM	128.6	F	147.6	F	<b>19.0</b>	22.6	C	
17. Montezuma Road / Collwood Road	Signal	PM	<b>55.0</b>	<b>E</b>	<b>59.6</b>	<b>E</b>	<b>4.6</b>	53.8	D	Modify the traffic signal to provide a right-turn overlap phase on the northbound approach (feasible)

**Footnotes:**

- Average delay expressed in seconds per vehicle.
- Level of Service.
- MSSC – Minor Street Stop Controlled intersection. The highest (worst) of the minor street right-turn delay (westbound right-turn) or major street (northbound left-turn) is reported. Left turn lanes from Zura Way to College Avenue are not allowed.
- MSSC – Minor Street Stop Controlled intersection. Minor street approach delay is reported.
- AWSC – All-Way Stop Controlled intersection.
- $\Delta$  denotes project induced delay increase.

**General Notes:**

- Bold and shading represents a potential significant impact

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F



**TABLE AA3.14-32**  
**HORIZON YEAR (YEAR 2035) SEGMENT MITIGATION ANALYSIS**

Segment	LOS E Capacity <sup>a</sup>	Horizon Year (Year 2035) without Project			Horizon Year (Year 2035) with Project				Mitigated LOS E Capacity <sup>a</sup>	With Mitigation			Mitigation (fair-share)
		Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	V/C $\Delta$		Volume	LOS	V/C	
<b>Alvarado Road</b>  E. Campus Dr to Reservoir Dr	8,000	11,340	F	1.418	14,900	F	1.863	<b>0.445</b>	15,000 <sup>d</sup>	14,900	E	0.993	Widen/restripe to include a two-way left-turn lane or left-turn pockets (infeasible/feasible).
Reservoir Dr to 70th St	8,000	14,830	F	1.854	16,900	F	2.113	<b>0.259</b>	15,000 <sup>d</sup>	16,900	F	1.127	Restripe Alvarado Road to include a two-way left-turn lane or left-turn pockets (infeasible/feasible).
<b>College Avenue</b>  Del Cerro Blvd to I-8 WB off- ramp	40,000	35,930	E	0.898	38,100	E	0.953	<b>0.055</b>	45,000	38,100	D	0.847	Restripe and provide an additional (third) northbound through lane (infeasible).
I-8 EB Ramps to Zura Way	40,000	61,100	F	1.528	67,670	F	1.692	<b>0.164</b>	45,000	67,670	F	1.504	Provide an additional (third) northbound through lane (feasible).
Zura Way to Montezuma Rd	40,000	35,180	E	0.880	38,020	E	0.951	<b>0.071</b>	45,000	38,020	D	0.845	Widen to provide an additional lane (infeasible).
Montezuma Rd to Cresita Drive	30,000	32,130	F	1.071	33,840	F	1.128	<b>0.057</b>	45,000	33,840	C	0.752	Widen to provide a raised median (infeasible).

**TABLE AA3.14-32**  
**HORIZON YEAR (YEAR 2035) SEGMENT MITIGATION ANALYSIS**

Segment	LOS E Capacity <sup>a</sup>	Horizon Year (Year 2035) without Project			Horizon Year (Year 2035) with Project				Mitigated LOS E Capacity <sup>a</sup>	With Mitigation			Mitigation (fair-share)
		Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	Volume	LOS <sup>b</sup>	V/C <sup>c</sup>	V/C Δ		Volume	LOS	V/C	
<b>Montezuma Road</b> Fairmount Ave to Collwood Blvd	40,000	66,740	F	1.669	68,020	F	1.701	<b>0.032</b>	45,000	<b>68,020</b>	<b>F</b>	<b>1.512</b>	Widen to provide an additional lane (infeasible).
Collwood Blvd to 55th St	40,000	41,810	F	1.045	43,090	F	1.077	<b>0.032</b>	45,000	<b>43,090</b>	<b>E</b>	<b>0.958</b>	Widen to provide an additional lane (infeasible).
55th St to College Ave	30,000	38,210	F	1.274	39,790	F	1.326	<b>0.052</b>	40,000	39,790	E	0.995	Provide a raised median (infeasible).

**Footnotes:**

- a. Capacities based on City of San Diego's Roadway Classification & LOS table.
- b. Average Daily Traffic
- c. Volume to Capacity ratio

**General Notes:**

1. Bold and shading represents a potential significant impact

### *Mitigation Measure Fair-Share Contributions*

**Table AA3.14-33** shows the fair share percentages for each of the recommended cumulative mitigation measures. These percentages were calculated according to the following formula, which is commonly used by the City of San Diego. See LLG TIA Appendix R for the calculations conducted for each improvement.

