4.15 Transportation

This section describes the project site and vicinity's existing transportation conditions, identifies associated regulatory requirements, evaluates potential impacts related to implementation of the proposed project, and identifies recommended mitigation measures where feasible to reduce the identified significant impacts to less than significant. The analysis presented here is based on the SDSU Mission Valley Campus Project Transportation Impact Analysis, July 2019 (TIA) prepared by Fehr & Peers. A copy of the TIA is included in Appendix 4.15-1 of this environmental impact report (EIR).

4.15.1 Introduction and Summary of Impacts

The project area includes a total of 1732 acres bound by Friars Road to the north, Interstate 8 (I-8) to the south, Stadium Way (Street A) to the west, and Interstate 15 (I-15) to the east. The proposed site will transition to a 15,000-student university campus. Initially, the site will be developed with a mix of uses to facilitate building construction and funding of campus facilities. To that end, this analysis focuses on the potential transportation-related impacts resulting from implementation of the following initial land uses proposed for the site, which would generate greater traffic and impacts than the ultimate campus uses:

- Approximately 836 acres of parks, recreation and open space, which includes approximately 4 miles of pathways and trails for walking and biking
- 4,600 residential units
- 1.466 million square feet of campus office and lab space
- 100,000 square feet of medical office space
- 95,000 square feet of retail/restaurant space (including a 12,000-square-foot grocery store)
- a Stadium with a capacity of 35,000
- 400 hotel rooms
- 13,192 total parking spaces in structured, underground and surface parking areas

The site of the proposed project currently includes the San Diego County Credit Union (SDCCU) Stadium, with an existing capacity of 70,561, which will be demolished and replaced by the new development. Vehicle access to the site will be provided via existing connections at Stadium Way (Street A) and Friars Road, Mission Village Drive and Friars Road, San Diego Mission Road, and Rancho Mission Road. A new roadway connection to the southern terminus of Fenton Parkway is also proposed from the southwest corner of the site.

In accordance with California State University (CSU) Transportation Impact Study Manual (TISM) and the City of San Diego Traffic Impact Study Manual, vehicle trip generation rates from the San Diego Land Development Code were used to estimate the number of vehicle trips associated with the SDSU Mission Valley Campus project. Appropriate reductions to trip totals were made to account for pass-by trips, trip internalization, and non-automobile modes of transportation. To further reduce the number of vehicle trips, the proposed project would also implement a comprehensive transportation demand management (TDM) program for all uses within the site. The TDM program would include elements such as a transportation coordinator; bicycle racks and secure bicycle parking for all residents, visitors and employees; showers and lockers for employees; kiosks, website and coordination with the SANDAG iCommute program; guaranteed rides home; unbundled residential parking, metered and time-limited on-street parking; etc. The TDM program would reduce projected traffic volumes and project-generated vehicle miles

of travel (VMT) by an estimated 14.4%. After accounting for the appropriate reductions, the proposed project is expected to generate approximately 45,174 net new daily weekday trips, 3,716 net new AM peak hour trips, and 4,628 net new PM peak hour trips under conditions without a Stadium event. On any given Saturday, with a Stadium event taking place, the proposed project is expected to generate nearly 26% fewer trips than on a weekday. As such, the weekday peak hours are the time periods during which the proposed project would generate the most traffic on the adjacent study area roadways and, accordingly, the weekday peak hours are the focus of this impact analysis. Under a scenario in which a Stadium event occurs on a weekday, the proposed project would generate an additional 19,099 net new daily weekday trips and 2,178 new PM peak hour trips. A stadium event is expected to add only a negligible number of AM peak hour trips given a typical event starting time of 7PM or later.

The analysis presented here addressed the potential project-related impacts under typical weekday AM and PM peak hour traffic conditions under Existing 2018 Conditions and under Horizon Year (2037) Conditions, when the proposed project is scheduled to be fully built out and operational. The analysis evaluated weekday operations with and without the project, including with and without a Stadium event, at 40 existing intersections, three (3) new on-site intersections, 34 roadway segments, 23 bi-directional freeway segments, four (4) freeway on-ramp meters, and eight (8) freeway off-ramps for these two study scenarios.

Implementation of the proposed project under these scenarios is expected to result in the following significant transportation impacts under Horizon Year (2037) Plus Project Conditions:

- Horizon Year Plus Project Without Stadium Event – 13 intersections, 12 freeway segments, and four on-ramps.
- Horizon Year Plus Project With Stadium Event – 17 intersections, 17 freeway segments, and four on-ramps.

With City authorization and the necessary funding mechanisms in place, implementation of the proposed mitigation measures to enhance capacity and optimize operations would mitigate the project's identified significant traffic impacts with the exception of six intersections, 12 individual freeway segments, and four (4) metered on-ramps, which will remain significantly impacted under the Horizon Year Plus Project Without Stadium Event scenario as there are no feasible mitigation measures to eliminate the identified impacts. When a Stadium event occurs, an additional six intersections, five freeway segments, and the same four metered on-ramps would be significantly impacted. Although Stadium event traffic will be mitigated to a certain extent with a series of transportation and parking management strategies similar to, but improving upon, such strategies presently in place for Stadium events, there is no further feasible mitigation and, as such, these additional impacts will remain significant and unavoidable.

In addition to the above analyses, which were conducted under a future baseline scenario that did *not* include the future planned Fenton Parkway Bridge as part of the underlying roadway network, ~~. The Fenton Parkway Bridge is identified in the Mission Valley Community Plan; however, full funding for the bridge has not been identified, nor has the necessary environmental review been conducted, nor a construction schedule identified. A~~additional analyses were conducted for information purposes that included both a 2-lane and 4-lane bridge as part of the future baseline scenario. Specifically, at the request of the City of San Diego, an analysis of the proposed project's impacts relative to intersections, road segments, and freeway facilities under a baseline scenario that included a 4-lane bridge was conducted. That analysis determined that the addition of the 4-lane bridge as compared to the no bridge scenario would result in a total of four new significantly impacted intersection locations and one new City threshold exceedance location, and also would eliminate two significantly impacted intersection locations based on both CSU and City thresholds. As to roadway segments, the addition of the 4-lane bridge as compared to the no bridge scenario would cause one new threshold exceedance and would eliminate two threshold exceedances based on City thresholds. As to freeway segments and off-ramp queuing, there would be no change in the number of significantly impacted

locations as compared to the no bridge scenario. Lastly, as to freeway ramp meters, the addition of the 4-lane bridge would result in the elimination of one significant impact.

In addition to the 4-lane bridge scenario, an analysis also was conducted that assumed a 2-lane Fenton Parkway Bridge was in place as part of the future baseline scenario. That analysis determined that the addition of the 2-lane bridge as compared to the no bridge scenario would result in a total of four new significantly impacted intersection locations and one new City threshold exceedance location, and also would eliminate one significantly impacted intersection location based on CSU thresholds, though this location would still exceed the City threshold. As to roadway segments, the addition of the 2-lane bridge as compared to the no bridge scenario would cause one new threshold exceedance based on City thresholds. As to freeway segments, ramp meters, and off-ramp queuing, there would be no change in the number of significantly impacted locations as compared to the no bridge scenario.

The conclusions reached by the 2-Lane and 4-Lane bridge analyses support the results of the primary analysis that the extension is not required to reduce significant project impacts, and the the project's impacts can be reasonably mitigated with physical and other improvements without the bridge in place. Nonetheless, as part of CSU/SDSU's agreement to purchase the Mission Valley site, CSU/SDSU will fund and construct a 2-Lane bridge as a separate City of San Diego project, subject to the necessary CEQA compliance having been completed by or through the City and all other necessary parties. Please see Responses to Comments, Response to City of San Diego Comment A4-6, for additional information relating to the bridge.

With respect to parking, the parking supplies for the proposed residential buildings and hotel rooms will be dedicated to those uses, while the parking for the campus office and supporting neighborhood retail uses will be shared and available for public use. The proposed parking supply would address weekday and weekend demand for the proposed residential, retail, and campus office uses, while also encouraging the use of non-automobile modes. The presence of a trolley station within an approximate 1,500-foot radius of nearly all of these uses, coupled with a robust bicycle and pedestrian network and a managed parking supply with time limits and parking fees, will help to minimize overall vehicle traffic and related parking demand.

For every Stadium event occurring on weekend days and weekdays, a comprehensive transportation and parking management plan (TPMP) will be implemented to expedite traffic flows, minimize delays, maximize parking and circulation efficiencies, and enhance safety. The TPMP includes manual traffic control, digital and static wayfinding, electronic communication to attendees and campus users, off-site parking, etc., and additional measures tailored to the anticipated event attendance as appropriate. The parking demand for the campus office uses will be very low on weekends and, as a result, the shared supply will be available for Stadium patrons on weekends, when most events with the highest attendance are expected to occur. Although when Stadium events occur on a weekday, the parking demand for campus office uses will substantially reduce the shared supply available for Stadium patrons, for those limited events with attendance levels exceeding 25,000 persons or more, off-site parking supplies near trolley stations will be provided to minimize the potential for Stadium patrons to park in adjacent neighborhoods. These off-site lots, plus communication with campus office users, will help to maximize the available parking supply (similar to what occurs for baseball games at Petco Park). However, even with TPMP measures in place, in combination with the project's Transportation Demand Management (TDM) Program, the parking supply will be inadequate for high attendance events and, on those limited occasions, traffic congestion will be exacerbated and the resulting impacts are expected to be significant and unavoidable.

As to pedestrian and bicycle facilities, the proposed project does not conflict with any planned pedestrian or bicycle facilities, and the substantial pedestrian and bicycle network across the project site will enhance multimodal connectivity and link neighborhoods that have previously had limited walk and bike access. For example, the

proposed connection to Fenton Parkway that would be built as part of the proposed project would provide an attractive bicycle and pedestrian connection between the shops and restaurants at Fenton Marketplace and neighborhoods east of I-15. In addition, the proposed site connections will provide an alternative for bicyclists to using Friars Road, which has high vehicle volumes and speeds adjacent to its bike lanes.

With respect to transit facilities, the existing Green Line Stadium trolley station, which is located within the project site, presently serves a relatively low number of passengers, such that the addition of as many as 4,000 daily weekday boardings and alightings (or fewer than 60 riders per train during each peak hour) can be readily absorbed by the existing system. Increased frequency and reduced headways (time between trolley arrivals) planned as part of the Regional Transportation Plan (RTP) will further expand capacity to accommodate this increase in ridership. While additional ridership would be substantially higher before and after a Stadium event, the maximum capacity of the proposed Stadium is roughly 50 percent less than that of the existing Stadium meaning Stadium attendance necessarily will be substantially lower than at existing Stadium events, and special train service is anticipated to be provided consistent with current SDCCU Stadium events. Accordingly, a higher percentage of Stadium attendees at a sold-out event could be accommodated by the trolley, and the total trolley demand would be lower than for a sold-out event at the existing Stadium. In addition, the proposed project includes a bus transfer center, adjacent to the on-site trolley station that will accommodate four stop/layover spaces for buses. These spaces will allow for additional transit options if MTS desires to provide bus service directly to and from the trolley station and project site in the future.

To reduce the number of vehicle trips that would be generated by the proposed project, the proposed project includes a comprehensive TDM program for all uses within the site. The proposed project TDM Program will include elements such as: bicycle racks and secure bicycle parking for all residents, visitors and employees; showers and lockers for employees; a TDM coordinator, website, and kiosks; coordination with the SANDAG iCommute program; guaranteed rides home; unbundled residential parking; and metered and time-limited on-street parking, etc. The TDM Program would reduce projected traffic volumes and project-generated vehicle miles of travel (VMT) by an estimated 14.4%, which would reduce congestion and significant impacts to the extent feasible.

For information purposes only, a project-level and cumulative VMT assessment consistent with recently revised CEQA Guidelines and the CSU TISM was performed for all three Fenton Parkway Bridge analysis scenarios. This evaluation showed that the proposed project would result in a less-than-significant project-level impact under all scenarios. From a cumulative impact perspective, the project's effect on overall VMT would be less than significant under all three scenarios because the forecasted future regional VMT per service population would decrease with buildout of the SDSU Mission Valley Campus Master Plan development.

4.15.1.1 Proposed Transportation Demand Management Program (PDF-TRA-1 and PDF-TRA-2)

The CSU system, including SDSU, has a focus on sustainability goals, including in the areas of transportation, energy, social responsibility, and water. For the new Mission Valley campus, SDSU intends to continue this practice of sustainable planning and operations. To minimize the number of project-generated vehicle trips on the surrounding roadway network, as previously noted, the SDSU Mission Valley Campus Project will include a comprehensive TDM Program. This program will serve to reduce vehicle traffic and related significant impacts to

the extent feasible to selected freeway, ramp, intersection and roadway segments by reducing congestion during the peak travel periods and, to a lesser degree, during off-peak times.

Two separate TDM programs are proposed as part of the project: one to address the campus office, residential and retail uses that will generate traffic on primarily a weekday basis, and a second program designed to reduce vehicle trips to the proposed Stadium, which will occur primarily on weekends though intermittently on weekdays as well during the year. Both the non-Stadium and Stadium TDM programs are project design features, identified as **PDF-TRA-1** and **PDF-TRA-2**, respectively. This section identifies the specific elements of each of the proposed programs and describes the effects on the project trip generation.

4.15.1.1.1 Non-Stadium TDM Program (PDF-TRA-1)

TDM strategies have been used for over 30 years to reduce single-occupant vehicle (SOV) trips. The SDSU Mission Valley Campus TDM Program will work to reduce the project's impacts on the surrounding roadway network through four (4) primary categories of strategies: land use diversity, neighborhood site enhancement, commute/travel services, and parking policies and pricing; each category contains multiple individual strategies specific to the proposed project. The basis of all TDM elements is to create an environment that promotes mode choices alternative to SOV trips.

The following is an overview of the Non-Stadium TDM Program strategies; a detailed description of the Program strategies, and their effectiveness at reducing VMT, are presented thereafter:

- **Non-Stadium TDM 1 – Land Use Diversity**
- **Non-Stadium TDM 2 – Neighborhood Site Enhancements**
  - New bicycle facilities
  - Dedicated land for bicycle/multi-use trails
  - Bicycle parking
  - Showers and lockers in employment areas
  - Increased intersection density
  - Traffic calming
  - Car share service accommodations
  - Enhanced pedestrian network
- **Non-Stadium TDM 3 – Parking Policy and Pricing**
  - Unbundled residential parking
  - Metered on-street parking
  - Reduced parking supply
- **Non-Stadium TDM 4 – Commute Trip Reduction Services**
  - TDM Program Coordinator and marketing
  - Electric bike-share accommodations
  - Ridesharing support
  - School pool (K-12)
  - Hotel shuttle services
  - Transit Pass strategies

Non-Stadium TDM Program Elements

Each of the four main program elements, and their individual strategies, are further described as follows:

Non-Stadium TDM 1 – Land Use Diversity

Land use diversity strategies include mixed land uses and proximity of such uses to home that encourages residents/employees to walk, bike, or take transit within the project area:

- The proposed project would provide a mix of land uses, including residential, commercial, educational, and parks, so that residents of the proposed project have access to basic shopping, employment, and recreation opportunities without having to travel outside of the project site. This proximity would lower vehicle miles traveled because residents can use non-automobile transportation modes to reach the various uses available within the site, and if they do need to drive, the trip is very short. The VMT and trip reduction benefits of this strategy (i.e., trip internalization) is accounted for in the trip generation estimate for the proposed project (see Section 4.15.7.1).

Non-Stadium TDM 2 – Neighborhood Site Enhancements

Neighborhood site enhancement strategies support the ability of project residents, employees, customers and visitors to be able to walk, bike/scooter, or access transit within the project area without having to drive, and support the ability of residents (and potentially some employees) to not own a car:

- New bicycle facilities – The proposed project includes a network of bicycle lanes on key north-south streets, and connections to existing off-site facilities (e.g., Murphy Canyon Trail) as part of the proposed campus site plan. A total of nearly one lane-mile of on-street bike lanes within the site is proposed.
- Dedicated land for bicycle/multi-use trails – The site plan also includes a network of multi-use trails through the River Park, dedicated lanes throughout the office plaza area, plus a campus loop multi-use path that encircles the site. Multi-use trails and paths comprise a total of nearly two miles within the site.
- Bicycle parking – Residential units will include secure bicycle parking per City of San Diego standards (up to 0.6 spaces per dwelling unit anticipated based on units containing up to three bedrooms) unless otherwise noted. Similarly, short-term (racks) and long-term spaces (rooms, enclosures or lockers) will also be provided for non-residential uses per City of San Diego standards (0.1 short-term spaces per one (1) thousand square feet (ksf) and 5% of non-residential automobile parking provided in long-term spaces) unless otherwise noted.
- Showers and lockers – Changing facilities will be provided in at least one of the following locations to support bicycling and walking as commute modes for employees: the campus office or retail building areas.
- Increased intersection density – The on-site roadway network includes a relatively high intersection density of more than 69 ~~spaces~~ intersections per square mile, which results in short block lengths and travel distances between complementary land uses. This intersection density strongly encourages walking, bicycling, or other micromobility modes to travel within the site and to adjacent neighborhoods.
- Traffic calming – Nearly all on-site intersections will include curb extensions and bulbouts, several on-site roadways will include raised crosswalks, and two roundabouts will help to manage travel speeds and enhance pedestrian safety.

- Car share service accommodations – Dedicated parking spaces for car sharing companies will be established in on-street spaces and/or within the campus and/or office parking structures.
- Enhanced pedestrian network – All streets within the project site either will include sidewalks on both sides of the street, or will include a multi-use path on one side of the street with enhanced pedestrian crossings. Separate pedestrian phases at signalized intersections to enhance safety and raise driver awareness will also be included. As noted above, the campus loop and other paths will provide in excess of two miles of pedestrian paths in addition to sidewalks.

Non-Stadium TDM 3 – Parking Policy/Pricing

Managing parking is a key element in discouraging use of SOVs as it provides flexibility for residents to choose a car-free lifestyle, especially those residing in transit priority areas with high quality transit and extensive active transportation options and connections. The proposed parking management strategies for the SDSU Mission Valley Campus include:

- Unbundled parking – Parking in all residential buildings will be "unbundled" from units such that residents will have to request a parking space separate from their apartment/condominium unit and pay for that parking space separately. This approach is consistent with the recently adopted City of San Diego ordinance that requires all multi-family residential parking in Parking Standards Transit Priority Areas (TPAs) (i.e., geographic areas defined in the ordinance) to be unbundled from units.
- Meter On-Street Parking – All on-street spaces within the campus core will be metered and require payment of an hourly charge during typical daytime hours (e.g., between 8am and 6pm). The parking spaces on the southwest and southeast edges of the site nearest the park/recreation facilities may also be metered, but at a minimum will include time limits to ensure parking turnover and prevent extended storage of resident vehicles.
- Limit parking supply – The proposed project will provide a maximum parking supply of 1.23 spaces per dwelling unit. This rate is lower in comparison to the parking provided at similar developments in the Mission Valley region.[1] The recently adopted City of San Diego ordinance regarding unbundled parking referenced above also allows for no parking to be provided for multi-family residential units in Parking Standards TPAs. In the event residential buildings are built with lower parking ratios that further reduce the overall parking supply, additional trip reductions and TDM benefits are expected.

Non-Stadium TDM 4 – Commute/Travel Services

Commute/Travel services strategies would provide residents with travel options other than private auto for trips to destinations inside and outside of the project area:

- TDM Program Coordinator and marketing - To ensure the TDM Program strategies are implemented and effective, a Campus TDM Program Coordinator will be identified to monitor the program. As part of overall campus management, a staff member or outside consultant will be designated to serve as the on-site Coordinator for employees and residents. Coordinators are responsible for developing, marketing, implementing, and evaluating TDM programs; dedicated personnel in this role make TDM programs more robust, consistent, and effective. Additionally, residents and employees would have a designated point of

[1] City of San Diego Parking Policy, TIA Appendix D (2018).

contact for questions about the various TDM strategies, which would allow them to easily stay informed of various TDM functions and eligibility.

The TDM Program Coordinator's duties would include, but not be limited to, the following:

- Conduct transportation/mobility options orientation for new employees and new residents
- Assist with rideshare matching for employees commuting to the proposed project and residents commuting from their homes
- Provide information on transit, bicycling, and walking to and from the project
- Act as a source of information regarding the TDM Program, including compliance with regulatory requirements and new potential TDM benefits
- Coordinate TDM Program monitoring (administer surveys and coordinate data collection)
- Promote available websites providing transportation options for residents, employees, customers and guests
- Create and distribute a "new resident" and "new employee" information packet addressing non-automobile modes of transportation
- Promote a transportation options app for use on mobile devices (tech enabled mobility app)
- Assist employees and residents in accessing existing or establishing future TDM strategies, such as transit discount or vanpool programs through existing programs such as MTS Ecopass or SANDAG's iCommute.

- Electric bike-share accommodations –The proposed project site plan will provide areas for the temporary storage of e-bikes available for rental, and also identify specific locations for bike drop off, which would facilitate the use of e-bikes within the project site. Private vendors currently supply electric bicycles (e-bikes) for short-term rental in the San Diego area.
- Ridesharing support – As noted under the TDM Program Coordinator element above, rideshare support will be provided as part of the TDM Program. This support includes making connections with the SANDAG iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's residents and employees.
- K-12 school pool – As K-12 school facilities are not provided on the site, students will either need to be bused or driven by parents to off-site schools. A K-12 school pool strategy, which would be administered by the TDM Program Coordinator, would pair students traveling to the same school or area to limit the amount of small group school trips made from the project site.
- Hotel Shuttle Service – Shuttle service will be provided to and from the hotel on site. This shuttle service will be available to hotel guests and will service the airport and various other tourist locations.
- Transit Pass Strategies – At the Mission Valley campus, CSU will maintain the existing transit pass program for students in place at the College Area campus (passes are discounted by the Metropolitan Transit System (MTS) and subsidized by CSU/SDSU), and enable purchases by credit card. In addition, CSU/SDSU will establish a pre-tax payroll deduction program for faculty and staff purchase of MTS transit passes, vanpooling, and pooled on-demand rideshare services (e.g., uberPOOL and Lyft Line), provided SDSU meets the state/CSU required minimum participation level. Relatedly, CSU/SDSU will provide reduced cost transit passes for faculty and staff, provided SDSU meets the MTS required minimum participation level. The cost reduction will be between 10% and 25%, depending on participation level. Additionally, employers with a minimum of 20 employees will be required to provide up to 5 percent of their employees with a 100 percent MTS transit pass subsidy.

Effectiveness of Non-Stadium TDM Program

Fehr & Peers worked with the California Air Pollution Control Office Association (CAPCOA) to develop the transportation section of the report Quantifying Greenhouse Gas Mitigation Measures (August 2010). Hereinafter, referred to as the CAPCOA Report, this report is now used as a set of guidelines for quantifying the environmental benefits of TDM related strategies. The CAPCOA guidelines were developed by conducting a comprehensive literature review of studies documenting the effects of TDM strategies on reducing VMT and consequently vehicle trips. The CAPCOA Report includes the most comprehensive set of calculations currently available for calculating TDM effectiveness.

To determine the amount of VMT and trip reduction that would be attributable to the SDSU Mission Valley Campus TDM Program, the proposed program elements were analyzed relative to the applicable CAPCOA standards. For those measures not addressed by the CAPCOA standards, Fehr & Peers utilized case studies to estimate vehicle trip and VMT reduction. The detailed calculations for each TDM strategy are described in TIA Appendix G and Appendix 4.15-2, TDM Monitoring Plan. For each strategy that is based on the CAPCOA Report, the related CAPCOA strategy code (for example, CAPCOA TRT-6 or SDT-3) is provided.

The summary of the non-Stadium vehicle trip reductions attributable to the TDM Program are included in Table 4.15-1. As shown on the table, the TDM Program would result in an approximate 14 percent reduction in vehicle trips.

Table 4.15-1. Proposed Non-Stadium Transportation Demand Management (TDM) Trip Reductions

CAPCOA Category	TDM Measure	Individual Reduction	Combined Reduction[2]
Neighborhood Site Enhancements	Improve Site Design including: New bicycle facilities Dedicated Land for Bicycle/Multi-use Trails Bicycle Parking Increased Intersection Density	11.08%	
	Traffic Calming	0.25%	
	Car Share	0.37%	
	Pedestrian Network	2.00%	
			5.00%
Parking Policy/ Pricing	Unbundle Parking	0.95%	
	Meter On-Street Parking	3.15%	
			4.07%
Commute Trip Reduction	TDM Marketing with Transportation Coordinator including: Shower and Locker Facilities	2.21%	
	Carpool Matching/Guaranteed Ride Home	2.80%	
	Bicycle Share	0.50%	
	School Pool (K-12)	0.70%	
	Hotel Shuttle Service	0.04%	
			6.09%

[2] To account for inherent duplication and redundancies that occur when individual TDM strategies are implemented in unison, appropriate adjustments to the calculations are necessary to account for this occurrence. Accordingly, the Combined Reduction is not calculated by simply summing the Individual Reductions. Similarly, the Combined Total Reduction is not calculated by summing the individual Combined Reductions. For additional information, please see TIA Appendix G.

Table 4.15-1. Proposed Non-Stadium Transportation Demand Management (TDM) Trip Reductions

CAPCOA Category	TDM Measure	Individual Reduction	Combined Reduction[2]
		Combined Total Reduction	14.41%*

Source: Quantifying Greenhouse Gas Emissions (August 2010, CAPCOA) and Appendix 4.15-1.

* The campus employer Transit Pass Program is estimated to result in an additional reduction of 0.29%, which is not accounted for in any of the operational analyses or the Combined Total Reduction, and thereby results in an actual Combined Total Reduction of 14.70%.

4.15.1.1.2 Stadium TDM Program (PDF-TRA-2)

Stadium TDM Program Elements

In light of the different trip generation characteristics associated with Stadium events, as compared to non-Stadium events, a separate TDM Program was designed for implementation during Stadium events. The TDM Program proposed for the Stadium (**PDF-TRA-2**) component of the proposed project consists of the following six (6) primary categories to reduce the number of vehicle trips, as well as air emissions, generated during events. As you will note, many of these categories and associated strategies are similar to those proposed for the other project land uses (i.e., non-Stadium event program), however the strategies discussed below are specifically directed towards the attendees and employees present during Stadium events. The six categories are listed immediately below; further detailed description of the individual strategies within each category follows thereafter.

- **Stadium TDM 1 – Encourage Alternative Modes of Transportation**
- **Stadium TDM 2 – Encourage Carpools and Zero-Emission Vehicles**
- **Stadium TDM 3 – Encourage Active Transportation**
- **Stadium TDM 4 – Encourage Off-Site Parking at College Area Campus**
- **Stadium TDM 5 – Provide Mobility and Parking Information Services**
- **Stadium TDM 6 – Online Parking Reservation System**

Stadium TDM 1 – Encourage Alternative Modes of Transportation (Light Rail and Vanpool)

The use of the trolley or bus/shuttle transit to and from Stadium events would be encouraged through the following suite of incentives:

- Discounted or free use of MTS transit services for attendees on the event date with proof of purchase of an event ticket
- Tchotchkes/giveaways for transit users (goods for attendees, free MTS tickets as raffle prizes for employees, etc.)
- Rewards/gaming opportunities for attendees and/or employees to compete for prizes or points based on their transportation choices
- Vanpool subsidy and administration via pre-tax commuter benefits for employees and administrative assistance with the coordination of third-party vanpool programs
- Marketing and outreach campaign for transit

Stadium TDM 2 – Encourage Carpools and Zero-Emission Vehicles (ZEVs)

The use of carpools and zero-emission vehicles by event attendees would be encouraged by implementing the following strategies:

- Provide preferential parking for carpools and ZEVs
- Provide variable parking price based on car occupancy (e.g., charge lower rates for vehicles with four or more occupants)
- Provide vehicle charging spaces in Stadium parking in excess of the typical requirement
- Charge reduced parking rates for ZEVs

Stadium TDM 3 – Encourage Active Transportation

Bicycling and walking would be encouraged by implementing the following strategies:

- Provide free access to secure bicycle parking spaces (these could be the same supply provided to campus office/retail/restaurant employees, ideally located in buildings immediately adjacent to the Stadium)
- Provide a bike valet to assist with bicycle drop-off and retrieval before and after events
- Provide showers and lockers for employees on the site (primarily for employees but available to attendees)
- Provide a bicycle fix-it station near the Stadium bicycle parking
- Coordinate bicycle and walk pools for employees
- Capitalize upon the multi-use trails and connections proposed on the site with clear wayfinding to the Stadium entrance and bicycle parking

Stadium TDM 4 – Encourage Off-Site Parking at College Area Campus

The highest parking demand on the project site will occur during high-attendance events (e.g., events with attendance exceeding 25,000), most of which events are expected to occur on a weekend day though some will occur on a weekday. Conditions will be exacerbated on a weekday, when some level of parking demand from non-Stadium uses will occupy spaces in the parking garage and reduce the available event supply. For larger weekday events and for high-attendance weekend events, parking at the main SDSU College Area campus would be encouraged through a marketing program, reduced rates for event attendees and employees (compared to Stadium garage parking rates), and possibly free MTS fare with proof of event ticket/parking payment or employee badge. This would allow all Stadium patrons to access the Stadium site via the trolley, thereby resulting in reduced parking and traffic demand near the site.

Stadium TDM 5 – Provide Mobility and Parking Information Services

Providing a number of information services at the site would help to educate event attendees about TDM activities and travel/parking options at the Stadium. These services would include:

- Multimodal signage and wayfinding to the trolley station, bicycle parking, and passenger drop-off and pick up areas
- Real-time travel/parking availability information, variable message signs (VMS) at key site entrances (e.g., Stadium Way (Street A) and Street D, and social media posts

- Welcome packets and on-going marketing for new employees
- External marketing campaign including advertisements on television, website, social media, radio, email blasts to season ticket holders, etc.
- Information kiosks or bulletin boards/TV monitors at multiple locations providing information about the TDM Program and transit options for Stadium employee
- Notification of MTS of game days

Stadium TDM 6 – Online Parking Reservation System

Providing an online parking reservation system will allow event attendees to choose and reserve parking spaces prior to the event. This system would allow attendees to make a decision on their preferred parking location – on-site or on the SDSU College Area campus as appropriate – and could provide varying parking costs for on-site and off-site parking locations. Attendees that choose to park at the SDSU College Area campus would be able to utilize transit to travel to and from the Stadium site. This would help to reduce trips at the site and encourage the use of transit.

Effectiveness of Stadium TDM Program

Unlike the Project Design Feature for non-Stadium uses (**PDF-TRA-1**) described in Section 4.15.1.2.1, very little information is available regarding the effectiveness of individual or combined Stadium TDM measures in reducing vehicle travel. While many event venues implement TDM strategies to reduce vehicle trips and parking demand, which reduces congestion and helps to improve the visitor experience and enhance project sustainability, neither operators of these facilities, jurisdictions, nor other third parties conduct surveys or collect data to reasonably quantify the actual reduction in vehicle trips. In addition, the effectiveness of TDM measures (individually or in combination) can vary depending on the site context, including the presence of parking in the surrounding area, transit quality and service frequency, congestion on adjacent freeways/surface streets, etc.

Based on the transportation engineers' professional experience and judgment, with implementation of a TDM program for Stadium events, the anticipated reduction in vehicle trips is estimated to be an additional 5% to 10% beyond the Stadium trip generation calculations used in this analysis. This estimate is based on engineering judgment and various site characteristics, including relatively limited public parking areas in close proximity to the site, the presence of a high-quality transit stop (i.e., the trolley) within a five-minute walk of the Stadium, and a limited on-site parking supply for sold-out events. Accordingly, in light of the limited information available and notwithstanding the likelihood of a 5-10% trip reduction, no trip reduction attributable to the Stadium TDM Program was applied to any of the "With Event" scenarios presented herein, and, as a result, the identified impacts likely are overstated.

4.15.1.2 Construction Traffic Management Plan (PDF-TRA-3)

As the proposed project builds out over time, there will be temporary construction related traffic on the study roadway network that may result in potential temporary impacts. To minimize these temporary impacts, CSU/SDSU, or their designee, will prepare a Construction Traffic Management Plan (CTMP) (**PDF-TRA-3**), in consultation with the City of San Diego and Caltrans and affected adjacent property owners as appropriate, prior to initiating any construction activities. The CTMP will specifically address project construction traffic and parking, and will address, among other subjects, truck haul routes, truck turning movements at the proposed project driveways, traffic control signage, accommodation of bicycle and pedestrian traffic, restriction of hauling activities to specific time periods, on-site circulation and staging areas, traffic control plans indicating temporary lane closures, and monitoring of traffic control to implement revisions, if necessary. The Plan also would require that CSU/SDSU, or its designee, obtain all necessary encroachment and transportation permits prior to construction.

Beyond site development and construction of the proposed Stadium, the timing of vertical construction of the residential, campus office/retail, and hotel buildings is not known at this time. Buildings may be constructed individually or in multiples and will involve varying levels of construction traffic. Accordingly, specific CTMPs will be developed for each specific phase of construction as site and building development progress, based on the proposed construction activities and then-current traffic conditions and transportation network.

4.15.1.3 Transportation and Parking Management Plan (PDF-TRA-4)

The proposed Stadium will be integrated with the other land uses within the overall project site as development progresses. As such, selected roadways such as Street D will be a "shared" facility where traffic generated by Stadium events will occur at the same time as residents and campus office users will travel to and from the site. Other roadways, such as Stadium Way (Street A) will primarily be used by Stadium patrons only. In addition, Stadium traffic will typically be concentrated during the one to two hours prior to an event, as well as during the hour immediately following an event. To ensure that traffic capacity is maximized during these periods and potential negative effects to non-Stadium uses within the campus and roadways adjacent to the site are minimized, the proposed project will include a transportation and parking management plan (TPMP) (**PDF-TRA-4**). The anticipated activity level at the Stadium is presented below followed by a description of the TPMP elements and their potential effectiveness relative to the "with Stadium event" analyses presented in this document.

Anticipated Stadium Activity Level

The existing SDCCU Stadium, which has a capacity of up to 70,561, hosts a variety of events over the course of the year with varying attendance levels. For very low attendance events such as a recycling event or regularly scheduled "swap meets", no special traffic management has been required or provided. With higher attendance events (such as SDSU football games and concerts with 20,000 to 40,000 or more attendees), more formalized traffic control has been implemented using personnel to manage traffic flow, as well as signage to inform drivers of appropriate travel paths. In 2018, the highest attendance events included a concert with nearly 41,000 attendees, and a special in-season college football game between Navy and Notre Dame with nearly 57,000 attendees. Overall, a total of 13 events in 2018 included average attendance levels of 20,000 or more attendees (referred to as high attendance events for purposes of this analysis).

The proposed Stadium will have a capacity of 35,000, which will result in lower maximum attendance levels as compared to the existing Stadium with its 70,000-plus capacity. According to SDSU representatives, a total of 21 annual high attendance events (i.e., events with average patronage estimates of 20,000 or more) are anticipated. If a professional soccer team is approved for San Diego and uses the proposed Stadium, then an additional 17 high attendance events could occur, for a total of potentially 38 high attendance events.

Proposed TPMP Elements

The purpose of the TPMP (**PDF-TRA-4**) is to identify strategies to provide safe, convenient, and efficient access for all modes of travel to and from the proposed Stadium. The identified strategies are intended to minimize conflicts between vehicles, pedestrians, bicycles, and transit before, during, and after events. As a Project Design Feature, the strategies herein will be in place by opening day of the Stadium.

The proposed TPMP will include numerous elements related to managing vehicle traffic into and out of the Stadium area, minimizing vehicle demand, accommodating bicycle and pedestrian modes, and enhancing safety for all users during events. General descriptions of each program element and likely application locations are as follows:

- Variable TPMP Levels – Preliminary plans for various attendance levels will be prepared and modified based on actual event experience. Plans will address various attendance levels, time of day, and day of week.
- Roles and Responsibilities – The TPMP will delineate the roles and responsibilities for various public agencies
- Traffic Control Personnel – Key intersections will be controlled by trained traffic control personnel to delineate right-of-way as needed to expedite the flow of vehicles. Control may involve overriding traffic signal operations temporarily and/or instructing drivers to disregard stop sign control. These activities will help to reduce congestion, minimizing driver frustration, and enhancing safety overall. Locations where traffic control is likely to be implemented are illustrated on TIA Figure 13 and are subject to change as conditions warrant.
- Dynamic Message Signs – Signs will be located on major approaches to the Stadium site to communicate with vehicle drivers in real time on issues related to congestion, parking availability, optimal travel paths, upcoming events, etc. Signs will be both permanent and temporary. Preliminary sign locations are illustrated on TIA Figure 13 and are subject to change as conditions warrant.
- Transportation and Parking Wayfinding – Signs and other visual cue treatments will be installed to direct patrons to Stadium parking, passenger loading areas, and the trolley station (currently named Qualcomm). Signs will include directions for standard parking, VIP lots, bus/shuttle parking, and designated passenger loading areas (for private vehicles and transportation network companies (TNCs) such as Uber and Lyft). Initially, the passenger loading area is expected to occupy one or both sides of Promenade 2, the street north of the Stadium and south of the proposed hotel, which will allow for access to the proposed hotel property on the north side of the street. The TPMP will also include identification of appropriate pedestrian paths to and from the trolley station, plus bicycle paths leading to on-site bike parking areas.
- Neighborhood Intrusion Prevention – For moderate to high attendance events (i.e., 50-75% of capacity and greater), and possibly for lower attendance events dependent upon actual conditions, measures will be implemented to minimize traffic and parking intrusion into the residential areas in the vicinity of the project site. Selected streets will be closed to through or non-resident traffic and proof of residency may be required depending on compliance with signage and traffic control personnel. Preliminary locations for street closures are shown in TIA Figure 13 and subject to change as conditions warrant.
- Designated Loading Zones and Activities – Given the need for event-generated truck trips to use the same roadways as event patrons, the TPMP will identify specific loading areas and times for freight delivery and pick up activities. Smaller-scale activities may use one or both of the streets located along the west and east sides of the Stadium as conditions warrant.
- Special Trolley Service – SDSU will coordinate with MTS to determine when special train service will be needed to meet demand for high attendance events.
- Communication and Public Information Strategies – Communication strategies included in the TPMP will encompass internal communication among the Stadium management team related to event operations, as well as external communication to disseminate information to event attendees and the general public. SDSU will maintain an on-site Transportation Management Center at the Stadium to monitor conditions in and around the facility related to transportation and parking and will coordinate with other agency representatives (such as the City of San Diego, MTS and Caltrans) and public safety officials as appropriate. Communication strategies shall include notification to MTS in advance of event day parking management plans for the trolley and location bus routes serving the project site, and SDSU shall identify off-site lots near trolley stations that may be used as parking during event.

4.15.2 Methodology

The purpose of the analysis presented in this section is to identify the potential significant impacts of the proposed project on the surrounding transportation system. Impacts to all modes of travel were evaluated including automobile, transit, bicycling, and pedestrian travel. The analysis includes a description of the assumptions and methods used to conduct the study, as well as a discussion of the results, and was conducted in compliance with the California State University (CSU) Transportation Impact Study Manual (TISM) and the California Environmental Quality Act (CEQA). To the extent possible, the study also presents analysis consistent with guidelines included in the City of San Diego Traffic Impact Study Manual (San Diego TISM), the City of San Diego's California Environmental Quality Act Significance Determination Thresholds (San Diego CEQA Thresholds; City of San Diego 2016), the Caltrans Guide for the Preparation of Traffic Impact Studies, and the regionally accepted traffic study guidelines published by the San Diego Regional Traffic Engineers (SANTEC)/Institute of Transportation Engineers (ITE).

The analysis presented in this section addresses several scenarios, each with and without Stadium Event traffic. As the proposed project is anticipated to reach build-out in approximate year 2037, the identification of significant impacts and recommended mitigation is based upon a 2037. In addition, for information purposes, a hypothetical Existing plus Project scenario analysis also is provided, which is based on the hypothetical presumption that the proposed project would be fully built out immediately, with project traffic added to the existing road network and existing traffic levels.

In addition, while not yet required under CEQA, this section includes analysis of the proposed project's impacts relative to vehicle miles traveled (VMT) consistent with Senate Bill (SB) 743 and the recently revised CEQA Guidelines. The primary purpose of SB 743 is to facilitate the development of land uses and mobility infrastructure that reduce greenhouse gas emissions, encourage the use of active transportation and transit, and foster a more sustainable environment. While the revised CEQA Guidelines were effective December 2018, lead agencies such as CSU have until July 1, 2020, to comply with SB 743 requirements. Accordingly, the analysis presented in this section includes both the traditional capacity-based LOS operations analysis for purposes of identifying significant impacts and mitigation for CEQA compliance, and a VMT-focused analysis provided for information purposes only.

4.15.2.1 Project Study Area

Effective evaluation of the traffic impacts associated with the proposed project requires an understanding of the existing transportation system within the project area. Figure 4.15-1, Study Intersections and Segments, illustrates the locations of intersections and roadway segments that have been analyzed herein. The TIA analyzed potential project-related transportation impacts during typical weekday AM and PM peak hour traffic conditions under Existing 2018 Conditions and Horizon Year 2037 Conditions when the proposed project is scheduled to be fully built and occupied. The study area was determined in a manner that would identify all locations potentially significantly impacted by the proposed project, including intersections, roadway segments, freeway segments, and freeway on- and off-ramp meters and ramps, respectively. Specifically, this transportation analysis evaluates operations at ~~4~~ 40 existing intersections, three (3) new on-site intersections, 34 roadway segments, 23 freeway segments, four (4) metered freeway on-ramps, and eight (8) signalized freeway off-ramps. The analyzed facilities are listed below and are shown on Figure 4.15-1:

Intersections

1. State Route 163 (SR-163) Southbound (SB) Ramp/Ulric St & Friars Rd

2. SR-163 Northbound (NB) Ramp & Friars Rd
3. Frazee Rd & Friars Rd
4. Mission Center Rd & Friars Rd Eastbound (EB) Ramps
5. Mission Center Rd & Friars Rd Westbound (WB) Ramps
6. Qualcomm Way & Friars Rd WB Ramps
7. Qualcomm Way & Friars Rd EB Ramps
8. River Run Dr & Friars Rd
9. Fenton Pkwy & Friars Rd
10. Northside Dr & Friars Rd
11. Stadium Way (Street A) & Friars Rd (only used during Stadium events under existing conditions)
12. Mission Village Dr & Friars Rd WB Ramps
13. Mission Village Dr/Street D & Friars Rd EB Ramps/San Diego Mission Rd
14. Street D & Street 4 (future intersection)
15. Street F & Street 4 (future intersection)
16. Street F/San Diego Mission Road & Street 6 (future intersection)
17. I-15 SB Ramps & Friars Rd
18. I-15 NB Ramps & Friars Rd
19. Rancho Mission Rd & Friars Rd
20. Santo Rd & Friars Rd
21. Riverdale St & Friars Rd
22. Mission Gorge Rd & Friars Rd
23. Qualcomm Way & Rio San Diego Dr
24. River Run Dr & Rio San Diego Dr
25. Fenton Pkwy & Rio San Diego Dr/Fenton Marketplace Dwy
26. Rancho Mission Rd & San Diego Mission Rd
27. Fairmount Ave & San Diego Mission Rd/Twain Ave
28. Qualcomm Way & Camino del Rio North (N)/Camino de la Reina
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N
30. Qualcomm Way/Texas St & I-8 EB Off-ramp
31. Texas St & Camino del Rio South (S)
32. Ward Rd & Rancho Mission Rd
33. Ward Rd & Camino del Rio N
34. Fairmount Ave/Mission Gorge Rd & Fairmount Ave
35. Fairmount Ave & Camino del Rio N
36. I-8 EB Off-ramp & Fairmount Avenue
37. Montezuma Rd & Collwood Blvd
38. Mission Village Dr & Shawn Ave
39. Mission Village Dr & Fermi Ave

40. Ruffin Rd & Mission Village Dr/Gramercy Dr
41. Ruffin Rd & Aero Dr
42. Gramercy Dr & Mobley St
43. Greyling Dr/Gramercy Dr & Sandrock Road

Roadway Segments

1. Friars Rd between Frazee Rd and Mission Center Rd
2. Friars Rd between Mission Center Rd and Qualcomm Way
3. Friars Rd between Qualcomm Way and River Run Dr
4. Friars Rd between River Run Dr and Fenton Pkwy
5. Friars Rd between Fenton Pkwy and Northside Dr
6. Friars Rd between Northside Dr and Stadium Way (Street A)
7. Friars Rd between Stadium Way (Street A) and Mission Village Dr
8. Friars Rd between Mission Village Dr and I-15 Ramps
9. Friars Rd between I-15 Ramps and Rancho Mission Rd
10. Friars Rd between Rancho Mission Rd and Santo Rd
11. Friars Rd between Santo Rd and Riverdale St
12. Friars Rd between Riverdale St and Mission Gorge Rd
13. Qualcomm Way between Friars Rd and Rio San Diego Dr
14. Rio San Diego Dr between Qualcomm Way and River Run Dr
15. Rio San Diego Dr between River Run Dr and Fenton Pkwy
16. Fenton Pkwy between Rio San Diego Dr/Fenton Marketplace Dwy and Northside Dr
17. San Diego Mission Rd between Mission Village Dr and Rancho Mission Rd
18. San Diego Mission Rd between Rancho Mission Rd and Fairmount Ave
19. Rancho Mission Rd between Friars Rd and San Diego Mission Rd
20. Rancho Mission Rd between San Diego Mission Rd and Ward Rd
21. Rancho Mission Rd west of Ward Rd
22. Ward Rd between Rancho Mission Rd and Camino del Rio N
23. Fairmount Ave between San Diego Mission Rd/Twain Ave and Mission Gorge Rd
24. Mission Village Dr between Ruffin Rd and Shawn Ave
25. Mission Village Dr between Shawn Ave and Ronda Ave
26. Mission Village Dr between Ronda Ave and Friars Rd
27. Ruffin Rd between Aero Dr and Mission Village Dr
28. Gramercy Dr between Mobley St and Ruffin Rd
29. Aero Dr between Sandrock Rd and Ruffin Rd
30. Aero Dr between Ruffin Rd and Daley Center Dr
31. Camino del Rio North between Qualcomm Way and Mission City Pky
32. Camino del Rio North between Mission City Pky and Ward Road

33. Camino del Rio North between Ward Road and Fairmount Avenue
34. Camino del Rio North between Texas Street and Mission City Pky

Freeway Segments

1. SR-163 between 6th Ave and I-8
2. SR-163 between I-8 and Friars Rd
3. SR-163 between Friars Rd and Mesa College Dr (no data was available between Genesee Ave and Mesa College Dr; this segment is assumed to be equivalent to the segment from Friars Rd to Genesee Ave)
4. SR-163 between Mesa College Dr and I-805
5. I-805 between Madison Ave and I-8
6. I-805 between I-8 and Murray Ridge Rd/Phyllis Pl
7. I-805 between Murray Ridge Rd/Phyllis Pl and Mesa College Dr/Kearny Villa Rd
8. I-805 between Mesa College Dr/Kearny Villa Rd and SR-163 – for the northbound direction, only the auxiliary lanes to the northbound off-ramp to Friars Road was studied as project traffic would not travel along the mainline of this segment in the northbound direction
9. I-805 between SR-163 and Balboa Ave
10. I-15 between Adams Avenue and I-8
11. I-15 between I-8 and Friars Rd – only the auxiliary lanes to the northbound off-ramp to Friars Road, the southbound auxiliary lanes from the Friars Rd on-ramp to I-8, and the southbound auxiliary lane from the Friars Rd direct on-ramp to I-15 southbound were studied as project traffic would not travel along the mainline of this segment
12. I-15 between Friars Rd and Aero Dr
13. I-15 between Aero Dr and Balboa Ave/Tierrasanta Blvd
14. I-8 between Morena Blvd and Taylor St
15. I-8 between Taylor St and Hotel Cir
16. I-8 between Hotel Cir and SR-163
17. I-8 between SR-163 and Mission Center Rd
18. I-8 between Mission Center Rd and Texas St
19. I-8 between Texas St and I-805
20. I-8 between I-805 and I-15
21. I-8 between I-15 and Fairmount Ave
22. I-8 between Fairmount Ave and Waring Rd
23. I-8 between Waring Rd and College Ave

Freeway Ramp Meters

1. I-15 NB on-ramp at Friars Rd
2. I-15 SB loop on-ramp at Friars Rd (with access to I-8)
3. I-15 SB direct on-ramp at Friars Rd
4. I-8 EB loop on-ramp at Fairmount Ave SB

Off-Ramps (numbered to correlate with study area intersection)

1. SR-163 SB off-ramp at Friars Rd/Ulric St
2. SR-163 NB off-ramp at Friars Rd
17. I-15 SB off-ramp at Friars Rd
18. I-15 NB off-ramp at Friars Rd
29. I-8 WB off-ramp at Qualcomm Way & Camino del Rio N
30. I-8 EB off-ramp at Qualcomm Way/Texas Street
35. I-8 WB off-ramp at Fairmount Ave & Alvarado Canyon Rd/Camino del Rio N
36. I-8 EB off-ramp at Fairmount Ave

4.15.2.2 Analysis Scenarios

As stated above, the TIA (Appendix 4.15-1) analyzed the potential project-related traffic impacts during typical weekday AM and PM peak hour traffic conditions under Existing 2018 Conditions and Horizon Year 2037 Conditions when the proposed project is scheduled to be fully built and occupied. The operations of the study area were evaluated for the following scenarios:

- **Existing (2018) Conditions** – The analysis of existing traffic conditions is based on 2018 vehicle counts collected for the analyzed peak hours. The existing conditions analysis includes a description of streets and roadways within the study area, transit services, active transportation facilities, and an analysis of traffic volumes and intersection operating conditions.
- **Existing (2018) Plus Project Without Stadium Event Conditions** – This traffic scenario provides forecasts of traffic volumes and an assessment of operating conditions under existing baseline conditions with the addition of project-generated traffic, as though the proposed project were to be immediately built out. This hypothetical scenario isolates the potential impacts of the proposed project and the analysis eliminates the impacts of both ambient growth and other proposed projects, thereby potentially understating impacts. Additionally, the analysis does not account for future roadway improvements that would provide additional capacity and, in this regard, the analysis potentially overstates impacts. As such, the results of the analysis can be misleading, especially in the case of a project like this with a long-term build out horizon. For these reasons, the Existing Plus Project Conditions analysis presented here is for information purposes only; project impacts are assessed against the Horizon Year (2037) Plus Project Conditions, which considers the effects of future traffic growth, planned infrastructure improvements, and changing land uses.
- **Existing (2018) Plus Project with Saturday and Weekday Stadium Event Conditions** – The proposed Stadium is expected to host a variety of events including college football games, concerts, minor league sports competitions, graduation ceremonies, professional sporting games, etc., and, therefore, an analysis of the proposed project, with the addition of Stadium traffic, also is provided. However, because this scenario assumes immediate full buildout of the project's underlying residential, office, etc. land uses, the scenario is hypothetical only and also is presented for information purposes only..
- **Existing (2018) Plus Stadium Event Only Conditions** – Because the Stadium component of the proposed project would be built in the near-term (i.e., 2022), an Existing Plus Stadium analysis would provide the decision maker and the public with accurate information relative to impacts and mitigation related to the Stadium. For this reason, an Existing Plus Stadium analysis is presented against which significant impacts, if any, are identified and, as necessary, mitigation measures recommended.

- **Horizon Year (2037) Conditions Without the Project** – In order to provide an assessment of the project's impacts, a "without Project" scenario first must be developed. In this regard, future traffic forecasts without the project area were developed for a 2037 horizon year using forecasts based on the SANDAG Series 13 travel demand model. This is the cumulative baseline against which long-term project impacts are assessed.
- **Horizon Year (2037) Plus Project Without Stadium Event Conditions** – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under 2037 conditions with the addition of the project-generated traffic. The impacts of the proposed project at buildout on future traffic conditions were identified under this scenario, significant impacts are identified, and appropriate mitigation recommended under this scenario.
- **Horizon Year (2037) Plus Project with Saturday and Weekday Stadium Event Conditions** – As noted above, the proposed Stadium is expected to host a variety of events, including college football games, concerts, minor league sports competitions, graduation ceremonies, professional sporting games, etc. Most of these events are expected to be held on weekend afternoons and evenings, and, therefore, an analysis of this scenario is provided. However, Stadium events also will occasionally be held on a weekday evening with a start time outside the typical PM peak commute hour. These weekend and weekday evening events are expected to add some traffic, with the weekday evening events adding traffic during the PM peak hour. This scenario analyzes the addition of Stadium traffic to the Horizon Year Plus Project volumes.

4.15.2.3 Analysis Methodology

The operational status of a given roadway facility is described in terms of level of service (LOS). LOS is a qualitative description of traffic flow based on several factors, including speed, travel time, delay, and freedom to maneuver. There are six LOS levels, from LOS A, which represents the least congested operating conditions, to LOS F, representing the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

4.15.2.4 Intersections

The analysis of significant impacts and corresponding mitigation presented in this section is based on an assessment of the project's impacts on intersection operations, which is the industry standard of practice. The analysis of intersection operations is based on the procedures provided in the Highway Capacity Manual 6th Edition (HCM 6), published by the Transportation Research Board. In a limited number of cases where non-standard signal phasing is in operation, the HCM 6 methodology is not capable of evaluating the intersection and the Highway Capacity Manual 2000 Edition (HCM 2000) methodology was applied. The identification of significant impacts is based on the thresholds provided in the CSU TISM, with additional reference to the City thresholds, where applicable, provided for information purposes.

Signalized Intersections

The method described in the HCM 6 was used to prepare the LOS calculations for the signalized study area intersections. This LOS method analyzes a signalized intersection's operation based on average control delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using Synchro 10.0 analysis software and is correlated to a LOS designation as shown in Table 4.15-2.

Table 4.15-2. Signalized Intersection LOS Criteria

Level of Service	Description	Delay (seconds/vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	<10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10– 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	>20 – 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>35– 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	>55 – 80
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	>80

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, ~~2018~~2016.

All-Way Stop Controlled Intersections

The HCM 6 method for analyzing all-way stop-controlled intersections is based on conflicting traffic for motor vehicles stopped at an intersection. Average control delay is calculated using a weighted average of the delays by volume distributed across all motor vehicles entering the intersection.

Minor-Street or Side-Street Stop Controlled Intersections

The HCM 6 method for analyzing minor-street stop-controlled intersections is based on the concept of gap acceptance and the presence of conflicting traffic for motor vehicles stopped on the minor street approaches. Control delay and LOS for the "worst" movements are reported, as opposed to average intersection LOS and delay.

The average movement delay for all unsignalized intersections is calculated using Synchro 10.0 analysis software and is correlated to a LOS designation as shown in Table 4.15-3.

Table 4.15-3. Unsignalized Intersection LOS Criteria

Level of Service	Description	Delay (seconds/vehicle)
A	Little or no delay.	<10
B	Short traffic delay.	>10– 15
C	Average traffic delays.	>15 – 25
D	Long traffic delays.	>25– 35
E	Longer traffic delays.	>35 – 50
F	Longest traffic delays with intersection capacity exceeded.	>50

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, ~~2018~~2016.

4.15.2.5 Roadway Segments

As previously noted, the assessment of the project's significant impacts and corresponding mitigation is based on application of the CSU TISM, which does not recommend a roadway segment capacity analysis for those locations with adjacent (i.e., endpoint) intersections on the same roadway in order to avoid potentially conflicting results. Instead, the identification of significant impacts is to be based on intersection analysis, which is the standard of practice throughout the industry as intersection operations are a more accurate indicator of roadway operations than segment operations. However, for information purposes, an analysis of segment operations was conducted consistent with City of San Diego impact guidelines.

The roadway segment capacity analysis presented here identifies the LOS results for each roadway segment in the project corridor by comparing the design capacity of each roadway in vehicles per day (VPD) or average daily traffic (ADT) as identified in the City of San Diego impact guidelines with the existing or future traffic volumes that occur or are expected to occur on that roadway segment. This volume-to-capacity (V/C) analysis then uses the volume criteria to determine the LOS score for each roadway segment based on the comparison of volume to capacity.

4.15.2.6 Freeway Segments

Freeway segment LOS and performance is based upon procedures developed by Caltrans District 11, which are derived from the HCM 2000 per the San Diego Regional Traffic Engineers' Council (SANTEC) regional impact analysis guidelines. The procedure for determining freeway LOS involves calculating a peak hour volume-to-capacity (V/C) ratio. Peak hour volumes were obtained from the Caltrans Performance Measurement System (PeMS) count data. Reported volumes were calculated by averaging the peak hour volumes from mid-week (Tuesday, Wednesday, and Thursday). Based on the SANTEC guidelines, the analysis uses a capacity of 1,800 vehicles per hour per lane (v/hr/ln) for freeway mainline segments and 1,200 v/hr/ln for auxiliary lanes. The reduced freeway mainline capacity (in lieu of the standard 2,200 v/hr/ln cited in the CSU TISM) was used to better reflect local freeway operations and, ultimately, provides more conservative results. The resulting V/C is then compared to the ranges of V/C values corresponding to the various LoS for each facility classification, as shown in Table 4.15-4.

Table 4.15-4. Freeway Segment LOS Criteria

LOS	V/C	Congestion/Delay	Traffic Description
"A"	<0.41	None	Free Flow.
"B"	0.42-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F(0)"	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F(1)"	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
"F(2)"	1.36-1.45	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F(3)"	>1.46	Extremely Severe 3+ hours of delay	Gridlock.

Source: SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, 2002

4.15.2.7 Ramp Metering

The analysis of metered ramps for development projects is a standard practice in the San Diego region. Accordingly, ramp metering analyses to calculate delays at the study area freeway on-ramps were conducted based upon procedures outlined in the San Diego TISM. Ramp meter delays were calculated by dividing the Excess Ramp Demand (Ramp Demand – Ramp Meter Rate) by the most restrictive meter rate provided by Caltrans, and multiplying the result by 60 minutes/hour (Delay = Excess Demand/Ramp Meter Rate x 60 minutes/hour). Ramp queue lengths were calculated by multiplying the Excess Ramp Demand by a conservative average car length of 29 feet, where many jurisdictions use an average car length of 25 feet.

4.15.2.8 Freeway Off-Ramps

The CSU TISM, SANTEC, and City of San Diego impact guidelines do not require, or provide guidance for, the analysis of off-ramp queuing. However, such analysis was performed for this study in order to determine the queue lengths at freeway off-ramps and whether the proposed project would result in operational issues on the freeway mainline.

4.15.2.9 Cumulative Projects

Baseline traffic forecasts for project buildout year 2037 were developed using projections from the SANDAG Series 13 Year 2035 travel demand model, which is regarded as the best available long-range planning tool for traffic volume forecasting in the San Diego region. The SANDAG model reflects the forecasted population and employment numbers from land uses based on the adopted General Plans of all 18 cities within the county, and the County of San Diego for the unincorporated areas.

Daily traffic volumes generated from the model for Year 2035 were compared to the volumes from the model for Year 2012 to determine an average annual growth rate along each roadway and freeway segment. Calculated growth rates ranged from -0.3% to 2.4%. The existing volumes on all facilities were increased to Year 2037 conditions using either the calculated growth rate or 1.0%, whichever was greater, to provide a conservative analysis of future traffic operations.

4.15.3 Existing Conditions

A comprehensive data collection effort was undertaken to identify existing transportation conditions in the vicinity of the proposed project. The assessment of existing conditions presented below includes an inventory of the street system, traffic volumes on these facilities, and operating conditions at area intersections. Existing public transit service and bicycle and pedestrian facilities are also described.

4.15.3.1 Existing Street System

Figure 4.15-1 illustrates the proposed project location and the surrounding roadway system. The primary roadways providing access to the site within the study area are described below. These facilities are studied as part of the intersection, roadway segment, or freeway segment analysis.

4.15.3.1.1 Primary East/West Study Area Roadways

Interstate 8 is an east-west freeway that extends from a western terminus at SeaWorld Drive and continues east into Imperial County. Near the project study area, I-8 has an interchange with SR-163, on- and off-ramps at Mission Center Road and Qualcomm Way/Texas Street, an interchange with I-805 and I-15, and on- and off-ramps at Fairmount Avenue. Near the project, I-8 has four to six mainline lanes in each direction, and the posted speed limit is 65 miles per hour (mph).

Friars Road is an east-west roadway that extends from SeaWorld Drive to Mission Gorge Road and is fronted by a combination of retail, commercial office, and residential uses. Within the study area, Friars Road is classified as a six-lane primary arterial between Ulric Street and Frazee Road; a six- to eight- lane expressway between Frazee Road and Rio Bonito Way; a six-lane primary arterial between Rio Bonito Way and Stadium Way (Street A); a six-lane expressway between Stadium Way (Street A) and the I-15 SB Ramps; a 7-lane primary arterial between the I-15 SB Ramps and Santo Road; and a 6-lane primary arterial between Santo Road and Mission Gorge Road. The posted speed limit ranges from 45 to 50 mph.

Rio San Diego Drive is an east-west roadway that extends from Gill Village Way to Fenton Parkway. It functions as a four-lane major arterial from Gill Village Way to River Run Drive, and as four-lane collector from River Run Drive to Fenton Parkway with some short segments with a raised median. Rio San Diego Drive is fronted by a combination of retail, hotel and residential uses. The posted speed limit ranges from 25 to 35 mph.

Camino de la Reina is an east-west roadway that extends from Hotel Circle to Qualcomm Way. It functions as a two-lane collector with a center left-turn lane between Hotel Circle and Camino de La Siesta, and as four-lane major arterial from Camino de La Siesta to Qualcomm Way. Camino de la Reina is fronted by a combination of commercial and residential uses. The posted speed limit ranges from 25 to 30 mph.

Camino del Rio North is an east-west roadway that extends from Camino de La Siesta to Fairmount Avenue where it connects with Alvarado Canyon Road. It functions as a two-lane collector with a center left-turn lane between Camino de La Siesta and Mission Center Road, as a three-lane major arterial (two lanes in the westbound direction and one in the eastbound direction) from Mission Center Road to Camino del Este, as a four-lane major arterial from Camino del Este to Mission City Parkway, as a two-lane collector with a center left-turn lane from Mission City Parkway to Ward Road, and as four-lane collector from Ward Road to Fairmount Avenue. Camino del Rio North is fronted by a combination of retail, hotel and residential uses. The posted speed limit ranges from 35 to 45 mph.

Camino del Rio South is an east-west roadway that extends from a cul-de-sac terminus adjacent to State Route 163 to Fairmount Avenue. It functions as a two-lane collector with a center left-turn lane between its western terminus and Mission Center Road, as a two-lane collector without a center left-turn lane between Mission Center Road and Mission City Parkway, as a three-lane collector (one lane in the westbound direction and two in the eastbound direction) with a center left-turn lane from Mission City Parkway to the I-15 Southbound ramps, as a four-lane collector from the I-15 Southbound ramps to the I-15 northbound ramps, and as two-lane collector with a center left-turn lane from the I-15 Northbound ramps to Fairmount Avenue. Camino del Rio South is fronted by a combination of commercial and residential uses. The posted speed limit ranges from 25 to 45 mph.

Montezuma Road is an east-west roadway that extends from Fairmount Avenue to El Cajon Boulevard. It functions as a four-lane major arterial from Fairmount Avenue to East Campus Drive, as a four-lane collector without a center left-turn lane from East Campus Drive to La Dorna Street, and as a four-lane collector from La Dorna Street to El Cajon Boulevard. Montezuma Road is fronted by primarily residential properties, as well as the San Diego State University College Area campus. The posted speed limit ranges from 35 to 50 mph.

San Diego Mission Road is an east-west roadway that extends from Mission Village Drive to Fairmount Avenue. It functions as a four-lane collector without a center left-turn lane between Mission Village Drive and Rancho Mission Road, and as a two-lane collector with a center left-turn lane between Rancho Mission Road and west of Fairmount Avenue, where it widens to four lanes. East of Fairmount Avenue, this street is designated as Twain Avenue. San Diego Mission Road is fronted primarily by residential properties along its central section, but also by some commercial uses. The western section provides access to the existing Kinder Morgan tank farm, and its eastern segment is fronted by office and light industrial uses. The posted speed limit is 40 mph.

Gramercy Drive is an east-west roadway that functions as a four-lane collector and extends between Sandrock Road and Ruffin Road, where it connects with Mission Village Drive. It is fronted by primarily residential property and has a posted speed limit of 35 mph.

Aero Drive is an east-west roadway that functions as a four- to six- lane major arterial and extends from Convoy Street/Linda Vista Road to Santo Road. Within the study area, Aero Drive is a four-lane major arterial. Aero Drive is bounded primarily by commercial uses, and provides access to the Montgomery-Gibbs Airport to the north. The posted speed limit is 45 mph.

4.15.3.1.2 Primary North/South Study Area Roadways

State Route 163 is a north-south freeway that extends from a southern terminus at I-5 in downtown San Diego to a northern terminus at I-15 to the north of Kearny Mesa. Near the project study area, SR-163 has on- and off-ramps at Friars Road, an on-ramp from Ulric Street, and an interchange with I-8. There is also an interchange that allows northbound traffic on either SR-163 or I-805 to continue north on either freeway, and allows southbound traffic to continue south on either freeway. Near the project, SR-163 has three to five mainline lanes in each direction and the posted speed limit is 55 mph.

Interstate 805 is a north-south freeway that extends from a southern terminus at I-5 just north of the international border with Mexico and continues north to its terminus at I-5 to the north of Sorrento Valley. Near the project study area, I-805 has on- and off-ramps at Friars Road, on- and off-ramps at Aero Drive, and an interchange with I-8. Near the project, I-805 has four to six mainline lanes in each direction and the posted speed limit is 65 mph.

Interstate 15 is a north-south freeway that extends from a southern terminus at I-5 in Barrio Logan to a northern terminus to the north into Riverside County. Near the project study area, I-805 has an interchange with I-8 and a limited interchange with SR-163 as described above. Near the project, I-15 has three to five mainline lanes in each direction and the posted speed limit is 65 mph.

Ulric Street is a north-south roadway that extends from Friars Road to Ulric Court. It functions as a three-lane collector with a striped median from Friars Road to Lindbrook Drive, as a two-lane collector with a striped median from Lindbrook Drive to Tait Street, as a two-lane collector with a center left-turn lane from Tait Street to Linda Vista Road, and as a two-lane collector from Linda Vista Road to Ulric Court. Ulric Street generally has no fronting uses south of Tait Street, and is bounded by residential properties north of Tait Street. The posted speed limit ranges from 25 to 40 mph.

Frazee Road is a north-south roadway that extends from Hazard Center Drive to a terminus north of Murray Canyon Road. It functions as a four-lane major arterial and is fronted by commercial uses. There is no posted speed limit.

Mission Center Road is a north-south roadway that extends from I-8 to Murray Ridge Road. It functions as a five-lane major arterial from I-8 to Mission Valley Road/Civita Boulevard, as a four-lane major arterial from Mission

Valley Road/Civita Boulevard to Sevan Court, and as a three-lane collector without a center left-turn lane from Sevan Court to Murray Ridge Road. Mission Center Road is fronted by a mixture of commercial and residential uses. The posted speed limit ranges from 40 to 45 mph.

Qualcomm Way is a north-south roadway that extends from I-8, where it connects with Texas Street, to Civita Boulevard. It functions as a six-lane major arterial from I-8 to Friars Road and as a four-lane major arterial from Friars Road to Civita Boulevard. It is bounded by a mixture of commercial and residential uses. There is no posted speed limit.

Texas Street is a north-south roadway that extends from a terminus south of Upas Street to I-8, where it connects with Qualcomm Way. It functions as a two-lane collector from its southern terminus to Lincoln Avenue, as a two-lane collector with a center left-turn lane from Lincoln Avenue to the alley north of Howard Avenue, a three-lane collector (one in the northbound direction and two in the southbound direction) without a center left-turn lane from the alley to Meade Avenue, and as a four-lane major arterial from Madison Avenue to I-8. It is primarily bounded by residential uses. The posted speed limit ranges from 25 to 40 mph.

River Run Drive is a north-south roadway that extends from Rio San Diego Drive to Friars Road. It functions as a two-lane collector and is bounded by residential uses. There is no posted speed limit.

Fenton Parkway is a north-south roadway that extends from the trolley line to a cul-de-sac with driveways to the Portofino and Escala residential complexes. It functions as a four-lane major arterial and is bounded by a combination of residential and commercial uses. There is no posted speed limit.

Northside Drive is a north-south roadway that extends from Fenton Marketplace to a cul-de-sac with a driveway to the Escala residential complex. It functions as a four-lane major arterial and is bounded by a combination of residential and commercial uses. There is no posted speed limit.

Mission Village Drive is a north-south roadway that extends from San Diego Mission Road to Ruffin Road where it connects with Gramercy Drive. It functions as a four-lane major arterial from San Diego Mission Road to Ronda Avenue, and a four-lane collector without a center left-turn lane from Ronda Avenue to Ruffin Road. It is primarily bounded by residential uses. The posted speed limit ranges from 40 to 45 mph.

Sandrock Road is a generally north-south roadway that functions as a two-lane collector with a center left-turn lane and extends between a cul-de-sac south of Greyling Drive/Gramercy Drive and Aero Drive, where it connects with John J Montgomery Drive. It has a raised median from Greyling Drive/Gramercy Drive to Hammond Drive and from Haveteur Way to Aero Drive. It is fronted by primarily residential property, but also by some commercial uses. The posted speed limit is 35 mph.

Rancho Mission Road is a north-south roadway that extends from the eastern Stadium driveway to Friars Road. It functions as a two-lane collector from the driveway to Ward Road, as a four-lane collector without a center left-turn lane from Ward Road to San Diego Mission Road, and as a three-lane collector with a center left-turn lane from San Diego Mission Road to Friars Road. Rancho Mission Road is bounded primarily by residential properties, but also by some commercial uses. The posted speed limit ranges from 30 to 35 mph.

Santo Road is a north-south roadway that extends from Friars Road to Ambrosia Drive. It functions as a two-lane collector and has no fronting uses. The posted speed limit is 35 mph.

Riverdale Street is a north-south roadway that extends from Vandever Avenue to Zion Avenue. It functions as a two-lane collector and is bounded primarily by commercial uses. There is no posted speed limit.

Fairmount Avenue is a north-south roadway that extends from Chollas Parkway, where it connects with 47th Street, to Vandever Avenue. It functions as a four-lane collector from Chollas Parkway to Home Avenue, as a four-lane collector with a raised median and no center left-turn lane from Home Avenue to Quince Street, as a four-lane collector from Quince Street to Myrtle Avenue, as a three-lane collector with a center left-turn lane from Myrtle Avenue to El Cajon Boulevard, as a northbound one-way two-lane collector from El Cajon Boulevard to Meade Avenue (where southbound Fairmount connects with 43rd Street), as a four-lane expressway from Meade Avenue to Camino del Rio North/Alvarado Canyon Road, as a four-lane major arterial from Camino del Rio North/Alvarado Canyon Road to Mission Gorge Road, as a two-lane collector with a center left-turn lane from Mission Gorge Road to San Diego Mission Road/Twain Avenue, and as a two-lane collector from San Diego Mission Road/Twain Avenue to Vandever Avenue. Near the study area, Fairmount Avenue is fronted by commercial uses. It has a posted speed limit ranging from 25 to 55 mph.

Mission Gorge Road is a north-south roadway between Fairmount Avenue and Friars Road, where it continues as a northeast-southwest roadway and extends to Magnolia Avenue in Santee. It functions as a four-lane collector from Fairmount Avenue to Friars Road, as a six-lane major arterial from Friars Road to Old Cliffs Road, as a four-lane major arterial from Old Cliffs Road to Katelyn Court, as a five-lane major arterial from Katelyn Court to Conestoga Way, as a six-lane major arterial from Conestoga Way to Golfcrest Drive, as a five-lane major arterial from Golfcrest Drive to Father Junipero Serra Trail, as a four-lane major arterial from Father Junipero Serra Trail to the SR-52 Ramps, and as a six-lane major arterial from the SR-52 Ramps to Magnolia Avenue. Near the study area, Mission Gorge Road is fronted by commercial uses. It has a posted speed limit ranging from 25 to 55 mph.

Collwood Boulevard is a north-south roadway that extends from 54th Street to Montezuma Road. It functions as a two-lane collector with a center left-turn lane and is bounded primarily by residential property. It has a posted speed limit of 40 mph.

4.15.3.2 Existing and Planned Bicycle Circulation

Bicycle facilities generally consist of four types of facilities, which are outlined below:

- *Bike or Multi-Use Paths (Class I)* provide a separate right-of-way and are designated for the exclusive use of bicycles and pedestrians (or exclusively bicycles) with vehicle and pedestrian cross-flow minimized. Generally, the recommended pavement width for a two-directional bike or multi-use path is ten (10) feet.
- *Bike Lanes (Class II)* provide a restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five (5) feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.
- *Bike Route or Signed Shared Roadways (Class III)* provide for a right-of-way designated by signs or shared lane pavement markings, or "sharrows," for shared use with pedestrians or motor vehicles.
- *Separated Bikeways or Cycle Tracks (Class IV)* provide a restricted right-of-way with physical separation and are designated for the use of bicycles with a raised barrier such as curbs or bollards. Separated bikeways are generally five (5) feet wide with a three (3) foot minimum horizontal and vertical separation area. Adjacent vehicle parking is permitted, and vehicle/pedestrian cross-flow is restricted to selected locations (e.g., driveways) indicated by breaks in the barrier and buffer.

The study area includes several bicycle facilities as shown on Figure 4.15-2**,** Bike Network. A *multi-use path* (the San Diego River Trail) is provided along the San Diego River between Fashion Valley Road and Qualcomm Way, as well as along the eastern edge of the project site, parallel to I-15, between Rancho Mission Road and Murphy Canyon Road. *Bike lanes* currently exist on Friars Road within most of the study area, often enhanced by a striped

buffer and green conflict paint; however, the Friars Road facility is typically used only by the most experienced cyclists given the speed of adjacent traffic and the multiple conflicts/crossing points of vehicle traffic at ramps serving intersecting roadways. *Bike lanes* are also provided on:

- Mission Center Road, Qualcomm Way (between Camino del Rio N and Friars Road)
- Fenton Parkway
- Mission Village Drive (between San Diego Mission Road and Shawn Avenue)
- San Diego Mission Road (between Rancho Mission Road and Fairmount Avenue), and
- Camino del Rio N, Gramercy Drive, and Aero Drive.

Bike routes are designated on Ruffin Road and Mission Village Drive (between Shawn Avenue and Ruffin Road/Gramercy Drive).

4.15.3.3 Existing Pedestrian Circulation

Pedestrian facilities comprise sidewalks, crosswalks, pedestrian push buttons and indicators at signalized intersections, and paths. The existing pedestrian facilities are shown on Figure 4.15-3, Pedestrian Network. Sidewalks are present along both sides of all street segments located within the study area, except for:

- the westbound segment of Friars Road between Ulric Street/SR-163 SB Ramps and SR-163 NB Ramps (note that this road is currently under construction as part of the Friars Road/SR-163 interchange improvements),
- the eastbound segment of Friars Road between approximately 250 feet east of Frazee Road and Mission Center Road,
- the westbound segment of Friars Road between Russell Parkway and the private road west of River Run Drive,
- the eastbound segment of Friars Road between Mission Village Drive and approximately 360 feet west of Rancho Mission Road,
- the westbound segment of Friars Road between Mission Village Drive and approximately 90 feet east of the I-15 NB Ramps,
- the segment of Qualcomm Way in both directions between Friars Road EB and Friars Road WB,
- the segment of Qualcomm Way in both directions between Camino del Rio N/I-8 WB Ramps and Camino de la Reina/Camino del Rio N,
- the northbound segment of Qualcomm Way/Texas Street to the south of Camino del Rio N/I-8 WB Ramps (except for short lengths immediately north and south of Camino del Rio S),
- the driveway access at Stadium Way (Street A),
- the westbound segment of San Diego Mission Road between approximately 480 feet east of Mission Village Drive and the eastern driveway to Mission Terrace Apartments,
- the westbound segment of San Diego Mission Road between Nazareth Drive and the private road just west of the San Diego River Bridge,
- the eastbound segment of San Diego Mission Road between the San Diego River Bridge and Fairmount Avenue,
- the northbound segment of Riverdale Street between the alley to the south of Rainier Avenue and Friars Road
- the eastbound segment of Twain Avenue on the east leg of the San Diego Mission Road/Twain Avenue & Fairmount Avenue intersection,

- the eastbound segment of Camino del Rio N from the west leg of the Camino del Rio N & Ward Road intersection to Fairmount Avenue,
- the eastbound segment of Alvarado Canyon Road on the east leg of the Camino del Rio N/ Alvarado Canyon Road & Fairmount Avenue intersection,
- the southbound segment of Fairmount Avenue on the south leg of the Camino del Rio N/ Alvarado Canyon Road & Fairmount Avenue intersection,
- the westbound segment of Montezuma Road on the west leg of Montezuma Road & Collwood Boulevard,
- the northbound segment of Sandrock Road south of the point approximately 60 feet south of Gramercy Drive/Greyling Drive,
- the westbound segment of Aero Drive on the west leg of the Aero Drive & Ruffin Road intersection, and
- the westbound segment of Aero Drive to the east of the Aero Drive & Ruffin Road bus stop.

Each of the signalized study area intersections also provide pedestrian crossing push buttons, except at intersections on Friars Road at SR-163 NB Ramps, Stadium Way (Street A), I-15 SB Ramps, I-15 NB Ramps, and Mission Gorge Drive, where no pedestrian crossing is allowed. Additionally, at Friars Road & Stadium Way (Street A), an eastbound channelized right turn requires pedestrians to cross at an unmarked, uncontrolled location where vehicles are moving at unsafe speeds.

Dual right-turns exist without a posted No Right-Turn-On-Red indication and, as a result, pedestrians do not have a protected movement on at least one approach at each of the following locations:

3. Frazee Rd & Friars Rd
19. Rancho Mission Rd & Friars Rd
28. Qualcomm Way & Camino de la Reina/Camino del Rio N
30. Qualcomm Way/Texas Street & I-8 EB Ramps

Without a separate pedestrian phase and/or prohibition of right-turns on red, a multiple threat condition exists in that the visibility of a pedestrian may be blocked by a stopped vehicle and the driver of the vehicle in the adjacent right-turn lane may proceed without stopping. While providing a separate pedestrian phase or restricting right turns on red does have traffic delay implications, this existing condition raises potential safety concerns that should not be duplicated at any other locations where dual right-turn lanes are proposed.

