

5.10 TRAFFIC, ACCESS, AND CIRCULATION

5.10.1 INTRODUCTION

Purpose

The County of Los Angeles Department of Regional Planning Environmental Checklist Form, which has been prepared pursuant to the California Environmental Quality Act (CEQA) Guidelines, requires that traffic, access, and circulation issues be evaluated as part of the environmental documentation process. The traffic impacts from the proposed Centennial Project are analyzed under existing and future conditions. The impacts of the proposed development on the Project site are analyzed at a project-level of detail; direct and indirect impacts are addressed for each threshold criteria for both the on-site and off-site Project features. Growth-inducing impacts and cumulative impacts are described in Sections 6.0 and 7.0, respectively.

Summary

This section of the EIR analyzes traffic conditions with and without the Project in the near-term (under Existing conditions) and long-term cumulative (under 2035 buildout conditions for Los Angeles County and 2040 buildout conditions for Kern County).

Potential traffic increases associated with Project implementation would affect traffic operations and levels of service at roadways internal to the site and at roadways and freeways serving the site. These impacts would be addressed by a range of on-site and off-site Project improvements and the implementation of Project Design Features (PDFs) and mitigation measures (MMs). The PDFs and MMs include new internal roads, improved intersection configurations, and the addition of traffic signals that have been incorporated into the Project and payment of fair share fees for needed freeway and expressway improvements, as identified below. With the incorporation of PDFs and the recommended MMs, Project impacts to traffic on State Route (SR) 138, streets intersecting SR-138 in the Project vicinity, freeway mainline segments, freeway interchange ramps, and arterial roadway intersections will be less than significant.

The Project Applicant intends to implement and fund State transportation facility mitigation measures through a proposed Centennial Transportation Improvement Program (CTIP) agreement with the California Department of Transportation (Caltrans). The CTIP would provide funding contributions, phasing, guarantees of payments, and collection of third-party contributions for MM implementation. Alternatively, the Project will pay a fair share contribution towards the construction of transportation facilities that will mitigate for potential Project impacts (see MM 10-3, MMs 10-6 through MM 1-28, and MMs 10-31 through 10-45). With these traffic mitigation measures, there will not be a significant Project or cumulative impact from Project traffic. The Project will also be in compliance with the Los Angeles County and Kern County Congestion Management Programs (CMPs). The Project will incorporate PDFs to reduce vehicle use and promote alternative transportation, including transit use, in compliance with applicable transportation plans, policies, and regulations. However, if Caltrans does not implement planned and required improvements

on State facilities, the Project would contribute to significant unavoidable impacts since the County (as the Lead Agency) lacks jurisdiction and control over State highway facilities, and cannot mandate the construction of improvements to these facilities.

Section Format

As described in Section 5.0, Environmental Setting, Impacts, and Mitigation, and in accordance with State CEQA Guidelines Article 9 (Contents of Environmental Impact Reports), each topical environmental analysis includes a description of the existing setting; identification of thresholds of significance; analysis of potential Project effects and identification of significant impacts; identification of mitigation measures, if required, to reduce significant impacts; and level of significance after mitigation, if any. This information is presented in the following format (Please refer to Section 2.0, Introduction, and Section 5.0, Environmental Setting, Impacts, and Mitigation, for descriptions of each of these topics):

- Introduction
 - Purpose
 - Summary
 - Section Format
 - Methodology
 - References
- Relevant Plans, Policies, and Regulations
- Environmental Setting
- Project Design Features
- Threshold Criteria
- Environmental Impacts – A separate analysis is provided for each of the following categories of potential impacts:
 - On-Site Impacts
 - Off-Site Impacts
- Mitigation Measures
- Level of Significance After Mitigation
- References

Methodology

The traffic study includes evaluation of on-site roadway and access needs and off-site analysis consisting of peak hour evaluation of freeway mainlines, major connectors such as the Interstate (I) 5/SR-138 and SR-14/SR-138 interchanges, interchange ramps at key growth locations (e.g., Santa Clarita Valley), arterial roadways and intersections within the Project site, and multi-lane highways.

Due to the significant size of the Project study area, multiple sources of traffic forecast volumes have been utilized to prepare a comprehensive set of future condition traffic volumes. The traffic forecasts for the study area roadway system were produced using a combination of sources: The North County Sub-Area Travel Demand Forecasting Model, the

Kern Council of Governments (Kern COG) Regional Transportation Plan (RTP) model, and the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). For detailed on-site traffic data, a focused window model, the Centennial Traffic Model (CTM), was developed specifically for use in the traffic study. Existing conditions were characterized from traffic counts in Los Angeles County and Kern County during 2014 and 2015 (see Appendix 5.10-A). Future transportation conditions for Los Angeles County locations south of the Fort Tejon/I-5 interchange were evaluated by using data from a travel demand model that is a derivative of the Southern California Association of Governments' (SCAG's) 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) model which includes forecasts to 2035. Future transportation conditions for Kern County locations along I-5 and SR-99 north of the Fort Tejon/I-5 interchange were evaluated by using data from Kern COG's 2014 RTP/SCS model, which includes forecasts to 2040. Brief descriptions of each of these models follow.

The North County Sub-Area Travel Demand Forecasting Model

The North County Sub-Area Travel Demand Forecasting Model (North County sub-area model) was originally developed for use in the Northwest 138 Corridor Improvement Project in conjunction with Los Angeles County Metropolitan Transportation Authority (Metro) and Caltrans. The North County sub-area model is a derivative of the SCAG 2012 RTP/SCS model and is consistent with SCAG's regional forecasts. The model was refined for use in the *Antelope Valley Area Plan* (AVAP), which was adopted by the County in June 2015. The sub-area model reflects socioeconomic projections and transportation network improvements contained in the SCAG 2012 RTP/SCS and produces traffic forecasts for the year 2035. The model-area includes northern Los Angeles County, including the Santa Clarita Valley and the Cities of Lancaster and Palmdale), and portions of Kern County.

The AVAP version of the North County sub-area model was used to derive year 2035 future forecasted volumes for highway and roadway links in the study area (generally south of the Fort Tejon/I-5 interchange), with and without the maximum land use and development allowed under the Project. The North County sub-area model produced average daily traffic (ADT) volumes and AM and PM peak period volumes that were converted to peak hour estimates. The sub-area model was also used to analyze project impacts directly due to the Project. A special select zone model run was prepared to reflect the Project's trip generation quantities, and the resulting traffic volumes forecasts were assigned to the sub-area model's roadway network. The resulting traffic volumes represent the quantity of Project traffic on each of the roadway links in the study area. These volumes are incrementally added to the existing condition traffic counts to derive the existing plus Project scenario.

Santa Clarita Valley Consolidated Traffic Model

The Santa Clarita Valley Consolidated Traffic Model (SCVCTM) is a traffic demand model for the Santa Clarita Valley area of Los Angeles County. It was designed as a windowed model with a substantially higher level of detail than the associated regional models. The model has the capability for peak hour and ADT analysis, and is used by both the City of Santa Clarita and the County of Los Angeles as a forecasting tool for a variety of traffic studies in the Santa Clarita Valley.

The SCVCTM was originally prepared by the City of Santa Clarita and the County of Los Angeles in 1992 and has been updated for use for a variety of applications since that time. The SCVCTM utilizes detailed land use data and has the ability to provide traffic volume forecasts for a long-range cumulative setting. The buildout version of the model is based on the One Valley One Vision (OVOV) County Area Plan and City of Santa Clarita General Plan, which were adopted by the County and the City, respectively, in 2012.

The SCVCTM modeled area encompasses all of the Santa Clarita Valley, including the City of Santa Clarita as well as the adjacent unincorporated portions of Los Angeles County. The westerly boundary of the model area is the Ventura County line and the easterly boundary is just east of Agua Dulce Canyon Road. The northern boundary of the traffic model area is just north of the Castaic community and the southern boundary represents the confluence of the I-5 and SR-14 freeways. While the area modeled by the SCVCTM is within the modeled area of the North County sub-area model, the SCVCTM produces forecasts at a higher level of detail for the Santa Clarita Valley.

Centennial Traffic Model Forecasts

For on-site analyses, a special windowed land use-based model, the CTM was prepared, providing detailed traffic forecasting for the Project site itself. The external travel pattern relationships are derived from the AVAP version of the North County sub-area model and hence it is directly compatible with the area-wide modeling procedures utilized for the Project's off-site impact analysis.

The primary purpose of the CTM is to provide traffic forecasts for the Specific Plan area based on the specific land use designations of the planning areas and to evaluate Project access. Detailed intersection evaluation is provided with peak hour intersection design and intersection capacity evaluation. CTM is utilized to determine peak hour forecasts for primary access points along SR-138.

SCAG and Kern COG Travel Models

SCAG is responsible for the development and maintenance of regional travel demand forecasting models for the six county region: Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial. The SCAG 2012 RTP/SCS model includes forecasts for 2035 that were updated based on the recently approved AVAP and are utilized for evaluating potential Project impacts in locations south of the Fort Tejon/I-5 interchange in Los Angeles County. An informal check was also made against 2016–2040 RTP/SCS data released by SCAG, and the check indicated consistency with both the 2012–2035 RTP/SCS and the 2016–2040 RTP/SCS for the Centennial area.

The 2014 Kern COG RTP/SCS addresses regional transportation issues in the County of Kern. The Kern COG model was originally developed in 1996, with the latest comprehensive update occurring in support of the 2014 RTP/SCS. The 2014 Kern COG RTP/SCS model includes forecasts to 2040 and provides the most recent estimates available for evaluating potential Project impacts along I-5 and SR-99 north of the Fort Tejon/I-5 interchange in Kern County. The Draft Kern COG 2015-2050 Regional Growth Forecast Draft report was also informally consulted for growth assumption consistency.

Future Transportation Settings

Buildout of the Centennial Project is assumed to occur over a 20-year time frame and will accompany the long-term development of the Antelope Valley and the surrounding area. The Specific Plan buildout analysis is carried out for the long-range 2035 cumulative conditions time frame that was utilized for evaluation of the AVAP and OVOV Area Plan/General Plan. The Kern COG RTP/SCS 2040 forecasts were used for I-5 and SR-99 segments and ramps north of the Fort Tejon/I-5 interchange in Kern County. The long-range cumulative versions of the traffic models noted above were thereby used as the appropriate mechanisms for preparing long-range traffic volume forecasts.

References

Although all references cited for preparation of this analysis are listed in Section 5.10.9, the primary technical references for this section are listed below.

Stantec. 2017 (May). *Centennial Specific Plan Traffic Study*. Irvine, CA: Stantec (Appendix 5.10-A).

California Department of Transportation (Caltrans). 2007 (June 13) Correspondence regarding: Centennial Traffic Study – February 2006, Methodology and Modeling (Appendix 5.10-B).

5.10.2 RELEVANT PLANS, POLICIES, AND REGULATIONS

Regional

SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

SCAG is the Metropolitan Planning Organization (MPO) for six counties: San Bernardino, Orange, Riverside, Los Angeles, Ventura, and Imperial, which encompasses an area of more than 38,000 square miles with a population exceeding 19 million persons. As the designated MPO, the federal government mandates that SCAG research and prepare plans for transportation, growth management, hazardous waste management, and air quality. SCAG has developed a number of plans to achieve these regional objectives, including the 2012–2035 RTP/SCS, which was the current RTP/SCS at the time of the Project’s NOP.

The 2016–2040 RTP/SCS was adopted by SCAG on April 7, 2016, which is a long-range transportation plan that provides a vision for regional transportation investments over a period of 20 years or more. Using growth forecasts and economic trends, the RTP/SCS considers the role of transportation in a more holistic light, including economic factors, environmental issues, and quality-of-life goals. It provides an opportunity to identify transportation strategies that address mobility needs for the future, while demonstrates compliance with Senate Bill (SB) 375 (discussed in Section 5.21, Climate Change) to ensure that the SCAG region can meet its regional GHG reduction targets set by the California Air Resources Board (CARB). The RTP/SCS exceeds the targets issued by CARB (which are an 8-percent reduction by 2020 and a 13-percent reduction by 2035), and would result in an 8

percent reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 (SCAG 2016).

The goals of the 2016–2040 RTP/SCS are as follows (SCAG 2016):

- Goal 1:** Align the plan investments and policies with improving regional economic development and competitiveness.
- Goal 2:** Maximize mobility and accessibility for all people and goods in the region.
- Goal 3:** Ensure travel safety and reliability for all people and goods in the region.
- Goal 4:** Preserve and ensure a sustainable regional transportation system.
- Goal 5:** Maximize the productivity of our transportation system.
- Goal 6:** Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
- Goal 7:** Actively encourage and create incentives for energy efficiency, where possible.
- Goal 8:** Encourage land use and growth patterns that facilitate transit and active transportation.
- Goal 9:** Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

The Project’s consistency with these goals is discussed in Section 5.8, Land Use, Entitlements, and Planning. Outcomes for these goals include mobility/accessibility, reliability, location efficiency, productivity, safety and health, economic well-being, cost effectiveness, system sustainability, and environmental quality, with the corresponding performance measures outlined in Table 5.10-1, RTP/SCS Performance Measures.