Intersections: Horizon Year (Year 2035) Impact Fair Share (using entering intersection volumes and highest of AM or PM peak hour fair share percentages) =

$$(\text{Horizon Year (Year 2035) Project Traffic Volumes}) / (\text{Horizon Year (Year 2035) With Project} - \text{Existing Traffic Volumes})$$

Segments: Horizon Year (Year 2035) Impact Fair Share =

$$(\text{Horizon Year (Year 2035) Project Traffic Volumes}) / (\text{Horizon Year (Year 2035) With Project} - \text{Existing Traffic Volumes})$$

**TABLE AA3.14-33**  
**HORIZON YEAR (YEAR 2035) FAIR SHARE CONTRIBUTION**

<b>Mitigation Measure Number</b>	<b>Impacted Locations</b>	<b>Fair Share Percentage</b>
–	Fairmount Avenue / I-8 WB Off Ramp / Camino Del Rio N.	0.9%
AATCP-9	55 <sup>th</sup> Street / Montezuma Road	10.9%
AATCP-10	Campanile Drive / Montezuma Road	12.1%
–	College Avenue / I-8 EB Ramps	*
–	College Avenue / Canyon Crest Drive	*
–	College Avenue / Zura Way	*
–	College Avenue / Montezuma Road	*
–	Alvarado Court / Alvarado Road	59.8%
AATCP-11	70 <sup>th</sup> Street / Alvarado Road	10.2%
–	I-8 WB Ramps / Parkway Drive	*
AATCP-12	Montezuma Road / Collwood Boulevard	9.7%
–	Alvarado Road: E. Campus Drive to Reservoir Drive	*
–	Alvarado Road: Reservoir Drive to 70 <sup>th</sup> Street	*
–	College Avenue: Del Cerro Boulevard to I-8 WB off-ramp	32.1%
–	College Avenue: I-8 EB Ramps to Zura Way	*

**TABLE AA3.14-33**  
**HORIZON YEAR (YEAR 2035) FAIR SHARE CONTRIBUTION**

<b>Mitigation Measure Number</b>	<b>Impacted Locations</b>	<b>Fair Share Percentage</b>
–	College Avenue: Zura Way to Montezuma Road	34.5%
–	College Avenue: Montezuma Road to Cresita Drive	*
–	Montezuma Road: Fairmount Avenue to Collwood Boulevard	8.2%
–	Montezuma Road: Collwood Boulevard to 55 <sup>th</sup> Street	9.1%
–	Montezuma Road: 55 <sup>th</sup> Street to College Avenue	21.9%
AATCP-13	Northbound College Avenue to westbound I-8	15.7%
AATCP-14	Southbound College Avenue to westbound I-8	6.1%
AATCP-15	I-8: Fairmount Avenue to Waring Road (EB)	5.4%
AATCP-16	I-8: Waring Road to College Avenue (EB)	6.2%
AATCP-17	I-8: College Avenue to Lake Murray Boulevard (EB)	4.1%
AATCP-17	I-8: College Avenue to Lake Murray Boulevard (WB)	3.7%
AATCP-18	I-8: Lake Murray Boulevard to Fletcher Parkway (EB)	10.4%
AATCP-18	I-8: Lake Murray Boulevard to Fletcher Parkway (WB)	9.4%

*General Notes:*

\* indicates Near-Term (Year 2022) direct impact location.

### **MITIGATION TRIGGER ANALYSIS**

The following analysis was conducted to determine the estimated number of FTE students that could be added prior to triggering a significant impact at an intersection, street segment, ramp meter, or I-8 mainline under the Near-Term and Horizon Year scenarios.

#### **Trigger Analysis Methodology**

The Project consists of the following components that would generate vehicle trips: non-resident students, resident students, the Adobe Falls Faculty/Staff housing, and the Alvarado Hotel. Each of these uses has a different trip rate metric, such as student headcount increase, dwelling units for faculty/staff housing, and rooms for the hotel. For the purposes of this analysis, all of these differing metrics were converted to a common improvement trigger metric in FTE students. In addition, for purposes of this analysis only, in order to present the most conservative scenario (i.e., the most accelerated scenario), it was assumed that both the Adobe Falls Faculty/Staff housing and the

Alvarado Hotel would be built in the initial stages of Master Plan development. This would be conservative as buildout of the Alvarado Hotel and Adobe Falls Faculty/Staff Housing would reduce the reserve/available roadway capacity and thereby trigger significant impacts and the corresponding mitigation measures earlier than under the forecasted FTE increase scenario.

*Intersections* – The number of FTE students that could be added before a significant impact to an intersection would occur was determined as follows:

Based on the City of San Diego's significance criteria, the project would have a significant impact when the Project adds more than 2.0 seconds of delay at LOS E operating intersections or 1.0 second for LOS F intersections. Based on the Project's trip generation and trip distribution, the increase in FTE students and the associated traffic that would add exactly 2.0 seconds of delay at LOS E operating intersections or exactly 1.0 second for LOS F operations was determined for each significantly impacted location/facility.