Within the proposed project site, there is no separate or designated pedestrian connection from the Stadium trolley station to the surrounding roadways. Transit patrons accessing the existing station simply walk through the SDCCU Stadium parking lot.

4.15.3.4 Existing Transit Services

Existing transit service near the project site includes light rail/trolley and bus services provided by the Metropolitan Transit System (MTS). These services are described below, and the routes are shown on Figure 4.15-4, Transit Network. Only bus routes that serve roadways along the project site frontage or trolley service near the project site are described in this section.

MTS provides bus and trolley service within the Mission Valley community, including an existing Green Line trolley stop located at the south edge of the project site. The trolley's Green Line provides service along the San Diego

River corridor, and several MTS bus routes provide service within the study area. Detailed descriptions of each service are presented below.

The MTS Green Line provides daily service from Santee to Downtown San Diego, extending along the San Diego River through the southern area of the project site. This route includes the Stadium station at the south end of the project site, as well as, stations in the vicinity of the study area at Hazard Center near Friars Road & Frazee Road, Rio Vista near Qualcomm Way & Rio San Diego Drive, Fenton Parkway near Fenton Parkway & Rio San Diego Drive, Mission San Diego near Ward Road & Rancho Mission Road, and Grantville near Fairmount Avenue & Camino del Rio N/Alvarado Canyon Road. The MTS Green Line also provides service to the existing SDSU campus at the SDSU Transit Center, which is located just three stops east of the Stadium station at the project site. During weekdays, the Green Line operates from 4:50 AM to 1:10 AM in the westbound direction, and 3:50 AM to 12:15 AM in the eastbound direction. According to SANDAG January-June 2018 ridership data, the Stadium Station currently serves an average daily total of 391 boardings and alightings combined, with a directional distribution as follows: eastbound (71 average boardings/122 average alightings) and westbound (133 average boardings/65 average alightings). Observations at this station during the peak periods indicate numerous available seats on trains with few, if any, passengers standing.

Bus Route 11 provides daily service from the SDSU College Area campus to downtown San Diego. In the study area, this route travels along Fairmount Avenue south of I-8, along I-8 from Fairmount Avenue to I-15, and along I-15 south of I-8. This route has no stops in the study area. During weekdays, although the route operates from 4:40 AM to 11:00 PM in the southbound direction and from 5:10 AM to 11:10 PM in the northbound direction, the route only traces the route described previously during service after 9:50 PM.

Bus Route 14 provides weekday service from the Grantville Trolley Station to Baltimore Drive & Lake Murray Boulevard in La Mesa. In the study area, this route travels along Camino del Rio N, Ward Road, Rancho Mission Road, Friars Road, and Mission Gorge Road. In the study area, the route stops at Rancho Mission Road & Ward Road (approximately 1,300 feet from the project site boundary) and at Rancho Mission Road & San Diego Mission Road (approximately 1,650 feet from the project site boundary). According to SANDAG January-June 2018 ridership data, at Rancho Mission Road & Ward Road, there are typically seven (7) boardings and no alightings in the northbound direction, and one (1) boarding and nine (9) alightings in the southbound direction. At Rancho Mission Road & San Diego Mission Road, there are typically two (2) boardings and one (1) alighting in the northbound direction, and one (1) boarding and one (1) alighting in the southbound direction. This route operates from 5:45 AM to 7:30 PM in the eastbound direction and 6:30 AM to 6:30 PM in the westbound direction.

Bus Route 18 provides weekday service from the Grantville Trolley Station to Qualcomm Way/Texas Street. In the study area, this route travels along Camino del Rio N and Qualcomm Way and includes a stop at Camino del Rio N & Ward Road in the westbound direction (approximately 1,900 feet from the project site boundary). According to SANDAG January-June 2018 ridership data, this bus stop typically serves four (4) boardings and one (1) alighting. This route operates from 7:00 AM to 5:30 PM in a loop beginning and ending at the Grantville Trolley Station.

Bus Route 60 provides weekday service from the Euclid Transit Center to City Heights, Kearny Mesa, and the UTC Transit Center. In the study area, this route travels along I-15, but does not stop in the study area. This route operates from 5:00 AM to 8:00 AM in the northbound direction and from 3:30 PM to 7:00 PM in the southbound direction.

Bus Route 235 provides daily service from Escondido to Downtown San Diego. In the study area, this route travels along I-15, but does not stop in the study area. During weekdays, this route operates from 5:00 AM to 11:50 PM in the southbound direction and from 4:40 AM to 11:50 PM in the northbound direction.

4.15.3.5 Existing Network and Intersection Volumes

Figure 4.15-5, Existing Conditions Diagram, illustrates the existing road conditions in the project study area, including signalized intersections and lane configurations. The operations of 39 of the ~~41~~ 40 existing study area intersections were evaluated during weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak period conditions. The remaining intersection, Friars Road & Stadium Way (Street A), is only used during special events at SDCCU Stadium and, otherwise, does not serve any side street traffic. Therefore, typical weekday AM and PM peak hour operations at this intersection were not evaluated.

Intersection turning movement volumes were obtained in 2018 and 2019. Existing lane configurations and signal controls were obtained through field observations. Figure 4.15-5 presents the study area's existing AM and PM peak-hour turning movement volumes, corresponding lane configurations, and traffic control devices. The unadjusted or raw traffic count data sheets are provided in TIA Appendix A.

4.15.3.5.1 Intersection Analysis

Existing peak-hour volumes and lane configurations were used to calculate existing levels of service for each of the study area intersections. The results of the existing LOS analysis are presented in Table 4.15-5 and the corresponding LOS calculation sheets are included in TIA Appendix B.

The analysis results indicate that 33 of the study area intersections operate at LOS D or better under Existing Conditions. Six (6) of the remaining study area intersections, listed below, operate at LOS E during one or both peak hours:

1. SR-163 SB Ramps/Ulric Street & Friars Road – LOS E (PM peak hour)
2. SR-163 NB Ramps & Friars Road – LOS E (PM peak hour)
13. Mission Village Drive & Friars Road Eastbound Ramps/San Diego Mission Road – LOS E (AM peak hour)
28. Qualcomm Way & Camino del Rio N/Camino de la Reina – LOS E (PM peak hour)
31. Texas Street & Camino del Rio S – LOS E (PM peak hour)
35. Fairmount Avenue & Camino del Rio N – LOS E (PM peak hour)

The calculated LOS presented in Table 4.15-5 generally corresponds to observations made in the field. The one exception applies to the remaining two intersections (Intersections 17 and 18) near the I-15 on-ramps where ramp metering during the peak hours results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. Based on these observations, operations at the intersection are assumed to be LOS D or E as indicated in the table.

Table 4.15-5. Existing Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
1. SR-163 SB Ramps/Ulric St & Friars Rd	Signalized	AM	22.5	C
		PM	**57.9**	**E**
2. SR-163 NB Ramps & Friars Rd	Signalized	AM	11.2	B
		PM	**60.9**	**E**
3. Frazee Rd & Friars Rd	Signalized	AM	26.9	C
		PM	51.0	D

Table 4.15-5. Existing Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	10.5	B
		PM	11.1	B
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	15.9	B
		PM	25.1	C
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	17.4	B
		PM	22.1	C
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.9	A
		PM	9.6	A
8. River Run Dr & Friars Rd	Signalized	AM	17.7	B
		PM	37.1	D
9. Fenton Pkwy & Friars Rd	Signalized	AM	25.3	C
		PM	30.2	C
10. Northside Dr & Friars Rd	Signalized	AM	28.0	C
		PM	39.9	D
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A
		PM	-	N/A
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	18.5	B
		PM	32.6	C
13. Mission Village Dr & Friars Rd EB Ramps/ San Diego Mission Rd*	Signalized	AM	**59.9**	**E**
		PM	54.2	D
14. Street D & Street 4	Signalized	AM	DNE	N/A
		PM		N/A
15. Street B & Street 2	Signalized	AM	DNE	N/A
		PM		N/A
16. F & Street 6/San Diego Mission Rd	Roundabout	AM	DNE	N/A
		PM		N/A
17. I-15 SB Ramps & Friars Rd	Signalized	AM	38.0	D
		PM	49.3	D** (E)
18. I-15 NB Ramps & Friars Rd	Signalized	AM	34.2	C** (E)
		PM	47.8	D** (E)
19. Rancho Mission Rd & Friars Rd	Signalized	AM	23.1	C** (D)
		PM	17.7	B** (D)
20. Santo Rd & Friars Rd	Signalized	AM	25.4	C
		PM	13.3	B
21. Riverdale St & Friars Rd	Signalized	AM	21.1	C
		PM	20.7	C
22. Mission Gorge Rd & Friars Rd	Signalized	AM	33.4	C
		PM	32.2	C
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	14.6	B
		PM	23.0	C
24. Rio San Diego Dr & River Run Dr	AWSC	AM	9.5	A
		PM	12.1	B
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	15.2	B
		PM	21.7	C

Table 4.15-5. Existing Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	21.5	C
		PM	22.1	C
27. Fairmount Ave & San Diego Mission Rd/ Twain Ave	Signalized	AM	13.7	B
		PM	13.0	B
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	18.2	B
		PM	**61.2**	**E**
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	10.7	B
		PM	42.8	D
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.1	A
		PM	4.0	A
31. Texas St & Camino del Rio S	Signalized	AM	39.0	D
		PM	**55.6**	**E**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	19.9	C
		PM	19.7	C
33. Camino del Rio N & Ward Ave	Signalized	AM	11.9	B
		PM	13.8	B
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	20.7	C
		PM	25.3	C
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	53.8	D
		PM	**61.0**	**E**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	12.7	B
		PM	21.3	C
37. Montezuma Rd & Collwood Blvd	Signalized	AM	39.4	D
		PM	25.1	C
38. Mission Village Dr & Shawn Ave	Signalized	AM	5.1	A
		PM	6.6	A
39. Mission Village Dr & Fermi Ave	Signalized	AM	11.1	B
		PM	7.5	A
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	14.2	B
		PM	16.0	B
41. Ruffin Rd & Aero Dr	Signalized	AM	30.8	C
		PM	31.3	C
42. Gramercy Dr & Mobley St	Signalized	AM	6.3	A
		PM	5.3	A
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	8.9	A
		PM	10.4	B

Source: Appendix 4.15-1.

Notes:

1 Whole intersection weighted average stopped delay reported for signalized and the all-way stop control (AWSC) intersection. Worst movement delay reported for the side-street stop-control (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual 6th Edition (HCM 6) method.

3 LOS E or F operations highlighted in **bold.**

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Due to limitations of the HCM 6 method, LOS calculations performed using the HCM 2000 method.

** Ramp metering during the peak hours results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

4.15.3.5.2 Roadway Segment Analysis

As previously noted, the roadway segment LOS analysis is presented for information purposes only and is based on the City of San Diego impact thresholds. Where available, roadway segment volumes were obtained from the City of San Diego database dated April 2018. Where database volumes were not available or segments were not recently counted, new counts were obtained in 2018. For the volumes obtained prior to 2018, an annual growth factor of approximately one percent[3] was applied to increase volumes to Year 2018 levels.

Table 4.15-6 displays the LOS analysis for the project study area roadway segments under Existing Conditions. As shown in the table, all roadway segments currently operate acceptably at LOS D or better, except for Camino del Rio South from Texas Street to Mission City Parkway, which operates at LOS F.

Table 4.15-6. Existing Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	ADT	V/C[2]	LOS[3,4]
ID	*Extent (from/to)*						
Friars Rd							
1	Frazee Rd	Mission Center Rd	7E	93,330	43,540	0.47	B
2	Mission Center Rd	Qualcomm Way	6E	80,000	40,223	0.43	B
3	Qualcomm Way	River Run Dr	6E	80,000	35,187	0.44	B
4	River Run Dr	Fenton Pkwy	6P	60,000	35,757	0.60	C
5	Fenton Pkwy	Northside Dr	6P	60,000	35,037	0.58	C
6	Northside Dr	Stadium Way (Street A)	6E	80,000	45,076	0.56	C
7	Stadium Way (Street A)	Mission Village Dr	6E	80,000	45,076	0.56	C
8	Mission Village Dr	I-15 Ramps	6E	80,000	43,746	0.55	C
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	60,400	0.86	D
10	Rancho Mission Rd	Santo Rd	7P	70,000	50,773	0.73	C
11	Santo Rd	Riverdale St	6P	60,000	49,805	0.83	C
12	Riverdale St	Mission Gorge Rd	6P	60,000	45,257	0.75	C
Qualcomm Way							
13	Friars Rd	Rio San Diego Dr	6M	50,000	14,616	0.29	A
Rio San Diego Dr							
14	Qualcomm Way	River Run Dr	4M	40,000	11,301	0.28	A
15	River Run Dr	Fenton Pkwy	4C/M	30,000	9,264	0.31	A
Fenton Pkwy							
16	Rio San Diego Dr/Fenton Marketplace Dwy	Northside Dr	4M	40,000	5,165	0.13	A

[3] Annual growth factors were the same as those used to forecast Horizon Year volumes as described in Section 4.15.7.2.1. Annual average growth rates were calculated using volume forecasts from the SANDAG Series 13 Model comparing Year 2035 to Year 2012 volumes for each roadway segment.

Table 4.15-6. Existing Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	ADT	V/C[2]	LOS[3,4]
ID	Extent (from/to)						
San Diego Mission Rd							
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	7,660	0.51	C
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	8,819	0.59	C
Rancho Mission Rd							
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	15,210	0.68	D
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	9,582	0.64	C
21	West of Ward Rd		2C	10,000	1,510	0.15	A
Ward Rd							
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	9,972	0.66	C
Fairmount Ave							
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	7,217	0.24	A
Mission Village Dr							
24	Ruffin Rd	Shawn Ave	4C	30,000	15,184	0.51	C
25	Shawn Ave	Ronda Ave	4C	30,000	12,343	0.41	B
26	Ronda Ave	Friars Rd	4M	40,000	14,241	0.36	A
Ruffin Rd							
27	Aero Dr	Mission Village Dr	4C	30,000	13,617	0.45	B
Gramercy Dr							
28	Mobley St	Ruffin Rd	4M	40,000	7,827	0.20	A
Aero Dr							
29	Sandrock Rd	Ruffin Rd	4M	40,000	19,636	0.49	B
30	Ruffin Rd	Daley Center Dr	4M	40,000	26,069	0.65	C
Camino del Rio N							
31	Qualcomm Way	Mission City Pkwy	4C	30,000	9,608	0.32	A
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	8,540	0.57	C
33	Ward Rd	Fairmount Ave	4C	30,000	12,173	0.41	B
Camino del Rio S							
34	Texas St	Mission City Pkwy	2C	10,000	11,496	**1.15**	**F**

Source: Appendix 4.15-1

Notes:

[1] 2C = 2-lane collector
2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add a capacity of 5,000 for LOS A, 7,500 for LOS B, and 10,000 for LOS C, D, and E per the Mission Valley Community Plan Update
6E = 6-lane expressway
7E = 7-lane expressway (4 lanes in one direction and 3 in opposing direction); capacity is assumed to be 117% of 6E capacity

[2] Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications
[3] LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998) and Mission Valley Community Plan Update Draft (2019)
[4] Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

4.15.3.5.3 Freeway Segment Analysis

Table 4.15-7 displays the freeway mainline LOS analysis results under Existing Conditions. The freeway segment analysis was performed using the methodology presented in Section 4.15.2. As shown on the table, all freeway segments operate at undesirable levels of service (LOS E or F) in one or both directions and during one or both peak hours under Existing Conditions except the following segments:

2. SR-163 trom I-8 to Friars Road
4. SR-163 from Mesa College Drive to I-805
8. I-805 from Mesa College Drive/Kearny Villa Road to SR-163
9. I-805 from SR-163 to Balboa Avenue
14. I-8 from Morena Boulevard to Taylor Street
16. I-8 from Hotel Circle to SR-163
19. I-8 from Texas Street to I-805

Based on typical traffic conditions, the calculated freeway LOS generally corresponds to available traffic data except for select segments of SR-163, I-805, and I-8. As to these segments, appropriate adjustments to address the discrepancies have been made as part of the analysis.

Table 4.15-7. Existing Conditions Freeway Segment Level of Service

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Peak Hour Volume **		V/ C Ratio[2,4]		LOS[3,4]	
					AM	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163										
1	6th Ave to I-8	NB	3M+1A	6,600	5,256	5,705	0.80	0.86	C	D
		SB	3M+2A	7,800	8,966	8,021	**1.15**	**1.03**	**F(0)**	**F(0)**
2	I-8 to Friars Rd	NB	2A	9,000	1,621	1,759	0.68	0.73	C	C
		SB	4M+2A	7,200	8,201	7,490	0.85	0.78	D	C* (F)
3	Friars Rd to Mesa College Dr[5]	NB	5M	6,600	9,222	7,427	**1.02**	0.83	**F(0)**	D
		SB	4M	7,800	6,163	6,384	0.86	0.89	D	D* (F)
4	Mesa College Dr to I-805	NB	4M+2A	9,000	7,774	7,216	0.81	0.75	D	C
		SB	4M+1A	7,200	7,078	6,184	0.84	0.74	D	C* (F)
Interstate 805										
5	Madison Ave to I-8	NB	4M+1A	8,400	8,389	4,895	**1.00**	0.58	**E**	B
		SB	6M	10,800	4,512	9,475	0.42	0.88	B	D* (F)
6	I-8 to Murray Ridge Rd/Phyllis Pl	NB	5M	9,000	9,830	5,699	**1.09**	0.63	**F(0)**	C
		SB	4M+2A	9,600	5,145	9,204	0.54	**0.96**	B	**E**

Table 4.15-7. Existing Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Peak Hour Volume **		V/ C Ratio[2,4]		LOS[3,4]	
					AM	*PM*	*AM*	*PM*	*AM*	*PM*
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/ Kearny Villa Rd	NB	5M	9,000	9,821	5,673	**1.09**	0.63	**F(0)**	C
		SB	5M	9,000	4,946	8,982	0.55	**1.00**	B	**E**
8	Mesa College Dr/ Kearny Villa Rd to SR-163	NB	5M	9,000	8,191	4,826	0.91	0.54	D* (F)	B
		SB	4M	7,200	3,551	5,547	0.49	0.77	B	C* (F)
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	5,281	4,442	0.63	0.53	C* (F)	B
		SB	4M+2A	9,600	5,319	7,206	0.55	0.75	B	C * (F)
Interstate 15										
10	Adams Ave to I-8	NB	3M+2A	7,800	6,229	6,920	0.80	0.89	C	D
		SB	5M	9,000	5,030	8,403	0.56	**0.93**	B	**E**
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,143	1,771	0.48	0.74	B	C
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	3,515	4,641	**0.98**	**1.29**	**E**	**F(1)**
	Friars Rd Direct Ramp to I-15	SB	1A	1,200	622	914	0.52	0.76	B	C
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	8,022	5,889	**0.96**	0.70	**E**	C
		SB	5M+1A	10,200	6,825	9,390	0.67	**0.92**	C	**E**
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	9,007	6,792	**1.07**	0.81	**F(0)**	D
		SB	4M+1A	8,400	6,991	8,417	0.83	**1.00**	D	**F(0)**
Interstate 8										
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	6,023	7,523	0.72	0.90	C	D
		WB	5M	9,000	7,089	6,193	0.79	0.69	C	C
15	Taylor St to Hotel Cir	EB	4M	7,200	5,901	7,890	0.82	**1.10**	D	**F(0)**
		WB	4M+1A	8,400	8,171	6,978	**0.97**	0.83	**E**	D
16	Hotel Cir to SR-163	EB	4M+2A	9,600	7,039	8,736	0.73	0.91	C	D
		WB	5M	9,000	8,173	6,719	0.91	0.75	D	C
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,017	5,669	0.42	0.79	B	C* (F)
		WB	3M+2A	7,800	8,579	7,900	**1.10**	**1.01**	**F(0)**	**F(0)**
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	5,025	9,463	0.60	**1.13**	B	**F(0)**
		WB	4M+1A	8,400	8,928	8,273	**1.06**	**0.98**	**F(0)**	**E**
19	Texas St to I-805	EB	4M	7,200	3,185	6,214	0.44	0.86	B	D* (F)
		WB	4M	7,200	6,253	4,963	0.87	0.69	D* (F)	C
20	I-805 to I-15	EB	4M+2A	9,600	6,104	10,315	0.64	**1.07**	C	**F(0)**
		WB	4M+2A	9,600	10,466	8,476	**1.09**	0.88	**F(0)**	D

Table 4.15-7. Existing Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Peak Hour Volume **		V/ C Ratio[2,4]		LOS[3,4]	
					AM	*PM*	*AM*	*PM*	*AM*	*PM*
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	5,965	9,335	0.62	**0.97**	C	**E**
		WB	4M+2A	9,600	7,413	5,467	0.77	0.57	C* (F)	B
22	Fairmount Ave to Waring Rd	EB	5M	9,000	6,483	10,335	0.72	**1.15**	C	**F(0)**
		WB	6M	10,800	10,029	7,923	**0.93**	0.73	**E**	C
23	Waring Rd to College Ave	EB	5M	9,000	6,392	9,979	0.71	**1.11**	C	**F(0)**
		WB	5M	9,000	9,359	7,492	**1.04**	0.83	**F(0)**	D

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)*

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Traffic data indicate operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

** peak hour freeway volumes were obtained from the Caltrans Performance Measurement System (PeMS) count data for the week of April 30, 2018, to May 4, 2018.

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		

4.15.3.5.4 Freeway Ramp Metering Analysis

Table 4.15-8 displays the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Existing Conditions. By design, the following ramp meters are not operating during one of the two peak hours due to lower freeway mainline volumes:

- I-15 SB/I-8 Loop On-ramp from Friars Road – AM peak hour
- I-15 SB Direct On-ramp from Friars Road – AM peak hour
- I-8 EB On-ramp from southbound Fairmount Avenue – AM peak hour

As shown in Table 4.15-8, the I-8 EB On-ramp from southbound Fairmount Avenue operates with unacceptable delays during the PM peak hour. Additionally, at the two I-15 on-ramps from Friars Road, on-ramp capacity is not sufficient to accommodate the peak hour demand; thus, ramp queues spill back onto the arterial street, which was validated through field observations. Although the analysis indicates that the same spill-back occurs at the I-8 EB On-ramp, no spill back was observed onto Fairmount Avenue during field observations. This discrepancy is likely due to the application of the most restrictive meter rate of a comparatively large range from 492 to 996 vehicles per hour.

Table 4.15-8. Existing Conditions Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Demand[2] (veh/hr)		Excess Demand[3] (veh/hr)	Delay[4] (min)	Queue[5] (ft)
				Mixed Flow & HOV	*Mixed Flow only*			
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	1,941	1,641	191	7.9	2,775
	PM	2	888	1,244	1,096	208	14.1	3,025
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	732	732	N/A	N/A	N/A
	PM	1	660	744	744	84	7.6	2,425
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	622	622	N/A	N/A	N/A
	PM	1	996	914	914	0	0.0	0
I-8 EB - SB Fairmount Ave	AM	1	N/A	250	250	N/A	N/A	N/A
	PM	1	492	550	550	58	7.1	1,675*

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

Notes:

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delay in excess of 15 minutes is highlighted in **bold**.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Field observations showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds, ~~indicate~~ indicating operations are better than calculated.

4.15.3.5.5 Freeway Off-Ramp Queuing Analysis

Table 4.15-9 displays the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown on the table, all off-ramp queues can be accommodated by existing ramp storage capacity under Existing Conditions.

Table 4.15-9. Existing Conditions Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)
				Existing Conditions
1. SR-163 SB off-ramp at Friars Rd/Ulric St	AM	NBL	1,200	204
		NBT		207
		NBR		0
	PM	NBL	1,200	201
		NBT		198
		NBR		0
2. SR-163 NB off-ramp at Friars Rd	AM	NBR	900	0
		SBR	700	0
	PM	NBR	900	0
		SBR	700	0

Table 4.15-9. Existing Conditions Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)
				Existing Conditions
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	331
		SBT		333
		SBR		201
	PM	SBL	1,200	647
		SBT		648
		SBR		65
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0
		SBR	1,300	0
	PM	NBR	1,500	0
		SBR	1,300	0
29. I-8 WB off-ramp at Qualcomm Way/ Camino del Rio N	AM	WBL	3,200	0
		WBT		125
		WBR		191
	PM	WBL	3,200	0
		WBT		277
		WBR		102
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	44
	PM	EBR	900	147
35. I-8 WB off-ramp at Fairmount Ave/ Alvarado Canyon Rd/Camino del Rio N	AM	WBL	1,000	486
		WBT		464
		WBR		216
	PM	WBL	1,000	556
		WBT		336
		WBR		243
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	276
		EBR		283
	PM	EBL	4,100	714
		EBR		1,229

Source: Appendix 4.15-1.

4.15.3.5.6 Stadium Operations

The existing SDCCU Stadium hosts approximately 11 high-attendance events (over 20,000 guests) each year.[4] For high attendance events, manual traffic control is employed at each of the Stadium entrances and exits. Transportation Network Companies (TNCs) are instructed to use a designated drop-off zone in the eastern part of the Stadium, accessed via Rancho Mission Road, whereas attendees who are driving and parking enter via Stadium Way (Street A), Mission Village Drive/Street D, and San Diego Mission Road. Before high-attendance events, advance notice is provided to the area via dynamic signage and radio announcements.

Attendee mode split and average vehicle occupancy (AVO) data was collected at the November 24, 2018 SDSU-University of Hawaii game. Of the attendees who arrived by car and parked, the observed AVO was 2.29. Of the attendees who

[4] Stadium events based on the 2018 calendar available at https://www.sandiego.gov/stadium. Canceled events are not included.

arrived by TNC, the observed AVO was 2.47 (counting attendees only and not including the driver of the TNC). Based on the 2016 and 2017 SDSU Aztec football seasons, it is conservatively estimated that approximately 68% of the announced attendees for the 2018 game (28,014 based on ticket sales) were physically present (19,050 resulting attendees). Based on data collected at the Stadium driveways for the 2018 game, 65% of the attendees arrived by car and parked, and 2% of attendees arrived by TNC. The remaining 33% of attendees arrived by transit, biking, or walking.

4.15.4 Relevant Plans, Policies, and Ordinances

The following is an overview of federal, state and regional plans, policies and ordinances relevant to transportation-related issues.

Federal

Highway Capacity Manual

The analysis of intersection operations performed herein is based on procedures presented in the *2016 Highway Capacity Manual 6th Edition* (HCM 6). The 2016 HCM 6, prepared by the federal Transportation Research Board, is the result of a collaborative multiagency effort between the Transportation Research Board, Federal Highway Administration, and American Association of State Highway and Transportation Officials. The 2016 HCM contains concepts, guidelines, and computational procedures for computing the capacity and quality of service of various highway facilities, including freeways, signalized and unsignalized intersections, rural highways, and the effects of transit, pedestrian, and bicycles on the performance of these systems. The HCM 6 has limitations that prevent its application for analyzing signals with unique timing programs, such as phase numbering that does not follow the National Electrical Manufacturers Association (NEMA) convention, including providing a protected pedestrian crossing. In those cases where the HCM 6 could not evaluate intersection operations, HCM 2000 methodology was applied.

State

California Department of Transportation

Caltrans is the public agency responsible for designing, building, operating, and maintaining California's State highway system, which consists of freeways, highways, expressways, toll roads, and the area between the roadways and property lines. Caltrans is also responsible for permitting and regulating the use of State roadways. Caltrans' construction practices require temporary traffic control planning during any activities that interfere with the normal function of a roadway.

Statewide Transportation Improvement Program

The California 2007 Statewide Transportation Improvement Program, approved by the U.S. Department of Transportation in October 2006, is a multiyear, Statewide, intermodal program of transportation projects consistent with the Statewide transportation plan and planning processes, metropolitan plans, and Title 23 of the Code of Federal Regulations. The Statewide Transportation Improvement Program is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations and the Regional Transportation Planning Agencies. In San Diego County, the Metropolitan Planning Organization and Regional Transportation Agency is SANDAG. The Statewide Transportation Improvement Program contains all capital and non-capital transportation projects or identified

phases of transportation projects for funding under the Federal Transit Act and Title 23 of the U.S. Code, including federally funded projects.

Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA

The technical advisory on evaluating transportation impacts in CEQA is one in a series of advisories provided by the Governor's Office of Planning and Research (OPR) as a service to professional planners, land use officials, and CEQA practitioners. This advisory contains technical recommendations regarding the assessment of VMT-related impacts, thresholds of significance, and mitigation measures. OPR issues technical assistance on issues that broadly affect the practice of land use planning and the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). (Gov. Code, § 65040, subds. (g), (l), (m).) The purpose of the technical advisory document is to provide advice and recommendations, which agencies and other entities may use at their discretion. The document does not alter lead agency discretion in preparing environmental documents subject to CEQA and the document should not be construed as legal advice.

Senate Bill 743

Senate Bill 743 (Steinberg, 2013), which is codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) regarding the analysis of transportation impacts and the metric upon which to assess those impacts. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Id., subd. (b)(1); see generally, adopted CEQA Guidelines, § 15064.3, subd. (b) [Criteria for Analyzing Transportation Impacts].)

To that end, OPR drafted revised CEQA Guidelines that identify VMT as the most appropriate metric to evaluate a project's transportation impacts. The revised Guidelines require that all lead agencies include a VMT transportation analysis as part of their CEQA documentation by July 1, 2020; the California Natural Resources Agency adopted the revised Guidelines in December 2018.. With the Resources Agency's adoption of the revised CEQA Guidelines, after July 1, 2020, automobile delay, as measured by "level of service" and other similar metrics, will generally no longer constitute a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)

Regional

2050 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS)

The 2050 RTP provides a framework for the expenditure of an estimated $214 billion in local, state, and federal transportation funds expected to come to the San Diego region over the next 40 years. The 2050 RTP is the blueprint for a regional transportation system that would further enhance quality of life, promote sustainability, and offer more mobility options for people and goods. The plan outlines projects for transit, rail and bus service, express or managed lanes, highways, local streets, bicycling, and walking in order to provide an integrated, multimodal transportation system by mid-century. Pursuant to Senate Bill 375, the 2050 RTP also includes the SCS, which provides a plan for the region to reduce greenhouse gas emissions to achieve state-mandated levels. The 2050 RTP and SCS are components of *San Diego Forward: The Regional Plan*, which was adopted by the SANDAG Board of Directors on October 9, 2015. An RTP update was originally scheduled for review and approval in 2019 although that in the process of revision and a two-year delay is now anticipated.

Regional Transportation Improvement Program (RTIP)

The RTIP is a multi-billion dollar, 5-year program of major transportation projects funded by the federal and state governments, TransNet local sales taxes, and other local and private funding. The RTIP is a prioritized program designed to implement the region's overall strategy for providing mobility and improving the efficiency and safety of the transportation system, while reducing transportation-related air pollution in support of the efforts to attain federal and state air quality standards for the region. The RTIP also incrementally implements the 2050 RTP, which is the long-range transportation plan for the San Diego region; see description above. The RTIP covers multiple fiscal years and is amended frequently to reflect near term priorities and expenditures.

Congestion Management Program (CMP)

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a CMP, which is a part of SANDAG's RTP. The purpose of the CMP is to monitor the performance of the region's transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG provided regular updates to the State CMP from 1991 through 2008. In October 2009, the San Diego region elected to be exempt from the State CMP and, since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process. San Diego Forward: The Regional Plan, the region's long-range transportation plan and SCS, meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non–single-occupancy vehicle (SOV) analysis, land use impact analysis, the provision of congestion management tools, and integration with the RTIP process.

SANDAG Regional Bike Plan

The SANDAG Regional Bike Plan, Riding to 2050, provides a regional strategy to make riding a bike a useful form of transportation for everyday travel. The plan will help San Diego meet its goals to reduce greenhouse gas (GHG) emissions and improve mobility. Goals of the Regional Bike Plan include increasing levels of bicycling; improving bicycling safety; encouraging Complete Streets; supporting reductions in emissions; and increasing community support. In September 2013, the SANDAG Board of Directors approved funding to implement the Regional Bike Plan Early Action Program, which focuses on the region's highest-priority projects. Priority is chosen in part based on proximity to smart growth areas, taking into account that bikeways would be used more often if they connect high-density activity hubs within a short distance of each other, and on whether a project would fill key gaps in the regional bike networks.

Local

As a state agency, California State University/SDSU is not subject to local government planning and land use plans, policies, or regulations. That is, the proposed project would be subject to state and federal agency planning documents, but would not be subject to regional or local planning documents such as the City's General Plan, Mission Valley Community Plan, or the City municipal zoning code. However, for informational purposes, the proposed project has considered these planning documents and the project's location within, and relationship to, each.

Mission Valley Community Plan Update and Final EIR

The Final Draft of the Mission Valley Community Plan was released in May 2019. The Community Plan was a companion release to the Final Program Environmental Impact Report (PEIR) (May 31, 2019) (SCH No. 2017071066).

In 2015, the City of San Diego, in coordination with local community members, began updating the Mission Valley Community Plan, which serves as a blueprint for the future development of the Mission Valley community. After completing extensive research regarding existing conditions; gathering input from the Mission Valley Community Plan Update Subcommittee, community members, and stakeholders, on topics such as land use, mobility, and parks; and analyzing future conditions, the third draft of the Mission Valley Community Plan is now available. The draft will soon be considered for approval by the City Planning Commission and City Council.

The format of the Final Draft is intended to communicate the community's vision to the local community, property owners, and developers in order to encourage successful implementation. The Final Draft states a clear vision for the future of the community; provides implementing actions that the City can take to help achieve the vision; and offers design guidelines and policies to direct new development as to how to improve the quality of life for residents, employees, property owners, business owners, and visitors of Mission Valley in the future. See Section 4.10, Land Use and Planning, for more information on the Mission Valley Community Plan Update.

City of San Diego Bicycle Master Plan

The 2013 City of San Diego Bicycle Master Plan, which updates the City's 2002 plan, presents a bicycle network, projects, policies, and programs for improving bicycling through 2030 and beyond, consistent with the City's 2008 General Plan mobility, sustainability, health, economic, and social goals. The goals of the Bicycle Master Plan are to create: a city where bicycling is a viable travel choice, particularly for trips of less than five miles; a safe and comprehensive local and regional bikeway network; and environmental quality, public health, recreation and mobility benefits through increased bicycling. These goals are supported by twelve key policies to help bicycling become a more viable transportation mode for trips of less than five miles, to connect to transit, and for recreation.

The Bicycle Master Plan addresses existing bicycling conditions, the relationship of the Plan to other plans and policies, a bicycle needs analysis, bicycle facility recommendations, bicycle program recommendations, and implementation and funding issues.

City of San Diego Pedestrian Master Plan

The City of San Diego is developing a Pedestrian Master Plan to guide the planning and implementation of pedestrian improvement projects in the City. The Master Plan will help the City enhance neighborhood quality and mobility options by facilitating pedestrian improvement projects, and will identify and prioritize improvement projects based on technical analysis and community input, as well as improve the City's ability to receive grant funding for implementation of pedestrian projects.

The City currently is in Phase 4 of the planning process. During Phase 1, the City developed the Master Plan Citywide Framework Report, which provides a foundation for identifying and prioritizing projects in each community. Phases 2 and 3 inventoried seven communities in the city to understand pedestrian needs, identify problems, and create a prioritized list of pedestrian projects specific to each community. Phase 4 continues the inventory process and

focuses on seven additional communities, including the College Area. For additional information, please see www.sandiego.gov/planning/programs/transportation/ mobility/pedestrian.shtml.

4.15.5 Project Travel Characteristics

4.15.5.1 Traffic Generation

In accordance with the City of San Diego and SANTEC/ITE Guidelines for Traffic Impact Studies, trip generation rates for the proposed project were obtained from the City of San Diego Trip Generation Manual (2003) (part of the Land Development Code under the Municipal Code). These rates were used to estimate the number of vehicle trips associated with the SDSU Mission Valley Campus project. The project proposes to develop approximately 86 acres of parks, recreation and open space, 4,600 residential units, 1.466 million square feet of campus office and lab space, 100,000 square feet of medical office space, 95,000 square feet of retail/restaurant space, a Stadium with a capacity of 35,000, and 400 hotel rooms. The corresponding weekday daily, AM, and PM peak hour trip rates were applied to each use under the Without Stadium Event scenario, and a total number of gross vehicle trips for each time period was estimated (see Table 4.15-10); a separate "With Stadium Event" scenario also was analyzed. However, the City and SANTEC trip rates do not account for certain factors that are applicable here.

For example, standard vehicle trip rates for market uses (e.g., commercial office buildings) were applied for the analysis. However, standard trip rates assume that nearly all uses will generally operate independently without having any formal connection to one another, which is not the case in a mixed-use development as proposed here. Specifically, the number of trips added to the study area roadways is expected to be lower than the gross number due to several factors, including: 1) the presence of significant traffic volumes already traveling on roads near the site that would patronize the planned commercial uses, 2) trip internalization within the site due to the mix of complementary land uses, 3) the propensity for people traveling to and from the site to use transit, bicycling, or walking as their primary travel mode, and 4) implementation of the TDM Program. Each of these factors affecting trip generation is described below.

As to the traffic already traveling on roads near the site that would patronize the planned commercial uses, trip reductions were applied to account for what are referred to as "pass-by" and "diverted" trips. Pass-by trips are those vehicles already passing on Mission Village Drive/Street D that would pass directly in front of the neighborhood supporting retail/restaurant uses and decide to patronize the fronting use. Diverted trips, in comparison, are those trips that are already passing by the site on adjacent Friars Road and the driver decides to turn into the project site to patronize the retail uses. In both cases, these are not new trips to the overall roadway network but are, instead, existing trips that simply visit the retail uses. The amount of pass-by/diverted trip reductions to account for this was calculated based on the City of San Diego *Trip Generation Manual*.

A second reduction to the gross trip totals was made to account for the effect of trip internalization. For developments as these that include several different types of land use within a reasonable distance of one another, visitors will often access multiple uses within one trip to a given site. This is the case with the residents and employees within the site who will both visit the retail/restaurant services on site, as well as residents who will work within the project site, etc. This trip internalization will reduce the overall number of vehicle trips to the site compared to the trips generated by each of the uses in an isolated situation. Trip internalization rates were calculated using the Fehr & Peers MainStreet web application, which uses the Mixed-Use (MXD+) Trip Generation Model. The MXD model was developed by Fehr & Peers and the Environmental Protection Agency (EPA) and is based on statistically superior data compared to the methodology used by the Institute of Transportation Engineers (ITE).

The MXD model recognizes that traffic generation by mixed-use developments and other forms of sustainable development relates closely to the density, diversity, design, destination accessibility, travel proximity, and scale of development and, as a result, the model estimates the percentage of daily and peak hour trips that remain within the project site, as well as external transit, walk, and vehicle mode splits. The resulting trip reductions calculated by the MXD model were 11%, 15%, and 13% for the daily, AM, and PM peak hours, respectively.

As to alternative means of travel, a third reduction to trips was made to account for multimodal facilities such as the on-site trolley station, and the network of bicycle and walking paths that are proposed as part of the project. For example, the *Green Line* light rail (trolley), which has a station on the site of the proposed project, provides fast and frequent service to the business centers lying between Old Town San Diego and Santee, as well as to Downtown San Diego. Due to the convenience provided by this option, it is reasonable to expect that a large number of trips to and from the site will be made via the trolley. Additionally, the new pedestrian and bicycle facilities to be provided by the proposed project will greatly enhance connectivity of the site to nearby complementary land uses. The MXD model was used to estimate the proportion of external trips that would be made by transit, walking, and biking and, based on the calculations, corresponding multimodal trip reductions of 7% (transit), 10% (walking), and 10% (biking) were applied for the daily, AM, and PM peak hours, respectively.

Finally, relative to the project's TDM Program, the 14.41% reduction in vehicle trips attributable to the project's TDM Program described in Section 4.15.1.2.1 is applied to the number of vehicle trips resulting in the final net number of trips that would be generated by the proposed project.

The gross and net vehicle trip generation estimates for the proposed project under a Without Stadium Event scenario are presented in Table 4.15-10. The table separates trips into "pass-by" trips, and "cumulative" trips, which encompasses all other trips to the project site; the City of San Diego *Trip Generation Manual* uses the term "cumulative" to refer to all new regional trips. The sum of these two general types of trips are the "driveway" trips, representing all the activity into and out of the site.

As shown in Table 4.15-10, the proposed project is expected to generate a total of 45,174 net new "cumulative" daily weekday trips, 3,716 net new "cumulative" AM peak hour trips, and 4,628 net new "cumulative" PM peak hour trips. These are new trips to the study area and, as such, the trips that will be added to the greater roadway network to calculate the proposed project's off-site impacts. In addition to the "cumulative" trips, the proposed project is expected to generate 8,104 daily pass-by trips, 393 AM peak hour pass-by trips, and 850 PM peak hour pass-by trips, which, as previously noted, are trips from traffic that already exists on Friars Road, Mission Village Drive, and San Diego Mission Road. Since this pass-by traffic is already on the greater roadway network, in assessing project impacts, the analysis considers the effect of these trips on the intersections adjacent to the site.

On weekends, the proposed uses would generate less total traffic, especially the campus office and R&D facilities, when few employees would be working. Saturday daily trip rates were estimated using the relationship between weekday and Saturday trip rates published in the *Trip Generation Manual* (10th edition, September 2017) by the ITE. After adjusting City of San Diego trip rates using the ITE data, the proposed project land uses (excluding the Stadium) would generate an estimated 33,533 daily "cumulative" trips after trip reductions are applied (see table in TIA Appendix C showing estimated Saturday trip generation). As this is nearly 26% less than the weekday trip generation, the weekday peak periods are the scenarios with the highest volumes and least available capacity and, therefore, it is the weekday peak periods that were selected as the focus of this impact analysis in order to present a conservative analysis, which, as a result, potentially overstates impacts.

Table 4.15-10. Project-Generated Weekday Trip Generation (Without Stadium Event)

Land Use	Quantity	Units	Daily Trip Rates	Break-down by Trip Type	Daily Trips	AM Peak Hour % of Daily	AM Trips			PM Peak Hour % of Daily	PM Trips		
							In	*Out*	*Total*		*In*	*Out*	*Total*
Supermarket	12	ksf	150		1,800	4%	50	22	72	10%	90	90	180
Cumulative				*60%*	*1,080*		*30*	*13*	*43*		*54*	*54*	*108*
Pass-By				*40%*	*720*		*20*	*9*	*29*		*36*	*36*	*72*
Driveway				*100%*	*1,800*		*50*	*22*	*72*		*90*	*90*	*180*
Neighborhood Retail	83	ksf	120		9,960	4%	239	160	399	11%	548	548	1,096
Cumulative				*60%*	*5,976*		*143*	*96*	*239*		*329*	*329*	*658*
Pass-By				*40%*	*3,984*		*96*	*64*	*160*		*219*	*219*	*438*
Driveway				*100%*	*9,960*		*239*	*160*	*399*		*548*	*548*	*1,096*
Apartments	4,300	du	6		25,800	8%	413	1,651	2,064	9%	1,625	697	2,322
Cumulative/Driveway				*100%*	*25,800*		*413*	*1,651*	*2,064*		*1,625*	*697*	*2,322*
Student Focused Housing	300	du	4.4		1,320	5%	59	7	66	7%	28	65	93
Cumulative/Driveway				*100%*	*1,320*		*59*	*7*	*66*		*28*	*65*	*93*
Commercial Office	1,165	ksf	[a]		19,981	13%	2,338	260	2,598	14%	559	2,238	2,797
Cumulative/Driveway				*100%*	*19,981*		*2,338*	*260*	*2,598*		*559*	*2,238*	*2,797*
Medical Office	100	ksf	50		5,000	6%	270	30	300	10%	50	450	500
Cumulative				*32%*	*1,600*		*86*	*10*	*96*		*16*	*144*	*160*
Pass-By				*68%*	*3,400*		*184*	*20*	*204*		*34*	*306*	*340*
Driveway				*100%*	*5,000*		*270*	*30*	*300*		*50*	*450*	*500*
Scientific Research	301	ksf	8		2,408	16%	347	39	386	14%	34	303	337
Cumulative/Driveway				*100%*	*2,408*		*347*	*39*	*386*		*34*	*303*	*337*
Hotel	400	room	10		4,500	6%	162	108	270	8%	216	144	360
Cumulative/Driveway				*100%*	*4,500*		*162*	*108*	*270*		*216*	*144*	*360*
Racquetball/Tennis/ Health Club	25	ksf	40		1,000	4%	24	16	40	9%	54	36	90
Cumulative/Driveway				*100%*	*1,000*		*24*	*16*	*40*		*54*	*36*	*90*

Table 4.15-10. Project-Generated Weekday Trip Generation (Without Stadium Event)

Land Use	Quantity	Units	Daily Trip Rates	Break-down by Trip Type	Daily Trips	AM Peak Hour % of Daily	AM Trips			PM Peak Hour % of Daily	PM Trips		
							In	*Out*	*Total*		*In*	*Out*	*Total*
Community Park/ River Park	6	acre	5		30	4%	1	0	1	8%	1	1	2
Cumulative/Driveway				*100%*	*30*		*1*	*0*	*1*		*1*	*1*	*2*
Active Parks	50	acre	50		2,500	4%	60	40	100	8%	120	80	200
Cumulative/Driveway				*100%*	*2,500*		*60*	*40*	*100*		*120*	*80*	*200*
Landscaped Areas, Paseos, Trails, etc.	27.6	acre			-	-	-	-	-	-	-	-	-
Cumulative/Driveway				*100%*	-		-	-	-		-	-	-
Gross Subtotal				**Cumulative**	**65,694**		**3,645**	**2,228**	**5,873**		**3,012**	**4,075**	**7,087**
				Pass-By	**8,104**		**300**	**93**	**393**		**289**	**561**	**850**
				Driveway	**73,798**		**3,945**	**2,321**	**6,266**		**3,301**	**4,636**	**7,937**
Trip Reductions	Mixed-Use (Internal) Trips (11% Daily/15% AM/13% PM)				(7,226)		(547)	(334)	(881)		(392)	(530)	(921)
	Transit/Bike/Walk Trips (7% Daily/10% AM/10% PM)				(4,599)		(364)	(223)	(587)		(301)	(407)	(709)
Adjusted Gross Subtotal				**Cumulative**	**53,869**		**2,734**	**1,671**	**4,405**		**2,319**	**3,138**	**5,457**
				Pass-By	**8,104**		**300**	**93**	**393**		**289**	**561**	**850**
				Driveway	**61,973**		**3,034**	**1,764**	**4,798**		**2,608**	**3,699**	**6,307**
Existing													
Stadium					(1,089)		(62)	(2)	(64)		(17)	(33)	(50)
Cumulative/Driveway				*100%*	*(1,089)*		*(62)*	*(2)*	*(64)*		*(17)*	*(33)*	*(50)*
Net Trip Generation Subtotal													
Net Project Subtotal (Proposed - Existing)	Cumulative				52,780		2,672	1,669	4,341		2,302	3,105	5,407
	Pass-By				8,104		300	93	393		289	561	850
	Driveway				60,884		2,972	1,762	4,734		2,591	3,666	6,257

Table 4.15-10. Project-Generated Weekday Trip Generation (Without Stadium Event)

Land Use	Quantity	Units	Daily Trip Rates	Break-down by Trip Type	Daily Trips	AM Peak Hour % of Daily	AM Trips			PM Peak Hour % of Daily	PM Trips		
							In	*Out*	*Total*		*In*	*Out*	*Total*
TDM Program													
14.41% Reduction					(7,606)		(385)	(241)	(625)		(332)	(447)	(779)
Cumulative/Driveway			*100%*		*(7,606)*		*(385)*	*(241)*	*(625)*		*(332)*	*(447)*	*(779)*
Net Trip Generation Total													
Net Project Total (Proposed - Existing)	Cumulative				45,174		2,287	1,429	3,716		1,970	2,658	4,628
	Pass-By				8,104		300	93	393		289	561	850
	Driveway				53,278		2,587	1,522	4,109		2,259	3,219	5,478

Source: Appendix 4.15-1
Notes:
[a] Commercial Office Formula: Ln(T) = 0.756 Ln(ksf) + 3.95
Calculated separately by building

4.15.5.1.1 Campus Effect on Trip Generation

As previously explained, standard vehicle trip rates for market uses (e.g., commercial office buildings) were used for this analysis. However, standard trip rates assume that nearly all uses will operate independently without having any formal connection to one another. However, as noted in Section 4.15.1, many of the uses on the site are expected to integrate with university uses and eventually transition to SDSU facility uses, resulting in a cohesive university campus. This would result in all the campus space being used for instructional uses, as well as all the residential buildings being occupied by students, faculty, staff, and their dependents similar to the existing SDSU College Area campus. SDSU estimates that the Mission Valley campus would ultimately serve a full-time equivalent (FTE) student population of up to 15,000 at build out.

To estimate the change in project trip generation that would take place with the conversion of the entire project site to university uses, the City of San Diego trip rate for a university of 2.5 daily trips per student (and the associated peak hour ratios) were applied to a 15,000-student campus. Based on the City's trip rate, the resulting trip generation is 41,622 net new daily trips (see TIA Appendix C), which is nearly 8% below the trips that would be generated by the market uses analyzed here. Thus, for purposes of identifying potentially long-term significant transportation impacts, the analysis presented in this section represents a conservative estimate of vehicle trip generation.

4.15.5.1.2 Stadium Event Trip Generation

The proposed Stadium is expected to be operational by 2022 and is anticipated to host a variety of events with a range of attendance levels. The highest attendance-level, regularly scheduled events are expected to be SDSU Aztec football games and possibly professional sporting games that are primarily held on Saturday afternoons or evenings or possibly on Sundays (an analysis of *weekday* events is presented in Section 4.15.6.1.1). The estimated daily vehicle trip generation for a Stadium event is presented in Table 4.15-11.

The estimate presented in the table uses an average vehicle occupancy (AVO) of 2.75 persons per vehicle[5], and a greater focus on transit use given the proposed parking supply and anticipated emphasis on parking and TDM (see Sections 4.15.7.5 and 4.15.7.6, respectively). Using mode share estimates based on data collected (see Section 4.15.3.5.6), combined with professional engineering judgment, and without any reduction applied for Stadium attendees that would patronize the supporting retail and restaurant uses, the resulting trip generation estimate is 21,221 daily trips. Based on the traffic engineer's experience and professional judgment, it is estimated that at least 10% of the attendees at a capacity event, or 3,500 people, would patronize the supporting retail uses. Because those attendees are already included in the project's retail uses trip generation, a Stadium event would result in an estimated net vehicle trip generation of 19,099 new vehicle trips (21,221 x 90%).

Table 4.15-11. Stadium Daily Vehicle Trip Generation

Mode	Mode Share[1]	Attendees *35,000 (100% of Capacity)*	Vehicles	Vehicle Trips
Transit	22%	7,700	0	0
TNC[2]/Taxi	8%	2,800	1,018	4,073[3]
Shuttle/Private Bus	1%	350	23	93[4]

[5] AVO is expected to be higher than existing (2.29 per **Section 4.15.3.5.6**) due to a decrease in parking availability and increased friction at event departure. TNC AVO is conservatively estimated to be equal to that of private autos.

Table 4.15-11. Stadium Daily Vehicle Trip Generation

Mode	Mode Share[1]	Attendees *35,000 (100% of Capacity)*	Vehicles	Vehicle Trips
Walk/Bike	2%	700	0	0
Private Auto	67%	23,450	8,527	17,055[5]
Total	**100%**	**35,000**	**9,568**	**21,221**
			Mixed-Use Reduction (10%)	(2,122)
			Total Net New Stadium Vehicle Trips	**19,099**

Source: Appendix 4.15-1.
Notes:
1 Percent of attendees driving and using TNC/Taxi for general major events is estimated to be higher than observed for an SDSU Aztec football game given fewer students traveling by trolley to the Stadium. Other mode share is based on engineering judgement.
2 TNC = Transportation Network Company (e.g., Uber, Lyft)
3 Estimated to be 4 trips per vehicle and 2.75 persons per vehicle
4 Estimated to be 4 trips per vehicle and 15 persons per vehicle
5 Estimated to be 2 trips per vehicle and 2.75 persons per vehicle

4.15.5.1.3 Stadium Event Peak Hour Trip Generation

The majority of high attendance Stadium events with more than 20,000 spectators are anticipated to take place on Saturday and Sunday days and evenings. A total of 38 Stadium events per year are planned that could exceed 20,000 attendees each, with 27 events to be held on weekend days and 11 on a weekday evening. The most frequent events to be held on weekdays (Monday through Friday) with the highest attendance levels would be a professional or international soccer match, or a concert; only one SDSU Aztec football game per season is expected to take place on a weekday and that usually occurs on a Friday night. All of these weekday events are expected to have a start time of 7:00 pm or later and, therefore, some attendees would be expected to arrive during the typical PM commute period between 4:00 pm to 6:00 pm and some attendees arriving after the peak period, between 6:00 pm and 7:00 pm.

To estimate the number of Stadium event trips that would be generated during the PM peak hour, traffic count data for the Sacramento Republic US League (USL) soccer team was used and supplemented with data from the Golden 1 Center in Sacramento, as well as from Levi's Stadium in Santa Clara. Based on this data, the distribution of attendee arrival time is estimated to be as follows:

- 5pm to 6pm: 22.8%
- 6pm to 6:30pm: 38.0%
- 6:30pm to 7pm: 32.0%
- After 7pm: 7.2%

Based on this information, 22.8% or 4,355 attendees would be expected to arrive during the last hour (5:00-6:00 pm) of the peak period. Using the daily trip generation rates from Table 4.15-11, a total of 1,964 PM peak hour vehicle trips from a full capacity Stadium event are projected to be generated as shown in Table 4.15-12. Only a negligible number of Stadium trips would be generated during the AM peak hour. These morning trips are expected to include maintenance and security personnel and are estimated to be less than 50 total.

Table 4.15-12. Stadium Peak hour Vehicle Trip Generation

Mode	Daily Vehicle Trips After Mixed-Use Reduction	Vehicle Trips Occurring Before Event (50% of Daily)	Percent Traveling During Weekday PM Peak Hour	Stadium Event PM Peak Hour Vehicle Trips: Total (In / Out)
TNC[1]/Taxi	3,666[2]	1,833	22.8%	418 (209 / 209)
Shuttle/Private Bus	84[3]	42	22.8%	10 (5 / 5)
Private Auto	15,349[4]	7,675	22.8%	1,750 (1,750 / 0)
			Total	**2,178 (1,964 / 214)**

Source: Appendix 4.15-1.
Notes:
1 TNC = Transportation Network Company (e.g., Uber, Lyft,
2 Estimated to be 4 trips per vehicle and 2.75 persons per vehicle with a 10% reduction for mixed-use
3 Estimated to be 4 trips per vehicle and 15 persons per vehicle with a 10% reduction for mixed-use
4 Estimated to be 2 trips per vehicle and 2.75 persons per vehicle with a 10% reduction for mixed-use

4.15.5.2 Trip Distribution/Assignment

This section describes how the project-generated vehicle trips were distributed to the roadway network and the specific assignment of those trips to the study area intersections, roadway segments, freeway segments and ramps. The distribution for both non-Stadium and Stadium trips is described in this section.

4.15.5.2.1 Project Trip Distribution

For a project of this scope, the most appropriate planning tool to forecast trip distribution is the regional travel demand model maintained by SANDAG. A trip distribution estimate was prepared based on a "select zone" analysis of the SANDAG Series 13 Year 2035 travel demand model, where the proposed non-Stadium land uses were coded into the model, and the model roadway network was modified to exclude the potential Fenton Parkway bridge.[6] The select zone process identifies the number of trips on each roadway segment that would be generated by the single traffic analysis zone (TAZ) representing the project site. Figure 4.15-6, Trip Distribution, illustrates the vehicle trip distribution pattern for the non-Stadium project uses.

Project trips for *Stadium* events will have a distinct traffic distribution pattern from the typical residential and office/retail land uses within the project site. Stadium trip distribution was estimated using the zip codes of existing SDSU football season ticket holders and the most likely paths of travel to and from the Stadium site. The resulting distribution patter was applied to both weekday and weekend Stadium events. Figure 4.15-7, Event Trip Distribution, illustrates the vehicle trip distribution pattern for Stadium events.

4.15.5.2.2 Project Trip Assignment

Once the project trip generation is calculated and the general roadway distribution of those trips is determined, project trips were assigned to the study area intersections based on the characteristics of the streets within the study area, anticipated congestion, and directness of route. Figure 4.15-8, Project Trip Assignment, shows the assignment of the vehicle trips that would be generated on a typical weekday by the proposed project non-Stadium

6 While the Fenton Parkway bridge is planned as part of the future network in Mission Valley and would improve area connectivity, the timing of its implementation is not defined due to required environmental studies and funding sources that have not been identified. Accordingly, the Fenton Parkway bridge was excluded from the model for purposes of distributing project traffic.

uses at each intersection. Figure 4.15-9, Event Trip Assignment, shows the assignment of PM peak hour trips that would be generated by a Stadium event at each intersection.

4.15.5.3 Campus Effect on Trip Distribution

Because students have different trip-making patterns from the typical population, the trip distribution for university uses was examined. A trip distribution estimate was prepared based on a "select zone" analysis of the SANDAG Series 13 Year 2035 travel demand model similar to the process for the market project, with the proposed project land uses serving a 15,000-student university campus. The trip distribution was generally found to be the same as for the market project. Minor differences were noted along I-8 to the west of the study area and along Aero Drive to the west of Ruffin Road, both of which had a trip assignment approximately 0.5% less than that of the market project. Similarly, the trip assignment along I-8 to the east of the study area and along Montezuma Road were both approximately 0.5% greater than for the market project. As previously explained in Section 4.15.5.1.1, under a university project scenario, the total trip generation would be ~~21~~8% less than the market project scenario analyzed here. Therefore, while the trip distribution generally would be similar under a campus scenario, impacts under the university campus scenario generally would be less than the market project due to the lower trip generation.

4.15.5.4 Site Access, Internal Vehicle Circulation, and Project Roadway Improvements

The proposed project will take vehicle access from existing connections on Mission Village Drive/Street D immediately south of the Friars Road eastbound ramps, Stadium Way (Street A), San Diego Mission Road, and Rancho Mission Road. In addition, a new street will be constructed to connect to Fenton Parkway at the trolley rail crossing to the southwest portion of the site.

At Friars Road & Stadium Way (Street A), the intersection will be re-constructed to appropriately size the roadway for the proposed project and to enhance safety for bicyclists and pedestrians. A new full-time traffic signal will be installed to control traffic on all approaches with regular cycle lengths and protected turning movements. A signal warrant analysis for Horizon Year Plus Project found that the peak hour warrants are met for both peak hours (see TIA Appendix E). This signal will replace the existing part-time signal that is used for Stadium events only. The Friars Road approaches will be modified to include one (1) separate eastbound right-turn lane and two (2) separate westbound left-turn lanes under typical operating conditions. Additional pavement width will be available for use as a second eastbound right-turn lane during higher attendance stadium events only. Due to the proximity of this intersection to the fire station, the median break and "KEEP CLEAR" striping in front of the fire station access should be maintained. The northbound (i.e., Stadium Way (Street A)) approach will include two (2) left-turn lanes and two (2) right-turn lanes. Stadium Way (Street A) will be constructed and striped with two northbound lanes and two southbound lanes, plus a 24-foot wide striped median to allow contraflow operation so as to manage peak inbound and outbound traffic flows on game days when manual traffic control will be employed.

To improve safety and operations, the proposed project includes the realignment of San Diego Mission Road east of Mission Village Drive to connect within the project site, and to convert the Mission Village Drive & Friars Road Eastbound Ramps intersection to a standard four-legged configuration. The new San Diego Mission Road alignment will intersect with a new internal site road (Street F) that would be located east of and parallel to Mission Village Road at a new two-lane roundabout (Intersection #16). This new road will in turn connect with another internal site road (Street 4) that is aligned south of and parallel to Friars Road and provides a connection to Mission Village Drive/Street D at a new intersection south of the Friars Road Eastbound Ramps (Intersection #14).

Additionally, the segment of Rancho Mission Road that is aligned east-west and extends west of Ward Road will be extended as Street H~~I~~, which will be aligned parallel to and west of I-15 before intersecting with~~curving to align east-west as~~ Street 6~~ and intersecting with San Diego Mission Road and Street F at the new two-lane roundabout at Intersection #16~~. Street H will include a bridge over the park land uses and river trail, which would allow for park path connectivity and flood water management. ~~This intersection will have a build-out configuration of a two-lane roundabout to accommodate proposed project traffic plus existing volumes that currently use San Diego Mission Road to travel between Mission Village Drive and Rancho Mission Road (east of I-15).~~

Finally, as part of the proposed project, the intersections of Mission Village Drive at both of the Friars Road ramps will be improved to accommodate project traffic by widening the Mission Village Drive bridge over Friars Road to accommodate another lane in each direction, plus maintaining bike lanes and sidewalks in each direction between the two ramp intersections. These improvements ultimately will provide two through lanes and two left-turn lanes on Mission Village Drive at each Friars Road ramp. The provision of dual left turn lanes will provide additional storage to accommodate vehicle queues and will increase overall capacity at these locations. At the westbound on-ramp, it is recommended that the two lanes merge prior to the merge onto Friars Road, while at the eastbound on-ramp, it is recommended that the second on-ramp lane become a new auxiliary lane on Friars Road to the I-15 SB on-ramp. This will require widening the Friars Road bridge over the utility terminal driveway. Also, the westbound ramp from Friars Road to Mission Village Drive will be widened to accommodate a second westbound left-turn lane, and a second eastbound right-turn lane will be added to the Friars Road Eastbound ramp. All adjacent road improvements to be constructed as part of the proposed project are shown on Figures 4.15-10A and 4.15-10B, Project Road Improvements.

As shown on Figure 4.15-11, Internal Network, vehicular circulation within the project site will be provided by a grid system of 11 streets. Residential uses will be located on the east side of the site and will be accessed primarily by Mission Village Drive, San Diego Mission Road, and Rancho Mission Road. The campus uses will be located on the west side of the site south of the Stadium site and will be accessed primarily by Mission Village Drive, Stadium Way (Street A), and Fenton Parkway. Retail uses including the grocery store are planned to front Street D. Overall, the site will be completely interconnected to optimize traffic distribution on typical days. The Street D and Stadium Way (Street A) internal roads will be designed as major arterials.

Other internal roads generally will be collectors, except for the segment of Street 4 connecting San Diego Mission Road/Street F to Mission Village Drive/Street D, which is also expected to be designed as a major arterial with a raised median.

Internal intersections will be controlled by traffic signals, stop signs, or roundabouts depending on the street classification and anticipated turning movement volumes. Curb extensions, limited driveway cuts, and off-street shared use paths will enhance pedestrian connectivity across the site. Figure 4.15-11 illustrates the internal circulation network.

For all Stadium events, a transportation and parking management plan (TPMP) will be implemented as described in Section 4.15.1.4.

4.15.6 Significance Criteria

The following significance criteria were used to evaluate the proposed project's potential impacts on transportation facilities.

4.15.6.1 CEQA Appendix G

The significance criteria used to evaluate the project's transportation-related impacts are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to transportation would occur if the project would:

1. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). (Section 15064.3, subdivision (b), addresses the analysis of project impacts relative to vehicle miles traveled, or VMT. Portions of Section 15064.3 relevant to the analysis presented in this section are set forth below in Section 4.15.7.9 along with the corresponding VMT analysis.)
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

4.15.6.2 California State University (CSU), City of San Diego, and Caltrans Criteria

The analysis presented in this section addresses both direct and cumulative impacts. Direct impacts are those resulting from the project alone, relative to the baseline condition; the baseline condition may be existing conditions or a future condition, dependent upon the analysis scenario. Cumulative impacts are those that result from the project in combination with other past, present and reasonably foreseeable development projects. Cumulative impacts result if the project's effect is "cumulatively considerable," that is, the incremental effects of the project are considerable when viewed in connection with the effects of the other past, present, and reasonably foreseeable projects.

The following are the significance criteria applied in assessing the project's impacts relative to each component of the transportation system:

Intersections

Signalized Intersections

Based on the CSU TISM, the minimum acceptable operating standards for all roadways and intersections is LOS D. Specific to signalized intersections, the proposed project would result in a significant impact if any of the following scenarios occurs:

5. An intersection operating at LOS D or better under existing or future conditions without the project worsens to LOS E or F with the proposed project, or
6. At an intersection operating at LOS E or F without the proposed project, the project adds at least 10 peak hour trips and causes the delay to increase by more than five seconds, or
7. At an intersection operating at very poor LOS F (delay of 120 seconds or more) without the proposed project, the project causes an increase in V/C ratio of 0.02 or more.

The City of San Diego's CEQA Significance Determination Thresholds were also reviewed for local context and are referred to later in this analysis. The City's guidelines differ from the CSU TISM such that criteria 2 and 3 above would instead be consolidated to read as follows: At an intersection operating at LOS E or F without the proposed project, the project causes the delay to increase by more than two (2.0) and one (1.0) seconds for those operating levels,

respectively. The analyses of impacts based on the City's significance thresholds are presented for information purposes only; significance determinations and recommended mitigation are based on the CSU TISM thresholds.

Unsignalized Intersections

Based on the CSU TISM, the proposed project would result in a significant impact at an unsignalized intersection if any of the following scenarios occurs:

1. An intersection operating at LOS D or better under existing or future conditions without the project worsens to LOS E or F with the proposed project, or
2. At an intersection operating at LOS E or F without the proposed project, the project adds at least 10 peak hour trips and causes the delay to increase by more than five seconds, or
3. At an intersection operating at very poor LOS F (delay of 120 seconds or more) without the proposed project, the project causes an increase in V/C ratio of 0.02 or more.

Based on these criteria, the project is determined to have a significant project-specific impact if the addition of project traffic causes an unsignalized intersection to degrade from LOS D or better to LOS E or F and if the location satisfies the peak hour signal warrant described in the California Manual on Uniform Traffic Control Devices (MUTCD). The peak hour warrant is one of several key indications as to whether a traffic signal may be needed at a given location. An impact is considered a cumulative impact when it adds traffic to a study area location that includes a controlled approach that operates at an unacceptable level (i.e., LOS E or F) and if the peak hour signal warrant is satisfied.

As to the City of San Diego's Significance Thresholds, the City guidelines differ from the CSU TISM such that criteria 2 and 3 above would instead be consolidated to read as follows: At an intersection operating at LOS E or F without the proposed project, the project causes the delay to increase by more than two (2.0) and one (1.0) seconds for those operating levels, respectively. As previously noted, the analyses of impacts based on the City's significance thresholds are presented for information purposes only; significance determinations and recommended mitigation are based on the CSU TISM thresholds.

Roadway Segments

As previously explained, the analysis of roadway segments is included in this study for information purposes only to provide segment capacity evaluation consistent with City of San Diego impact guidelines. To that end, the following two-part analysis is performed to determine whether the proposed project meets City of San Diego criteria for traffic conditions on roadway segments:

Roadway Segment Analysis: Part 1

First, the vehicle/capacity (V/C) analysis is performed to determine whether the proposed project will result in either of the following:

- Traffic conditions on any roadway segment worsen from LOS D or better without the proposed project to LOS E or LOS F with the proposed project.
- The proposed project traffic results in a V/C ratio increase of more than 0.02 for LOS E roadway segments or 0.01 for LOS F roadway segments.

If a proposed project does not result in one of the above scenarios, then traffic conditions on that roadway meet the City of San Diego standards, and no further analysis is required. If, however, a proposed project results in one of the scenarios described in Part 1, then the following secondary analysis is performed:

Roadway Segment Analysis: Part 2

The analysis considers the following three additional factors to determine if the roadway segment will meet the City of San Diego standards; if the project fails to meet one of the three criteria, then traffic conditions along the roadway segment do not meet the City of San Diego standards:

- if the intersections at either end of the segment will operate acceptably with the project (using the intersection criteria described above);
- if an arterial analysis of the segment shows that it will operate at LOS D or better based on travel speed during both peak hours OR speeds decrease by less than 1 mph on roadway segments that operate at LOS E or less than 0.5 mph on roadway segments which operate at LOS F without the proposed project; and
- if the proposed street classification is consistent with the adopted Community Plan for the area.

Although the roadway segment analysis is presented for information purposes only, a discussion of improvements that would be needed to avoid exceedance of the threshold also is included.

Freeway Segments

Based on the CSU TISM, the local Caltrans district's preferred method should be used for the analysis of freeway facilities. In this case, the local Caltrans district's preferred method is the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region*. According to those guidelines, LOS D or better is used as the threshold for acceptable freeway operations. A significant impact to freeway mainline lanes is identified when the project causes:

1. a segment operating at LOS D or better (under baseline conditions without the proposed project) to degrade to LOS E or F, or
2. an increase in per lane V/C ratio greater than 0.01 (1%) for segments already operating at LOS E or F

The City of San Diego's CEQA Significance Determination Thresholds differ from the SANTEC guidelines such that for segments already operating at LOS F, the threshold is more restrictive at an increase in per lane V/C ratio greater than 0.005 (0.5%). The analysis of impacts based on the City's significance thresholds is presented for information purposes only.

Metered Ramps

Based on the CSU TISM, the local Caltrans district's preferred method should be used for freeway facility analysis, including metered ramps. In the San Diego region, the preferred method is the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region*, in which ramp meter delays greater than 15 minutes are considered undesirable when the ramp is accessing a freeway segment operating at LOS E or F. If a ramp meter is operating unacceptably (i.e. delay is 15 minutes or greater) and the project adds traffic to the on-ramp, causing the delay to increase by more than two (2) minutes, then this is characterized as a significant impact.

The City of San Diego's CEQA Significance Determination Thresholds are further restrictive in the case of LOS F conditions; analysis based on the City's significance thresholds is presented for information purposes only. Table

4.15-13 summarizes the impact thresholds as identified by the SANTEC, CSU TISM, and City of San Diego guidelines relative to freeways, segments, intersections, and ramp meters.

Table 4.15-13. Measure of Significant Traffic Impacts

Level of Service (LOS) with the Project[1]	Allowable Change Due to Project Impact[2]					
	Freeways		*Roadway Segments*		*Intersections*	*Ramp Meters*
	V/C	*Speed (mph)*	*V/C*	*Speed[3] (mph)*	*Delay (sec)*	*Delay (min)*
LOS D, E, or F (or ramp meter delays above 15 min)	0.01	1.0	0.02	1.0	2.0	2.0
LOS F (per City of San Diego)	0.005	0.5	0.01	0.5	1.0	1.0

Source: SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, 2002; CEQA Significance Determination Thresholds, City of San Diego 2016

Notes:

1 All level of service (LOS) measurements are based upon HCM procedures for peak-hour conditions. However, vehicle to capacity (V/C) ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

2 If the project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project developer shall then identify feasible mitigation (within the Traffic Impact Study report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the project becomes LOS E or F (see above * note), or if the project adds a significant number of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project developer shall be responsible for significantly reducing significant impact changes.

3 Speed-based LOS is only analyzed if an arterial analysis is required (Part 2 of the Roadway Segment Analysis).

Freeway Off-Ramps

The analysis of freeway off-ramps is not required by the CSU TISM, SANTEC, or City of San Diego impact guidelines. However, Caltrans typically requires that potential safety impacts on their system be identified as part of transportation impact analyses for land development projects, especially those that are projected to add a substantial amount of traffic to roadways under their jurisdiction. Accordingly, the analysis presented in this section includes a queuing evaluation at freeway off-ramps to determine if projected vehicle queues will extend back onto the freeway mainline so as to result in potential safety impacts. If the queue is projected to exceed the available ramp storage (i.e., the distance to the upstream mainline gore point) with the project in place, it will be considered a significant impact.

Bicycle Facilities

Based on the CSU TISM, the proposed project would result in a significant impact to bicycle facilities if the project would significantly disrupt existing or planned bicycle facilities or significantly conflicts with applicable non-automotive transportation plans, guidelines, policies, or standards.

The assessment of planned facilities outlined in planning documents, such as the *San Diego Regional Bicycle Plan*, is used to evaluate future conditions for bicycle facilities. If the project would conflict with existing or planned improvements to bicycle facilities, then the project would have a significant impact.

Pedestrian Facilities

Similarly, under the CSU TISM, the proposed project would result in a significant impact to pedestrian facilities if the project would fail to provide safe pedestrian connections between campus buildings and adjacent streets and transit facilities, or if a project significantly disrupts existing or planned pedestrian facilities or significantly conflicts with applicable non-automotive transportation plans, guidelines, policies, or standards.

Transit

Under the CSU TISM, the proposed project would result in a significant impact to transit facilities if the project would significantly disrupt existing or planned transit facilities and services or significantly conflict with applicable transit plans, guidelines, policies, or standards.

Vehicle Miles of Travel (VMT)

Based on the CSU TISM (revised March 2019), analysis of the proposed project's transportation impacts relative to VMT is to include an evaluation of potential project-level impacts, as well as cumulative-level impacts based on the effects of the project on regional VMT.

Under the TISM, and consistent with CEQA Guidelines, the proposed project potentially could be screened out from the requirement to complete a project-level VMT evaluation because the proposed project would be built within a transit priority area (TPA). However, a project-level assessment was completed utilizing the CSU TISM and OPR recommended threshold of 15% below the existing regional average for San Diego County; that is, project impacts would be significant if the project VMT were greater than 15% below existing VMT.

For the cumulative analysis, the regional VMT with the project in place under horizon year conditions must be less than the regional VMT without the project to avoid a significant impact. The VMT analysis is presented for informational purposes only, and is not used for the purpose of identifying significant VMT impacts; lead agencies are not required to include VMT analyses as part of their CEQA documentation until July 1, 2020.

4.15.7 Impacts Analysis

4.15.7.1 Existing Plus Project Conditions

As previously stated, the Existing plus Project traffic scenario provides forecasts of traffic volumes and an assessment of operating conditions under existing baseline conditions with the addition of project-generated traffic, as though the proposed project were immediately built out. This hypothetical scenario isolates the potential impacts of the proposed project and the analysis eliminates the impacts of both ambient growth and other proposed projects, thereby potentially understating impacts. Additionally, the analysis does not account for future roadway improvements that would provide additional capacity and, in this regard, the analysis potentially overstates impacts. As such, the results of the analysis can be misleading, especially in the case of a project like this with a long-term build out. For these reasons, the Existing Plus Project Conditions analysis presented here is for information purposes only; project impacts are assessed, and corresponding mitigation measures identified, against the Horizon Year (2037) Plus Project Conditions, which considers the effects of future traffic growth, planned infrastructure improvements, and changing land uses.

This section presents the results of the operations analysis under the hypothetical Existing Plus Project scenarios, both without and with a Stadium Event, which is modeled as a sold-out event.

4.15.7.1.1 Existing Plus Project – Without Stadium Event Conditions

Under Existing Plus Project Conditions, project-generated traffic volumes that assume immediate buildout of the entire site are added to existing study area intersection and roadway segment traffic volumes and the resulting impacts assessed. Therefore, and as previously stated, in the case of projects like this with a long-term 10-20 year buildout scenario, such analysis is hypothetical because the proposed project will not be immediately built out. As a result, the Existing Plus Project scenario tends to *understate* impacts in that it does not consider expected future traffic growth from other, or cumulative, projects and, therefore, the analysis overstates capacity available to the project. Relatedly, the Existing Plus Project scenario can *overstate* impacts in that it does not account for planned future road improvements that would provide additional capacity. Because the Existing Plus Project scenario is hypothetical in nature and potentially both understates and overstates significant impacts, the results of the Existing Plus Project analysis can be misleading to both the decision-maker and the public. For this reason, the Existing Plus Project analysis presented here in Section 4.15.7.1.1 and the accompanying Section 4.15.7.1.2 is provided for information purposes only; the proposed project's significant impact determinations and recommended mitigation measures will be identified based on the Horizon Year (2037) Plus Project analysis presented in Section 4.15.7.3.1 and the accompanying Section 4.15.7.3.2, which accurately reflect future cumulative traffic conditions, as well as future road improvements, forecast to be in place at the time the proposed project reaches full buildout.

To be distinguished from the full Project buildout scenario, because the Stadium component of the proposed project will, unlike the remainder of the proposed project, be built in the near-term, approximately year 2022, the analysis of potential impacts associated with the Stadium are accurately assessed under an Existing Plus Stadium Event scenario. Therefore, significant impacts and mitigation are identified under this scenario, which is presented in Section 4.15.7.1.3.

Intersections

Turning movement traffic volumes and intersection lane configurations for the Existing Plus Project Conditions are shown on TIA Figure 14. This information was used to calculate operations under this scenario.

Table 4.15-14 presents a summary of the intersection operating conditions and traffic changes under the Existing Plus Project conditions, comparing the projected levels of service at each study area intersection under the proposed project with Existing Conditions. The corresponding LOS calculation sheets are included in TIA Appendix B.

As indicated in Table 4.15-14, after applying the applicable CSU TISM significant impact criteria for intersections, the proposed project is projected to exceed the thresholds at 11 locations:

1. SR-163 SB Ramps/Ulric St & Friars Road (PM peak hour) – Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 6.1 seconds.
2. SR-163 NB Ramps & Friars Road (PM peak hour) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and increase delay by 42.8 seconds.
3. Frazee Road & Friars Road (PM peak hour) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 27.0 seconds.

9. Fenton Parkway & Friars Road (PM peak hour) – Project traffic would degrade LOS C operations to LOS E in the PM peak hour and increase delay by 33.7 seconds.
17. I-15 SB Ramps & Friars Road (AM and PM peak hours) – Project traffic would degrade LOS D operations to LOS F in the AM peak hour, would degrade LOS E operations to LOS F in the PM peak hour, and would increase delay by 46.2 and over 34.5 seconds, respectively.
18. I-15 NB Ramps & Friars Road (AM and PM peak hours) – Project traffic would degrade LOS E operations to LOS F in the AM and PM peak hours and would increase delay by 43.8 and 146.0 seconds, respectively.
19. Rancho Mission Road & Friars Road -- Existing conditions are estimated to be LOS D based on engineering judgment and field observations, and to be conservative it is assumed that project traffic would degrade operations to LOS E.
31. Texas St & Camino del Rio S (PM peak hour) – Project traffic would exacerbate LOS E operations in the PM peak hour and would increase delay by 7.7 seconds.
32. Ward Road & Rancho Mission Road (AM and PM peak hours) – Project traffic would degrade LOS C to LOS F operations in the AM and PM peak hours and would increase delay by 39.4 seconds and 67.2 seconds, respectively. The addition of project traffic would satisfy the peak hour signal warrant per the California MUTCD.
35. Fairmount Avenue & Camino del Rio North (AM and PM peak hours) – Project traffic would degrade LOS D operations to LOS E in the AM peak hour, would degrade LOS E operations to LOS F in the PM peak hour, and would increase delay by 21.1 and 55.6 seconds, respectively.