**TABLE 5.10-1
RTP/SCS PERFORMANCE MEASURES**

Outcome	Performance Measure/Indicator	Definition	Performance Target
Location Efficiency	Share of growth in High-Quality Transit Areas (HQTAs)	Share of the region's growth in households and employment in HQTAs	Improvement(increase) over No Project Baseline
	Land consumption	Greenfield land consumed and refill land consumed	Improvement (decrease) over No Project Baseline
	Vehicle Miles Traveled (VMT)	Average daily vehicle miles driven per person	Improvement (decrease) over No Project Baseline
	Transit Mode Share	The share of total trips that use transit for work and non-work trips	Improvement (increase) over No Project Baseline
	Average distance for work and non-work trips	The average distance traveled for work or non-work trips	Improvement (decrease) over No Project Baseline
	Percent of trips less than 3 miles	The share of work and non-work trips which are fewer than 3 miles	Improvement (increase) over No Project Baseline
	Work trip length distribution	The statistical distribution of work trip length in the region	Improvement (increase) over No Project Baseline
Mobility and Accessibility	Person delay per capita	Delay per capita can be used as a supplemental measure to account for population growth impacts on delay	Improvement (decrease) over No Project Baseline
	Person delay by facility type	Delay: Excess travel time resulting from the difference between a reference speed and actual speed	Improvement (decrease) over No Project Baseline
	Truck delay by facility type	Delay: Excess travel time resulting from the difference between a reference speed and actual speed	Improvement (decrease) over No Project Baseline
	Travel time distribution for transit, SOV, HOV for work and non-work trips	Travel time distribution for transit, SOV, and HOV for work and non-work trips	Improvement (increase) over No Project Baseline
Safety and Health	Collision rates by severity by mode (per 100 million vehicle miles)	Collision rate per 100 million vehicle miles by mode and number of fatalities and serious injuries by mode (all, bicycle/ pedestrian)	Improvement (decrease) over No Project Baseline
	Criteria pollutants emissions (tons per day)	CO, NOx, PM2.5, PM10, and VOC	Meet federal air quality conformity requirements (FR)
	Air pollution-related health measures	Pollution-related respiratory disease incidence and cost	Improvement (decrease) over No Project Baseline
	Physical activity-related health measures	Physical activity/weight related health issues and costs	Improvement over No Project Baseline
	Mode share of walking and bicycling	Mode share of walking and biking for work trips, non-work trips and all trips	Improvement (increase) over No Project Baseline
Environmental Quality	Greenhouse gas emissions	CO, NOx, PM2.5, PM10, and VOC Per capita greenhouse gas emissions (CO ₂)	Meet State GHG reduction targets (SR)

**TABLE 5.10-1
RTP/SCS PERFORMANCE MEASURES**

Outcome	Performance Measure/Indicator	Definition	Performance Target
Economic Well Being	Additional jobs supported by improving competitiveness	Number of jobs added to the economy as a result of improved transportation conditions which make the region more competitive	Improvement (increase) over No Project Baseline
	Additional jobs supported by transportation investment	Total number of jobs supported in the economy as a result of transportation expenditures	Improvement (increase) over No Project Baseline
Investment Effectiveness	Benefit/cost ratio	Ratio of monetized user and societal benefits to the agency transportation costs	Greater than 1.0
Transportation System Sustainability	Cost to preserve multimodal system to current and state of good repair	Annual costs per capita required to preserve the regional multimodal system to current conditions	Improvement (decrease) over No Project Baseline
<p>RTP/SCS: Regional Transportation Plan/Sustainable Communities Strategy; AQTA: High-Quality Transit Area; VMT: vehicle miles traveled; SOV: single-occupancy vehicle; HOV: high-occupancy vehicle; CO: carbon monoxide; FR: Federal Air Quality Conformity Requirements; CO₂: carbon dioxide; SR: State GHG Reduction Targets; NO_x: oxides of nitrogen; PM_{2.5}: fine particulate matter with a diameter of 2.5 microns or less; PM₁₀: respirable particulate matter with a diameter of 10 microns or less; VOC: volatile organic compounds; SCAG: Southern California Association of Governments</p> <p>Notes: Performance measures tied to goals for reliability, preservation, productivity, health, energy efficiency, and security cannot currently be reliably forecasted and are not included in Table 5.1. However, SCAG has identified related measures to be used for monitoring purposes, and these are discussed in the Performance Measures technical report.</p> <p>Performance measures are assessed at the regional level. SCAG encourages, but does not require, agencies to be consistent with the RTP/SCS performance measures to the extent practical in their subregional and project-level planning studies.</p> <p>Source: SCAG 2016.</p>			

Federal Transportation Improvement Program (SCAG Region)

The Federal Transportation Improvement Program (FTIP) is the implementation tool for the SCAG RTP/SCS and includes a listing of highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps and other transportation projects that have been proposed by cities and local agencies in the SCAG region. The 2015 FTIP lists federally funded projects and regionally significant projects for the six-year period 2014/2015–2019/2020 and was developed in compliance with State and federal requirements. The 2015 FTIP has been reviewed and adopted by SCAG. It has also been given an air quality conformity determination by the Federal Highway Administration (FHWA)/Federal Transit Administration (FTA). The 2015 FTIP includes completion of the Project Approval and Environmental Document (PA&ED) for alternative improvements to SR-138 from I-5 to SR-14.

Kern COG 2014 RTP/SCS and Transportation Improvement Program

As discussed above, the 2040 projections from the 2014 Kern COG RTP/SCS provide the most recent forecasts of future conditions for evaluating potential Project impacts to I-5 and SR-99 in Kern County north of the Fort Tejon/I-5 interchange. The Kern COG is the federally

designated Metropolitan Planning Organization and State-designated Regional Transportation Planning Agency responsible for preparing and updating the RTP/SCS for Kern County. The 2014 RTP/SCS is a 26-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. The 2014 RTP/SCS also includes measures that implement State requirements to reduce greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. Consistent with State and Federal transportation planning requirements, the Kern COG is responsible for preparing a Transportation Improvement Program (TIP) in cooperation with member agencies and Caltrans for all highways, streets, roads, aviation, transit and guideway projects in the Kern County area that use federal or State funding. Projects listed in the Ken County FTIP are designed to be consistent with, and implement, the Regional Transportation Plan for Kern County.

County

Congestion Management Program for Los Angeles County

Sections 65088 through 65089 of the *California Government Code* require that a congestion management program be developed, adopted and updated biennially for every county. The program would have to address increasing traffic congestion on California's freeways and highways by linking transportation, land use, and air quality decisions and through coordination between State, regional, county, and city transportation and land use agencies, transit providers, and air pollution control districts.

The Congestion Management Program (CMP) for Los Angeles County was developed and is implemented by Metro, as the Congestion Management Agency for the County. The CMP was last updated in 2010 and addresses the impact of local growth on the regional transportation system. The CMP calls for (1) monitoring the designated CMP highway and roadway system; (2) a multi-modal system performance analysis; (3) a Transportation Demand Management Program to promote alternative modes of transportation; (4) a Land Use Analysis Program; (5) a seven-year capital improvement program of projects on the CMP highway and roadway system; and (6) a deficiency plan to maintain LOS standards.

The CMP requires cities and the County to monitor land use and roadway performance by individual jurisdictions and provide guidelines for preparing a Traffic Impact Analysis (TIA). The CMP also sets the LOS standard in Los Angeles County at LOS E, except where base year LOS is worse than E. The CMP highway system includes monitoring stations on the SR-14 and SR-138 in the Antelope Valley. The SR-14 and SR-138 monitoring stations operated at LOS D or better during the AM and PM peak hours in 2009 (Metro 2010).

Congestion Management Program for Kern County

The Congestion Management Program for Kern County (Kern CMP) is a section of the Kern COG RTP/SCS that is intended to relate population growth, traffic growth, and land use decisions to transportation system performance standards and air quality improvements. The Kern CMP contains six sections, including a land use impact analysis, multi-modal

performance standards, a regional traffic model, transportation demand management programs, a capital improvement program and a deficiency plan. As discussed below in Threshold 10-4, the traffic analysis considered potential Project impacts to State highway locations along I-5 and SR-99 in Kern County that are in the Kern CMP. The Project would be consistent with the CMP goals and objectives.

County of Los Angeles General Plan and Antelope Valley Area Plan

The *County of Los Angeles General Plan* and *Antelope Valley Area Plan* address traffic, access, and circulation issues that affect the County and the unincorporated area of the Antelope Valley. Relevant goals and policies in the Antelope Valley Area Plan include the following:

Land Use Element

Policy LU 5.1: Ensure that development is consistent with the Sustainable Communities Strategy adopted in 2012, an element of the Regional Transportation Plan developed by the Southern California Association of Governments.

Policy LU 5.4: Ensure that there is an appropriate balance of residential uses and employment opportunities within close proximity of each other.

Mobility Element

Goal M 1: Land use patterns that promote alternatives to automobile travel.

Policy M 1.1: Direct the majority of the unincorporated Antelope Valley's future growth to rural town centers and economic opportunity areas, to minimize travel time and reduce the number of vehicle trips, as indicated in the Land Use designations shown on the Land Use Policy Map (Map 2.1) of this Area Plan.

Policy M 1.2: Encourage the continued development of rural town center areas that provide for the daily needs of local residents, reducing the number of vehicle trips and providing local employment opportunities.

Policy M 1.3: Encourage new parks, recreation areas, and public facilities to locate in rural town center areas, rural town areas, and economic opportunity areas.

Policy M 1.4: Ensure that new developments have a balanced mix of residential uses and employment opportunities as well as park, recreation areas and public facilities within close proximity of each other.

Policy M 1.5: Promote alternatives to automobile travel in rural town center areas and rural town areas by linking these areas through pedestrian walkways, trails, and bicycle routes.

Goal M 2: Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking.

Policy M 2.1: Encourage the reduction of home-to-work trips through the promotion of home-based businesses, live-work units, and telecommuting.

Policy M 2.2: Encourage trip reduction through promotion of carpools, vanpools, shuttles, and public transit.

Policy M 2.3: In evaluating new development proposals, require trip reduction measures to relieve congestion and reduce air pollution from vehicle emissions.

Policy M 2.4: Develop multi-modal transportation systems that offer alternatives to automobile travel by implementing the policies regarding regional transportation, local transit, bicycle routes, trails, and pedestrian access contained in this Mobility Element.

Policy M 2.5: As residential development occurs in communities, require transportation routes, including alternatives to automotive transit, to link to important local destination points such as shopping, services, employment, and recreation.

Policy M 2.6: Within rural town center areas, explore flexible parking regulations such as allowing residential and commercial development to meet parking requirements through a combination of on-site and off-site parking, where appropriate, or encouraging the provision of different types of parking spaces.

Goal M 3: An efficient network of major, secondary, and limited secondary highways to serve the Antelope Valley.

Policy M 3.1: Implement the adopted Highway Plan for the Antelope Valley, in cooperation with the cities of Lancaster and Palmdale. Ensure adequate funding on an ongoing basis through financing programs, such as grants, congestion pricing, bonding, fair share cost assignments, etc.

Policy M 3.2: In rural areas, require rural highway standards that minimize the width of paving and placement of curbs, gutters, sidewalks, street lighting, and traffic signals, as adopted by the Department of Public Works.

Policy M 3.3: Implement highway improvements only when necessitated by increasing traffic or new development or for safety reasons.

Policy M 3.4: Maintain existing highways to ensure safety, and require adequate street and house signage for emergency response vehicles.

Policy M 3.5: As future land use changes occur, periodically review traffic counts and traffic projections and revise the Highway Plan accordingly.

Policy M 3.6: Engage local communities and agencies in the planning and implementation of transportation improvements.

Goal M 4: A network of local streets that support the rural character of the unincorporated Antelope Valley without compromising public safety.

Policy M 4.1: Require rural local street standards that minimize the width of paving and placement of curbs, gutters, sidewalks, street lighting, and traffic signals, as adopted by the Department of Public Works.

Policy M 4.2: Maintain existing local streets to ensure safety, and require adequate signage for emergency response vehicles.

Policy M 4.3: Encourage ongoing maintenance of private local streets to ensure public safety.

Goal M 5: Long-haul truck traffic is separated from local traffic, reducing the impacts of truck traffic on local streets and residential areas.

Policy M 5.1: Support development of the High Desert Corridor and the Northwest 138 Corridor Improvement Project, to provide a route for truck traffic between Interstate 5, State Route 14, and Interstate 15.

Policy M 5.2: Direct truck traffic to designated truck routes and prohibit truck traffic on designated scenic routes, to the greatest extent feasible.

Policy M 5.3: Require that designated truck routes are designed and paved to accommodate truck traffic, preventing excessive pavement deterioration from truck use.

Policy M 5.4: Add rest stops along designated truck routes to provide stopping locations away from residential uses.

Policy M 5.5: Develop appropriate regulations for truck parking on local streets to avoid impacts to residential areas.

Goal M 6: A range of transportation options to connect the Antelope Valley to other regions.

Policy M 6.1: Support the development of Palmdale Regional Airport and encourage a range of commercial air travel options.

Policy M 6.2: Support the development of William J. Fox Airfield as a facility for general aviation, air cargo operations, and commuter air travel.

Policy M 6.3: Support the development of the High Desert Corridor and the Northwest 138 Corridor Improvement Project between Interstate 5, State Route 14, and Interstate 15, and encourage the participation of private enterprise and capital.

Policy M 6.4: Support increases in Metrolink commuter rail service, and support the expansion of commuter rail service on underutilized rail lines where appropriate.