*Street Segments* – The number of FTE students that could be added before a significant impact to a street segment would occur was determined as follows:

Based on the City of San Diego's significance criteria, the Project would have a significant impact when the Project adds more than 2% of the total traffic for LOS E operating segments or 1% of the total traffic for LOS F segments. Based on the project's trip generation and trip distribution, the increase in FTE students and the associated traffic that would add exactly 2% of the total traffic for LOS E segments or exactly 1% of the total traffic for LOS F segments was determined for each significantly impacted location/facility.

**Table AA3.14-34** shows the mitigation triggers analyses for the Near-Term and Horizon Year scenarios.

**TABLE AA3.14-34  
MITIGATION TRIGGER ANALYSIS**

<b>Mitigation Measure Number</b>	<b>Impacted Locations</b>	<b>Alvarado Hotel FTE<sup>a</sup></b>	<b>Adobe Falls Faculty/ Staff Housing FTE<sup>b</sup></b>	<b>Student FTE<sup>c</sup></b>	<b>FTE Trigger Increase<sup>d</sup></b>
<i>Near-Term (Year 2022)</i>					
AATCP-1	College Avenue / I-8 EB Ramps	576	80	–	656
AATCP-2	College Avenue / Canyon Crest Drive	576	120	–	696
AATCP-3	College Avenue / Zura Way	53	–	–	53
AATCP-4	College Avenue / Montezuma Road	576	661	120	1,357
AATCP-5	I-8 WB Ramps / Parkway Drive	240	–	–	240
AATCP-6	Alvarado Rd.: E. Campus Dr. to Reservoir Dr.	355	--	--	355
AATCP-7	Alvarado Rd.: Reservoir Dr. to 70 <sup>th</sup> Street	576	334	--	910
AATCP-8	College Avenue: I-8 EB Ramps to Zura Way	307	–	–	307
<i>Horizon Year (Year 2035)</i>					
AATCP-9	55 <sup>th</sup> Street / Montezuma Road	576	661	2,970	4,207
AATCP-10	Campanile Drive / Montezuma Road	576	661	2,878	4,115
–	College Avenue / I-8 EB Ramps	<i>See AATCP-1</i>			
–	College Avenue / Canyon Crest Drive	<i>See AATCP-2</i>			
–	College Avenue / Zura Way	<i>See AATCP-3</i>			
–	College Avenue / Montezuma Road	<i>See AATCP-4</i>			
AATCP-11	70 <sup>th</sup> Street / Alvarado Road	576	661	3,567	4,804
–	I-8 WB Ramps / Parkway Drive	<i>See AATCP-5</i>			
AATCP-12	Montezuma Road / Collwood Boulevard	576	661	4,594	5,831
–	College Avenue: I-8 EB Ramps to Zura Way	<i>See AATCP-8</i>			

**TABLE AA3.14-34  
MITIGATION TRIGGER ANALYSIS**

Mitigation Measure Number	Impacted Locations	Alvarado Hotel FTE <sup>a</sup>	Adobe Falls Faculty/ Staff Housing FTE <sup>b</sup>	Student FTE <sup>c</sup>	FTE Trigger Increase <sup>d</sup>
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**Footnotes:**

- a. 120 room of Hotel is calculated to generate 1,200 ADT's (per Table AA3.14-9A ). Based on Horizon Year (Year 2035) student headcount (11,385 students) to student trips (20,830 ADT) relationship and 1.1385 FTE conversion factor (see *footnote c*), the total FTE's for Alvarado Hotel was calculated as 576 FTE's  $[(11,385/20,830) \times (1,200/1.1385)]$ .
- b. 172 DU of Adobe Falls is calculated to generate 1,376 ADT's (per Table AA3.14-9A ). Based on Horizon Year (Year 2035) student headcount (11,385 students) to student trips (20,830 ADT) relationship and 1.1385 FTE conversion factor (see *footnote c*), the total FTE's for Adobe Falls housing was calculated as 661 FTE's  $[(11,385/20,830) \times (1,376/1.1385)]$ .
- c. 11,385 student headcount = 10,000 FTE's. Therefore, 1 student headcount = 1.1385 FTE.
- d. FTE Trigger Increase = Alvarado Hotel FTE + Adobe Falls FTE + Student FTE

**General Notes:**

1. FTE – Full Time Enrollments.
2. Significant and unmitigated impacted locations not shown in this table.

## AA3.14.10 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project implementation would result in significant impacts to off-campus intersections, street segments, freeway ramp meters, and freeway mainline segments within the study area. Where feasible mitigation is available, such mitigation is identified and its implementation would reduce the corresponding impacts to less than significant. However, in numerous instances, mitigation is not feasible due to various reasons, including physical constraints and/or the absence of a funding plan or program to implement the necessary improvements. Therefore, impacts related to these off-campus roadway facilities would be significant and unavoidable. Impacts relating to transit would be less than significant.