For stop-sign controlled Intersection #32 (Ward Road & Rancho Mission Road), the peak hour signal warrant is satisfied. Warrant calculations are included in TIA Appendix B. That finding, coupled with the LOS F operations results in threshold exceedance at this location.

Under the City thresholds, the same intersections would exceed the applicable thresholds; that is, no additional deficiencies would be identified based on application of the City's criteria.

It should be noted that while the analysis presented in this section is for information purposes only, all of the locations identified under this scenario are also identified as significant impacts, with mitigation recommended, under the Horizon Year scenario with the exception of Intersections #2 and #3 where planned future improvements will substantially improve conditions thereby resulting in the elimination of these impacts under the Horizon Year scenario (see Section 4.15.7.2.1).

Roadway Segments

Project traffic traversing the study area roadway segments was added to existing peak hour roadway volumes. Table 4.15-15 displays the LOS analysis for the study area roadway segments under Existing Plus Project Conditions and compares the projected levels of service on each segment under the proposed project with the Existing Conditions LOS. The referenced exceedance triggers the second part of the roadway analysis, which evaluates intersection LOS on either side of the segment, the arterial speed-based LOS on the segment, and the existing Community Plan street classification.

As shown in the table, all study area roadway segments are projected to operate acceptably at LOS D or better except for the following segments:

9. Friars Road from the I-15 Ramps to Rancho Mission Road (LOS E) - Project traffic would degrade LOS D operations to LOS E and would result in a V/C increase that exceeds the maximum threshold. Note that the travel time increase along this segment is no more than 32 seconds in each direction and peak hour.
17. San Diego Mission Road from Mission Village Drive to Rancho Mission Road (LOS F) - Project traffic would degrade LOS C operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
18. San Diego Mission Road from Rancho Mission Road to Fairmount Avenue (LOS E) - Project traffic would degrade LOS C operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
19. Rancho Mission Road from Friars Road to San Diego Mission Road (LOS E) - Project traffic would degrade LOS D operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
22. Ward Road from Rancho Mission Road to Camino del Rio North (LOS F) - Project traffic would degrade LOS C operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.
34. Camino del Rio South from Texas Street to Mission City Parkway (LOS F) - Project traffic would degrade operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.

All of the locations identified under this scenario as operating below acceptable levels of service also are identified under the Horizon Year scenario as operating similarly.

Freeway Segments

Table 4.15-16 illustrates freeway operation under Existing Plus Project Conditions. As shown on the table, the addition of project trips at all locations would exacerbate operations. Based on Caltrans' applicable significant impact criteria, the proposed project would exceed the thresholds on the following freeway segments:

10. I-15 from Adams Avenue to I-8 (NB, PM peak hour; SB, PM peak hour).
11. I-15 from I-8 to Friars Road (NB auxiliary lanes, PM peak hour; SB auxiliary lanes to I-8, AM and PM peak hours; SB auxiliary lane to I-15 SB, PM peak hour).
12-13. I-15 from Friars Rd to Balboa Avenue/Tierrasanta Boulevard (NB, AM peak hour; SB, PM peak hour).
15-16. I-8 from Taylor Street to SR-163 (EB, PM peak hour).
17-18. I-8 from SR-163 to Texas Street (WB, PM peak hour).
20. I-8 from I-805 to I-15 (EB, PM peak hour; WB, AM peak hour).
22-23. I-8 from Fairmount Avenue to College Avenue (EB, PM peak hour; WB, AM peak hour).

Under the City of San Diego criteria, in addition to the segments noted above, the following freeway segments would exceed the City's thresholds:

1. SR-163 from 6th Avenue to I-8 (SB, PM peak hour)
17. I-8 from SR-163 to Mission Center Road (WB, AM peak hour)
18. I-8 from Mission Center Road to Texas Street (EB, PM peak hour; WB, AM peak hour)

All of the locations identified as operating at less than acceptable levels of service under this scenario also are identified under the Horizon Year scenario as operating at similar conditions.

Ramp Metering

Table 4.15-17 illustrates the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Existing Plus Project Conditions. As shown in Table 17, based on Caltrans criteria, all ramps are expected to operate with unacceptable delays during one or both peak hours. Additionally, on-ramp capacity is not sufficient to accommodate the peak hour demand during metered peak periods at all ramps; thus, ramp queues are expected to spill back onto the arterial street.

Specific to the proposed project, the project would increase delay by more than two minutes at four on-ramps operating with delays above 15 minutes without the project and, therefore, would exceed the Caltrans threshold at the following four locations:

- I-15 NB On-ramp from Friars Road – operates at 14.1 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 30.1 minutes to a total delay of 44.2 minutes, resulting in an exceedance of the threshold. Therefore, project traffic would exacerbate undesirable operations and result in a delay increase that exceeds the threshold for an on-ramp operating with delays greater than 15 minutes.
- I-15 SB/I-8 Loop On-ramp from Friars Road – operates at 7.6 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 17.2 minutes to a total delay of 24.8 minutes, resulting in an exceedance of the threshold. Therefore, project traffic would exacerbate undesirable operations and result in a delay increase that exceeds the threshold for an on-ramp operating with delays greater than 15 minutes.
- I-15 SB Direct On-ramp from Friars Road – operates at 0 minutes of delay in the PM peak hour without the project. The addition of project traffic would exacerbate operations and increase delay by 18.5 minutes to a total delay of 18.5 minutes, resulting in an exceedance of the threshold. Therefore, project traffic would degrade operations to undesirable levels and result in a delay greater than 15 minutes.
- I-8 EB On-ramp from southbound Fairmount Avenue – operates at 7.1 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 28.7 minutes to a total delay of 35.8 minutes, resulting in an exceedance of the threshold. Therefore, project traffic would degrade operations to undesirable levels and result in a delay greater than 15 minutes.

Note that the same ramps would exceed the thresholds of the City of San Diego impact criteria. Additionally, all of the locations identified under this scenario as operating at unacceptable levels of service are also identified under the Horizon Year scenario as operating similarly.

Off-Ramp Queuing

Table 4.15-18 illustrates the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown, all off-ramp queues can be accommodated by existing storage capacity under Existing Plus Project Conditions and, therefore, all would operate at acceptable levels of service.

Table 4.15-14. Existing Plus Project Conditions Without Event Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd	Signalized	AM	22.5	C	23.1	C	0.6	NO
		PM	**57.9**	**E**	**64.0**	**E**	**6.1**	**YES**
2. SR-163 NB Ramps & Friars Rd	Signalized	AM	11.2	B	11.7	B	0.5	NO
		PM	**60.9**	**E**	**103.7**	**F**	**42.8**	**YES**
3. Frazee Rd & Friars Rd	Signalized	AM	26.9	C	27.9	C	1.0	NO
		PM	51.0	D	**78.0**	**E**	**27.0**	**YES**
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	10.5	B	11.5	B	1.0	NO
		PM	11.1	B	12.5	B	1.4	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	15.9	B	15.8	B	-0.1	NO
		PM	25.1	C	25.6	C	0.5	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	17.4	B	19.2	B	1.8	NO
		PM	22.1	C	22.4	C	0.3	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.9	A	7.0	A	1.1	NO
		PM	9.6	A	11.1	B	1.5	NO
8. River Run Dr & Friars Rd	Signalized	AM	17.7	B	18.2	B	0.5	NO
		PM	37.1	D	53.3	D	16.2	NO
9. Fenton Pkwy & Friars Rd	Signalized	AM	25.3	C	25.2	C	-0.1	NO
		PM	30.2	C	**63.9**	**E**	**33.7**	**YES**
10. Northside Dr & Friars Rd	Signalized	AM	28.0	C	22.4	C	-5.6	NO
		PM	39.9	D	39.4	D	-0.5	NO
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	11.2	B	N/A	NO
		PM	-	N/A	35.4	D	N/A	NO
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	18.5	B	28.6	C	10.1	NO
		PM	32.6	C	30.1	C	-2.5	NO
13. Mission Village Dr & Friars Rd EB Ramps/San Diego Mission Rd*	Signalized	AM	**59.9**	**E**	14.7	B	-45.2	NO
		PM	54.2	D	26.1	C	-28.1	NO
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A	21.6	C	N/A	NO
		PM		N/A	35.7	D	N/A	NO

Table 4.15-14. Existing Plus Project Conditions Without Event Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
15. Street B & Street 2	Signalized	AM	DNE	N/A	26.0	C	N/A	NO
		PM		N/A	34.3	C	N/A	NO
16. Murphy Creek Rd & Street B/ San Diego Mission Rd	Roundabout	AM	DNE	N/A	7.0	A	N/A	NO
		PM		N/A	7.8	A	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	38.0	D	**84.2**	**F**	**46.2**	**YES**
		PM	49.3	D** (E)	**83.8**	**F** (F)	**34.5**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	34.2	C** (E)	**78.0**	**F** (F)	**43.8**	**YES**
		PM	47.8	D** (E)	**193.8*** **	**F** (F)	**146.0**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	23.1	C** (D)	27.7	C (E)	4.6	**YES**** **
		PM	17.7	B** (D)	33.6	D (E)	15.9	**YES**** **
20. Santo Rd & Friars Rd	Signalized	AM	25.4	C	28.0	C	2.6	NO
		PM	13.3	B	14.8	B	1.5	NO
21. Riverdale St & Friars Rd	Signalized	AM	21.1	C	21.9	C	0.8	NO
		PM	20.7	C	20.9	C	0.2	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	33.4	C	33.5	C	0.1	NO
		PM	32.2	C	33.1	C	0.9	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	14.6	B	15.6	B	1.0	NO
		PM	23.0	C	24.8	C	1.8	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	9.5	A	9.8	A	0.3	NO
		PM	12.1	B	13.1	B	1.0	NO
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	15.2	B	15.3	B	0.1	NO
		PM	21.7	C	22.4	C	0.7	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	21.5	C	27.6	C	6.1	NO
		PM	22.1	C	32.0	C	9.9	NO
27. Fairmount Ave & San Diego Mission Rd/ Twain Ave	Signalized	AM	13.7	B	18.4	B	4.7	NO
		PM	13.0	B	16.9	B	3.9	NO
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	18.2	B	18.7	B	0.5	NO
		PM	**61.2**	**E**	**60.7**	**E**	-0.5	NO

Table 4.15-14. Existing Plus Project Conditions Without Event Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	10.7	B	11.5	B	0.8	NO
		PM	42.8	D	43.4	D	0.6	NO
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.1	A	1.0	A	-0.1	NO
		PM	4.0	A	4.1	A	0.1	NO
31. Texas St & Camino del Rio S	Signalized	AM	39.0	D	41.9	D	2.9	NO
		PM	**55.6**	**E**	**63.3**	**E**	**7.7**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	20.0	C	**59.4**	**F**	**39.4**	**YES**
		PM	18.7	C	**85.9**	**F**	**67.2**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	11.9	B	17.8	B	5.9	NO
		PM	13.8	B	21.5	C	7.7	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	20.7	C	24.8	C	4.1	NO
		PM	25.3	C	45.7	D	20.4	NO
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	53.8	D	**74.9**	**E**	**21.1**	**YES**
		PM	**61.0**	**E**	**116.6**	**F**	**55.6**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	12.7	B	14.0	B	1.3	NO
		PM	21.3	C	24.8	C	3.5	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	39.4	D	37.6	D	-1.8	NO
		PM	25.1	C	26.7	C	1.6	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	5.1	A	5.2	A	0.1	NO
		PM	6.6	A	7.7	A	1.1	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	11.1	B	11.5	B	0.4	NO
		PM	7.5	A	8.5	A	1.0	NO
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	14.2	B	19.5	B	5.3	NO
		PM	16.0	B	20.0	B	4.0	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	30.8	C	32.9	C	2.1	NO
		PM	31.3	C	38.1	D	6.8	NO

Table 4.15-14. Existing Plus Project Conditions Without Event Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS[2,3]*	*Delay (sec/veh)[1]*	*LOS[2,3]*		
42. Gramercy Dr & Mobley St	Signalized	AM	6.3	A	6.4	A	0.1	NO
		PM	5.3	A	5.4	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	8.9	A	9.1	A	0.2	NO
		PM	10.4	B	10.4	B	0.0	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual (HCM) method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of HCM 6 at this intersection. The HCM 2000 method was applied instead.

** Ramp metering during the peak hours results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

*** Calculated delays above 150 seconds may not be accurate and should be used with caution.

**** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would exceed the TISM threshold.

Table 4.15-15. Existing Plus Project Conditions Without Event Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Conditions			V/C Delta	Requires Additional Analysis?*
ID	*Extent (from/to)*				*ADT*	*V/C[2]*	*LOS[3,4]*	*ADT*	*V/C[2]*	*LOS[3,4]*		
Friars Rd												
1	Frazee Rd	Mission Center Rd	7E	93,330	43,540	0.47	B	47,779	0.51	B	0.04	NO
2	Mission Center Rd	Qualcomm Way	6E	80,000	40,223	0.50	B	45,710	0.57	C	0.07	NO
3	Qualcomm Way	River Run Dr	6E	80,000	35,187	0.44	B	42,521	0.53	C	0.09	NO
4	River Run Dr	Fenton Pkwy	6P	60,000	35,757	0.60	C	43,379	0.72	C	0.12	NO
5	Fenton Pkwy	Northside Dr	6P	60,000	35,037	0.58	C	42,641	0.71	C	0.13	NO

Table 4.15-15. Existing Plus Project Conditions Without Event Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Conditions			V/C Delta	Requires Additional Analysis?*
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3,4]	*ADT*	*V/C*[2]	*LOS*[3,4]		
6	Northside Dr	Stadium Way (Street A)	6E – 6P with project	80,000 – 60,000	45,076	0.56	C	53,139	0.89	D	0.33	NO
7	Stadium Way (Street A)	Mission Village Dr	6E	80,000	45,076	0.56	C	57,022	0.71	C	0.15	NO
8	Mission Village Dr	I-15 Ramps	6E	80,000	43,746	0.55	C	63,021	0.79	D	0.24	NO
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	60,400	0.86	D	65,837	**0.94**	**E**	**0.08**	**YES**
10	Rancho Mission Rd	Santo Rd	7P	70,000	50,773	0.73	C	53,133	0.76	C	0.03	NO
11	Santo Rd	Riverdale St	6P	60,000	49,805	0.83	C	51,508	0.86	D	0.03	NO
12	Riverdale St	Mission Gorge Rd	6P	60,000	45,257	0.75	C	46,834	0.78	C	0.03	NO
Qualcomm Way												
13	Friars Rd	Rio San Diego Dr	6M	50,000	14,616	0.29	A	15,850	0.32	A	0.03	NO
Rio San Diego Dr												
14	Qualcomm Way	River Run Dr	4M	40,000	11,301	0.28	A	12,098	0.30	A	0.02	NO
15	River Run Dr	Fenton Pkwy	4C/M	30,000	9,264	0.31	A	10,138	0.34	B	0.03	NO
Fenton Pkwy												
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	5,165	0.13	A	6,359	0.16	A	0.03	NO
San Diego Mission Rd												
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	7,660	0.51	C	14,331	**0.96**	**E**	**0.45**	**YES**
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	8,819	0.59	C	13,873	**0.92**	**E**	**0.33**	**YES**

Table 4.15-15. Existing Plus Project Conditions Without Event Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Conditions			V/C Delta	Requires Additional Analysis?*
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3,4]	*ADT*	*V/C*[2]	*LOS*[3,4]		
Rancho Mission Rd												
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	15,210	0.68	D	19,512	**0.87**	**E**	**0.19**	**YES**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	9,582	0.64	C	11,307	0.75	D	0.11	NO
21	West of Ward Rd		2C	10,000	1,510	0.15	A	5,961	0.60	C	0.45	NO
Ward Rd												
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	9,972	0.66	C	14,666	**0.98**	**E**	**0.32**	**YES**
Fairmount Ave												
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	7,217	0.24	A	10,672	0.36	B	0.12	NO
Mission Village Dr												
24	Ruffin Rd	Shawn Ave	4C	30,000	15,184	0.51	C	19,463	0.65	C	0.14	NO
25	Shawn Ave	Ronda Ave	4C	30,000	12,343	0.41	B	16,830	0.56	C	0.15	NO
26	Ronda Ave	Friars Rd	4M	40,000	14,241	0.36	A	18,746	0.47	B	0.11	NO
Ruffin Rd												
27	Aero Dr	Mission Village Dr	4C	30,000	13,617	0.45	B	16,252	0.54	C	0.09	NO
Gramercy Dr												
28	Mobley St	Ruffin Rd	4M	40,000	7,827	0.20	A	9,183	0.23	A	0.03	NO
Aero Dr												
29	Sandrock Rd	Ruffin Rd	4M	40,000	19,636	0.49	B	20,974	0.52	B	0.03	NO
30	Ruffin Rd	Daley Center Dr	4M	40,000	26,069	0.65	C	27,200	0.68	C	0.03	NO
Camino del Rio N												
31	Qualcomm Way	Mission City Pkwy	4C	30,000	9,608	0.32	A	10,063	0.34	B	0.02	NO

Table 4.15-15. Existing Plus Project Conditions Without Event Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Conditions			V/C Delta	Requires Additional Analysis?*
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3,4]	*ADT*	*V/C*[2]	*LOS*[3,4]		
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	8,540	0.57	C	9,459	0.63	C	0.06	NO
33	Ward Rd	Fairmount Ave	4C	30,000	12,173	0.41	B	16,407	0.55	C	0.14	NO
Camino del Rio S												
34	Texas St	Mission City Pkwy	2C	10,000	11,496	**1.15**	**F**	11,717	**1.17**	**F**	**0.02**	**YES**

Source: Appendix 4.15-1

Notes:

1 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
6E = 6-lane expressway
7E = 7-lane expressway (4 lanes in one direction and 3 in opposing direction); capacity is assumed to be 117% of 6E capacity

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)* and the *Mission Valley Community Plan Update (2019)*

4 Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

* City methodology as to the analysis of road segments consists of a two-step process. First, a vehicle/capacity (V/C) analysis is performed to determine whether the proposed project would result in certain pre-conditions. If the identified pre-conditions are not met, no further analysis is required. If, on the other hand, the pre-conditions are met, the analysis proceeds to step 2, which considers additional operational factors before concluding whether a threshold exceedance would result. The results presented in Table 4.15-15 illustrate the first part of the analysis. Segments labelled "NO" require no further analysis; segments labeled "YES" require step 2 of the analysis. The step 2 analysis and related results are presented in Draft EIR Appendix 15-1, Transportation Impact Analysis, Section 9.3.2

Table 4.15-16. Existing Plus Project Without Event Conditions Freeway Segment Level of Service

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Existing Without the Project Conditions						Existing Plus Project Conditions						V/C Delta		Exceeds TISM Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	5,256	5,705	0.80	0.86	C	D	5,323	5,763	0.81	0.87	D	D	0.01	0.01	NO	NO
		SB	3M+2A	7,800	8,966	8,021	1.15	1.03	F(0)	F(0)	9,008	8,099	1.15	1.04	F(0)	F(0)	0.01	0.01	NO	NO**
2	I-8 to Friars Rd	NB	2A	2,400	1,621	1,759	0.68	0.73	C	C	1,767	1,853	0.74	0.77	C	C	0.06	0.04	NO	NO
		SB	4M+2A	9,600	8,201	7,490	0.85	0.78	D	C* (F)	8,243	7,576	0.86	0.79	D	C (F)	0.00	0.01	NO	NO
3	Friars Rd to Mesa College Dr5	NB	5M	9,000	9,222	7,427	1.02	0.83	F(0)	D	9,237	7,465	1.03	0.83	F(0)	D	0.00	0.00	NO	NO
		SB	4M	7,200	6,163	6,384	0.86	0.89	D	D* (F)	6,184	6,406	0.86	0.89	D	D (F)	0.00	0.00	NO	NO
4	Mesa College Dr to I-805	NB	4M+2A	9,600	7,774	7,216	0.81	0.75	D	C	7,788	7,250	0.81	0.76	D	C	0.00	0.00	NO	NO
		SB	4M+1A	8,400	7,078	6,184	0.84	0.74	D	C* (F)	7,097	6,204	0.84	0.74	D	C (F)	0.00	0.00	NO	NO
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	8,389	4,895	1.00	0.58	E	B	8,429	4,930	1.00	0.59	F(0)	B	0.00	0.00	NO	NO
		SB	6M	10,800	4,512	9,475	0.42	0.88	B	D* (F)	4,537	9,522	0.42	0.88	B	D (F)	0.00	0.00	NO	NO
6	I-8 to Murray Ridge Rd/ Phyllis Pl	NB	5M	9,000	9,830	5,699	1.09	0.63	F(0)	C	9,842	5,725	1.09	0.64	F(0)	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	5,145	9,204	0.54	0.96	B	E	5,164	9,217	0.54	0.96	B	E	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/ Kearny Villa Rd	NB	5M	9,000	9,821	5,673	1.09	0.63	F(0)	C	9,833	5,699	1.09	0.63	F(0)	C	0.00	0.00	NO	NO
		SB	5M	9,000	4,946	8,982	0.55	1.00	B	E	4,965	8,995	0.55	1.00	B	E	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	8,191	4,826	0.91	0.54	D* (F)	B	8,202	4,850	0.91	0.54	D (F)	B	0.00	0.00	NO	NO
		SB	4M	7,200	3,551	5,547	0.49	0.77	B	C* (F)	3,569	5,559	0.50	0.77	B	C (F)	0.00	0.00	NO	NO
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	5,281	4,442	0.63	0.53	C* (F)	B	5,306	4,500	0.63	0.54	C (F)	B	0.00	0.01		NO
		SB	4M+2A	9,600	5,319	7,206	0.55	0.75	B	C* (F)	5,356	7,238	0.56	0.75	B	C (F)	0.00	0.00	NO	
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	6,229	6,920	0.80	0.89	C	D	6,643	7,277	0.85	0.93	D	E	0.05	0.05	NO	YES
		SB	5M	9,000	5,030	8,403	0.56	0.93	B	E	5,289	8,884	0.59	0.99	B	E	0.03	0.05	NO	YES
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,143	1,771	0.48	0.74	B	C	1,726	2,297	0.72	0.96	C	E	0.24	0.22	NO	YES
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	3,515	4,641	0.98	1.29	E	F(1)	3,648	4,862	1.01	1.35	F(0)	F(2)	0.04	0.06	YES	YES
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	622	914	0.52	0.76	B	C	859	1,369	0.72	1.14	C	F(0)	0.20	0.38	NO	YES
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	8,022	5,889	0.96	0.70	E	C	8,340	6,479	0.99	0.77	E	C	0.04	0.07	YES	NO
		SB	5M+1A	10,200	6,825	9,390	0.67	0.92	C	E	7,333	9,827	0.72	0.96	C	E	0.05	0.04	NO	YES
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	9,007	6,792	1.07	0.81	F(0)	D	9,292	7,320	1.11	0.87	F(0)	D	0.03	0.06	YES	NO
		SB	4M+1A	8,400	6,991	8,417	0.83	1.00	D	F(0)	7,446	8,808	0.89	1.05	D	F(0)	0.05	0.05	NO	YES
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	6,023	7,523	0.72	0.90	C	D	6,146	7,629	0.73	0.91	C	D	0.01	0.01	NO	NO
		WB	5M	9,000	7,089	6,193	0.79	0.69	C	C	7,165	6,336	0.80	0.70	C	C	0.01	0.02	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	5,901	7,890	0.82	1.10	D	F(0)	6,034	8,004	0.84	1.11	D	F(0)	0.02	0.02	NO	YES
		WB	4M+1A	8,400	8,171	6,978	0.97	0.83	E	D	8,253	7,131	0.98	0.85	E	D	0.01	0.02	NO	NO

Table 4.15-16. Existing Plus Project Without Event Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Existing Without the Project Conditions						Existing Plus Project Conditions						V/C Delta		Exceeds TISM Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	7,039	8,736	0.73	0.91	C	D	7,173	8,851	0.75	0.92	C	E	0.01	0.01	NO	YES
		WB	5M	9,000	8,173	6,719	0.91	0.75	D	C	8,256	6,874	0.92	0.76	D	C	0.01	0.02	NO	NO
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,017	5,669	0.42	0.79	B	C* (F)	3,092	5,752	0.43	0.80	B	C (F)	0.01	0.01	NO	NO
		WB	3M+2A	7,800	8,579	7,900	1.10	1.01	F(0)	F(0)	8,662	8,046	1.11	1.03	F(0)	F(0)	0.01	0.02	NO**	YES
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	5,025	9,463	0.60	1.13	B	F(0)	5,100	9,546	0.61	1.14	B	F(0)	0.01	0.01	NO	NO**
		WB	4M+1A	8,400	8,928	8,273	1.06	0.98	F(0)	E	9,011	8,420	1.07	1.00	F(0)	F(0)	0.01	0.02	NO**	YES
19	Texas St to I-805	EB	4M	7,200	3,185	6,214	0.44	0.86	B	D* (F)	3,260	6,297	0.45	0.87	B	D (F)	0.01	0.01	NO	NO
		WB	4M	7,200	6,253	4,963	0.87	0.69	D* (F)	C	6,336	5,110	0.88	0.71	D (F)	C	0.01	0.02	NO	NO
20	I-805 to I-15	EB	4M+2A	9,600	6,104	10,315	0.64	1.07	C	F(0)	6,238	10,446	0.65	1.09	C	F(0)	0.01	0.01	NO	YES
		WB	4M+2A	9,600	10,466	8,476	1.09	0.88	F(0)	D	10,581	8,674	1.10	0.90	F(0)	D	0.01	0.02	YES	NO
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	5,965	9,335	0.62	0.97	C	E	5,998	9,393	0.62	0.98	C	E	0.00	0.01	NO	NO
		WB	4M+2A	9,600	7,413	5,467	0.77	0.57	C* (F)	B	7,485	5,574	0.78	0.58	C (F)	B	0.01	0.01	NO	NO
22	Fairmount Ave to Waring Rd	EB	5M	9,000	6,483	10,335	0.72	1.15	C	F(0)	6,650	10,645	0.74	1.18	C	F(0)	0.02	0.03	NO	YES
		WB	6M	10,800	10,029	7,923	0.93	0.73	E	C	10,296	8,153	0.95	0.75	E	C	0.02	0.02	YES	NO
23	Waring Rd to College Ave	EB	5M	9,000	6,392	9,979	0.71	1.11	C	F(0)	6,557	10,286	0.73	1.14	C	F(0)	0.02	0.03	NO	YES
		WB	5M	9,000	9,359	7,492	1.04	0.83	F(0)	D	9,623	7,720	1.07	0.86	F(0)	D	0.03	0.03	YES	NO

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)*

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Traffic data indicate operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

** Freeway segment would exceed the City of San Diego impact threshold.

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		

Table 4.15-17. Existing Plus Project Without Event Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Existing Without the Project Conditions					Existing Plus Project Conditions					Delay Delta	Exceeds TISM Threshold?
				Demand[2] (veh/hr)		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*	*Demand[2] (veh/hr)*		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*		
				Mixed Flow & HOV	*Mixed Flow only*				*Mixed Flow & HOV*	*Mixed Flow only*					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	1,941	1,641	191	7.9	2,775	2,213	1,871	421	**17.4**	6,100	9.5	NO*
	PM	2	888	1,244	1,096	208	14.1	3,025	1,751	1,542	654	**44.2**	9,500	30.1	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	732	732	N/A	N/A	N/A	846	846	N/A	N/A	N/A	N/A	NO
	PM	1	660	744	744	84	7.6	2,425	933	933	273	**24.8**	7,925	17.2	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	622	622	N/A	N/A	N/A	825	825	N/A	N/A	N/A	N/A	NO
	PM	1	996	914	914	0	0.0	0	1,303	1,303	307	**18.5**	8,925	18.5	**YES**
I-8 EB - SB Fairmount Ave	AM	1	N/A	250	250	N/A	N/A	N/A	380	380	N/A	N/A	N/A	N/A	NO
	PM	1	492	550	550	58	7.1	1,675**	785	785	293	**35.8**	8,500	28.7	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

Notes:

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Delays in excess of the desirable 15 minutes are highlighted in **bold**.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Upstream freeway is operating at LOS D. Per the City of San Diego's significance criteria, ramp meter thresholds do not apply as the meter rate will be higher than the most restrictive rate.

** Field observations showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating operations are better than calculated.

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Table 4.15-18. Existing Plus Project Without Event Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)	
				Existing Without the Project Conditions	*Existing Plus Project Conditions*
1. SR-163 SB off-ramp at Friars Rd/ Ulric St	AM	NBL	1,200	204	204
		NBT		207	207
		NBR		0	0
	PM	NBL	1,200	201	201
		NBT		198	198
		NBR		0	0
2. SR-163 NB off-ramp at Friars Rd	AM	NBR	900	0	0
		SBR	700	0	0
	PM	NBR	900	0	0
		SBR	700	0	0
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	331	346
		SBT		333	347
		SBR		201	405
	PM	SBL	1,200	647	716
		SBT		648	717
		SBR		65	150
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0
		SBR	1,300	0	0
	PM	NBR	1,500	0	0
		SBR	1,300	0	0
29. I-8 WB off-ramp at Qualcomm Way/ Camino del Rio N	AM	WBL	3,200	0	0
		WBT		125	135
		WBR		191	230
	PM	WBL	3,200	0	0
		WBT		277	290
		WBR		102	109
30 I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	44	56
	PM	EBR	900	147	149
35. I-8 WB off-ramp at Fairmount Ave/Alvarado Canyon Rd/ Camino del Rio N	AM	WBL	1,000	486	561
		WBT		464	544
		WBR		216	359
	PM	WBL	1,000	556	556
		WBT		336	475
		WBR		243	329
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	276	313
		EBR		283	314
	PM	EBL	4,100	714	754
		EBR		1,229	1,269

Source: Appendix 4.15-1.

4.15.7.1.2 Existing Plus Project – Plus Stadium Event Conditions

This section presents the results of the operations analysis under the hypothetical Existing Plus Project Plus Stadium Event scenario. Under this scenario, Stadium event trips were added to the Existing Plus Project Conditions to analyze operations under the scenario in which a sold-out event occurs on a typical weekday. As with the Existing Plus Project scenario, this scenario tends to understate impacts in that it does not consider expected future traffic growth from other, or cumulative, projects and, therefore, overstates capacity available to the project. Relatedly, the scenario can overstate impacts in that it does not account for future road improvements planned to be built. The Existing Plus Project Plus Stadium Event Scenario is also likely to overstate impacts in that it does not account for changes in travel patterns by local residents and employees due to the advance notice of a large-scale event occurring at the Stadium. For example, office employees may be more likely to leave work early on a weekday when a large event is occurring, or local residents may choose to adjust their typical commute such that they would not return home until after the event has started in order to avoid peak traffic. Because the Existing Plus Project plus Stadium Event scenario potentially both understates and overstates significant impacts, the results of the analysis can be misleading to both the decision-maker and the public. For this reason, the Existing Plus Project Plus Stadium Event analysis presented here is provided for information purposes only; the proposed project's significant impact determinations and corresponding mitigation measures will be identified based on the Horizon Year (2037) Plus Project Plus Event analysis, which accurately reflects future cumulative traffic conditions, as well as future road improvements, forecast to be in place at the time the proposed project reaches full buildout. Additionally, as previously explained, significant impacts and corresponding mitigation also will be assessed under an Existing plus Stadium Event (only) scenario in light of the near-term buildout of the Stadium component, which is to be distinguished from the long-term buildout of the remainder of the project.

Intersections

Turning movement traffic volumes and intersection lane configurations for the Existing Plus Project Plus Stadium Event Conditions are shown on TIA Figure 15. This information was used to calculate operations under this scenario.

Table 4.15-19 presents a summary of the intersection operating conditions and traffic changes under the Existing Plus Project Plus Stadium Event Conditions, comparing the projected levels of service at each study area intersection under the proposed project with Existing Conditions. The corresponding LOS calculation sheets are included in TIA Appendix B.

As shown in Table 4.15-19, in addition to the locations that exceed the significance threshold identified under the Existing Plus Project Without Stadium Event Conditions, the addition of Stadium traffic would result in operations that exceed the threshold at the following additional four (4) locations:

8. Fenton Parkway & Friars Road – Event traffic would degrade LOS D operations to LOS F in the PM peak hour and increase delay by 62.6 seconds.
10. Northside Drive & Friars Road – Event traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 30.5 seconds.
11. Stadium Way (Street A) & Friars Road – Event traffic would degrade free-flow operations to LOS F in the PM peak hour.
14. Mission Village Drive/Street D & Street 4 – Event traffic would result in LOS F operations in PM peak hour.

The same intersections would also exceed the City of San Diego significance thresholds.

Roadway Segments

Under this scenario, project traffic traversing the study area roadway segments was added to existing ~~peak hour~~daily roadway volumes. Table 4.15-20 illustrates the results of the LOS analysis for the study area roadway segments under Existing Plus Project Plus Stadium Event Conditions and compares the projected levels of service on each segment under the proposed project with the Existing Conditions LOS. As shown in the table, in addition to those segments that operate unacceptably (LOS E or F) under Existing Plus Project Without Stadium Event Conditions, the following segments will operate unacceptably due to the addition of event traffic:

6. Friars Road from Northside Drive to Stadium Way (Street A) (LOS E) – Event traffic would degrade LOS C operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
8. Friars Road from Mission Village Drive to the I-15 Ramps (LOS E) – Event traffic would degrade LOS C operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.

All of the locations identified under this scenario as operating below acceptable levels of service also are identified under the Horizon Year scenario as operating similarly.

Freeway Segments

Table 4.15-21 illustrates the results of the freeway operations analysis under Existing Plus Project Plus Stadium Event Conditions. In addition to those impacts identified under Existing Plus Project Without Stadium Event Conditions, the Stadium event trips will further exacerbate operations and result in operations that exceed Caltrans' significance threshold on the following three freeway segments:

1. SR-163 from 6th Avenue to I-8 (SB, PM peak hour).
14. I-8 from Morena Boulevard to Taylor Street (EB, PM peak hour).
18. I-8 from Mission Center Road to Texas Street (WB, PM peak hour and EB, PM peak hour).

Ramp Metering

Table 4.15-22 illustrates the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Existing Plus Project Plus Stadium Event Conditions. As shown in Table 4.15-22, all ramps are expected to operate with unacceptable delays during one or both peak hours as was the case under Existing Plus Project Without Stadium Event Conditions. Additionally, on-ramp capacity is not sufficient to accommodate the peak hour demand during metered peak periods at all ramps; thus, ramp queues are expected to spill back onto the arterial street. The proposed project would increase delay by more than two minutes compared to Existing Conditions for all on-ramps operating with delays above 15 minutes and, therefore, would result in an exceedance of the Caltrans threshold at the same locations identified under Existing Plus Project Without Stadium Event Conditions.

Off-Ramp Queuing

Table 4.15-23 illustrates the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown, all off-ramp queues can be accommodated by the existing storage capacity under Existing Year Plus Project Plus Stadium Event Conditions and, therefore, operations would not exceed the Caltrans significance threshold.

Table 4.15-19. Existing Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Plus Event Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd	Signalized	AM	22.5	C	23.1	C	0.6	NO
		PM	**57.9**	**E**	**64.2**	**E**	**6.3**	**YES**
2. SR-163 NB Ramps & Friars Rd	Signalized	AM	11.2	B	11.7	B	0.5	NO
		PM	**60.9**	**E**	**108.5**	**F**	**47.6**	**YES**
3. Frazee Rd & Friars Rd	Signalized	AM	26.9	C	27.9	C	1.0	NO
		PM	51.0	D	**126.2**	**F**	**75.2**	**YES**
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	10.5	B	11.5	B	1.0	NO
		PM	11.1	B	12.6	B	1.5	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	15.9	B	15.8	B	-0.1	NO
		PM	25.1	C	25.7	C	0.6	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	17.4	B	19.2	B	1.8	NO
		PM	22.1	C	22.4	C	0.3	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.9	A	7.0	A	1.1	NO
		PM	9.6	A	11.1	B	1.5	NO
8. River Run Dr & Friars Rd	Signalized	AM	17.7	B	18.2	B	0.5	NO
		PM	37.1	D	**99.7**	**F**	**62.6**	**YES**
9. Fenton Pkwy & Friars Rd	Signalized	AM	25.3	C	25.2	C	-0.1	NO
		PM	30.2	C	**107.5**	**F**	**77.3**	**YES**
10. Northside Dr & Friars Rd	Signalized	AM	28.0	C	22.4	C	-5.6	NO
		PM	39.9	D	**70.4**	**E**	**30.5**	**YES**
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	11.2	B	N/A	NO
		PM	-	N/A	**144.7**	**F**	N/A	**YES**
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	18.5	B	28.6	C	10.1	NO
		PM	32.6	C	32.1	C	-0.5	NO
13. Mission Village Dr & Friars Rd EB Ramps/ San Diego Mission Rd*	Signalized	AM	**59.9**	**E**	14.7	B	-45.2	NO
		PM	54.2	D	27.1	C	-27.1	NO

Table 4.15-19. Existing Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Plus Event Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A	21.6	C	N/A	NO
		PM		N/A	**371.5**	**F**	N/A	**YES**
15. Street B & Street 2	Signalized	AM	DNE	N/A	26.0	C	N/A	NO
		PM		N/A	31.0	C	N/A	NO
16. Murphy Creek Rd & Street B/San Diego Mission Rd	Roundabout	AM	DNE	N/A	7.0	A	N/A	NO
		PM		N/A	10.6	B	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	38.0	D	**84.2**	**F**	46.2	**YES**
		PM	49.3	D** (E)	**126.1**	**F** (F)	**76.8**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	34.2	C** (E)	**78.0**	**E** (F)	**43.8**	**YES**
		PM	47.8	D** (E)	**203.3**	**F** (F)	**155.5**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	23.1	C** (D)	27.7	C (E)	4.6	**YES****
		PM	17.7	B** (D)	41.6	D (E)	23.9	**YES****
20. Santo Rd & Friars Rd	Signalized	AM	25.4	C	28.0	C	2.6	NO
		PM	13.3	B	15.2	B	1.9	NO
21. Riverdale St & Friars Rd	Signalized	AM	21.1	C	21.9	C	0.8	NO
		PM	20.7	C	21.0	C	0.3	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	33.4	C	33.5	C	0.1	NO
		PM	32.2	C	33.3	C	1.1	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	14.6	B	15.6	B	1.0	NO
		PM	23.0	C	25.0	C	2.0	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	9.5	A	9.8	A	0.3	NO
		PM	12.1	B	13.4	B	1.3	NO
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	15.2	B	15.3	B	0.1	NO
		PM	21.7	C	22.5	C	0.8	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	21.5	C	27.6	C	6.1	NO
		PM	22.1	C	33.5	C	11.4	NO

Table 4.15-19. Existing Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Plus Event Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
27. Fairmount Ave & San Diego Mission Rd/ Twain Ave	Signalized	AM	13.7	B	18.4	B	4.7	NO
		PM	13.0	B	26.3	C	13.3	NO
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	18.2	B	18.7	B	0.5	NO
		PM	**61.2**	**E**	**60.9**	**E**	-0.3	NO
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	10.7	B	11.5	B	0.8	NO
		PM	42.8	D	43.0	D	0.2	NO
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.1	A	1.0	A	-0.1	NO
		PM	4.0	A	4.1	A	0.1	NO
31. Texas St & Camino del Rio S	Signalized	AM	39.0	D	41.9	D	2.9	NO
		PM	**55.6**	**E**	**63.4**	**E**	**7.8**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	20.0	C	**59.4**	**F**	**39.4**	**YES**
		PM	18.7	C	**471.8**	**F**	**453.1**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	11.9	B	17.8	B	5.9	NO
		PM	13.8	B	23.1	C	9.3	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	20.7	C	24.8	C	4.1	NO
		PM	25.3	C	48.0	D	22.7	NO
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	53.8	D	**74.9**	**E**	**21.1**	**YES**
		PM	**61.0**	**E**	**141.7**	**F**	**80.7**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	12.7	B	14.0	B	1.3	NO
		PM	21.3	C	25.2	C	3.9	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	39.4	D	37.6	D	-1.8	NO
		PM	25.1	C	28.0	C	2.9	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	5.1	A	5.2	A	0.1	NO
		PM	6.6	A	8.2	A	1.6	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	11.1	B	11.5	B	0.4	NO
		PM	7.5	A	8.9	A	1.4	NO

Table 4.15-19. Existing Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Existing Without the Project Conditions		Existing Plus Project Plus Event Conditions		Delay Delta	Exceeds TISM Threshold?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	14.2	B	19.3	B	5.1	NO
		PM	16.0	B	21.3	C	5.3	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	30.8	C	32.9	C	2.1	NO
		PM	31.3	C	40.2	D	8.9	NO
42. Gramercy Dr & Mobley St	Signalized	AM	6.3	A	6.4	A	0.1	NO
		PM	5.3	A	5.4	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	8.9	A	9.1	A	0.2	NO
		PM	10.4	B	10.5	B	0.1	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual (HCM) method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of HCM 6 at this intersection. The HCM 2000 method was applied instead.

** Ramp metering during the peak hours results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

*** Calculated delays above 150 seconds may not be accurate and should be used with caution.

**** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would exceed the TISM threshold.

Table 4.15-20. Existing Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3, 4]	*ADT*	*V/C*[2]	*LOS*[3, 4]		
Friars Rd												
1	Frazee Rd	Mission Center Rd	7E	93,330	43,540	0.47	B	51,682	0.55	C	0.08	NO
2	Mission Center Rd	Qualcomm Way	6E	80,000	40,223	0.50	B	49,692	0.62	C	0.12	NO
3	Qualcomm Way	River Run Dr	6E	80,000	35,187	0.44	B	46,643	0.58	C	0.14	NO
4	River Run Dr	Fenton Pkwy	6P	60,000	35,757	0.60	C	47,501	0.79	C	0.19	NO
5	Fenton Pkwy	Northside Dr	6P	60,000	35,037	0.58	C	46,667	0.78	C	0.20	NO
6	Northside Dr	Stadium Way (Street A)	6E – 6P with project	80,000 – 60,000	45,076	0.56	C	57,183	**0.95**	**E**	**0.39**	**YES**
7	Stadium Way (Street A)	Mission Village Dr	6E	80,000	45,076	0.56	C	65,829	0.82	D	0.26	NO
8	Mission Village Dr	I-15 Ramps	6E	80,000	43,746	0.55	C	72,609	**0.91**	**E**	**0.36**	**YES**
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	60,400	0.86	D	68,363	**0.98**	**E**	**0.12**	**YES**
10	Rancho Mission Rd	Santo Rd	7P	70,000	50,773	0.73	C	54,537	0.78	C	0.05	NO
11	Santo Rd	Riverdale St	6P	60,000	49,805	0.83	C	52,894	0.88	D	0.05	NO
12	Riverdale St	Mission Gorge Rd	6P	60,000	45,257	0.75	C	48,220	0.80	C	0.05	NO
Qualcomm Way												
13	Friars Rd	Rio San Diego Dr	6M	50,000	14,616	0.29	A	15,990	0.32	A	0.03	NO
Rio San Diego Dr												
14	Qualcomm Way	River Run Dr	4M	40,000	11,301	0.28	A	12,300	0.31	A	0.03	NO
15	River Run Dr	Fenton Pkwy	4C/M	30,000	9,264	0.31	A	10,340	0.34	B	0.03	NO
Fenton Pkwy												
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	5,165	0.13	A	6,666	0.17	A	0.04	NO
San Diego Mission Rd												
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	7,660	0.51	C	17,348	**1.16**	**F**	**0.65**	**YES**

Table 4.15-20. Existing Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3, 4]	*ADT*	*V/C*[2]	*LOS*[3, 4]		
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	8,819	0.59	C	15,522	**1.03**	**F**	**0.44**	**YES**
Rancho Mission Rd												
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	15,210	0.68	D	21,372	**0.95**	**E**	**0.27**	**YES**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	9,582	0.64	C	11,728	0.78	D	0.14	NO
21	West of Ward Rd		2C	10,000	1,510	0.15	A	7,189	0.72	C	0.57	NO
Ward Rd												
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	9,972	0.66	C	16,254	**1.08**	**F**	**0.42**	**YES**
Fairmount Ave												
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	7,217	0.24	A	12,058	0.40	B	0.16	NO
Mission Village Dr												
24	Ruffin Rd	Shawn Ave	4C	30,000	15,184	0.51	C	20,147	0.67	D	0.16	NO
25	Shawn Ave	Ronda Ave	4C	30,000	12,343	0.41	B	17,532	0.58	C	0.17	NO
26	Ronda Ave	Friars Rd	4M	40,000	14,241	0.36	A	19,474	0.49	B	0.13	NO
Ruffin Rd												
27	Aero Dr	Mission Village Dr	4C	30,000	13,617	0.45	B	16,682	0.56	C	0.11	NO
Gramercy Dr												
28	Mobley St	Ruffin Rd	4M	40,000	7,827	0.20	A	9,394	0.23	A	0.03	NO
Aero Dr												
29	Sandrock Rd	Ruffin Rd	4M	40,000	19,636	0.49	B	21,229	0.53	C	0.04	NO
30	Ruffin Rd	Daley Center Dr	4M	40,000	26,069	0.65	C	27,358	0.68	C	0.03	NO
Camino del Rio N												
31	Qualcomm Way	Mission City Pkwy	4C	30,000	9,608	0.32	A	10,125	0.34	B	0.02	NO

Table 4.15-20. Existing Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Existing Without the Project Conditions			Existing Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3, 4]	*ADT*	*V/C*[2]	*LOS*[3, 4]		
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	8,540	0.57	C	9,512	0.63	C	0.06	NO
33	Ward Rd	Fairmount Ave	4C	30,000	12,173	0.41	B	17,995	0.60	C	0.19	NO
Camino del Rio S												
34	Texas St	Mission City Pkwy	2C	10,000	11,496	**1.15**	**F**	11,725	**1.17**	**F**	**0.02**	**YES**

Source: Appendix 4.15-1

Notes:

[1] 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
6E = 6-lane expressway
7E = 7-lane expressway (4 lanes in one direction and 3 in opposing direction); capacity is assumed to be 117% of 6E capacity

[2] Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

[3] LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998) and the Mission Valley Community Plan Update (2019)

[4] Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

Table 4.15-21. Existing Plus Project Plus Event Conditions Freeway Segment Level of Service

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Existing Without the Project Conditions						Existing Plus Project Plus Event Conditions						V/C Delta		Exceeds TISM Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	5,256	5,705	0.80	0.86	C	D	5,313	5,913	0.81	0.90	D	D	0.01	0.03	NO	NO
		SB	3M+2A	7,800	8,966	8,021	1.15	1.03	F(0)	F(0)	9,002	8,104	1.15	1.04	F(0)	F(0)	0.00	0.01	NO*	YES
2	I-8 to Friars Rd	NB	2A	2,400	1,621	1,759	0.68	0.73	C	C	1,746	2,108	0.73	0.88	C	D	0.05	0.15	NO	NO
		SB	4M+2A	9,600	8,201	7,490	0.85	0.78	D	C** (F)	8,237	7,580	0.86	0.79	D	C (F)	0.00	0.01	NO	YES***
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	9,222	7,427	1.02	0.83	F(0)	D	9,235	7,474	1.03	0.83	F(0)	D	0.00	0.01	NO	NO
		SB	4M	7,200	6,163	6,384	0.86	0.89	D	D** (F)	6,181	6,530	0.86	0.91	D	D (F)	0.00	0.02	NO	YES***
4	Mesa College Dr to I-805	NB	4M+2A	9,600	7,774	7,216	0.81	0.75	D	C	7,786	7,258	0.81	0.76	D	C	0.00	0.00	NO	NO
		SB	4M+1A	8,400	7,078	6,184	0.84	0.74	D	C** (F)	7,094	6,315	0.84	0.75	D	C (F)	0.00	0.02	NO	YES***
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	8,389	4,895	1.00	0.58	E	B	8,423	4,945	1.00	0.59	F(0)	B	0.00	0.01	NO	NO
		SB	6M	10,800	4,512	9,475	0.42	0.88	B	D** (F)	4,533	9,517	0.42	0.88	B	D (F)	0.00	0.00	NO	YES***
6	I-8 to Murray Ridge Rd/Phyllis Pl	NB	5M	9,000	9,830	5,699	1.09	0.63	F(0)	C	9,840	5,722	1.09	0.64	F(0)	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	5,145	9,204	0.54	0.96	B	E	5,161	9,226	0.54	0.96	B	E	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	9,821	5,673	1.09	0.63	F(0)	C	9,831	5,696	1.09	0.63	F(0)	C	0.00	0.00	NO	NO
		SB	5M	9,000	4,946	8,982	0.55	1.00	B	E	4,962	9,004	0.55	1.00	B	F(0)	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	8,191	4,826	0.91	0.54	D** (F)	B	8,201	4,848	0.91	0.54	D (F)	B	0.00	0.00	YES***	NO
		SB	4M	7,200	3,551	5,547	0.49	0.77	B	C** (F)	3,566	5,568	0.50	0.77	B	C (F)	0.00	0.00	NO	YES***
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	5,281	4,442	0.63	0.53	C** (F)	B	5,302	4,505	0.63	0.54	C (F)	B	0.00	0.01	YES***	NO
		SB	4M+2A	9,600	5,319	7,206	0.55	0.75	B	C** (F)	5,350	7,358	0.56	0.77	B	C (F)	0.00	0.02	NO	YES***
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	6,229	6,920	0.80	0.89	C	D	6,583	7,363	0.84	0.94	D	E	0.05	0.06	NO	YES
		SB	5M	9,000	5,030	8,403	0.56	0.93	B	E	5,252	8,831	0.58	0.98	B	E	0.02	0.05	NO	YES
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,143	1,771	0.48	0.74	B	C	1,642	2,237	0.68	0.93	C	E	0.21	0.19	NO	YES
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	3,515	4,641	0.98	1.29	E	F(1)	3,629	4,846	1.01	1.35	F(0)	F(1)	0.03	0.06	YES	YES
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	622	914	0.52	0.76	B	C	825	1,319	0.69	1.10	C	F(0)	0.17	0.34	NO	YES
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	8,022	5,889	0.96	0.70	E	C	8,294	6,449	0.99	0.77	E	C	0.03	0.07	YES	NO
		SB	5M+1A	10,200	6,825	9,390	0.67	0.92	C	E	7,260	10,277	0.71	1.01	C	F(0)	0.04	0.09	NO	YES
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	9,007	6,792	1.07	0.81	F(0)	D	9,251	7,293	1.10	0.87	F(0)	D	0.03	0.06	YES	NO
		SB	4M+1A	8,400	6,991	8,417	0.83	1.00	D	F(0)	7,380	9,211	0.88	1.10	D	F(0)	0.05	0.09	NO	YES

Table 4.15-21. Existing Plus Project Plus Event Conditions Freeway Segment Level of Service

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Existing Without the Project Conditions						Existing Plus Project Plus Event Conditions						V/C Delta		Exceeds TISM Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	6,023	7,523	0.72	0.90	C	D	6,129	7,745	0.73	0.92	C	E	0.01	0.03	NO	YES
		WB	5M	9,000	7,089	6,193	0.79	0.69	C	C	7,154	6,328	0.79	0.70	C	C	0.01	0.02	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	5,901	7,890	0.82	1.10	D	F(0)	6,015	8,129	0.84	1.13	D	F(0)	0.02	0.03	NO	YES
		WB	4M+1A	8,400	8,171	6,978	0.97	0.83	E	D	8,241	7,123	0.98	0.85	E	D	0.01	0.02	NO	NO
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	7,039	8,736	0.73	0.91	C	D	7,154	8,977	0.75	0.94	C	E	0.01	0.03	NO	YES
		WB	5M	9,000	8,173	6,719	0.91	0.75	D	C	8,244	6,866	0.92	0.76	D	C	0.01	0.02	NO	NO
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,017	5,669	0.42	0.79	B	C** (F)	3,081	5,772	0.43	0.80	B	D (F)	0.01	0.01	NO	YES***
		WB	3M+2A	7,800	8,579	7,900	1.10	1.01	F(0)	F(0)	8,650	8,039	1.11	1.03	F(0)	F(0)	0.01	0.02	YES	YES
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	5,025	9,463	0.60	1.13	B	F(0)	5,089	9,566	0.61	1.14	B	F(0)	0.01	0.01	NO	YES
		WB	4M+1A	8,400	8,928	8,273	1.06	0.98	F(0)	E	8,999	8,413	1.07	1.00	F(0)	F(0)	0.01	0.02	NO*	YES
19	Texas St to I-805	EB	4M	7,200	3,185	6,214	0.44	0.86	B	D** (F)	3,249	6,317	0.45	0.88	B	D (F)	0.01	0.01	NO	YES***
		WB	4M	7,200	6,253	4,963	0.87	0.69	D** (F)	C	6,324	5,103	0.88	0.71	D (F)	C	0.01	0.02	YES***	NO
20	I-805 to I-15	EB	4M+2A	9,600	6,104	10,315	0.64	1.07	C	F(0)	6,219	10,477	0.65	1.09	C	F(0)	0.01	0.02	NO	YES
		WB	4M+2A	9,600	10,466	8,476	1.09	0.88	F(0)	D	10,564	8,656	1.10	0.90	F(0)	D	0.01	0.02	YES	NO
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	5,965	9,335	0.62	0.97	C	E	5,993	9,419	0.62	0.98	C	E	0.00	0.01	NO	NO
		WB	4M+2A	9,600	7,413	5,467	0.77	0.57	C** (F)	B	7,475	5,828	0.78	0.61	C (F)	B	0.01	0.04	YES***	NO
22	Fairmount Ave to Waring Rd	EB	5M	9,000	6,483	10,335	0.72	1.15	C	F(0)	6,626	10,650	0.74	1.18	C	F(0)	0.02	0.04	NO	YES
		WB	6M	10,800	10,029	7,923	0.93	0.73	E	C	10,258	8,568	0.95	0.79	E	C	0.02	0.06	YES	NO
23	Waring Rd to College Ave	EB	5M	9,000	6,392	9,979	0.71	1.11	C	F(0)	6,534	10,291	0.73	1.14	C	F(0)	0.02	0.03	NO	YES
		WB	5M	9,000	9,359	7,492	1.04	0.83	F(0)	D	9,585	8,130	1.07	0.90	F(0)	D	0.03	0.07	YES	NO

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)*

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Freeway segment would exceed the City of San Diego impact threshold.

** Traffic data indicate operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

*** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would exceed the TISM threshold.

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		

Table 4.15-22. Existing Plus Project Plus Event Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Existing Without the Project Conditions					Existing Plus Project Plus Event Conditions					Delay Delta	Exceeds TISM Threshold?
				Demand[2] (veh/hr)		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*	*Demand[2] (veh/hr)*		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*		
				Mixed Flow & HOV	*Mixed Flow only*				*Mixed Flow & HOV*	*Mixed Flow only*					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	1,941	1,641	191	7.9	2,775	2,213	1,871	421	**17.4**	6,100	9.5	NO*
	PM	2	888	1,244	1,096	208	14.1	3,025	1,806	1,591	703	**47.5**	10,200	33.4	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	732	732	N/A	N/A	N/A	846	846	N/A	N/A	N/A	N/A	NO
	PM	1	660	744	744	84	7.6	2,425	964	964	304	**27.7**	8,825	20.0	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	622	622	N/A	N/A	N/A	825	825	N/A	N/A	N/A	N/A	NO
	PM	1	996	914	914	0	0.0	0	1,320	1,320	324	**19.5**	9,400	19.5	**YES**
I-8 EB - SB Fairmount Ave	AM	1	N/A	250	250	N/A	N/A	N/A	380	380	N/A	N/A	N/A	N/A	NO
	PM	1	492	550	550	58	7.1	1,675**	820	820	328	**40.0**	9,525	33.0	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

Notes:

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Delays in excess of the desirable 15 minutes are highlighted in **bold**.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Upstream freeway is operating at LOS D. Per the City of San Diego's significance criteria, ramp meter thresholds do not apply as the meter rate will be higher than the most restrictive rate.

** Field observations showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating operations are better than calculated.

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Table 4.15-23. Existing Plus Project Plus Event Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)	
				Existing Without the Project Conditions	*Existing Plus Project Plus Event Conditions*
1. SR-163 SB off-ramp at Friars Rd/ Ulric St	AM	NBL	1,200	204	204
		NBT		207	207
		NBR		0	0
	PM	NBL	1,200	201	201
		NBT		198	198
		NBR		0	0
2. SR-163 NB off-ramp at Friars Rd	AM	NBR	900	0	0
		SBR	700	0	0
	PM	NBR	900	0	0
		SBR	700	0	0
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	331	346
		SBT		333	347
		SBR		201	405
	PM	SBL	1,200	647	716
		SBT		648	717
		SBR		65	362
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0
		SBR	1,300	0	0
	PM	NBR	1,500	0	0
		SBR	1,300	0	0
29. I-8 WB off-ramp at Qualcomm Way/ Camino del Rio N	AM	WBL	3,200	0	0
		WBT		125	135
		WBR		191	230
	PM	WBL	3,200	0	0
		WBT		277	290
		WBR		102	109
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	44	56
	PM	EBR	900	147	149
35. I-8 WB off-ramp at Fairmount Ave/ Alvarado Canyon Rd/Camino del Rio N	AM	WBL	1,000	486	561
		WBT		464	544
		WBR		216	359
	PM	WBL	1,000	556	656
		WBT		336	625
		WBR		243	478
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	276	313
		EBR		283	314
	PM	EBL	4,100	714	773
		EBR		1,229	1,275

Source: Appendix 4.15-1.

4.15.7.1.3 Existing Plus Stadium Event Only Conditions

The proposed new Stadium will replace the existing SDCCU Stadium and is planned to be operational in the near-term, by year 2022; therefore, because the Stadium would be built and operational in the near-term, an Existing Plus Stadium Event Only analysis provides a reasonable assessment of the potential traffic-related impacts associated with the Stadium.

With the replacement Stadium and no additional development on the site, traffic conditions with the new 35,000 capacity Stadium will be similar to or better than those conditions presently existing with operation of the much greater capacity 70,561-seat Stadium. The proposed project would not change the type of events presently being held at the site and, accordingly, no substantive operational change is expected in parking, manual traffic control, or circulation. Moreover, in light of the reduced capacity of the proposed Stadium relative to the existing facility, it is reasonable to conclude that traffic generation generally would be less than existing traffic and, as a result, potential traffic-related impacts on any given day would be less than under existing Stadium event conditions. Traffic operations of the new Stadium generally would be equivalent to the existing Stadium under circumstances in which 35,561 seats in the existing SDCCU Stadium were removed such that only 35,000 seats remained. Existing Stadium operations are discussed in more detail in Section 4.15.3.5.6.

Notwithstanding, while a single event at the new Stadium would result in traffic operations that are the same as or better than existing conditions, the new Stadium may hold more total events in a given year with attendance levels of 20,000 patrons or more. Under Existing Conditions, five high-attendance events (i.e., events with over 20,000 attendees) were held on a weekday during 2018. One of those events (the Beyonce and Jay-Z concert) had 40,885 attendees (which would have been limited to a capacity of 35,000 persons with the new facility). Under the proposed project, the Stadium is expected to hold 11 weekday high-attendance events annually, of which approximately four (4) potentially would be professional sporting (e.g., soccer) games, assuming a professional team is based in San Diego.

Thus, two to six additional Stadium events with 20,000 or more attendees potentially would take place with the new Stadium. While no significance threshold is available for events as these, which are held on a limited number of days throughout the year, the potential *increase* in the number of Stadium events would result in a potentially significant impact. Although implementation of the proposed Stadium TDM and TPMP Programs would help to minimize congestion associated with these additional events, even with these programs in place the impact would remain **potentially significant (TR-1)**.

4.15.7.2 Horizon year (2037) No Project Conditions

This section presents the results of the operations analysis under the Horizon Year (2037) scenario conditions without project-generated traffic. This scenario assumes that SDCCU Stadium would remain in operation with only a negligible level of traffic generated by the site on a typical weekday. This scenario also includes certain planned roadway improvements, as well as new and/or redeveloped land uses in the study area and the greater region that will affect traffic patterns and traffic volumes over the next 15-20 years, as the proposed project builds out. This scenario establishes the baseline against which project impacts will be assessed.

4.15.7.2.1 Horizon Year Street System Improvements

The SANDAG Regional Transportation Plan (RTP) and the previous (1985) Mission Valley Community Plan identify proposed future roadway improvements that are expected to be built by 2037. The following improvements are included in both plans and are part of the 2037 baseline:

- **SR-163/Friars Road Interchange** –The proposed project will widen Friars Road from Avenida Del Rio west of SR-163 to the Friars Road Eastbound Ramp to Mission Center Road. Intersection improvements also will add lanes on Ulric Street, the SR-163 Southbound and Northbound Ramps, and Frazee Road. New sidewalks and bike lanes also will be provided along Friars Road. Phase I is fully funded, construction presently is underway, and the improvements are expected to be open to traffic in 2019.
- **Qualcomm Way & Friars Road** – As part of the Quarry Falls Specific Plan (i.e., the Civita development), the Civita developer will construct improvements at the Qualcomm Way & Friar's Road interchange to add additional lanes to all approaches. These improvements are funded by the Civita developer and are a condition of approval of Phase II of the Quarry Falls Specific Plan.

No other changes to the configuration of the study area intersections, roadway segments, freeway segments, or ramps were assumed for this scenario.

4.15.7.2.2 Horizon Year Traffic Forecasts

Baseline traffic forecasts for 2037 were developed using projections from the SANDAG Series 13 Year 2035 travel demand model, which is the best available long-range planning tool for traffic volume forecasting in the San Diego region. The SANDAG model reflects the forecasted population and employment from land uses based on the adopted General Plans of all 18 cities within the county, and the County of San Diego for the unincorporated areas.

Daily traffic volumes generated from the model for Year 2035 were compared to the volumes from the model for Year 2012 to determine an average annual growth rate along each roadway and freeway segment. Calculated growth rates ranged from -0.3% to 2.4%. The existing volumes on all facilities were increased to Year 2037 conditions using either the calculated growth rate or 1.0%, whichever was greater, to provide a conservative analysis of traffic operations. Growth rates on each segment are provided in TIA Appendix D. The resulting turning movement traffic volumes and intersection lane configurations for Horizon Year Without Project Conditions are shown on Figure 4.15-12, Horizon Year Without Project Conditions.

Intersections

The Horizon Year peak hour turning movement volumes and lane configurations from Figure 4.15-12 were input into the Synchro modeling software, and intersection LOS operations were calculated. Table 4.15-24 presents the anticipated intersection operations under Horizon Year Conditions without the project. The corresponding LOS calculation sheets are included in TIA Appendix E. As shown on the table, 28 of the study area intersections are forecasted to operate at LOS D or better under Horizon Year Conditions without the project. The remaining 12 study area intersections, listed below, are expected to operate at LOS E or F during at least one peak hour:

1. SR-163 Southbound Ramps/Ulric Street & Friars Road – LOS E (PM peak hour)
8. River Run Drive & Friars Road – LOS E (PM peak hour)
9. Fenton Parkway & Friars Road – LOS F (PM peak hour)

10. Northside Drive & Friars Road – LOS F (PM peak hour)
13. Mission Village Drive & Friars Road Eastbound Ramps/San Diego Mission Road – LOS F (AM and PM peak hours)
17. I-15 Southbound Ramps & Friars Road – LOS F (AM and PM peak hours)
18. I-15 Northbound Ramps & Friars Road – LOS F (AM and PM peak hours)
19. Rancho Mission Road & Friars Road –LOS E (AM and PM peak hours)
28. Qualcomm Way & Camino del Rio N/Camino de la Reina – LOS E (PM peak hour)
29. Qualcomm Way & I-8 WB Off-Ramp/Camion del Rio N – LOS E (PM peak hour)
31. Texas St & Camino del Rio S – LOS F (AM and PM peak hours)
35. Fairmount Avenue & Camino del Rio North – LOS F (AM and PM peak hours).

Roadway Segments

As previously explained, the LOS analysis of roadway segments is presented for information purposes only and is based on the City of San Diego impact thresholds. Table 4.15-25 illustrates the results of the LOS analysis for the project study area roadway segments under Horizon Year No Project Conditions. As shown in the table, all roadway segments are projected to operate acceptably at LOS D or better in 2037 except for:

9. Friars Road from the I-15 Ramps to Rancho Mission Road (LOS F)
11. Friars Road from Santo Road to Riverdale Street (LOS F)
18. San Diego Mission Road from Rancho Mission Road to Fairmount Avenue (LOS E)
34. Camino del Rio South from Texas Street to Mission City Parkway (LOS F)

Freeway Segments

Table 4.15-26 illustrates the results of the freeway LOS analysis under Horizon Year No Project Conditions. As shown, under this scenario all freeway segments would operate at undesirable levels (LOS E or F) in one or both directions during one or both peak hours.

Ramp Metering

Table 4.15-27 illustrates the results of the analysis conducted for the metered freeway on-ramps in the study area under Horizon Year Without Project Conditions. As shown in Table 4.15-27, under this scenario the following ramps are expected to operate with unacceptable delays during one or both peak hours:

- I-15 NB On-ramp from Friars Road – AM and PM peak hours
- I-15 SB/I-8 Loop On-ramp from Friars Road – PM peak hour
- I-8 EB On-ramp from southbound Fairmount Avenue – PM peak hour

Additionally, at all ramps, on-ramp capacity is not sufficient to accommodate the peak hour demand during metered periods; thus, under this scenario ramp queues would spill back onto the adjacent arterial street(s).

Off-Ramp Queuing

Table 4.15-28 illustrates the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown, all off-ramp queues can be accommodated by existing storage capacity under Horizon Year without Project Conditions.

Table 4.15-24. Horizon Year (2037) No Project Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	43.9	D
		PM	**56.9**	**E**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	26.2	C
		PM	33.5	C
3. Frazee Rd & Friars Rd*	Signalized	AM	49.0	D
		PM	43.0	D
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B
		PM	14.1	B
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B
		PM	36.2	D
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.9	B
		PM	24.5	C
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.6	A
		PM	12.8	B
8. River Run Dr & Friars Rd	Signalized	AM	23.0	C
		PM	**59.6**	**E**
9. Fenton Pkwy & Friars Rd	Signalized	AM	27.9	C
		PM	**92.8**	**F**
10. Northside Dr & Friars Rd*	Signalized	AM	34.9	C
		PM	**122.1**	**F**
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A
		PM	-	N/A
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	30.1	C
		PM	52.0	D
13. Mission Village Dr & Friars Rd EB Ramps/San Diego Mission Rd*	Signalized	AM	**173.4****	**F**
		PM	**94.0**	**F**
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A
		PM		N/A
15. Street B & Street 2	Signalized	AM	DNE	N/A
		PM		N/A
16. Murphy Creek Rd & Street B/San Diego Mission Rd	Roundabout	AM	DNE	N/A
		PM		N/A
17. I-15 SB Ramps & Friars Rd	Signalized	AM	46.3	D
		PM	**67.3**	**E***** (F)
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**83.5**	**F***** (F)
		PM	**67.3**	**E***** (F)
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.3	C*** (E)
		PM	**72.4**	**E***** (E)

Table 4.15-24. Horizon Year (2037) No Project Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D
		PM	16.8	B
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D
		PM	37.4	D
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D
		PM	44.5	D
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.3	B
		PM	44.4	D
24. Rio San Diego Dr & River Run Dr	AWSC	AM	12.9	B
		PM	25.1	D
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	16.7	B
		PM	27.7	C
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	31.0	C
		PM	30.0	C
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	23.5	C
		PM	26.7	C
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	21.3	C
		PM	**71.0**	**E**
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	20.5	C
		PM	**73.6**	**E**
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.2	A
		PM	4.9	A
31. Texas St & Camino del Rio S	Signalized	AM	**104.1**	**F**
		PM	**85.0**	**F**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	26.9	D
		PM	29.9	D
33. Camino del Rio N & Ward Ave	Signalized	AM	15.4	B
		PM	15.9	B
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.0	C
		PM	28.1	C
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**94.7**	**F**
		PM	**104.7**	**F**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	17.7	B
		PM	44.3	D
37. Montezuma Rd & Collwood Blvd	Signalized	AM	46.9	D
		PM	50.0	D
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A
		PM	10.8	B
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B
		PM	11.3	B
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C
		PM	24.5	C

Table 4.15-24. Horizon Year (2037) No Project Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D
		PM	52.6	D
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A
		PM	6.0	A
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A
		PM	11.7	B

Source: Appendix 4.15-1.

Notes:

1 Whole intersection weighted average stopped delay reported for the signalized and all-way stop control (AWSC) intersections. Worst movement delay reported for the side-street stop-control (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual 6th Edition (HCM 6) method.

3 LOS E or F operations highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Due to limitations of the HCM 6 method, LOS calculations performed using the HCM 2000 method.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

Table 4.15-25. Horizon Year (2037) No Project Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	ADT	V/C[2]	LOS[3,4]
ID	*Extent (from/to)*						
Friars Rd							
1	Frazee Rd	Mission Center Rd	8P	52,603	52,600	0.66	C
2	Mission Center Rd	Qualcomm Way	6E	106,667	48,594	0.61	C
3	Qualcomm Way	River Run Dr	6E	80,000	42,681	0.53	C
4	River Run Dr	Fenton Pkwy	6P	60,000	43,198	0.72	C
5	Fenton Pkwy	Northside Dr	6P	60,000	45,271	0.75	C
6	Northside Dr	Stadium Way	6E	80,000	54,457	0.68	C
7	Stadium Way	Mission Village Dr	6E	80,000	54,457	0.68	C
8	Mission Village Dr	I-15 Ramps	6E	80,000	52,850	0.66	C
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	**72,970**	**1.04**	**F**
10	Rancho Mission Rd	Santo Rd	7P	70,000	61,340	0.88	D
11	Santo Rd	Riverdale St	6P	60,000	**60,170**	**1.00**	**F**
12	Riverdale St	Mission Gorge Rd	6P	60,000	54,675	0.91	D
Qualcomm Way							
13	Friars Rd	Rio San Diego Dr	6M	50,000	22,813	0.46	B
Rio San Diego Dr							
14	Qualcomm Way	River Run Dr	4M	40,000	15,876	0.40	B
15	River Run Dr	Fenton Pkwy	4C/M	30,000	13,246	0.44	B
Fenton Pkwy							
16	Rio San Diego Dr/Fenton Marketplace Dwy	Northside Dr	4M	40,000	6,240	0.16	A

Table 4.15-25. Horizon Year (2037) No Project Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	ADT	V/C[2]	LOS[3,4]
ID	Extent (from/to)						
San Diego Mission Rd							
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	9,254	0.62	C
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	**13,240**	**0.88**	**E**
Rancho Mission Rd							
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	18,681	0.83	D
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	11,576	0.77	D
21	West of Ward Rd		2C	10,000	1,824	0.18	A
Ward Rd							
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	12,047	0.80	D
Fairmount Ave							
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	8,719	0.29	A
Mission Village Dr							
24	Ruffin Rd	Shawn Ave	4C	30,000	18,344	0.61	C
25	Shawn Ave	Ronda Ave	4C	30,000	14,912	0.50	C
26	Ronda Ave	Friars Rd	4M	40,000	17,204	0.43	B
Ruffin Rd							
27	Aero Dr	Mission Village Dr	4C	30,000	16,451	0.55	C
Gramercy Dr							
28	Mobley St	Ruffin Rd	4M	40,000	9,456	0.24	A
Aero Dr							
29	Sandrock Rd	Ruffin Rd	4M	40,000	24,167	0.60	C
30	Ruffin Rd	Daley Center Dr	4M	40,000	31,494	0.79	D
Camino del Rio N							
31	Qualcomm Way	Mission City Pkwy	4C	30,000	11,608	0.39	B
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	10,318	0.69	D
33	Ward Rd	Fairmount Ave	4C	30,000	14,706	0.49	C
Camino del Rio S							
34	Texas St	Mission City Pkwy	2C	10,000	13,888	**1.39**	**F**

Source: Appendix 4.15-1

Notes:

[1] 2C = 2-lane collector
2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add capacity of 5,000 for LOS A, 7,500 for LOS B, and 10,000 for LOS C, D, and E per the Mission Valley Community Plan Update
8P = 8-lane prime arterial

6E = 6-lane expressway
2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications
3 LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998)
4 Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

Table 4.15-26. Horizon Year (2037) No Project Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Peak Hour Volume		V/ C Ratio[2,4]		LOS[3,4]	
					AM	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163										
1	6th Ave to I-8	NB	3M+1A	6,600	6,350	6,892	0.96	1.04	E	F(0)
		SB	3M+2A	7,800	10,832	9,690	1.39	1.24	F(2)	F(0)
2	I-8 to Friars Rd	NB	2A	2,400	1,958	2,125	0.82	0.89	D	D
		SB	4M+2A	9,600	9,908	9,049	1.03	0.94	F(0)	E* (F)
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	11,141	8,973	1.24	1.00	F(0)	E
		SB	4M	7,200	7,446	7,713	1.03	1.07	F(0)	F(0)* (F)
4	Mesa College Dr to I-805	NB	4M+2A	9,600	9,392	8,718	0.98	0.91	E	D
		SB	4M+1A	8,400	8,551	7,471	1.02	0.89	F(0)	D*
Interstate 805										
5	Madison Ave to I-8	NB	4M+1A	8,400	10,241	5,976	1.22	0.71	F(0)	C
		SB	6M	10,800	5,454	11,453	0.50	1.06	B	F(0)* (F)
6	I-8 to Murray Ridge Rd/Phyllis Pl	NB	5M	9,000	11,876	6,885	1.32	0.77	F(1)	C
		SB	4M+2A	9,600	6,216	11,119	0.65	1.16	C	F(0)
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	11,865	6,854	1.32	0.76	F(1)	C
		SB	5M	9,000	5,975	10,851	0.66	1.21	C	F(0)
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	9,896	5,830	1.10	0.65	F(0)* (F)	C
		SB	4M	7,200	4,290	6,701	0.60	0.93	B	E* (F)
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	7,077	5,952	0.84	0.71	D* (F)	C
		SB	4M+2A	9,600	6,693	9,068	0.70	0.94	C	E* (F)
Interstate 15										
10	Adams Ave to I-8	NB	3M+2A	7,800	7,624	8,470	0.98	1.09	E	F(0)
		SB	5M	9,000	6,077	10,152	0.68	1.13	C	F(0)
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,381	2,140	0.58	0.89	B	D
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	4,390	5,796	1.22	1.61	F(0)	F(3)
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	751	1,104	0.63	0.92	C	E
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	9,691	7,115	1.15	0.85	F(0)	D
		SB	5M+1A	10,200	8,245	11,344	0.81	1.11	D	F(0)

Table 4.15-26. Horizon Year (2037) No Project Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Peak Hour Volume		V/ C Ratio[2,4]		LOS[3,4]	
					AM	*PM*	*AM*	*PM*	*AM*	*PM*
13	Aero Dr to Balboa Ave/Tierrasanta Blvd	NB	4M+1A	8,400	10,881	8,205	1.30	0.98	F(1)	E
		SB	4M+1A	8,400	8,446	10,169	1.01	1.21	F(0)	F(0)
Interstate 8										
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	7,276	9,089	0.87	1.08	D	F(0)
		WB	5M	9,000	8,564	7,482	0.95	0.83	E	D
15	Taylor St to Hotel Cir	EB	4M	7,200	7,129	9,532	0.99	1.32	E	F(1)
		WB	4M+1A	8,400	9,871	8,430	1.18	1.00	F(0)	F(0)
16	Hotel Cir to SR-163	EB	4M+2A	9,600	8,841	10,972	0.92	1.14	E	F(0)
		WB	5M	9,000	10,030	8,245	1.11	0.92	F(0)	D
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,770	7,084	0.52	0.98	B	E* (F)
		WB	3M+2A	7,800	10,364	9,544	1.33	1.22	F(1)	F(0)
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	6,280	11,826	0.75	1.41	C	F(2)
		WB	4M+1A	8,400	10,786	9,995	1.28	1.19	F(1)	F(0)
19	Texas St to I-805	EB	4M	7,200	3,980	7,765	0.55	1.08	B	F(0)
		WB	4M	7,200	7,554	5,996	1.05	0.83	F(0)	D
20	I-805 to I-15	EB	4M+2A	9,600	7,374	12,462	0.77	1.30	C	F(1)
		WB	4M+2A	9,600	12,644	10,240	1.32	1.07	F(1)	F(0)
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	7,378	11,546	0.77	1.20	C	F(0)
		WB	4M+2A	9,600	8,956	6,605	0.93	0.69	E* (F)	C
22	Fairmount Ave to Waring Rd	EB	5M	9,000	8,018	12,782	0.89	1.42	D	F(2)
		WB	6M	10,800	12,116	9,572	1.12	0.89	F(0)	D
23	Waring Rd to College Ave	EB	5M	9,000	7,722	12,056	0.86	1.34	D	F(1)
		WB	5M	9,000	11,307	9,051	1.26	1.01	F(1)	F(0)

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998)

4 Unacceptable V/C and LOS highlighted in **bold**.

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		

5 No data available from Genesee Ave to Mesa College Dr – assumed equivalent to the segment from Friars Rd to Genesee Ave
* Traffic data indicate operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

Table 4.15-27. Horizon Year (2037) No Project Conditions Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Demand[2] (veh/hr)		Excess Demand[3] (veh/hr)	Delay[4] (min)	Queue[5] (ft)
				Mixed Flow & HOV	*Mixed Flow only*			
I-15 NB – Friars Rd On-Ramp	AM	2	1,450	2,345	1,983	533	**22.0**	7,725
	PM	2	888	1,503	1,369	481	**32.5**	6,975
I-15 SB / I-8 – Friars Rd Loop On-Ramp	AM	1	N/A	914	914	N/A	N/A	N/A
	PM	1	660	929	929	269	**24.5**	7,800
I-15 SB – Friars Rd Direct On-Ramp	AM	1	N/A	751	751	N/A	N/A	N/A
	PM	1	996	1,104	1,104	108	6.5	3,150
I-8 EB – SB Fairmount Ave	AM	1	N/A	302	302	N/A	N/A	N/A
	PM	1	492	664	664	172	**21.0**	5,000*

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology
Notes:
1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.
2 Demand is the peak hour demand projected to use the on-ramp.
3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delay in excess of 15 minutes is highlighted in **bold**.
5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.
* Field observations of existing conditions showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating operations ~~may be~~are better than calculated.