Policy M 6.5: Support the development of the California High Speed Rail System, with a station in Palmdale to provide links to Northern California and other portions of Southern California, and encourage the participation of private enterprise and capital.

Policy M 6.6: Support the development of a high-speed rail system linking Palmdale to Victorville and Las Vegas, and encourage the participation of private enterprise and capital.

Policy M 6.7: Establish a regional transportation hub in Palmdale with feeder transit service to the rural areas of the unincorporated Antelope Valley.

Policy M 6.8: In planning for all regional transportation systems, consider and mitigate potential impacts to existing communities, and minimize land use conflicts.

Policy M 6.9: Engage regional agencies, such as Caltrans, SCAG, Metro, and the California High Speed Rail Authority in the implementation of an effective and efficient integrated multi-modal regional transportation network. Ensure adequate funding on an ongoing basis through financing programs, such as grants, congestion pricing, bonding, fair share cost assignments, etc.

Goal M 7: Bus service is maintained and enhanced throughout the Antelope Valley.

Policy M 7.1: Maintain and increase funding to the Antelope Valley Transit Authority for bus service.

Policy M 7.2: Support increases in bus service to heavily traveled areas and public facilities, such as parks and libraries.

Policy M 7.3: Support increases in bus service to rural communities, linking them to a regional transportation hub in Palmdale and shopping and employment centers in Lancaster and Palmdale.

Policy M 7.4: Improve access for all people, including seniors, youth, and the disabled, by maintaining off-peak service and equipping transit services for wheelchairs and bicycles.

Policy M 7.5: Encourage the use of advanced technologies in the planning and operation of the transit system.

Goal M 8: Alternative transit options in areas not reached by bus service.

Policy M 8.1: Support the expansion of dial-a-ride services to rural communities, linking them to a regional transportation hub in Palmdale and shopping and employment centers in Lancaster and Palmdale.

Policy M 8.2: Evaluate the feasibility of alternative transit options, such as community shuttle services and privately operated transit, to increase accessibility.

Goal M 9: A unified and well-maintained bicycle transportation system throughout the Antelope Valley with safe and convenient routes for commuting, recreation, and daily travel.

Policy M 9.1: Implement the adopted Bikeway Plan for the Antelope Valley in cooperation with the cities of Lancaster and Palmdale. Ensure adequate funding on an ongoing basis.

Policy M 9.2: Along streets and highways in rural areas, add safe bicycle routes that link to public facilities, a regional transportation hub in Palmdale, and shopping and employment centers in Lancaster and Palmdale.

Policy M 9.3: Ensure that bikeways and bicycle routes connect communities and offer alternative travel modes within communities.

Policy M 9.4: Encourage provision of bicycle racks and other equipment and facilities to support the use of bicycles as an alternative means of travel.

Goal M 10: A unified and well-maintained multi-use (equestrian, hiking, and mountain bicycling) trail system that links destinations such as rural town centers and recreation areas throughout the Antelope Valley.

Policy M 10.1: Implement the adopted Trails Plan for the Antelope Valley in cooperation with the cities of Lancaster and Palmdale. Ensure adequate funding on an ongoing basis.

Policy M 10.2: Connect new development to existing population centers with trails, requiring trail dedication and construction through the development review and permitting process.

Policy M 10.3: Maximize fair and reasonable opportunities to secure additional trail routes (dedicated multi-use trail easements) from willing property owners.

Policy M 10.4: Ensure trail access by establishing trailheads with adequate parking and access to public transit, where appropriate and feasible.

Policy M 10.5: Locate and design trail routes to minimize impacts to sensitive environmental resources and ecosystems.

Policy M 10.6: Where trail connections are not fully implemented, collaboratively work to establish safe interim connections.

Policy M 10.7: Ensure that existing trails and trailheads are properly maintained by the relevant agencies.

Policy M 10.8: Solicit community input to ensure that trails are compatible with local needs and character.

Goal M 11: A continuous, integrated system of safe and attractive pedestrian routes linking residents to rural town center areas, schools, services, transit, parks, and open space areas.

Policy M 11.1: Improve existing pedestrian routes and create new pedestrian routes, where appropriate and feasible. If paving is deemed necessary, require permeable paving consistent with rural community character instead of concrete sidewalks.

Policy M 11.2: Within rural town center areas, require that highways and streets provide pleasant pedestrian environments and implement traffic calming methods to increase public safety for pedestrians, bicyclists, and equestrian riders.

Policy M 11.3: Within rural town center areas, promote pedestrian-oriented scale and design features, including public plazas, directional signage, and community bulletin boards.

Policy M 11.4: Within rural town center areas, encourage parking to be located behind or beside structures, with primary building entries facing the street. Encourage also the provision of direct and clearly delineated pedestrian walkways from transit stops and parking areas to building entries.

Policy M 11.5: Implement traffic calming methods in areas with high pedestrian usage, such as school zones.

Conservation and Open Space Element

Policy COS 9.2: Develop multi-modal transportation systems that offer alternatives to automobile travel to reduce the number of vehicle trips, including regional transportation, local transit, bicycle routes, trails, and pedestrian networks, as directed in the policies of the Mobility Element.

Economic Development Element

Policy ED 1.4: Support the development of the High Desert Corridor and the Northwest 138 Corridor Improvement projects to improve the east-west movement of goods, particularly between the Antelope Valley and the industrial areas of Kern and San Bernardino counties and beyond.

Policy ED 1.5: Promote the development of an “Inland Port” in the Antelope Valley, providing additional employment in the trade and logistics sectors.

Policy ED 1.6: Support the development of a range of travel options that better connect the Antelope Valley to existing regional trade and employment in other regions, including the High Desert Corridor and the Northwest 138 Corridor Improvement Projects.

A consistency analysis of the proposed Project with applicable goals and policies in the County’s General Plan, AVAP, and other relevant plans, policies and regulations is provided in Section 5.8, Land Use, Entitlements, and Planning.

5.10.3 ENVIRONMENTAL SETTING

The Project site is located east of the Golden State Freeway (I-5) and adjacent to SR-138 in northwestern unincorporated Los Angeles County. The northern boundary of the Project site extends to the Los Angeles/Kern County line and the southern boundary extends south of SR-138. The western boundary is approximately one mile east of I-5 and the eastern Project site boundary is defined by 290th Street West and the northern extension of Margalo Drive.

The Project site comprises approximately 12,323 acres of largely undeveloped land that is primarily used for grazing, with 1,000 acres used for agricultural purposes. SR-138 runs through the southern section of the site. In addition, 300th Street West runs through the eastern portion of the site from SR-138 over the East Branch of the California Aqueduct and to the agricultural fields to the north. Gorman Post Road crosses the southwestern portion of the Project site and runs in a northwesterly direction from SR-138 to the community of Gorman by I-5. Cement Plant Road is a paved roadway that runs northwesterly and northerly from SR-138 through the Project site to provide access to the National Cement Plant that is located northwest of the site in Kern County. Several paved access roads are also present near the West Branch of the California Aqueduct and associated facilities, which cut through the site. Other on-site paved roads lead to localized agricultural operations on the site. In addition, many unpaved roads exist as part of farming and grazing activities on the Project site.

Since Project-related traffic will utilize roadways within a much broader study area, for purposes of the analysis summarized in this section, the study area includes both local and the major regional roadways within an area defined by the northern end of the Santa Clarita Valley, the Palmdale/Lancaster area, and the southern Bakersfield region.

The Project site is approximately 35 miles north of the City of Santa Clarita and can be accessed via I-5. The site is approximately 50 miles south of the City of Bakersfield in Kern County, via I-5 and SR-99. The cities of Lancaster and Palmdale are located approximately 36 miles and 43 miles east of the Project site, respectively, via SR-138 and the Antelope Valley Freeway (SR-14) (see Exhibit 5.10-1, Project Site Location and Vicinity).

The following existing traffic conditions describe the current transportation system, traffic volumes, and operating conditions on the highway system in the study area. The existing traffic conditions described below provide the baseline for developing the study area's estimated future traffic conditions.

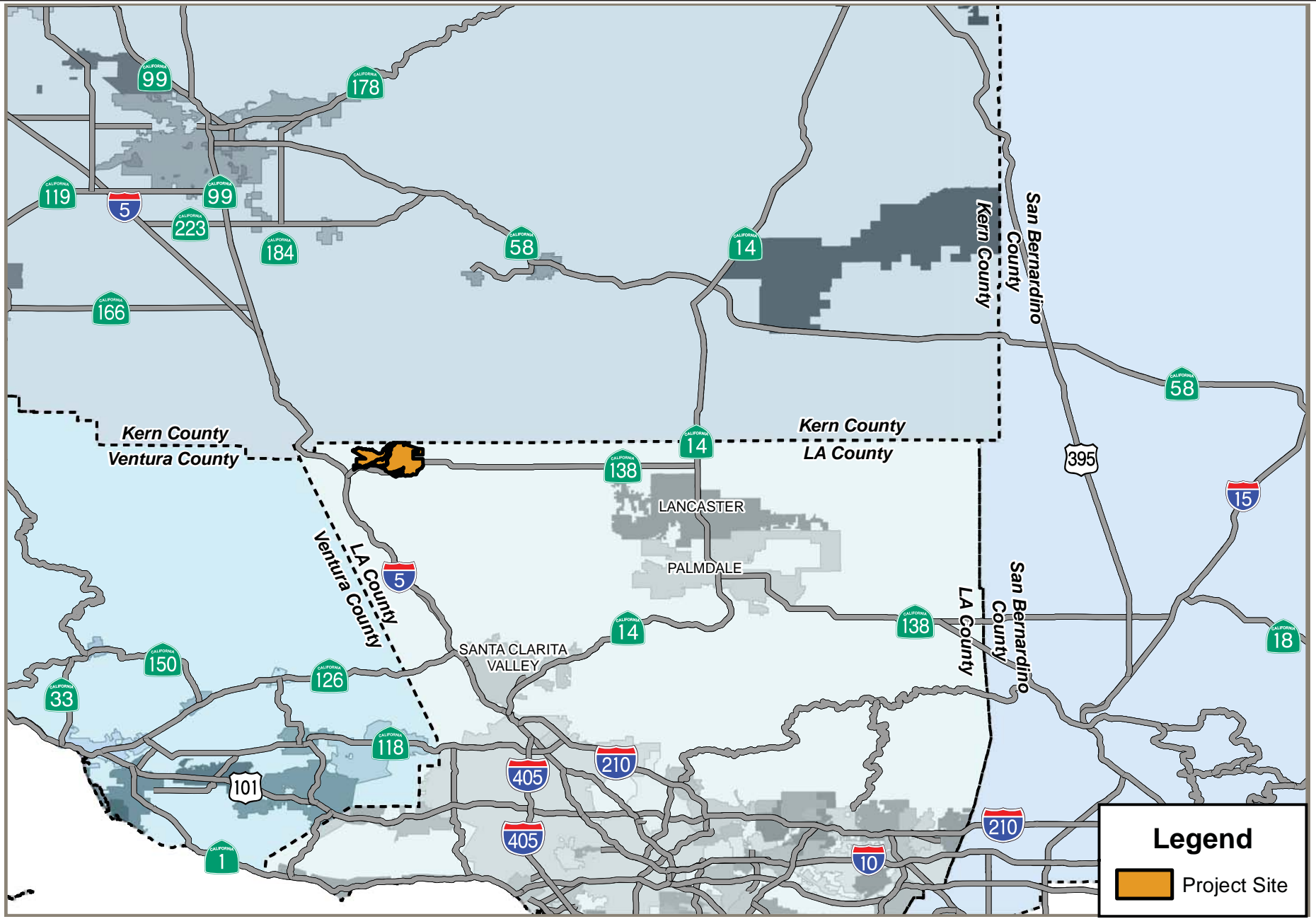
Existing Highway System

The Golden State Freeway (or I-5) is located approximately one mile west of the site and currently has four lanes in each direction in the vicinity of the Project site. The SR-14 serves the eastern edge of the study area. The SR-14 freeway is currently two lanes in each direction in the vicinity of the SR-138/SR-14 partial cloverleaf interchange. Connecting I-5 to SR-14 as an east-west roadway is SR-138, which has a grade-separated, Y-style interchange with I-5 and four lanes from I-5 to approximately one mile east, where it transitions to a two-lane rural highway standard. SR-138 provides direct access to the Project site. The I-5 freeway continues north from the SR-138 intersection to Tejon Summit, located at the approximate border of Los Angeles County and Kern County, and then descends for approximately 6 miles at a 6 percent average grade from the Fort Tejon/I-5 interchange to the Grapevine Road/I-5 interchange on the San Joaquin Valley floor. The freeway has three mixed use and one truck lane in each direction in the grade area. SR-99 branches west from I-5 farther north in the valley and extends north through Bakersfield.

The highway system in the study area is illustrated in Exhibit 5.10-2, Study Area Highway System – Existing (2014 and 2015) Conditions.

Freeway capacities on a per-lane basis within the Project study area were derived for existing conditions using the methodology outlined in the *2010 Highway Capacity Manual* (TRB 2010). Table 5.10-2, Capacities for Freeways and Expressways– Existing Conditions, summarizes the capacities of freeways and regional highways (I-5, SR-14, SR-138 and SR-99) and the parameters used for their derivation.