Table 4.15-28. Horizon Year Conditions Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft) *Horizon Year Conditions*
1. SR-163 SB off-ramp at Friars Rd/Ulric St	AM	NBL	1,200	211
		NBT		104
		NBR		487
	PM	NBL	1,200	263
		NBT		62
		NBR		485
2. SR-163 NB off-ramp at Friars Rd	AM	SBL	700	444
		SBT		0
		SBR		305
	PM	SBL	700	418
		SBT		0
		SBR		447
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	460
		SBT		449
		SBR		257
	PM	SBL	1,200	842
		SBT		845
		SBR		80
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0
		SBR	1,300	0
	PM	NBR	1,500	0
		SBR	1,300	0
29. I-8 WB off-ramp at Qualcomm Way/ Camino del Rio N	AM	WBL	3,200	0
		WBT		221
		WBR		740
	PM	WBL	3,200	0
		WBT		394
		WBR		545
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	169
	PM	EBR	900	274
35. I-8 WB off-ramp at Fairmount Ave/ Alvarado Canyon Rd/Camino del Rio N	AM	WBL	1,000	627
		WBT		607
		WBR		269
	PM	WBL	1,000	714
		WBT		464
		WBR		308
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	484
		EBR		493
	PM	EBL	4,100	1,099
		EBR		1,659

Source: Appendix 4.15-1.

4.15.7.3 Horizon year (2037) Plus Project Conditions

This section presents the results of the operations analysis under the Horizon Year (2037) scenario with buildout of the proposed project, both under conditions without and with a Stadium Event, which is modeled as (i.e., assumed to be) a sold-out event.

4.15.7.3.1 Horizon Year (2037) Plus Project – Without Stadium Event Conditions

Under the Horizon Year Plus Project Without Stadium Event scenario, project traffic assigned to the study area intersections and roadway segments was added to Horizon Year (2037) No Project traffic volumes. The Horizon Year Plus Project Conditions roadway network is the same network assumed under the Horizon Year with Project scenario, except for the addition of the site access points and immediately adjacent project features that are discussed in Section 4.15.6.4. Separate analyses of intersections, roadway segments, freeway segments, ramp metering, and ramp queuing, are presented below.

Intersections

Turning movement traffic volumes and intersection lane configurations for the Horizon Year (2037) Plus Project Conditions are shown on Figure 4.15-13. This data was used to calculate operations under this scenario. Table 4.15-29 presents the analysis results, with intersection operating conditions and resulting significant traffic impacts shown under the Horizon Year Plus Project Conditions; a comparison of the projected levels of service at each study area intersection under this scenario to the Horizon Year Without Stadium Event Conditions also is provided. The corresponding LOS calculation sheets are included in TIA Appendix E.

As shown in Table 4.15-29, after applying the applicable significance impact criteria, the proposed project would result in a significant cumulative impact at the following 13 locations:

1. **SR-163 Southbound Ramps/Ulric Street & Friars Road** – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 5.2 seconds. Therefore, impacts would be **potentially significant (TR-2)**.
8. **River Run Drive & Friars Roa**d – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 35.3 seconds. Therefore, impacts would be **potentially significant (TR-3)**.
9. **Fenton Pkwy & Friars Road**– Project traffic would exacerbate LOS F operations in the PM peak hour and would increase delay by 33.8 seconds. Therefore, impacts would be **potentially significant (TR-4)**.
10. **Northside Drive & Friars Road** – Project traffic would exacerbate LOS F operations in the PM peak hour and would increase delay by 6.5 seconds. Therefore, impacts would be **potentially significant (TR-5)**.
17. **I-15 SB Ramps & Friars Road** – Project traffic would degrade LOS D operations to LOS F operations in the AM peak hour, would degrade LOS E operations to LOS F in the PM peak hour, and would increase delay by 78.3 and 33.3 seconds, respectively. Therefore, impacts would be **potentially significant (TR-6)**.
18. **I-15 NB Ramps & Friars Road** – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 54.1 and 141.1 seconds, respectively. Therefore, impacts would be **potentially significant (TR-7)**.
19. **Rancho Mission Road & Friars Road**– Project traffic would degrade LOS E operations to LOS F in the AM and PM peak hours and would increase delay by 3.5 and 10.8 seconds, respectively. Therefore, impacts would be **potentially significant (TR-8)**.

27. **Fairmount Avenue & San Diego Mission Road/Twain Avenue** – Project traffic would degrade LOS C operations to LOS F in the AM, would degrade LOS C operations to LOS E in the PM peak hour, and would increase delay by 77.6 and 46.5 seconds, respectively. Therefore, impacts would be **potentially significant (TR-9)**.
31. **Texas Street & Camino del Rio N** – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 7.6 and 18.3 seconds, respectively. Therefore, impacts would be **potentially significant (TR-10)**.
32. **Ward Road & Rancho Mission Road** – Project traffic would degrade LOS D to LOS F operations in the AM and PM peak hours and would increase delay by 104.2 and 295.3 seconds, respectively. The addition of project traffic also would satisfy the peak hour signal warrant per the California MUTCD. Therefore, impacts would be **potentially significant (TR-11)**.
34. **Fairmount Avenue & Mission Gorge Road** – Project traffic would degrade LOS C to LOS E operations in the PM peak hour and increase delay by 34.0 seconds. Therefore, impacts would be **potentially significant (TR-12)**.
35. **Fairmount Avenue & Camino del Rio North** – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and increase delay by 27.8 and over 71.8 seconds, respectively. Therefore, impacts would be **potentially significant (TR-13)**.
41. **Ruffin Road & Aero Drive** – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 10.6 seconds. Therefore, impacts would be **potentially significant (TR-14)**.

For information purposes, applying the City of San Diego impact criteria, the same 13 intersections would be significantly impacted, as would intersection #29, Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio North.

Roadway Segments

The roadway segment LOS analysis was conducted using the City of San Diego impact thresholds and is presented for information purposes only. Project traffic traversing the study area roadway segments was added to Horizon Year 2037 Without Project Conditions peak hour volumes. Table 4.15-30 illustrates the LOS analysis for the study area roadway segments under Horizon Year Plus Project Conditions and compares the projected levels of service at each segment in 2037 to conditions without the project. Based on the analysis, the following segments would exceed the first step of the City thresholds and be subject to the further analysis before identifying as significantly impacted:

6. Friars Road from Northside Drive to Stadium Way (Street A) – Project traffic would degrade LOS C operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.
8. Friars Road from Mission Village Drive to the I-15 Ramps – Project traffic would degrade LOS C operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
9. Friars Road from the I-15 Ramp to Rancho Mission Road – Project traffic would exacerbate LOS F operations and would result in a V/C increase that exceeds the maximum threshold.
11. Friars Road from Santo Road to Riverdale Street – Project traffic would exacerbate LOS F operations and would result in a V/C increase that exceeds the maximum threshold.
12. Friars Road from Riverdale Street to Mission Gorge Road – Project traffic would degrade LOS D operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
17. San Diego Mission Road from Mission Village Drive/Street F to Rancho Mission Road – Project traffic would degrade LOS C operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.
18. San Diego Mission Road from Rancho Mission Road to Fairmount Avenue – Project traffic would degrade LOS E operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.

19. Rancho Mission Road from Friars Road to San Diego Mission Road_– Project traffic would degrade LOS D operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.
20. Rancho Mission Road from San Diego Mission Road to Ward Road – Project traffic would degrade LOS D operations to LOS E and would result in a V/C increase that exceeds the maximum threshold.
22. Ward Road from Rancho Mission Road to Camino del Rio North – Project traffic would degrade LOS D operations to LOS F and would result in a V/C increase that exceeds the maximum threshold.
34. Camino del Rio South from Texas Street to Mission City Parkway (LOS F)

This exceedance triggers the second part of the roadway analysis, which evaluates intersection LOS on either side of the segment, the arterial speed-based LOS on the segment, and the existing Community Plan street classification. Appendix 4.15-1, Table 43 summarizes the results of the second part of the roadway analysis assuming, hypothetically, implementation of the intersection improvements described above.

Freeway Segments

Table 4.15-31 illustrates the results of the freeway operations analysis under Horizon Year (2037) Plus Project conditions. As shown on the table, all freeways segments are expected to operate at undesirable levels (LOS E or F) under without and with project conditions. The addition of project trips will further exacerbate operations at these locations. Based on the applicable impact criteria, the proposed project would result in significant cumulative impacts on the following freeway segments:

10. **I-15 from Adams Avenue to I-8** (NB, AM and PM peak hours; SB, PM peak hour). **Potentially significant (TR-15)**.
11. **I-15 from I-8 to Friars Road** (NB auxiliary lanes, PM peak hour; SB auxiliary lanes to I-8, AM and PM peak hours; SB auxiliary lane to I-15 SB, PM peak hour). **Potentially significant (TR-16)**.
12. **I-15 from Friars Road to Aero Drive** (NB, AM peak hour; SB, PM peak hour). **Potentially significant (TR-17)**.
13. I-**15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard** (both directions, AM and PM peak hours). **Potentially significant (TR-18)**.
14. **I-8 from Morena Boulevard to Taylor Street** (EB, PM peak hour). **Potentially significant (TR-19)**.
15-16. **I-8 from Taylor Street to SR-163** (EB, AM and PM peak hours; WB, PM peak hour). XXX. Therefore, impacts would be **potentially significant (TR-20)**.
18. I-**8 from SR-163 to Texas Street** (WB, PM peak hour). **Potentially significant (TR-21)**.
20. **I-8 from I-805 to I-15** (EB, PM peak hour; WB, AM and PM peak hours). **Potentially significant (TR-22)**.
22-23. **I-8 from Fairmount Avenue to College Avenue** (EB, PM peak hour; WB, AM peak hour). **Potentially significant (TR-23)**.

For information purposes, it is noted that the locations that would exceed the City of San Diego significance criteria include those noted above, as well as the following four additional locations:

1. SR-163 from Washington Street to I-8 (NB, PM peak hour; SB, PM peak hour)
15-17. I-8 from Taylor Street to Mission Center Road (WB, AM peak hour)
18-19. I-8 from Mission Center Road to Texas Street (EB, PM peak hour; WB, AM peak hour)
21. I-8 from I-15 to Waring Road (EB, PM peak hour)

Ramp Metering

Table 4.15-32 illustrates the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Horizon Year Plus Project Conditions. As shown in Table 32, under this scenario, all ramps are expected to operate with unacceptable delays during one or both peak hours. Additionally, at all ramps, on-ramp capacity is not sufficient to accommodate the peak hour demand during metered peak periods; thus, ramp queues are expected to spill back onto the arterial streets.

Based on the applicable significance criteria, the proposed project would increase the delay by more than two (2) minutes, when compared to Horizon Year conditions without the project, at the following on-ramps operating with delays above 15 minutes and, therefore, the proposed project would result in a significant cumulative impact at the following four ramp locations:

- **I-15 NB On-ramp from Friars R**oad – operates at 22.0 minutes of delay in the AM peak hour and 32.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 9.6 minutes to a total delay of 31.2 minutes in the AM peak hour and 31.6 minutes to a total of 63.7 minutes in the PM peak hour. Impacts would be **potentially significant (TR-24)**.
- **I-15 SB/I-8 Loop On-ramp from Friars Road** – operates at 24.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 17.2 minutes to a total delay of 41.7 minutes. Impacts would be **potentially significant (TR-25)**.
- **I-15 SB Direct On-ramp from Friars Road** – operates at 6.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 23.5 minutes to a total delay of 30.0 minutes. Impacts would be **potentially significant (TR-26)**.
- **I-8 EB On-ramp from SB Fairmount Avenue** – operates at 21.0 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 28.7 minutes to a total delay of 49.7 minutes. Impacts would be **potentially significant (TR-27)**.

For informational purposes, it is noted that the locations that would exceed the City of San Diego significance criteria are the same as those noted above.

Off-Ramp Queuing

The off-ramp queuing analysis was conducted using the Caltrans impact thresholds. Table 4.15-33 illustrates the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown on the table, all off-ramp queues can be accommodated by the existing storage capacity under Horizon Year Plus Project Conditions and, therefore, impacts would be **less than significant.**

Table 4.15-29. Horizon Year (2037) Plus Project Without Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	45.2	D	45.3	D	1.4	NO
		PM	54.5	D	**62.1**	**E**	**5.2**	**YES**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	19.8	B	29.5	C	3.3	NO
		PM	32.4	C	36.2	D	2.7	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	45.2	D	50.6	D	1.6	NO
		PM	44.8	D	46.9	D	3.9	NO
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	0.5	NO
		PM	14.1	B	15.0	B	0.9	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	-0.1	NO
		PM	36.2	D	38.1	D	1.9	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.9	B	17.0	B	1.1	NO
		PM	24.5	C	24.9	C	0.4	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.6	A	6.2	A	0.6	NO
		PM	12.8	B	13.3	B	0.5	NO
8. River Run Dr & Friars Rd	Signalized	AM	23.0	C	25.0	C	2.0	NO
		PM	**59.6**	**E**	**94.9**	**F**	**35.3**	**YES**
9. Fenton Pkwy & Friars Rd	Signalized	AM	27.9	C	22.1	C	-5.8	NO
		PM	**92.8**	**F**	**126.6**	**F**	**33.8**	**YES**
10. Northside Dr & Friars Rd*	Signalized	AM	34.9	C	34.8	C	-0.1	NO
		PM	**122.1**	**F**	**128.6**	**F**	**6.5**	**YES**
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	10.4	B	N/A	NO
		PM	-	N/A	22.9	C	N/A	NO
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	30.1	C	28.8	C	-1.3	NO
		PM	52.0	D	33.6	C	-18.4	NO
13. Mission Village Dr /Street D & Friars Rd EB Ramps*	Signalized	AM	**173.4****	**F**	17.0	B	-156.4	NO
		PM	**94.0**	**F**	30.0	C	-64.0	NO

Table 4.15-29. Horizon Year (2037) Plus Project Without Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
14. Street D & Street 4	Signalized	AM	DNE	N/A	23.7	C	N/A	NO
		PM		N/A	40.9	D	N/A	NO
15. Street F & Street 4	Signalized	AM	DNE	N/A	27.0	C	N/A	NO
		PM		N/A	35.1	D	N/A	NO
16. Street F & Street 6/San Diego Mission Rd	Roundabout	AM	DNE	N/A	8.1	A	N/A	NO
		PM		N/A	9.3	A	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	46.3	D	**124.6**	**F**	**78.3**	**YES**
		PM	**67.3**	**E*** ** (F)	**100.6**	**F** (F)	**33.3**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**83.5**	**F*** ** (F)	**137.6**	**F** (F)	**54.1**	**YES**
		PM	**67.3**	**E*** ** (F)	**208.4****	**F** (F)	**141.1**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.3	C*** (E)	33.8	C (F)	3.5	**YES*****
		PM	**72.4**	**E*** ** (E)	**83.2**	**F** (F)	**10.8**	**YES**
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	9.0	NO
		PM	16.8	B	19.0	B	2.2	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	6.4	NO
		PM	37.4	D	43.8	D	6.4	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	2.4	NO
		PM	44.5	D	54.2	D	9.7	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.3	B	22.1	C	2.8	NO
		PM	44.4	D	49.6	D	5.2	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	12.9	B	13.6	B	0.7	NO
		PM	25.1	D	30.8	D	5.7	NO

Table 4.15-29. Horizon Year (2037) Plus Project Without Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	16.7	B	17.0	B	0.3	NO
		PM	27.7	C	28.7	C	1.0	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	31.0	C	46.0	D	15.0	NO
		PM	30.0	C	48.4	D	18.4	NO
27. Fairmount Ave & San Diego Mission Rd/ Twain Ave	Signalized	AM	23.5	C	**101.1**	**F**	**77.6**	**YES**
		PM	26.7	C	**73.2**	**E**	**46.5**	**YES**
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	21.3	C	21.8	C	0.5	NO
		PM	**71.0**	**E**	**71.0**	**E**	0.0	NO
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	20.5	C	21.8	C	1.3	NO
		PM	**73.6**	**E**	**77.2**	**E**	3.6	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.2	A	1.2	A	0.0	NO
		PM	4.9	A	4.9	A	0.0	NO
31. Texas St & Camino del Rio S	Signalized	AM	**104.1**	**F**	**111.7**	**F**	**7.6**	**YES**
		PM	**85.0**	**F**	**103.3**	**F**	**18.3**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	26.9	D	**131.2**	**F**	**104.3**	**YES**
		PM	29.9	D	**321.1****	**F**	**291.2**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	15.4	B	25.3	C	9.9	NO
		PM	15.9	B	29.6	C	13.7	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.0	C	27.6	C	5.6	NO
		PM	28.1	C	**62.1**	**E**	**34.0**	**YES**
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**94.7**	**F**	**122.5**	**F**	**27.8**	**YES**
		PM	**104.7**	**F**	**176.5****	**F**	**71.8**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	17.7	B	20.5	C	2.8	NO
		PM	44.3	D	52.7	D	8.4	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	46.9	D	49.2	D	2.3	NO
		PM	50.0	D	53.5	D	3.5	NO

Table 4.15-29. Horizon Year (2037) Plus Project Without Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	0.2	NO
		PM	10.8	B	13.6	B	2.8	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	1.0	NO
		PM	11.3	B	13.9	B	2.6	NO
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	12.1	NO
		PM	24.5	C	36.4	D	11.9	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	1.1	NO
		PM	52.6	D	**63.2**	**E**	**10.6**	**YES**
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	0.1	NO
		PM	6.0	A	6.1	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	0.2	NO
		PM	11.7	B	11.9	B	0.2	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the *Highway Capacity Manual (HCM)* method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of *HCM 6* at this intersection. The *HCM 2000* method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

**** Intersection would exceed the City of San Diego impact threshold.

**** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

Table 4.15-30. Horizon Year Plus Project Without Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3,4]	*ADT*	*V/C*[2]	*LOS*[3, 4]		
Friars Rd												
1	Frazee Rd	Mission Center Rd	8P	80,000	52,600	0.66	C	56,839	0.71	C	0.05	NO
2	Mission Center Rd	Qualcomm Way	6E	80,000	48,594	0.61	B	54,081	0.68	C	0.07	NO
3	Qualcomm Way	River Run Dr	6E	80,000	42,681	0.53	C	50,015	0.63	C	0.10	NO
4	River Run Dr	Fenton Pkwy	6P	60,000	43,198	0.72	C	50,820	0.85	D	0.13	NO
5	Fenton Pkwy	Northside Dr	6P	60,000	45,271	0.75	C	52,875	0.88	D	0.13	NO
6	Northside Dr	Stadium Way (Street A)	6E – 6P with project	80,000 – 60,000	54,457	0.68	C	62,520	**1.04**	**F**	**0.36**	**YES**
7	Stadium Way (Street A)	Mission Village Dr	6E	80,000	54,457	0.68	C	66,403	0.83	D	0.15	NO
8	Mission Village Dr	I-15 Ramps	6E	80,000	52,850	0.66	C	72,125	**0.90**	**E**	**0.24**	**YES**
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	**72,970**	**1.04**	**F**	78,407	**1.12**	**F**	**0.08**	**YES**
10	Rancho Mission Rd	Santo Rd	7P	70,000	61,340	0.88	D	63,700	0.91	D	0.03	NO
11	Santo Rd	Riverdale St	6P	60,000	**60,170**	**1.00**	**F**	61,873	**1.03**	**F**	**0.03**	**YES**
12	Riverdale St	Mission Gorge Rd	6P	60,000	54,675	0.91	D	56,252	**0.94**	**E**	**0.03**	**YES**
Qualcomm Way												
13	Friars Rd	Rio San Diego Dr	6M	50,000	22,813	0.46	B	24,047	0.48	B	0.02	NO
Rio San Diego Dr												
14	Qualcomm Way	River Run Dr	4M	40,000	15,876	0.40	B	16,673	0.42	B	0.02	NO
15	River Run Dr	Fenton Pkwy	4C/M	30,000	13,246	0.44	B	14,120	0.47	C	0.03	NO
Fenton Pkwy												
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	6,240	0.16	A	7,434	0.19	A	0.03	NO

Table 4.15-30. Horizon Year Plus Project Without Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C[2]*	*LOS[3,4]*	*ADT*	*V/C[2]*	*LOS[3, 4]*		
San Diego Mission Rd												
17	Mission Village Dr/Street F	Rancho Mission Rd	4C w/o CLTL	15,000	9,254	0.62	C	15,925	**1.06**	**F**	**0.44**	**YES**
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	**13,240**	**0.88**	**E**	18,294	**1.22**	**F**	**0.34**	**YES**
Rancho Mission Rd												
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	18,681	0.83	D	22,983	**1.02**	**F**	**0.19**	**YES**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	11,576	0.77	D	13,301	**0.89**	**E**	**0.12**	**YES**
21	West of Ward Rd		2C	10,000	1,824	0.18	A	6,275	0.63	C	0.45	NO
Ward Rd												
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	12,047	0.80	D	16,741	**1.12**	**F**	**0.32**	**YES**
Fairmount Ave												
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	8,719	0.29	A	12,174	0.41	B	0.12	NO
Mission Village Dr												
24	Ruffin Rd	Shawn Ave	4C	30,000	18,344	0.61	C	22,623	0.75	D	0.14	NO
25	Shawn Ave	Ronda Ave	4C	30,000	14,912	0.50	C	19,399	0.65	C	0.15	NO
26	Ronda Ave	Friars Rd	4M	40,000	17,204	0.43	B	21,709	0.54	C	0.11	NO
Ruffin Rd												
27	Aero Dr	Mission Village Dr	4C	30,000	16,451	0.55	C	19,086	0.64	C	0.09	NO
Gramercy Dr												
28	Mobley St	Ruffin Rd	4M	40,000	9,456	0.24	A	10,812	0.27	A	0.03	NO

Table 4.15-30. Horizon Year Plus Project Without Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3,4]	*ADT*	*V/C*[2]	*LOS*[3, 4]		
Aero Dr												
29	Sandrock Rd	Ruffin Rd	4M	40,000	24,167	0.60	C	25,505	0.64	C	0.04	NO
30	Ruffin Rd	Daley Center Dr	4M	40,000	31,494	0.79	D	32,625	0.82	D	0.03	NO
Camino del Rio N												
31	Qualcomm Way	Mission City Pkwy	4C	30,000	11,608	0.39	B	12,063	0.40	B	0.01	NO
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	10,318	0.69	D	11,237	0.75	D	0.06	NO
33	Ward Rd	Fairmount Ave	4C	30,000	14,706	0.49	C	18,940	0.63	C	0.14	NO
Camino del Rio S												
34	Texas St	Mission City Pkwy	2C	10,000	13,888	**1.39**	**F**	14,109	**1.41**	**F**	**0.02**	**YES**

Source: Appendix 4.15-1

Notes:

1 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
8P = 8-lane primary arterial
6E = 6-lane expressway

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)* and the *Mission Valley Community Plan Update (2019)*

4 Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

Table 4.15-31. Horizon Year Plus Project Without Event Conditions Freeway Segment Level of Service

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Horizon Year Without the Project Conditions						Horizon Year Plus Project Conditions						V/C Delta		Significant Impact?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	6,350	6,892	0.96	1.04	E	F(0)	6,407	6,942	0.97	1.05	E	F(0)	0.01	0.01	NO	NO*
		SB	3M+2A	7,800	10,832	9,690	1.39	1.24	F(2)	F(0)	10,868	9,757	1.39	1.25	F(2)	F(1)	0.00	0.01	NO	NO*
2	I-8 to Friars Rd	NB	2A	2,400	1,958	2,125	0.82	0.89	D	D	2,083	2,206	0.87	0.92	D	D	0.05	0.03	NO	NO
		SB	4M+2A	9,600	9,908	9,049	1.03	0.94	F(0)	E** (F)	9,944	9,122	1.04	0.95	F(0)	E (F)	0.00	0.01	NO	NO
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	11,141	8,973	1.24	1.00	F(0)	E	11,154	9,005	1.24	1.00	F(0)	F(0)	0.00	0.00	NO	NO
		SB	4M	7,200	7,446	7,713	1.03	1.07	F(0)	F(0)**(F)	7,464	7,731	1.04	1.07	F(0)	F(0) (F)	0.00	0.00	NO	NO
4	Mesa College Dr to I-805	NB	4M+2A	9,600	9,392	8,718	0.98	0.91	E	D	9,403	8,747	0.98	0.91	E	D	0.00	0.00	NO	NO
		SB	4M+1A	8,400	8,551	7,471	1.02	0.89	F(0)	D* (F)	8,567	7,488	1.02	0.89	F(0)	D (F)	0.00	0.00	NO	NO
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	10,241	5,976	1.22	0.71	F(0)	C	10,275	6,006	1.22	0.71	F(0)	C	0.00	0.00	NO	NO
		SB	6M	10,800	5,454	11,453	0.50	1.06	B	F(0)**(F)	5,475	11,493	0.51	1.06	B	F(0) (F)	0.00	0.00	NO	NO
6	I-8 to Murray Ridge Rd/ Phyllis Pl	NB	5M	9,000	11,876	6,885	1.32	0.77	F(1)	C	11,886	6,907	1.32	0.77	F(1)	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	6,216	11,119	0.65	1.16	C	F(0)	6,232	11,131	0.65	1.16	C	F(0)	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	11,865	6,854	1.32	0.76	F(1)	C	11,875	6,876	1.32	0.76	F(1)	C	0.00	0.00	NO	NO
		SB	5M	9,000	5,975	10,851	0.66	1.21	C	F(0)	5,992	10,862	0.67	1.21	C	F(0)	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	9,896	5,830	1.10	0.65	F(0)**(F)	C	9,905	5,851	1.10	0.65	F(0) (F)	C	0.00	0.00	NO	NO
		SB	4M	7,200	4,290	6,701	0.60	0.93	B	E** (F)	4,305	6,712	0.60	0.93	B	E (F)	0.00	0.00	NO	NO
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	7,077	5,952	0.84	0.71	D** (F)	C	7,098	6,002	0.84	0.71	D (F)	C	0.00	0.01	NO	NO
		SB	4M+2A	9,600	6,693	9,068	0.70	0.94	C	E** (F)	6,724	9,095	0.70	0.95	C	E (F)	0.00	0.00	NO	YNO
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	7,624	8,470	0.98	1.09	E	F(0)	7,978	8,775	1.02	1.13	F(0)	F(0)	0.05	0.04	YES	YES
		SB	5M	9,000	6,077	10,152	0.68	1.13	C	F(0)	6,298	10,563	0.70	1.17	C	F(0)	0.02	0.05	NO	YES
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,381	2,140	0.58	0.89	B	D	1,880	2,590	0.78	1.08	C	F(0)	0.21	0.19	NO	YES
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	4,390	5,796	1.22	1.61	F(0)	F(3)	4,504	5,985	1.25	1.66	F(1)	F(3)	0.03	0.05	YES	YES
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	751	1,104	0.63	0.92	C	E	954	1,494	0.80	1.24	C	F(0)	0.17	0.32	NO	YES
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	9,691	7,115	1.15	0.85	F(0)	D	9,964	7,620	1.19	0.91	F(0)	D	0.03	0.06	YES	NO
		SB	5M+1A	10,200	8,245	11,344	0.81	1.11	D	F(0)	8,680	11,718	0.85	1.15	D	F(0)	0.04	0.04	NO	YES
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	10,881	8,205	1.30	0.98	F(1)	E	11,125	8,657	1.32	1.03	F(1)	F(0)	0.03	0.05	YES	YES
		SB	4M+1A	8,400	8,446	10,169	1.01	1.21	F(0)	F(0)	8,835	10,503	1.05	1.25	F(0)	F(1)	0.05	0.04	YES	YES
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	7,276	9,089	0.87	1.08	D	F(0)	7,382	9,179	0.88	1.09	D	F(0)	0.01	0.01	NO	YES
		WB	5M	9,000	8,564	7,482	0.95	0.83	E	D	8,630	7,604	0.96	0.84	E	D	0.01	0.01	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	7,129	9,532	0.99	1.32	E	F(1)	7,243	9,629	1.01	1.34	F(0)	F(1)	0.02	0.01	YES	YES
		WB	4M+1A	8,400	9,871	8,430	1.18	1.00	F(0)	F(0)	9,942	8,562	1.18	1.02	F(0)	F(0)	0.01	0.02	NO*	YES

Table 4.15-31. Horizon Year Plus Project Without Event Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year Without the Project Conditions						Horizon Year Plus Project Conditions						V/C Delta		Significant Impact?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	8,841	10,972	0.92	1.14	E	F(0)	8,956	11,071	0.93	1.15	E	F(0)	0.01	0.01	YES	YES
		WB	5M	9,000	10,030	8,245	1.11	0.92	F(0)	D	10,101	8,378	1.12	0.93	F(0)	E	0.01	0.01	NO*	YES
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,770	7,084	0.52	0.98	B	E** (F)	3,834	7,155	0.53	0.99	B	E (F)	0.01	0.01	NO	NO
		WB	3M+2A	7,800	10,364	9,544	1.33	1.22	F(1)	F(0)	10,435	9,669	1.34	1.24	F(1)	F(0)	0.01	0.02	NO*	YES
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	6,280	11,826	0.75	1.41	C	F(2)	6,344	11,897	0.76	1.42	C	F(2)	0.01	0.01	NO	NO*
		WB	4M+1A	8,400	10,786	9,995	1.28	1.19	F(1)	F(0)	10,857	10,121	1.29	1.20	F(1)	F(0)	0.01	0.01	NO*	YES
19	Texas St to I-805	EB	4M	7,200	3,980	7,765	0.55	1.08	B	F(0)**(F)	4,044	7,836	0.56	1.09	B	F(0) (F)	0.01	0.01	NO	NO
		WB	4M	7,200	7,554	5,996	1.05	0.83	F(0)**(F)	D	7,625	6,122	1.06	0.85	F(0) (F)	D	0.01	0.02		NO
20	I-805 to I-15	EB	4M+2A	9,600	7,374	12,462	0.77	1.30	C	F(1)	7,489	12,574	0.78	1.31	C	F(1)	0.01	0.01	NO	YES
		WB	4M+2A	9,600	12,644	10,240	1.32	1.07	F(1)	F(0)	12,742	10,409	1.33	1.08	F(3)	F(3)	0.01	0.02	YES	YES
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	7,378	11,546	0.77	1.20	C	F(0)	7,406	11,595	0.77	1.21	C	F(0)	0.00	0.01	NO	NO*
		WB	4M+2A	9,600	8,956	6,605	0.93	0.69	E** (F)	C	9,017	6,696	0.94	0.70	E	C	0.01	0.01		NO
22	Fairmount Ave to Waring Rd	EB	5M	9,000	8,018	12,782	0.89	1.42	D	F(2)	8,161	13,048	0.91	1.45	D	F(2)	0.02	0.03	NO	YES
		WB	6M	10,800	12,116	9,572	1.12	0.89	F(0)	D	12,345	9,769	1.14	0.90	F(0)	D	0.02	0.02	YES	NO
23	Waring Rd to College Ave	EB	5M	9,000	7,722	12,056	0.86	1.34	D	F(1)	7,864	12,318	0.87	1.37	D	F(2)	0.02	0.03	NO	YES
		WB	5M	9,000	11,307	9,051	1.26	1.01	F(1)	F(0)	11,533	9,246	1.28	1.03	F(1)	F(0)	0.03	0.02	YES	YES

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998)

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Freeway segment would exceed the City of San Diego impact threshold.

** Traffic data indicate existing operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

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		

Table 4.15-32. Horizon Year (2037) Plus Project Without Event Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Horizon Year Without the Project Conditions					Horizon Year Plus Project Conditions					Delay Delta	Significant Impact?
				Demand[2] (veh/hr)		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*	*Demand[2] (veh/hr)*		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*		
				Mixed Flow & HOV	*Mixed Flow only*				*Mixed Flow & HOV*	*Mixed Flow only*					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	2,345	1,983	533	**22.0**	7,725	2,617	2,213	763	**31.6**	11,050	9.6	**YES**
	PM	2	888	1,503	1,369	481	**32.5**	6,975	2,010	1,830	942	**63.7**	13,675	31.2	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	914	914	N/A	N/A	N/A	1,028	1,028	N/A	N/A	N/A	N/A	NO
	PM	1	660	929	929	269	**24.5**	7,800	1,118	1,118	458	**41.7**	13,300	17.2	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	751	751	N/A	N/A	N/A	954	954	N/A	N/A	N/A	N/A	NO
	PM	1	996	1,104	1,104	108	6.5	3,150	1,494	1,494	498	**30.0**	14,425	23.5	**YES**
I-8 EB - SB Fairmount Ave	AM	1	N/A	302	302	N/A	N/A	N/A	432	432	N/A	N/A	N/A	N/A	NO
	PM	1	492	664	664	172	**21.0**	5,000*	900	900	408	**49.7**	11,825	28.7	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

Notes:

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delays in excess of 15 minutes are highlighted in **bold**.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Field observations of existing conditions showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds ~~indicate~~ indicatimng that operations ~~may be~~are better than calculated.

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Table 4.15-33. Horizon Year Plus Project Without Event Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)	
				Horizon Year Without the Project Conditions	*Horizon Year Plus Project Conditions*
1. SR-163 SB off-ramp at Friars Rd/Ulric St	AM	NBL	1,200	211	211
		NBT		104	104
		NBR		487	502
	PM	NBL	1,200	263	263
		NBT		62	62
		NBR		485	523
2. SR-163 NB off-ramp at Friars Rd	AM	SBL	700	444	505
		SBT		0	0
		SBR		305	318
	PM	SBL	700	418	456
		SBT		0	0
		SBR		447	456
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	460	482
		SBT		449	470
		SBR		257	500
	PM	SBL	1,200	842	911
		SBT		845	911
		SBR		80	168
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0
		SBR	1,300	0	0
	PM	NBR	1,500	0	0
		SBR	1,300	0	0
29. I-8 WB off-ramp at Qualcomm Way/ Camino del Rio N	AM	WBL	3,200	0	0
		WBT		221	243
		WBR		740	824
	PM	WBL	3,200	0	0
		WBT		394	411
		WBR		545	585
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	169	169
	PM	EBR	900	274	270
35. I-8 WB off-ramp at Fairmount Ave/ Alvarado Canyon Rd/Camino del Rio N	AM	WBL	1,000	627	713
		WBT		607	680
		WBR		269	394
	PM	WBL	1,000	714	714
		WBT		464	601
		WBR		308	468
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	484	505
		EBR		493	508
	PM	EBL	4,100	1,099	1,113
		EBR		1,659	1,665

Source: Appendix 4.15-1.

4.15.7.3.2 Horizon Year (2037) Plus Project – Plus Stadium Event Conditions

This section presents the results of the operations analysis under the Horizon Year (2037) scenario with buildout of the proposed project, including the Stadium. Under this scenario, Stadium event trips were added to the Horizon Year Plus Project Conditions to analyze conditions under which a sold-out Stadium event occurs on a typical weekday. The Horizon Year Plus Project Plus Stadium Event Conditions roadway network is the same network as that assumed under the Horizon Year Plus Project scenario. As was the case under Without Event conditions, the analysis presented here addresses intersections, roadway segments, freeway segments, metered ramps, and off-ramp queues.

Intersections

Turning movement traffic volumes and intersection lane configurations for the Horizon Year (2037) Plus Project Plus Stadium Event Conditions are shown on Figure 4.15-14. This data was used to calculate operations under this scenario. Table 4.15-34 presents the intersection operating conditions and significant traffic impacts under the Horizon Year Plus Project Plus Stadium Event Conditions by comparing the projected levels of service at each study area intersection under this scenario to the Horizon Year Without Project Conditions. The corresponding LOS calculation sheets are included in TIA Appendix E.

As shown in Table 4.15-34, in addition to the significantly impacted intersections identified for the Horizon Year Plus Project Without Stadium Event Conditions, the addition of Stadium traffic would result in a significant impact at the following additional intersections on those infrequent occasions when a Stadium event is taking place:

3. Frazee Road & Friars Road (PM peak hour)
11. Stadium Way (Street A) & Friars Road (PM peak hour)
15. Street D & Street 4 (PM peak hour)

Therefore, under this scenario, the proposed project would result in significant cumulative impacts at the following locations:

1. **SR-163 Southbound Ramps/Ulric Street & Friars Road** – Event traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 13.3 seconds. Therefore, impacts would be **potentially significant (TR-28A)**.
3. **Frazee Road & Friars Road** – Event traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 22.6 seconds. Therefore, impacts would be **potentially significant (TR-28B)**.
8. **River Run Drive & Friars Roa**d – Event traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 86.8 seconds. Therefore, impacts would be **potentially significant (TR-28C)**.
9. **Fenton Pkwy & Friars Road**– Event traffic would exacerbate LOS F operations in the PM peak hour and would increase delay by 86.3 seconds. Therefore, impacts would be **potentially significant (TR-28D)**.
10. **Northside Drive & Friars Road** – Event traffic would exacerbate LOS F operations in the PM peak hour and would increase delay by 68.7 seconds. Therefore, impacts would be **potentially significant (TR-28E)**.
11. **River Run Drive & Friars Road** – Event traffic would degrade free-flow operations to LOS F. Therefore, impacts would be **potentially significant (TR-28F)**.
14. **Street D & Street 4** – Event traffic would result in LOS F operations. Therefore, impacts would be **potentially significant (TR-28G)**.

17. **I-15 SB Ramps & Friars Road** – Event traffic would degrade LOS D operations to LOS F operations in the AM peak hour, would degrade LOS E operations to LOS F in the PM peak hour, and would increase delay by 78.3 and 70.6 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28H)**.
18. **I-15 NB Ramps & Friars Road** – Event traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 54.1 and 150.8 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28I)**.
19. **Rancho Mission Road & Friars Road**– Event traffic would degrade LOS E operations to LOS F in the AM and PM peak hours and would increase delay by 3.5 and 21.7 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28J)**.
22. **Mission Gorge Road & Friars Road –** Event traffic would degrade LOS D operations to LOS E in the PM peak hour and would increase delay by 11.5 seconds. Therefore, impacts would be **potentially significant** (**TR-28K**).
27. **Fairmount Avenue & San Diego Mission Road/Twain Avenue** – Event traffic would degrade LOS C operations to LOS F in the AM and PM peak hour, and would increase delay by 77.6 and 104.3 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28L)**.
31. **Texas Street & Camino del Rio N** – Event traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 7.6 and 18.4 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28M)**.
32. **Ward Road & Rancho Mission Road** – Event traffic would degrade LOS D to LOS F operations in the AM and PM peak hours and would increase delay by 104.2 and 2,109.6 seconds, respectively. The addition of project traffic also would satisfy the peak hour signal warrant per the California MUTCD. Therefore, impacts would be **potentially significant (TR-28N)**.
34. **Fairmount Avenue & Mission Gorge Road** – Event traffic would degrade LOS C to LOS E operations in the PM peak hour and increase delay by 36.2 seconds. Therefore, impacts would be **potentially significant (TR-28O)**.
35. **Fairmount Avenue & Camino del Rio North** – Event traffic would exacerbate LOS F operations in the AM and PM peak hours and increase delay by 27.8 and 100.6 seconds, respectively. Therefore, impacts would be **potentially significant (TR-28P)**.
41. **Ruffin Road & Aero Drive** – Event traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 15.0 seconds. Therefore, impacts would be **potentially significant (TR-28Q)**.

For information purposes, the locations that would exceed the City of San Diego significance criteria are the same as those noted above.

Roadway Segments

The roadway segment LOS analysis is based on the City of San Diego impact thresholds and is provided for information purposes only. To conduct the analysis, Stadium event traffic traversing the study area roadway segments was added to Horizon Year Plus Project Without Stadium Event Conditions peak hour volumes. Table 4.15-35 illustrates the LOS analysis for the study area roadway segments under Horizon Year Plus Project Plus Stadium Event Conditions and compares the projected levels of service at each segment in 2037 with the proposed project and Stadium event traffic to conditions without the project. As shown in the table, in addition to those segments previously identified as operating unacceptably under Horizon Year Plus Project Without Stadium Event Conditions, the following study area roadway segments also are projected to operate at LOS E or F under this scenario:

5. Friars Road from Fenton Parkway to Northside Drive
7. Friars Road from Stadium Way (Street A) to Mission Village Drive

10. Friars Road from Rancho Mission Road to Santo Road

Freeway Segments

Table 4.15-36 illustrates freeway operations under Horizon Year Plus Project Plus Stadium Event Conditions. As shown on the table, all freeways segments are expected to operate at undesirable levels (LOS E or F) under Horizon Year Conditions without and with the project. As to significant impacts, in addition to those impacts previously identified under Horizon Year Plus Project Without Stadium Event Conditions, the addition of Stadium event trips will further exacerbate operations and result in a significant cumulative impact on the following additional five freeway segments:

1. SR-163 from 6th Avenue to I-8
2. SR-163 I-8 to Friars Road
3. SR-163 from Friars Road to Mesa College Drive
9. I-805 from SR-163 to Balboa Avenue
17-19. I-8 from SR-163 to I-805
22. I-8 from Fairmount Avenue to College Avenue

Therefore, under this scenario, the proposed project would result in significant cumulative impacts at the followingsegments:

1. **SR-163 from 6th Avenue to I-8** (NB, PM peak hour; SB, PM peak hour). **Potentially significant (TR-29A)**.
2. **SR-163 I-8 to Friars Road** (NB, PM peak hour). **Potentially significant (TR-29B)**.
3 **SR-163 from Friars Road to Mesa College Drive** (SB, PM peak hour) **Potentially significant (TR-29C)**.
9. **I-805 from SR-163 to Balboa Aven**ue (SB, PM peak hour). –**Potentially significant (TR-29D)**.
9. **I-805 from SR-163 to Balboa Avenue** (SB, PM peak hour). **Potentially significant (TR-29E)**.
10. **I-15 from Adams Avenue to I-8** (NB, AM and PM peak hours; SB, PM peak hour). **Potentially significant (TR-29F)**.
11. **I-15 from I-8 to Friars Road** (NB auxiliary lanes, PM peak hour; SB auxiliary lanes to I-8, AM and PM peak hours; SB auxiliary lane to I-15 SB, PM peak hour). **Potentially significant (TR-29G)**.
12. **I-15 from Friars Road to Aero Drive** (NB, AM peak hour; SB, PM peak hour). **Potentially significant (TR-29H)**.
13. **I-15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard** (both directions, AM and PM peak hours). **Potentially significant (TR-29I)**.
14. **I-8 from Morena Boulevard to Taylor Street** (EB, PM peak hour). **Potentially significant (TR-29J)**.
15-16. **I-8 from Taylor Street to Hotel Circle and Hotel Circle to SR-163** (EB, AM and PM peak hours; WB, PM peak hour). **Potentially significant (TR-29K and TR-29L)**.
17. I**-8 from SR-163 to Mission Center Road** (EB, PM peak hour and WB, PM peak hour). **Potentially significant (TR-29M)**.
18. I**-8 from Mission Center Road to Texas Street** (WB, PM peak hour; EB, PM peak hour). **Potentially significant (TR-29N)**.
19. **I-8 from Texas Street to I-805** (EB, PM peak hour; WB, AM peak hour). **Potentially significant (TR-29O)**.
20. **I-8 from I-805 to I-15** (EB, PM peak hour; WB, AM and PM peak hours). **Potentially significant (TR-29P)**.

21. I-8 from Fairmount Avenue to Waring Road (EB, PM peak hour; WB, AM and PM peak hours). **Potentially significant (TR-29Q)**.
23. **I-8 from Waring Road to College Avenue** (EB and WB, PM peak hour; WB, AM peak hour). **Potentially significant (TR-29R)**.

For information purposes, application of the City of San Diego significance criteria for freeway segments would result in the impacted locations as noted above or under Horizon Year Plus Project Without Stadium Event Conditions as well as the following threshold exceedances:

3. SR-163 from Friars Road to Mesa College Drive (NB, PM peak hour)
19. I-8 from Texas Street to I-805 (WB AM peak hour)

Ramp Metering

Table 4.15-37 illustrates the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Horizon Year Plus Project Plus Stadium Event Conditions. As shown in Table 4.15-37, all ramps are expected to operate with unacceptable delays during one or both peak hours, as was the case under Horizon Year Plus Project Without Stadium Event Conditions. Additionally, at all ramps on-ramp capacity is not sufficient to accommodate the peak hour demand during metered peak periods; thus, ramp queues are expected to spill back onto the arterial street.

As to significant impacts, the proposed project would increase delay by more than two minutes, when compared to Horizon Year Conditions, for those on-ramps operating with delays above 15 minutes and, therefore, would result in a significant cumulative impact at the following locations, which are the same locations identified under the Horizon Year Plus Project Without Stadium Event Conditions.

- **I-15 NB On-ramp from Friars R**oad – operates at 22.0 minutes of delay in the AM peak hour and 32.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 9.5 minutes to a total delay of 31.6 minutes in the AM peak hour and 34.6 minutes to a total of 67.1 minutes in the PM peak hour. Therefore, impacts would be **potentially significant (TR-30A)**.
- **I-15 SB/I-8 Loop On-ramp from Friars Road** – operates at 24.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 20.0 minutes to a total delay of 44.5 minutes. Therefore, impacts would be **potentially significant (TR-30B)**.
- **I-15 SB Direct On-ramp from Friars Road** – operates at 6.5 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 24.5 minutes to a total delay of 31.0 minutes. Therefore, impacts would be **potentially significant (TR-30C)**.
- **I-8 EB On-ramp from SB Fairmount Avenue** – operates at 21.0 minutes of delay in the PM peak hour without the project. The addition of project traffic would further exacerbate operations and increase delay by 33.0 minutes to a total delay of 54.0 minutes. Therefore, impacts would be **potentially significant (TR-30D)**.

Off-Ramp Queuing

Table 4.15-38 illustrates the results of the off-ramp queuing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. As shown on the table, under the Horizon Year Plus Project Plus Stadium Event Conditions scenario, all off-ramp queues can be accommodated by the existing storage capacity and, therefore, impacts would be **less than significant**.

Table 4.15-34. Horizon Year (2037) Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	45.2	D	45.3	D	1.4	NO
		PM	54.5	D	**70.2**	**E**	**13.3**	**YES**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	19.8	B	29.5	C	3.3	NO
		PM	32.4	C	42.5	D	9.0	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	45.2	D	50.6	D	1.6	NO
		PM	44.8	D	**65.6**	**E**	22.6	**YES**
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	0.5	NO
		PM	14.1	B	15.0	B	0.9	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	-0.1	NO
		PM	36.2	D	38.3	D	2.1	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.9	B	17.0	B	1.1	NO
		PM	24.5	C	24.9	C	0.4	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.6	A	6.2	A	0.6	NO
		PM	12.8	B	13.2	B	0.4	NO
8. River Run Dr & Friars Rd	Signalized	AM	23.0	C	25.0	C	2.0	NO
		PM	**59.6**	**E**	**146.4**	**F**	**86.8**	**YES**
9. Fenton Pkwy & Friars Rd	Signalized	AM	27.9	C	22.1	C	-5.8	NO
		PM	**92.8**	**F**	**179.1****	**F**	**86.3**	**YES**
10. Northside Dr & Friars Rd*	Signalized	AM	34.9	C	34.8	C	-0.1	NO
		PM	**122.1**	**F**	**156.8****	**F**	**34.7**	**YES**
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	10.4	B	N/A	NO
		PM	-	N/A	**134.6**	**F**	N/A	**YES**
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	30.1	C	28.8	C	-1.3	NO
		PM	52.0	D	36.6	D	-15.4	NO
13. Mission Village Dr/Street D & Friars Rd EB Ramps*	Signalized	AM	**173.4****	**F**	17.0	B	-156.4	NO
		PM	**94.0**	**F**	31.7	C	-62.3	NO

Table 4.15-34. Horizon Year (2037) Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
14. Street D & Street 4	Signalized	AM	DNE	N/A	23.7	C	N/A	NO
		PM		N/A	**370.0****	**F**	N/A	**YES**
15. Street F & Street 4	Signalized	AM	DNE	N/A	27.0	C	N/A	NO
		PM		N/A	31.7	C	N/A	NO
16. Street F & Street 6/San Diego Mission Rd	Roundabout	AM	DNE	N/A	8.1	A	N/A	NO
		PM		N/A	13.3	B	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	46.3	D	**124.6**	**F**	**78.3**	**YES**
		PM	**67.3**	**E***** (F)	**137.9**	**F** (F)	**70.6**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**83.5**	**F***** (F)	**137.6**	**F** (F)	**54.1**	**YES**
		PM	**67.3**	**E***** (F)	**218.1**	**F** (F)	**150.8**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.3	C*** (E)	33.8	C (F)	3.5	**YES*****
		PM	**72.4**	**E***** (E)	**94.1**	**F** (F)	**21.7**	**YES**
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	9.0	NO
		PM	16.8	B	19.4	B	2.6	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	6.4	NO
		PM	37.4	D	44.7	D	7.3	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	2.4	NO
		PM	44.5	D	**56.0**	**E**	**11.5**	**YES**
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.3	B	22.1	C	2.8	NO
		PM	44.4	D	50.1	D	5.7	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	12.9	B	13.6	B	0.7	NO
		PM	25.1	D	32.7	D	7.6	NO
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	16.7	B	17.0	B	0.3	NO
		PM	27.7	C	28.8	C	1.1	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	31.0	C	46.0	D	15.0	NO
		PM	30.0	C	51.1	D	21.1	NO

Table 4.15-34. Horizon Year (2037) Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	23.5	C	**101.1**	**F**	**77.6**	**YES**
		PM	26.7	C	**131.0**	**F**	**104.3**	**YES**
28. Qualcomm Way & Camino del Rio N/Camino de la Reina	Signalized	AM	21.3	C	21.8	C	0.5	NO
		PM	**71.0**	**E**	**71.1**	**E**	0.1	NO
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N	Signalized	AM	20.5	C	21.8	C	1.3	NO
		PM	**73.6**	**E**	**77.3**	**E**	3.7	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.2	A	1.2	A	0.0	NO
		PM	4.9	A	4.9	A	0.0	NO
31. Texas St & Camino del Rio S	Signalized	AM	**104.1**	**F**	**111.7**	**F**	**7.6**	**YES**
		PM	**85.0**	**F**	**103.4**	**F**	**18.4**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	26.9	D	**131.2**	**F**	**104.3**	**YES**
		PM	29.9	D	**2,135.4****	**F**	**2,105**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	15.4	B	25.3	C	9.9	NO
		PM	15.9	B	31.8	C	15.9	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.0	C	27.6	C	5.6	NO
		PM	28.1	C	**64.3**	**E**	**36.2**	**YES**
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**94.7**	**F**	**122.5**	**F**	**27.8**	**YES**
		PM	**104.7**	**F**	**205.3****	**F**	**100.6**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	17.7	B	20.5	C	2.8	NO
		PM	44.3	D	53.4	D	9.1	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	46.9	D	49.2	D	2.3	NO
		PM	50.0	D	54.7	D	4.7	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	0.2	NO
		PM	10.8	B	15.4	B	4.6	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	1.0	NO
		PM	11.3	B	15.3	B	4.0	NO

Table 4.15-34. Horizon Year (2037) Plus Project Plus Event Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	12.1	NO
		PM	24.5	C	41.8	D	17.3	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	1.1	NO
		PM	52.6	D	**67.6**	**E**	**15.0**	**YES**
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	0.1	NO
		PM	6.0	A	6.1	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	0.2	NO
		PM	11.7	B	11.9	B	0.2	NO

Source: Appendix 4.15-1

Notes:

[1] Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

[2] LOS calculations performed using the Highway Capacity Manual (HCM) method.

[3] Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

[4] Under Existing Conditions, the Stadium Way (Street A) & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of HCM 6 at this intersection. The HCM 2000 method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation.

**** Intersection would exceed the City of San Diego impact threshold.

***** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

Table 4.15-35. Horizon Year Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3, 4]	*ADT*	*V/C*[2]	*LOS*[3,4]		
Friars Rd												
1	Frazee Rd	Mission Center Rd	8P	80,000	52,600	0.66	C	60,743	0.76	C	0.10	NO
2	Mission Center Rd	Qualcomm Way	6E	80,000	48,594	0.61	B	58,063	0.73	C	0.12	NO
3	Qualcomm Way	River Run Dr	6E	80,000	42,681	0.53	C	54,138	0.68	C	0.15	NO
4	River Run Dr	Fenton Pkwy	6P	60,000	43,198	0.72	C	54,943	0.92	D	0.20	NO
5	Fenton Pkwy	Northside Dr	6P	60,000	45,271	0.75	C	56,901	**0.95**	**E**	**0.20**	**YES**
6	Northside Dr	Stadium Way (Street A)	6E – 6P with project	80,000 – 60,000	54,457	0.68	C	66,564	**1.11**	**F**	**0.43**	**YES**
7	Stadium Way (Street A)	Mission Village Dr	6E	80,000	54,457	0.68	C	75,210	**0.94**	**E**	**0.26**	**YES**
8	Mission Village Dr	I-15 Ramps	6E	80,000	52,850	0.66	C	81,713	**1.02**	**F**	**0.36**	**YES**
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	**72,970**	**1.04**	**F**	80,933	**1.16**	**F**	**0.12**	**YES**
10	Rancho Mission Rd	Santo Rd	7P	70,000	61,340	0.88	D	65,103	**0.93**	**E**	**0.05**	**YES**
11	Santo Rd	Riverdale St	6P	60,000	**60,170**	**1.00**	**F**	63,259	**1.05**	**F**	**0.05**	**YES**
12	Riverdale St	Mission Gorge Rd	6P	60,000	54,675	0.91	D	57,638	**0.96**	**E**	**0.05**	**YES**
Qualcomm Way												
13	Friars Rd	Rio San Diego Dr	6M	50,000	22,813	0.46	B	24,188	0.48	B	0.02	NO

Table 4.15-35. Horizon Year Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C*[2]	*LOS*[3, 4]	*ADT*	*V/C*[2]	*LOS*[3,4]		
Rio San Diego Dr												
14	Qualcomm Way	River Run Dr	4M	40,000	15,876	0.40	B	16,875	0.42	B	0.02	NO
15	River Run Dr	Fenton Pkwy	4C/M	30,000	13,246	0.44	B	14,322	0.48	C	0.04	NO
Fenton Pkwy												
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	6,240	0.16	A	7,741	0.19	A	0.03	NO
San Diego Mission Rd												
17	Mission Village Dr/Street F	Rancho Mission Rd	4C w/o CLTL	15,000	9,254	0.62	C	18,942	**1.26**	**F**	**0.64**	**YES**
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	**13,240**	**0.88**	**E**	19,943	**1.33**	**F**	**0.45**	**YES**
Rancho Mission Rd												
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	18,681	0.83	D	24,842	**1.10**	**F**	**0.27**	**YES**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	11,576	0.77	D	13,722	**0.91**	**E**	**0.14**	**YES**
21	West of Ward Rd		2C	10,000	1,824	0.18	A	7,503	0.75	D	0.57	NO
Ward Rd												
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	12,047	0.80	D	18,329	**1.22**	**F**	**0.42**	**YES**
Fairmount Ave												
23	San Diego Mission Rd/Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	8,719	0.29	A	13,560	0.45	B	0.16	NO

Table 4.15-35. Horizon Year Plus Project Plus Event Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year Without the Project Conditions			Horizon Year Plus Project Plus Event Conditions			V/C Delta	Requires Additional Analysis?
ID	*Extent (from/to)*				*ADT*	*V/C[2]*	*LOS[3, 4]*	*ADT*	*V/C[2]*	*LOS[3,4]*		
Mission Village Dr												
24	Ruffin Rd	Shawn Ave	4C	30,000	18,344	0.61	C	23,307	0.78	D	0.17	NO
25	Shawn Ave	Ronda Ave	4C	30,000	14,912	0.50	C	20,101	0.67	D	0.17	NO
26	Ronda Ave	Friars Rd	4M	40,000	17,204	0.43	B	22,437	0.56	C	0.13	NO
Ruffin Rd												
27	Aero Dr	Mission Village Dr	4C	30,000	16,451	0.55	C	19,516	0.65	C	0.10	NO
Gramercy Dr												
28	Mobley St	Ruffin Rd	4M	40,000	9,456	0.24	A	11,023	0.28	A	0.04	NO
Aero Dr												
29	Sandrock Rd	Ruffin Rd	4M	40,000	24,167	0.60	C	25,759	0.64	C	0.04	NO
30	Ruffin Rd	Daley Center Dr	4M	40,000	31,494	0.79	D	32,783	0.82	D	0.03	NO
Camino del Rio N												
31	Qualcomm Way	Mission City Pkwy	4C	30,000	11,608	0.39	B	12,124	0.40	B	0.02	NO
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	10,318	0.69	D	11,289	0.75	D	0.06	NO
33	Ward Rd	Fairmount Ave	4C	30,000	14,706	0.49	C	20,528	0.68	D	0.19	NO
Camino del Rio S												
34	Texas St	Mission City Pkwy	2C	10,000	13,888	**1.39**	F	14,118	**1.41**	F	**0.02**	**YES**

Source: Appendix 4.15-1

Notes:

1 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
8P = 8-lane primary arterial
6E = 6-lane expressway

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998) and the Mission Valley Community Plan Update (2019)

4 Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

Table 4.15-36 – Horizon Year Plus Project Plus Event Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year Without the Project Conditions						Horizon Year Plus Project Plus Event Conditions						V/C Delta		Significant Impact?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	6,350	6,892	0.96	1.04	E	F(0)	6,407	7,100	0.97	1.08	E	F(0)	0.01	0.03	NO	YES
		SB	3M+2A	7,800	10,832	9,690	1.39	1.24	F(2)	F(0)	10,868	9,773	1.39	1.25	F(2)	F(1)	0.00	0.01	NO	YES
2	I-8 to Friars Rd	NB	2A	2,400	1,958	2,125	0.82	0.89	D	D	2,083	2,475	0.87	1.03	D	F(0)	0.05	0.15	NO	YES
		SB	4M+2A	9,600	9,908	9,049	1.03	0.94	F(0)	E** (F)	9,944	9,138	1.04	0.95	F(0)	E (F)	0.00	0.01	NO	NO
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	11,141	8,973	1.24	1.00	F(0)	E	11,154	9,019	1.24	1.00	F(0)	F(0)	0.00	0.01	NO	NO*
		SB	4M	7,200	7,446	7,713	1.03	1.07	F(0)	F(0)**(F)	7,464	7,858	1.04	1.09	F(0)	F(0)	0.00	0.02	NO	YES
4	Mesa College Dr to I-805	NB	4M+2A	9,600	9,392	8,718	0.98	0.91	E	D	9,403	8,760	0.98	0.91	E	D	0.00	0.00	NO	NO
		SB	4M+1A	8,400	8,551	7,471	1.02	0.89	F(0)	D** (F)	8,567	7,602	1.02	0.91	F(0)	D (F)	0.00	0.02	NO	NO
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	10,241	5,976	1.22	0.71	F(0)	C	10,275	6,026	1.22	0.72	F(0)	C	0.00	0.01	NO	NO
		SB	6M	10,800	5,454	11,453	0.50	1.06	B	F(0)**(F)	5,475	11,495	0.51	1.06	B	F(0) (F)	0.00	0.00	NO	NO
6	I-8 to Murray Ridge Rd/ Phyllis Pl	NB	5M	9,000	11,876	6,885	1.32	0.77	F(1)	C	11,886	6,908	1.32	0.77	F(1)	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	6,216	11,119	0.65	1.16	C	F(0)	6,232	11,142	0.65	1.16	C	F(0)	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	11,865	6,854	1.32	0.76	F(1)	C	11,875	6,877	1.32	0.76	F(1)	C	0.00	0.00	NO	NO
		SB	5M	9,000	5,975	10,851	0.66	1.21	C	F(0)	5,992	10,873	0.67	1.21	C	F(0)	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	9,896	5,830	1.10	0.65	F(0)**(F)	C	9,905	5,852	1.10	0.65	F(0) (F)	C	0.00	0.00	NO	NO
		SB	4M	7,200	4,290	6,701	0.60	0.93	B	E** (F)	4,305	6,723	0.60	0.93	B	E (F)	0.00	0.00	NO	NO
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	7,077	5,952	0.84	0.71	D** (F)	C	7,098	6,016	0.84	0.72	D (F)	C	0.00	0.01	NO	NO
		SB	4M+2A	9,600	6,693	9,068	0.70	0.94	C	E** (F)	6,724	9,220	0.70	0.96	C	E	0.00	0.02	NO	YES
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	7,624	8,470	0.98	1.09	E	F(0)	7,978	8,912	1.02	1.14	F(0)	F(0)	0.05	0.06	YES	YES
		SB	5M	9,000	6,077	10,152	0.68	1.13	C	F(0)	6,298	10,579	0.70	1.18	C	F(0)	0.02	0.05	NO	YES
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,381	2,140	0.58	0.89	B	D	1,880	2,606	0.78	1.09	C	F(0)	0.21	0.19	NO	YES
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	4,390	5,796	1.22	1.61	F(0)	F(3)	4,504	6,001	1.25	1.67	F(1)	F(3)	0.03	0.06	YES	YES
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	751	1,104	0.63	0.92	C	E	954	1,510	0.80	1.26	C	F(1)	0.17	0.34	NO	YES
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	9,691	7,115	1.15	0.85	F(0)	D	9,964	7,675	1.19	0.91	F(0)	D	0.03	0.07	YES	NO
		SB	5M+1A	10,200	8,245	11,344	0.81	1.11	D	F(0)	8,680	12,231	0.85	1.20	D	F(0)	0.04	0.09	NO	YES
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	10,881	8,205	1.30	0.98	F(1)	E	11,125	8,707	1.32	1.04	F(1)	F(0)	0.03	0.06	YES	YES
		SB	4M+1A	8,400	8,446	10,169	1.01	1.21	F(0)	F(0)	8,835	10,962	1.05	1.31	F(0)	F(1)	0.05	0.09	YES	YES
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	7,276	9,089	0.87	1.08	D	F(0)	7,382	9,311	0.88	1.11	D	F(0)	0.01	0.03	NO	YES
		WB	5M	9,000	8,564	7,482	0.95	0.83	E	D	8,630	7,617	0.96	0.85	E	D	0.01	0.02	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	7,129	9,532	0.99	1.32	E	F(1)	7,243	9,771	1.01	1.36	F(0)	F(2)	0.02	0.03	YES	YES
		WB	4M+1A	8,400	9,871	8,430	1.18	1.00	F(0)	F(0)	9,942	8,575	1.18	1.02	F(0)	F(0)	0.01	0.02	NO*	YES

Table 4.15-36 – Horizon Year Plus Project Plus Event Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year Without the Project Conditions						Horizon Year Plus Project Plus Event Conditions						V/C Delta		Significant Impact?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	8,841	10,972	0.92	1.14	E	F(0)	8,956	11,214	0.93	1.17	E	F(0)	0.01	0.03	YES	YES
		WB	5M	9,000	10,030	8,245	1.11	0.92	F(0)	D	10,101	8,392	1.12	0.93	F(0)	E	0.01	0.02	NO*	YES
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,770	7,084	0.52	0.98	B	E** (F)	3,834	7,187	0.53	1.00	B	E (F)	0.01	0.01	NO	YES
		WB	3M+2A	7,800	10,364	9,544	1.33	1.22	F(1)	F(0)	10,435	9,683	1.34	1.24	F(1)	F(0)	0.01	0.02	NO*	YES
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	6,280	11,826	0.75	1.41	C	F(2)	6,344	11,929	0.76	1.42	C	F(2)	0.01	0.01	NO	YES
		WB	4M+1A	8,400	10,786	9,995	1.28	1.19	F(1)	F(0)	10,857	10,135	1.29	1.21	F(1)	F(0)	0.01	0.02	NO*	YES
19	Texas St to I-805	EB	4M	7,200	3,980	7,765	0.55	1.08	B	F(0)**(F)	4,044	7,868	0.56	1.09	B	F(0) (F)	0.01	0.01	NO	YES
		WB	4M	7,200	7,554	5,996	1.05	0.83	F(0)**(F)	D	7,625	6,136	1.06	0.85	F(0) (F)	D	0.01	0.02	NO	NO
20	I-805 to I-15	EB	4M+2A	9,600	7,374	12,462	0.77	1.30	C	F(1)	7,489	12,624	0.78	1.31	C	F(1)	0.01	0.02	NO	YES
		WB	4M+2A	9,600	12,644	10,240	1.32	1.07	F(1)	F(0)	12,742	10,420	1.33	1.09	F(1)	F(0)	0.01	0.02	YES	YES
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	7,378	11,546	0.77	1.20	C	F(0)	7,406	11,629	0.77	1.21	C	F(0)	0.00	0.01	NO	NO*
		WB	4M+2A	9,600	8,956	6,605	0.93	0.69	E** (F)	C	9,017	6,965	0.94	0.73	E (F)	C	0.01	0.04	NO	NO
22	Fairmount Ave to Waring Rd	EB	5M	9,000	8,018	12,782	0.89	1.42	D	F(2)	8,161	13,098	0.91	1.46	D	F(3)	0.02	0.04	NO	YES
		WB	6M	10,800	12,116	9,572	1.12	0.89	F(0)	D	12,345	10,217	1.14	0.95	F(0)	E	0.02	0.06	YES	YES
23	Waring Rd to College Ave	EB	5M	9,000	7,722	12,056	0.86	1.34	D	F(1)	7,864	12,368	0.87	1.37	D	F(2)	0.02	0.03	NO	YES
		WB	5M	9,000	11,307	9,051	1.26	1.01	F(1)	F(0)	11,533	9,690	1.28	1.08	F(1)	F(0)	0.03	0.07	YES	YES

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane
M = mainline lane
A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using City of San Diego Traffic Impact Study Manual (1998)

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Freeway segment would exceed the City of San Diego impact threshold.

** Traffic data indicate existing operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

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		

Table 4.15-37. Horizon Year (2037) Plus Project Plus Event Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Horizon Year Without the Project Conditions					Horizon Year Plus Project Plus Event Conditions					Delay Delta	Significant Impact?
				Demand[2] (veh/hr)		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*	*Demand[2] (veh/hr)*		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*		
				Mixed Flow & HOV	*Mixed Flow only*				*Mixed Flow & HOV*	*Mixed Flow only*					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	2,345	1,983	533	**22.0**	7,725	2,617	2,213	763	**31.6**	11,050	9.5	**YES**
	PM	2	888	1,503	1,369	481	**32.5**	6,975	2,065	1,880	992	**67.1**	14,400	34.6	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	914	914	N/A	N/A	N/A	1,028	1,028	N/A	N/A	N/A	N/A	NO
	PM	1	660	929	929	269	**24.5**	7,800	1,149	1,149	489	**44.5**	14,200	20.0	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	751	751	N/A	N/A	N/A	954	954	N/A	N/A	N/A	N/A	NO
	PM	1	996	1,104	1,104	108	6.5	3,150	1,511	1,511	515	**31.0**	14,925	24.5	**YES**
I-8 EB - SB Fairmount Ave	AM	1	N/A	302	302	N/A	N/A	N/A	432	432	N/A	N/A	N/A	N/A	NO
	PM	1	492	664	664	172	**21.0**	5,000*	935	935	443	**54.0**	12,850	33.0	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

Notes:

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delays in excess of 15 minutes are highlighted in bold.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Field observations of existing conditions showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating that operations ~~may be~~are better than calculated.

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Table 4.15-38. Horizon Year Plus Project Plus Event Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)	
				Horizon Year Without the Project Conditions	*Horizon Year Plus Project Plus Event Conditions*
1. SR-163 SB off-ramp at Friars Rd/Ulric St	AM	NBL	1,200	211	211
		NBT		104	104
		NBR		487	502
	PM	NBL	1,200	263	263
		NBT		62	62
		NBR		485	669
2. SR-163 NB off-ramp at Friars Rd	AM	SBL	700	444	505
		SBT		0	0
		SBR		305	318
	PM	SBL	700	418	645
		SBT		0	0
		SBR		447	456
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	460	482
		SBT		449	470
		SBR		257	500
	PM	SBL	1,200	842	911
		SBT		845	911
		SBR		80	395
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0
		SBR	1,300	0	0
	PM	NBR	1,500	0	0
		SBR	1,300	0	0
29. I-8 WB off-ramp at Qualcomm Way/Camino del Rio N	AM	WBL	3,200	0	0
		WBT		221	243
		WBR		740	824
	PM	WBL	3,200	0	0
		WBT		394	411
		WBR		545	594
30. I-8 EB off-ramp at Qualcomm Way/Texas St	AM	EBR	900	169	169
	PM	EBR	900	274	270
35. I-8 WB off-ramp at Fairmount Ave/Alvarado Canyon Rd/ Camino del Rio N	AM	WBL	1,000	627	713
		WBT		607	680
		WBR		269	394
	PM	WBL	1,000	714	783
		WBT		464	758
		WBR		308	491
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	484	505
		EBR		493	508
	PM	EBL	4,100	1,099	1,127
		EBR		1,659	1,672

Source: Appendix 4.15-1.

4.15.7.4 Mission Valley Community Plan Update

Concurrent with the preparation of the impact analysis presented here, the city of San Diego was undertaking an update to the Mission Valley Community Plan (MVCP) adopted in 1985. The update was comprehensive and included an evaluation of new proposed land uses, mobility infrastructure, policies, and implementation actions. The updated plan being considered involves intensifying, mixing, and redeveloping land uses in Mission Valley to take advantage of the central location of the valley within the San Diego region, as well as planned service expansion of the San Diego Trolley Green Line. Much of the new development contemplated by the update would be focused in transit priority areas (TPAs) at trolley stations where roadway capacity is limited in some cases, although new active transportation connections would enhance accessibility for valley residents, employees, and visitors.

~~In May~~As of September 2019, the Final Program Environmental Impact Report (PEIR) for the MVCP Update (MVCPU) was ~~issued~~ published and ~~a~~ the Final ~~Draft of the~~ Community Plan Update ~~(June 2019) released~~was adopted~~; as of this writing, further action by the City of San Diego City Council is pending~~. The following proposed changes to the MVCP are of note to the analysis presented here, although these changes were not assumed as part of the SDSU Mission Valley Campus Horizon Year analysis as the MVCPU ~~has~~had not yet been approved at the time of Draft EIR preparation, nor were funding mechanisms for the proposed infrastructure identified.

4.15.7.4.1 MVCPU Roadway Improvements

As proposed, the MVCPU includes several roadway improvements, including two new multimodal crossings of the San Diego River to enhance vehicular and bus transit connectivity, expansion of the pedestrian and bicycle and pedestrian network, and the provision of additional high-water street crossings of the river where regular flooding and street closures occur on other existing roadways.

The planned roadway improvement that has the greatest influence on circulation adjacent to the SDSU Mission Valley Campus site would be the extension of Fenton Parkway over the San Diego River that would connect to Camino del Rio North opposite Mission City Parkway. This extension would require the construction of a new bridge structure over the river and would require full environmental review and permitting, as well as funding, prior to its implementation. The extension was included in the ~~previously~~ recently approved ~~1985~~ MVCPU as a ~~two~~four-lane roadway (i.e., one lane in each direction), but no construction timeframe is or has been identified and only a portion of the necessary funding, $2.7 million dollars of an approximate total $10 million, has been identified.

The 2019 MVCPU includes a Year 2050 forecast traffic volume of 13,800 vehicles per day on the planned extension, which warrants a two-lane facility from a volume perspective, although the MVCP ultimately recommends construction of a four-lane extension in order to provide additional capacity for emergency purposes (due to the limited number of high-water crossings in Mission Valley) and Stadium event traffic. However, because no dedicated funding or construction schedule for either a two-lane or four-lane bridge has been identified, and because the extension and bridge are not part of the SDSU Mission Valley Campus project, the Fenton Parkway extension was not included in the baseline horizon year evaluation for this analysis. In addition, the results of the analysis presented here do not propose the extension as mitigation for the SDSU Mission Valley Campus project since such extension is not required to reduce an identified significant impact. Nonetheless, in response to a request by the City of San Diego, an analysis of the project's potential impacts to all study area facilties under a future baseline scenario that includes both a 2-Lane and 4-Lane Fenton Parkway bridge and extension is provided in Section 4.15.11.

In addition to the extension of Fenton Parkway, the street classifications for sections of Rancho Mission Road and Ward Road would be reduced from a four-lane collector to a two-lane collector with a center left-turn lane. It should be noted, however, that under existing conditions, there are 15,210 daily vehicles traveling between Friars Road and San Diego Mission Road, which already exceeds the capacity of the proposed two-lane collector with a center left-turn lanes, and the MVCPU forecasted volume in 2050 is larger yet at 19,000 daily vehicles.

Additionally, the street classification for Rio San Diego Drive from River Run Drive to Fenton Parkway would be reduced from a four-lane collector to a two-lane collector with center left-turn pockets. This proposed restriping would cause the proposed project to have an additional significant impact along this segment. The MVCPU forecasted volume on this segment is 13,900, which would result in LOS E operations as a two-lane collector.

The MVCPU Final PEIR identifies potential intersection and roadway improvements (i.e., additional through and turn lanes) at multiple locations – including along the Rancho Mission Road/Ward Road and Rio San Diego Drive segments identified above – to mitigate identified significant impacts that would result from projected traffic increases attributable to new development and redevelopment. However, the MVCPU does not propose to implement any of these roadway mitigation measures because they would conflict with planned active and transit improvements. The Final PEIR also includes references to a Specific Plan, or Campus Master Plan, that is expected to be completed for the existing SDCCU Stadium property and defers any proposed roadway improvements in the vicinity of the Stadium site to that related analysis. The analysis presented in the TIA, and this EIR, provides the analysis for the study referenced in the PEIR.

4.15.7.4.2 MVCPU Proposed Bicycle Facility Improvements

Based on the draft Final MVCPU, Friars Road and Rancho Mission Road/Ward Road are planned to include future one-way cycle tracks. Additionally, Frazee Road, San Diego Mission Road and Rio San Diego Drive are planned to include future bike lanes. Finally, the San Diego River Trail is planned to be extended to connect with the existing multi-use path along the eastern edge of the project site, parallel to I-15. A pedestrian and bicycle bridge would also be constructed to connect the San Diego River Trail to Camino del Rio S parallel to and west of I-15. The northern terminus of this new pedestrian bridge would be located within the proposed SDSU Mission Valley Campus area, but the landing area is located within the future River Park area that will be owned by the City of San Diego.

4.15.7.4.3 MVCPU Proposed Pedestrian Facility Improvements

The MVCPU includes a variety of improvements to fill gaps in the pedestrian connections within the SDSU Mission Valley Campus project study area. In the immediate vicinity of the project, there are two segments that would receive new sidewalks:

- Friars Road, east of Mission Village Drive ramps to east of I-15 NB ramps (north and south side)
- San Diego Mission Road, from approximately 480’ east of Mission Village Drive to Rancho Mission Road (north side)

Implementation of the proposed Mission Valley Campus project would not preclude these improvements from going forward as funding becomes available.

4.15.7.4.4 MVCPU Proposed Transit Facility Improvements

The proposed new Purple Line trolley route is included in the currently approved RTP, and also is included in the MVCPU. The route is planned to extend as an above-ground trolley route from South Bay to Kearney Mesa and to include a station within the project site with a pedestrian connection to the existing Green Line Stadium Station. While there are multiple potential alignments within the vicinity of the proposed project, the preferred alignment from the perspective of SDSU is along the eastern edge of the site. The Executive Director of SANDAG recently indicated that the Purple Line may be more productive as a transit facility if it were underground to allow it to more directly serve communities and transit patrons.

4.15.7.5 Parking Assessment

4.15.7.5.1 Overall Parking Supply

The proposed project would include a total of approximately 13,192 on-site parking spaces. The supply will include dedicated spaces for the residents and guests of the residential uses, metered on-street public spaces, shared spaces to support the campus office and retail uses, dedicated spaces for hotel guests and employees, and special event spaces to supplement the overall supply. Table 4.15-39 summarizes the proposed parking supply by land use or area within the project site.

The overall supply, combined with anticipated parking costs for shared spaces, is intended to provide an appropriate supply for the proposed uses but also to encourage the use of non-auto modes to access the site and minimize overall vehicle trip generation. All shared spaces within the site will be managed similar to other urban core/downtown environments. The on-street spaces will be metered and the campus office and retail spaces will be gate controlled, where the cost for parking will be integrated with individual leases or obtained through a validation/permit program. Validation will allow management of spaces during Stadium events to ensure that an appropriate supply is always available for retail customers.

In general, the limited availability of free parking would help to encourage the use of other modes of travel and reduce overall parking demand as evidenced in numerous urban centers and downtown environments, including downtown San Diego. The presence of a trolley stop within an approximate 1,500 feet radius of nearly all the proposed project uses, as well as the integration of residential, employment, and supporting retail uses with a robust pedestrian and bicycle network, will provide attractive mobility options to the use of a private vehicle. This combination of factors is expected to reduce the overall parking and traffic demand at the site consistent with the trip reductions applied to the proposed project vehicle trip generation estimates. This parking strategy approach is encouraged for all locations within transit priority areas (TPAs) within the City of San Diego and other jurisdictions within the County. Therefore, excluding event conditions, the proposed project would result in **less than significant** impacts to parking facilities.

Table 4.15-39. Proposed Parking Supply

Land Use/Supply	Description	Function	Number of Spaces
Residential	Structured/underground/wrap; only available to residents and guests (ratio of 1.23 spaces/unit)	Dedicated	5,662

Table 4.15-39. Proposed Parking Supply

Land Use/Supply	Description	Function	Number of Spaces
Hotel	Structured/underground; only available to hotel guests/conference facility attendees (ratio of 1.2 spaces/room)	Dedicated	485
		Dedicated Subtotal	*6,147*
Campus Office and Retail	Structured/underground with some daylight; paid parking available for shared use with Stadium events (ratio of 3.05 spaces/1,000 sf of space)	Shared	5,065
Tailgate Park	Surface lot on grass; only available for Stadium and other special events	Shared	1,140
On-Street	Surface parking located throughout site; expected to be metered during the day and free during evening hours; spaces in River Park areas are expected to be free to provide public access to the park but would be time-constrained (e.g., 3-hour maximum.)	Shared	840
		Shared Subtotal	*7,045*
		Total Parking Supply	**13,192**

Source: Carrier-Johnson 2019.

4.15.7.5.2 Stadium Parking Supply and Demand

Parking demand for the Stadium is expected to be served by the parking structure under the campus office space and by the surface spaces located in Tailgate Park, both of which are immediately adjacent to the Stadium. These areas will provide a total of 6,205 spaces. The vast majority of Stadium events will be held on weekend afternoons and evenings when the demand for the campus office uses will be negligible. As previously explained, a TPMP is proposed as part of the project that would manage parking demand and traffic associated with various Stadium event attendance levels.