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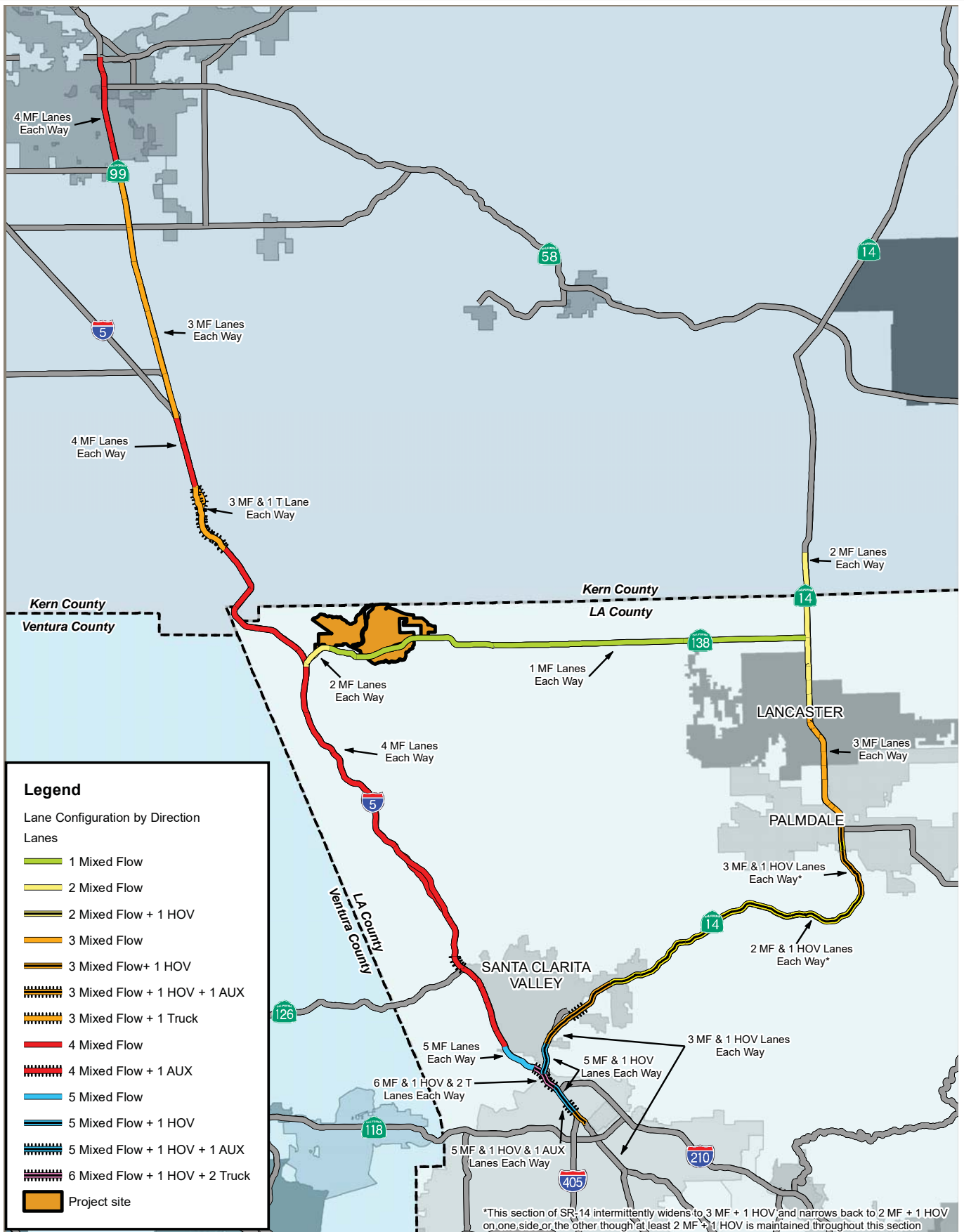
Source: Stantec 2016

Project Site Location and Vicinity

Exhibit 5.10-1

Centennial Project





Source: Stantec 2017

Study Area Highway System – Existing (2014 and 2015) Conditions Exhibit 5.10-2

Centennial Project



**TABLE 5.10-2
CAPACITIES FOR FREEWAYS AND EXPRESSWAYS - EXISTING CONDITIONS**

	Location	Lanes	MSF	f _w	P _T	E _T	f _{HV}	f _P	SF/Lane
I-5									
1	Btw SR-99 and Laval/Wheeler	4M	2,400	1.0	22%	1.5	0.90	0.95	2,050
2a	Btw Laval/Wheeler and Grapevine (NB)	4M	2,400	1.0	22%	1.5	0.90	0.95	2,050
2b	Btw Laval/Wheeler and Grapevine (SB)	4M	2,400	1.0	22%	1.5	0.90	0.95	2,050
3a	Btw Grapevine and Fort Tejon Rd (NB)	2M	2,400	1.0	2.2%	3.0	0.96	0.95	2,206
3b	Btw Grapevine and Fort Tejon Rd (SB)	2M	2,300	1.0	2.2%	3.5	0.95	0.95	2,070
3c	Btw Grapevine and Fort Tejon Rd (Truck) (NB)	2M/T	-	-	100.0%	-	-	-	1,025
3d	Btw Grapevine and Fort Tejon Rd (Truck) (SB)	2M/T	-	-	100.0%	-	-	-	1,025
4a	Btw Fort Tejon Rd and Lebec Rd (NB)	4M	2,400	1.0	24%	2.0	0.81	0.95	1,839
4b	Btw Fort Tejon Rd and Lebec Rd (SB)	4M	2,400	1.0	24%	1.5	0.89	0.95	2,036
5a	Btw Lebec Rd and Frazier Mtn Park (NB)	4M	2,400	1.0	24%	2.0	0.81	0.95	1,839
5b	Btw Lebec Rd and Frazier Mtn Park (SB)	4M	2,400	1.0	24%	1.5	0.89	0.95	2,036
6a	Btw Frazier Mtn Park and Gorman Rd (NB)	4M	2,400	1.0	24%	1.5	0.89	0.95	2,036
6b	Btw Frazier Mtn Park and Gorman Rd (SB)	4M	2,350	1.0	24%	3.5	0.63	0.95	1,401
7a	Btw Gorman Rd and N Jct SR-138 (NB)	4M	2,400	1.0	23%	2.0	0.81	0.95	1,849
7b	Btw Gorman Rd and N Jct SR-138 (SB)	4M	2,400	1.0	23%	1.5	0.90	0.95	2,042
8a	Btw N Jct SR-138 and Quail Lake Rd (NB)	4M	2,400	1.0	23%	2.0	0.81	0.95	1,849
8b	Btw N Jct SR-138 and Quail Lake Rd (SB)	4M	2,400	1.0	23%	1.5	0.90	0.95	2,042
9	Btw Quail Lake Rd and S Jct SR-138	4M	2,350	1.0	25%	3.5	0.62	0.95	1,375
10	Btw S Jct SR-138 and Smokey Bear Rd	4M	2,350	1.0	25%	3.5	0.62	0.95	1,375
11	Btw Smokey Bear Rd and Vista Del Lago Rd	4M	2,350	1.0	25%	3.0	0.67	0.95	1,489
12	Btw Vista Del Lago Rd and Templin Hwy	4M	2,350	1.0	25%	3.0	0.67	0.95	1,489
13	Btw Templin Hwy and Lake Hughes Rd	4M	2,350	1.0	25%	3.0	0.67	0.95	1,489
14	Btw Lake Hughes Rd and Parker Rd	4M	2,400	1.0	15%	2.5	0.81	0.95	1,856
15	Btw Parker Rd and Hasley Cyn Rd	4M	2,400	1.0	15%	2.5	0.81	0.95	1,856
16	Btw Hasley Cyn Rd and N Jct SR-126	4M (+1A)	2,400	1.0	15%	2.5	0.81	0.95	1,856

**TABLE 5.10-2
CAPACITIES FOR FREEWAYS AND EXPRESSWAYS - EXISTING CONDITIONS**

	Location	Lanes	MSF	f _w	P _T	E _T	f _{HV}	f _P	SF/Lane
17	Btw N Jct SR-126 and Rye Cyn Rd	4M	2,400	1.0	15%	2.5	0.82	0.95	1,867
18	Btw Rye Cyn Rd and Magic Mountain Pkwy	4M	2,400	1.0	13%	2.5	0.84	0.95	1,918
19	Btw Magic Mountain Pkwy and Valencia Blvd	4M	2,400	1.0	13%	2.5	0.84	0.95	1,918
20	Btw Valencia Blvd and McBean Pkwy	4M	2,400	1.0	13%	2.5	0.84	0.95	1,918
21	Btw McBean Pkwy and Lyons Ave/Pico Cyn Rd	4M	2,400	1.0	10%	2.5	0.87	0.95	1,990
22a	Btw Lyons Ave and Calgrove Blvd (NB)	4M	2,400	1.0	10%	2.5	0.87	0.95	1,990
22b	Btw Lyons Ave and Calgrove Blvd (SB)	4M (+1T)	2,400	1.0	10%	2.5	0.87	0.95	1,990
23a	Btw Calgrove Blvd and SR-14 (NB)	4M (+1T[C])	2,400	1.0	10%	2.5	0.87	0.95	1,990
23b	Btw Calgrove Blvd and SR-14 (SB)	4M (+2T[C])	2,400	1.0	10%	2.5	0.87	0.95	1,990
24a	Btw SR-14 and SR-210 (NB)	3M (+1H+3A[F]+2T)	2,350	1.0	8%	2.5	0.89	0.95	1,997
24b	Btw SR-14 and SR-210 (SB)	4M (+1H+2A[F]+2T)	2,350	1.0	8%	2.5	0.89	0.95	1,997
25a	Btw SR-210 and Roxford (NB)	4M (+1H+1A[F])	2,400	1.0	6%	1.5	0.97	0.95	2,212
25b	Btw SR-210 and Roxford (SB)	5M (+1H)	2,400	1.0	6%	1.5	0.97	0.95	2,212
26	Btw Roxford St and I-405	5M (+1H+1A[F])	2,400	1.0	6%	1.5	0.97	0.95	2,212
27	Btw I-405 and San Fernando Mission Blvd	3M (+1H)	2,400	1.0	8%	1.5	0.96	0.95	2,190
SR-14									
28	Btw Dawn Rd and Rosamond Blvd	2M	2,400	1.0	6%	1.5	0.97	1.00	2,332
29	Btw Rosamond Blvd and Ave A	2M	2,400	1.0	5%	1.5	0.97	1.00	2,339
30	Ave A and N Jct SR-138/Ave D	2M	2,400	1.0	5%	1.5	0.97	1.00	2,339
31	Btw Jct SR-138/Ave D and Ave F	2M	2,400	1.0	6%	1.5	0.97	1.00	2,332
32	Btw Ave F and Ave G	2M	2,400	1.0	6%	1.5	0.97	1.00	2,332
33	Btw Ave G and Ave H	2M	2,400	1.0	6%	1.5	0.97	1.00	2,332
34	Btw Ave H and Ave I	2M	2,400	1.0	6%	1.5	0.97	1.00	2,332
35	Btw Ave I and Ave J	3M	2,400	1.0	6%	1.5	0.97	1.00	2,332
36	Btw Ave J and 20th St W	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
37	Btw 20th St W and Ave K	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
38	Btw Ave K and Ave L	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
39	Btw Ave L and Ave M	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
40	Btw Ave M and Ave N	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
41	Btw Ave N and 10th St W	3M	2,400	1.0	5%	1.5	0.97	1.00	2,339
42	Btw 10th St W and Rancho Vista Blvd	3M	2,400	1.0	5%	2.5	0.93	1.00	2,225

**TABLE 5.10-2
CAPACITIES FOR FREEWAYS AND EXPRESSWAYS - EXISTING CONDITIONS**

Location		Lanes	MSF	f _w	P _T	E _T	f _{HV}	f _P	SF/Lane
43	Btw Rancho Vista Blvd and S Jct SR-138/Palmdale Blvd	3M	2,400	1.0	5%	2.5	0.93	1.00	2,225
44a	Btw S Jct SR-138 and Ave S (NB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
44b	Btw S Jct SR-138 and Ave S (SB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
45a	Btw Ave S and Pearblossom/Sierra Hwy (NB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
45b	Btw Ave S and Pearblossom/Sierra Hwy (SB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
46a	Btw Pearblossom/Sierra Hwy and Angeles Forest Hwy (NB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
46b	Btw Pearblossom/Sierra Hwy and Angeles Forest Hwy (SB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
47a	Btw Angeles Forest Hwy and Soledad (NB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
47b	Btw Angeles Forest Hwy and Soledad (SB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,225
48	Btw Soledad and Santiago Rd	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
49	Btw Santiago Rd and Crown Valley Rd	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
50	Btw Crown Valley Rd and Ward Rd	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
51a	Btw Ward Rd and Escondido Cyn Rd (NB)	3M (+1H)	2,350	1.0	5%	2.5	0.93	1.00	2,189
51b	Btw Ward Rd and Escondido Cyn Rd (SB)	2M (+1H)	2,350	1.0	5%	2.5	0.93	1.00	2,189
52a	Btw Escondido Cyn Rd and Agua Dulce Cyn Rd (NB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
52b	Btw Escondido Cyn Rd and Agua Dulce Cyn Rd (SB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
53a	Btw Agua Dulce Cyn Rd and Soledad Rd (NB)	3M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
53b	Btw Agua Dulce Cyn Rd and Soledad Rd (SB)	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
54	Btw Shadow Pines/Soledad Rd and Sand Cyn Rd	2M (+1H)	2,400	1.0	5%	2.5	0.93	1.00	2,236
55	Btw Sand Cyn Rd and Via Princessa	3M (+1H)	2,400	1.0	6%	2.5	0.92	1.00	2,215
56	Btw Via Princessa and Golden Valley Rd	3M (+1H+1A)	2,400	1.0	6%	2.5	0.92	1.00	2,215
57	Btw Golden Valley Rd and Placerita Cyn Rd	3M (+1H)	2,400	1.0	6%	2.5	0.92	1.00	2,215
58	Btw Placerita Cyn Rd and San Fernando Rd/Newhall Ave*	3M (+1H)	2,400	1.0	6%	2.5	0.92	1.00	2,215
59	Btw San Fernando Rd//Newhall Ave and Jct I-5	5M (+1H)	2,400	1.0	6%	2.5	0.92	1.00	2,215