Similar to events at the existing SDCCU Stadium, attendees would have a variety of travel modes available to get to the new Stadium facility. In addition to the trolley and private vehicles, visitors would arrive by bus/shuttle, transportation network companies (TNC) such as Uber and Lyft, taxi, walking, and bicycling. The use of TNCs has dramatically increased over the last several years[7] and specifically as it relates to the trip-sharing among Stadium patrons.

To estimate the number of parking spaces that would be needed for the proposed Stadium, the number of patrons arriving by private vehicle must first be calculated. Table 4.15-40 presents the transportation mode share (i.e., transit, private auto, etc.; see Sections 4.15.3.5.6 and 4.15.7.1.2) of event attendees for a sold out event of 35,000 persons, as well as attendance levels of 30,000 and 25,000.

The number of parking spaces needed to meet the demand for each attendance level will depend on the number of attendees arriving in each vehicle, or the average vehicle occupancy (AVO). Typical AVOs for sporting events can range from 2.5 persons to 3.5 persons depending on the sport, venue, location, parking costs, etc. While AVO was observed at a recent Aztec football game to be approximately 2.29 (see Section 4.15.3.5.6), this was not a sold-

[7] Per www.sfmta.com/sites/default/files/reports/2017/Travel_Decision_Survey_Comparison_Report_2017.pdf, www.universityofcalifornia.edu/news/how-ride-hailing-could-improve-public-transportation-instead-undercutting-it and http://www.schallerconsult.com/rideservices/automobility.pdf

out event where attendees are expected to avoid driving alone to a greater extent. Table 4.15-40 illustrates the expected parking demand for the three attendance levels and AVOs ranging from 2.5 to 3.78 persons per vehicle.

As shown in Table 4.15-41, the parking demand for a capacity crowd at the proposed Stadium could range from less than 5,000 spaces to nearly 9,400 spaces depending on the AVO. At an AVO of 3.78 persons/vehicle, the parking demand would require essentially every one of the 6,204-shared supply spaces within the proposed project site. If the AVO were lower, there would be a parking deficiency, and patrons desiring to get to the site would likely park in adjacent areas and walk to the facility unless another convenient off-site supply was provided. For an event that attracts 85% of the Stadium capacity, the AVO would have to be 3.24 to roughly match the on-site shared space supply. For an event of 25,000 attendees with a 2.70 AVO, the Stadium demand would require the entire campus office supply.

Even on weekend days, the campus office will still generate a small amount of parking demand that will have to be accommodated by the shared space supply. Similarly, while many of the retail/restaurant patrons are also expected to attend a Stadium event, those stores, restaurants, and the grocery store will still generate some demand for parking by others.

These findings indicate that an additional off-site parking supply will likely need to be provided for events exceeding 25,000 attendees regardless of day of week. The Stadium TDM Program (**PDF-TRA-2**) and the TPMP Program (**PDF-TRA-4**) will help to minimize overall parking demand and to identify off-site parking supplies as appropriate. The number of additional spaces needed for a capacity event of 35,000 attendees could range from 1,000 to 2,500 depending on the AVO, and available parking at the existing SDSU College Area campus with direct trolley service to the site will be one option identified in the TPMP. In addition, parking for most events is expected to be pre-paid so that attendees will know if they have a space at the site or if they will have to find another means of traveling to and from the site (e.g., park elsewhere and take the trolley, rideshare, etc.). However, even with a successful TDM program and TPMP measures in place, parking impacts for some major and all high attendance events are expected to be **potentially significant (TR-31)**.

Table 4.15-40. Projected Share of Stadium Attendees by Mode

Mode	Mode Share[1]	Attendees *35,000 (100% of Capacity)*	Vehicles	Vehicle Trips
Transit	22%	7,700	0	0
TNC[2]/Taxi	8%	2,800	1,018	4,073[3]
Shuttle/Private Bus	1%	350	23	93[4]
Walke/Bike	2%	700	0	0
Private Auto	67%	23,450	8,527	17,055[5]
Total	100%	35,000	9,568	21,221
			Mixed-Use Reduction (10%)	*(2,122)*
			Total Net New Stadium Vehicle Trips	**19,099**

Source: Fehr & Peers 2019.

Notes:

1 Percent of attendees driving and using TNC/Taxi for general major events is estimated to be higher than observed for an SDSU Aztec football game (**Section 3.8**) given fewer students traveling by trolley to the Stadium. Other mode share is based on engineering judgement.

2 TNC = Transportation Network Company (e.g., Uber, Lyft)

3 Estimated to be 4 trips per vehicle and 2.75 persons per vehicle

4 Estimated to be 4 trips per vehicle and 15 persons per vehicle
5 Estimated to be 2 trips per vehicle and 2.75 persons per vehicle

Table 4.15-41. Estimated Parking Demand for Proposed Stadium by Attendance Level

Average Vehicle Occupancy (AVO in persons/vehicle)	Parking Demand Based on Number of Attendees[1]		
	35,000 (100% of Capacity)	*30,000 (86% of Capacity)*	*25,000 (71% of Capacity)*
2.50	9,380	8,040	6,700
2.70	8,685	7,444	**6,204**
2.75	8,527	7,309	6,091
3.00	7,817	6,700	5,583
3.24	7,238	**6,204**	5,170
3.25	7,215	6,185	5,154
3.50	6,700	5,743	4,786
3.75	6,253	5,360	4,467
3.78	**6,204**	5,317	4,431

Source: Fehr & Peers 2019.
Notes:
1 **Bold** demand number identifies AVO that would need to be achieved to be equivalent to total shared supply, with the understanding that the campus office and retail uses will generate some demand during weekend games. Shared parking supply for 25,000 attendees would accommodate all Stadium patrons and provide nearly 350 additional spaces for office and retail uses.

4.15.7.6 Multimodal Assessment

4.15.7.6.1 Pedestrian Facilities

The proposed project would not conflict with any existing or planned pedestrian facilities and would improve existing facilities. The dense and extensive network of on-site pedestrian facilities will provide new connections parallel to the Friars Road environment that will enhance pedestrian accessibility adjacent to and within the site for area residents, employees and visitors. Additionally, the proposed site connection to Fenton Parkway would provide an additional walkable connection to the shops and restaurants at Fenton Marketplace, as well as the low-volume east-west connection provided by Rio San Diego Drive. The proposed connections will provide an improved pedestrian link between the existing neighborhoods along Rancho Mission Road and Fenton Marketplace area. This new connection will be a substantial improvement over the current walking path through the Friars Road/I-15 interchange. Additionally, the site connection to Rancho Mission Road will provide a walkable route to the bus stops along Rancho Mission Road.

Within the site itself, nearly all roadways will include a sidewalk or path on both sides of the street. For the few segments with a walking facility on only one side that will serve a pedestrian destination, appropriate street crossings treatments will be provided within a reasonable walking distance. These treatments include traffic signals, raised crosswalks, or stop signs to delineate right of way. Therefore, the proposed project would result in **less than significant** impacts on pedestrian facilities.

4.15.7.6.2 Bicycle Facilities

The proposed project would not conflict with any existing or planned bicycle facilities, and would substantially enhance bicycle travel adjacent to and through the site. The existing protected bike lanes on the Mission Village

Drive overpass over Friars Road would be maintained with the proposed widening of the overpass, and they would connect to bike lanes on Street D through the center of the site. A connection to existing bike lanes on Friars Road will also be provided by the signalized intersection at Stadium Way (Street A). A new on-site path system along the northern and eastern edges of the site (connecting to San Diego and Rancho Mission Roads) will provide a safer and lower stress option for cyclists traveling from west of Stadium Way (Street A) to east of I-15. Another on-site path system along the southern edge of the site will provide a critical connection between the San Diego River Trail and the path parallel to I-15. Additionally, the proposed site connection to Fenton Parkway provides a convenient bikeable connection to the shops and restaurants at Fenton Marketplace, improving the link between the Rio San Diego neighborhood and the Rancho Mission Road neighborhood east of I-15. Additionally, the site connection to Rancho Mission Road will provide a bikeable route to the bus stops along Rancho Mission Road and Camino del Rio North. Therefore, the proposed project would result in **less than significant** impacts to bicycle facilities.

4.15.7.6.3 Transit Facilities

As noted in the project's trip generation estimate shown in Table 4.15-10, the total trip reduction attributable to transit, bicycle and pedestrian trips is expected to be 4,599 daily trips. The higher of the inbound or outbound volumes that comprise this reduction are 361 and 407 during the AM and PM peak hours, respectively, which include the transit alightings and boardings at the project site. The trip reduction provided by MXD does not segregate between modes of transportation, (i.e., between transit, bicycle, and pedestrian trips), but based on professional experience and engineering judgment and considering adjacent developments and facilities, the highest mode share is expected to be transit trips.

Using a transit mode share of 85% (with the remaining 15% constituting bicycle and pedestrian trips), the proposed project would add roughly 4,000 daily transit trips (4,599 x .85 = 3,909) to and from the site, with the vast majority of those trips expected to be trolley trips, rather than bus trips, due to the nearby convenient location of the Stadium trolley stop within the project site. Conservatively assuming that all peak hour transit trips are trolley trips, this would equate to roughly 309 and 346 peak directional trolley trips in the AM and PM peak hours, respectively. Based on engineering judgment, the transportation engineers estimate that a conservative 65% of these peak hour trips would occur in the peak direction (westbound in the morning and eastbound in the evening) consistent with the existing directional split. This split would result in roughly 202 and 226 trips in the peak direction during each commute hour. With the current 15-minute headways (or four (4) trains per hour) and assuming an equal number of riders per train, the proposed project would add up to 50 and 56 patrons in the AM and PM peak directional hours, respectively.

As noted in Section 4.15.3.4, Existing Transit Services, the total number of existing boardings and alightings at Stadium Station is only 391 per day with extensive person capacity available during the peak hours. Accordingly, the addition of the projected trolley ridership of up to 56 passengers to a given train (with lower numbers for non-peak trains), which for a typical 3-car train would be fewer than 20 passengers per car, is not expected to result in any train or station operational impacts to the trolley system. Therefore, the proposed project would result in **less than significant** impacts related to transit operations.

Furthermore, the proposed project includes a new bus transfer center, adjacent to the on-site trolley station, that will accommodate up to four stop/layover spaces for buses. These spaces allow for additional transit options if MTS desires to provide bus service directly to and from the trolley station and site in the future.

4.15.7.7 Construction Impacts

As the proposed project builds out over time, there will be temporary construction related traffic on the study roadway network. Construction traffic will consist of private automobiles driven by workers, as well as trucks transporting materials to and from the site. Potential access points for construction-generated vehicle trips will include Friars Road, Mission Village Drive, and San Diego Mission Road, and possibly Rancho Mission Road. The busiest construction period involving truck traffic is expected during site grading, the bulk of which is planned to occur during the early phases of site development through Year 2022 as excavation and movement of earth will be required as part of the construction of the proposed Stadium, as well as preparation of the building pads for the non-Stadium uses across the site.

Detailed information related to calculating the number of construction-related vehicles was provided by the air quality consultant, Ramboll. Table 4.15-42 provides the estimated number of construction trips that would be generated in connection with each phase of site development (e.g., grading, site preparation, paving, building construction, etc.), including worker, vendor, and haul truck trips. As shown in Table 4.15-42, the highest number of vehicle trips that would be generated during a given phase of construction would result from trucks removing excavation material from the project site (i.e., trucks arriving at the site empty and leaving with material). This phase will generate an estimated average of 375 trips per day, and the total daily construction traffic volume during this phase is estimated to be 395 trips per day. Staging areas will be provided on-site and out of the public right-of-way to minimize heavy equipment trips on surrounding roadways, and to provide parking for construction workers.

Overall, the number of daily construction-related trips during the site development and during vertical construction, and the associated impacts, will be very limited compared to the projected number of net new daily vehicle trips (over ~~58,000~~45,000 vehicles per day) generated at project buildout and full occupancy. In addition, many of the daily construction vehicle trips will occur outside of the peak commute hours when volumes on the study area roadways adjacent to the site are at their highest as construction workers typically arrive before the AM peak commute hour and often depart prior to the PM peak hour. Additionally, many of the heavy truck trips will occur outside of the AM and PM peak hours in order to avoid congestion and, as a result, these trips will not substantially influence peak period travel.

Nonetheless, as stated in Section 4.15.1.3, in order to minimize the potential temporary impacts on the roadway network resulting from construction-related traffic, CSU/SDSU or its designee will prepare a Construction Traffic Management Plan (**PDF-TRA-3**) in consultation with the City of San Diego and Caltrans and affected adjacent property owners as appropriate prior to initiating any construction activities. The Construction Traffic Management Plan will specifically address project construction traffic and parking, and will address truck haul routes, truck turning movements at the proposed project driveways, traffic control signage, accommodation of bicycle and pedestrian traffic, restriction of hauling activities to specific time periods, on-site circulation and staging areas, traffic control plans indicating temporary lane closures, and monitoring of traffic control to implement revisions, if necessary. Necessary encroachment and transportation permits will be obtained by CSU/SDSU or its designess prior to construction.

Beyond site development and construction of the proposed Stadium, the timing of vertical construction of the residential, campus office/retail, and hotel buildings is not known at this time. Buildings may be constructed individually or in multiples and will involve varying levels of construction traffic. Accordingly, specific Construction Traffic Management Plans will be developed for each specific phase of construction as site and building development progress based on the proposed construction activities and then-current traffic conditions and transportation network.

While implementation of the Construction Traffic Management Plan (**PDF-TRA-3**) will help to minimize most construction traffic impacts, some temporary **potentially significant (TR-32)** impacts are expected to occur during both site preparation and vertical construction (e.g., lane closures during the widening of the off-ramp from Friars Road to Mission Village Drive). These impacts are expected to include increased intersection delay (due to slow-moving vehicles or lane closures) though will be temporary in duration and will likely vary in location from day to day.

Table 4.15-42. Construction Trips by Phase

Construction Phase Name	Worker Trips per Day[1]	Vendor Trips per Day[1]	Hauling Truck Trips per Day[2]	Total Trips per Day[2]
Grading Phase A	20	0	87	107
Site Preparation Phase A	18	0	0	18
Building Construction Stadium (Phase A)	271	106	0	377
Grading Phase A (cont'd)	20	0	0	20
Grading Phase B (Rough Residential Pad & Initial River Park)	20	0	375	395
Site Preparation Phase B (utilities)	18	0	0	18
Paving Stadium (Phase A)	15	0	0	15
Demolition of SDCCU (Phase A)	15	0	69	84
Architectural Coating Stadium (Phase A)	54	0	0	54
Demolition of SDCCU (Phase B)	15	0	96	111
Finish Phase B (Finish Residential Pad and River Park)	18	0	0	18
Grading Phase C	20	0	114	134
Building Construction Phase C1	189	58	0	247
Site Preparation - Off-Site Improvements	18	0	0	18
Paving Phase C1	15	0	0	15
Architectural Coating Phase C1	38	0	0	38
Building Construction Phase C2	122	32	0	154
Paving Phase C2	15	0	0	15
Architectural Coating Phase C2	24	0	0	24
Building Construction Phase C3	122	32	0	154
Paving Phase C3	15	0	0	15
Architectural Coating Phase C3	24	0	0	24

Source: California Emissions Estimator Model SDCCU - SDCCU Stadium (CalEEMod) and Fehr & Peers 2019.
Notes:
1 Trips are presented as one-way trips and are based on CalEEMod® defaults.
2 Trips are presented as one-way trips and represent the average daily trips for the phase. Hauling trips reflect project specific estimates of the volume of soil imported during Grading Phases A, B, and C; and demolition waste hauled during the Demolition Phases A and B.

4.15.7.8 Emergency Access

The proposed project includes a network of streets, promenades, and paved paths that will provide for vehicular access for emergency personnel responding to an incident. In the case of streets, all roadways have been designed or planned based on City of San Diego standards. Consistency with City standards indicates that adequate emergency access is available on these facilities. In addition, the site will include six access points to adjacent public streets to facilitate emergency response and evacuation as needed. Since the final design for all campus buildings has not yet been completed, an assessment of each building cannot be completed at this time. Because

a complete evaluation cannot be completed based on the information available, this impact is considered **potentially significant (TR-33)**.

4.15.7.9 Vehicle Miles Traveled (VMT)

4.15.7.9.1 Background of SB 743 Legislation

On September 27, 2013, former Governor Jerry Brown signed SB 743 into law, starting a process that will fundamentally change the way transportation impact analysis is conducted under CEQA. These changes include elimination of auto delay, or LOS, and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. One of the primary goals of SB 743 is to streamline the environmental review process for projects that result in overall reductions in vehicular travel and to encourage infill and mixed-use developments, especially around high-capacity transit stations. These types of projects have a much higher propensity for travelers to use non-automobile modes and to make shorter vehicle trips for all their needs, including commuting to and from work. The proposed SDSU Mission Valley Campus project is the specific type of development that this legislation is intended to encourage because the proposed project would be located in an urban, infill setting within the Mission Valley area, and would be serviced by an existing and potential future trolley line, and regularly scheduled bus routes.

In response to SB 743, in December 2018, the state Resources Agency approved revised CEQA Guidelines, Section 15064.3 (see below), which provides the framework for moving forward with the analysis of vehicle related impacts based on assessment of a project's VMT as compared to the current methodology based on LOS; VMT is the amount and distance of automobile travel attributable to a project. Lead agencies can begin implementation of the VMT format any time between now and July 1, 2020, but must do so after that date; thus, lead agencies have until July 1, 2020 to begin implementing the new VMT analysis metric. To assist lead agencies in conducting such analyses, the state Office of Planning and Research (OPR) prepared a "Technical Advisory on Evaluating Transportation Impacts in CEQA" (Technical Advisory). For land use projects such as the proposed project, the Technical Advisory specifies that automobile VMT be measured by land use type for specific trip purposes or tours depending on the type of forecasting model being used.

OPR's Technical Advisory contains specifications for VMT analysis methodology and recommendations for significance thresholds. The Technical Advisory and related CEQA Guidelines contain sufficient information to inform lead agencies how to conduct the proposed analyses under the transition to a VMT metric. In response to SB 743 and the revised CEQA Guidelines, CSU has revised its Transportation Impact Study Manual (revised CSU TISM) so that it now provides the analysis methodology for analyzing impacts based on VMT, which is the new metric recommended in the CEQA Guidelines adopted in response to SB 743. The revised CSU TISM provides that transportation analyses prepared for CSU projects within the transition period between the present and July 2020 may include both types of analyses to provide information to both the CSU Board of Trustees, affected agencies, and the general public. Thus, the VMT analysis presented here is provided for information purposes only, and it is not used to identify environmental impacts.

4.15.7.9.2 SB 743 VMT Assessment Thresholds

The revised CEQA Guidelines, Section 15064.3, provide that VMT "generally is the most appropriate measure of transportation impacts." (Section 15064.3, subsection (a).) For land use projects such as the proposed Campus Master Plan, the Guidelines state that VMT "exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an

existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease VMT in the project area compared to existing conditions should be presumed to have a less than significant transportation impact." (Section 15064.3, subsection (b)(1).)

As to the methodology to be used when conducting a VMT analysis, the Guidelines provide that "a lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's VMT, and may revise those estimates to reflect professional judgment based on substantial evidence." (Section 15064.3, subsection (b)(4).)

The proposed project is located in a Transit Priority Area (TPA), which Section 15064.3, the OPR Technical Advisory, and the revised CSU TISM note are areas where new land use projects generally are exempt from project-level VMT assessment. TPAs are areas within ½-mile of either a high-quality (e.g., passenger rail) transit station or a bus stop with headways of 15 minutes or less. As previously explained, the SDSU Mission Valley Campus site contains the Green Line Stadium Station, which provides light-rail transit with existing peak hour headways of 15 minutes. The Guidelines, as noted, and the OPR Technical Advisory state that projects to be developed in these areas are "generally" screened out from needing to conduct project-level VMT. Use of the modifier "generally" implies that some developments may still result in project-level impacts. Therefore, a project-level VMT analysis was performed to fully evaluate this metric.

The project-level impact threshold for mixed-use projects like the SDSU Mission Valley Campus Master Plan development is project-generated VMT per service population that is 15% below the existing regional, subregional or Citywide VMT per service population (see Table 2: VMT Significance Thresholds on page 14 of the revised CSU TISM). Service population is defined as the sum of the population and employees within the subject area (e.g., region or project site). For this evaluation, the regional VMT per service population or travel efficiency is used as the comparative metric since the scale of this project is regional in nature and preliminary discussions of local jurisdiction's SB 743 guidelines indicate a preference for a regional comparison.

In addition, to the project-level assessment, a cumulative impact assessment is also required per the revised CSU TISM in order to assess the project's consistency with assumptions in the Regional Transportation Plan (RTP), in this case for the SANDAG region. This evaluation determines the project's *effect* on overall VMT, and the cumulative impact threshold is whether the VMT per service population under the regional "with project" condition exceeds that of the "without project" scenario.

4.15.7.9.3 VMT Analysis

A VMT assessment for the proposed project was completed using output from the SANDAG regional travel demand model. As previously explained, the SANDAG regional travel demand model is the best available planning tool for forecasting travel demand in the greater San Diego area over the next 20 to 30 years. The model is also the most appropriate tool for determining how a development project the scope of the SDSU Mission Valley Campus Master Plan would affect regional and area-wide trip-making patterns in terms of VMT. The SANDAG Year 2012 regional travel demand model, which is the latest validation year model available and therefore the best tool for evaluating baseline conditions, was used to establish existing conditions, while the Year 2035 model was used to establish the future baseline conditions without and with the proposed project.

As noted in previous sections, the SANDAG 2035 regional travel demand model was used to establish long-term baseline traffic volumes on the roadway network just prior to the time of project buildout in 2037, and assuming

no new development on the site. This scenario assumed that the project site would remain in operation as SDCCU Stadium through 2035 and that only a negligible amount of traffic would be generated on site during a typical weekday and during the normal AM and PM commute peak periods. That traffic would be primarily attributable to the presence of the Stadium Station trolley stop and vehicles using the site as a park and ride facility, as well as from any minor Stadium maintenance activities.

The SANDAG model was subsequently run with the proposed project in place to determine both the amount of project-generated VMT and how the proposed project is expected to affect regional VMT. The proposed land uses were input to the model in place of the existing SDCCU Stadium, and the model trips were assigned to and from each traffic analysis zone within the region using complex algorithms based on existing travel patterns and household survey data. This "Plus Project" model run illustrates how the proposed development would change regional and area-wide travel patterns relative to VMT.

The VMT for various scenarios is presented in Table 4.15-43. The table lists the total regional VMT for the baseline conditions, as well as 2035 conditions without and with the project. Also shown in the table is the proposed project's project-generated VMT, and the project-generated VMT after application of the 14.41% TDM reduction described in Section 4.15.1.2.

For the project-level VMT assessment, the results of the analysis were that the 2035 project-generated VMT per service population of 25.52 is 25.7% lower than the existing baseline efficiency metric of 34.34. Thus, the project-generated VMT would be more than 15% below the existing VMT, which is the applicable threshold established in both the revised CSU TISM and OPR Technical Advisory and, therefore, the project-generated VMT would be below the applicable thresholds and within the acceptable levels established by the State.

For the cumulative impact analysis, the long-range regional VMT per service population would decrease from 32.95 without the proposed project to 32.89 with the project. Given that the proposed project would reduce regional VMT per service population as compared to the RTP scenario (i.e., the scenario without the project), the 2035 plus project scenario would be below the applicable threshold and, thus, also within acceptable levels established by the State.

In addition to the above analysis, which was conducted based on the SANDAG regional model, due to the project site location within the City of San Diego, an additional evaluation was conducted comparing the project-generated VMT to the City-wide VMT per service population. The results of this supplemental analysis are similar to those based on the SANDAG model in that both project- and cumulative level impacts are below the applicable threshold. See TIA Appendix K for additional information regarding this supplemental analysis.

Table 4.15-43. VMT Analysis

	Project-Level Assessment		Cumulative Level Assessment	
Metric	*2012 Baseline*	*Project Buildout*	*2035 No Project*	*2035 With Project*
Vehicle Miles Traveled	157,783,545	358,758	185,304,624	185,460,707
Service Population	4,594,395	14,058	5,623,920	5,637,978
VMT Per Service Population	**34.34**	**25.52**	**32.95**	**32.89**
% Decrease from 2012 Baseline		**25.7%**		

Source: SANDAG 2035 Regional Activity-Based Travel Demand Model (Series 13) and Appendix 4.15-1.

4.15.7.10 CEQA Appendix G Criteria Analysis

The following is a summary of the results of the impact analysis relative to the significance criteria set forth in Appendix G of the CEQA Guidelines:

Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

As explained in the analysis presented above, the Existing Plus Project, both with and without Stadium event scenarios, is a hypothetical scenario provided for information purposes only. In contrast, the Existing Plus Stadium Event scenario provides a reasonable assessment of the proposed Stadium's potential traffic-related impacts as the Stadium is proposed to be built in the relative near-term. Impacts under this latter scenario, as disclosed in Section 4.15.7.1.3, would be **potentially significant** (**TR-1**).

As presented in the analysis above (Section 4.15.7.3.1), under the Horizon Year (2037) Without Stadium Event scenario, the proposed project would result in **potentially significant** impacts to: 13 intersections (**TR-2** through **TR-14**); 12 individual freeway segments (encompassed within **TR-15** through **TR-23**); and 4 freeway ramp meters (**TR-24** through **TR-27**). Impacts related to off-ramp freeway ramp queuing would be **less than significant** under this scenario.

As presented in the analysis above (Section 4.15.7.3.2), under the Horizon Year (2037) With Stadium Event scenario, the proposed project would result in **potentially significant** impacts to: the same 13 intersections identified under the Without Stadium Event scenario, plus an additional 4 intersections (**TR-28A** through **TR-28Q**); the same 12 freeway segments plus five additional freeway segments (**TR-29A** through **TR-29R**); and the same 4 ramp meters (**TR-30A** through **TR-30D**). Impacts related to off-ramp freeway ramp queuing would be **less than significant** under this scenario.

Section 4.15.7.5, Parking Assessment, provides an analysis of overall parking supply, as well as Stadium parking supply and demand. As presented in Section 4.15.7.5.2, Stadium Parking Supply and Demand, even with implementation of a successful TDM Program (**PDF-TRA-1** and **PDF-TRA-2**) and TPMP measures (**PDF-TRA-4**), parking impacts for some major and all high attendance events are expected to be **potentially significant (TR-31)**.

As presented in Section 4.15.7.6, Multimodal Assessment, the proposed project would have **less than significant** impacts associated with pedestrian, bicycle, and transit facilities.

As presented in Section 4.15.7.7, Construction Impacts, while implementation of the Construction Traffic Management Plan (**PDF-TRA-3**) will help to minimize most construction traffic impacts, some temporary **potentially significant (TR-32)** impacts are expected to occur during both site preparation and vertical construction (e.g., lane closures during the widening of the off-ramp from Friars Road to Mission Village Drive).

Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As presented above in Section 4.15.7.9, Vehicle Miles Traveled, the analysis of the project's impacts relative to VMT was provided for information purposes only. Nonetheless, when viewed at a project-level, the VMT generated by the proposed project, with application of the project's TDM Program, would be below the applicable threshold. As to the cumulative impact analysis, the regional VMT per service population would decrease in 2035 from 32.95 without the proposed project to 32.89 with the project. Given that the proposed project would reduce regional VMT per service population compared to the RTP scenario (i.e., without the project), the proposed project's cumulative impacts relative to VMT

would be below the applicable threshold. Therefore, impacts relative to VMT would be below the applicable thresholds of significance.

Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No potentially hazardous roadway design features (e.g., sharp curves or dangerous intersections) are proposed as part of the project. The installation and maintenance of sight-distance corridors would ensure that unobstructed line of sight is available on the approach to project intersections and driveways to maximize the length of roadway visible to motorists. At Friars Road & Stadium Way (Street A), the intersection will be re-constructed to appropriately size the roadway for the proposed project and to enhance safety for bicyclists and pedestrians. To improve safety and operations, the proposed project will also realign San Diego Mission Road east of Mission Village Drive to connect within the project site and to convert the Mission Village Drive & Friars Road Eastbound Ramps intersection to a standard four-legged configuration. Nearly all on-site intersections will include curb extensions and bulbouts, several on-site roadways will include raised crosswalks, and two roundabouts within the project site will help to manage travel speeds and enhance pedestrian safety. Additionally, all streets within the project site will include sidewalks on both sides of the street, or will include a multi-use path on one side of the street with enhanced pedestrian crossings. Separate pedestrian phases at signalized intersections to enhance safety and raise driver awareness will also be provided. As previously explained, the campus loop and other paths will provide in excess of two miles of pedestrian paths in addition to sidewalks. Compliance with Engineering Standards, safety-related policies, and incorporation of the project's TDM Program and transportation-related project design features would ensure that the impacts of the proposed project relative to traffic hazards would be **less than significant**.

Would the project result in inadequate emergency access?

As presented in Section 4.15.7.8, Emergency Access, the proposed project includes a network of streets, promenades, and paved paths that will provide for vehicular access for emergency personnel responding to an incident. In the case of streets, all roadways have been designed or planned based on City of San Diego standards. Consistency with City standards will ensure that adequate emergency access is available on these facilities. In addition, the site will include six access points to adjacent public streets to facilitate emergency response and evacuation as needed. However, since the final design for all campus buildings has not yet been completed, an assessment of each building cannot be completed at this time. Because a complete evaluation cannot be completed based on the information available, this impact is considered **potentially significant (TR-33)**.

4.15.8 Summary of Significant Impacts Prior to Mitigation

The following section summarizes the impacts that have been identified as potentially significant prior to mitigation.

4.15.8.1 Existing Plus Project – With and Without Stadium Event Conditions

As previously explained, due to the long-term buildout nature of the proposed project, the Existing Plus Project analysis presented in this section is provided for information purposes only; that is, for CEQA purposes, the identification of significant impacts and mitigation recommended for adoption is based on the Horizon Year (2037) Plus Project Conditions, which more appropriately reflects future cumulative traffic conditions, as well as future road improvements, forecast to be in place at the time the proposed project reaches buildout.

4.15.8.2 Existing Plus Stadium Event Conditions

Because the Stadium component of the project, separate and apart from the rest of the Project, is planned to be built in the near-term (i.e., 2022), the Existing Plus Stadium Event analysis presented in Section 4.15.7.1.3 presents a realistic scenario and, therefore, significant impacts and mitigation are identified under this scenario. While no significance threshold is available to assess impacts based on the relatively limited duration and number of days in a year that Stadium event traffic congestion would occur, the anticipated increase in the number of Stadium events over the number of events presently taking place at the Stadium would result in a potentially significant impact. Although implementation of the proposed Stadium TDM (**PDF-TRA-2**) and TPMP (**PDF-TRA-4**) Programs would help to minimize congestion associated with these additional events, the impact would remain **potentially significant (TR-1)**.

4.15.8.3 Horizon Year (2037) Plus Project Without Stadium Event Conditions

Intersections

Under Horizon Year Without Stadium Event conditions, the proposed project would contribute to **potentially significant** cumulative impacts to the following 13 intersections:

1. SR-163 Southbound Ramps/Ulric Street & Friars Road – Impact **TR-2**.
8. River Run Drive & Friars Road – Impact **TR-3.**
9. Fenton Pkwy & Friars Road– Impact **TR-4.**
10. Northside Drive & Friars Road – Impact **TR-5.**
17. I-15 SB Ramps & Friars Road – Impact **TR-6.**
18. I-15 NB Ramps & Friars Road – Impact **TR-7.**
19. Rancho Mission Road & Friars Road – Impact **TR-8**.
27. Fairmount Avenue & San Diego Mission Road/Twain Avenue Impact **TR-9.**
31. Texas Street & Camino del Rio N – Impact **TR-10.**
32. Ward Road & Rancho Mission Road – Impact **TR-11**.
34. Fairmount Avenue & Mission Gorge Road – Impact **TR-12**.
35. Fairmount Avenue & Camino del Rio North – Impact **TR-13**.
41. Ruffin Road & Aero Drive – Impact **TR-14**.

Freeway Segments

Under Horizon Year (2037) Plus Project conditions, all study area freeway segments are expected to operate at undesirable levels (LOS E or F) both without and with the project. Based on the applicable impact criteria, the proposed project would result in **potentially significant** cumulative impacts on the following freeway segments:

10. I-15 from Adams Avenue to I-8 – Impact **TR-15**
11. I-15 from I-8 to Friars Road – Impact **TR-16**
12. I-15 from Friars Road to Aero Drive – Impact **TR-17**
13. I-15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard – Impact **TR-18**

14. I-8 from Morena Boulevard to Taylor Street – Impact **TR-19**

15-16. I-8 from Taylor Street to SR-163 – Impact **TR-20**

17-18. I-8 from SR-163 to Texas Street – Impact **TR-21**

20. I-8 from I-805 to I-15 – Impact **TR-22.**

22-23. I-8 from Fairmount Avenue to College Avenue – Impact **TR-23.**

Ramp Metering

The proposed project would increase delay by more than two (2) minutes compared to Horizon Year conditions without the proposed project at those on-ramps operating with delays above 15 minutes and, therefore, would result in a **potentially significant** cumulative impact at the following four ramp locations:

- I-15 NB On-ramp from Friars Road – Impact **TR-24**.
- I-15 SB/I-8 Loop On-ramp from Friars Road – Impact **TR-25**.
- I-15 SB Direct On-ramp from Friars Road – Impact **TR-26**.
- I-8 EB On-ramp from SB Fairmount Avenue – Impact **TR-27**.

4.15.8.4 Horizon Year (2037) Plus Project Plus Stadium Event Conditions

Intersections

Under the Horizon Year Plus Project Plus Stadium Event conditions, the proposed project would result in significant impacts at four additional intersections beyond those impacted under Without Stadium Event conditions. The following is a complete list of all intersections at which the proposed project would result in a **potentially significant** cumulative impact under the Horizon Year (2037) Plus Project Plus Stadium Event conditions:

1. SR-163 Southbound Ramps/Ulric Street & Friars Road – Impact **TR-28A**.

3. Frazee Road & Friars Road – Impact **TR-28B**

8. River Run Drive & Friars Road – Impact **TR-28C**.

9. Fenton Pkwy & Friars Road– Impact **TR-28D**.

10. Northside Drive & Friars Road – Impact **TR-28E**.

11. River Run Drive & Friars Road – Impact **TR-28F**

14. Mission Village Drive/Aztec Way (Street D) & Street 2 – Impact **TR-28G**

17. I-15 SB Ramps & Friars Road – Impact **TR-28H**.

18. I-15 NB Ramps & Friars Road – Impact **TR-28I**.

19. Rancho Mission Road & Friars Road – Impact **TR-28J**.

27. Mission Gorge Road & Friars Road – Impact **TR-28K**.

28. Fairmount Avenue & San Diego Mission Road/Twain Avenue Impact **TR-28L**.

31. Texas Street & Camino del Rio N – Impact **TR-28M**.

32. Ward Road & Rancho Mission Road – Impact **TR-28N**.

34. Fairmount Avenue & Mission Gorge Road – Impact **TR-28O**.

35. Fairmount Avenue & Camino del Rio North – Impact **TR-28P**.

41. Ruffin Road & Aero Drive – Impact **TR-28Q**.

Freeway Segments

Under the Horizon Year Plus Project Plus Stadium Event scenario, the proposed project would result in potentially significant impacts at five additional freeway segments beyond those impacted under Without Stadium Event conditions. The following is a complete list of all freeway segments at which the proposed project would result in a **potentially significant** cumulative impact under the Horizon Year (2037) Plus Project Plus Stadium Event conditions:

1. SR-163 from 6th Avenue to I-8 – Impact **TR-29A**.
2. SR-163 I-8 to Friars Road – Impacts **TR-29B**.

2-4 SR-163 from I-8 to I-805 – Impacts **TR-29C**.

5. I-805 from Madison Avenue to I-8 – Impacts **TR-29D**.

8-9. I-805 from Mesa College/Kearny Villa Road to Balboa Avenue – Impacts **TR-29E**.

9. I-805 from SR-163 to Balboa Avenue – Impacts **TR-29F**.
10. I-15 from Adams Avenue to I-8 – Impacts **TR-29G**.
11. I-15 from I-8 to Friars Road – Impacts **TR-29H**.
12. I-15 from Friars Road to Aero Drive – Impacts **TR-29I**.
13. I-15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard – Impacts **TR-29J**.
14. I-8 from Morena Boulevard to Taylor Street – Impacts **TR-29K**.

15-17. I-8 from Taylor Street to SR-163 – Impacts **TR-29L**.

17. I-8 from SR-163 to Mission Center Road – Impacts **TR-29M**.
18. I-8 from Mission Center Road to Texas Street – Impacts **TR-29N**.
19. I-8 from Texas Street to I-805 – Impacts **TR-29O**.
20. I-8 from I-805 to I-15 – Impacts **TR-29P**.
21. I-8 from I-15 to Fairmount Avenue – Impacts **TR-29Q**.

22-23. I-8 from Fairmount Avenue to College Avenue – Impacts **TR-29R**.

Ramp Metering

The proposed project would increase delay by more than two (2) minutes compared to Horizon Year conditions without the project at those on-ramps operating with delays above 15 minutes and, therefore, would result in a **potentially significant** cumulative impact at the same four ramp locations as under the Without Stadium Event scenario:

- I-15 NB On-ramp from Friars Road – Impact **TR-30A**.
- I-15 SB/I-8 Loop On-ramp from Friars Road – Impact **TR-30B**.
- I-15 SB Direct On-ramp from Friars Road – Impact **TR-30C**.
- I-8 EB On-ramp from SB Fairmount Avenue – Impact **TR-30D**.

4.15.8.5 Stadium Parking Supply and Demand

Based on the analysis presented in this section, an additional off-site parking supply will likely need to be provided for Stadium events exceeding 25,000 attendees regardless of day of week. While the Stadium TDM and TPMP Programs will help to minimize overall parking demand and also identify off-site parking supplies as appropriate,

the number of additional parking spaces needed for a capacity event of 35,000 attendees could range from 1,000 to 2,500 depending on the AVO. Thus, even with successful TDM and TPMP Programs in place, parking impacts for some major and all high attendance events are expected to be **potentially significant (TR-31)**.

4.15.8.6 Construction-Related Impacts

As explained in Section 4.15.7.7, while implementation of the Construction Traffic Management Plan will help to minimize most construction traffic impacts, some temporary **potentially significant (TR-32)** impacts are expected to occur during both site preparation and vertical construction (e.g., lane closures during the widening of the off-ramp from Friars Road to Mission Village Drive). These impacts will be temporary in duration and will likely vary in location from day to day, but they are expected to include increased intersection delay (due to slow-moving vehicles or lane closures) for some short time periods relative to the overall development schedule of the project.

4.15.8.7 Emergency Access

As explained in Section 4.15.7.8, the proposed project includes a network of streets, promenades, and paved paths that will provide for vehicular access for emergency personnel responding to an incident. In the case of streets, all roadways have been designed or planned based on City of San Diego standards. Consistency with City standards ensures that adequate emergency access would be available on these facilities. In addition, the site will include six access points to adjacent public streets to facilitate emergency response and evacuation as needed. However, since the final design for all campus buildings has not yet been completed, an assessment of each building cannot be completed at this time. Because a complete evaluation cannot be completed based on the information available, this impact is considered **potentially significant (TR-33)**.

4.15.9 Mitigation Measures

4.15.9.1 Existing Plus Project – With and Without Stadium Event Conditions

As previously explained, due to the long-term buildout nature of the proposed project, the Existing Plus Project analysis presented in this section is provided for information purposes only; that is, for CEQA purposes, the identification of significant impacts and recommended mitigation is based on the Horizon Year (2037) Plus Project Conditions, which more appropriately reflects future cumulative traffic conditions, as well as future road improvements, forecast to be in place at the time the proposed project reaches full buildout. For information purposes, hypothetical mitigation measures that could be used to reduce significant impacts under the existing plus project scenarios are provided in **Appendix 4.15-1, Section 9.1**.

4.15.9.2 Existing Plus Stadium Event Conditions

As previously explained in the Existing Plus Stadium Event analysis presented in Section 4.15.7.1.3, under the proposed project there would be an increase in the number of events held at the Stadium. While these events would be infrequent, and the Stadium TDM and TPMP Programs to be implemented as part of the proposed project (**PDF-TRA-2** and **PDF-TRA-4**, respectively) would help to reduce the potentially significant impacts related to increased congestion associated with these additional events, there is no feasible mitigation that would reduce the remaining impacts to less than significant.

4.15.9.3 Horizon Year (2037) Plus Project Without Stadium Event Conditions

Intersections

Each of the following proposed mitigation measures would eliminate the project's incremental impact once implemented, resulting in operations at or slightly better than Horizon Year Without Project conditions. In those instances in which the payment of funds or construction of improvements is required on the part of CSU/SDSU, the mitigation measure includes an implementation trigger, expressed as "DUEs" or dwelling unit equivalents, directing the timing of payment or construction, as applicable.[8] Additionally, for reference purposes, the agency with jurisdiction and control over the recommended improvement (e.g., Caltrans, City of San Diego) is noted in parentheses. Table 4.15-44, Transportation Improvement Implementation Plan, illustrates the proposed mitigation improvements, the applicable DUE, and the Project's share of future growth, or applicable mitigation fair-share percentage; the table also lists the intersection improvements to be constructed as part of the proposed project and the corresponding DUE.

Following release of the Draft EIR, CSU/SDSU and City of San Diego staff met to review the mitigation measures proposed in the Draft EIR. Based on those meetings and subsequent revisions to certain mitigation measures, the City has approved implementation of the proposed mitigation, as revised below, and has granted authorization for CSU/SDSU to move forward with implementation. As such, the previous determination that mitigation is infeasible due to jurisdictional limitations has been stricken, as reflected in the following revised mitigation measures. Similarly, in response to Draft EIR comments submitted by Caltrans, CSU/SDSU met with Caltrans and as a result of those negotiations, the mitigation measures relating to Caltrans facilities also have been revised as follows:

MM-TRA-1 Intersection 1: SR-163 Southbound Ramps/Ulric Street & Friars Road (Caltrans) – The recommended improvement would be to re-optimize the coordinated signal offset. This action would result in a less than significant impact per the CSU TISM. Signal timing modifications would normally be implemented periodically at an intersection in order to optimize operations and address changing traffic volumes regardless of the addition of project traffic. The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities (fair-share is 100% as to Intersection 1). Regarding the recommended signal offset optimization, CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals ~~the project's proportionate share of funding~~ for the recommended improvement ~~from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will approve of and timely implement the recommended improvement~~will be able to obtain such funds~~, the improvement is considered infeasible.

MM-TRA-2 Intersection 8: River Run Drive & Friars Road (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 5,160 DUEs, CSU/SDSU shall pay the City of

[8] The dwelling unit equivalent (DUE) normalizes land use quantities for various uses relative to the trip generation of a typical dwelling unit, in this case an apartment dwelling. Each of the proposed project's land uses has an average daily trip generation rate, which rate was divided by the average apartment rate of 6 daily trips. For example, Scientific Research uses have a daily trip generation rate of 8 trips per thousand square feet. By dividing this rate (8) by the average daily trip generation rate for apartments (6), the result is that one thousand square feet of Scientific Research uses is equivalent to 1.33 dwelling units, or DUEs. Thus, the total proposed 301 thousand square feet of Scientific Research space, which would generate 2,408 average daily trips, is equivalent to approximately 401 DUEs. Based on the proposed project phasing, in combination with the results of the impact analysis, a DUE trigger identifying when the mitigation improvement is necessary, can then be determined. For additional information regarding the DUE calculation, please see TIA Appendix I.

San Diego ~~its fair share towards~~ the cost to optimize the traffic signal~~s~~ timing at intersections along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) in order to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. Signal timing optimization is expected to include the collection of new peak period intersection count data, calculation of recommended signal timings, and implementation of those timings in the field at each location. While SDSU's project percentage fair-share at this location is less than 100% (47.8%), SDSU has agreed to fully fund the improvements, for the limited purpose of this project only, in light of the substantial benefits that would accrue to the community.

~~Alternative mitigation would be to widen Friars Road eastbound to add a fourth through lane, although widening this segment of Friars Road is not consistent with the 1985 Mission Valley Community Plan or the proposed Mission Valley Community Plan update (June 2019); therefore, for CEQA purposes, such physical mitigation is considered infeasible. The recommended mitigation to pay a fair share towards the cost to optimize the traffic signals along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) would improve operations in the PM peak hour to 32.9 seconds of delay. However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of the recommended improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-3 Intersection 9: Fenton Pkwy & Friars Road (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 4,150 DUEs, CSU/SDSU shall pay the City of San Diego ~~its fair share towards~~ the cost to optimize the traffic signal~~s~~ timing at intersections along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. Signal timing optimization is expected to include the collection of new peak period intersection count data, calculation of recommended signal timings, and implementation of those timings in the field at each location.

~~Alternative mitigation would be to widen Friars Road eastbound to add a fourth through lane, although widening this segment of Friars Road is not consistent with the 1985 Mission Valley Community Plan or the proposed Mission Valley Community Plan update (June 2019); therefore, for CEQA purposes, such physical mitigation is considered infeasible. The recommended mitigation to pay a fair share towards the cost to optimize the traffic signals along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) would improve operations in the PM peak hour to 83.2 seconds of delay. However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of the recommended improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-4 Intersection 10: Northside Drive & Friars Road (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 5,270 DUEs, CSU/SDSU shall pay the City of San Diego ~~its fair share towards~~ the cost to ~~add a second northbound right turn lane and~~ optimize the traffic signal~~s~~ timing at the intersections along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. Signal timing optimization is expected to include the collection of new peak period intersection count data, calculation of recommended signal timings, and implementation of those timings in the field at each location.

~~Alternative mitigation would be to widen Friars Road eastbound to add a fourth through lane, although widening this segment of Friars Road is not consistent with the 1985 Mission Valley Community Plan or the proposed Mission Valley Community Plan update (June 2019). The recommended mitigation to pay a fair share towards the cost to add a second northbound right-turn lane is warranted by the projected right turn volume of approximately 800 vehicles in the PM peak hour for this movement. The existing width for the northbound approach is approximately 50 feet, so the landscape strip could be converted to widen the road by four feet to provide a 13' outside right turn lane and an 11' inside right turn lane (assuming the left turn and through lanes are 10' wide). To address potential pedestrian safety related impacts, it also is recommended that a protected pedestrian phase be provided with this improvement to avoid the dual threat conflict. This option would improve operations in the PM peak hour to 51.8 seconds of delay. However, as to the physical improvement, there is no plan or program in place to provide the necessary additional funding and construct the improvement; therefore, the addition of a second northbound right turn lane is infeasible. As to optimization of the traffic signals along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A), while CSU would be responsible for the full cost of this improvement, because CSU does not have jurisdiction over this City of San Diego facility it cannot guarantee implementation of the improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-5 Intersection 17: I-15 SB Ramps & Friars Road (Caltrans) – The recommended improvement would be to reconstruct the intersection to add a second eastbound left-turn lane, a second eastbound right-turn lane, and a second westbound right-turn lane. Implementation of these improvements would require widening both on-ramps to allow for two receiving lanes. Additionally, ~~If this improvement were implemented,~~ to be consistent with current design practice, it is expected that Caltrans would require the inclusion of pedestrian and bicycle enhancements. Accordingly, the westbound right-turn lane would be squared off to improve pedestrian safety, and the westbound right-turn would be provided with an overlap phase. ~~It should be noted that the Civita (Quarry Falls) development is also required to implement a portion of these improvements, including the addition of the second eastbound left turn lane and squaring up the westbound right turn movement; the SDSU Mission Valley Campus improvements would provide substantially more vehicle queuing approaching the ramp intersections, including on the bridge.~~ Caltrans is expected to additionally require that sidewalks and buffered bike lanes are provided as part of this improvement, and that a blank-out No Right Turn sign be installed at the dual eastbound and westbound right turn lanes. ~~It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian calls will be very rare and, accordingly, were not included in the operations analysis.~~ Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. ~~Implementation of these improvements would result in operations in the AM and PM peak hours of 52.0 and 67.0 seconds of delay, respectively. These calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queuing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold.~~

The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities (fair-share is approximately 66% as to Intersection 17). CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals ~~project's proportionate share of funding~~ for

the recommended improvements ~~from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will be able to obtain ~~such~~the other funds necessary to implement the improvements pursuant to a funding plan or program, the improvements are~~is~~ considered infeasible.

MM-TRA-6 Intersection 18: I-15 NB Ramps & Friars Road (Caltrans) – The recommended improvement would be to reconstruct the intersection to add a second eastbound left-turn lane. ~~It should be noted that the Civita (Quarry Falls) development is also required to implement this improvement but that it does not include any widening of the Friars Road bridge; the SDSU Mission Valley Campus improvements would provide substantially more vehicle queuing approaching the ramp intersections, including on the bridge. If this improvement were implemented~~Additionally, to be consistent with current design practice, it is expected that Caltrans would require the inclusion of sidewalks and buffered bike lanes be provided as part of this improvement, which would require widening the Friars Road overpass to I-15. Caltrans is expected to additionally require that the southbound approach be squared off and converted to two right-turn lanes provided with an overlap phase, and that a blank-out No Right Turn sign be installed for the westbound approach to improve pedestrian safety. ~~It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian calls will be very rare and, accordingly, were not included in the operations analysis.~~ Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. In the PM peak hour, re-optimization would include coordinating the signal with the adjacent I-15 Southbound Ramps & Friars Road intersection and the adjacent Rancho Mission Road & Friars Road intersection, where coordination is already in place in the AM peak hour. ~~These improvements would result in operations in the AM and PM peak hours of 80.7 and 53.5 seconds of delay, respectively. These calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queuing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold.~~

The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities (fair-share is 52.5% as to Intersection 18). CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals ~~project's proportionate share of funding~~ for the recommended improvements ~~from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will be able to obtain ~~such~~the other funds necessary to implement the improvement pursuant to a funding plan or program, the improvement is considered infeasible.

MM-TRA-7 Intersection 19: Rancho Mission Road & Friars Road (City of San Diego) – The recommended improvement to mitigate the significant impact at the Rancho Mission Road/Friars Road intersection is to optimize the traffic signal timing~~optimization~~ at the adjacent I-15 Northbound Ramps & Friars Road intersection (Intersection 18)~~, where coordination is already in place in the AM peak hour. This mitigation would improve operations at Intersection 19 in the PM peak hour to 67.2 seconds of delay. These calculated operations are based on standalone intersection analysis~~; however, ~~under existing conditions, the adjacent ramp meter causes queuing through this intersection, and~~ without improving the related ramp meter operations at the I-15 northbound on-ramp at Friars Road, which is infeasible due to design constraints, in conjunction with the recommended signal optimization at Intersection 18, the operations at the Rancho Mission

Road/Friars Road intersection (Intersection 18) will remain above the significance threshold. ~~However, as stated above with respect to Intersection 18, because CSU cannot guarantee that Caltrans will be able to obtain the funds necessary to implement signal optimization at Intersection 18, the improvement is considered infeasible~~.

MM-TRA-8 Intersection 27: Fairmount Avenue & San Diego Mission Road/Twain Avenue (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 8,940 DUEs, CSU/SDSU shall commence and, to the extent feasible, complete to the reasonable satisfaction of the City of San Diego City Engineer, ~~pay its fair share to re-stripe~~ the widening of the eastbound approach to San Diego Mission Road to add a separate eastbound left-turn lane, and the restriping of the westbound approach to add a separate westbound left-turn lane, and the signal modification to provide protected east-west left-turn phasing.

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 to the reasonable satisfaction of the City Engineer prior to constructing the subject improvements consistent with the approved City plans. In the event the proposed improvements are not approved and constructed by the above identified trigger, the impact would remain temporarily significant and unavoidable until approval and construction of the improvements, but in no event shall said improvements be delayed beyond the identified trigger without good cause and reasonable coordination with the City of San Diego City Engineer.

This widening~~re-striping~~ would result in an 11'-wide right-turn lane and 10' left-turn and through lanes for the eastbound approach. To properly align the east-west approaches, the westbound approach of Twain Avenue should also be re-striped to provide a separate left-turn lane. On this approach, the re-striping would result in a 12' curb lane that is a shared right-turn and through lane, an 11' exclusive through lane, and a 10' left-turn lane. Protected left-turn phasing is assumed to be provided for both eastbound and westbound approaches, which would require a signal modification. ~~This mitigation would improve operations in the AM peak hour to 35.3 seconds of delay and in the PM peak hour to 33.1 seconds of delay. However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-9 Intersection 31: Texas Street & Camino del Rio S (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 5,130 DUEs, CSU/SDSU shall commence and, to the extent feasible, complete to the reasonable satisfaction of the City of San Diego City Engineer, the restripin~~e~~g of both the eastbound and westbound through lanes at the Texas Street/Camino del Rio South intersection to be shared left-turn and through lanes, and shall pay to the City of San Diego the cost to perform~~ing~~ signal re-optimization at the intersection, which is standard practice with intersection reconfiguration.

To implement the improvements, CSU/SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval. Following City approval, CSU/SDSU shall obtain any necessary construction permits and provide bond assurances to the reasonable satisfaction of the City Engineer prior to constructing the subject improvements consistent with the approved City plans. In the event the proposed improvements are not approved and constructed by the above identified trigger, the impact would remain temporarily significant and unavoidable until approval and

construction of the improvements, but in no event shall said improvements be delayed beyond the identified trigger without good cause and reasonable coordination with the City of San Diego City Engineer.

~~This mitigation would improve operations in the AM peak hour to 108.4 seconds of delay and in the PM peak hour to 86.9 seconds of delay, and would result in a less than significant impact per the CSU TISM. However, CSU does not have jurisdiction over this City of San Diego facility, and, therefore, cannot guarantee implementation of this improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-10 Intersection 32: Ward Road & Rancho Mission Road (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 3,950 DUEs, CSU/SDSU shall commence and, to the extent feasible, complete to the reasonable satisfaction of the City of San Diego City Engineer, the installation of a traffic signal at the~~is~~ Ward Road/Rancho Mission Road intersection. While SDSU's percentage fair-share at this location is less than 100% (69.1%), since there is no plan or program in place to provide the necessary remainder funding in combination with the project's fair-share for the recommended improvement, SDSU has agreed to fully fund the improvements, for the limited purpose of this project only, in light of the substantial benefits that would accrue to the community.

To implement the improvements, CSU/SDSU shall prepare design plans and submit such plans to the City of San Diego for review and approval. Following City approval, CSU/SDSU shall obtain any necessary construction permits and provide bond assurances to the reasonable satisfaction of the City Engineer prior to constructing the subject improvements consistent with the approved City plans. In the event the proposed improvements are not approved and constructed by the above identified trigger, the impact would remain temporarily significant and unavoidable until approval and construction of the improvements, but in no event shall said improvements be delayed beyond the identified trigger without good cause and reasonable coordination with the City of San Diego City Engineer.

This improvement would improve operations in the AM and PM peak hours to 4.2 and 6.3 seconds of delay, respectively. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-11 Intersection 34: Fairmount Avenue & Mission Gorge Road (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 10,160 DUEs, CSU/SDSU shall pay the City of San Diego the cost to optimize the traffic signal timing at the Fairmount Avenue/Mission Gorge Road intersection to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. ~~This mitigation would improve operations in the PM peak hour to 54.1 seconds of delay. However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the mitigation is considered infeasible.~~

MM-TRA-12 Intersection 35: Fairmount Avenue & Camino del Rio North (Caltrans) – The required improvement would be to restripe the eastbound approach to provide a second eastbound right-turn lane as an approximately 150-foot pocket lane and increase the traffic signal cycle length from 130 to 150

seconds. Signal re-optimization is standard practice with intersection reconfiguration. Note that this signal is coordinated with the signal at Fairmount Avenue & Mission Gorge Road. ~~Northbound and southbound through volumes are high enough to warrant additional capacity at this intersection, and a road widening to add lanes is recommended in the current Navajo Community Plan (adopted 2015). However, this mitigation is currently considered infeasible due to physical limitations beneath the adjacent bridges serving the I-8 mainline, I-8 ramp, and trolley. It also should be noted that the Mission Valley Community Plan Update Final PEIR (May 2019) identified mitigation at this intersection but determined that roadway widening was infeasible due to limited right-of-way. The mitigation to add a second eastbound right-turn lane would improve operations to 95.2 and 109.0 seconds of delay in the AM and PM peak hours, respectively.~~

To the extent Caltrans seeks to pursue the improvements, the Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities (fair-share is 100% as to Intersection 35). CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals~~project's proportionate share of funding~~ for the recommended improvements~~ from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will approve of and implement the recommended improvements~~ be able to obtain such funds, and for the other reasons noted above relating to physical and regulatory obstacles~~, the recommended improvements are considered infeasible.

MM-TRA-13 Intersection 41: Ruffin Road & Aero Drive (City of San Diego) – Prior to the issuance of the applicable CSU building permit for, or occupancy of, 9,780 DUEs, CSU/SDSU shall pay the City of San Diego the cost to optimize the traffic signal timing at the Ruffin Road/Aero Drive intersection to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. ~~This mitigation would improve operations in the PM peak hour to 49.8 seconds of delay. However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the mitigation is considered infeasible.~~

Table 4.15-44 Transportation Improvement Implementation Plan

Improvement	Development Trigger (DUEs1)	Project Share of Future Growth2
Initial Improvements with Stadium Only		
Stadium Transportation and Parking Management Plan (TPMP)	w/Stadium only	N/A
Proposed Project Features		
Intersection 11. Friars Road & Stadium Way (Street A) – Feature: Install a new traffic signal, replace the existing free eastbound right-turn lane with a single right-turn lane (squared up at the signal), install an eastbound protected bike lane, and construct and two westbound left-turn lanes. Reconstruct Stadium Way (Street A) at Friars Road to accommodate two southbound departure lanes, and modify the northbound approach to include two left-turn lanes and two-right turn lanes. Lanes can be temporarily reconfigured during major stadium events as part of the TPMP noted above. See TIA **Figure 11**.	w/development of first office building ~~on main campus~~ or completion of the shared use campus loop path	N/A

Table 4.15-44 Transportation Improvement Implementation Plan

Improvement	Development Trigger (DUEs1)	Project Share of Future Growth2
Street A to Fenton Parkway – Feature: Connect Stadium Way (Street A) to Fenton Parkway via an east-west roadway aligned south of the trolley line and configured as a two-lane collector with a center-left-turn-lane. Construct an at-grade crossing of Fenton Parkway across the trolley and an intersection of Street A with Fenton Parkway that can accommodate a future Fenton Parkway extension.	w/first office building (commercial, medical, or research and development)	N/A
Realign San Diego Mission Road to Mission Village Drive – Feature: Realign San Diego Mission Road through the project site to connect with Mission Village Drive from south of the Friars Road Eastbound Ramps. The realignment will consist of portions of Street D, Street 4, and Street F and include new intersections.	w/occupancy of first residential units	N/A
Intersection 13. Mission Village Drive/Street D & Friars Road EB Ramps – Feature: Widen the eastbound off-ramp approach to include a shared left-turn/through lane and dual right turn lanes at Mission Village Drive. Widen the northbound approach to provide dual right-turn lanes, and widen the EB-on ramp from Mission Village Road to Friars Road to two lanes along the entire length and extend a new lane to the I-15 S Ramps intersection. This includes widening of the Friars Road bridge over tank farm access road. See TIA **Figure 11**.	4,270	N/A
Intersection 12. Mission Village Drive & Friars Road WB Ramps – Feature: Widen the Friars Road WB Off-Ramp to add a separate westbound left-turn pocket (maintaining the existing shared through/left-turn lane). Widen the Mission Village Drive overpass to Friars Road in both directions to provide a second northbound left-turn lane at this intersection (and a second southbound left-turn lane at (Intersection 13). Buffered bike lanes and sidewalks will be maintained. See TIA **Figure 11**.	7,840	N/A
Proposed Project Mitigation		
Intersection 32. Ward Road & Rancho Mission Road – Mitigation: Install a traffic signal.	3,950	69.1%
Intersection 9. Fenton Parkway & Friars Road – Mitigation: Optimize signals within corridor of Friars Road from River Run Drive to Stadium Way (Street A).	4,510	41.5%
Intersection 31. Texas Street & Camino del Rio S – Mitigation: Restripe to convert WBT lane to a shared WBT/L lane and EBT to EBT/L lane; re-optimize signal timing splits.	5,130	9.0%
Intersection 8. River Run Drive & Friars Road – Mitigation: Optimize signals within corridor of Friars Road from River Run Drive to Stadium Way (Street A).	5,160	47.8%
Intersection 10. Northside Drive & Friars Road – Mitigation: Optimize signals within corridor of Friars Road from River Run Drive to Stadium Way (Street A).	5,270	44.2%
Intersection 19. Rancho Mission Road & Friars Road – Mitigation: Coordinate signal with I-15 NB Ramps & Friars Rd in the PM peak hour.	5,830	38.6%
Intersection 27. Fairmount Ave & San Diego Mission Rd/ Twain Ave – Mitigation: ~~Restripe~~ Widen the eastbound approach and restripe the westbound approach~~es~~ to provide each with a dedicated left-turn lane (see TIA **Figure 26**). Signal modification (including new heads) to provide protected left turn phases on these approaches.	8,940	49.9%

Table 4.15-44 Transportation Improvement Implementation Plan

Improvement	Development Trigger (DUEs1)	Project Share of Future Growth2
Intersection 41. Ruffin Road & Aero Drive – Mitigation: Optimize signal timing splits.	9,780	26.2%
Intersection 34. Fairmount Ave & Mission Gorge Rd – Mitigation: Optimize signal timing splits.	10,160	32.5%

Source: Appendix 4.15-1
Notes:
1 DUEs=dwelling unit equivalents
2 Project share of future growth is calculated as a percentage = (Project Traffic) / (Horizon Year Plus Project Traffic – Existing Traffic) For impacts in both the AM and PM peak hour, the larger of the two peak hour project shares is applied. While the proposed project share of future growth generally is equivalent to the project's "fair-share" in the context of mitigation payments, in those instances in which mitigation is available that would return operations to pre-project conditions consistent with CEQA's mitigation requirements but would not necessarily result in acceptable levels of service (e.g., traffic signal optimization), the proposed project "fair-share" is the full cost of the recommended improvement, or 100%, rather than the percentage project share of future growth.

Freeway Segments

As shown in Table 4.15-31, the proposed project would contribute to significant cumulative impacts to 20 individual study area freeway segments on ~~SR-163,~~ I-15~~,~~ and I-8 during one or both peak hours under Horizon Year Plus Project Conditions. Mitigation of freeway impacts would theoretically involve widening of the freeway facility to provide additional mainline or auxiliary lane capacity to reduce the projected V/C ratio(s). However, widening mainline freeway segments is beyond the scope of a single development project due to numerous factors including the potential complexities of modifying adjacent interchanges, acquiring right-of-way, proximity of existing building structures and roadways, high construction costs, etc. In addition, no established mechanism (i.e., fee program) exists for any of the three facilities to obtain a fair-share contribution from all new development in the area and region.

SANDAG, as the regional planning agency in San Diego County, has completed various studies regarding improvements along all the major freeways within the study area. In particular, SANDAG, in collaboration with Caltrans, the City of San Diego, the Metropolitan Transit System, and other key stakeholders, is developing a multimodal corridor study for the section of I-8 located within the City of San Diego. The Preliminary Draft Report for the *I-8 Corridor Study* (August 2016) considers future improvements, as well as other feasible concepts, describes existing conditions, identifies future deficiencies, develops multimodal alternatives and measures, performs technical analysis, and proposes an implementation strategy. The study addresses various topics, including: right-of-way constraints, transit services, freeway interchanges, select local streets and intersections, bike and pedestrian access (active transportation), TDM, Transportation Systems Management (TSM), and other strategies to encourage the use of alternative travel modes.

Additionally, Caltrans recently completed an I-805 Transportation Concept Report that addresses congestion and operations along the entire length of the corridor. A combination of strategies is planned and incorporated in the Regional Transportation Plan (RTP), including high capacity transit projects, managed lanes, active transportation projects, auxiliary lanes, and ramp metering. Many of the concepts addressed in the I-8 and I-805 studies can be applied to other freeways, including I-15. Caltrans is also considering implementing managed lane strategies within the I-15 corridor in the future to address congestion and enhance mobility.

In furtherance of these studies, the Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities. CSU/SDSU will assist~~support~~ Caltrans in its efforts to obtain the necessary approvals and~~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 on impacted segments or adjacent interchanges. Alternatives to be considered include enhanced acceleration/deceleration lanes and interconnecting ramp meters. ~~Dependent upon the outcome of the Study, CSU/SDSU will 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.~~

In addition, as previously discussed, the proposed project would implement a TDM Program to reduce the number of site-generated vehicle trips beyond the level used in this analysis (see Section 4.15.1.2). Additionally, as a mixed-use project located in a transit priority area (TPA) with a high-capacity transit station that is centrally located in the region, the proposed project will minimize the number of trips and corresponding VMT within the region, including on the freeway system as compared to other development projects within the County located beyond the reach of a transit station. Accordingly, the SDSU Mission Valley Campus Master Plan project would reduce its freeway impacts to the greatest extent feasible.

MM-TRA-17 I-15 and I-8 Freeway Segments (Caltrans) – The improvement necessary to mitigate the Project's identified significant cumulative impacts to Interstate 15 (Adams Avenue to Balboa Avenue/Tierrasanta Boulevard) and Interstate 8 (Morena Boulevard to College Avenue) is to provide additional capacity on the affected freeway segments. As there presently are no capacity improvements planned for the affected segments of Interstate 8 and Interstate 15, a potential mitigation is preparation of a Project Study Report-Project Development Support document (Study) that would further identify and assess available alternatives to increase capacity, improve mobility, and relieve congestion on the impacted segments or adjacent interchanges.

The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities (average fair-share for the identified freeway segments is 2.5%). California State University/SDSU will assist Caltrans in its efforts to obtain the necessary approvals. However, because CSU cannot guarantee that Caltrans will be able to obtain the other funds necessary to prepare the recommended Study pursuant to a funding plan or program, the mitigation is considered infeasible.

Ramp Metering

I-15 NB On-Ramp at Friars Road – Delays could be reduced to below 15 minutes by the addition of a third mixed flow lane. However, this ramp already consists of two mixed flow lanes and one HOV lane, which is the maximum number of lanes typically designed by Caltrans. Therefore, additional roadway capacity is infeasible. As traffic patterns change, it may be possible to adjust the metering rate, particularly with I-15 corridor improvements such as managed lanes.

MM-TRA-14 I-15 SB Loop On-Ramp at Friars Road – Intersection 17 (Caltrans) - Delays could be reduced to below 15 minutes by the addition of a second mixed flow lane on this ramp. To provide a second lane on this ramp would require widening a bridge structure over both the multi-use path connecting the site to Murphy Canyon Road and a drainage channel. (See related mitigation

measure MM-TRA-5.) The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities. CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals~~funding~~ for the recommended improvements ~~from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will be able to obtain ~~such~~the other funds necessary to implement the improvements pursuant to a funding plan or program, the recommended mitigation is considered infeasible.

MM-TRA-15 I-15 SB On-Ramp at Friars Road – Intersection 17 (Caltrans) - Delays could be reduced to below 15 minutes by the addition of a second mixed flow lane on this ramp. To provide a second lane on this ramp will require widening of a bridge structure over the multi-use path connecting the site to Murphy Canyon Road. The Draft EIR discusses mitigation measures relative to Caltrans facilities and demonstrates CSU's recognition of its responsibility to feasibly mitigate its fair share of significant project impacts to these facilities. CSU will assist~~support~~ Caltrans in its effort to obtain the necessary approvals~~funding~~ for the recommended improvements ~~from the Legislature or other available funding sources~~. However, because CSU cannot guarantee that Caltrans will be able to obtain ~~such~~the other funds necessary to implement the improvements pursuant to a funding plan or program, the recommended mitigation is considered infeasible.

I-15 EB On-Ramp at SB Fairmount Avenue - Delays could be reduced to below 15 minutes by the addition of a second mixed flow lane. However, this improvement is infeasible due to the insufficient right-of-way. Therefore, no additional on-ramp capacity is recommended. As such, mitigation is infeasible. As traffic patterns change, the metering rate may be able to be adjusted, particularly with I-8 corridor improvements such as managed lanes.

4.15.9.4 Horizon Year (2037) Plus Project Plus Stadium Event Conditions

Intersections

Mitigation measures **MM-TRA-1** through **MM-TRA-13** also are applicable under this scenario to help reduce potentially significant impacts to intersections during Stadium events (Impacts **TR-28A to TR-28Q**). Assuming all proposed improvements are implemented, under stadium event conditions, significant cumulative impacts would remain at the following intersections: (3) Frazee Road & Friars Road; (9) Fenton Parkway & Friars Road; (10) Northside Drive & Friars Road; (11) ~~Staidum~~ Stadium Way (Street A) & Friars Road; (14) Street D & Street 4; (22) Mission Gorge Road & Friars Road; and (34) Fairmount Avenue & Mission Gorge Road (see TIA Table 52). These same intersection also would exceed the City of San Diego thresholds.

Strategies to assist in the reduction of weekday Stadium event traffic and related impacts would be implemented through the TDM and TPMP Programs previously described. Event-generated congestion (albeit at a lesser level) is also expected to occur for other major and high-attendance weekday events with attendance levels ranging from 5,000 to 20,000 or more. However, feasible mitigation to reduce potential significant impacts at all affected intersections is not available.

Freeway Segments

The same mitigation analysis presented above under Horizon Year (2037) Existing Plus Project Without Stadium Event scenario also applies to this scenario relative to impacts TR-35A to TR-35R. As previously stated, CSU/SDSU will assist~~support~~ Caltrans in its efforts to obtain the necessary approvals~~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 on impacted segments or adjacent interchanges. In addition, the proposed project is located in a TPA and would implement a TDM Program to reduce the number of site-generated vehicle trips beyond the level used in this analysis (see Section 4.15.1.2).

Ramp Metering

Mitigation measures **MM-TRA-14** and **MM-TRA-15** would also be applied under this scenario to help reduce potentially significant impacts associated with freeway ramp metering; however, mitigation to reduce the impacts to less than significant is infeasible.

4.15.9.5 Stadium Parking Supply and Demand

Regarding impact **TR-31** (Stadium Parking Supply and Demand), parking demand for the Stadium is expected to be served by the parking structure under the campus office space and by the surface spaces in Tailgate Park, both of which are immediately adjacent to the Stadium. These areas will provide a total of 6,205 spaces. The vast majority of Stadium events will be held on weekend afternoons and evenings when the demand for the campus office uses will be negligible. For all events, the TPMP Program will be implemented to manage parking demand and traffic associated with various attendance levels (**PDF-TRA-2**). However, mitigation to fully reduce all potential impacts to less than significant is infeasible.

4.15.9.6 Construction-Related Impacts

As previously explained, in order to minimize the potential temporary impacts on the roadway network resulting from construction-related traffic (**TR-32**), as part of the proposed project a Construction Traffic Management Plan will be implemented (**PDF-TRA-3**). However, mitigation to fully reduce all potential impacts to less than significant is infeasible.

4.15.9.7 Emergency Access

The following mitigation measure would address potentially significant impact **TR-33** regarding emergency access:

MM-TRA-16 As part of the building construction and occupancy permitting process, emergency access to each building will be reviewed for consistency with and adherence to standards identified in applicable regulatory documents including but not limited to the Uniform Building Code and California Fire Code. In addition, buildings will be inspected by emergency responder entities including the City of San Diego Fire Department, which has a station located on the north side of Friars Road just east of the Stadium Way (Street A) intersection.

4.15.10 Level of Significance After Mitigation

4.15.10.1 Existing Plus Project – With and Without Stadium Event Conditions

As previously stated, due to the long-term nature of the buildout project, the Existing Plus Project analysis presented herein is provided for information purposes only; that is, for CEQA purposes, the identification of significant impacts and mitigation recommended for adoption is based on the Horizon Year (2037) Plus Project Conditions, which more

appropriately reflects future cumulative traffic conditions, as well as future road improvements, forecast to be in place at the time the proposed project reaches full buildout.

4.15.10.2 Existing Plus Stadium Event Conditions

While a single event at the new Stadium would result in traffic operations that are the same or better than existing conditions, the new Stadium may hold more total events in a given year with attendance levels of 20,000 patrons or more. Under Existing Conditions, five high-attendance events (i.e., events with over 20,000 attendees) were held on a weekday. One of those events (the Beyonce and Jay-Z concert) had 40,885 attendees, which would have been limited to 35,000 persons with the new facility. The proposed Stadium is expected to hold 11 weekday high-attendance events annually, of which approximately four (4) are planned to be professional soccer games, which will not occur unless a professional team is based in San Diego. Thus, two to six additional events with 20,000 or more attendees are expected to take place annually with the new Stadium. While no significance threshold is available to assess impacts of this type that would occur on an infrequent and irregular basis, the anticipated increase in the number of Stadium events would result in a potentially significant impact. Although implementation of the proposed Stadium TDM and TPMP Programs (**PDF-TRA-2** and **PDF-TRA-4**, respectively) would help to minimize congestion associated with these additional events and reduce potential impacts, there is no feasible mitigation to fully reduce all impacts to less than significant and, therefore, the impact would remain **significant and unavoidable (TR-1)**.

4.15.10.3 Horizon Year (2037) Plus Project Without Stadium Event Conditions

Intersections

1. SR-163 Southbound Ramps/Ulric Street & Friars Road (Caltrans) – Impact **TR-2** would be **significant and unavoidable** because CSU cannot guarantee that Caltrans will ~~be able to obtain the funding necessary to~~ approve of and implement the improvements recommended by **MM-TRA-1** and, therefore, mitigation is considered infeasible.

8. River Run Drive & Friars Road (City of San Diego) – Impact **TR-3** would be **less than significant** with implementation of the signal optimization ~~**and unavoidable** because CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of the improvement~~ recommended by **MM-TRA-2**; the recommended mitigation would improve operations in the PM peak hour to 32.9 seconds of delay. ~~Accordingly, the improvement is considered infeasible.~~ Following release of the Draft EIR~~However~~, ~~if~~ the City granted~~s~~ the necessary authorization and, as such, CSU will pay the City the cost to implement the recommended traffic signal optimization, thereby reducing the project's impact to less than significant.

9. Fenton Pkwy & Friars Road (City of San Diego) – Impact **TR-4** would be **less than significant** with implementation of the signal optimization ~~**and unavoidable** because CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of the improvement~~ recommended by **MM-TRA-3**; the recommended mitigation would improve operations in the PM peak hour to 83.2 seconds of delay. ~~Accordingly, the improvement is considered infeasible.~~ Following release of the Draft EIR~~However~~, ~~if~~ the City granted~~s~~ the necessary authorization and, as such, CSU will pay the City the cost to implement the recommended traffic signal optimization, thereby reducing the project's impact to less than significant.

10. Northside Drive & Friars Road (City of San Diego) – Impact **TR-5** would be **significant and unavoidable** because although the City, following release of the Draft EIR, granted the necessary authorization to CSU to implement signal optimization as recommended by **MM-TRA-4**, in order to fully mitigate the project's

impact at this location it also would be necessary to add a second northbound right-turn lane; however, the City prefers that such widening not be implemented because it is inconsistent with the City's future circulation plans due, in part, to the future construction of the Fenton Parkway bridge. ~~as to the recommended physical improvements there is no plan or program in place to provide the necessary additional funding, in combination with the CSU fair share, to implement the improvement. Additionally, as to the recommended signal optimization, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of the improvement recommended by MM-TRA-4.~~ Accordingly, the addition of a second northbound right-turn lane~~improvement~~ is considered infeasible. ~~However, if the City grants authorization, CSU will implement the recommended signal optimization, although impacts would not be fully mitigated by this improvement alone.~~

17. I-15 SB Ramps & Friars Road (Caltrans) – Impact **TR-6** would be **significant and unavoidable** because CSU cannot guarantee that Caltrans will be able to obtain the additional funding necessary to implement the improvements recommended by **MM-TRA-5** and, therefore, mitigation is considered infeasible. To this point, it is noted that the Civita (Quarry Falls) development also is required to implement a portion of the recommended improvement, including the addition of the second eastbound left-turn lane and squaring up the westbound right-turn movement. Implementation of the recommended improvements would result in operations in the AM and PM peak hours of 52.0 and 67.0 seconds of delay, respectively. These calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent reamp meter causes queuing through the intersection, and without improving ramp meter operations, the operations will remain above the significance threshold.
18. I-15 NB Ramps & Friars Road (Caltrans) – Impact **TR-7** would be **significant and unavoidable** because CSU cannot guarantee that Caltrans will be able to obtain the additional funding necessary to implement the improvements recommended by **MM-TRA-6** and, therefore, mitigation is considered infeasible. To this point, it is noted that the Civita (Quarry Falls) development also is required to implement a portion of the recommended improvement that does not include any widening of the Friars Road bridge. The recommended improvements would result in operations in the AM and PM peak hours of 80.7 and 53.5 seconds of delay, respectively. These calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queuing through this intersection, and without improving ramp meter operations, the operations will remain above the significance threshold.
19. Rancho Mission Road & Friars Road (City of San Diego~~Caltrans~~) – The mitigation recommended at Intersection 18 (see above) would improve operations at Intersection 19 in the PM peak hour to 67.2 seconds of delay. However, Impact **TR-8** (Intersection 19) would be **significant and unavoidable** because CSU cannot guarantee that Caltrans will be able to obtain the additional funding necessary to implement the improvements recommended at Intersection 18 by **MM-TRA-6~~7~~**, which improvements also would mitigate the impacts at the Rancho Mission Road/Friars Road location and, therefore, mitigation is considered infeasible.
27. Fairmount Avenue & San Diego Mission Road/Twain Avenue (City of San Diego) -~~–~~ The recommended mitigation would improve operations in the AM and PM peak hours to 35.3 and 33.1 seconds of delay, respectively. Impact **TR-9** would be **less than significant ~~and unavoidable~~** because following release of the Draft EIR, the City granted the necessary authorization for CSU to implement ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of~~ the improvement recommended by **MM-TRA-8**, which is the widening of the eastbound approach to San Diego Mission Road to add a separate eastbound left-turn lane and restriping of the westbound approach to add a separate westbound left-turn lane. Accordingly, ~~the improvement is considered infeasible. However, if the City grants~~

~~authorization,~~ CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.

31. Texas Street & Camino del Rio N (City of San Diego) – The recommended mitigation would improve operations in the AM and PM peak hour to 108.4 and 86.9 seconds of delay, respectively. Impact **TR-10** would be **less than significant** ~~**and unavoidable**~~ because following release of the Draft EIR, the City granted the necessary authorization for CSU to implement ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of~~ the improvement recommended by **MM-TRA-9**, which is the restriping of both the intersection eastbound and westbound through lanes to be shared left-turn and through lanes, and related signal reoptimization at the intersection. Accordingly, ~~the improvement is considered infeasible. However, if the City grants authorization,~~ CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.