**TABLE 5.10-2
CAPACITIES FOR FREEWAYS AND EXPRESSWAYS – EXISTING CONDITIONS**

Location		Lanes	MSF	fw	P _T	E _T	f _{HV}	f _P	SF/Lane
SR-138									
60	Btw Jct I-5 and Gorman Post Rd	2M	2,100	N/A	21%	1.5	0.91	1.00	1,904
61	Btw Gorman Post Rd and Old Ridge Route Rd	1M	2,100	N/A	21%	1.5	0.91	1.00	1,904
62	Btw Old Ridge Route Rd and 300th St W	1M	2,100	N/A	21%	1.5	0.91	1.00	1,904
63	Btw 300th St W and Three Pts Rd	1M	2,100	N/A	21%	1.5	0.91	1.00	1,904
64	Btw Three Pts Rd and 245th St (Ave F)	1M	2,100	N/A	21%	1.5	0.91	1.00	1,904
65	Btw 245th St W and 170th St W	1M	2,100	N/A	21%	1.5	0.91	1.00	1,904
66	Btw 170th St W and 110th St W	1M	2,100	N/A	14%	1.5	0.93	1.00	1,962
67	Btw 110th St W and 60th W	1M	2,100	N/A	14%	1.5	0.93	1.00	1,962
68	Btw 60th W and Jct SR-14 North	1M	2,100	N/A	14%	1.5	0.93	1.00	1,962
SR 99									
70	Btw Stockdale Hwy and Jct SR-58 W	4M	2,400	1.0	14%	1.5	0.94	1.00	2,246
71	Btw SR-58 W and SR-58E	4M	2,400	1.0	14%	1.5	0.94	1.00	2,246
72	Btw Jct SR-58 E and Ming Ave	4M	2,400	1.0	14%	1.5	0.94	1.00	2,246
73	Btw Ming Ave and White Lane	4M	2,400	1.0	9%	1.5	0.96	1.00	2,296
74	Btw White Lane and Panama Lane	4M	2,400	1.0	9%	1.5	0.96	1.00	2,296
75	Btw Panama Lane and Jct SR-119 W	4M	2,400	1.0	9%	1.5	0.96	1.00	2,296
76	Btw Jct SR-119 W and Houghton Rd	3M	2,400	1.0	24%	1.5	0.89	1.00	2,141
77	Btw Houghton Rd and Jct SR-233 E	3M	2,400	1.0	24%	1.5	0.89	1.00	2,141
78	Btw Jct SR-223 E and Old U.S. 99	3M	2,400	1.0	25%	1.5	0.89	1.00	2,133
79	Btw Old U.S. 99 and Herring Rd	3M	2,400	1.0	25%	1.5	0.89	1.00	2,133
80	Btw Herring Rd and Sandrini Rd.	3M	2,400	1.0	25%	1.5	0.89	1.00	2,133
81	Btw Sandrini Rd and David Rd	3M	2,400	1.0	25%	1.5	0.89	1.00	2,133
82	Btw David Rd and Valpredo	3M	2,400	1.0	25%	1.5	0.89	1.00	2,133
83	Btw Valpredo and Jct SR-166 W	3M	2,400	1.0	29%	1.5	0.87	1.00	2,096
84	Btw Jct SR-166 W and Jct I-5	3M	2,400	1.0	34%	1.5	0.86	1.00	2,054
<p>MSF: Maximum service flow rate per mixed flow (general purpose) lane under ideal conditions (vph); fw: Lane width factor; P_T: Proportion of heavy vehicles; E_T: Passenger car equivalent for heavy vehicles; f_{HV}: Heavy vehicle adjustment factor; f_P: Driver population factor; SF: service flow rate for LOS "E" under prevailing roadway conditions for mixed flow (general purpose) lanes (vph); Btw: between; SR: State Route; #M: number of mixed flow lanes; NB: northbound; SB: southbound #T: number of truck lanes; Jct: junction; #HOV: number of HOV lanes; (N): north; (S): south; (NB): northbound; (SB): southbound; n/o: north of; s/o: south of.</p> <p>^a Based on field survey of location (source: Caltrans)</p> <p>Capacities for special use lanes: High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane: 1,600 vehicles/hour/lane Auxiliary Lane: 1,000 vehicles/hour/lane Auxiliary Lane for Freeway to Freeway Connectors: 2,000 vehicles/hour/lane Truck Lane: 1,600 vehicles/hour/lane Truck Lane on Extended Uphill Grade: 1,200 vehicles/hour/lane</p> <p>Source: Stantec 2017 (Table 2-1).</p>									

Existing Traffic Volumes

Daily traffic volumes for representative locations within the study area are provided in Exhibit 5.10-3, Average Daily Traffic Volumes – Existing Conditions. Peak hour turning movement volumes at intersections along SR-138 in the vicinity of the Project site are provided in Exhibit 5.10-4, AM Peak Hour Intersection Volume Counts on SR-138 (Existing Conditions) and Exhibit 5.10-5, PM Peak Hour Intersection Volume Counts on SR-138 (Existing Conditions). SR-138, the only regional roadway that currently exists adjacent to the Project site, has an existing ADT of about 5,000 between I-5 and SR-14 (see Exhibit 5.10-3).

Existing traffic counts used for the intersection analysis were collected in 2014 and 2015. Counts for intersections near the Project site, along SR-138/Avenue D, were collected in July 2015. Counts for intersections in Kern County were collected in July 2015 and counts for ramp-arterial intersections along the I-5 freeway in the Castaic area and Santa Clarita Valley area were collected between 2014 and 2015.

For State highways, traffic count data was obtained from the Caltrans Traffic Census, the Caltrans Performance Measurement System (PeMS) and the Los Angeles County Department of Public Works Machine Count Traffic Volumes database. These traffic counts represent 2014 and 2010 conditions, which is the most current data available from Caltrans and the County, respectively, at this time.

Table 5.10-3 provides the ICU and LOS analysis conducted for select intersections in the study area. As shown, all intersections operate at LOS D or better.

**TABLE 5.10-3
ICU AND LOS SUMMARY – EXISTING (2014 AND 2015) CONDITIONS**

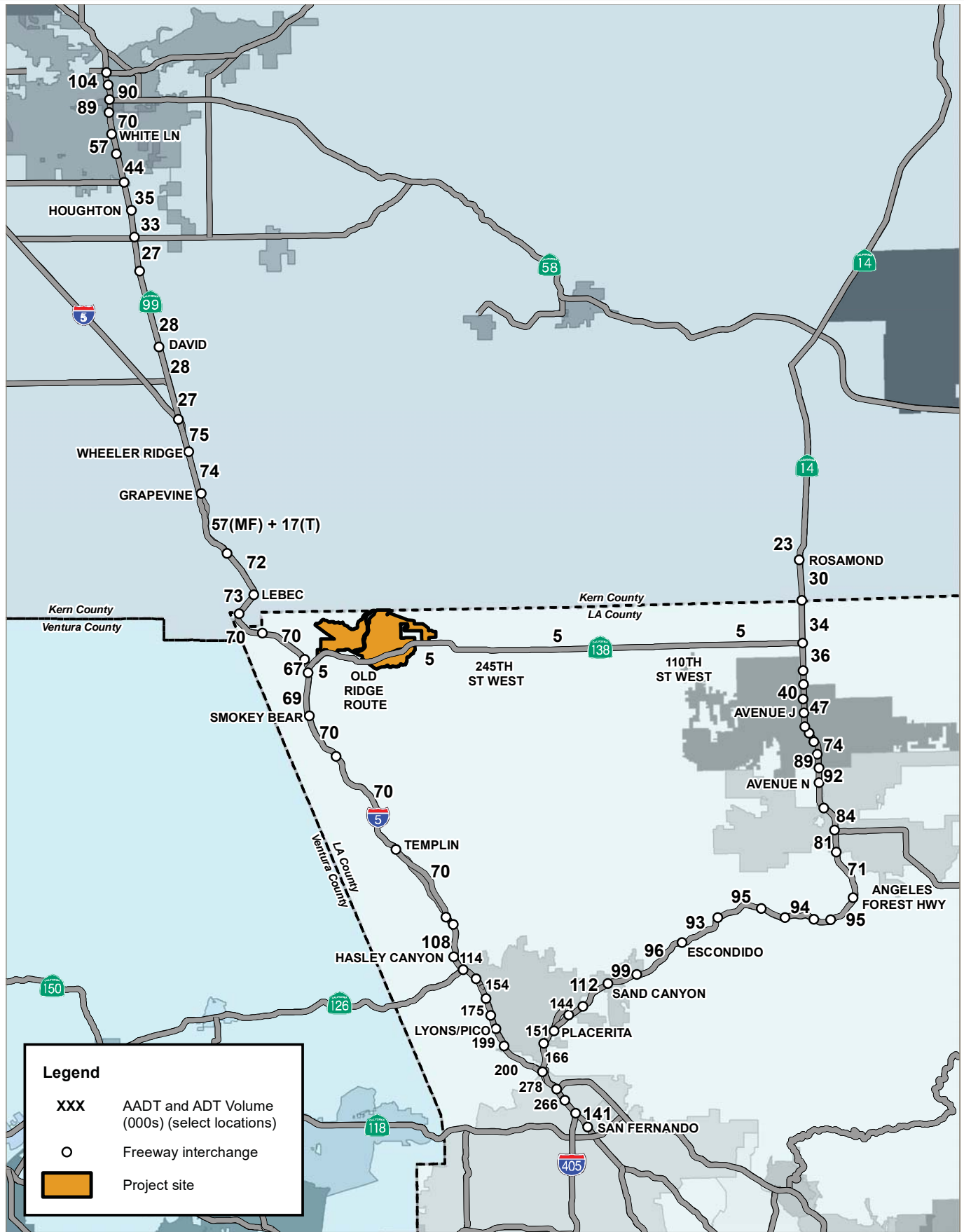
Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour		Count
		ICU	LOS	ICU	LOS	Date
3. 300th St W and SR-138 ¹	LA County/Caltrans	0.17	A	0.20	A	7/14/2015
6. Three Points Road and SR-138	LA County/Caltrans	0.19	A	0.21	A	7/14/2015
7. 245th St W and SR-138	LA County/Caltrans	0.17	A	0.19	A	7/14/2015
8. 230th St W and SR-138	LA County/Caltrans	0.16	A	0.19	A	7/14/2015
9. 190th St W and SR-138	LA County/Caltrans	0.17	A	0.19	A	7/14/2015
10. 170th St W and SR-138	LA County/Caltrans	0.20	A	0.20	A	7/14/2015
11. 110th St W and SR-138	LA County/Caltrans	0.17	A	0.21	A	7/15/2015
12. 90th St W and SR-138	LA County/Caltrans	0.20	A	0.25	A	7/14/2015
13. 60th St W and SR-138 ¹	LA County/Caltrans	0.22	A	0.25	A	7/14/2015
14. 30th St W and SR-138	LA County/Caltrans	0.20	A	0.21	A	7/15/2015
15. SR-14 SB Ramps and SR-138	Caltrans	0.18	A	0.19	A	7/15/2015
16. SR-14 NB Ramps and SR-138	Caltrans	0.18	A	0.20	A	7/16/2015
17. 90 th St W/Willow Springs and Rosamond ²	Kern County	0.16	A	0.22	A	7/14/2015
18. Willow Springs and Oak Creek ²	Kern County	0.21	A	0.22	A	7/15/2015
19. Willow Springs and Highline ²	Kern County	0.21	A	0.30	A	7/16/2015

**TABLE 5.10-3
ICU AND LOS SUMMARY – EXISTING (2014 AND 2015) CONDITIONS**

Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour		Count
		ICU	LOS	ICU	LOS	Date
20. Bear Mountain Blvd/SR-223 and Wheeler Ridge Rd ²	Kern County/Caltrans	0.32	A	0.46	A	7/14/2015
21. The Old Road and I-5 SB Ramps	LA County/Caltrans	0.41	A	0.39	A	1/27/2015
22. I-5 NB Ramps and Lake Hughes	LA County/Caltrans	0.31	A	0.41	A	1/27/2015
23. I-5 SB On Ramp and Parker	LA County/Caltrans	0.60	A	0.52	A	1/22/2015
24. I-5 NB Off Ramp and Parker	LA County/Caltrans	0.46	A	0.55	A	1/22/2015
25. I-5 NB Ramps and Hasley Canyon	LA County/Caltrans	11.5*	B	11.9*	B	11/4/2014
26. I-5 SB Ramps and Sedona/Old Road	LA County/Caltrans	0.71	C	0.55	A	11/4/2014
27. The Old Road and Hasley Canyon	LA County	8.7*	A	9.5*	A	11/4/2014
28. I-5 NB Ramps and SR-126	Caltrans	0.66	B	0.64	B	3/4/2014
29. I-5 SB Ramps and SR-126	Caltrans	0.75	C	0.48	A	4/1/2014
30. The Old Road and I-5 SB Ramps	LA County/Caltrans	0.70	B	0.85	D	3/11/2014
31. I-5 SB Ramps and Magic Mountain	LA County/Caltrans	0.44	A	0.40	A	3/11/2014
32. I-5 NB Ramps and Magic Mountain	City of Santa Clarita/Caltrans	0.52	A	0.45	A	3/5/2014
33. I-5 SB Ramps and Valencia	LA County/Caltrans	0.41	A	0.39	A	3/11/2014
34. I-5 NB Ramps and Valencia	City of Santa Clarita/Caltrans	0.55	A	0.48	A	3/11/2014
35. I-5 SB Ramps and McBean	LA County/Caltrans	0.43	A	0.55	A	3/13/2014
36. I-5 NB Ramps and McBean	City of Santa Clarita/Caltrans	0.44	A	0.53	A	3/11/2014
37. I-5 SB/Marriott and Pico/Lyons	LA County/Caltrans	0.43	A	0.63	B	3/11/2014
38. I-5 NB On/Off and Lyons Ave	City of Santa Clarita/Caltrans	0.55	A	0.63	B	3/11/2014
39. I-5 SB Ramps and Calgrove	City of Santa Clarita/Caltrans	0.46	A	0.57	A	3/11/2014
40. I-5 NB Ramps and Calgrove	City of Santa Clarita/Caltrans	0.53	A	0.46	A	3/11/2014

ICU: intersection capacity utilization; LOS: level of service
 * This location is a roundabout; therefore, the LOS shown is based on average delay (sec/veh)
 1 denotes LA County CMP route and cross street
 2 denotes Kern County CMP principal arterial
 Source: Stantec 2017 (Table 2-2).

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Source: Stantec 2017

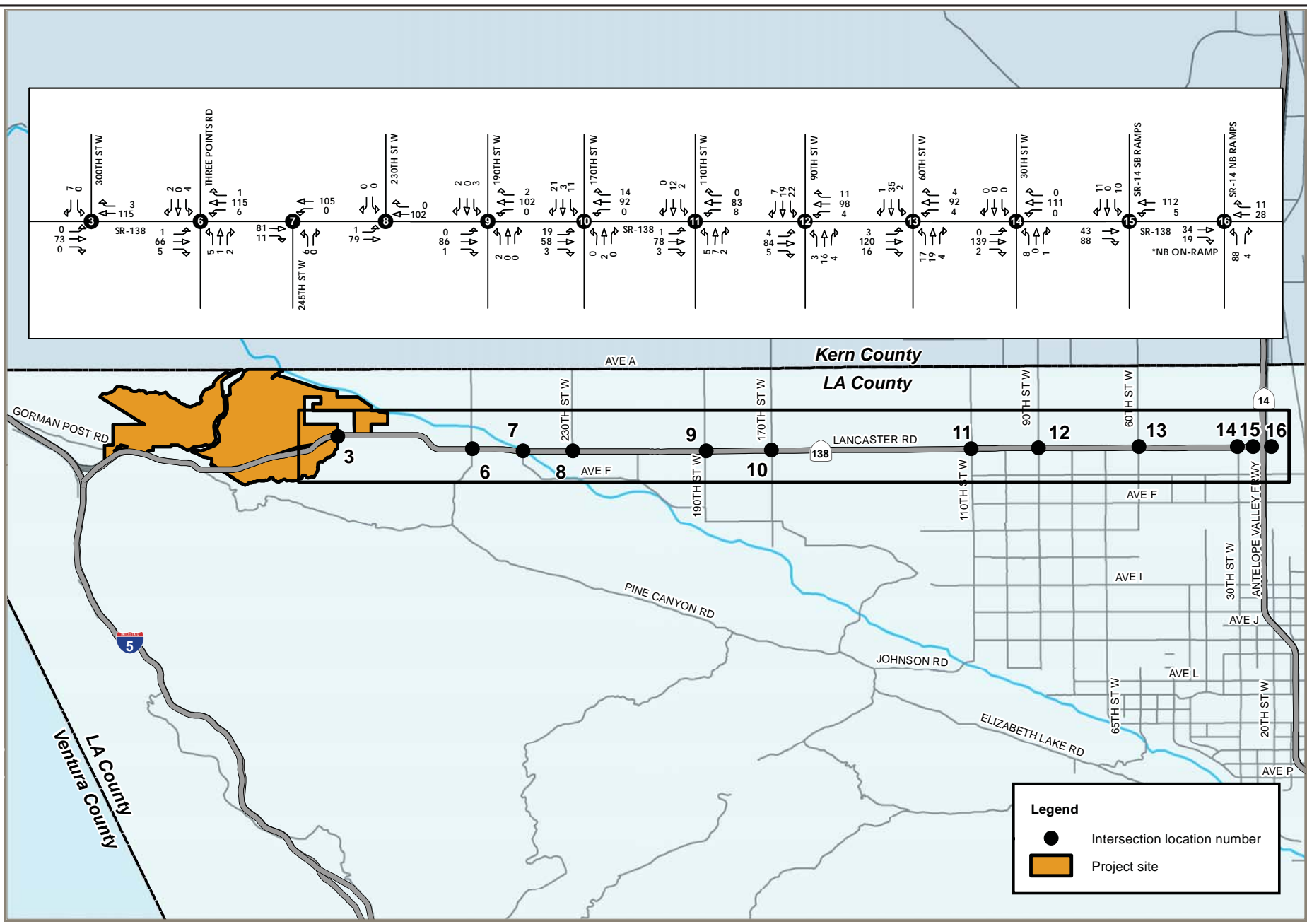
Average Daily Traffic Volumes – Existing Conditions

Exhibit 5.10-3

Centennial Project



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Source: Stantec 2017

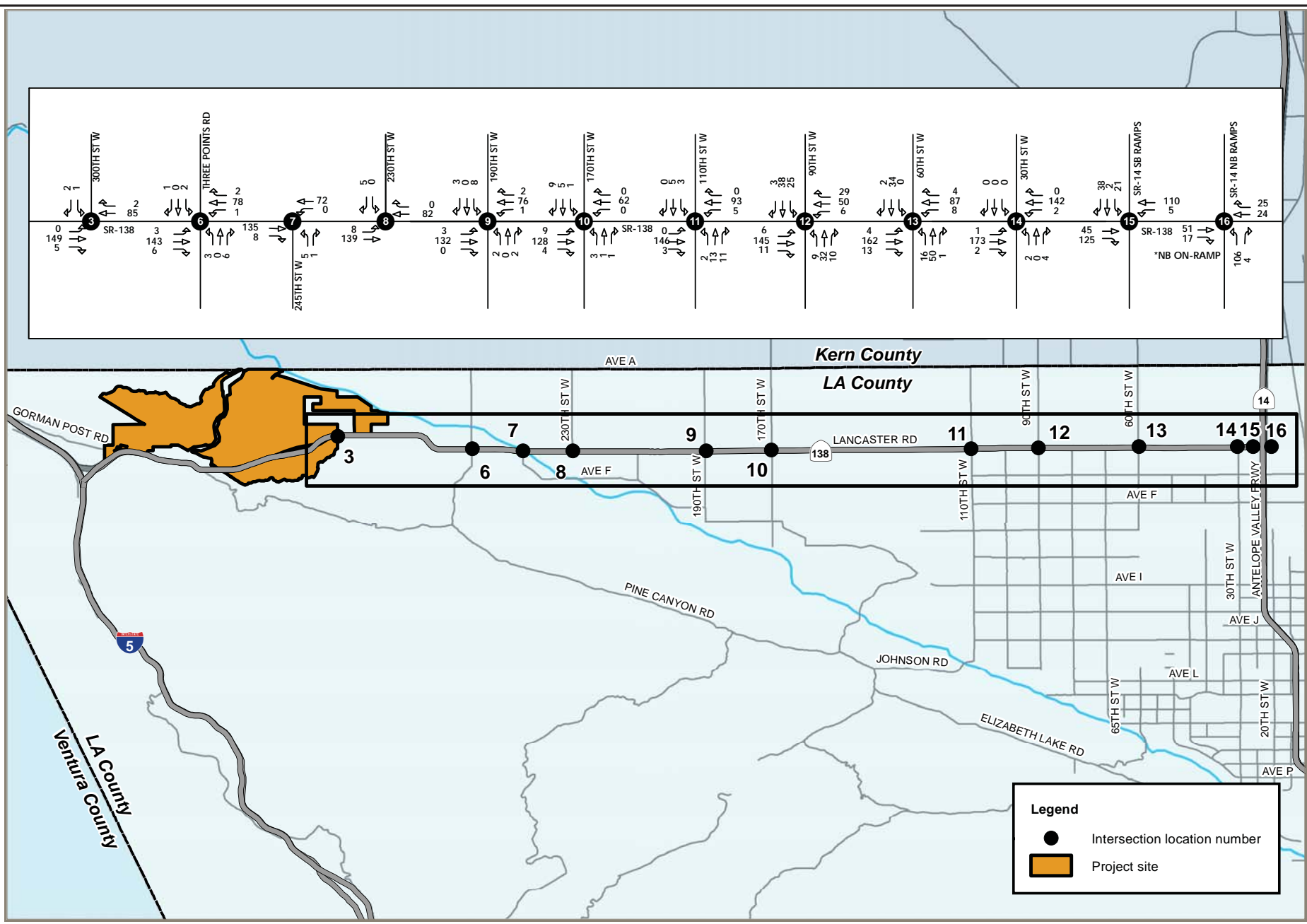
AM Peak Hour Intersection Volume Counts on SR-138 (Existing Conditions)

Exhibit 5.10-4

Centennial Project



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Source: Stantec 2016

PM Peak Hour Intersection Volume Counts on SR-138 (Existing Conditions)

Exhibit 5.10-5

Centennial Project



Annual average daily traffic (AADT), ADT, peak hour freeway volumes and the corresponding vehicle to capacity (V/C) ratios for existing peak hour conditions are shown in Table 5.10-4 (northbound and eastbound directions) and Table 5.10-5 (southbound and westbound directions). Existing (2014 and 2015) AADT volumes were obtained from the Caltrans Traffic Census. For SR-138, mid-block and intersection counts were collected. The most accurate indication of congestion is average speeds, which have been obtained for freeway segments known to have recurring peak hour congestions. Based on average speeds, the areas of the I-5 from the Santa Clarita Valley area to the I-405 junction experience peak hour speeds indicative of recurring congestion. In addition, congestion on the SR-14 occurs in the westbound direction in the AM, and eastbound during the PM.

Peak hour volumes and the corresponding V/C ratios for select freeway on-ramps and off-ramps that have the potential to be affected by the Project are presented in Table 5.10-6. Ramp volume data was derived using the same methodology used for the freeway mainline segments.

**TABLE 5.10-4
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY - NORTHBOUND AND EASTBOUND**

Location		AADT Volume (2-Way)	Northbound/Eastbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
I-5								
1	Btw SR-99 and Laval/Wheeler	75,000	4M	8,200	1,561	0.19	2,158	0.26
2	Btw Laval/Wheeler and Grapevine	74,000	4M	8,200	1,570	0.19	2,051	0.25
3a	Btw. Grapevine and Fort Tejon Rd (Mixed-flow)	50,000	2M	4,412	1,013	0.23	1,362	0.31
3b	Btw. Grapevine and Fort Tejon Rd (Mixed-flow + Truck)	24,000	2M/T	2,050	528	0.26	673	0.33
4	Btw Fort Tejon Rd and Lebec Rd	72,000	4M	7,355	1,390	0.19	2,426	0.33
5	Btw Lebec Rd and Frazier Mtn Park	73,000	4M	7,355	1,409	0.19	2,460	0.33
6	Btw Frazier Mtn Park and Gorman Rd	70,000	4M	8,143	1,351	0.17	2,359	0.29
7	Btw Gorman Rd and N Jct SR-138	70,000	4M	7,398	1,351	0.18	2,359	0.32
8	Btw N Jct SR-138 and Quail Lake Rd	67,000	4M	7,398	1,293	0.17	2,258	0.31
9	Btw Quail Lake Rd and S Jct SR-138	67,000	4M	5,500	1,293	0.24	2,258	0.41
10	Btw S Jct SR-138 and Smokey Bear Rd	69,000	4M	5,500	1,332	0.24	2,325	0.42
11	Btw Smokey Bear Rd and Vista Del Lago Rd	70,000	4M	5,957	1,351	0.23	2,359	0.40
12	Btw Vista Del Lago Rd and Templin Hwy	70,000	4M	5,957	1,351	0.23	2,359	0.40
13	Btw Templin Hwy and Lake Hughes Rd	70,000	4M	5,957	1,351	0.23	2,359	0.40
14	Btw Lake Hughes Rd and Parker Rd	73,000	4M	7,422	1,504	0.20	1,949	0.26
15	Btw Parker Rd and Hasley Cyn Rd	108,000	4M	7,422	2,225	0.30	2,884	0.39
16	Btw Hasley Cyn Rd and N Jct SR-126 (NB)	114,000	4M (+1A)	8,422	2,348	0.28	3,044	0.36
17	Btw N Jct SR-126 and Rye Cyn Rd	130,000	4M	7,470	2,678	0.36	3,471	0.46
18	Btw Rye Cyn Rd and Magic Mountain Pkwy	154,000	4M	7,670	3,172	0.41	4,112	0.54
19	Btw Magic Mountain Pkwy and Valencia Blvd	165,000	4M	7,670	3,399	0.44	4,406	0.57
20	Btw Valencia Blvd and McBean Pkwy	175,000	4M	7,670	3,605	0.47	4,673	0.61
21	Btw McBean Pkwy and Lyons Ave/Pico Cyn Rd	186,000	4M	7,960	3,832	0.48	4,966	0.62
22	Btw Lyons Ave and Calgrove Blvd	199,000	4M	7,960	4,099	0.52	5,313	0.67
23	Btw Calgrove Blvd and SR-14	200,000	4M (+1T[C])	9,160	4,120	0.45	5,340	0.58
24	Btw SR-14 and SR-210	278,000	3M (+1H+3A[F]+2T)	16,791	6,644	0.40	7,951	0.47
25	Btw SR-210 and Roxford	266,000	4M (+1H+1A[F])	12,449	6,357	0.51	7,608	0.61