32. Ward Road & Rancho Mission Road (City of San Diego) – The recommended mitigation would improve operations in the AM and PM peak hours to 4.2 and 6.3 seconds of delay, respectively. Impact **TR-11** would be **less than significant** ~~**and unavoidable**~~ because following release of the Draft EIR, the City granted the necessary authorization for CSU to implement~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of~~ the improvement recommended by **MM-TRA-10**, which is the installation of a traffic signal at the intersection. Accordingly, ~~the improvement is considered infeasible. However, if the City grants authorization,~~ CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.

34. Fairmount Avenue & Mission Gorge Road (City of San Diego) – The recommended mitigation would improve operations in the PM peak hour to 54.1 seconds of delay. Impact **TR-12** would be **less than significant** ~~**and unavoidable**~~ because following release of the Draft EIR, the City granted the necessary authorization for CSU to implement ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of~~ the improvement recommended by **MM-TRA-11**, which is signal optimization at the intersection. Accordingly, ~~the improvement is considered infeasible. However, if the City grants authorization,~~ CSU will pay the City the cost to implement the recommended improvement, thereby reducing the project's impact to less than significant.

35. Fairmount Avenue & Camino del Rio North (Caltrans) – The recommended mitigation to add a second eastbound right-turn lane would improve operations to 95.2 and 109.0 seconds of delay in the AM and PM peak hours, respectively. However, Impact **TR-13** would be **significant and unavoidable** because CSU cannot guarantee that Caltrans will approve of and implement ~~be able to obtain the funding necessary to implement~~ the improvements recommended by **MM-TRA-12** and, therefore, mitigation is considered infeasible.

41. Ruffin Road & Aero Drive (City of San Diego) – The recommended mitigation would improve operations in the PM peak hour to 49.8 seconds of delay. Impact **TR-14** would be **less than significant** ~~**and unavoidable**~~ because following release of the Draft EIR, the City granted the necessary authorization for CSU to implement ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of~~ the improvement recommended by **MM-TRA-13**, which is signal optimization at the intersection. Accordingly, ~~the improvement is considered infeasible. However, if the City grants authorization,~~ CSU will pay the City the cost to implement the recommended improvement, thereby reducing the project's impact to less than significant.

Table 4.15-45 summarizes impacts after implementation of proposed intersection mitigation, and is illustrated in Figure 4.15-15, Traffic Impacts and Improvements for Buildout.

Freeway Segments

As previously explained, CSU/SDSU will pay its fair-share of ~~support Caltrans in its efforts to obtain funding from the state Legislature for~~ the costs to prepare a Project Study Report-Project Development Report-Project Initiation Document to evaluate alternatives to increase capacity, improve mobility, and relieve congestion on the significantly impacted segments or adjacent interchanges, assuming there is a plan or program in place to provide the remainder funding. (See **MM-TRA-17**.) In addition, also as previously explained, the proposed project is located in a TPA and would implement a TDM Program as part of the proposed project that would reduce the number of site-generated vehicle trips to the extent feasible (see Section 4.15.1.2). However, although the proposed project would reduce its freeway impacts to the greatest extent feasible, freeway mainline impacts (**TR-15** through **TR-23**) would remain **significant and unavoidable**.

Ramp Metering

The significant impacts associated with the following impacted freeway ramp meters would remain significant and unavoidable due to infeasible or unfunded mitigation:

- I-15 NB On-ramp from Friars Road – Impact **TR-24** would remain **significant and unavoidable** because the necessary mitigation, the addition of a third mixed flow lane, is not feasible.
- I-15 SB/I-8 Loop On-ramp from Friars Road – Impact **TR-25** would remain **significant and unavoidable** because CSU cannot guarantee that Caltrans will be able to obtain the additional funds necessary to implement the improvements recommended by **MM-TRA-14**. Therefore, the recommended mitigation is considered infeasible.
- I-15 SB Direct On-ramp from Friars Road – Impact **TR-26** would remain **significant and unavoidable** because CSU cannot guarantee that Caltrans will be able to obtain the additional funds necessary to implement the improvements recommended by **MM-TRA-15**. Therefore, the recommended mitigation is considered infeasible.
- I-8 EB On-ramp from SB Fairmount Avenue – Impact **TR-27** would remain **significant and unavoidable** because the necessary improvement is infeasible due to insufficient right-of-way.

Table 4.15-45. Horizon Year (2037) Plus Project Conditions With Mitigation Improvements Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Horizon Year Plus Project Conditions after Mitigations		Significant Impact After Mitigation?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	45.2	D	45.3	D	45.3	D	NO
		PM	54.5	D	**62.1**	**E**	**62.1**	**E**	YES
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	19.8	B	29.5	C	29.5	C	NO
		PM	32.4	C	36.2	D	36.2	D	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	45.2	D	50.6	D	50.6	D	NO
		PM	44.8	D	46.9	D	46.9	D	NO
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	13.3	B	NO
		PM	14.1	B	15.0	B	15.0	B	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	16.7	B	NO
		PM	36.2	D	38.1	D	38.1	D	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.9	B	17.0	B	17.0	B	NO
		PM	24.5	C	24.9	C	24.9	C	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.6	A	6.2	A	6.2	A	NO
		PM	12.8	B	13.3	B	13.3	B	NO
8. River Run Dr & Friars Rd	Signalized	AM	23.0	C	25.0	C	25.0	C	NO
		PM	**59.6**	**E**	**94.9**	**F**	32.9	C	NO
9. Fenton Pkwy & Friars Rd	Signalized	AM	27.9	C	22.1	C	28.2	C	NO
		PM	**92.8**	**F**	**126.6**	**F**	**83.2**	**F**	NO
10. Northside Dr & Friars Rd*	Signalized	AM	34.9	C	34.8	C	54.7	D	NO
		PM	**122.1**	**F**	**128.6**	**F**	51.8	D	YES~~NO~~
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	10.4	B	10.4	B	NO
		PM	-	N/A	22.9	C	34.3	C	NO
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	30.1	C	28.8	C	28.8	C	NO
		PM	52.0	D	33.6	C	33.6	C	NO
13. Mission Village Dr/Street D & Friars Rd EB Ramps/San Diego Mission Rd*	Signalized	AM	**173.4****	**F**	17.0	B	17.0	B	NO
		PM	**94.0**	**F**	30.0	C	30.0	C	NO

Table 4.15-45. Horizon Year (2037) Plus Project Conditions With Mitigation Improvements Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Horizon Year Plus Project Conditions after Mitigations		Significant Impact After Mitigation?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	
14. Street D & Street 4	Signalized	AM	DNE	N/A	23.7	C	23.7	C	NO
		PM		N/A	40.9	D	40.9	D	NO
15. Street B & Street 2	Signalized	AM	DNE	N/A	27.0	C	27.0	C	NO
		PM		N/A	35.1	D	35.1	D	NO
16. Street F & Street 6/San Diego Mission Rd	Roundabout	AM	DNE	N/A	8.1	A	8.1	A	NO
		PM		N/A	9.3	A	9.3	A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	46.3	D	**124.6**	**F**	**124.6**	**F**	**YES**
		PM	**67.3**	**E*** (F)**	**100.6**	**F** (F)	**100.6**	**F** (F)	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**83.5**	**F*** (F)**	**137.6**	**F** (F)	**137.6**	**F** (F)	**YES**
		PM	**67.3**	**E*** (F)**	**208.4****	**F** (F)	**208.4**	**F** (F)	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.3	C*** (E)	33.8	C (F)	27.9	C (F)	**YES*****
		PM	**72.4**	**E*** (E)**	**83.2**	**F** (F)	**83.2**	**F** (F)	**YES**
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	47.1	D	NO
		PM	16.8	B	19.0	B	19.0	B	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	43.8	D	NO
		PM	37.4	D	43.8	D	43.8	D	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	46.5	D	NO
		PM	44.5	D	54.2	D	54.2	D	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.3	B	22.1	C	22.1	C	NO
		PM	44.4	D	49.6	D	49.6	D	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	12.9	B	13.6	B	13.6	B	NO
		PM	25.1	D	30.8	D	30.8	D	NO

Table 4.15-45. Horizon Year (2037) Plus Project Conditions With Mitigation Improvements Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Horizon Year Plus Project Conditions after Mitigations		Significant Impact After Mitigation?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	16.7	B	17.0	B	17.0	B	NO
		PM	27.7	C	28.7	C	28.7	C	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	31.0	C	46.0	D	46.0	D	NO
		PM	30.0	C	48.4	D	48.4	D	NO
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	23.5	C	**101.1**	**F**	35.3	D	NO
		PM	26.7	C	**73.2**	**E**	33.1	C	NO
28. Qualcomm Way & Camino del Rio N/Camino de la Reina	Signalized	AM	21.3	C	21.8	C	21.8	C	NO
		PM	**71.0**	**E**	**71.0**	**E**	**71.0**	**E**	NO
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N	Signalized	AM	20.5	C	21.8	C	21.8	C	NO
		PM	**73.6**	**E**	**77.2**	**E**	**77.2**	**E**	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.2	A	1.2	A	1.2	A	NO
		PM	4.9	A	4.9	A	4.9	A	NO
31. Texas St & Camino del Rio S	Signalized	AM	**104.1**	**F**	**111.7**	**F**	**108.4**	**F**	NO****
		PM	**85.0**	**F**	**103.3**	**F**	**86.9**	**F**	NO****
32. Ward Rd & Rancho Mission Rd	SSSC	AM	26.9	D	**131.2**	**F**	4.2	A	NO
		PM	29.9	D	**321.1****	**F**	6.3	A	NO
33. Camino del Rio N & Ward Ave	Signalized	AM	15.4	B	25.3	C	25.3	C	NO
		PM	15.9	B	29.6	C	29.6	C	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.0	C	27.6	C	27.6	C	NO
		PM	28.1	C	**62.1**	**E**	54.1	D	NO
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**94.7**	**F**	**122.5**	**F**	**122.5**	**F**	**YES**
		PM	**104.7**	**F**	**176.5****	**F**	**176.6****	**F**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	17.7	B	20.5	C	20.5	C	NO
		PM	44.3	D	52.7	D	52.7	D	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	46.9	D	49.2	D	49.2	D	NO
		PM	50.0	D	53.5	D	53.5	D	NO

Table 4.15-45. Horizon Year (2037) Plus Project Conditions With Mitigation Improvements Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Conditions		Horizon Year Plus Project Conditions after Mitigations		Significant Impact After Mitigation?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]	
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	6.4	A	NO
		PM	10.8	B	13.6	B	13.6	B	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	15.5	B	NO
		PM	11.3	B	13.9	B	13.9	B	NO
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	32.6	C	NO
		PM	24.5	C	36.4	D	36.4	D	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	36.8	D	NO
		PM	52.6	D	**63.2**	**E**	49.8	D	NO
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	7.2	A	NO
		PM	6.0	A	6.1	A	6.1	A	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	9.3	A	NO
		PM	11.7	B	11.9	B	11.9	B	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual (HCM) method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of HCM 6 at this intersection. The HCM 2000 method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation. This additional delay is estimated to result in operations as shown in parentheses.

**** Intersection would exceed the City of San Diego impact threshold.

***** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

4.15.10.4 Horizon Year (2037) Plus Project Plus Stadium Event Conditions

Intersections

Because the mitigation recommended to reduce the identified significant impacts under the Without Stadium Event scenario, which is also necessary to mitigate related impacts under the With Stadium Event scenario, is infeasible due either to pending necessary City authorization or the lack of City fair-share funding notwithstanding CSU's willing payment, the significant impacts identified under the With Stadium Event scenario (**TR-28A** through **TR-28Q**) would remain **significant and unavoidable** as well. Nonetheless, strategies to assist in the reduction of weekday Stadium event traffic and related impacts would be implemented through the TDM and TPMP Programs previously described. Although intersection operations under this scenario would likely remain significant and unavoidable, this scenario represents a sold-out event (i.e., 35,000 attendees) that occurs on a weekday, which will occur only up to a few times per year.

Table 4.15-46 summarizes impacts after implementation of proposed intersection mitigation, and is illustrated in Figure 4.15-15, Traffic Impacts and Improvements for Buildout.

Freeway Segments

As previously explained, CSU/SDSU will pay its fair-share of~~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 on impacted freeway segments or adjacent interchanges, assuming there is a plan or program in place to provide the remainder funding. (See **MM-TRA-17**.) In addition, the proposed project, which is located in a TPA, would implement a TDM Program to reduce the number of site-generated vehicle trips (see Section 4.15.1.2). Although the proposed project would reduce its freeway impacts to the greatest extent feasible, freeway mainline impacts under the With Stadium Event scenario (**TR-29A** through **TR-29R**) would remain **significant and unavoidable**.

Ramp Metering

Stadium event traffic would not cause any additional impacts under Horizon Year Plus Project with Stadium Event Conditions than under Without Stadium Event Conditions. Therefore, the mitigation identified under the Without Stadium Event scenario (**MM-TRA-14** and **MM-TRA-15**) would apply under the With Stadium Event Conditions scenario as well. However, as previously explained, the referenced mitigation is either infeasible or uncertain to be implemented due to funding constraints and, therefore, impacts under the With Stadium Event scenario (**TR-30A** through **TR-30D**) would remain **significant and unavoidable**.

Table 4.15-46. Horizon Year Plus Project Plus Event with Project Mitigation Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event with Project Mitigation Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	45.2	D	45.3	D	1.4	NO
		PM	54.5	D	**70.2**	**E**	**13.3**	**YES**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	19.8	B	29.5	C	3.3	NO
		PM	32.4	C	42.5	D	9.0	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	45.2	D	50.6	D	1.6	NO
		PM	44.8	D	**65.6**	**E**	**22.6**	**YES**
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	0.5	NO
		PM	14.1	B	15.0	B	0.9	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	-0.1	NO
		PM	36.2	D	38.3	D	2.1	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.9	B	17.0	B	1.1	NO
		PM	24.5	C	24.9	C	0.4	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	5.6	A	6.2	A	0.6	NO
		PM	12.8	B	13.2	B	0.4	NO
8. River Run Dr & Friars Rd	Signalized	AM	23.0	C	25.0	C	2.0	NO
		PM	**59.6**	**E**	**60.9**	**E**	1.3	NO****
9. Fenton Pkwy & Friars Rd	Signalized	AM	27.9	C	28.2	C	0.3	NO
		PM	**92.8**	**F**	**123.2**	**F**	**30.4**	**YES**
10. Northside Dr & Friars Rd*	Signalized	AM	34.9	C	54.7	D	19.8	NO
		PM	**122.1**	**F**	**82.8**	**F**	-39.3	NO
11. Stadium Way (Street A) & Friars Rd*	Signalized	AM	-	N/A	10.4	B	N/A	NO
		PM	-	N/A	**142.5**	**F**	N/A	**YES**
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	30.1	C	28.8	C	-1.3	NO
		PM	52.0	D	36.6	D	-15.4	NO
13. Mission Village Dr & Friars Rd EB Ramps/ San Diego Mission Rd*	Signalized	AM	**173.4****	**F**	17.0	B	-156.4	NO
		PM	**94.0**	**F**	31.9	C	-62.1	NO

Table 4.15-46. Horizon Year Plus Project Plus Event with Project Mitigation Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event with Project Mitigation Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A	23.7	C	N/A	NO
		PM		N/A	**370.0**	**F**	N/A	**YES**
15. Street B & Street 2	Signalized	AM	DNE	N/A	27.0	C	N/A	NO
		PM		N/A	31.8	C	N/A	NO
16. Murphy Creek Rd & Street B/ San Diego Mission Rd	Roundabout	AM	DNE	N/A	8.1	A	N/A	NO
		PM		N/A	13.3	B	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	46.3	D	**124.6**	**F**	**78.3**	NO
		PM	**67.3**	**E***** (F)	**137.9**	**F** (F)	**70.6**	**YES*****
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**83.5**	**F***** (F)	**137.6**	**F** (F)	**54.1**	**YES*****
		PM	**67.3**	**E***** (F)	**218.1**	**F** (F)	**150.8**	**YES*****
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.3	C*** (E)	27.9	C (F)	3.9	**YES*****
		PM	**72.4**	**E***** (E)	**106.4**	**F** (F)	**33.6**	**YES*****
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	9.0	NO
		PM	16.8	B	19.4	B	2.6	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	6.4	NO
		PM	37.4	D	44.7	D	7.3	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	2.4	NO
		PM	44.5	D	**56.0**	**E**	**11.5**	**YES**
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.3	B	22.1	C	2.8	NO
		PM	44.4	D	50.1	D	5.7	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	12.9	B	13.6	B	0.7	NO
		PM	25.1	D	32.7	D	7.6	NO
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	16.7	B	17.0	B	0.3	NO
		PM	27.7	C	28.8	C	1.1	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	31.0	C	46.0	D	15.0	NO
		PM	30.0	C	51.1	D	21.1	NO

Table 4.15-46. Horizon Year Plus Project Plus Event with Project Mitigation Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event with Project Mitigation Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	23.5	C	35.3	D	11.8	NO
		PM	26.7	C	51.7	D	25.0	NO
28. Qualcomm Way & Camino del Rio N/ Camino de la Reina	Signalized	AM	21.3	C	21.8	C	0.5	NO
		PM	**71.0**	**E**	**71.1**	**E**	**0.1**	NO
29. Qualcomm Way & I-8 WB Off-Ramp/ Camino del Rio N	Signalized	AM	20.5	C	21.8	C	1.3	NO
		PM	**73.6**	**E**	**77.8**	**E**	**4.2**	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.2	A	1.2	A	0.0	NO
		PM	4.9	A	4.9	A	0.0	NO
31. Texas St & Camino del Rio S	Signalized	AM	**104.1**	**F**	**108.4**	**F**	**4.3**	NO****
		PM	**85.0**	**F**	**87.0**	**F**	**2.0**	NO****
32. Ward Rd & Rancho Mission Rd	SSSC converted to Signalized	AM	27.0	D	4.2	A	-22.7	NO
		PM	25.8	D	8.5	A	-21.4	NO
33. Camino del Rio N & Ward Ave	Signalized	AM	15.4	B	25.3	C	9.9	NO
		PM	15.9	B	31.8	C	15.9	**YES**
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.0	C	27.6	C	5.6	NO
		PM	28.1	C	**56.4**	**E**	**28.3**	**YES**
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**94.7**	**F**	**122.5**	**F**	**27.8**	**YES**
		PM	**104.7**	**F**	**150.4****	**F**	**45.7**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	17.7	B	20.5	C	2.8	NO
		PM	44.3	D	53.4	D	9.1	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	46.9	D	49.2	D	2.3	NO
		PM	50.0	D	54.7	D	4.7	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	0.2	NO
		PM	10.8	B	15.4	B	4.6	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	1.0	NO
		PM	11.3	B	15.3	B	4.0	NO

Table 4.15-46. Horizon Year Plus Project Plus Event with Project Mitigation Conditions Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year Without the Project Conditions		Horizon Year Plus Project Plus Event with Project Mitigation Conditions		Delay Delta	Significant Impact?
			Delay (sec/veh)[1]	*LOS*[2,3]	*Delay (sec/veh)*[1]	*LOS*[2,3]		
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	12.1	NO
		PM	24.5	C	41.5	D	17.0	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	1.1	NO
		PM	52.6	D	53.9	D	1.3	NO
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	0.1	NO
		PM	6.0	A	6.1	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	0.2	NO
		PM	11.7	B	11.9	B	0.2	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the Highway Capacity Manual (HCM) method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Existing Conditions, the Stadium Way & Friars Road intersection is only used during Stadium events.

* Existing or proposed signal phasing prevents the use of HCM 6 at this intersection. The HCM 2000 method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation.

**** Exceeds the City of San Diego impact threshold.

***** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

4.15.10.5 Stadium Parking Supply and Demand

The analysis presented in this section determined that an additional off-site parking supply will likely need to be provided for Stadium events exceeding 25,000 attendees regardless of day of week. The Stadium TDM and TPMP Programs (**PDF-TRA-2** and **PDF-TRA-4**, respectively) will help to minimize overall parking demand and to identify off-site parking supplies as appropriate. However, even with a successful TDM Program and TPMP measures in place, parking impacts for some major and all high attendance events are expected to be **significant and unavoidable (TR-31)**.

4.15.10.6 Construction-Related Traffic

Construction-related traffic impacts will be temporary in duration, will likely vary in location from day to day, and are expected to include increased intersection delay (due to slow-moving vehicles or lane closures) for some short time periods relative to the overall development schedule of the project. While implementation of the Construction Traffic Management Plan will help to minimize most construction traffic impacts, some temporary **significant and unavoidable (TR-32)** impacts are expected to occur during both site preparation and vertical construction (e.g., lane closures during the widening of the off-ramp from Friars Road to Mission Village Drive).

4.15.10.7 Emergency Access

Implementation of **MM-TRA-16** would reduce impact **TR-33** associated with emergency access to **less than significant**.

4.15.10.5 Community Benefit Improvements

In addition to the road improvements to be constructed as part of the project design features (see section 4.15.5.4) and the additional improvements to be implemented as mitigation measures (see section 4.15.9), CSU/SDSU will implement the following additional transportation improvements as community benefits, over and above the project's mitigation requirements:

- *Campus-to-Campus Bicycle Connection* – Install/construct new buffered bike lanes (with a short segment of standard bike lanes) on Rancho Mission Road from the SDSU Mission Valley site to Ward Road. With the cycle track improvements on Ward Road to be provided as part of the Rancho Mission Road/Ward Road improvements described below, there will be continuous bicycle facilities between SDSU's College Area and Mission Valley campuses. As planned, the improvements would all be located within the existing curb-to-curb roadway section and would be designed and constructed in accordance with City of San Diego public road standards. As a result, any potential environmental impacts, including those related to transportation and safety, would be less than significant. Additionally, any indirect impacts associated with construction of the improvements would be temporary and less than significant. (Approximate Anticipated Completion: Issuance of applicable CSU building permit for, or occupancy of, 250 DUEs.)
- *Friars Road Corridor Improvements* - Implement adaptive signal equipment, new detection cameras, and supporting communications technology along Friars Road at the following six intersections: River Run Drive/Friars Road; Fenton Parkway/Friars Road; Northside Drive/Friars Road; Santo Road/Friars Road; Riverdale Street/Friars Road; and Mission Gorge Road/Friars Road. Implementation of the recommended improvements, which would result in operational enhancements that are of a similar nature

to those resulting from implementation of Mitigation Measures MM-TRA-2, TRA-3, and TRA-4, would not entail physical construction, would improve traffic and pedestrian operations, and would not result in significant environmental impacts. (Approximate Anticipated Completion: Issuance of applicable CSU building permit for, or occupancy of, 4,510 DUEs.)

- *Ruffin Road/Aero Drive Intersection* - Upgrade detection camera systems and supporting communications technology at this intersection to enhance traffic flow operations. Implementation of the recommended improvements, which would result in operational enhancements that are of a similar nature to those resulting from implementation of Mitigation Measure MM-TRA-13, would not entail physical construction, would improve traffic and pedestrian operations, and would not result in significant environmental impacts. (Approximate Anticipated Completion: Issuance of applicable CSU building permit for, or occupancy of, 5,000 DUEs.)
- *Rio San Diego Drive* – Re-stripe Rio San Diego Drive (Qualcomm Way to Fenton Parkway) to convert two existing vehicle lanes to provide buffered bike lanes. Note that the existing striping would be maintained at the Rio San Diego Drive/River Run Drive intersection such that the buffered bike lane would shift to use the parking lane where there currently is red curb striping. This improvement is a planned improvement identified in the recently adopted Mission Valley Community Plan update (adopted September 10, 2019). As planned, the improvements would all be located within the existing curb-to-curb roadway section and would be designed and constructed in accordance with City of San Diego public road standards. As a result, any potential environmental impacts, including those related to transportation and safety, would be less than significant. Additionally, any indirect impacts associated with construction of the improvements would be temporary and less than significant. (Approximate Anticipated Completion: Issuance of applicable CSU building permit for, or occupancy of, 750 DUEs.)
- *Rancho Mission Road/Ward Road* - Modify Rancho Mission Road/Ward Road from Camino del Rio North to Friars Road to provide a 2-Lane Collector roadway with a Two-Way Left-Turn Lane (TWLTL), and a one-way cycle track on each side of the road. As planned, the improvements would all be located within the existing curb-to-curb roadway section and would be designed and constructed in accordance with City of San Diego public road standards. This improvement is a planned improvement identified in the recently adopted Mission Valley Community Plan update (adopted September 10, 2019). As a result, any potential environmental impacts, including those related to transportation and safety, would be less than significant. Additionally, any indirect impacts associated with construction of the improvements would be temporary and less than significant. (Approximate Anticipated Completion: Issuance of applicable CSU building permit for, or occupancy of, 3,950 DUEs.)
- *Additional Transportation Projects* – Pay the City of San Diego an amount equal to the difference between the actual cost of the preceding Community Benefit Improvements, listed above, and Five Million Dollars ($5,000,000), which amounts shall be placed into a capital improvement fund used by the City of San Diego to fund capital improvement projects in the Mission Valley, Serra Mesa and Navajo communities. It is anticipated that the difference will be approximately Two-Million Four-Hundred and Thirty-Four Thousand Dollars ($2,434,000). Environmental review would be conducted by the City of San Diego prior to implementation of each resulting improvement project with significant impacts and any necessary mitigation identified as applicable. (Approximate Anticipated Completion: Upon completion of all preceding Community Benefit Improvements described in this subsection 4.15.10.5, which are anticipated to be completed at or around issuance of the applicable CSU building permit for, or occupancy of, 5,000 DUEs.)

4.15.11 Fenton Parkway Bridge Baseline (2037) Plus Project Analysis

As previously explained in section 4.15.7.4.1, the analysis presented previously in this section 4.15 evaluated the potential traffic impacts of the proposed project, with significant impacts identified and mitigation measures recommended, under a future baseline scenario that does not include the extension of Fenton Parkway to Camino del Rio No. opposite Mission City Parkway, including a new bridge (collectively, the "bridge) over the San Diego River. While a 4-lane bridge is included in the MVCP ~~u~~Update ~~presently being considered for approval~~ approved on September 20, 2019 by the City of San Diego, and the ~~City Council adopted~~previous 1985 MVCP included a 2-lane bridge over the River, funding sufficient to construct either the 2-lane or 4-lane bridge proposal has not been identified, no environmental review has been completed as to either proposal, nor has a timeframe for the bridge's construction been established. Moreover, the bridge is not a part of the proposed project, nor, as shown in the analyses presented in this section 4.15, is the bridge required as mitigation for the proposed project's impacts; that is, construction of the bridge is not required to accommodate project traffic or to reduce any of the proposed project's identified significant impacts.

Because the 4-lane bridge is a long-range improvement included in the then-draft MVCP Update (adopted September 2019 following release of the Draft EIR), City staff requested that an analysis be conducted of traffic conditions both with and without the 4-lane bridge be conducted for their review, including analysis of the effect of the proposed project under such scenario. Accordingly, a new Horizon Year (2037) baseline scenario without the proposed project was developed that includes the 4-lane Fenton Parkway bridge across the San Diego River and the associated redistribution of baseline traffic volumes. In addition to the 4-lane bridge analysis, 2-lane bridge conditions with and without the proposed project also were developed and are presented here in response to meetings with the City in which staff have stated that: 1) a 4-lane bridge is not mandated in the MVCP Update, and 2) the City is willing to consider a two-lane bridge based on considerations of congestion, connectivity, accessibility, and public safety.

The effect of adding the proposed project's-generated traffic to this new network configuration, both 2-lane and 4-lane, was evaluated for all study facilities (plus several additional locations that would otherwise not be affected by project traffic). All other technical assumptions under Horizon Year Plus Project Conditions (e.g., project trip generation and distribution) and the use of CSU TISM impact criteria remain unchanged from the no bridge scenario analysis. Notations are included where the proposed project may cause an exceedance of City of San Diego threshold criteria under this scenario. Because the 2-lane and 4-lane bridge and roadway extension are not fully funded and their ultimate construction timeframe is uncertain, the analyses presented in this section 4.15.11 are provided for information purposes only.

4.15.11.1 Description of Fenton Parkway Extension and Bridge

The planned roadway extension across the San Diego River would connect the existing southern terminus of Fenton Parkway at the San Diego Trolley line to Camino del Rio North opposite Mission City Parkway. Under the scenarios analyzed here, the extension and bridge would be constructed as either a two-lane or four-lane collector, as applicable, with a center left-turn lane for its entire length. The center turn lane would be striped as an exclusive left-turn lane at intersections but could be used as a travel lane when manual traffic control was employed during an emergency situation, or fully attended stadium events, etc.

With development of the SDSU Mission Valley Campus, direct vehicular access to the project site would be provided via River Park Road (also known as Mission City Street I in the MVCP update). The Fenton Parkway/River Park Road

intersection (Intersection 49) would be signalized with permitted left-turns to facilitate automobile, bicycle, and pedestrian movements, as well as to control traffic when a trolley vehicle is crossing Fenton Parkway. The proposed intersection lane configuration under the 2-lane scenario would include: one northbound through lane, one northbound right turn lane, one southbound through lane, one southbound left turn lane, one westbound left-turn lane, and one westbound right-turn lane (see Figure 4.15-18). Under the 4-lane scenario, the proposed intersection configuration would include: one northbound through lane, one shared northbound through/right lane, one southbound through lane, one shared southbound through/left lane, one westbound left-turn lane, and one westbound right-turn lane (see Figure 4.15-19).

4.15.11.2 Traffic Redistribution With Bridge

With the bridge in place, vehicle trips with origins and destinations in the immediate vicinity of the bridge are expected to take different paths across the study roadway network; that is, the bridge would alter traffic distribution as compared to a without bridge scenario. Accordingly, a new run of the SANDAG Series 13 Year 2035 travel demand model was performed with both a 2-lane and 4-lane Fenton Parkway bridge in place. The results of this new run were then compared to the previous run without the bridge to determine where traffic volumes would shift to with the new connection. The comparison identified that some traffic that is projected to travel on I-8 east of I-15 without the bridge would shift to Montezuma Road and travel via Fairmount Avenue and Camino del Rio N to use the new bridge connection. Similarly, some traffic projected to travel on I-15 south of Friars Road under future conditions without the bridge would shift to travel south on Fenton Parkway to Camino del Rio S and access I-15 via the Camino del Rio S interchange. These and other changes in travel pattern and paths will affect operations at selected intersections, roadway segments, ramps, freeway segments, and off-ramps in the area immediately surrounding the project site.

The total Horizon Year (2037) No Project and Horizon Year (2037) Plus Project traffic volumes at all study area locations are presented on Figures 4.15-16 and 4.15-18, and Figures 4.15-17 and 4.15-19, for the 2-lane and 4-lane scenarios, respectively. Traffic volume redistribution for each applicable turning movement with the 2-lane and 4-lane Fenton Parkway bridge in place (compared to "no bridge" conditions) is illustrated on Figures 4.15-20 and 4.15-21, respectively, with positive numbers indicating volume increases and negative numbers showing decreases in traffic. Volumes are also included for intersections on Camino del Rio North and South that were not included in the primary analysis presented in the preceding sections. These locations would serve a negligible amount of project traffic without the bridge, but would see a substantial increase in baseline and project-generated traffic with either a 2-lane or 4-lane bridge in place.

4.15.11.3 Intersection Analysis

All 43 of the study area intersections were analyzed using the anticipated Horizon Year intersection lane configurations and the traffic volumes illustrated on Figures 4.15-18 and 4.15-19 for plus Project Conditions under the 2-lane and 4-lane scenarios, respectively. As noted above, additional intersections along Camino del Rio N and Camino del Rio S were analyzed due to the anticipated change in traffic on those facilities with the bridge in place. The Horizon Year No Project lane configuration at the southern bridge intersection (Intersection 44) was obtained from the Mission Valley Community Plan Update: Final Environmental Impact Report Traffic Impact Analysis Appendix D – (May 2019) (MVCPU FEIR). Otherwise, existing lane configurations were used for the other additional locations (Intersections 45 through 48). Existing volumes for the additional study area intersections were also obtained from the MVCPU FEIR and factored to account for growth (at 1% per year compounded) up to 2037, which

is the study horizon year for this analysis and consistent with the approach used in the analyses presented above based on SANDAG model projections.

Tables 4.15-47 and 4.15-48 present intersection operations under the Horizon Year Plus Project Conditions *with* the 2-lane and 4-lane Fenton Parkway bridge in place, respectively, and compares the projected LOS at each study area intersection to the Horizon Year No Project Conditions with the bridge. The corresponding LOS calculation sheets for all intersections are included in TIA Appendix X.

Table 4.15-47.– Horizon Year (2037) Plus Project Conditions Intersection Level of Service with 2-Lane Fenton Bridge

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	43.9	D	45.3	D	1.4	NO
		PM	**56.7**	**E**	**62.1**	**E**	**5.4**	**YES**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	26.2	C	29.5	C	3.3	NO
		PM	29.8	C	36.2	D	6.4	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	49.0	D	50.6	D	1.6	NO
		PM	44.8	D	46.9	D	2.1	NO
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	0.5	NO
		PM	14.1	B	15.0	B	0.9	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	-0.1	NO
		PM	36.2	D	38.1	D	1.9	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.5	B	16.7	B	1.2	NO
		PM	24.0	C	24.5	C	0.5	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	6.0	A	6.6	A	0.6	NO
		PM	11.0	B	11.6	B	0.6	NO
8. River Run Dr & Friars Rd	Signalized	AM	24.4	C	27.3	C	2.9	NO
		PM	**61.4**	**E**	**95.9**	**F**	**34.5**	**YES**
9. Fenton Pkwy & Friars Rd	Signalized	AM	43.6	D	41.4	D	-2.2	NO
		PM	**63.9**	**E**	**92.5**	**F**	**28.6**	**YES**
10. Northside Dr & Friars Rd	Signalized	AM	34.8	C	27.4	C	-7.4	NO
		PM	**75.0**	**E**	**79.5**	**E**	4.5	NO****
11. Stadium Way & Friars Rd[4]	Signalized	AM	-	N/A	9.7	A	9.7	NO
		PM	-	N/A	14.3	B	14.3	NO
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	21.1	C	28.4	C	7.3	NO
		PM	52.8	D	32.7	C	-20.1	NO
13. Mission Village Dr & Friars Rd EB Ramps/San Diego Mission Rd*	Signalized	AM	**117.9**	**F**	16.9	B	-101.0	NO
		PM	**71.9**	**E**	25.5	C	-46.4	NO
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A	21.3	C	N/A	NO
		PM		N/A	51.7	D	N/A	NO
15. Street B & Street 2	Signalized	AM	DNE	N/A	25.9	C	N/A	NO
		PM		N/A	30.6	C	N/A	NO

Table 4.15-47.– Horizon Year (2037) Plus Project Conditions Intersection Level of Service with 2-Lane Fenton Bridge

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
16. Murphy Creek Rd & Street B/San Diego Mission Rd	Roundabout	AM	DNE	N/A	7.2	A	N/A	NO
		PM		N/A	8.0	A	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	40.4	D	**93.7**	**F**	**53.3**	**YES**
		PM	**57.7**	**E*** (F)**	**85.4**	**F***(F)**	**27.7**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**87.7**	**F*** (F)**	**140.6**	**F***(F)**	**52.9**	**YES**
		PM	**66.7**	**E*** (F)**	**206.3****	**F*** (F)**	**139.6**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	30.9	C*** (E)	35.1	D***(F)	4.2	YES*****
		PM	**64.2**	**E*** (E)**	**75.8**	**E***(F)**	**11.6**	**YES**
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	9.0	NO
		PM	16.8	B	19.0	B	2.2	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	6.4	NO
		PM	37.4	D	43.8	D	6.4	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	2.4	NO
		PM	44.5	D	54.2	D	9.7	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	18.9	B	22.4	C	3.5	NO
		PM	39.1	D	42.9	D	3.8	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	13.3	B	14.1	B	0.8	NO
		PM	**37.6**	**E**	**45.9**	**E**	**8.3**	**YES**
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	20.0	B	20.5	C	0.5	NO
		PM	40.2	D	43.5	D	3.3	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	24.1	C	33.6	C	9.5	NO
		PM	23.7	C	34.2	C	10.5	NO
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	20.9	C	**55.5**	**E**	**34.6**	**YES**
		PM	19.6	B	41.1	D	21.5	NO
28. Qualcomm Way & Camino del Rio N/Camino de la Reina	Signalized	AM	20.2	C	20.7	C	0.5	NO
		PM	**68.7**	**E**	**70.8**	**E**	2.1	NO****
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N	Signalized	AM	20.0	B	21.1	C	1.1	NO
		PM	**74.0**	**E**	**77.6**	**E**	3.6	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.1	A	1.1	A	0.0	NO
		PM	4.8	A	4.8	A	0.0	NO

Table 4.15-47.– Horizon Year (2037) Plus Project Conditions Intersection Level of Service with 2-Lane Fenton Bridge

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
31. Texas St & Camino del Rio S	Signalized	AM	**108.4**	**F**	**119.6**	**F**	**11.2**	**YES**
		PM	**87.8**	**F**	**107.2**	**F**	**19.4**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	22.0	C	**65.1**	**F**	**43.1**	**YES**
		PM	24.5	C	**165.9****	**F**	**141.4**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	14.0	B	20.3	C	6.3	NO
		PM	14.1	B	24.8	C	10.7	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.1	C	27.0	C	4.9	NO
		PM	27.2	C	**58.2**	**E**	**31.0**	**YES**
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**99.7**	**F**	**133.2**	**F**	**33.5**	**YES**
		PM	**112.5**	**F**	**187.6****	**F**	**75.1**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	18.8	B	22.9	C	4.1	NO
		PM	45.2	D	54.8	D	9.6	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	47.0	D	48.6	D	1.6	NO
		PM	49.9	D	53.3	D	3.4	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	0.2	NO
		PM	10.8	B	13.6	B	2.8	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	1.0	NO
		PM	11.3	B	13.9	B	2.6	NO
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	12.1	NO
		PM	24.5	C	36.4	D	11.9	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	1.1	NO
		PM	52.6	D	**63.2**	**E**	**10.6**	**YES**
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	0.1	NO
		PM	6.0	A	6.1	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	0.2	NO
		PM	11.7	B	11.9	B	0.2	NO
44. Fenton Pkwy/Mission City Pkwy & Camino del Rio N	Signalized	AM	**76.8**	**E**	**105.1**	**F**	**28.3**	**YES**
		PM	38.4	D	**58.9**	**E**	**20.5**	**YES**
45. Mission City Pkwy & Camino del Rio S	Signalized	AM	8.9	A	10.9	B	2.0	NO
		PM	42.5	D	**55.8**	**E**	**13.3**	**YES**

Table 4.15-47.– Horizon Year (2037) Plus Project Conditions Intersection Level of Service with 2-Lane Fenton Bridge

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
46. I-15 SB Off-Ramp & Camino del Rio S	Signalized	AM	50.1	D	**68.1**	**E**	**18.0**	**YES**
		PM	36.3	D	46.8	D	10.5	NO
47. I-15 SB On-Ramp & Camino del Rio S	Signalized	AM	2.1	A	2.3	A	0.2	NO
		PM	8.1	A	10.8	B	2.7	NO
48. I-15 NB Ramps & Camino del Rio S	Signalized	AM	19.9	B	29.0	C	9.1	NO
		PM	24.8	C	33.8	C	9.0	NO
49. Fenton Pkwy & River Park Rd	Signalized	AM	DNE	N/A	5.4	A	N/A	NO
		PM		N/A	6.1	A	N/A	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the *Highway Capacity Manual (HCM)* method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Horizon Year Conditions without the project, the Stadium Way & Friars Road intersection would only be used intermittently during stadium events (i.e., outside the typical AM and PM hours).

* Existing or proposed signal phasing prevents the use of *HCM 6* at this intersection. The *HCM 2000* method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation and affects operations at the subject intersection.

**** Intersection would exceed the City of San Diego impact threshold.

***** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

Table 4.15-48. Horizon Year (2037) Plus Project Conditions with 4-Lane Fenton Bridge Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
1. SR-163 SB Ramps/Ulric St & Friars Rd*	Signalized	AM	43.9	D	45.3	D	1.4	NO
		PM	**56.7**	**E**	**62.1**	**E**	**5.4**	**YES**
2. SR-163 NB Ramps & Friars Rd*	Signalized	AM	26.2	C	29.5	C	3.3	NO
		PM	29.8	C	36.2	D	6.4	NO
3. Frazee Rd & Friars Rd*	Signalized	AM	49.0	D	50.6	D	1.6	NO
		PM	44.8	D	46.9	D	2.1	NO
4. Mission Center Rd & Friars Rd WB Ramps	Signalized	AM	12.8	B	13.3	B	0.5	NO
		PM	14.1	B	15.0	B	0.9	NO
5. Mission Center Rd & Friars Rd EB Ramps	Signalized	AM	16.8	B	16.7	B	-0.1	NO
		PM	36.2	D	37.3	D	1.1	NO
6. Qualcomm Way & Friars Rd WB Ramps	Signalized	AM	15.3	B	16.6	B	1.3	NO
		PM	23.7	C	24.2	C	0.5	NO
7. Qualcomm Way & Friars Rd EB Ramps	Signalized	AM	6.2	A	7.0	A	0.8	NO
		PM	10.3	B	10.9	B	0.6	NO
8. River Run Dr & Friars Rd	Signalized	AM	24.9	C	28.2	C	3.3	NO
		PM	**62.3**	**E**	**96.4**	**F**	**34.1**	**YES**
9. Fenton Pkwy & Friars Rd	Signalized	AM	**79.9**	**E**	**71.6**	**E**	-8.3	NO
		PM	43.5	D	**75.4**	**E**	**31.9**	**YES**
10. Northside Dr & Friars Rd	Signalized	AM	35.1	D	28.0	C	-7.1	NO
		PM	**77.2**	**E**	**72.8**	**E**	-4.4	NO
11. Stadium Way & Friars Rd[4]	Signalized	AM	-	N/A	9.3	A	9.3	NO
		PM	-	N/A	12.7	B	12.7	NO
12. Mission Village Dr & Friars Rd WB Ramps	Signalized	AM	18.1	B	28.3	C	10.2	NO
		PM	53.5	D	32.4	C	-21.1	NO
13. Mission Village Dr & Friars Rd EB Ramps/San Diego Mission Rd*	Signalized	AM	**93.5**	**F**	17.2	B	-76.3	NO
		PM	**69.8**	**E**	24.8	C	-45.0	NO
14. Mission Village Dr/Aztec Way & Street 2	Signalized	AM	DNE	N/A	21.4	C	N/A	NO
		PM		N/A	49.9	D	N/A	NO
15. Street B & Street 2	Signalized	AM	DNE	N/A	25.8	C	N/A	NO
		PM		N/A	31.4	C	N/A	NO

Table 4.15-48. Horizon Year (2037) Plus Project Conditions with 4-Lane Fenton Bridge Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
16. Murphy Creek Rd & Street B/San Diego Mission Rd	Roundabout	AM	DNE	N/A	6.7	A	N/A	NO
		PM		N/A	7.4	A	N/A	NO
17. I-15 SB Ramps & Friars Rd	Signalized	AM	37.6	D	**81.3**	**F**	**43.7**	**YES**
		PM	**56.1**	**E*** (F)**	**78.8**	**E***(F)**	**22.7**	**YES**
18. I-15 NB Ramps & Friars Rd	Signalized	AM	**89.8**	**F*** (F)**	**142.2**	**F***(F)**	**52.4**	**YES**
		PM	**66.6**	**E*** (F)**	**205.4**	**F*** (F)**	**138.8**	**YES**
19. Rancho Mission Rd & Friars Rd	Signalized	AM	31.2	C*** (F)	36.2	D***(F)	5.0	YES*****
		PM	**59.1**	**E*** (F)**	**71.7**	**E***(F)**	**12.6**	**YES**
20. Santo Rd & Friars Rd	Signalized	AM	38.1	D	47.1	D	9.0	NO
		PM	16.8	B	19.0	B	2.2	NO
21. Riverdale St & Friars Rd	Signalized	AM	37.4	D	43.8	D	6.4	NO
		PM	37.4	D	43.8	D	6.4	NO
22. Mission Gorge Rd & Friars Rd	Signalized	AM	44.1	D	46.5	D	2.4	NO
		PM	44.5	D	54.2	D	9.7	NO
23. Qualcomm Way & Rio San Diego Dr	Signalized	AM	19.6	B	23.3	C	3.7	NO
		PM	39.5	D	43.3	D	3.8	NO
24. Rio San Diego Dr & River Run Dr	AWSC	AM	13.5	B	14.3	B	0.8	NO
		PM	**48.0**	**E**	**57.1**	**F**	**9.1**	**YES**
25. Fenton Pkwy & Rio San Diego Dr/ Fenton Marketplace Dwy	Signalized	AM	21.7	C	22.3	C	0.6	NO
		PM	47.2	D	51.4	D	4.2	NO
26. Rancho Mission Rd & San Diego Mission Rd	Signalized	AM	21.8	C	30.1	C	8.3	NO
		PM	21.0	C	29.4	C	8.4	NO
27. Fairmount Ave & San Diego Mission Rd/Twain Ave	Signalized	AM	19.8	B	44.6	D	24.8	NO
		PM	17.9	B	32.6	C	14.7	NO
28. Qualcomm Way & Camino del Rio N/Camino de la Reina	Signalized	AM	19.8	B	20.3	C	0.5	NO
		PM	**68.3**	**E**	**71.1**	**E**	2.8	NO****
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N	Signalized	AM	19.8	B	20.8	C	1.0	NO
		PM	**74.4**	**E**	**77.9**	**E**	3.5	NO****
30. Qualcomm Way/Texas St & I-8 EB Off-Ramp	Signalized	AM	1.1	A	1.1	A	0.0	NO
		PM	4.8	A	4.8	A	0.0	NO

Table 4.15-48. Horizon Year (2037) Plus Project Conditions with 4-Lane Fenton Bridge Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
31. Texas St & Camino del Rio S	Signalized	AM	**113.0**	**F**	**125.4**	**F**	**12.4**	**YES**
		PM	**90.3**	**F**	**110.3**	**F**	**20.0**	**YES**
32. Ward Rd & Rancho Mission Rd	SSSC	AM	19.6	C	**49.5**	**E**	**29.9**	**YES**
		PM	22.3	C	**123.9**	**F**	**101.6**	**YES**
33. Camino del Rio N & Ward Ave	Signalized	AM	13.3	B	17.8	B	4.5	NO
		PM	13.5	B	24.8	C	11.3	NO
34. Fairmount Ave & Mission Gorge Rd	Signalized	AM	22.2	C	26.9	C	4.7	NO
		PM	26.8	C	**56.2**	**E**	**29.4**	**YES**
35. Fairmount Ave & Camino del Rio N*	Signalized	AM	**103.0**	**F**	**140.3**	**F**	**37.3**	**YES**
		PM	**119.0**	**F**	**196.7****	**F**	**77.7**	**YES**
36. I-8 EB Off-Ramp & Fairmount Ave	Signalized	AM	19.5	B	24.5	C	5.0	NO
		PM	45.8	D	54.0	D	8.2	NO
37. Montezuma Rd & Collwood Blvd	Signalized	AM	47.1	D	48.3	D	1.2	NO
		PM	49.9	D	53.1	D	3.2	NO
38. Mission Village Dr & Shawn Ave	Signalized	AM	6.2	A	6.4	A	0.2	NO
		PM	10.8	B	13.7	B	2.9	NO
39. Mission Village Dr & Fermi Ave	Signalized	AM	14.5	B	15.5	B	1.0	NO
		PM	11.3	B	13.8	B	2.5	NO
40. Gramercy Dr/Mission Village Dr & Ruffin Rd	Signalized	AM	20.5	C	32.6	C	12.1	NO
		PM	24.5	C	36.6	D	12.1	NO
41. Ruffin Rd & Aero Dr	Signalized	AM	35.7	D	36.8	D	1.1	NO
		PM	52.6	D	**63.2**	**E**	**10.6**	**YES**
42. Gramercy Dr & Mobley St	Signalized	AM	7.1	A	7.2	A	0.1	NO
		PM	6.0	A	6.1	A	0.1	NO
43. Gramercy Dr/Greyling Dr & Sandrock Rd	Signalized	AM	9.1	A	9.3	A	0.2	NO
		PM	11.7	B	11.9	B	0.2	NO
44. Fenton Pkwy/Mission City Pkwy & Camino del Rio N	Signalized	AM	**92.3**	**F**	**171.7****	**F**	**79.4**	**YES**
		PM	**65.0**	**E**	**117.9**	**F**	**52.9**	**YES**
45. Mission City Pkwy & Camino del Rio S	Signalized	AM	9.6	A	14.0	B	4.4	NO
		PM	54.9	D	**75.5**	**E**	**20.6**	**YES**

Table 4.15-48. Horizon Year (2037) Plus Project Conditions with 4-Lane Fenton Bridge Intersection Level of Service

Intersection	Traffic Control	Peak Hour	Horizon Year with Bridge - No Project		Horizon Year with Bridge Plus Project		Delay Delta	Exceeds Operating Threshold?
			Delay (sec/veh)[1]	LOS[2,3]	Delay (sec/veh)[1]	LOS[2,3]		
46. I-15 SB Off-Ramp & Camino del Rio S	Signalized	AM	54.6	D	**82.3**	**F**	**27.7**	**YES**
		PM	38.4	D	53.2	D	14.8	NO
47. I-15 SB On-Ramp & Camino del Rio S	Signalized	AM	2.1	A	3.0	A	0.9	NO
		PM	10.2	B	15.3	B	5.1	NO
48. I-15 NB Ramps & Camino del Rio S	Signalized	AM	21.5	C	34.4	C	12.9	NO
		PM	32.0	C	48.1	D	16.1	NO
49. Fenton Pkwy & River Park Rd	Signalized	AM	DNE	N/A	5.8	A	N/A	NO
		PM		N/A	6.7	A	N/A	NO

Source: Appendix 4.15-1

Notes:

1 Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections, the all-way-stop-controlled (AWSC) intersection, and the roundabout intersection. Worst movement delay reported for the side-street-stop-controlled (SSSC) intersection.

2 LOS calculations performed using the *Highway Capacity Manual (HCM)* method.

3 Below-standard seconds of delay per vehicle and LOS highlighted in **bold**.

4 Under Horizon Year Conditions without the project, the Stadium Way & Friars Road intersection would only be used intermittently during stadium events (i.e., outside the typical AM and PM hours).

* Existing or proposed signal phasing prevents the use of *HCM 6* at this intersection. The *HCM 2000* method was applied instead.

** Calculated delays above 150 seconds may not be accurate and should be used with caution.

*** Ramp metering during the peak hours under existing conditions results in queues back to and through the adjacent arterial intersection causing additional delay for selected movements that is not reflected in the calculation and affects operations at the subject intersection.

**** Intersection would exceed the City of San Diego impact threshold.

***** Because existing conditions are worse than calculated, it is conservatively assumed that the addition of project traffic would cause a significant impact.

As illustrated in Table 4.15-47, under the 2-lane bridge scenario, the addition of project traffic to the baseline roadway network with the 2-lane Fenton Parkway bridge would cause the CSU TISM intersection threshold to be exceeded at the following 15 locations (with projected LOS and applicable peak hour indicated in parentheses):

20. SR-163 Southbound Ramps/Ulric Street & Friars Road (LOS E in the PM peak hour)
8. River Run Drive & Friars Road (LOS F in the PM peak hour)
9. Fenton Parkway & Friars Road (LOS F in the PM peak hour)
17. I-15 SB Ramps & Friars Road (LOS F in both peak hours)
18. I-15 NB Ramps & Friars Road (LOS F in both peak hours)
19. Rancho Mission Road & Friars Road (LOS F in both peak hours)
24. Rio San Diego Drive & River Run Drive (LOS E in the PM peak hour)
31. Texas St & Camino del Rio S (LOS F in both peak hours)
32. Ward Road & Rancho Mission Road (LOS F in both peak hours)
34. Fairmount Avenue & Mission Gorge Road (LOS E in the PM peak hour)
35. Fairmount Avenue & Camino del Rio North (LOS F in both peak hours)
41. Ruffin Road & Aero Drive (LOS E in the PM peak hour)
44. Fenton Parkway/Mission City Parkway & Camino del Rio N (LOS F in the AM peak hour, LOS E in the PM peak hour)
45. Mission City Parkway & Camino del Rio S (LOS E in the PM peak hour)
46. I-15 Southbound Off-Ramp & Camino del Rio S (LOS E in the AM peak hour)

At the side-street stop-controlled Ward Road/Rancho Mission Road intersection (Intersection 32), the MUTCD peak hour signal warrant would be satisfied during the PM peak hour only. The signal warrant is part of the threshold evaluation for unsignalized intersections. The warrant evaluation is included in TIA Appendix X.

The locations that would exceed the City of San Diego threshold criteria include those noted above, as well as the following intersections:

10. Northside Drive & Friars Road (LOS E in the PM peak hour)
28. Qualcomm Way & Camino del Rio North/Camino de la Reina (LOS E in the PM peak hour)
29. Qualcomm Way & I-8 Westbound Off-ramp/Camino del Rio North (LOS E in the PM peak hour)

As indicated in Table 4.15-48, under the 4-lane bridge scenario, the addition of project traffic to the baseline roadway network with the 4-lane Fenton Parkway bridge would cause the intersection threshold to be exceeded at the following 15 locations (with projected LOS and applicable peak hour indicated in parentheses):

21. SR-163 Southbound Ramps/Ulric Street & Friars Road (LOS E in the PM peak hour)
10. River Run Dr & Friars Road (LOS F in the PM peak hour)
11. Fenton Parkway & Friars Road (LOS E in the PM peak hour)
20. I-15 SB Ramps & Friars Road (LOS F in both peak hours)
21. I-15 NB Ramps & Friars Road (LOS F in both peak hours)
22. Rancho Mission Road & Friars Road (LOS F in both peak hours)

25. Rio San Diego Drive & River Run Drive (LOS F in the PM peak hour)
33. Texas St & Camino del Rio S (LOS F in both peak hours)
34. Ward Road & Rancho Mission Road (LOS E in the AM peak hour and LOS F in the PM peak hour)
36. Fairmount Avenue & Mission Gorge Road (LOS E in the PM peak hour)
37. Fairmount Avenue & Camino del Rio North (LOS F in both peak hours)
42. Ruffin Road & Aero Drive (LOS E in the PM peak hour)
47. Fenton Parkway/Mission City Parkway & Camino del Rio N (LOS F in both peak hours)
48. Mission City Parkway & Camino del Rio S (LOS E in the PM peak hour)
49. I-15 Southbound Off-Ramp & Camino del Rio S (LOS F in the AM peak hour)

At the side-street stop-controlled Ward Road/Rancho Mission Road intersection (Intersection 32), the MUTCD peak hour signal warrant would be satisfied during the PM peak hour only. The signal warrant is part of the threshold evaluation for unsignalized intersections. The warrant evaluation is included in TIA Appendix X.

Those locations that would exceed the City of San Diego threshold criteria include those noted above, as well as the following two intersections:

28. Qualcomm Way & Camino del Rio North/Camino de la Reina (LOS E in the PM peak hour)
29. Qualcomm Way & I-8 Westbound Off-Ramp/Camino del Rio North (LOS E in the PM peak hour)

4.15.11.4 Roadway Segment Analysis

The roadway segment LOS analysis was conducted using the City of San Diego impact thresholds and is presented for information purposes only. Tables 4.15-49 and 4.15-50 display the results of the LOS analysis for the study area roadway segments under Horizon Year with 2-lane and 4-lane bridge conditions, respectively, both without and with the proposed project. As previously noted, in addition to the study area roadway segments reviewed under the without bridge scenario, additional segments along Camino del Rio N and Camino del Rio S were reviewed here due to the anticipated change in traffic on those facilities with the bridge in place.

Table 4.15-49. Horizon Year Plus Project Without and With 2-Lane Bridge Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year With Bridge No Project			Horizon Year With Bridge Plus Project			V/C Delta
ID	*Extent (from/to)*				*ADT*	*V/C[2]*	*LOS[3,4]*	*ADT*	*V/C[2]*	*LOS[3,4]*	
Friars Rd											
1	Frazee Rd	Mission Center Rd	8P	80,000	52,600	0.66	C	56,839	0.71	C	0.05
2	Mission Center Rd	Qualcomm Way	6E	80,000	48,594	0.61	C	54,081	0.68	C	0.07
3	Qualcomm Way	River Run Dr	6E	80,000	43,651	0.55	C	50,777	0.63	C	0.08
4	River Run Dr	Fenton Pkwy	6P	60,000	44,001	0.73	C	51,434	0.86	D	0.13
5	Fenton Pkwy	Northside Dr	6P	60,000	40,681	0.68	C	48,200	0.80	C	0.12
6	Northside Dr	Stadium Way	6P	60,000	50,151	0.63	D	58,129	**0.97**	**E**	**0.34**
7	Stadium Way	Mission Village Dr	6E	80,000	50,151	0.63	C	60,918	0.76	D	0.13
8	Mission Village Dr	I-15 Ramps	6E	80,000	51,477	0.64	C	68,252	0.85	D	0.21
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	76,863	**1.10**	**F**	79,951	**1.14**	**F**	**0.04**
10	Rancho Mission Rd	Santo Rd	7P	70,000	61,340	0.88	D	63,700	0.91	D	0.03
11	Santo Rd	Riverdale St	6P	60,000	60,170	**1.00**	**F**	61,873	**1.03**	**F**	**0.03**
12	Riverdale St	Mission Gorge Rd	6P	60,000	54,675	0.91	D	56,252	**0.94**	**E**	**0.03**
Qualcomm Way											
13	Friars Rd	Rio San Diego Dr	6M	20,142	20,142	0.40	B	21,209	0.42	B	0.02
Rio San Diego Dr											
14	Qualcomm Way	River Run Dr	4M	40,000	16,797	0.42	B	17,528	0.44	B	0.02
15	River Run Dr	Fenton Pkwy	4C/M	30,000	14,574	0.49	C	15,292	0.51	C	0.02
Fenton Pkwy											
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	14,743	0.37	A	16,071	0.40	B	0.03
16a	Northside Dr	Camino del Rio N	2C w/CLTL	15,000	10,733	0.72	D	14,194	**0.95**	**E**	**0.23**
San Diego Mission Rd											
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	7,666	0.51	C	14,076	**0.94**	**E**	**0.43**
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	11,452	0.76	D	16,479	**1.10**	**F**	**0.34**
Rancho Mission Rd											
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	16,930	0.75	D	21,318	**0.95**	**E**	**0.20**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	9,935	0.66	C	11,647	0.78	D	0.12
21	West of Ward Rd		2C	10,000	1,824	0.18	A	5,968	0.60	C	0.42

Table 4.15-49. Horizon Year Plus Project Without and With 2-Lane Bridge Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year With Bridge No Project			Horizon Year With Bridge Plus Project			V/C Delta
ID	*Extent (from/to)*				*ADT*	*V/C[2]*	*LOS[3,4]*	*ADT*	*V/C[2]*	*LOS[3,4]*	
Ward Rd											
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	10,339	0.69	D	14,696	**0.98**	**E**	**0.29**
Fairmount Ave											
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	8,709	0.29	A	12,164	0.41	B	0.12
Mission Village Dr											
24	Ruffin Rd	Shawn Ave	4C	30,000	18,344	0.61	C	22,623	0.75	D	0.14
25	Shawn Ave	Ronda Ave	4C	30,000	14,912	0.50	C	19,399	0.65	C	0.15
26	Ronda Ave	Friars Rd	4M	40,000	17,204	0.43	B	21,709	0.54	C	0.11
Ruffin Rd											
27	Aero Dr	Mission Village Dr	4C	30,000	16,451	0.55	C	19,086	0.64	C	0.09
Gramercy Dr											
28	Mobley St	Ruffin Rd	4M	40,000	9,456	0.24	A	10,812	0.27	A	0.03
Aero Dr											
29	Sandrock Rd	Ruffin Rd	4M	40,000	24,167	0.60	C	25,505	0.64	C	0.04
30	Ruffin Rd	Daley Center Dr	4M	40,000	31,494	0.79	D	32,625	0.82	D	0.03
Camino del Rio N											
31	Qualcomm Way	Mission City Pkwy	4C	30,000	9,885	0.33	A	10,538	0.35	B	0.02
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	11,204	0.75	D	12,943	0.86	D	0.11
33	Ward Rd	Fairmount Ave	4C	30,000	14,452	0.48	C	21,757	0.73	D	0.25
Camino del Rio S											
34	Texas St	Mission City Pkwy	2C	10,000	14,481	**1.45**	**F**	15,644	**1.56**	**F**	**0.11**
35	Mission City Pkwy	I-15 Ramps	3C w/CLTL	22,500	13,819	0.61	C	15,284	0.68	D	0.07
36	I-15 Ramps	Caminito Pintoresco	2C w/CLTL	15,000	8,372	0.56	C	8,372	0.56	C	0.00

Source: Appendix 4.15-1

Notes:

[1] 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector

4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
8P = 8-lane primary arterial
6E = 6-lane expressway

[2] Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications
[3] LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)* and the *Mission Valley Community Plan Update (2019)*
[4] Unacceptable ADT volumes per segment and LOS highlighted in **bold**.

Table 4.15-50. Horizon Year Plus Project Without and With 4-Lane Bridge Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year With Bridge No Project			Horizon Year With Bridge Plus Project			V/C Delta
ID	Extent (from/to)				ADT	V/C[2]	LOS[3,4]	ADT	V/C[2]	LOS[3,4]	
Friars Rd											
1	Frazee Rd	Mission Center Rd	8P	80,000	52,600	0.66	C	56,839	0.71	C	0.05
2	Mission Center Rd	Qualcomm Way	6E	80,000	48,594	0.61	C	54,081	0.68	C	0.07
3	Qualcomm Way	River Run Dr	6E	80,000	44,150	0.55	C	51,169	0.64	C	0.09
4	River Run Dr	Fenton Pkwy	6P	60,000	44,415	0.74	C	51,751	0.86	D	0.12
5	Fenton Pkwy	Northside Dr	6P	60,000	38,317	0.64	C	45,791	0.76	C	0.12
6	Northside Dr	Stadium Way	6P	60,000	47,933	0.60	C	55,868	**0.93**	**E**	**0.33**
7	Stadium Way	Mission Village Dr	6E	80,000	47,933	0.60	C	58,093	0.73	C	0.13
8	Mission Village Dr	I-15 Ramps	6E	80,000	50,770	0.63	C	66,256	0.83	D	0.20
9	I-15 Ramps	Rancho Mission Rd	7P	70,000	78,869	**1.13**	**F**	80,746	**1.15**	**F**	**0.02**
10	Rancho Mission Rd	Santo Rd	7P	70,000	61,340	0.88	D	63,700	0.91	D	0.03
11	Santo Rd	Riverdale St	6P	60,000	60,170	**1.00**	**F**	61,873	**1.03**	**F**	**0.03**
12	Riverdale St	Mission Gorge Rd	6P	60,000	54,675	0.91	D	56,252	**0.94**	**E**	**0.03**
Qualcomm Way											
13	Friars Rd	Rio San Diego Dr	6M	50,000	18,766	0.38	A	19,747	0.39	A	0.01
Rio San Diego Dr											
14	Qualcomm Way	River Run Dr	4M	40,000	17,272	0.43	B	17,969	0.45	B	0.02
15	River Run Dr	Fenton Pkwy	4C/M	30,000	15,258	0.51	C	15,896	0.53	C	0.02

Table 4.15-50. Horizon Year Plus Project Without and With 4-Lane Bridge Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year With Bridge No Project			Horizon Year With Bridge Plus Project			V/C Delta
ID	Extent (from/to)				ADT	V/C[2]	LOS[3,4]	ADT	V/C[2]	LOS[3,4]	
Fenton Pkwy											
16	Rio San Diego Dr/ Fenton Marketplace Dwy	Northside Dr	4M	40,000	19,763	0.49	B	21,506	0.54	C	0.04
16a	Northside Dr	Camino del Rio N	4C	30,000	16,263	0.54	C	21,506	0.72	D	0.18
San Diego Mission Rd											
17	Mission Village Dr	Rancho Mission Rd	4C w/o CLTL	15,000	6,848	0.46	B	13,123	**0.87**	**E**	**0.41**
18	Rancho Mission Rd	Fairmount Ave	2C w/CLTL	15,000	10,531	0.70	D	15,544	**1.04**	**F**	**0.34**
Rancho Mission Rd											
19	Friars Rd	San Diego Mission Rd	3C w/CLTL	22,500	16,028	0.71	D	20,461	**0.91**	**E**	**0.20**
20	San Diego Mission Rd	Ward Rd	4C w/o CLTL	15,000	9,089	0.61	C	10,795	0.72	D	0.11
21	West of Ward Rd		2C	10,000	1,824	0.18	A	5,809	0.58	C	0.40
Ward Rd											
22	Rancho Mission Rd	Camino del Rio N	4C w/o CLTL	15,000	9,459	0.63	C	13,642	**0.91**	**E**	**0.28**
Fairmount Ave											
23	San Diego Mission Rd/ Twain Ave	Mission Gorge Rd	4C w/o CLTL	15,000	8,704	0.29	A	12,158	0.41	B	0.12
Mission Village Dr											
24	Ruffin Rd	Shawn Ave	4C	30,000	18,344	0.61	C	22,623	0.75	D	0.14
25	Shawn Ave	Ronda Ave	4C	30,000	14,912	0.50	C	19,399	0.65	C	0.15
26	Ronda Ave	Friars Rd	4M	40,000	17,204	0.43	B	21,709	0.54	C	0.11
Ruffin Rd											
27	Aero Dr	Mission Village Dr	4C	30,000	16,451	0.55	C	19,086	0.64	C	0.09
Gramercy Dr											
28	Mobley St	Ruffin Rd	4M	40,000	9,456	0.24	A	10,812	0.27	A	0.03

Table 4.15-50. Horizon Year Plus Project Without and With 4-Lane Bridge Conditions Roadway Segment Level of Service

Roadway Segment			Roadway Classification (# of Lanes)[1]	Capacity	Horizon Year With Bridge No Project			Horizon Year With Bridge Plus Project			V/C Delta
ID	Extent (from/to)				ADT	V/C[2]	LOS[3,4]	ADT	V/C[2]	LOS[3,4]	
Aero Dr											
29	Sandrock Rd	Ruffin Rd	4M	40,000	24,167	0.60	C	25,505	0.64	C	0.04
30	Ruffin Rd	Daley Center Dr	4M	40,000	31,494	0.79	D	32,625	0.82	D	0.03
Camino del Rio N											
31	Qualcomm Way	Mission City Pkwy	4C	30,000	8,998	0.30	A	9,753	0.33	A	0.03
32	Mission City Pkwy	Ward Rd	2C w/CLTL	15,000	11,661	0.78	D	13,821	**0.92**	**E**	**0.14**
33	Ward Rd	Fairmount Ave	4C	30,000	14,321	0.48	C	23,209	0.77	D	0.29
Camino del Rio S											
34	Texas St	Mission City Pkwy	2C	10,000	14,787	**1.48**	**F**	16,315	**1.63**	**F**	**0.15**
35	Mission City Pkwy	I-15 Ramps	3C w/CLTL	22,500	14,581	0.65	C	16,800	0.75	D	0.10
36	I-15 Ramps	Caminito Pintoresco	2C w/CLTL	15,000	8,372	0.56	C	8,372	0.56	C	0.00

Source: Appendix 4.15-1

Notes:

[1] 2C w/CLTL = 2-lane collector with center left-turn lane
3C w/CLTL = 3-lane collector (2 lanes in one direction and 1 in opposing direction) with center left-turn lane;
4C w/o CLTL = 4-lane collector without center left-turn lane
4C = 4-lane collector
4M = 4-lane major arterial
6M = 6-lane major arterial
6P = 6-lane primary arterial
7P = 7-lane primary arterial (4 lanes in one direction and 3 in opposing direction); the additional lane is assumed to add 5,000 ADT for LOS A, 7,500 ADT for LOS B, and 10,000 ADT for LOS C, D, and E per the Mission Valley Community Plan Update
8P = 8-lane primary arterial
6E = 6-lane expressway

[2] Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

[3] LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)* and the *Mission Valley Community Plan Update (2019)*

[4] Unacceptable ADT volumes per segment and LOS highlighted in bold.

As shown on Table 4.15-49, with the 2-lane bridge in place the proposed project would cause the City's segment threshold to be exceeded on the following study area roadway segments:

6. Friars Road: Northside Drive to Stadium Way (Street A) (LOS E)
9. Friars Road: I-15 NB Ramps to Rancho Mission Road (LOS F)
11. Friars Road: Santo Road to Riverdale St (LOS F)
12. Friars Road: Riverdale Street to Mission Gorge Road (LOS E)
16a. Fenton Pkwy: Northside Dr to Camino del Rio N (LOS E; this roadway segment includes the new bridge facility)
17. San Diego Mission Road: Mission Village Drive to Rancho Mission Road (LOS E)
18. San Diego Mission Road: Rancho Mission Road to Fairmount Avenue (LOS F)
19. Rancho Mission Road: Friars Road to San Diego Mission Road (LOS E)
22. Ward Road from Rancho Mission Road to Camino del Rio North (LOS E)
34. Camino del Rio S: Texas St to Mission City Parkway (LOS F)

As shown on Table 4.15-50, with the 4-lane bridge in place the proposed project would cause the City's segment threshold to be exceeded on the following study area roadway segments:

7. Friars Road: Northside Drive to Stadium Way (Street A) (LOS E)
10. Friars Road: I-15 NB Ramps to Rancho Mission Road (LOS F)
13. Friars Road: Santo Road to Riverdale St (LOS F)
14. Friars Road: Riverdale Street to Mission Gorge Road (LOS F)
20. San Diego Mission Road: Mission Village Drive to Rancho Mission Road (LOS E)
21. San Diego Mission Road: Rancho Mission Road to Fairmount Avenue (LOS F)
22. Rancho Mission Road: Friars Road to San Diego Mission Road (LOS E)
23. Ward Road from Rancho Mission Road to Camino del Rio North (LOS E)
32. Camino del Rio N: Mission City Pkwy to Ward Rd (LOS E)
35. Camino del Rio S: Texas St to Mission City Parkway (LOS F)

Additionally, the road segment including the new bridge facility, which is planned to include four lanes with a two-way left-turn lane per the MVCP update, would operate acceptably at LOS D under this scenario.

4.15.11.5 Freeway Segment Analysis

Tables 4.15-51 and 4.15-52, respectively, display the study area freeway operations under Horizon Year (2037) Plus Project Conditions with the 2-Lane and 4-Lane Fenton Parkway bridge in place. As noted above, the redistribution of traffic would result in some traffic otherwise projected to travel on I-8 east of I-15 under the without bridge analysis shifting to Montezuma Road with the new bridge connection. Similarly, some traffic projected to travel on I-15 south of Friars Road under the without bridge analysis would shift to the Camino del Rio S interchange under the with bridge scenarios.

Ultimately, under the 2-lane bridge scenario, with the addition of proposed project traffic, the following freeway segments would exceed the CSU TISM/Caltrans operating threshold:

15. I-15 from Adams Avenue to I-8 (NB, both peak hours; SB, PM peak hour)
16. I-15 from I-8 to Friars Road (NB auxiliary lanes, PM peak hour; SB auxiliary lanes to I-8, both peak hours; SB auxiliary lane to I-15 SB, PM peak hour)
17. I-15 from Friars Road to Aero Drive (NB, AM peak hour; SB, PM peak hour)
18. I-15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard (both directions, both peak hours)
19. I-8 from Morena Boulevard to Taylor Street (EB, PM peak hour)
17-20. I-8 from Taylor Street to SR-163 (EB, both peak hours; WB, PM peak hour)
27. I-8 from SR-163 to Mission Center Road (WB, PM peak hour)
28. I-8 from Mission Center Road to Texas Street (WB, PM peak hour)
20. I-8 from I-805 to I-15 (EB, PM peak hour; WB, both peak hours)
22. I-8 from Fairmount Avenue to Waring Road (EB, PM peak hour; WB, AM peak hour)
23. I-8 from Waring Road to College Avenue (EB, PM peak hour; WB, both peak hour)

The locations that would exceed the City of San Diego threshold criteria include those noted above, as well as the following segments:

2. SR-163 from Washington Street to I-8 (NB, PM peak hour; SB, PM peak hour)
15-17. I-8 from Taylor Street to Mission Center Road (WB, AM peak hour)
18-19. I-8 from Mission Center Road to I-805 (EB, PM peak hour; WB, AM peak hour)

Ultimately, under the 4-lane bridge scenario, with the addition of proposed project traffic, the following freeway segments would exceed the CSU TISM/Caltrans operating threshold:

10. I-15 from Adams Avenue to I-8 (NB, AM and PM peak hours; SB, PM peak hour)
11. I-15 from I-8 to Friars Road (NB auxiliary lanes, PM peak hour; SB auxiliary lanes to I-8, AM and PM peak hours; SB auxiliary lane to I-15 SB, PM peak hour)
12. I-15 from Friars Road to Aero Drive (NB, AM peak hour; SB, PM peak hour)
13. I-15 from Aero Drive to Balboa Avenue/Tierrasanta Boulevard (both directions, AM and PM peak hours)
14. I-8 from Morena Boulevard to Taylor Street (EB, PM peak hour)
15-16. I-8 from Taylor Street to SR-163 (EB, AM and PM peak hours; WB, PM peak hour)
17. I-8 from SR-163 to Mission Center Road (WB, PM peak hour)
18. I-8 from Mission Center Road to Texas Street (WB, PM peak hour)
20. I-8 from I-805 to I-15 (EB, PM peak hour; WB, AM and PM peak hours)
22. I-8 from Fairmount Avenue to Waring Road (EB, PM peak hour; WB, AM peak hour)
23. I-8 from Waring Road to College Avenue (EB, PM peak hour; WB, AM and PM peak hour)

The locations that would exceed the City of San Diego threshold criteria include those noted above, as well as the following segments:

1. SR-163 from Washington Street to I-8 (NB, PM peak hour; SB, PM peak hour)
15-17. I-8 from Taylor Street to Mission Center Road (WB, AM peak hour)
18-19. I-8 from Mission Center Road to I-805 (EB, PM peak hour; WB, AM peak hour)

4.15.11.6 Freeway Ramp Metering Analysis

Tables 4.15-53 and 4.15-54, respectively, display the results of the ramp metering analysis conducted at the metered freeway on-ramps in the study area under Horizon Year with the 2-lane and 4-lane Fenton Parkway Bridge both without and with the proposed project.

As shown on Table 4.15-53, under the 2-lane bridge scenario, the following ramps would exceed the operating threshold:

- I-15 NB On-ramp from Friars Road – The addition of project traffic would exacerbate already excessive delays by 9.6 minutes (to a total of 31.2 minutes) in the AM peak hour and by 30.1 minutes (to a total of 59.6 minutes) in the PM peak hour.
- I-15 SB/I-8 Loop On-ramp from Friars Road – The addition of project traffic would exacerbate already excessive delays by 22.9 minutes (to a total delay of 38.0 minutes) in the PM peak hour.
- I-15 SB Direct On-ramp from Friars Road – The addition of project traffic would result in an unacceptable delay of 15.2 minutes in the PM peak hour.
- I-8 EB On-ramp from SB Fairmount Avenue – The addition of project traffic would exacerbate already excessive delays and increase delay by 21.0 minutes (to a total delay of 49.7 minutes) in the PM peak hour.

The same locations would exceed the City of San Diego impact thresholds for metered on-ramps.

As shown on Table 4.15-54, under the 4-lane bridge scenario, the following ramps would exceed the operating threshold:

- I-15 NB On-ramp from Friars Road – The addition of project traffic would exacerbate already excessive delays by 9.6 minutes (to a total of 31.2 minutes) in the AM peak hour and by 30.1 minutes (to a total of 59.6 minutes) in the PM peak hour.
- I-15 SB/I-8 Loop On-ramp from Friars Road – The addition of project traffic would exacerbate already excessive delays by 14.0 minutes (to a total delay of 41.7 minutes) in the PM peak hour.
- I-8 EB On-ramp from SB Fairmount Avenue – The addition of project traffic would exacerbate already excessive delays and increase delay by 28.7 minutes (to a total delay of 49.7 minutes) in the PM peak hour.

The same locations would exceed the City of San Diego impact thresholds for metered on-ramps.