**TABLE 5.10-4
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY - NORTHBOUND AND EASTBOUND**

Location		AADT Volume (2-Way)	Northbound/Eastbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
26	Btw Roxford St and I-405	283,000	5M (+1H+1A[F])	14,661	6,764	0.46	8,094	0.55
27	Btw I-405 and San Fernando Mission Blvd	141,000	3M (+1H)	8,171	3,370	0.41	4,033	0.49
SR-14								
28	Btw Dawn Rd and Rosamond Blvd	23,000	2M	4,665	1,083	0.23	849	0.18
29	Btw Rosamond Blvd and Ave A	30,000	2M	4,679	651	0.14	1,725	0.37
30	Ave A and N Jct SR-138/Ave D	34,000	2M	4,679	1,244	0.27	1,261	0.27
31	Btw Jct SR-138/Ave D and Ave F	36,000	2M	4,665	1,318	0.28	1,336	0.29
32	Btw Ave F and Ave G	38,000	2M	4,665	1,391	0.30	1,410	0.30
33	Btw Ave G and Ave H	38,000	2M	4,665	1,391	0.30	1,410	0.30
34	Btw Ave H and Ave I	40,000	2M	4,665	1,328	0.28	1,484	0.32
35	Btw Ave I and Ave J	47,000	3M	6,997	1,560	0.22	1,744	0.25
36	Btw Ave J and 20th St W	42,000	3M	7,016	1,394	0.20	1,558	0.22
37	Btw 20th St W and Ave K	59,000	3M	7,016	1,959	0.28	2,189	0.31
38	Btw Ave K and Ave L	74,000	3M	7,016	2,457	0.35	2,745	0.39
39	Btw Ave L and Ave M	89,000	3M	7,016	2,955	0.42	3,302	0.47
40	Btw Ave M and Ave N	92,000	3M	7,016	3,054	0.44	3,413	0.49
41	Btw Ave N and 10th St W	87,000	3M	7,016	2,888	0.41	3,228	0.46
42	Btw 10th St W and Rancho Vista Blvd	87,000	3M	6,675	2,888	0.43	3,228	0.48
43	Btw Rancho Vista Blvd and S Jct SR-138/Palmdale Blvd	84,000	3M	6,675	2,789	0.42	3,116	0.47
44	Btw S Jct SR-138 and Ave S	81,000	2M (+1H)	6,050	2,689	0.44	3,005	0.50
45	Btw Ave S and Pearblossom/Sierra Hwy	71,000	2M (+1H)	6,050	2,357	0.39	2,634	0.44
46	Btw Pearblossom/Sierra Hwy and Angeles Forest Hwy	83,000	2M (+1H)	6,050	2,756	0.46	3,079	0.51
47	Btw Angeles Forest Hwy and Soledad	95,000	3M (+1H)	8,275	3,154	0.38	3,525	0.43
48	Btw Soledad and Santiago Rd	95,000	2M (+1H)	6,071	3,154	0.52	3,525	0.58
49	Btw Santiago Rd and Crown Valley Rd	94,000	2M (+1H)	6,071	3,121	0.51	3,487	0.57
50	Btw Crown Valley Rd and Ward Rd	95,000	2M (+1H)	6,071	3,154	0.52	3,525	0.58

**TABLE 5.10-4
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY - NORTHBOUND AND EASTBOUND**

Location		AADT Volume (2-Way)	Northbound/Eastbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
51	Btw Ward Rd and Escondido Cyn Rd	93,000	3M (+1H)	8,167	3,088	0.38	3,450	0.42
52	Btw Escondido Cyn Rd and Agua Dulce Cyn Rd	93,000	3M (+1H)	8,307	1,776	0.21	4,669	0.56
53	Btw Agua Dulce Cyn Rd and Soledad Rd	96,000	3M (+1H)	8,307	1,834	0.22	4,819	0.58
54	Btw Shadow Pines/Soledad Rd and Sand Cyn Rd	99,000	2M (+1H)	6,071	1,891	0.31	4,970	0.82
55	Btw Sand Cyn Rd and Via Princessa	112,000	3M (+1H)	8,246	2,139	0.26	5,622	0.68
56	Btw Via Princessa and Golden Valley Rd	144,000	3M (+1H+1A)	9,246	2,750	0.30	7,229	0.78
57	Btw Golden Valley Rd and Placerita Cyn Rd	144,000	3M (+1H)	8,246	2,750	0.33	7,229	0.88
58	Btw Placerita Cyn Rd and San Fernando Rd/Newhall Ave	151,000	3M (+1H)	8,246	2,884	0.35	4,243	0.51
59	Btw San Fernando Rd/Newhall Ave and Jct I-5	166,000	5M (+1H)	12,676	3,171	0.25	4,665	0.37
SR-138								
60	Btw Jct I-5 and Gorman Post Rd	4,500	2M	3,808	73	0.02	154	0.04
61	Btw Gorman Post Rd and Old Ridge Route Rd	4,900	1M	1,904	73	0.04	154	0.08
62	Btw Old Ridge Route Rd and 300th St W	4,700	1M	1,904	73	0.04	154	0.08
63	Btw 300th St W and Three Pts Rd	4,700	1M	1,904	73	0.04	152	0.08
64	Btw Three Pts Rd and 245th St (Ave F)	4,700	1M	1,904	92	0.05	151	0.08
65	Btw 245th St W and 170th St W	4,700	1M	1,904	89	0.05	147	0.08
66	Btw 170th St W and 110th St W	4,700	1M	1,962	82	0.04	149	0.08
67	Btw 110th St W and 60th W	4,700	1M	1,962	139	0.07	180	0.09
68	Btw 60th W and Jct SR-14	4,700	1M	1,962	141	0.07	177	0.09
SR-99								
70	Btw Jct SR-58 W and California	104,110	4M	8,985	3,848	0.43	6,276	0.70
71	Btw California and Jct SR-58 E	89,700	4M	8,985	3,392	0.38	5,263	0.59
72	Btw Jct SR-58 E and Ming Ave	88,820	5M	10,107	3,406	0.34	5,478	0.54
73	Btw Ming Ave and White Lane	69,755	4M	8,985	2,614	0.29	4,435	0.49
74	Btw White Lane and Panama Lane	57,090	4M	9,186	2,165	0.24	3,616	0.39
75	Btw Panama Lane and Jct SR-119 W	44,450	4M	9,186	1,622	0.18	2,890	0.31
76	Btw Jct SR-119 W and Houghton Rd	35,470	3M	6,889	1,229	0.18	2,345	0.34

**TABLE 5.10-4
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY - NORTHBOUND AND EASTBOUND**

Location		AADT Volume (2-Way)	Northbound/Eastbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
77	Btw Houghton Rd and Jct SR-233 E	33,360	3M	6,422	1,158	0.18	2,176	0.34
78	Btw Jct SR-223 E and Old U.S. 99	27,270	3M	6,422	945	0.15	1,788	0.28
79	Btw Old U.S. 99 and Herring Rd	28,585	3M	6,400	987	0.15	1,860	0.29
80	Btw Herring Rd and Sandrini Rd.	27,775	3M	6,400	960	0.15	1,805	0.28
81	Btw Sandrini Rd and David Rd	27,775	3M	6,400	960	0.15	1,805	0.28
82	Btw David Rd and Valpredo	27,740	3M	6,400	959	0.15	1,803	0.28
83	Btw Valpredo and Jct SR-166 W	27,740	3M	6,400	959	0.15	1,803	0.28
84	Btw Jct SR-166 W and Jct I-5	26,965	3M	6,288	934	0.15	1,733	0.28

AADT: annual average daily traffic (2-way volumes on the SR-99 are average daily traffic (ADT) volumes); V/C: volume-to-capacity ratio; Btw: Between; SR: State Route; Jct: junction; I: Interstate; NB: northbound; SB: southbound; WB: westbound; EB: eastbound ; M – number of mixed flow lanes; #T – number of truck lanes; #H – number of HOT lanes; #A – number of auxiliary lanes

For freeway segments located in LA County (i.e., SR-138, SR-14 and I-5) and Kern County freeway segments on the I-5 from Fort Tejon Interchange to the LA/Kern County line, existing volumes represent 2014 conditions. For remainder of freeway segments located in Kern County (i.e., SR-99 and I-5 from the Grapevine Grade to SR-99), existing volumes represent 2015 conditions.

Source: Stantec 2017 (Table 2-3).

**TABLE 5.10-5
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY – SOUTHBOUND AND WESTBOUND**

Location		AADT Volume (2-Way)	Southbound/Westbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
I-5								
1	Btw SR-99 and Laval/Wheeler	75,000	4M	8,200	1,461	0.18	1,884	0.23
2	Btw Laval/Wheeler and Grapevine	74,000	4M	8,200	1,422	0.17	1,780	0.22
3a	Btw Grapevine and Fort Tejon Rd	50,000	2M	4,140	880	0.21	1,038	0.25
3b	Btw Grapevine and Fort Tejon Rd (Truck)	24,000	2M/T	2,050	518	0.25	744	0.36
4	Btw Fort Tejon Rd and Lebec Rd	72,000	4M	8,143	1,346	0.17	2,304	0.28
5	Btw Lebec Rd and Frazier Mtn Park	73,000	4M	8,143	1,365	0.17	2,336	0.29
6	Btw Frazier Mtn Park and Gorman Rd	70,000	4M	5,606	1,309	0.23	2,240	0.40
7	Btw Gorman Rd and N Jct SR-138	70,000	4M	8,169	1,309	0.16	2,240	0.27
8	Btw N Jct SR-138 and Quail Lake Rd	67,000	4M	8,169	1,253	0.15	2,144	0.26
9	Btw Quail Lake Rd and S Jct SR-138	67,000	4M	5,500	1,253	0.23	2,144	0.39
10	Btw S Jct SR-138 and Smokey Bear Rd	69,000	4M	5,500	1,290	0.23	2,208	0.40
11	Btw Smokey Bear Rd and Vista Del Lago Rd	70,000	4M	5,957	1,309	0.22	2,240	0.38
12	Btw Vista Del Lago Rd and Templin Hwy	70,000	4M	5,957	1,309	0.22	2,240	0.38
13	Btw Templin Hwy and Lake Hughes Rd	70,000	4M	5,957	1,309	0.22	2,240	0.38
14	Btw Lake Hughes Rd and Parker Rd	73,000	4M	7,422	1,854	0.25	2,519	0.34
15	Btw Parker Rd and Hasley Cyn Rd	108,000	4M	7,422	2,743	0.37	3,726	0.50
16	Btw Hasley Cyn Rd and N Jct SR-126 (NB)	114,000	4M (+1A)	8,422	2,896	0.34	3,933	0.47
17	Btw N Jct SR-126 and Rye Cyn Rd	130,000	4M	7,470	3,302	0.44	4,485	0.60
18	Btw Rye Cyn Rd and Magic Mountain Pkwy	154,000	4M	7,670	3,912	0.51	5,313	0.69
19	Btw Magic Mountain Pkwy and Valencia Blvd	165,000	4M	7,670	4,191	0.55	5,693	0.74
20	Btw Valencia Blvd and McBean Pkwy	175,000	4M	7,670	4,445	0.58	6,038	0.79
21	Btw McBean Pkwy and Lyons Ave/Pico Cyn Rd	186,000	4M	7,960	4,724	0.59	6,417	0.81
22	Btw Lyons Ave and Calgrove Blvd	199,000	4M (+1T)	9,560	5,055	0.53	6,866	0.72
23	Btw Calgrove Blvd and SR-14	200,000	4M (+2T[C])	10,360	5,080	0.49	6,900	0.67
24	Btw SR-14 and SR-210	278,000	4M (+1H+2A[F]+2T)	16,788	12,010	0.72	10,925	0.65
25	Btw SR-210 and Roxford	266,000	5M (+1H)	12,661	11,491	0.91	10,454	0.83