Table 4.15-51. Horizon Year Plus Project Freeway Segment Level Of Service With 2-Lane Bridge

	Freeway Segment	Direction	Number of Lanes	Capacity[1]	Horizon Year With Bridge - No Project						Horizon Year With Bridge Plus Project						V/C Delta		Exceeds Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	6,350	6,892	**0.96**	**1.04**	**E**	**F(0)**	6,407	6,942	**0.97**	**1.05**	**E**	**F(0)**	0.01	0.01	NO	NO*
		SB	3M+2A	7,800	10,832	9,690	**1.39**	**1.24**	**F(2)**	**F(0)**	10,868	9,757	**1.39**	**1.25**	**F(2)**	**F(1)**	0.00	0.01	NO	NO*
2	I-8 to Friars Rd	NB	2A	2,400	1,958	2,125	0.82	0.89	D	D	2,083	2,206	0.87	0.92	D	D	0.05	0.03	NO	NO
		SB	4M+2A	9,600	9,908	9,049	**1.03**	**0.94**	**F(0)**	**E**** (F)	9,944	9,122	**1.04**	**0.95**	**F(0)**	**E** (F)	0.00	0.01	NO	NO
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	11,141	8,973	**1.24**	**1.00**	**F(0)**	**E**	11,154	9,005	**1.24**	**1.00**	**F(0)**	**F(0)**	0.00	0.00	NO	NO
		SB	4M	7,200	7,446	7,713	**1.03**	**1.07**	**F(0)**	**F(0)*** *(F)	7,464	7,731	**1.04**	**1.07**	**F(0)**	**F(0)** (F)	0.00	0.00	NO	NO
4	Mesa College Dr to I-805	NB	4M+2A	9,600	9,392	8,718	**0.98**	0.91	**E**	D	9,403	8,747	**0.98**	0.91	**E**	D	0.00	0.00	NO	NO
		SB	4M+1A	8,400	8,551	7,471	**1.02**	0.89	**F(0)**	D** (F)	8,567	7,488	**1.02**	0.89	**F(0)**	D (F)	0.00	0.00	NO	NO
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	10,241	5,976	**1.22**	0.71	**F(0)**	C	10,275	6,006	**1.22**	0.71	**F(0)**	C	0.00	0.00	NO	NO
		SB	6M	10,800	5,454	11,453	0.50	**1.06**	B	**F(0)*** *(F)	5,475	11,493	0.51	**1.06**	B	**F(0)** (F)	0.00	0.00	NO	NO
6	I-8 to Murray Ridge Rd/ Phyllis Pl	NB	5M	9,000	11,876	6,885	**1.32**	0.77	**F(1)**	C	11,886	6,907	**1.32**	0.77	**F(1)**	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	6,216	11,119	0.65	**1.16**	C	**F(0)**	6,232	11,131	0.65	**1.16**	C	**F(0)**	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	11,865	6,854	**1.32**	0.76	**F(1)**	C	11,875	6,876	**1.32**	0.76	**F(1)**	C	0.00	0.00	NO	NO
		SB	5M	9,000	5,975	10,851	0.66	**1.21**	C	**F(0)**	5,992	10,862	0.67	**1.21**	C	**F(0)**	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	9,896	5,830	**1.10**	0.65	**F(0)****(F)	C	9,905	5,851	**1.10**	0.65	**F(0)** (F)	C	0.00	0.00	NO	NO
		SB	4M	7,200	4,290	6,701	0.60	**0.93**	B	**E**** (F)	4,305	6,712	0.60	**0.93**	B	**E** (F)	0.00	0.00	NO	NO
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	7,077	5,952	0.84	0.71	D** (F)	C	7,098	6,002	0.84	0.71	D (F)	C	0.00	0.01	NO	NO
		SB	4M+2A	9,600	6,693	9,068	0.70	**0.94**	C	**E**** (F)	6,724	9,095	0.70	**0.95**	C	**E** (F)	0.00	0.00	NO	NO
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	7,624	8,470	**0.98**	**1.09**	**E**	**F(0)**	7,978	8,775	**1.02**	**1.13**	**F(0)**	**F(0)**	**0.05**	**0.04**	**YES**	**YES**
		SB	5M	9,000	6,077	10,152	0.68	**1.13**	C	**F(0)**	6,298	10,563	0.70	**1.17**	C	**F(0)**	0.02	**0.05**	NO	**YES**
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,282	2,008	0.53	0.84	B	D	1,639	2,364	0.68	**0.99**	C	**E**	0.15	**0.15**	NO	**YES**
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	4,357	5,778	**1.21**	**1.61**	**F(0)**	**F(3)**	4,454	5,944	**1.24**	**1.65**	**F(0)**	**F(3)**	**0.03**	**0.05**	**YES**	**YES**
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	718	954	0.60	0.79	B	C	855	1,248	0.71	**1.04**	C	**F(0)**	0.11	**0.25**	NO	**YES**
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	9,691	7,115	**1.15**	0.85	**F(0)**	D	9,964	7,620	**1.19**	0.91	**F(0)**	D	**0.03**	0.06	**YES**	NO
		SB	5M+1A	10,200	8,245	11,344	0.81	**1.11**	D	**F(0)**	8,680	11,718	0.85	**1.15**	D	**F(0)**	0.04	**0.04**	NO	**YES**
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	10,881	8,205	**1.30**	**0.98**	**F(1)**	**E**	11,125	8,657	**1.32**	**1.03**	**F(1)**	**F(0)**	**0.03**	**0.05**	**YES**	**YES**
		SB	4M+1A	8,400	8,446	10,169	**1.01**	**1.21**	**F(0)**	**F(0)**	8,835	10,503	**1.05**	**1.25**	**F(0)**	**F(1)**	**0.05**	**0.04**	**YES**	**YES**
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	7,276	9,089	0.87	**1.08**	D	**F(0)**	7,382	9,179	0.88	**1.09**	D	**F(0)**	0.01	**0.01**	NO	**YES**
		WB	5M	9,000	8,564	7,482	**0.95**	0.83	**E**	D	8,630	7,604	**0.96**	0.84	**E**	D	0.01	0.01	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	7,129	9,532	**0.99**	**1.32**	**E**	**F(1)**	7,243	9,629	**1.01**	**1.34**	**F(0)**	**F(1)**	**0.02**	**0.01**	**YES**	**YES**
		WB	4M+1A	8,400	9,871	8,430	**1.18**	**1.00**	**F(0)**	**F(0)**	9,942	8,562	**1.18**	**1.02**	**F(0)**	**F(0)**	0.01	**0.02**	NO*	**YES**

Table 4.15-51. Horizon Year Plus Project Freeway Segment Level Of Service With 2-Lane Bridge

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year With Bridge - No Project						Horizon Year With Bridge Plus Project						V/C Delta		Exceeds Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	8,841	10,972	**0.92**	**1.14**	**E**	**F(0)**	8,956	11,071	**0.93**	**1.15**	**E**	**F(0)**	**0.01**	**0.01**	**YES**	**YES**
		WB	5M	9,000	10,030	8,245	**1.11**	0.92	**F(0)**	D	10,101	8,378	**1.12**	**0.93**	**F(0)**	**E**	0.01	**0.01**	NO*	**YES**
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,770	7,084	0.52	**0.98**	B	**E**** (F)	3,834	7,155	0.53	**0.99**	B	**E** (F)	0.01	**0.01**	NO	NO
		WB	3M+2A	7,800	10,364	9,544	**1.33**	**1.22**	**F(1)**	**F(0)**	10,435	9,669	**1.34**	**1.24**	**F(1)**	**F(0)**	0.01	**0.02**	NO*	**YES**
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	6,280	11,826	0.75	**1.41**	C	**F(2)**	6,344	11,897	0.76	**1.42**	C	**F(2)**	0.01	0.01	NO	NO*
		WB	4M+1A	8,400	10,786	9,995	**1.28**	**1.19**	**F(1)**	**F(0)**	10,857	10,121	**1.29**	**1.20**	**F(1)**	**F(0)**	0.01	**0.01**	NO*	**YES**
19	Texas St to I-805	EB	4M	7,200	3,980	7,765	0.55	**1.08**	B	**F(0)**(F)	4,044	7,836	0.56	**1.09**	B	**F(0)** (F)	0.01	**0.01**	NO	NO
		WB	4M	7,200	7,554	5,996	**1.05**	0.83	**F(0)****(F)	D	7,625	6,122	**1.06**	0.85	**F(0)** (F)	D	**0.01**	0.02	NO	NO
20	I-805 to I-15	EB	4M+2A	9,600	7,374	12,462	0.77	**1.30**	C	**F(1)**	7,489	12,574	0.78	**1.31**	C	**F(1)**	0.01	**0.01**	NO	**YES**
		WB	4M+2A	9,600	12,644	10,240	**1.32**	**1.07**	**F(1)**	**F(0)**	12,742	10,409	**1.33**	**1.08**	**F(3)**	**F(3)**	**0.01**	**0.02**	**YES**	**YES**
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	7,378	11,546	0.77	**1.20**	C	**F(0)**	7,356	11,554	0.77	**1.20**	C	**F(0)**	0.00	0.00	NO	NO
		WB	4M+2A	9,600	8,956	6,605	**0.93**	0.69	**E**** (F)	C	8,938	6,666	**0.93**	0.69	**E** (F)	C	**0.00**	0.01	NO	NO
22	Fairmount Ave to Waring Rd	EB	5M	9,000	8,018	12,782	0.89	**1.42**	D	**F(2)**	8,112	13,007	0.90	**1.45**	D	**F(2)**	0.01	**0.02**	NO	**YES**
		WB	6M	10,800	12,116	9,572	**1.12**	0.89	**F(0)**	D	12,265	9,738	**1.14**	0.90	**F(0)**	D	**0.01**	0.02	**YES**	NO
23	Waring Rd to College Ave	EB	5M	9,000	7,689	12,038	0.85	**1.34**	D	**F(1)**	7,814	12,277	0.87	**1.36**	D	**F(2)**	0.01	**0.03**	NO	**YES**
		WB	5M	9,000	11,254	9,039	**1.25**	**1.00**	**F(1)**	**F(0)**	11,454	9,216	**1.27**	**1.02**	**F(1)**	**F(0)**	**0.02**	**0.02**	**YES**	**YES**

Source: Appendix 4.15-1

Notes:

1 Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane

M = mainline lane

A = auxiliary lane

2 Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

3 LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998*

4 Unacceptable V/C and LOS highlighted in **bold**.

5 No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Freeway segment would exceed the City of San Diego impact threshold.

** Traffic data indicate existing operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

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		

Table 4.15-52. Horizon Year Plus Project with 4-Lane Bridge Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year With Bridge - No Project						Horizon Year With Bridge Plus Project						V/C Delta		Exceeds Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
State Route 163																				
1	6th Ave to I-8	NB	3M+1A	6,600	6,350	6,892	**0.96**	**1.04**	**E**	**F(0)**	6,407	6,942	**0.97**	**1.05**	**E**	**F(0)**	0.01	0.01	NO	NO*
		SB	3M+2A	7,800	10,832	9,690	**1.39**	**1.24**	**F(2)**	**F(0)**	10,868	9,757	**1.39**	**1.25**	**F(2)**	**F(1)**	0.00	0.01	NO	NO*
2	I-8 to Friars Rd	NB	2A	2,400	1,958	2,125	0.82	0.89	D	D	2,083	2,206	0.87	0.92	D	D	0.05	0.03	NO	NO
		SB	4M+2A	9,600	9,908	9,049	**1.03**	**0.94**	**F(0)**	**E**** (F)	9,944	9,122	**1.04**	**0.95**	**F(0)**	**E** (F)	0.00	0.01	NO	**YES*****
3	Friars Rd to Mesa College Dr[5]	NB	5M	9,000	11,141	8,973	**1.24**	**1.00**	**F(0)**	**E**	11,154	9,005	**1.24**	**1.00**	**F(0)**	**F(0)**	0.00	0.00	NO	NO
		SB	4M	7,200	7,446	7,713	**1.03**	**1.07**	**F(0)**	**F(0)**(F)	7,464	7,731	**1.04**	**1.07**	**F(0)**	**F(0)** (F)	0.00	0.00	NO	**YES*****
4	Mesa College Dr to I-805	NB	4M+2A	9,600	9,392	8,718	**0.98**	0.91	**E**	D	9,403	8,747	**0.98**	0.91	**E**	D	0.00	0.00	NO	NO
		SB	4M+1A	8,400	8,551	7,471	**1.02**	0.89	**F(0)**	D** (F)	8,567	7,488	**1.02**	0.89	**F(0)**	D (F)	0.00	0.00	NO	**YES*****

Table 4.15-52. Horizon Year Plus Project with 4-Lane Bridge Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year With Bridge - No Project						Horizon Year With Bridge Plus Project						V/C Delta		Exceeds Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 805																				
5	Madison Ave to I-8	NB	4M+1A	8,400	10,241	5,976	**1.22**	0.71	**F(0)**	C	10,275	6,006	**1.22**	0.71	**F(0)**	C	0.00	0.00	NO	NO
		SB	6M	10,800	5,454	11,453	0.50	**1.06**	B	**F(0)****(F)	5,475	11,493	0.51	**1.06**	B	**F(0)** (F)	0.00	0.00	NO	**YES*****
6	I-8 to Murray Ridge Rd/ Phyllis Pl	NB	5M	9,000	11,876	6,885	**1.32**	0.77	**F(1)**	C	11,886	6,907	**1.32**	0.77	**F(1)**	C	0.00	0.00	NO	NO
		SB	4M+2A	9,600	6,216	11,119	0.65	**1.16**	C	**F(0)**	6,232	11,131	0.65	**1.16**	C	**F(0)**	0.00	0.00	NO	NO
7	Murray Ridge Rd/Phyllis Pl to Mesa College Dr/Kearny Villa Rd	NB	5M	9,000	11,865	6,854	**1.32**	0.76	**F(1)**	C	11,875	6,876	**1.32**	0.76	**F(1)**	C	0.00	0.00	NO	NO
		SB	5M	9,000	5,975	10,851	0.66	**1.21**	C	**F(0)**	5,992	10,862	0.67	**1.21**	C	**F(0)**	0.00	0.00	NO	NO
8	Mesa College Dr/Kearny Villa Rd to SR-163	NB	5M	9,000	9,896	5,830	**1.10**	0.65	**F(0)****(F)	C	9,905	5,851	**1.10**	0.65	**F(0)** (F)	C	0.00	0.00	**YES*****	NO
		SB	4M	7,200	4,290	6,701	0.60	**0.93**	B	**E**** (F)	4,305	6,712	0.60	**0.93**	B	**E** (F)	0.00	0.00	NO	**YES*****
9	SR-163 to Balboa Ave	NB	4M+1A	8,400	7,077	5,952	0.84	0.71	D** (F)	C	7,098	6,002	0.84	0.71	D (F)	C	0.00	0.01	**YES*****	NO
		SB	4M+2A	9,600	6,693	9,068	0.70	**0.94**	C	**E**** (F)	6,724	9,095	0.70	**0.95**	C	**E** (F)	0.00	0.00	NO	**YES*****
Interstate 15																				
10	Adams Ave to I-8	NB	3M+2A	7,800	7,624	8,470	**0.98**	**1.09**	**E**	**F(0)**	7,978	8,775	**1.02**	**1.13**	**F(0)**	**F(0)**	**0.05**	**0.04**	**YES**	**YES**
		SB	5M	9,000	6,077	10,152	0.68	**1.13**	C	**F(0)**	6,298	10,563	0.70	**1.17**	C	**F(0)**	0.02	**0.05**	NO	**YES**
11	NB Off-Ramp to Friars Rd	NB	2A	2,400	1,231	1,940	0.51	0.81	B	D	1,515	2,248	0.63	**0.94**	C	**E**	0.12	**0.13**	NO	**YES**
	Friars Rd Auxiliary Lanes to I-8	SB	3A	3,600	4,340	5,769	**1.21**	**1.60**	**F(0)**	**F(3)**	4,429	5,923	**1.23**	**1.65**	**F(0)**	**F(3)**	**0.02**	**0.04**	**YES**	**YES**
	Friars Rd Direct Ramp to I-15 SB	SB	1A	1,200	701	876	0.58	0.73	B	C	804	1,122	0.67	**0.93**	C	**E**	0.09	**0.20**	NO	**YES**
12	Friars Rd to Aero Dr	NB	4M+1A	8,400	9,691	7,115	**1.15**	0.85	**F(0)**	D	9,964	7,620	**1.19**	0.91	**F(0)**	D	**0.03**	0.06	**YES**	NO
		SB	5M+1A	10,200	8,245	11,344	0.81	**1.11**	D	**F(0)**	8,680	11,718	0.85	**1.15**	D	**F(0)**	0.04	**0.04**	NO	**YES**
13	Aero Dr to Balboa Ave/ Tierrasanta Blvd	NB	4M+1A	8,400	10,881	8,205	**1.30**	**0.98**	**F(1)**	**E**	11,125	8,657	**1.32**	**1.03**	**F(1)**	**F(0)**	**0.03**	**0.05**	**YES**	**YES**
		SB	4M+1A	8,400	8,446	10,169	**1.01**	**1.21**	**F(0)**	**F(0)**	8,835	10,503	**1.05**	**1.25**	**F(0)**	**F(1)**	**0.05**	**0.04**	**YES**	**YES**
Interstate 8																				
14	Morena Blvd to Taylor St	EB	4M+1A	8,400	7,276	9,089	0.87	**1.08**	D	**F(0)**	7,382	9,179	0.88	**1.09**	D	**F(0)**	0.01	**0.01**	NO	**YES**
		WB	5M	9,000	8,564	7,482	**0.95**	0.83	**E**	D	8,630	7,604	**0.96**	0.84	**E**	D	0.01	0.01	NO	NO
15	Taylor St to Hotel Cir	EB	4M	7,200	7,129	9,532	**0.99**	**1.32**	**E**	**F(1)**	7,243	9,629	**1.01**	**1.34**	**F(0)**	**F(1)**	**0.02**	**0.01**	**YES**	**YES**
		WB	4M+1A	8,400	9,871	8,430	**1.18**	**1.00**	**F(0)**	**F(0)**	9,942	8,562	**1.18**	**1.02**	**F(0)**	**F(0)**	0.01	**0.02**	NO*	**YES**
Interstate 8																				
16	Hotel Cir to SR-163	EB	4M+2A	9,600	8,841	10,972	**0.92**	**1.14**	**E**	**F(0)**	8,956	11,071	**0.93**	**1.15**	**E**	**F(0)**	**0.01**	**0.01**	**YES**	**YES**
		WB	5M	9,000	10,030	8,245	**1.11**	0.92	**F(0)**	D	10,101	8,378	**1.12**	**0.93**	**F(0)**	**E**	0.01	**0.01**	NO*	**YES**
17	SR-163 to Mission Center Rd	EB	4M	7,200	3,770	7,084	0.52	**0.98**	B	**E**** (F)	3,834	7,155	0.53	**0.99**	B	**E** (F)	0.01	**0.01**	NO	**YES*****
		WB	3M+2A	7,800	10,364	9,544	**1.33**	**1.22**	**F(1)**	**F(0)**	10,435	9,669	**1.34**	**1.24**	**F(1)**	**F(0)**	0.01	**0.02**	NO*	**YES**
18	Mission Center Rd to Texas St	EB	4M+1A	8,400	6,280	11,826	0.75	**1.41**	C	**F(2)**	6,344	11,897	0.76	**1.42**	C	**F(2)**	0.01	0.01	NO	NO*
		WB	4M+1A	8,400	10,786	9,995	**1.28**	**1.19**	**F(1)**	**F(0)**	10,857	10,121	**1.29**	**1.20**	**F(1)**	**F(0)**	0.01	**0.01**	NO*	**YES**
19	Texas St to I-805	EB	4M	7,200	3,980	7,765	0.55	**1.08**	B	**F(0)****(F)	4,044	7,836	0.56	**1.09**	B	**F(0)** (F)	0.01	**0.01**	NO	**YES*****
		WB	4M	7,200	7,554	5,996	**1.05**	0.83	**F(0)****(F)	D	7,625	6,122	**1.06**	0.85	**F(0)** (F)	D	**0.01**	0.02	**YES*****	NO
20	I-805 to I-15	EB	4M+2A	9,600	7,374	12,462	0.77	**1.30**	C	**F(1)**	7,489	12,574	0.78	**1.31**	C	**F(1)**	0.01	**0.01**	NO	**YES**
		WB	4M+2A	9,600	12,644	10,240	**1.32**	**1.07**	**F(1)**	**F(0)**	12,742	10,409	**1.33**	**1.08**	**F(3)**	**F(3)**	**0.01**	**0.02**	**YES**	**YES**
21	I-15 to Fairmount Ave	EB	4M+2A	9,600	7,378	11,546	0.77	**1.20**	C	**F(0)**	7,331	11,533	0.76	**1.20**	C	**F(0)**	0.00	0.01	NO	NO
		WB	4M+2A	9,600	8,956	6,605	**0.93**	0.69	**E**** (F)	C	8,897	6,650	**0.93**	0.69	**E** (F)	C	**0.01**	0.01	**YES*****	NO

Table 4.15-52. Horizon Year Plus Project with 4-Lane Bridge Conditions Freeway Segment Level of Service

Freeway Segment		Direction	Number of Lanes	Capacity[1]	Horizon Year With Bridge - No Project						Horizon Year With Bridge Plus Project						V/C Delta		Exceeds Threshold?	
					Peak Hour Volume		*V/ C Ratio[2,4]*		*LOS[3,4]*		*Peak Hour Volume*		*V/ C Ratio[2,4]*		*LOS[3,4]*					
					AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
22	Fairmount Ave to Waring Rd	EB	5M	9,000	8,018	12,782	0.89	**1.42**	D	**F(2)**	8,086	12,986	0.90	**1.44**	D	**F(2)**	0.02	**0.03**	NO	**YES**
		WB	6M	10,800	12,116	9,572	**1.12**	0.89	**F(0)**	D	12,225	9,723	**1.13**	0.90	**F(0)**	D	**0.02**	0.02	**YES**	NO
23	Waring Rd to College Ave	EB	5M	9,000	7,672	12,029	0.85	**1.34**	D	**F(1)**	7,789	12,256	0.87	**1.36**	D	**F(2)**	0.01	**0.03**	NO	**YES**
		WB	5M	9,000	11,227	9,032	**1.25**	**1.00**	**F(0)**	**F(0)**	11,413	9,200	**1.27**	**1.02**	**F(1)**	**F(0)**	**0.02**	**0.02**	**YES**	**YES**

Source: Appendix 4.15-1

Notes:

[1] Capacity calculated at 1,800 vehicles/hour per mainline lane and 1,200 vehicles/hour per auxiliary lane

M = mainline lane

A = auxiliary lane

[2] Volume-to-capacity ratio. Worst-case is shown on segments with multiple classifications

[3] LOS calculations performed using *City of San Diego Traffic Impact Study Manual (1998)*

[4] Unacceptable V/C and LOS highlighted in bold.

[5] No data available from Genesee Ave to Mesa College Dr - assumed equivalent to the segment from Friars Rd to Genesee Ave

* Freeway segment would exceed the City of San Diego impact threshold.

** Traffic data indicate existing operations are worse than calculated. Peak hour volumes likely do not represent actual demand due to heavy congestion. Estimated operations are shown in parentheses.

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		

Table 4.15-53. Horizon Year (2037) Plus Project With 2-Lane Bridge Conditions - Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Horizon Year With Bridge No Project					Horizon Year With Bridge Plus Project					Delay Delta	Exceeds Threshold?
				Demand[2] (veh/hr)		Excess Demand[3] (veh/hr)	Delay[4] (min)	Queue[5] (ft)	Demand[2] (veh/hr)		Excess Demand[3] (veh/hr)	Delay[4] (min)	Queue[5] (ft)		
				Mixed Flow & HOV	Mixed Flow only				Mixed Flow & HOV	Mixed Flow only					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	2,345	1,983	533	**22.0**	7,725	2,617	2,213	763	**31.6**	11,050	9.6	**YES**
	PM	2	888	1,503	1,324	436	**29.5**	6,325	2,010	1,770	882	**59.6**	12,800	30.1	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	914	914	N/A	N/A	N/A	1,028	1,028	N/A	N/A	N/A	N/A	NO
	PM	1	660	911	911	251	**22.9**	7,300	1,077	1,077	417	**38.0**	12,100	15.1	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	751	751	N/A	N/A	N/A	954	954	N/A	N/A	N/A	N/A	NO
	PM	1	996	954	954	0	0.0	0	1,248	1,248	252	**15.2**	7,300	15.2	**YES**
I-8 EB - SB Fairmount Ave	AM	1	N/A	302	302	N/A	N/A	N/A	432	432	N/A	N/A	N/A	N/A	NO
	PM	1	492	664	664	172	**21.0**	5,000*	900	900	408	**49.7**	11,825	28.7	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

[1] Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

[2] Demand is the peak hour demand projected to use the on-ramp.

[3] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

[4] Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delays in excess of 15 minutes are highlighted in **bold**.

[5] Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Field observations of existing conditions showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating that operations ~~may be~~are better than calculated.

Table 4.15-54. Horizon Year (2037) Plus Project With 4-lane Bridge Conditions - Ramp Metering Analysis

Location	Peak Hour	Total # of Mixed Flow Lanes	Meter Rate[1] (veh/hr)	Horizon Year With Bridge No Project					Horizon Year With Bridge Plus Project					Delay Delta	Exceeds Threshold?
				Demand[2] (veh/hr)		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*	*Demand[2] (veh/hr)*		*Excess Demand[3] (veh/hr)*	*Delay[4] (min)*	*Queue[5] (ft)*		
				Mixed Flow & HOV	*Mixed Flow only*				*Mixed Flow & HOV*	*Mixed Flow only*					
I-15 NB - Friars Rd On-Ramp	AM	2	1,450	2,345	1,983	533	**22.0**	7,725	2,617	2,213	763	**31.6**	11,050	9.6	**YES**
	PM	2	888	1,503	1,324	436	**29.5**	6,325	2,010	1,770	882	**59.6**	12,800	30.1	**YES**
I-15 SB / I-8 - Friars Rd Loop On-Ramp	AM	1	N/A	914	914	N/A	N/A	N/A	1,028	1,028	N/A	N/A	N/A	N/A	NO
	PM	1	660	902	902	242	**22.0**	7,025	1,056	1,056	396	**36.0**	11,500	14.0	**YES**
I-15 SB - Friars Rd Direct On-Ramp	AM	1	N/A	751	751	N/A	N/A	N/A	954	954	N/A	N/A	N/A	N/A	NO
	PM	1	996	876	876	0	0.0	0	1,122	1,122	126	7.6	3,650	7.6	NO
I-8 EB - SB Fairmount Ave	AM	1	N/A	302	302	N/A	N/A	N/A	432	432	N/A	N/A	N/A	N/A	NO
	PM	1	492	664	664	172	**21.0**	5,000*	900	900	408	**49.7**	11,825	28.7	**YES**

Source: Appendix 4.15-1. Analysis based on Caltrans District 11 Ramp Meter methodology

1 Meter Rate is the peak hour capacity for the ramp meter. This value was obtained from Caltrans. The most restrictive meter rate was assumed.

2 Demand is the peak hour demand projected to use the on-ramp.

3 Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.

4 Delay = (Excess Demand / Meter Rate) x 60 min/hr. Undesirable delays in excess of 15 minutes are highlighted in **bold**.

5 Queue = (Excess Demand / # of Lanes) x 29 ft/veh, rounded to the nearest multiple of 25 ft.

* Field observations of existing conditions showed maximum queues of approximately eight (8) vehicles (200 feet) and maximum delays of approximately 35 seconds. ~~indicate~~ indicating that operations ~~may be~~are better than calculated.

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4.15.11.7 Freeway Off-Ramp Queuing Analysis

Tables 4.15-55 and 4.15-56, respectively, display the results of the off-ramp queueing analysis conducted at the SR-163 and I-15 off-ramps at Friars Road, and the I-8 off-ramps at Qualcomm Way/Texas Street and Fairmount Avenue. In addition to the study area off-ramps reviewed under the scenario without the bridge, the off-ramp from Northbound I-15 to Camino del Rio S was also evaluated under the with bridge scenarios due to the anticipated increase in traffic on those facilities with the bridge in place. As shown on the tables, under the two with bridge scenarios, all projected off-ramp queues in 2037 would be accommodated by the existing storage capacity with the addition of the proposed project traffic.

Table 4.15-55. Horizon Year Plus Project With 2-Lane Bridge Conditions - Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)		Capacity Exceeded?
				Horizon Year No Project Conditions With Bridge	Horizon Year Plus Project Conditions With Bridge	
1. SR-163 SB off-ramp at Friars Rd/ Ulric St	AM	NBL	1,200	211	211	NO
		NBT		104	104	NO
		NBR		487	502	NO
	PM	NBL	1,200	263	263	NO
		NBT		62	62	NO
		NBR		485	523	NO
2. SR-163 NB off-ramp at Friars Rd	AM	SBL	700	444	505	NO
		SBT		0	0	NO
		SBR		305	318	NO
	PM	SBL	700	418	456	NO
		SBT		0	0	NO
		SBR		447	456	NO
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	460	482	NO
		SBT		449	470	NO
		SBR		257	500	NO
	PM	SBL	1,200	842	911	NO
		SBT		845	911	NO
		SBR		80	168	NO
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0	NO
		SBR	1,300	0	0	NO
	PM	NBR	1,500	0	0	NO
		SBR	1,300	0	0	NO
29. I-8 WB off-ramp at Qualcomm Way/Camino del Rio N	AM	WBL	3,200	0	0	NO
		WBT		217	236	NO
		WBR		725	797	NO
	PM	WBL	3,200	0	0	NO
		WBT		394	411	NO
		WBR		518	556	NO
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	168	167	NO
	PM	EBR	900	274	269	NO

Table 4.15-55. Horizon Year Plus Project With 2-Lane Bridge Conditions - Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)		Capacity Exceeded?
				Horizon Year No Project Conditions With Bridge	Horizon Year Plus Project Conditions With Bridge	
35. I-8 WB off-ramp at Fairmount Ave/Alvarado Canyon Rd/ Camino del Rio N	AM	WBL	1,000	627	713	NO
		WBT		607	680	NO
		WBR		269	394	NO
	PM	WBL	1,000	714	714	NO
		WBT		464	601	NO
		WBR		308	468	NO
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	496	505	NO
		EBR		505	508	NO
	PM	EBL	4,100	1,099	1,113	NO
		EBR		1,659	1,665	NO
46. I-15 SB off-ramp at Camino del Rio S	AM	SBL	900	95	0	NO
		SBT		0	126	NO
		SBR		708	798	NO
	PM	SBL	900	376	0	NO
		SBT		0	438	NO
		SBR		59	59	NO
48. I-15 NB off-ramp at Camino del Rio S	AM	NBL	1,300	510	676	NO
		NBT		29	27	NO
		NBR		0	0	NO
	PM	NBL	1,300	239	343	NO
		NBT		75	75	NO
		NBR		0	0	NO

Source: Appendix 4.15-1.

Table 4.15-56. Horizon Year Plus Project With 4-lane Bridge Conditions - Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)		Capacity Exceeded?
				Horizon Year No Project Conditions With Bridge	Horizon Year Plus Project Conditions With Bridge	
1. SR-163 SB off-ramp at Friars Rd/ Ulric St	AM	NBL	1,200	211	211	NO
		NBT		104	104	NO
		NBR		487	502	NO
	PM	NBL	1,200	263	263	NO
		NBT		62	62	NO
		NBR		485	523	NO

Table 4.15-56. Horizon Year Plus Project With 4-lane Bridge Conditions - Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)		Capacity Exceeded?
				Horizon Year No Project Conditions With Bridge	Horizon Year Plus Project Conditions With Bridge	
2. SR-163 NB off-ramp at Friars Rd	AM	SBL	700	444	505	NO
		SBT		0	0	NO
		SBR		305	318	NO
	PM	SBL	700	418	456	NO
		SBT		0	0	NO
		SBR		447	456	NO
17. I-15 SB off-ramp at Friars Rd	AM	SBL	1,200	460	482	NO
		SBT		449	470	NO
		SBR		257	500	NO
	PM	SBL	1,200	842	911	NO
		SBT		845	911	NO
		SBR		80	168	NO
18. I-15 NB off-ramp at Friars Rd	AM	NBR	1,500	0	0	NO
		SBR	1,300	0	0	NO
	PM	NBR	1,500	0	0	NO
		SBR	1,300	0	0	NO
29. I-8 WB off-ramp at Qualcomm Way/Camino del Rio N	AM	WBL	3,200	0	0	NO
		WBT		215	232	NO
		WBR		718	786	NO
	PM	WBL	3,200	0	0	NO
		WBT		394	411	NO
		WBR		503	538	NO
30. I-8 EB off-ramp at Qualcomm Way/ Texas St	AM	EBR	900	167	166	NO
	PM	EBR	900	274	616	NO
35. I-8 WB off-ramp at Fairmount Ave/Alvarado Canyon Rd/ Camino del Rio N	AM	WBL	1,000	627	713	NO
		WBT		607	680	NO
		WBR		269	394	NO
	PM	WBL	1,000	714	714	NO
		WBT		464	601	NO
		WBR		308	468	NO
36. I-8 EB off-ramp at Fairmount Ave	AM	EBL	4,100	496	505	NO
		EBR		505	508	NO
	PM	EBL	4,100	1,099	1,113	NO
		EBR		1,659	1,665	NO
46. I-15 SB off-ramp at Camino del Rio S	AM	SBL	900	0	0	NO
		SBT		716	129	NO
		SBR		376	835	NO
	PM	SBL	900	0	0	NO
		SBT		59	469	NO
		SBR		542	60	NO

Table 4.15-56. Horizon Year Plus Project With 4-lane Bridge Conditions - Off-Ramp Queueing Analysis

Intersection	Peak Hour	Movement	Capacity (ft)	95th Percentile Queue (ft)		Capacity Exceeded?
				Horizon Year No Project Conditions With Bridge	Horizon Year Plus Project Conditions With Bridge	
48. I-15 NB off-ramp at Camino del Rio S	AM	NBL	1,300	29	773	NO
		NBT		0	26	NO
		NBR		324	0	NO
	PM	NBL	1,300	75	502	NO
		NBT		0	88	NO
		NBR		211	0	NO

Source: Appendix 4.15-1.

4.15.11.8 Improvements Needed for Horizon Year Plus Project Without Event Conditions with Fenton Parkway Extension

This section identifies the improvements that would be necessary to reduce or eliminate the exceedances of the impact thresholds under the Horizon Year Plus Project Conditions with the 2-lane and 4-lane Fenton Parkway bridge in place.

Intersections

2-Lane Bridge Scenario

Under Horizon Year Conditions with the 2-lane bridge in place, the proposed project would contribute to exceedances of the CSU TISM and/or City of San Diego thresholds at the following intersections requiring the corresponding improvements as appropriate; the agency with jurisdiction over the improvements is noted in parentheses:

1. SR-163 Southbound Ramps/Ulric Street & Friars Road (Caltrans) – Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 5.4 seconds.
    - *Improvements*: The required improvement would be to re-optimize the coordinated signal offset. This improvement would result in a less than significant impact per the CSU TISM but would not reduce the impact below the City of San Diego impact thresholds. To avoid exceeding the City threshold, additional signal timing re-optimization would need to be implemented. Signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes regardless of the addition of project traffic. ~~Regarding the proposed signal offset optimization, CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible, and the impact is significant and unavoidable.~~
    - *Threshold Level After Improvements*: Exceeds threshold

8. River Run Drive & Friars Road (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 34.5 seconds.
   - *Improvement*: To increase intersection capacity to eliminate the project impact, Friars Road would need to be widened to add a fourth eastbound through lane. Note, however, that widening this segment of Friars Road is not consistent ~~with the currently adopted (1985) Mission Valley Community Plan or~~ the Final Draft of the Mission Valley Community Plan Update (July 2019); therefore, this improvement is not recommended. An alternative improvement is the optimization of traffic signals along the Friars Road corridor extending from River Run Drive to Stadium Way (Stret A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic; signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes, especially with the new bridge, regardless of the addition of project traffic. This option would improve operations in the PM peak hour to 32.3 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended traffic signal optimization.~~
   - *Threshold Level After Improvement:* Less than threshold if City authorization is provided to implement signal optimization.
9. Fenton Parkway & Friars Road (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour by increasing delay 28.6 seconds.
   - *Improvement*: Optimize the traffic signals along the Friars Road corridor extending from Fenton Parkway to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic; signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes, especially with the new bridge, regardless of the addition of project traffic. This option would improve operations to 67.6 seconds of delay in the PM peak hour. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended traffic signal optimization.~~
   - *Threshold Level After Improvement:* Less than threshold if City authorization is provided to implement signal optimization.
10. Northside Drive & Friars Road (City of San Diego) – *No Impact:* Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 4.5 seconds. While this does not result in a significant impact per the CSU TISM, it does exceed the City of San Diego impact threshold. To avoid exceeding the City threshold, optimize the traffic signals along the Friars Road corridor extending from Fenton Parkway to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic; signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes, especially with the new bridge, regardless of the addition of project traffic.

17. I-15 Southbound Ramps & Friars Road (Caltrans) – Project traffic would degrade LOS D operations to LOS F operations in the AM peak hour, would exacerbate LOS F operations in the PM peak hour, and would increase delay by 53.3 and 27.7 seconds, respectively.
    - *Improvement*: The needed improvement would be to reconstruct the intersection to add a second eastbound left-turn lane, a second eastbound right-turn lane, and a second westbound right-turn lane. This improvement would require widening both on-ramps to allow for two receiving lanes. If this

improvement were implemented, to be consistent with current design practice, it is expected that Caltrans would require the inclusion of pedestrian and bicycle enhancements. Accordingly, the westbound right-turn lane would be squared off to improve pedestrian safety, and the westbound right-turn would be provided with an overlap phase. It should be noted that the Civita (Quarry Falls) development is also required to implement a portion of these improvements, including the addition of the second eastbound left-turn lane and squaring up the westbound right-turn movement; the SDSU Mission Valley Campus project improvements, beyond the Civita improvements, would provide substantially more vehicle queueing approaching the ramp intersections, including on the bridge. Caltrans and/or the City of San Diego is expected to additionally require that sidewalks and buffered bike lanes are provided as part of this improvement, and that a blank-out No Right Turn sign be installed at the dual eastbound and westbound right turn lanes. It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian calls will be very rare and were not included in the operations analysis. Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. Once implemented, these improvements would result in operations in the AM and PM peak hours of 54.5 and 58.4 seconds of delay, respectively. Please note that these calculated operations are based on stand-alone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queueing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~

- *Threshold Level After Improvement*: Exceeds threshold

18. I-15 Northbound Ramps & Friars Road (Caltrans) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 52.9 and over 100.0 seconds, respectively.
    - *Improvement*: The needed improvement would be to reconstruct the intersection to add a second eastbound left-turn lane. Note that the Civita (Quarry Falls) development is also required to implement this improvement but it does not include any widening of the Friars Road bridge; the SDSU Mission Valley Campus improvements, beyond the Civita improvements, would provide substantially more space for vehicle queuing approaching the ramp intersections, including on the bridge. If this improvement were implemented, to be consistent with current design practice, it is expected that Caltrans would require the inclusion of sidewalks and buffered bike lanes be provided as part of this improvement, which would require widening the Friars Road overpass to I-15. Caltrans is expected to additionally require that the southbound approach be squared off and converted to two right-turn lanes provided with an overlap phase, and that a blank-out No Right Turn sign be installed for the westbound approach to improve pedestrian safety. It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian calls will be very rare and were not included in the operations analysis. Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. In the PM peak hour, re-optimization would include coordinating the signal with the adjacent I-15 Southbound Ramps & Friars Road intersection and the adjacent Rancho Mission Road & Friars Road intersection, where coordination is already in place in the AM peak hour. These improvements would result in operations in the AM and PM peak hours of 65.0 and 55.3 seconds of delay, respectively. Please note that these calculated operations are based on stand-alone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queueing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding~~

~~for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~

- *Threshold Level After Improvement*: Exceeds threshold

19. Rancho Mission Road & Friars Road (Caltrans) – Project traffic would degrade LOS E operations to LOS F in the AM and PM peak hours and would increase delay by 4.2 and 11.6 seconds, respectively.
    - *Improvement*: Implement coordination of this signal with the adjacent improvements to Intersection No. 18, I-15 Northbound Ramps & Friars Road intersection (where coordination is already in place in the AM peak hour) and optimize both of the interchange traffic signals with this location. This improvement would result in reduced delay to 60.7 seconds in the PM peak hour. Please note that these calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queueing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold
24. River Run Drive & Rio San Diego Drive (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 8.3 seconds.
    - *Improvement*: Reconstruct the intersection as a single-lane roundabout as proposed in the MVCPU FEIR. This improvement would improve operations in the PM peak hour to 22.3 seconds of delay. ~~However, CSU does not have jurisdiction over these City of San Diego roadways and, therefore, cannot guarantee implementation of this improvement. In addition, there is no established funding program for this specific improvement in place that would enable CSU to make a fair-share payment towards the improvement. Accordingly, the improvement is considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold
28. Qualcomm Way & Camino del Rio N/Camino de la Reina (City of San Diego) – *No Impact*: Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 2.1 seconds. While this does not result in a significant impact per the CSU TISM, it does exceed the City of San Diego impact threshold. To avoid exceeding the City threshold, signal re-optimization would need to be implemented to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic.
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N (Caltrans) – *No Impact*: Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 3.6 seconds. While this does not result in a significant impact per the CSU TISM, it does exceed the City of San Diego impact threshold. To avoid exceeding the City threshold, signal re-optimization would need to be implemented to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic.
33. Texas Street & Camino del Rio S (City of San Diego) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 11.2 and 19.4 seconds, respectively.
    - *Improvement*: The needed improvement is the restriping of both the eastbound and westbound through lanes to be shared left-turn and through lanes. This improvement would improve operations in the AM and PM peak hours to 109.3 and 89.6 seconds of delay, respectively. ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement.~~

- *Threshold Level After Improvement:* Less than the threshold if City authorization is provided.

32. Ward Road & Rancho Mission Road (City of San Diego) – Project traffic would degrade LOS C to LOS F operations in the AM and PM peak hours and would increase delay by 43.6 seconds and over 100.0 seconds, respectively. The addition of project traffic would satisfy the California MUTCD peak hour signal warrant in both peak hours.
    - *Improvement*: Install a traffic signal at this intersection. This improvement would improve operations in the AM and PM peak hours to 4.1 and 6.4 seconds of delay, respectively. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement.~~
    - *Threshold Level After Improvement:* If City authorization is provided, less than threshold

34. Fairmount Avenue & Mission Gorge Road (City of San Diego) – Project traffic would degrade LOS C to LOS E operations in the PM peak hour and increase delay by 31.0 seconds.
    - *Improvement*: Optimize the signal timing to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This improvement would improve operations in the PM peak hour to 50.7 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement.~~
    - *Threshold Level After Improvement:* If City authorization is provided, less than threshold

35. Fairmount Avenue & Camino del Rio North (Caltrans) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and increase delay by 33.5 and 75.1 seconds, respectively.
    - *Improvement*: The needed improvement would be to restripe the eastbound approach to provide a second eastbound right-turn lane as an approximately 150-foot pocket lane and increase the traffic signal cycle length from 130 to 150 seconds. Signal re-optimization is standard practice with intersection reconfiguration. Note that this signal is coordinated with the signal at Fairmount Avenue & Mission Gorge Road, Intersection No. 34. Separately, northbound and southbound through volumes are high enough to warrant additional capacity at this intersection, and a road widening to add lanes is recommended in the current Navajo Community Plan (adopted 2015). However, this improvement is currently considered infeasible due to physical limitations beneath the adjacent bridges serving the I-8 mainline, I-8 ramp, and trolley. Additionally, the MVCPU FEIR (May 2019) identified mitigation at this intersection but also determined that roadway widening was infeasible due to limited right-of-way. The improvement to add a second eastbound right-turn lane would improve operations to 113.4 and 122.0 seconds of delay in the AM and PM peak hours, respectively. This improvement does not fully mitigate the PM peak hour impact. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold

41. Ruffin Road & Aero Drive (City of San Diego) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 10.6 seconds.
    - *Improvement*: Optimize the signal timing to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This improvement would improve operations in the PM peak hour to 49.8 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego~~

~~facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less-than-significant.~~

- *Threshold Level After Improvement*: If City authorization is provided, less than threshold.

44. Fenton Parkway/Mission City Parkway & Camino del Rio N (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the AM peak hour, degrade LOS D operations to LOS E in the PM peak hour, and increase delay by 28.3 and 20.5 seconds, respectively.
    - *Improvement*: Reconstruct the intersection to add a separate westbound right-turn pocket with an overlap phase, restripe the south leg to provide a separate northbound right-turn pocket, and re-optimize the signal to account for the change in configuration. This improvement would require widening the east leg to provide two receiving lanes, which could merge after an allowable taper distance. This improvement would improve operations to 38.8 and 47.5 seconds of delay, respectively. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.~~
    - *Threshold Level After Improvement*: If City authorization is provided, less than threshold
45. Mission City Parkway & Camino del Rio S (City of San Diego) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 13.3 seconds.
    - *Improvement*: Optimize the signal timing to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This improvement would improve operations in the PM peak hour to 54.8 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.~~
    - *Threshold Level After Improvement*: If City authorization is provided, less than threshold
46. I-15 Southbound Off-Ramp & Camino del Rio S (Caltrans) – Project traffic would degrade LOS D operations to LOS F in the AM peak hour and increase delay by 18.0 seconds.
    - *Improvement*: Restripe the westbound left-turn lane to a shared through/left lane, restripe the west leg to convert the median into a second receiving lane, and re-optimize the signal to account for the change in configuration. A westbound permitted left-turn is assumed given the low demand. This improvement would improve operations in the PM peak hour to 21.2 seconds of delay. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold

4-Lane Bridge Scenario

Under Horizon Year Conditions with the 4-lane bridge in place, the proposed project would contribute to exceedances of the CSU TISM and/or City of San Diego thresholds at the following intersections requiring the corresponding improvements; the agency with jurisdiction over the improvements is noted in parentheses:

2. SR-163 Southbound Ramps/Ulric Street & Friars Road (Caltrans) – Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 5.4 seconds.

   Mitigation: The required improvement would be to re-optimize the coordinated signal offset. This mitigation would result in a less than significant impact per the CSU TISM but would not reduce the impact below the City of San Diego impact thresholds. To avoid exceeding the City threshold, additional signal timing re-optimization would need to be implemented. Signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes regardless of the addition of project traffic. ~~This additional improvement is provided for information purposes only. Regarding the proposed signal offset optimization, CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible, and the impact is significant and unavoidable.~~

   - *Threshold Level After Improvement: Exceeds threshold*

9. River Run Drive & Friars Road (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 34.1 seconds.
   - *Improvement*: To increase intersection capacity to eliminate the project impact, Friars Road would need to be widened to add a fourth eastbound through lane. Note, however, that widening this segment of Friars Road is not consistent with ~~the currently adopted (1985) Mission Valley Community Plan or~~ the Final Draft of the Mission Valley Community Plan Update (July 2019); therefore, this improvement is not recommended. An alternative improvement is the optimization of traffic signals along the Friars Road corridor extending from River Run Drive to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic; signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes, especially with the new bridge, regardless of the addition of project traffic.. This option would improve operations in the PM peak hour to 32.6 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended traffic signal optimization.~~
   - *Threshold Level After Improvement:* Less than threshold if City authorization is provided to implement signal optimization.

10. Fenton Parkway & Friars Road (City of San Diego) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour by increasing delay 31.9 seconds.
    - *Improvement*: Optimize the traffic signals along the Friars Road corridor extending from Fenton Parkway to Stadium Way (Street A) to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic; signal timing modifications would normally be implemented periodically at an intersection to optimize operations and address changing traffic volumes, especially with the new bridge, regardless of the addition of project traffic. This option would improve operations to 53.4 seconds of delay in the PM peak hour. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the~~

~~improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended traffic signal optimization.~~

- *Threshold Level After Improvement:* Less than threshold if City authorization is provided to implement signal optimization.

20. I-15 Southbound Ramps & Friars Road (Caltrans) – Project traffic would degrade LOS D operations to LOS F operations in the AM peak hour, would exacerbate LOS F operations in the PM peak hour, and would increase delay by 35.1 and 22.7 seconds, respectively.

- Improvement: The needed improvement would be to reconstruct the intersection to add a second eastbound left-turn lane, a second eastbound right-turn lane, and a second westbound right-turn lane. This improvement would require widening both on-ramps to allow for two receiving lanes. If this improvement were implemented, to be consistent with current design practice, it is expected that Caltrans would require the inclusion of pedestrian and bicycle enhancements. Accordingly, the westbound right-turn lane would be squared off to improve pedestrian safety, and the westbound right-turn would be provided with an overlap phase. It should be noted that the Civita (Quarry Falls) development is also required to implement a portion of these improvements, including the addition of the second eastbound left-turn lane and squaring up the westbound right-turn movement; the SDSU Mission Valley Campus project improvements would provide substantially more vehicle queueing approaching the ramp intersections, including on the bridge. Caltrans and/or the City of San Diego is expected to additionally require that sidewalks and buffered bike lanes are provided as part of this improvement, and that a blank-out No Right Turn sign be installed at the dual eastbound and westbound right turn lanes. It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian calls will be very rare and were not included in the operations analysis. Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. Once implemented, these improvements would result in operations in the AM and PM peak hours of 50.2 and 57.5 seconds of delay, respectively. Please note that these calculated operations are based on stand-alone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queueing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
- *Threshold Level After Improvement*: Exceeds threshold

21. I-15 Northbound Ramps & Friars Road (Caltrans) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 54.1 and over 100.0 seconds, respectively.

- *Improvement*: The needed improvement would be to reconstruct the intersection to add a second eastbound left-turn lane. Note that the Civita (Quarry Falls) development is also required to implement this improvement but it does not include any widening of the Friars Road bridge; the SDSU Mission Valley Campus improvements would provide substantially more space for vehicle queuing approaching the ramp intersections, including on the bridge. If this improvement were implemented, to be consistent with current design practice, it is expected that Caltrans would require the inclusion of sidewalks and buffered bike lanes be provided as part of this improvement, which would require widening the Friars Road overpass to I-15. Caltrans is expected to additionally require that the southbound approach be squared off and converted to two right-turn lanes provided with an overlap phase, and that a blank-out No Right Turn sign be installed for the westbound approach to improve pedestrian safety. It is expected that pedestrian activity will be very low given the limited surrounding uses and, therefore, pedestrian

calls will be very rare and were not included in the operations analysis. Signal re-optimization is assumed, which is standard practice with intersection reconfiguration. In the PM peak hour, re-optimization would include coordinating the signal with the adjacent I-15 Southbound Ramps & Friars Road intersection and the adjacent Rancho Mission Road & Friars Road intersection, where coordination is already in place in the AM peak hour. These improvements would result in operations in the AM and PM peak hours of 66.2 and 37.6 seconds of delay, respectively. Please note that these calculated operations are based on stand-alone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queueing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~

- *Threshold Level After Improvement*: Exceeds threshold

22. Rancho Mission Road & Friars Road (Caltrans) – Project traffic would degrade LOS E operations to LOS F in the AM and PM peak hours and would increase delay by 5.0 and 12.6 seconds, respectively.
    - *Improvement*: Implement coordination of this signal with the adjacent improvements to Intersection No. 18, I-15 Northbound Ramps & Friars Road intersection (where coordination is already in place in the AM peak hour) and optimize both of the interchange traffic signals with this location. This improvement would result in reduced delay to 57.1 seconds in the PM peak hour. Please note that these calculated operations are based on standalone intersection analysis; however, under existing conditions, the adjacent ramp meter causes queuing through this intersection, and without improving ramp meter operations, the operations will remain above the threshold. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold
25. River Run Drive & Rio San Diego Drive (City of San Diego) – Project traffic would degrade LOS E operations to LOS F in the PM peak hour and would increase delay by 9.1 seconds.
    - *Improvement*: Reconstruct the intersection as a single-lane roundabout as proposed in the MVCPU FEIR. This improvement would improve operations in the PM peak hour to 29.1 seconds of delay. ~~However, CSU does not have jurisdiction over these City of San Diego roadways and, therefore, cannot guarantee implementation of this improvement. In addition, there is no established funding program for this specific improvement in place that would enable CSU to make a fair-share payment towards the improvement. Accordingly, the improvement is considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold
28. Qualcomm Way & Camino del Rio N/Camino de la Reina (City of San Diego) – *No Impact*: Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 2.1 seconds. While this does not result in a significant impact per the CSU TISM, it does exceed the City of San Diego impact threshold. To avoid exceeding the City threshold, signal re-optimization would need to be implemented to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This information is provided for information purposes only.
29. Qualcomm Way & I-8 WB Off-Ramp/Camino del Rio N (Caltrans) – *No Impact*: Project traffic would exacerbate LOS E operations in the PM peak hour and increase delay by 3.6 seconds. While this does not result in a significant impact per the CSU TISM, it does exceed the City of San Diego impact threshold. To

avoid exceeding the City threshold, signal re-optimization would need to be implemented to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This information is provided for information purposes only.

34. Texas Street & Camino del Rio S (City of San Diego) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and would increase delay by 25.5 and 20.0 seconds, respectively.
    - *Improvement*: The needed improvement is the restriping of both the eastbound and westbound through lanes to be shared left-turn and through lanes. This improvement would improve operations in the AM and PM peak hours to 113.0 and 89.3 seconds of delay, respectively. ~~CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement.~~
    - *Threshold Level After Improvement:* Less than the threshold if City authorization is provided.

36. Fairmount Avenue & Camino del Rio North (Caltrans) – Project traffic would exacerbate LOS F operations in the AM and PM peak hours and increase delay by 37.3 and 77.7 seconds, respectively.
    - *Improvement*: The needed improvement would be to restripe the eastbound approach to provide a second eastbound right-turn lane as an approximately 150-foot pocket lane and increase the traffic signal cycle length from 130 to 150 seconds. Signal re-optimization is standard practice with intersection reconfiguration. Note that this signal is coordinated with the signal at Fairmount Avenue & Mission Gorge Road, Intersection No. 34. Separately, northbound and southbound through volumes are high enough to warrant additional capacity at this intersection, and a road widening to add lanes is recommended in the current Navajo Community Plan (adopted 2015). However, this improvement is currently considered infeasible due to physical limitations beneath the adjacent bridges serving the I-8 mainline, I-8 ramp, and trolley. Additionally, the MVCPU FEIR (May 2019) identified mitigation at this intersection but also determined that roadway widening was infeasible due to limited right-of-way. The improvement to add a second eastbound right-turn lane would improve operations to 106.7 and 131.2 seconds of delay in the AM and PM peak hours, respectively. This improvement does not fully mitigate the PM peak hour impact. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold

42. Ruffin Road & Aero Drive (City of San Diego) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 10.6 seconds.
    - *Improvement*: Optimize the signal timing to accommodate the change in traffic demand over the next 19 years plus the addition of project traffic. This improvement would improve operations in the PM peak hour to 49.8 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less-than-significant.~~
    - *Threshold Level After Improvement*: If City authorization is provided, less than threshold.

47. Fenton Parkway/Mission City Parkway & Camino del Rio N (City of San Diego) –Project traffic would degrade LOS E operations to LOS F in the AM peak hour, degrade LOS F operations in the PM peak hour, and increase delay by 79.4 and 52.9 seconds, respectively.

- *Improvement*: Reconstruct the intersection to add a separate westbound right-turn pocket with an overlap phase, convert the leftmost southbound through lane to be a southbound left-turn lane, and re-optimize the signal to account for the change in configuration. This improvement would require widening the east leg to provide two receiving lanes, which could merge after an allowable taper distance. This improvement would improve operations to 52.9 and 64.3 seconds of delay, respectively. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less-than-significant.~~
- *Threshold Level After Improvement*: If City authorization is provided, less than threshold

48. Mission City Parkway & Camino del Rio S (City of San Diego) – Project traffic would degrade LOS D operations to LOS E in the PM peak hour and increase delay by 20.6 seconds.
    - *Improvement*: Reconstruct the intersection to provide a second southbound left-turn lane, restripe the median on the east leg to be a second receiving lane, and re-optimize the signal to account for the change in configuration. This improvement would improve operations in the PM peak hour to 18.5 seconds of delay. ~~However, CSU does not have jurisdiction over this City of San Diego facility and, therefore, cannot guarantee implementation of this improvement. Accordingly, the improvement is considered infeasible. However, if the City grants authorization, CSU will implement the recommended improvement, thereby reducing the project's impact to less than significant.~~
    - *Threshold Level After Improvement*: If City authorization is provided, less than threshold
49. I-15 Southbound Off-Ramp & Camino del Rio S (Caltrans) – Project traffic would degrade LOS D operations to LOS F in the AM peak hour and increase delay by 27.7 seconds.
    - *Improvement*: Restripe the westbound left-turn lane to a shared through/left lane, restripe the west leg to convert the median into a second receiving lane, and re-optimize the signal to account for the change in configuration. A westbound permitted left-turn is assumed given the low demand. This improvement would improve operations in the PM peak hour to 23.5 seconds of delay. ~~CSU will support Caltrans in its effort to obtain the project's proportionate share of funding for the recommended improvements from the Legislature or other available funding sources. However, because CSU cannot guarantee that Caltrans will be able to obtain such funds, the recommended improvements are considered infeasible.~~
    - *Threshold Level After Improvement*: Exceeds threshold

Roadway Segments

2-Lane Bridge Scenario

With the 2-lane bridge in place, one new threshold exceedance for roadway segments was identified as compared to "without bridge" conditions. Specifically, the addition of project traffic on Segment #16a: Fenton Parkway from Northside Drive to Camino del Rio North (including the new bridge facility) would degrade LOS D operations to LOS E, thereby resulting in an exceedance of the City's threshold. The projected ADT volume of 14,194 vehicles would exceed the City's daily LOS D threshold of 13,000 by less than 1,200 vehicles per day or roughly 120 vehicles during the peak hour. Typically, the improvement that would be implemented to return to LOS D or better operations would be to provide additional vehicle capacity on the bridge. However, in this instance, the actual capacity of the two-lane roadway with a center-left-turn-lane, as would be in place under this scenario, would be higher, or better, than the City's stated capacity because there would be no fronting uses and/or driveways on the bridge (i.e., there would be no conflicting vehicle movements thereby resulting in a higher overall capacity). Based on the traffic

engineer's judgment and experience, the lack of conflicts is estimated to result in a daily segment capacity that is at least 10% higher than designated, resulting in an actual LOS D threshold of 14,300, which would accommodate the projected daily volume of 14,194 vehicles noted above. In addition, the intersections at each end of the bridge are the operating constraints for traffic on the bridge and not the number of through lanes on the bridge itself. As such, the intersections could be designed to operate within the City's LOS standard based on the improvements noted in the previous section. It also is important to note that the provision of a 2-lane bridge (relative to a 4-lane bridge) would still enhance area multimodal connectivity, accessibility to adjacent land uses, and public safety in the form of another river crossing that may be used by emergency response vehilces and generatl traffic in the event of evacuations or high-attendance stadium events. Moreover, providing additional capacity would be inconsistent with the City's efforts to achieve Climate Action Plan (CAP) active transportation mode share goals as limiting roadway segment expansion and providing a 2-lane bridge with a volume that is close to the LOS D/E threshold would be preferable in that it would encourage active transportation alternatives and minimize excess vehicle capacity. However, by maintaining a 2-lane bridge and without making an adjustment to account for a higher actual roadway capacity, the threshold exceedance would remain.

4-Lane Bridge Scenario

With the bridge in place, one new threshold exceedances for roadway segments was identified as compared to "without bridge" conditions. On Segment #32: Camino del Rio North from Mission City Parkway to Ward Road, the addition of project traffic would degrade LOS D operations to LOS E. The required improvement would be to widen the roadway to provide an additional travel lane in each direction. However, ~~while~~ this widening is ~~consistent with the currently adopted (1985) Mission Valley Community Plan Update, it is~~ not consistent with the Final ~~Draft of the~~ Mission Valley Community Plan Update (July 2019). Therefore, the improvement is not considered feasible and the threshold exceedance will remain. This analysis is provided for information purposes only.

Freeway Segments

With either the 2-lane or 4-lane bridge in place, no new freeway segment threshold exceedances were identified as compared to "without bridge" conditions.

Freeway Ramp Meters

With either the 2-lane or 4-lane bridge in place, no additional freeway ramp meter threshold exceedances were identified as compared to "without bridge" conditions.

Freeway Off-Ramps

Since no vehicle queues are projected to exceed the available storage capacity of any off-ramp under either the 2-lane or 4-lane bridge scenario, no improvements for these facilities are needed.

Effect of a Stadium Event

As with the Horizon Year (2037) "No Bridge" analysis, the addition of stadium event trips during the weekday PM peak would exacerbate traffic operations under either the 2-lane or 4-lane bridge scenario. Although operations under this scenario likely would remain over the applicable thresholds as physical, capacity-enhancing improvements are not feasible as mitigation to address short-term impacts as these, high-attendance stadium events are expected to happen infrequently. However, as would be the case under the "no bridge" scenario,

strategies to assist in the reduction of weekday stadium event traffic and to minimize related impacts would be implemented under both a 2-lane and 4-lane bridge scenario as well through the TDM and TPMP Programs.

4.15.11.9 Comparison of Horizon Year Plus Project Without Event Operations Without Fenton Parkway Bridge with Bridge Scenarios

This section presents a comparative summary of the change in operations and impacts between the Horizon Year (2037) "No Bridge" analysis with the results of the Horizon Year "With Bridge" analyses presented above. A summary by facility type for each of the 2-lane and 4-lane bridge scenarios is presented below.

Intersection Analysis Comparison

2-Lane Scenario

The inclusion of the 2-lane bridge with the addition of project traffic under Horizon Year conditions will notably change operations in one of two ways: 1) a change in threshold exceedance (i.e., either add or eliminate a significant impact), or 2) change the delay by ± 10 seconds. These changes would occur at the following 15 study area intersections as follows:

9. Fenton Parkway & Friars Road (degrade operations in the AM peak hour; improve operations in the PM peak hour)
10. Northside Drive & Friars Road (improve operations in the PM peak hour, which would *eliminate the previously identified project impact* per CSU thresholds; the City threshold exceedance would remain)
14. Mission Village Drive/Aztec Way & Street 1 (degrade but still acceptable operations in the PM peak hour)
17. I-15 SB Ramps & Friars Road (improve operations in the AM peak hour)
24. Rio San Diego Drive & River Run Drive (degrade operations in the PM peak hour, which would result in a *new impact* per both CSU and City thresholds)
25. Fenton Parkway & Rio San Diego Drive/Fenton Marketplace Driveway (degrade but still acceptable operations in the PM peak hour)
26. Rancho Mission Road & San Diego Mission Road (improve operations in the AM and PM peak hours)
27. Fairmount Avenue & San Diego Mission Road/Twain Avenue (improve but still unacceptable operations in the AM peak hour, improve operations in the PM peak hour)
28. Qualcomm Way & Camino del Rio North/Camino de la Reina (slightly degrade operations in the PM peak hour, resulting in a *new City threshold exceedance*, but not a significant impact per CSU thresholds)
32. Ward Road & Rancho Mission Road (improve operations in the AM and PM peak hours)
35. Fairmount Avenue & Camino del Rio North (degrade operations in the AM and PM peak hours)
44. Fenton Parkway/Mission City Parkway & Camino del Rio N (degrade operations in the AM and PM peak hours, which would result in a *new impact*)
45. Mission City Parkway & Camino del Rio S (degrade operations in the PM peak hour, which would result in a *new impact*)
46. I-15 Southbound Off-Ramp & Camino del Rio S (degrade operations in the AM and PM peak hours, which would result in a *new impact*)

48. I-15 Northbound Ramps & Camino del Rio S (degrade but still acceptable operations in the AM and PM peak hours)

In summary, the addition of the 2-lane bridge as compared to the no bridge scenario would cause a total of four (4) new significant impact locations and one (1) new City threshold exceedance location, and would eliminate one (1) significant impact locations based on CSU thresholds, though this location would still exceed the City threshold.

4-Lane Scenario

The inclusion of the bridge with the addition of project traffic under Horizon Year conditions will notably change operations in one of two ways: (1) a change in threshold exceedance (i.e., either add or eliminate a significant impact); or (2) change the delay by +/- 10 seconds. These changes would occur at the following study area intersections:

9. Fenton Parkway & Friars Road (degrade operations in the AM peak hour; improve operations in the PM peak hour)
10. Northside Drive & Friars Road (improve operations in the PM peak hour, which would *eliminate the previously identified project impact per both CSU and City thresholds*)
11. Stadium Way (Street A) and Friars Road (degrade but still acceptable operations in the PM peak hour)
17. I-15 SB Ramps & Friars Road (improve operations in the AM and PM peak hours)
19. Rancho Mission Road & Friars Road (improve but still unacceptable operations in the PM peak hour)
24. Rio San Diego Drive & River Run Drive (degrade operations in the PM peak hour, which would result in a *new impact per both CSU and City thresholds*)
25. Fenton Parkway & Rio San Diego Drive/Fenton Marketplace Driveway (degrade but still acceptable operations in the PM peak hour)
26. Rancho Mission Road & San Diego Mission Road (improve operations in the AM and PM peak hours)
27. Fairmount Avenue & San Diego Mission Road/Twain Avenue (improve operations in the AM and PM peak hours, which would *eliminate the previously identified project impact per CSU and City thresholds*)
28. Qualcomm Way & Camino del Rio North/Camino de la Reina (slightly degrade operations in the PM peak hour resulting in a new City threshold exceedance but not a significant impact per CSU thresholds)
31. Texas Street & Camino del Rio S (degrade operations in the AM peak hour)
32. Ward Road & Rancho Mission Road (improve operations in the AM and PM peak hours)
35. Fairmount Avenue & Camino del Rio North (degrade operations in the AM & PM peak hours)
44. Fenton Parkway/Mission City Parkway & Camino del Rio N (degrade operations in the AM and PM peak hours, which would result in a *new impact*)
45. Mission City Parkway & Camino del Rio S (degrade operations in the PM peak hour, which would result in a *new impact*)
46. I-15 Southbound Off-Ramp & Camino del Rio S (degrade operations in the AM and PM peak hours, which would result in a *new impact*)
48. I-15 Northbound Ramps & Camino del Rio S (degrade but still acceptable operations in the AM and PM peak hours)

In summary, the addition of the 4-lane bridge as compared to the no bridge scenario would result in a total of four new significant impact locations under the CSU thresholds and one new City threshold exceedance location, and would eliminate two (2) significant impact locations based on both CSU and City thresholds.

Roadway Segment Analysis Comparison

2-Lane Scenario

Similar to intersections, the inclusion of the 2-lane bridge with the addition of project traffic under Horizon Year conditions will notably change operations in one of two ways: 1) a change in threshold exceedance, or 2) change the delay by ± 10% of the capacity (i.e., a change of 0.10 to V/C). These changes would occur at the following 11 study area roadway segments as follows:

8. Friars Road from Mission Village Drive to the I-15 Ramps (slightly improve operations, which would *eliminate the previously identified threshold exceedance*)

16-16a. Fenton Parkway south of Rio San Diego Drive/Fenton Marketplace Driveway (degrade operations due to conversion from a dead-end street to a new cross-river connection, which would result in a *new threshold exceedance*)

17. San Diego Mission Road from Mission Village Drive to Rancho Mission Road (improve operations)

18. San Diego Mission Road from Rancho Mission Road to Fairmount Avenue (improve operations)

20. Rancho Mission Road from San Diego Mission Road to Ward Road (improve operations, which would *eliminate the previously identified threshold exceedance*)

22. Ward Road from Rancho Mission Road to Camino del Rio North (improve operations)

32. Camino del Rio North from Mission City Parkway to Ward Road (degrade operations)

33. Camino del Rio North from Ward Road to Fairmount Avenue (degrade operations)

34. Camino del Rio South from Texas St to Mission City Parkway (degrade operations)

35. Camino del Rio South from Mission City Parkway to I-15 Ramps (degrade operations)

In summary, the addition of the 2-lane bridge as compared to the no bridge scenario would cause one (1) new threshold exceedance and would eliminate two (2) threshold exceedances based on City thresholds.

4-Lane Scenario

Similar to intersections, the inclusion of the 4-lane bridge with the addition of project traffic under Horizon Year conditions will notably change operations in one of two ways: (1) a change in threshold exceedance; or (2) change the delay by +/- 10% of the capacity (i.e., a change of 0.10 to V/C). These changes would occur at the following study area roadway segments:

5. Friars Road from Fenton Parkway to Northside Drive (improve operations)

6. Friars Road from Northside Drive to Stadium Way (Street A) (improve but still unacceptable operations)

8. Friars Road from Mission Village Drive to the I-15 Ramps (improve operations, which would *eliminate the previously identified threshold exceedance*)

16-16a. Fenton Parkway south of Rio San Diego Drive/Fenton Marketplace Driveway (degrade operations, though they remain acceptable, due to conversion from a dead-end street to a new cross-river connection)

17. San Diego Mission Road from Mission Village Drive to Rancho Mission Road (improve operations)
18. San Diego Mission Road from Rancho Mission Road to Fairmount Avenue (improve operations)
19. Rancho Mission Road from Friars Road to San Diego Mission Road (improve operations)
20. Rancho Mission Road from San Diego Mission Road to Ward Road (improve operations, which would *eliminate the previously identified threshold exceedance*)
22. Ward Road from Rancho Mission Road to Camino del Rio North (improve operations)
32. Camino del Rio North from Mission City Parkway to Ward Road (degrade operations, which would result in a *new threshold exceedance*)
33. Camino del Rio North from Ward Road to Fairmount Avenue (degrade operations)
34. Camino del Rio South from Texas St to Mission City Parkway (degrade operations)
35. Camino del Rio South from Mission City Parkway to I-15 Ramps (degrade operations)

In summary, the addition of the 4-lane bridge as compared to the no bridge scenario would cause one new threshold exceedance and would eliminate two (2) threshold exceedances based on City thresholds.

Freeway Segment Analysis Comparison

Provision of either a 2-lane or 4-lane bridge would change the way some vehicles circulate around the project site and which interchanges would be used to access origins and destinations in the area extending from west of Qualcomm Way to east of Fairmount Avenue and accessed by Camino del Rio N and S, as well as Friars Road. More specifically, the redistribution of traffic under either the 2-lane or 4-lane bridge scenario would result in some traffic otherwise projected to travel on I-8 east of I-15 shifting to Montezuma Road with either new bridge connection. Similarly, some traffic projected to travel on I-15 south of Friars Road would shift to the Camino del Rio S interchange. Therefore, on the I-8 freeway segments from I-15 to College Avenue and the I-15 auxiliary lanes at Friars Road, operations would improve with the bridge in place. However, the addition of the bridge would still result in the same number of impacted freeway segments.

Freeway Ramp Metering Analysis Comparison

Related to the freeway segment comparison, the addition of either a 2-lane or 4-lane bridge would change travel patterns related to freeway access and affect the traffic volume and projected delay on metered on-ramps at selected interchanges. Specifically, with the traffic redistribution, the metered direct on-ramp to I-15 Southbound at Friars Road would serve less traffic and would experience improved operations with the bridge in place. The primary shift in traffic volume would occur between this ramp and the on-ramp from Camino del Rio S to southbound I-15. Under the 4-lane bridge scenario, the volume on the direct on-ramp from Friars Road would be reduced enough to eliminate the previously identified project impact on that facility; all other impacts would be similar to conditions without the bridge. Therefore, the addition of the 4-lane bridge would result in the elimination of one (1) significant impact. In comparison, under the 2-lane scenario, none of the impacts would be eliminated and, therefore, the addition of the bridge would result in the same number of impacted metered freeway on-ramps.

Freeway Off-Ramp Queuing Analysis

2-Lane Scenario

The addition of the 2-lane bridge and resulting redistribution of vehicle trips would change the length of vehicle queues at the following three freeway off-ramps:

29. Qualcomm Wy & Camino del Rio N/I-8 WB Off-ramp (negligibly decrease queues on one turning movement during both the AM and PM peak hour)
46. Camino del Rio S & I-15 SB Off-ramp (increase the AM peak hour queues and negligibly change the PM peak hour queue)
48. I-15 NSB Off-ramp & Camino del Rio S (increase both the AM and PM peak hour queues)

In all cases, however, the projected off-ramp queues in 2037 would be accommodated by the existing storage capacity with the 2-lane bridge. This is the same finding reached for conditions without the bridge.

4-Lane Scenario

The addition of the 4-lane bridge and resulting redistribution of vehicle trips will change the length of vehicle queues at the following four freeway off-ramps:

29. Qualcomm Wy & Camino del Rio N/I-8 WB Off-ramp (decrease queues on one turning movement during both the AM and PM peak hour)
30. Texas St/Qualcomm Wy & I-8 EB Off-ramp (slightly decrease the AM peak hour queue and more than double the PM peak hour queue)
46. Camino del Rio S & I-15 SB Off-ramp (increase the AM peak hour queues and negligibly change the PM peak hour queue)
48. I-15 NSB Off-ramp & Camino del Rio S (increase both the AM and PM peak hour queues)

In all cases, however, the projected off-ramp queues in 2037 would be accommodated by the existing storage capacity with the 4-lane bridge. This is the same finding reached for conditions without the bridge.

4.15.11.10 Effect of Fenton Parkway Extension and Bridge on Project VMT Assessment

Similar to the process described in section 4.15.7.9 above, a SANDAG model run with both a 2-lane and a 4-lane Fenton Parkway bridge was run both without and with the proposed project in place. The resulting VMT for each scenario is presented in Tables 4.15-57 and 4.15-58.

Under the 2-lane scenario, as shown on Table 4.15-57, the proposed project's VMT/service population with the 2-lane bridge in place would be 25.7% less than the regional baseline. Based on a threshold of 15% less than the regional baseline, the addition of the 2-lane bridge to the project buildout scenario would not result in a project level impact.

As to cumulative impacts, also as shown on Table 4.15-57, implementation of the proposed project would result in a VMT/service population of 32.88 under the long-range scenario, which is lower than the VMT without the proposed project would be at that time. As such, the proposed project would not result in a cumulative VMT impact with a 2-lane bridge in place. Thus, the conclusion of the analysis with the 2-lane bridge in place is the same conclusion as that reached without the Fenton Parkway extension and bridge in place.

Table 4.15-57. VMT Analysis With 2-Lane Bridge

Metric	Project-Level Assessment		Cumulative Level Assessment	
	2012 Baseline	*Project Buildout*	*2035 No Project*	*2035 With Project*
Vehicle Miles Traveled	157,783,545	358,667	185,526,143	185,442,098
Service Population	4,594,395	14,058	5,623,920	5,637,978
VMT Per Service Population	**34.34**	**25.51**	**32.99**	**32.88**
% Decrease from 2012 Baseline		**25.7%**		

Source: SANDAG 2035 Regional Activity-Based Travel Demand Model (Series 13) and Appendix 4.15-1.

Under the 4-lane scenario, as shown on Table 4.15-58, the proposed project's VMT/service population with the bridge in place would be 25.8% less than the regional baseline. Based on a threshold of 15% less than the regional baseline, the addition of the 4-lane bridge would not result in a project level impact.

As to cumulative impacts, as shown on Table 4.15-58, under the 4-lane bridge scenario, implementation of the proposed project would result in a VMT/service population of 32.88 under the long-range scenario, which is lower than the VMT without the proposed project would be at that time. As such, the proposed project would not result in a cumulative VMT impact with a 4-lane bridge in place. Thus, the conclusion of the analysis with the bridge in place is the same conclusion as that reached without the Fenton Parkway extension and 4-lane bridge in place.

Table 4.15-58. VMT Analysis with 4-Lane Bridge

Metric	Project-Level Assessment		Cumulative Level Assessment	
	2012 Baseline	*Project Buildout*	*2035 No Project*	*2035 With Project*
Vehicle Miles Traveled	157,783,545	358,434	185,462,877	185,379,029
Service Population	4,594,395	14,058	5,623,920	5,637,978
VMT Per Service Population	**34.34**	**25.50**	**32.98**	**32.88**
% Decrease from 2012 Baseline		**25.8%**		

Source: SANDAG 2035 Regional Activity-Based Travel Demand Model (Series 13) and Fehr & Peers, 2019.

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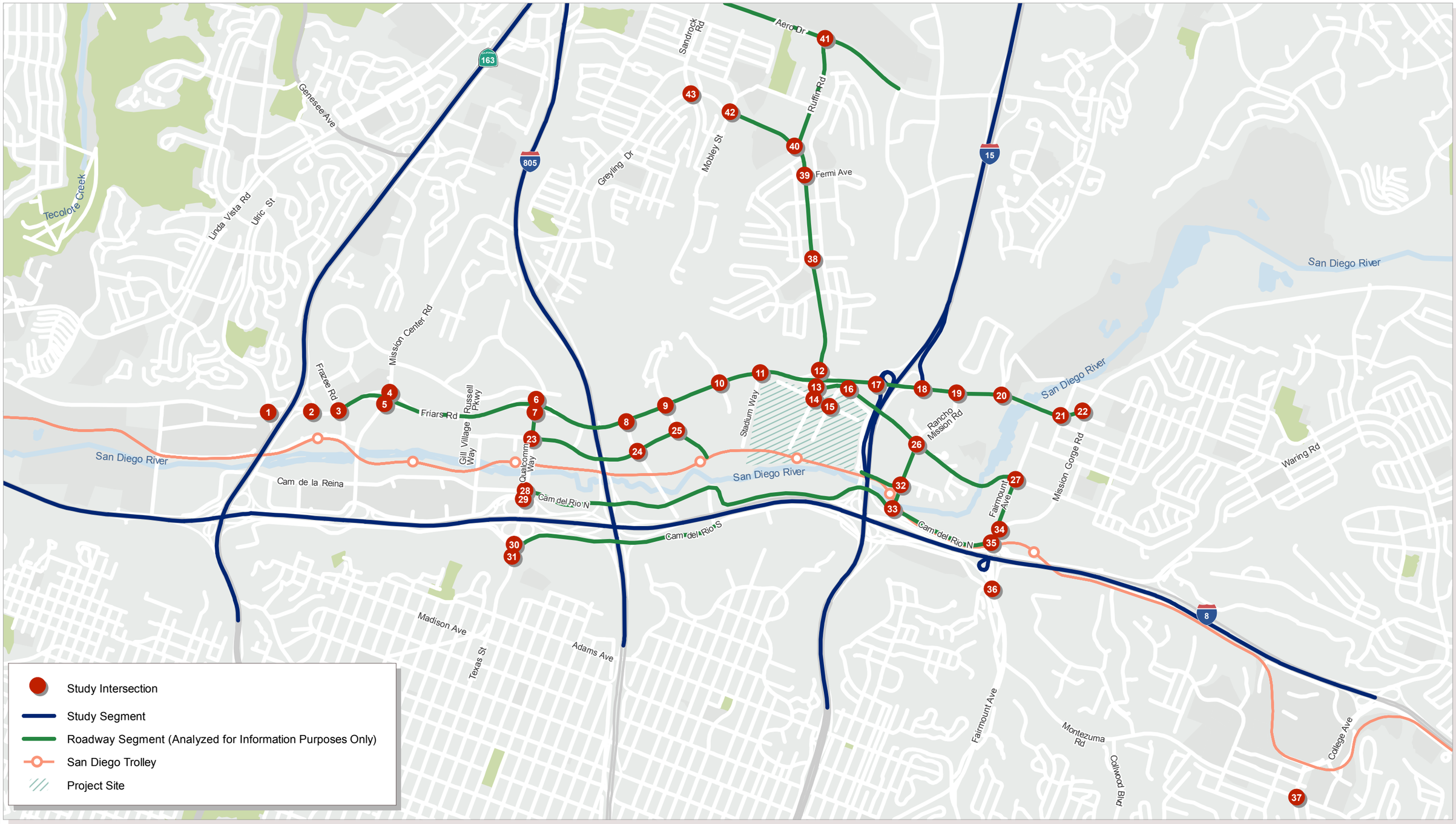

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-1
Study Intersections and Segments

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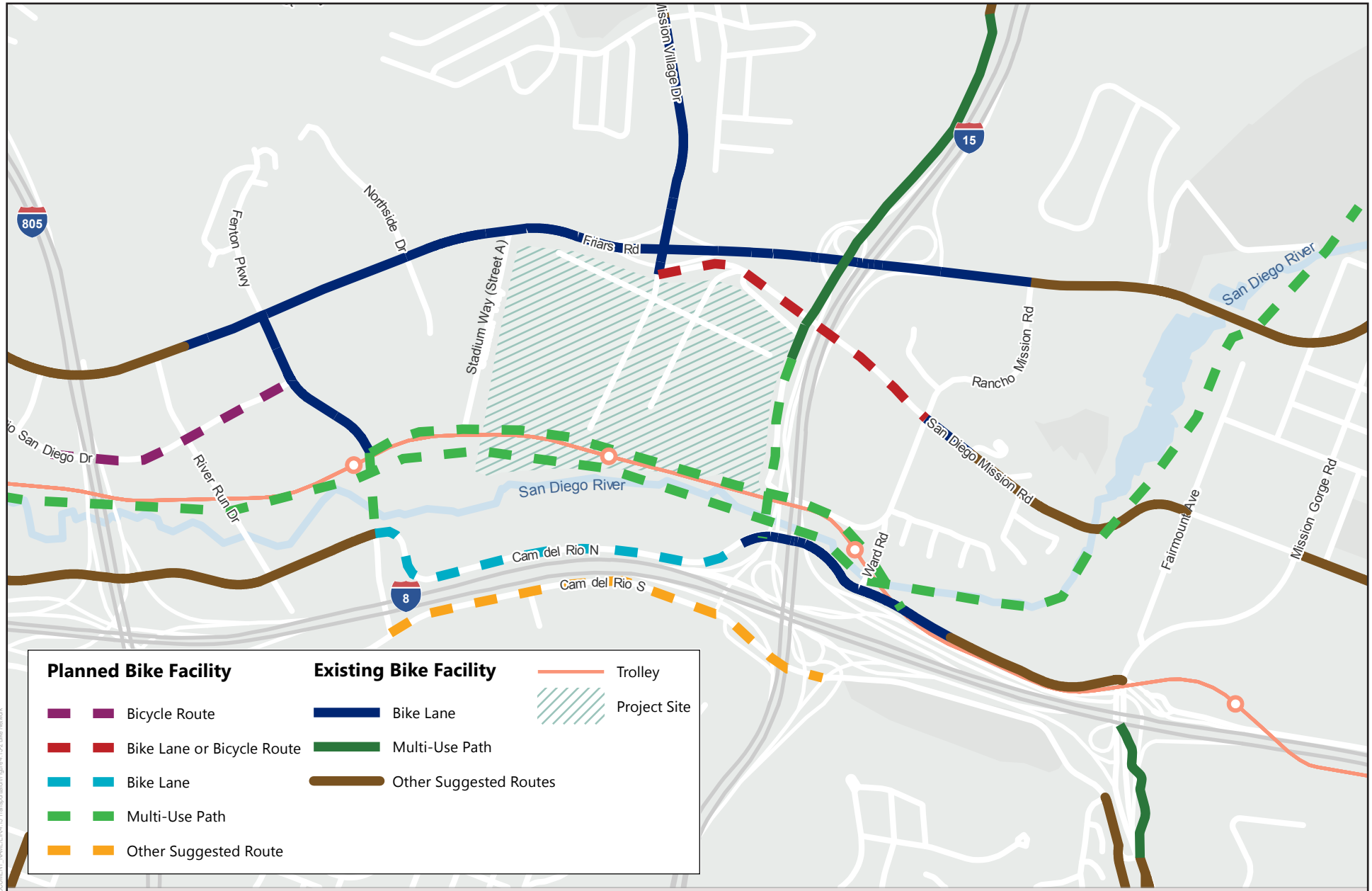

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-2
Bike Network

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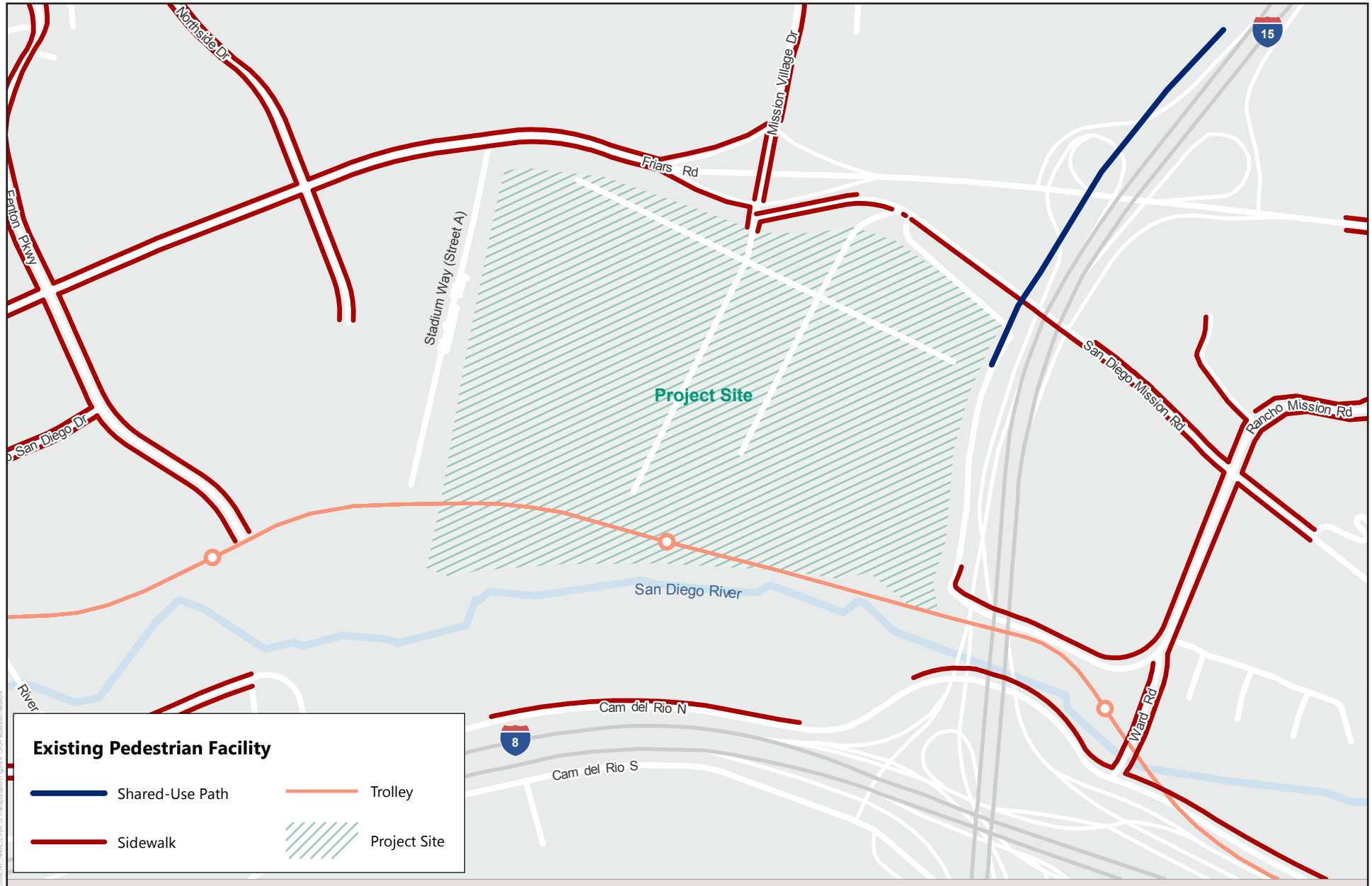

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-3
Pedestrian Network

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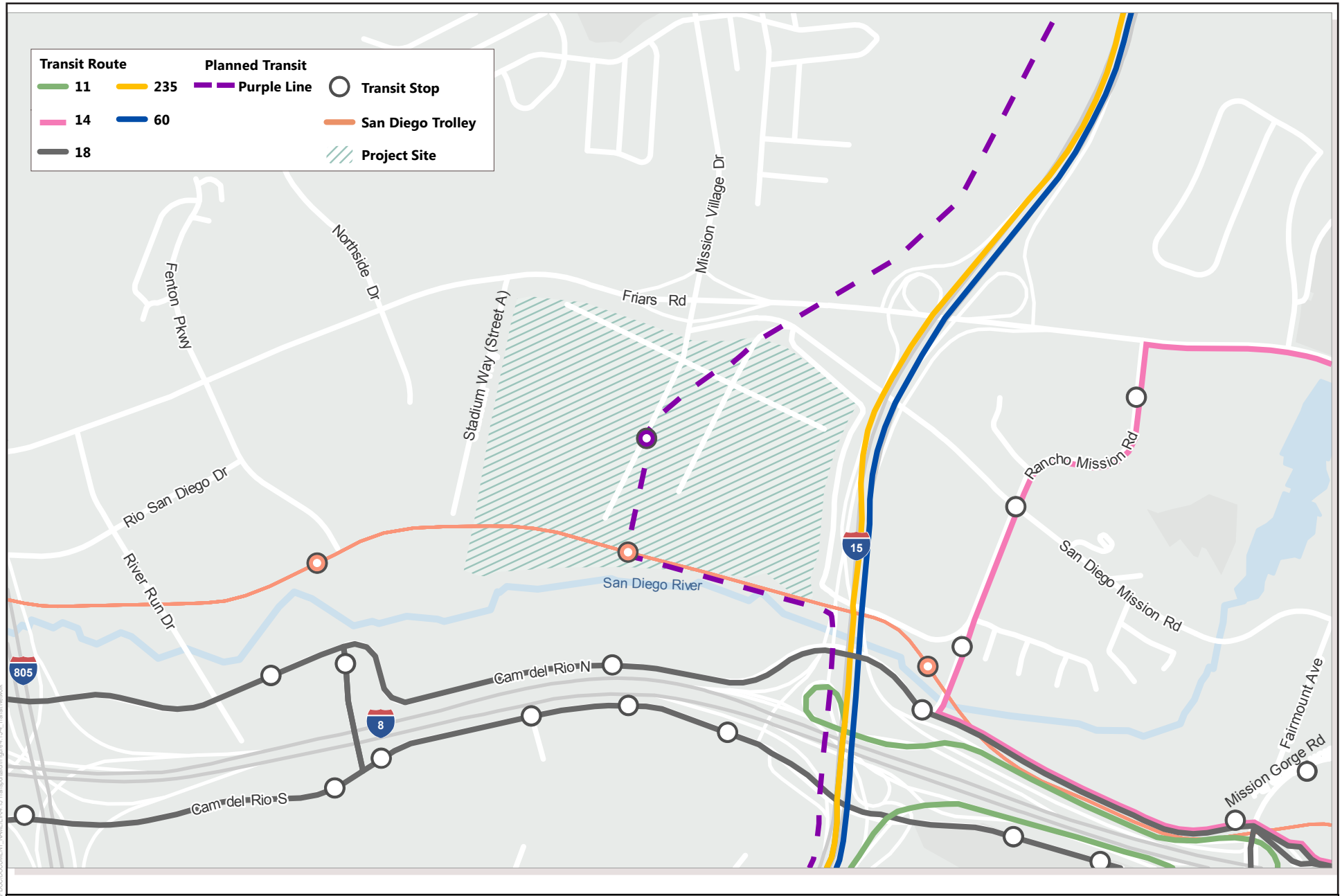

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-4
Transit Network

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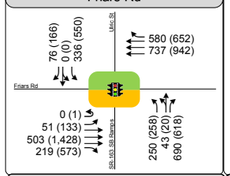
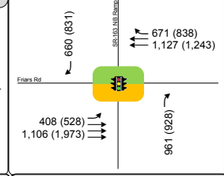
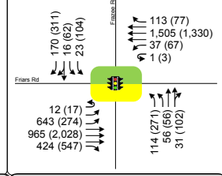
1. Ulric St/SR-163 SB Ramps/ Friars Rd



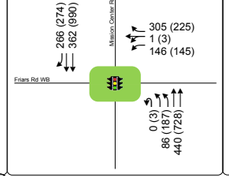
2. SR-163 NB Ramps/Friars Rd



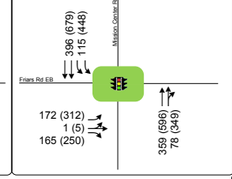
3. Frazee Rd/Friars Rd



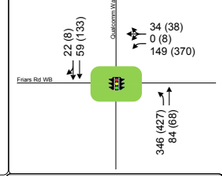
4. Mission Center Rd/Friars Rd WB



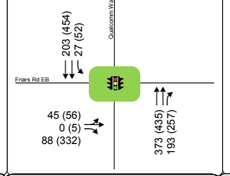
5. Mission Center Rd/Friars Rd EB



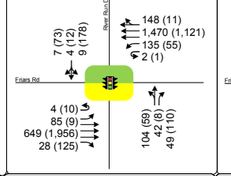
6. Qualcomm Way/Friars Rd WB



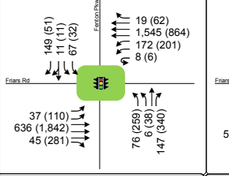
7. Qualcomm Way/Friars Rd EB



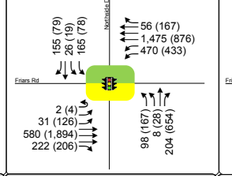
8. River Run Dr/Friars Rd



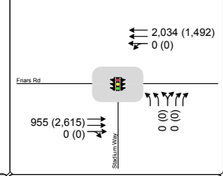
9. Fenton Pkwy/Friars Rd



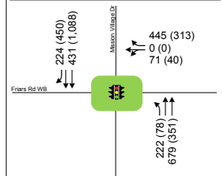
10. Northside Dr/Friars Rd



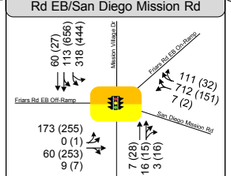
11. Stadium Way (Street A)/Friars Rd



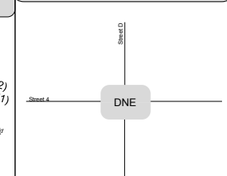
12. Mission Village Dr/Friars Rd WB



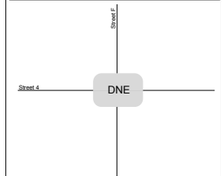
13. Mission Village Dr/Street D/Friars Rd EB/San Diego Mission Rd



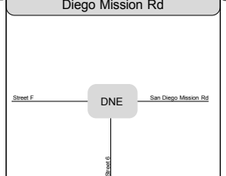
14. Street D/Street 4



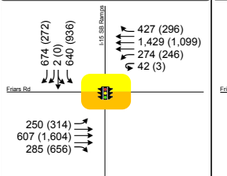
15. Street F/Street 4



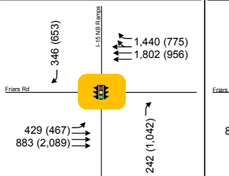
16. Street F/Street 6/San Diego Mission Rd



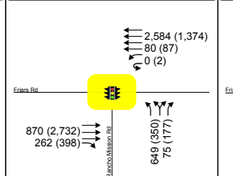
17. I-15 SB Ramps/Friars Rd



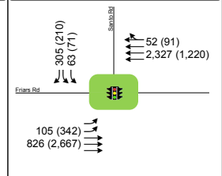
18. I-15 NB Ramps/Friars Rd



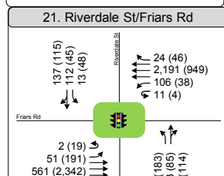
19. Rancho Mission Rd/Friars Rd



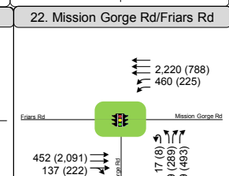
20. Santo Rd/Friars Rd



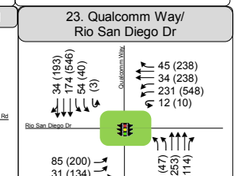
21. Riverdale St/Friars Rd



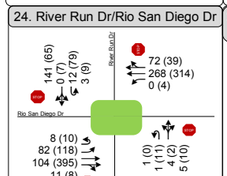
22. Mission Gorge Rd/Friars Rd



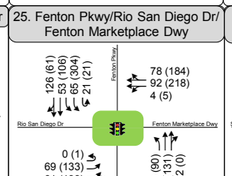
23. Qualcomm Way/ Rio San Diego Dr



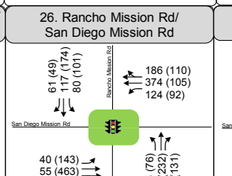
24. River Run Dr/Rio San Diego Dr



25. Fenton Pkwy/Rio San Diego Dr/ Fenton Marketplace Dwy

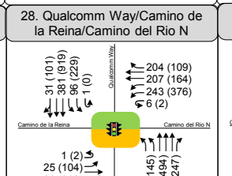


26. Rancho Mission Rd/ San Diego Mission Rd

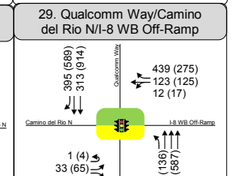


27. Fairmount Ave/San Diego Mission Rd/Twain Ave

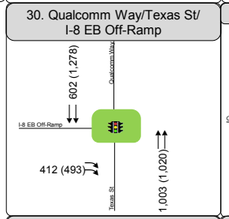
28. Qualcomm Way/Camino de la Reina/Camino del Rio N



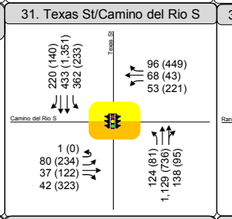
29. Qualcomm Way/Camino del Rio N/I-8 WB Off-Ramp



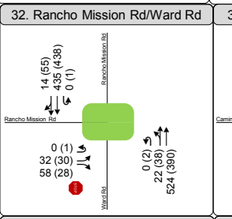
30. Qualcomm Way/Texas St/ I-8 EB Off-Ramp



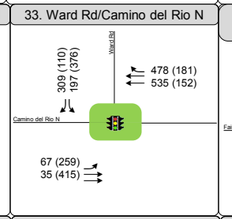
31. Texas St/Camino del Rio S



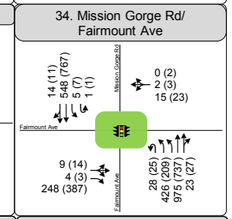
32. Rancho Mission Rd/Ward Rd



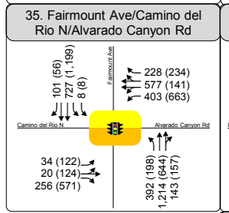
33. Ward Rd/Camino del Rio N



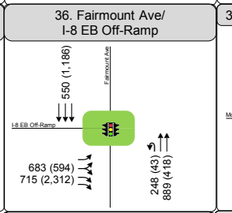
34. Mission Gorge Rd/ Fairmount Ave



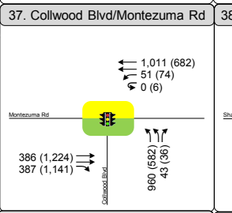
35. Fairmount Ave/Camino del Rio N/Alvarado Canyon Rd



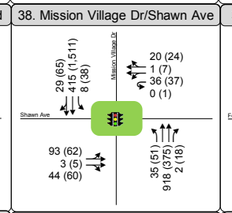
36. Fairmount Ave/ I-8 EB Off-Ramp



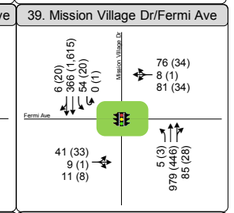
37. Collwood Blvd/Montezuma Rd



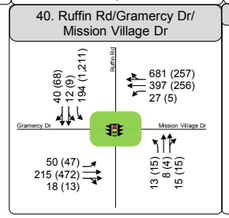
38. Mission Village Dr/Shawn Ave



39. Mission Village Dr/Fermi Ave



40. Ruffin Rd/Gramercy Dr/ Mission Village Dr



41. Ruffin Rd/Aero Dr

42. Mobley St/Gramercy Dr

43. Sandrock Rd/Greyling Dr/ Gramercy Dr

Study Intersection

San Diego Trolley

Project Site

AM (PM) Peak Hour Volumes

AM / PM LOS: A-C D E F

X,XXX ADT Volumes

DNE = Does Not Exist

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-5

Existing Conditions Diagram

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SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-6
Trip Distribution

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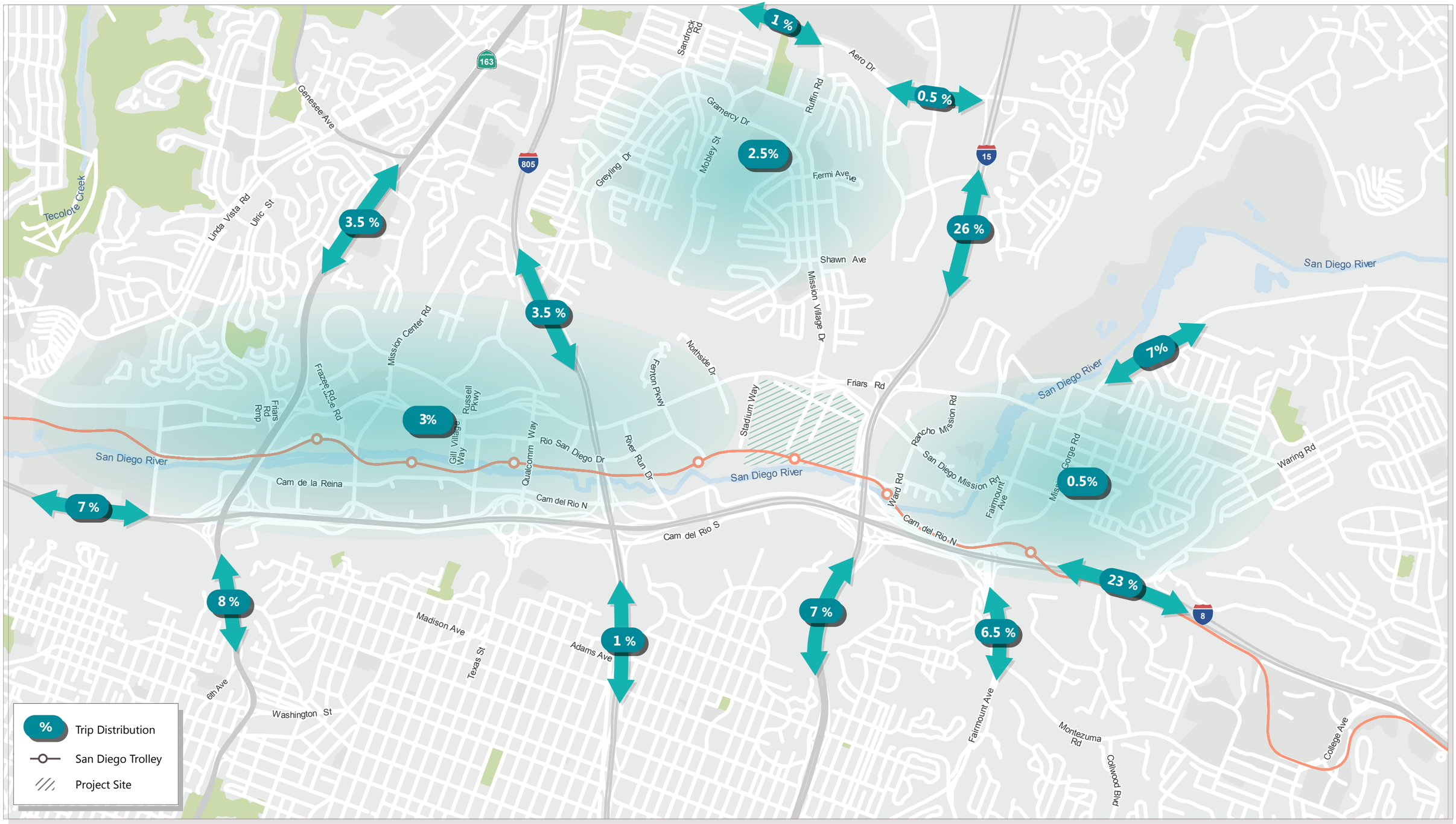

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-7
Event Trip Distribution

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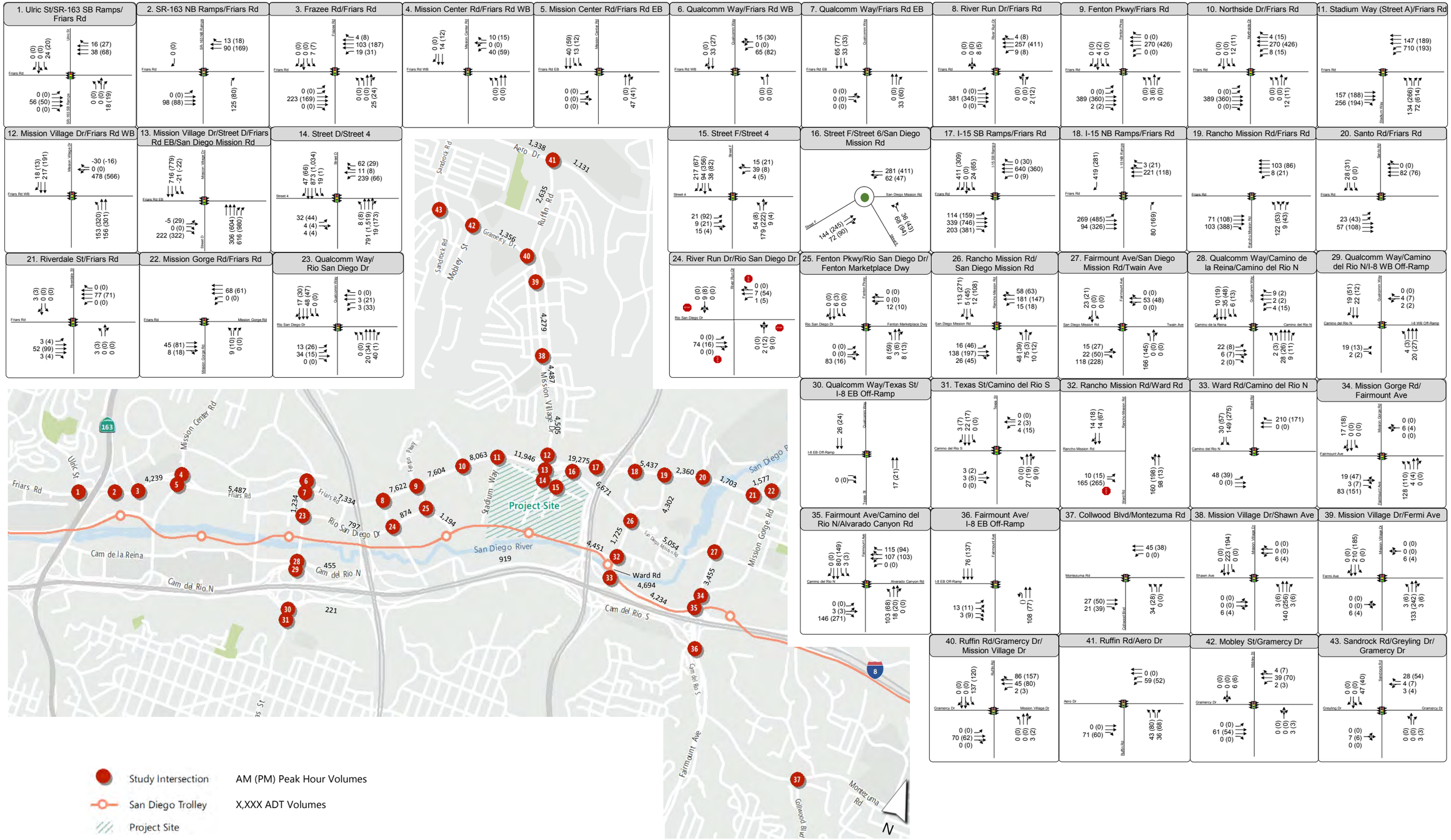

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-8
Project Trip Assignment

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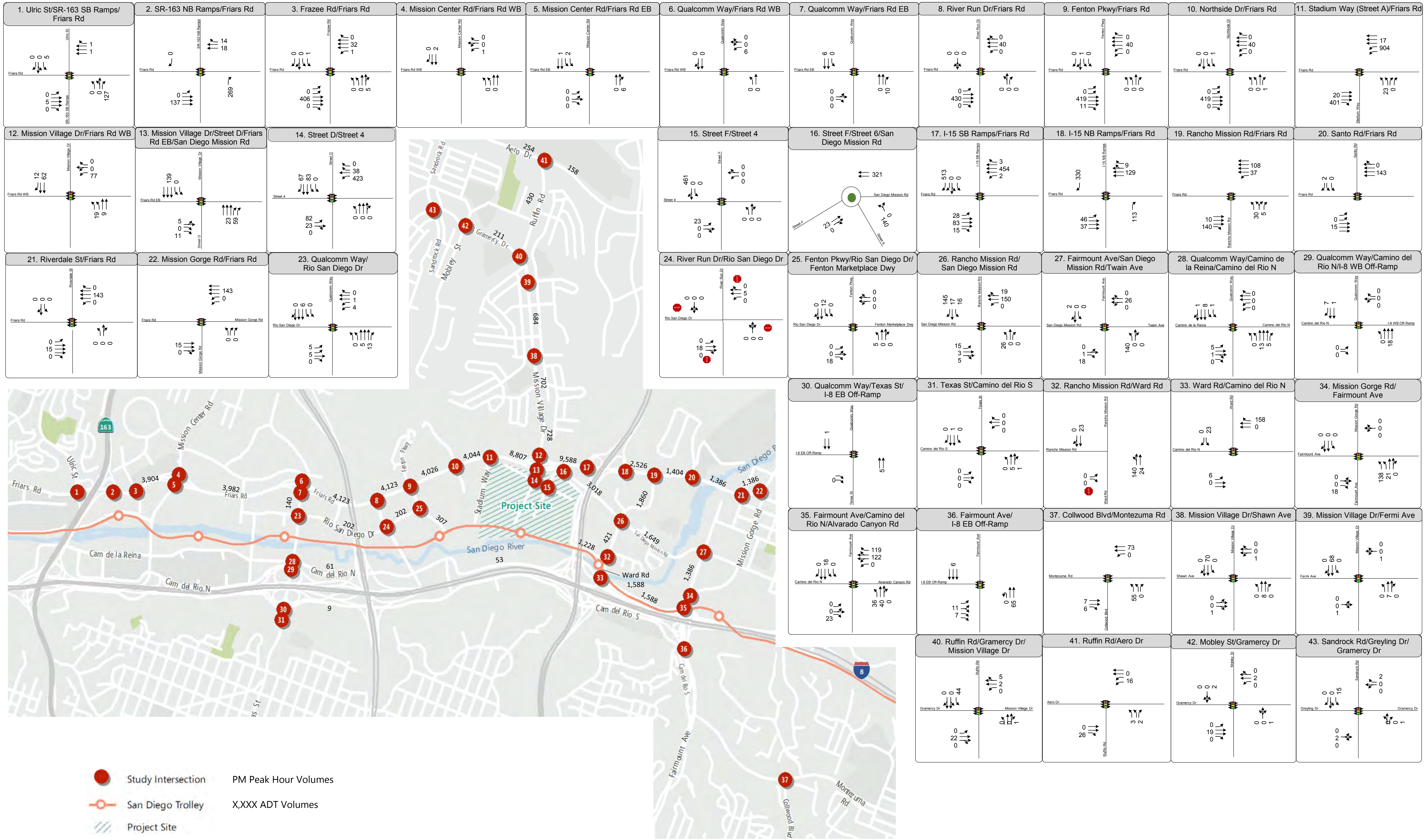

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-9
Event Trip Assignment

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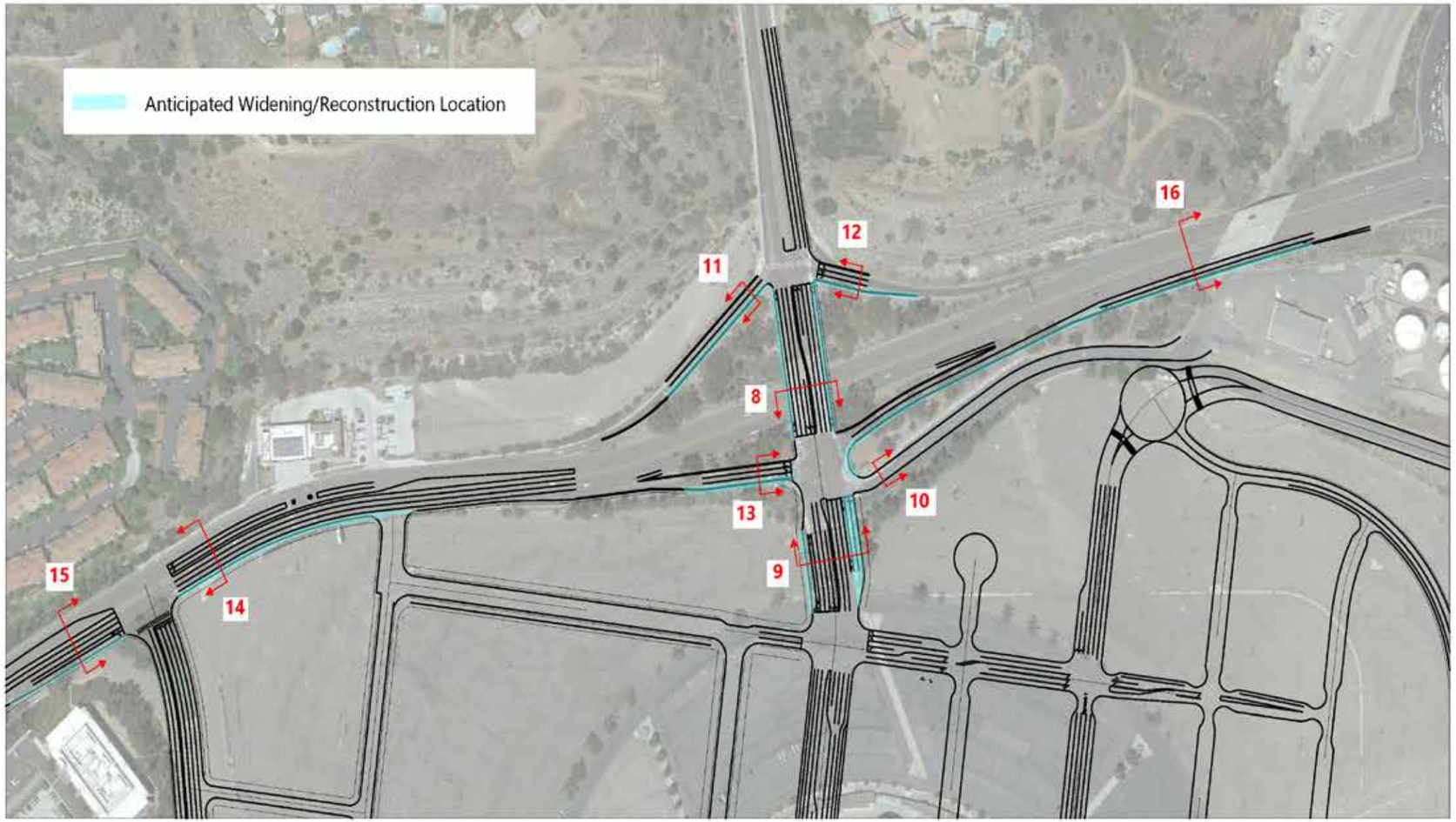

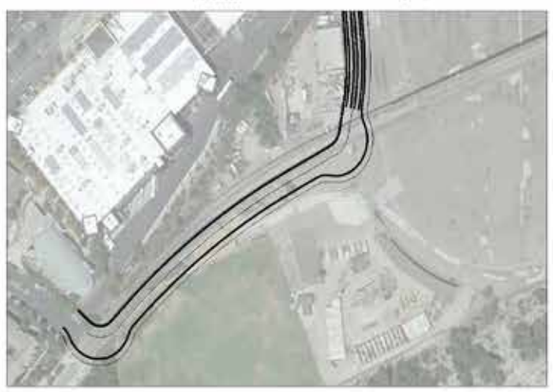

Fenton Parkway Connection

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-10A
Project Road Improvements

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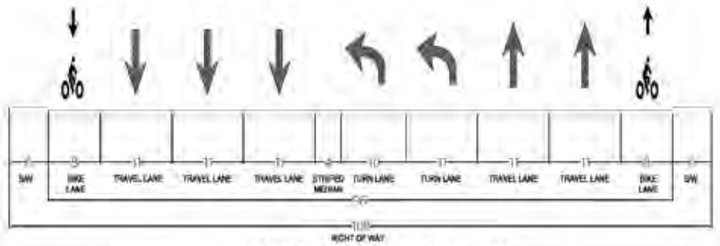
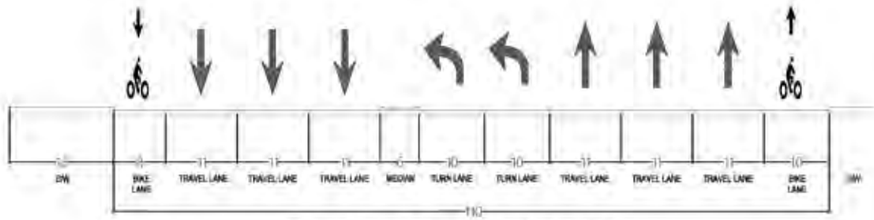
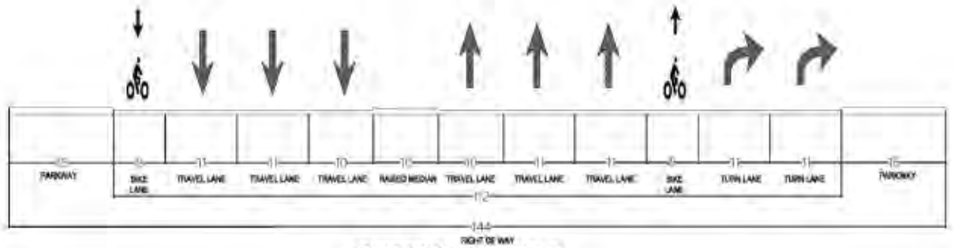


SECTION 8 - MISSION VILLAGE

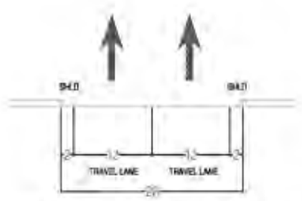


SECTION 14 - FRIARS ROAD (EAST)

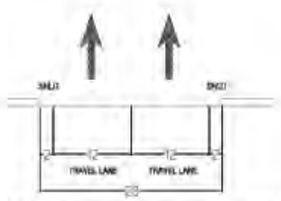


SECTION 9 - STREET D

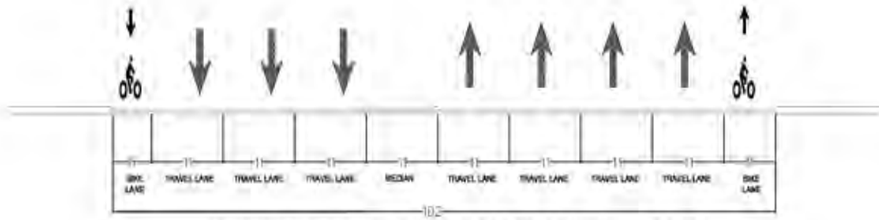
SECTION 15 - FRIARS ROAD (WEST)



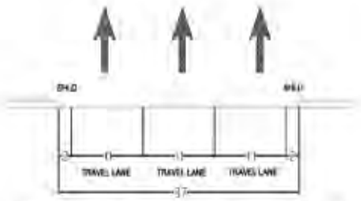
SECTION 10 - EB FRIARS ON-RAMP



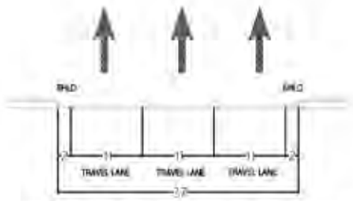
SECTION 11 - WB FRIARS ON-RAMP



SECTION 16 - FRIARS ROAD (EAST OF MISSION VILLAGE)



SECTION 12 - WB FRIARS OFF-RAMP



SECTION 13 - EB FRIARS OFF-RAMP

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-10B
Project Road Improvements

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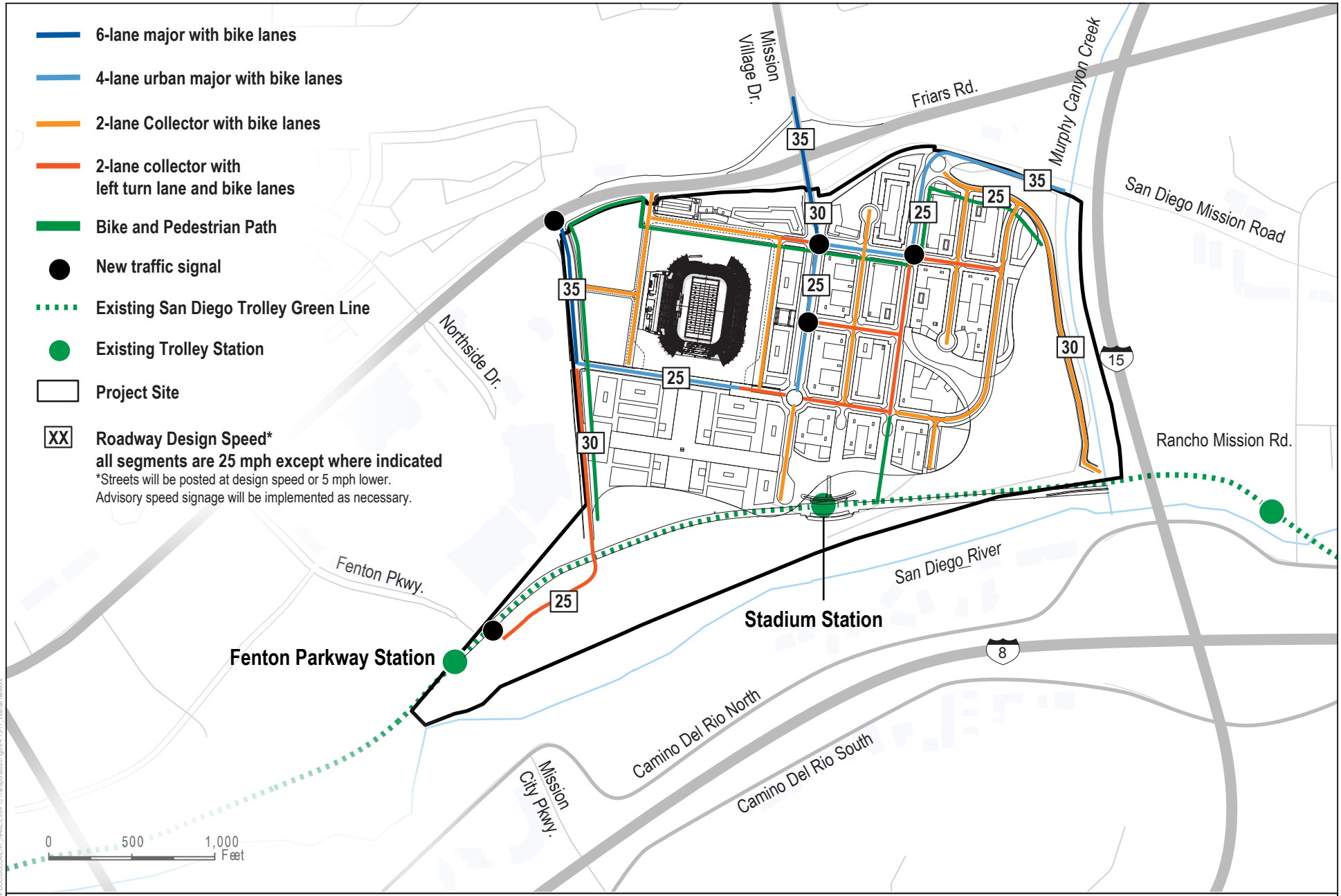

SOURCES: CARRIER JOHNSON / 2018, FEHR PEERS / JULY 2019

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Figure 4.15-11
Internal Network

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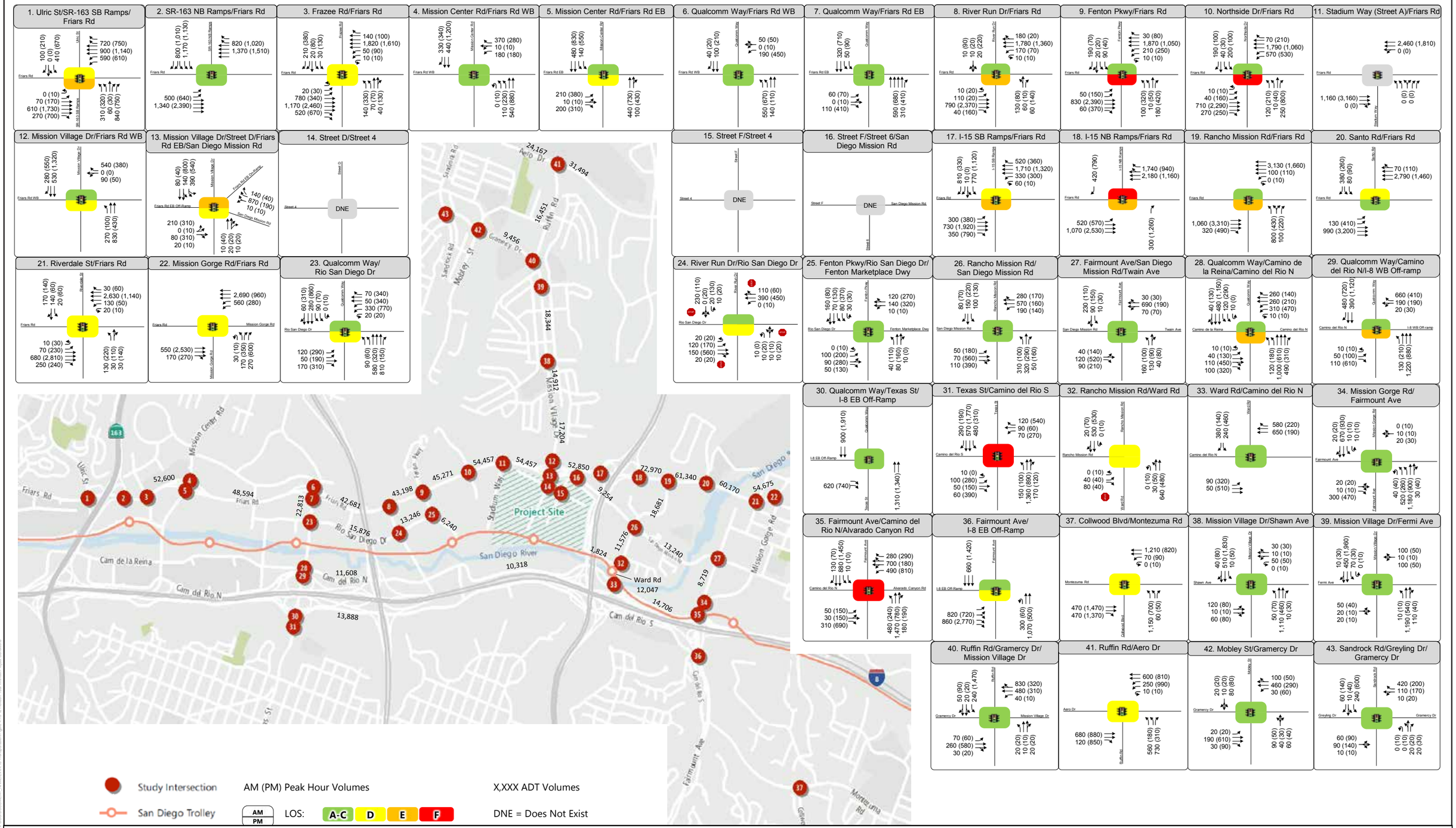

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-12

Horizon Year Without Project Conditions

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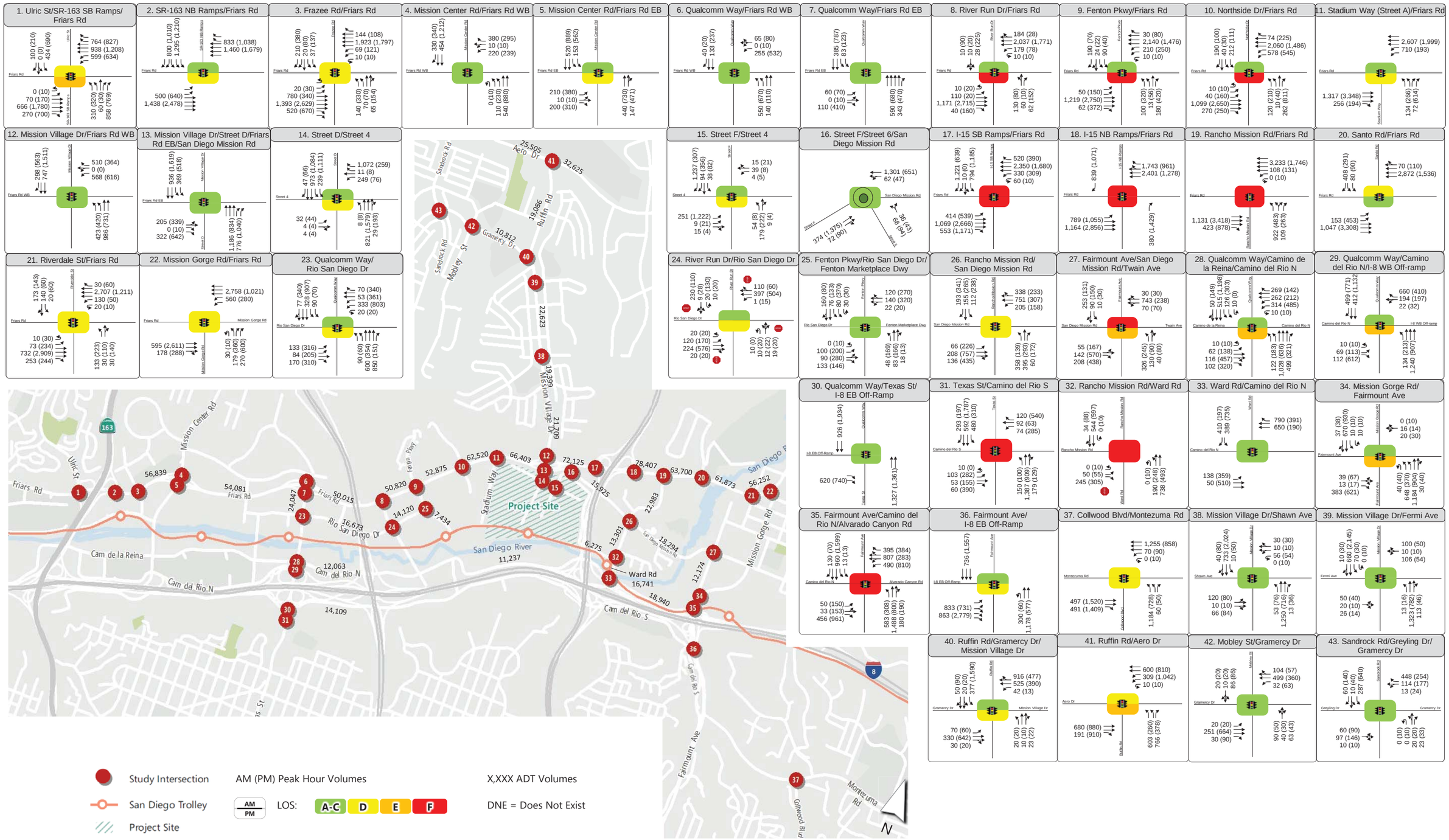

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-13

Horizon Year (2037) Plus Project Conditions

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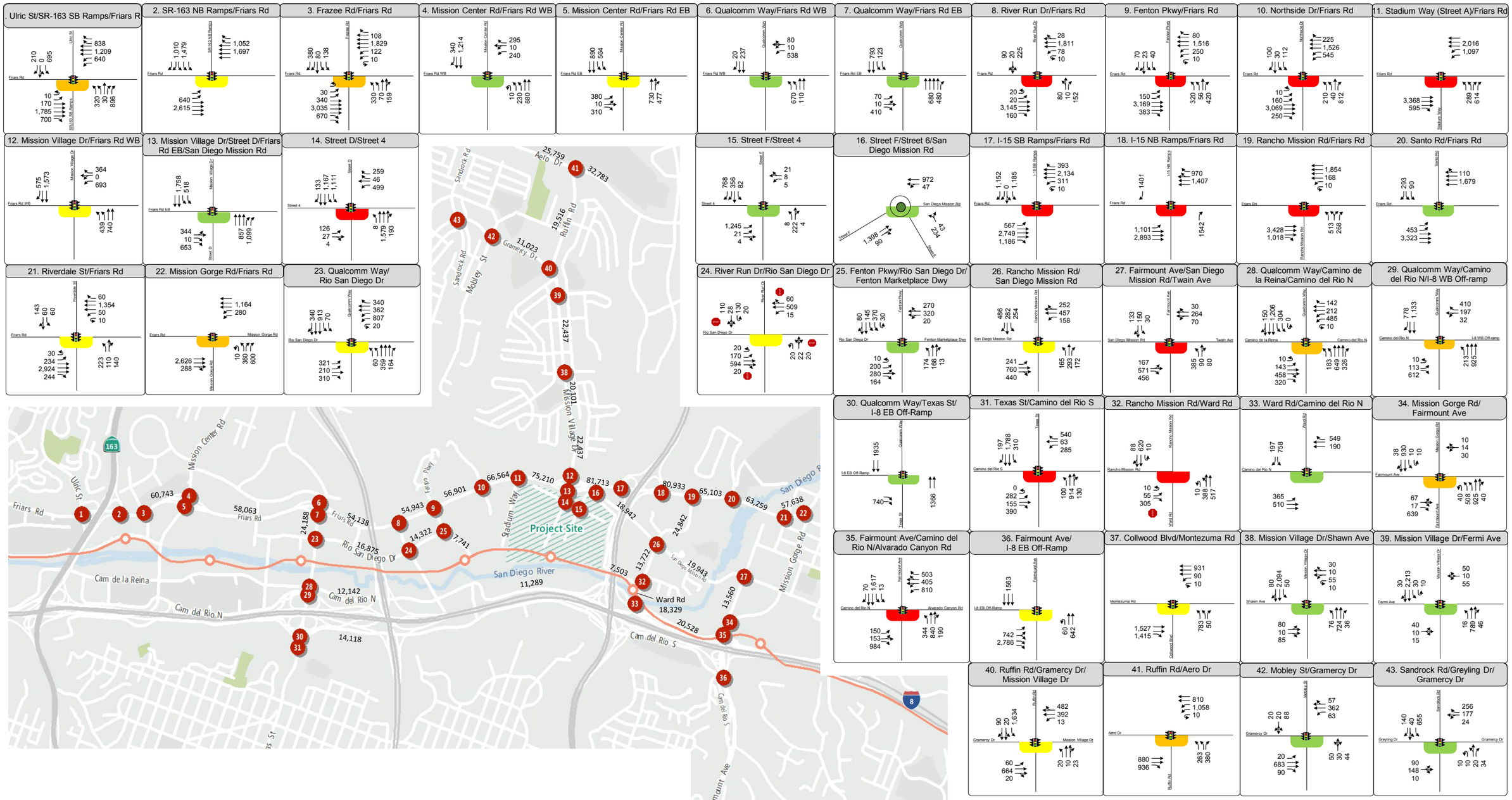

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-14

Horizon Year (2037) Plus Project Plus Stadium Event Conditions

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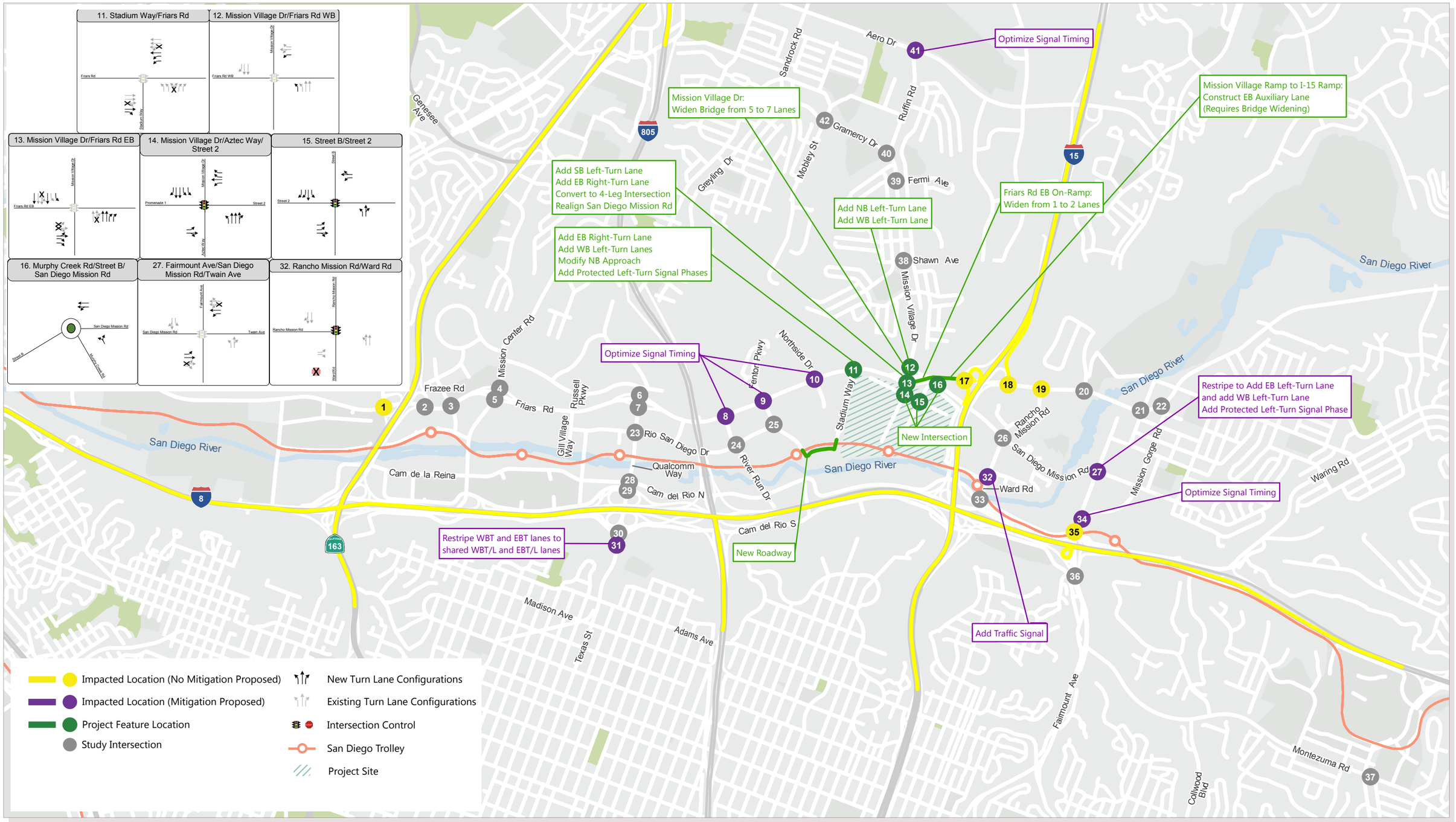

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-15
Traffic Impacts and Improvements for Buildout

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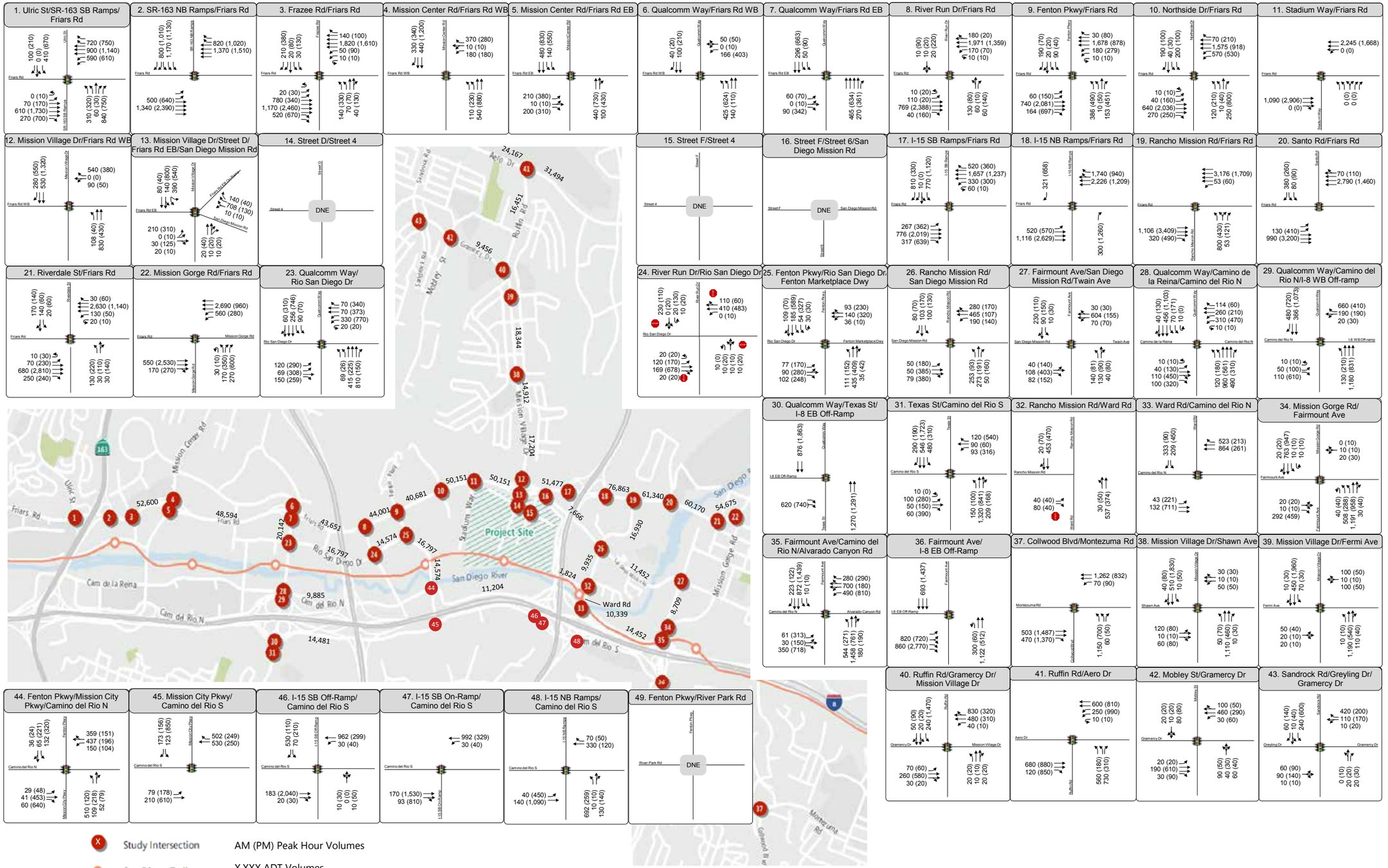

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-16

Horizon Year No Project W/O with 2-Lane Fenton Parkway Bridge –Volumes and Lane Configurations

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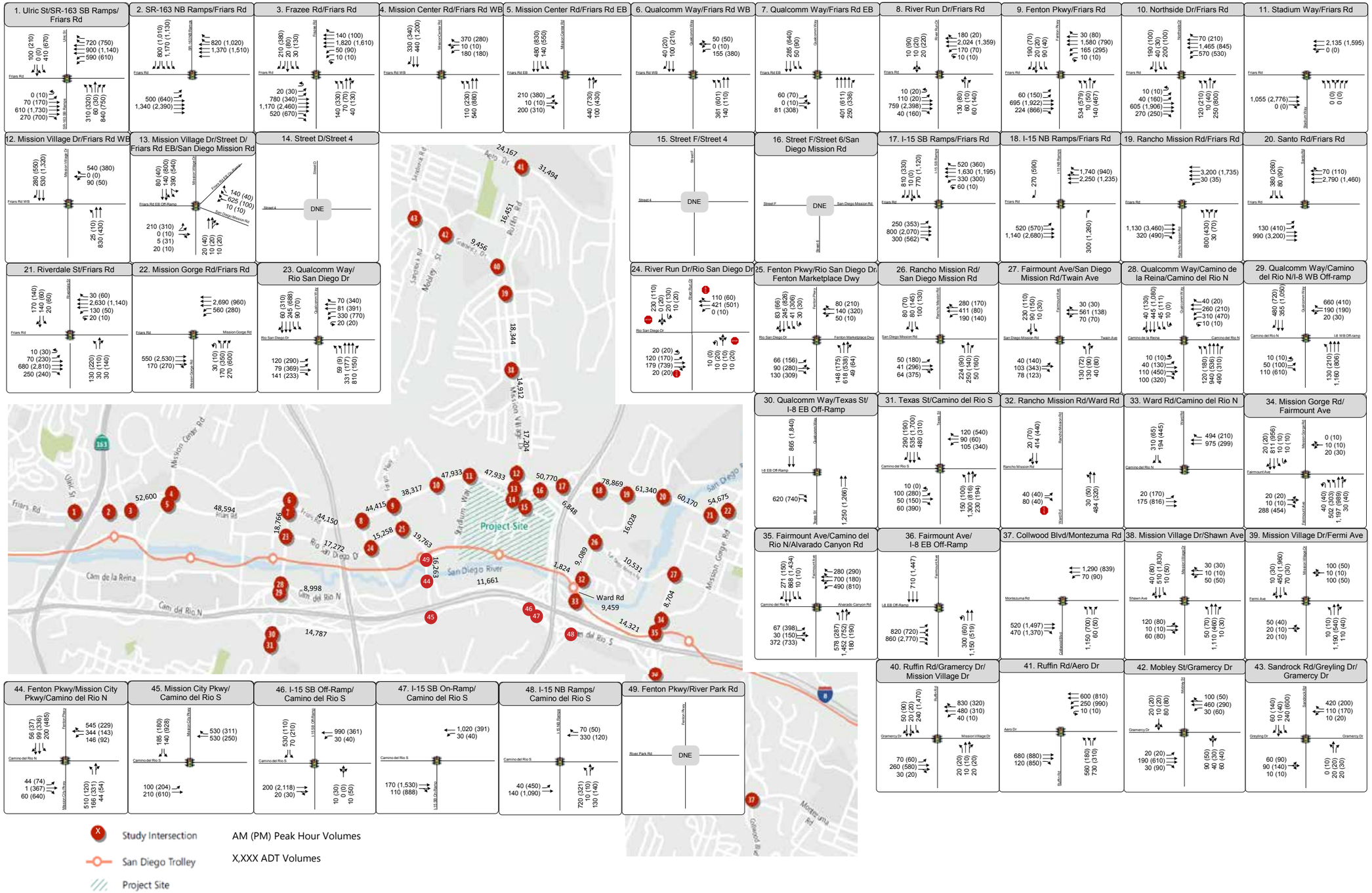

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-17

Horizon Year No Project W/O Event with 4-Lane Fenton Parkway Bridge –Volumes and Lane Configurations

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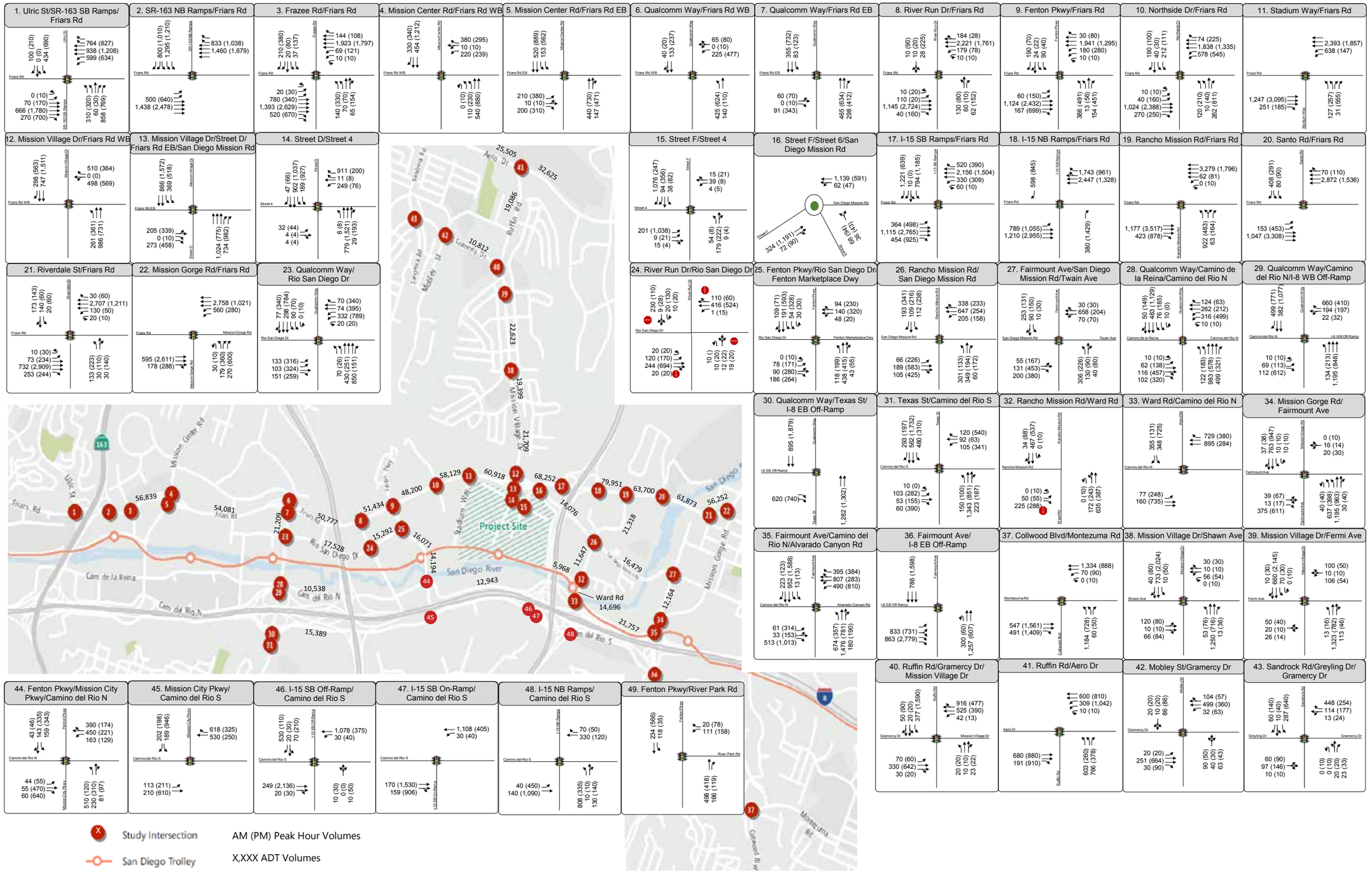

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-18

Horizon Year Plus Project W/O Event with 2-Lane Fenton Parkway Bridge –Volumes and Lane Configurations

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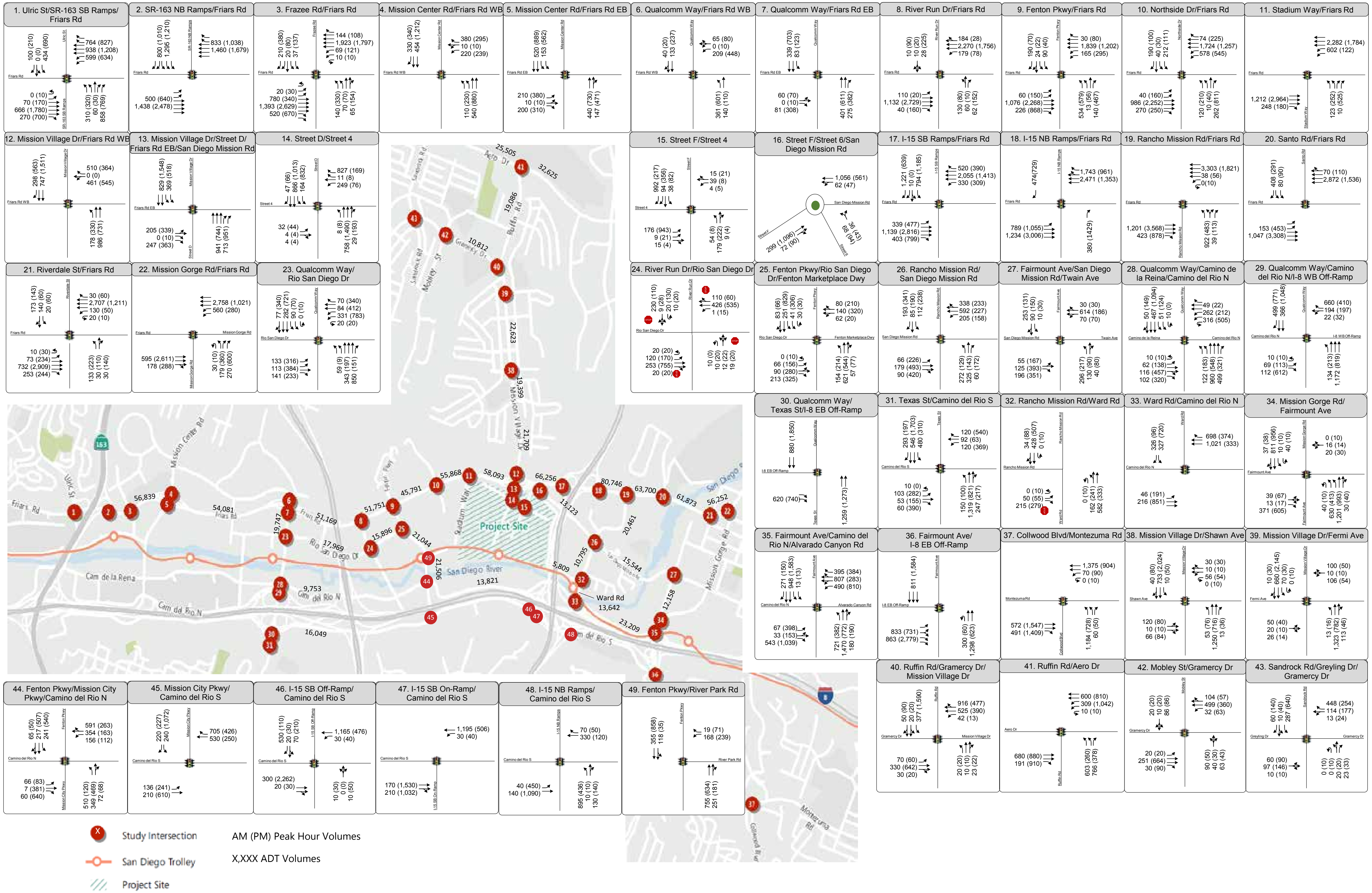

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-19

Horizon Year Plus Project W/O Event with 4-Lane Fenton Parkway Bridge –Volumes and Lane Configurations

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SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-20

Effect of 2-Lane Fenton Parkway Extension on Horizon Year Plus Project W/O Event – Traffic Redistribution

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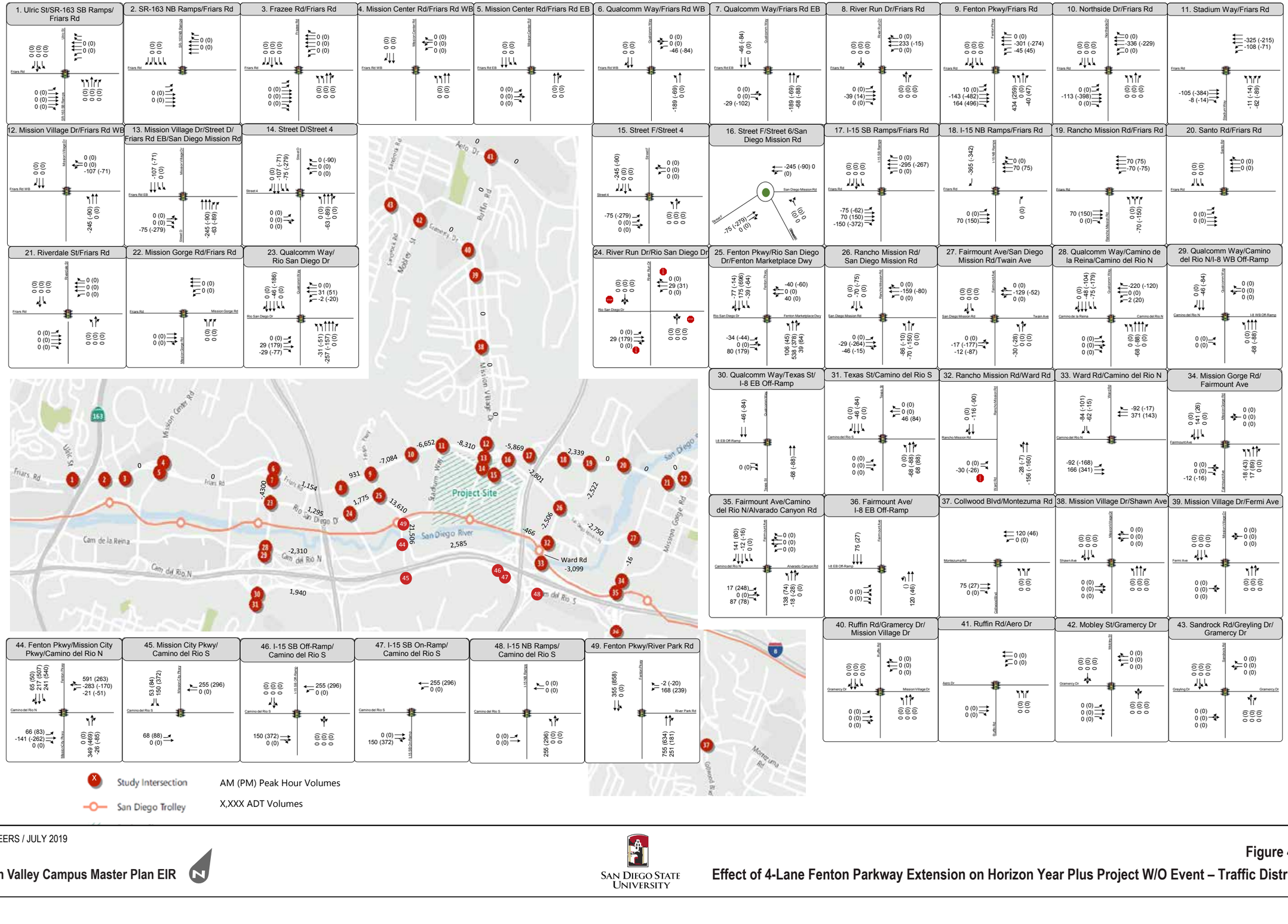

SOURCE: FEHR PEERS / JULY 2019

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Figure 4.15-21

Effect of 4-Lane Fenton Parkway Extension on Horizon Year Plus Project W/O Event – Traffic Distribution

Figure 4.15-21 Effect of 4-Lane Fenton Parkway Extension on Horizon Year Plus Project W/O Event – Traffic Distribution

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