**TABLE 5.10-5
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY – SOUTHBOUND AND WESTBOUND**

Location		AADT Volume (2-Way)	Southbound/Westbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
26	Btw Roxford St and I-405	283,000	5M (+1H+1A[F])	14,661	12,226	0.83	11,122	0.76
27	Btw I-405 and San Fernando Mission Blvd	141,000	3M (+1H)	8,171	6,091	0.75	5,541	0.68
SR-14								
28	Btw Dawn Rd and Rosamond Blvd	23,000	2M	4,665	499	0.11	1,323	0.28
29	Btw Rosamond Blvd and Ave A	30,000	2M	4,679	1413	0.30	1,107	0.24
30	Ave A and N Jct SR-138/Ave D	34,000	2M	4,679	1129	0.24	1,567	0.34
31	Btw Jct SR-138/Ave D and Ave F	36,000	2M	4,665	1195	0.26	1,660	0.36
32	Btw Ave F and Ave G	38,000	2M	4,665	1,262	0.27	1,752	0.38
33	Btw Ave G and Ave H	38,000	2M	4,665	1,262	0.27	1,752	0.38
34	Btw Ave H and Ave I	40,000	2M	4,665	1,464	0.31	1,844	0.40
35	Btw Ave I and Ave J	47,000	3M	6,997	1,720	0.25	2,167	0.31
36	Btw Ave J and 20th St W	42,000	3M	7,016	1,537	0.22	1,936	0.28
37	Btw 20th St W and Ave K	59,000	3M	7,016	2,159	0.31	2,720	0.39
38	Btw Ave K and Ave L	74,000	3M	7,016	2,708	0.39	3,411	0.49
39	Btw Ave L and Ave M	89,000	3M	7,016	3,257	0.46	4,103	0.58
40	Btw Ave M and Ave N	92,000	3M	7,016	3,367	0.48	4,241	0.60
41	Btw Ave N and 10th St W	87,000	3M	7,016	3,184	0.45	4,011	0.57
42	Btw 10th St W and Rancho Vista Blvd	87,000	3M	6,675	3,184	0.48	4,011	0.60
43	Btw Rancho Vista Blvd and S Jct SR-138/ Palmdale Blvd	84,000	3M	6,675	3,074	0.46	3,872	0.58
44	Btw S Jct SR-138 and Ave S	81,000	3M (+1H)	8,275	2,965	0.36	3,734	0.45
45	Btw Ave S and Pearblossom/Sierra Hwy	71,000	3M (+1H)	8,275	2,599	0.31	3,273	0.40
46	Btw Pearblossom/Sierra Hwy and Angeles Forest Hwy	83,000	3M (+1H)	8,275	3,038	0.37	3,826	0.46
47	Btw Angeles Forest Hwy and Soledad	144,000	2M (+1H)	6,050	3,477	0.57	4,380	0.72
48	Btw Soledad and Santiago Rd	95,000	2M (+1H)	6,071	3,477	0.57	4,380	0.72
49	Btw Santiago Rd and Crown Valley Rd	94,000	2M (+1H)	6,071	3,440	0.57	4,333	0.71
50	Btw Crown Valley Rd and Ward Rd	95,000	2M (+1H)	6,071	3,477	0.57	4,380	0.72
51	Btw Ward Rd and Escondido Cyn Rd	93,000	2M (+1H)	5,978	3,404	0.57	4,287	0.72
52	Btw Escondido Cyn Rd and Agua Dulce Cyn Rd	93,000	2M (+1H)	6,071	4,994	0.82	2,613	0.43

**TABLE 5.10-5
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY – SOUTHBOUND AND WESTBOUND**

Location		AADT Volume (2-Way)	Southbound/Westbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
53	Btw Agua Dulce Cyn Rd and Soledad Rd	96,000	2M (+1H)	6,071	5,155	0.85	2,698	0.44
54	Btw Shadow Pines/Soledad Rd and Sand Cyn Rd	99,000	2M (+1H)	6,071	5,316	0.88	2,782	0.46
55	Btw Sand Cyn Rd and Via Princessa	112,000	3M (+1H)	8,246	6,014	0.73	3,147	0.38
56	Btw Via Princessa and Golden Valley Rd	144,000	3M (+1H+1A)	9,246	7,733	0.84	4,046	0.44
57	Btw Golden Valley Rd and Placerita Cyn Rd	144,000	3M (+1H)	8,246	7,733	0.94	4,046	0.49
58	Btw Placerita Cyn Rd and San Fernando Rd/Newhall Ave	151,000	3M (+1H)	8,246	8,109	0.98	7,580	0.92
59	Btw San Fernando Rd//Newhall Ave and Jct I-5	166,000	5M (+1H)	12,676	8,914	0.70	8,333	0.66
SR-138								
60	Btw Jct I-5 and Gorman Post Rd	4,500	2M	3,808	122	0.03	87	0.02
61	Btw Gorman Post Rd and Old Ridge Route Rd	4,900	1M	1,904	122	0.06	87	0.05
62	Btw Old Ridge Route Rd and 300th St W	4,700	1M	1,904	122	0.06	87	0.05
63	Btw 300th St W and Three Pts Rd	4,700	1M	1,904	122	0.06	87	0.05
64	Btw Three Pts Rd and 245th St (Ave F)	4,700	1M	1,904	122	0.06	81	0.04
65	Btw 245th St W and 170th St W	4,700	1M	1,904	113	0.06	87	0.05
66	Btw 170th St W and 110th St W	4,700	1M	1,962	106	0.05	95	0.05
67	Btw 110th St W and 60th W	4,700	1M	1,962	113	0.06	105	0.05
68	Btw 60th W and Jct SR-14 South	4,700	1M	1,962	123	0.06	148	0.08
SR-99								
70	Btw Jct SR-58 W and California	104,110	4M	8,985	4,004	0.45	6,694	0.75
71	Btw California and Jct SR-58 E	89,700	4M	8,985	3,390	0.38	6,895	0.77
72	Btw Jct SR-58 E and Ming Ave	88,820	5M	10,107	3,217	0.32	5,663	0.56
73	Btw Ming Ave and White Lane	69,755	4M	9,186	2,394	0.26	4,508	0.49
74	Btw White Lane and Panama Lane	57,090	4M	9,186	2,072	0.23	3,565	0.39
75	Btw Panama Lane and Jct SR-119 W	44,450	4M	9,186	1,797	0.20	2,581	0.28
76	Btw Jct SR-119 W and Houghton Rd	35,470	3M	6,422	1,533	0.24	1,987	0.31
77	Btw Houghton Rd and Jct SR-233 E	33,360	3M	6,422	1,473	0.23	1,865	0.29
78	Btw Jct SR-223 E and Old U.S. 99	27,270	3M	6,400	1,233	0.19	1,488	0.23
79	Btw Old U.S. 99 and Herring Rd	28,585	3M	6,400	1,284	0.20	1,586	0.25

**TABLE 5.10-5
EXISTING (2014 AND 2015) FREEWAY PEAK HOUR VOLUMES AND V/C SUMMARY – SOUTHBOUND AND WESTBOUND**

Location		AADT Volume (2-Way)	Southbound/Westbound					
			Lanes	Total Capacity	AM Vol	AM V/C	PM Vol	PM V/C
80	Btw Herring Rd and Sandrini Rd.	27,775	3M	6,400	1,253	0.20	1,537	0.24
81	Btw Sandrini Rd and David Rd	27,775	3M	6,400	1,253	0.20	1,537	0.24
82	Btw David Rd and Valpredo	27,740	3M	6,400	1,251	0.20	1,535	0.24
83	Btw Valpredo and Jct SR-166 W	27,740	3M	6,288	1,251	0.20	1,535	0.24
84	Btw Jct SR-166 W and Jct I-5	26,965	3M	6,162	1,219	0.20	1,507	0.24
<p>Notes:</p> <p>AADT: annual average daily traffic (2-way volumes on the SR-99 are average daily traffic (ADT) volumes); V/C: volume-to-capacity ratio; Btw: Between; SR: State Route; ; M – number of mixed flow lanes; #T – number of truck lanes; #H – number of HOT lanes; #A – number of auxiliary lanes</p> <p>For freeway segments located in LA County (i.e., SR-138, SR-14 and I-5) and Kern County freeway segments on the I-5 from Fort Tejon Interchange to the LA/Kern County line, existing volumes represent 2014 conditions. For remainder of freeway segments located in Kern County (i.e., SR-99 and I-5 from the Grapevine Grade to SR-99), existing volumes represent 2015 conditions.</p> <p>Source: Stantec 2017 (Table 2-4).</p>								

**TABLE 5.10-6
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY - EXISTING (2014 AND 2015) CONDITIONS**

Northbound/Eastbound								Southbound/Westbound							
Location	ADT	L	Cap	AM Peak Hour		PM Peak Hour		Location	ADT	L	Cap	AM Peak Hour		PM Peak Hour	
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C
I-5															
SR-99 NB Connector	20,600	2	4,000	980	0.25	1,280	0.32	SR-99 SB Connector	21,400	2	4,000	1,000	0.25	1,020	0.26
Laval/Wheeler West NB Off-Ramp	1,450	1	1,500	50	0.03	80	0.05	Laval/Wheeler Ridge West SB On-Ramp	6,200	1	1,500	270	0.18	330	0.22
Laval/Wheeler East NB Off-Ramp	3,850	1	1,500	170	0.11	260	0.17	(not applicable)							
Grapevine NB Off-Ramp	1,750	1	1,500	50	0.03	40	0.03	Grapevine SB On-Ramp	1,200	1	1,500	40	0.03	50	0.03
Fort Tejon Rd NB Off-Ramp	140	1	1,500	10	0.01	10	0.01	Fort Tejon SB On-Ramp	230	1	1,500	10	0.01	20	0.01
Lebec NB Off-Ramp	690	1	1,500	30	0.02	50	0.03	Lebec SB On-Ramp	320	1	1,500	10	0.01	20	0.01
Frazier NB Off-Ramp	3,350	1	1,500	130	0.09	220	0.15	Frazier SB On-Ramp	4,200	1	1,500	160	0.11	280	0.19
Gorman Rd NB Off-Ramp	2,900	1	1,500	110	0.07	190	0.13	Gorman Rd SB On-Ramp	1,250	1	1,500	50	0.03	80	0.05
WB SR-138 NB Connector	1,650	2	4,000	60	0.02	110	0.03	EB SR-138 SB Connector	1,350	2	4,000	50	0.01	90	0.02
EB SR-138 NB Connector	750	2	4,000	30	0.01	50	0.01	WB SR-138 SB Connector	740	2	4,000	30	0.01	50	0.01
Templin Hwy NB On-Ramp	140	1	1,500	10	0.01	10	0.01	Templin Hwy SB Off-Ramp	140	1	1,500	10	0.00	10	0.01
Lake Hughes Rd NB On-Ramp	6,700	1	1,500	250	0.17	440	0.29	Lake Hughes Rd SB Off-Ramp	3,850	1	1,500	150	0.10	250	0.17
Hasley Cyn Rd NB On-Ramp	870	1	1,500	40	0.03	50	0.03	Hasley Cyn Rd SB Off-Ramp	1,250	1	1,500	60	0.04	80	0.05
WB SR-126 NB On-Ramp	5,100	1	1,500	240	0.16	310	0.21	WB SR-126 SB Off-Ramp	7,700	1	1,500	350	0.23	470	0.31
(not applicable)								Rye Canyon Rd SB Off-Ramp	1,650	1	1,500	80	0.05	100	0.07
Magic Mountain Pkwy NB On-Ramp	4,500	2	2,250	210	0.09	280	0.12	Magic Mountain Pkwy SB Off-Ramp	3,950	2	2,250	180	0.08	240	0.11
Valencia Blvd NB On-Ramp	2,150	2	2,250	100	0.04	130	0.06	Valencia Blvd SB Off-Ramp	2,850	2	2,250	130	0.06	170	0.08
WB McBean Pkwy NB On-Ramp	2,550	1	1,500	70	0.05	90	0.06	McBean Pkwy SB Off-Ramp	3,500	1	1,500	160	0.11	210	0.14
Pico Cyn/Lyons NB On-Ramp	9,400	1	1,500	430	0.29	580	0.39	Lyons Ave SB Off-Ramp	4,400	1	1,500	200	0.13	270	0.18
Calgrove Blvd NB On-Ramp	2,650	1	1,500	120	0.08	160	0.11	Calgrove Blvd SB Off-Ramp	2,100	1	1,500	100	0.07	130	0.09
SB Rte 14 NB Connector	5,200	1	2,000	240	0.12	320	0.16	NB SR-14 SB Connector	5,900	1	2,000	270	0.14	360	0.18
WB Rte 210 NB Connector	28,472	2	4,000	1,910	0.48	1,930	0.48	EB SR-210 SB Connector	30,274	2	4,000	2,030	0.51	2,060	0.52
Roxford St NB On-Ramp	4,050	1	1,500	270	0.18	270	0.18	Roxford St SB Off-Ramp	3,000	1	1,500	200	0.13	200	0.13
I-405 NB Connector	62,000	3	6,000	4,150	0.69	4,210	0.70	I-405 SB Connector	65,000	3	6,000	4,360	0.73	4,410	0.74

**TABLE 5.10-6
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY - EXISTING (2014 AND 2015) CONDITIONS**

Northbound/Eastbound								Southbound/Westbound							
Location	ADT	L	Cap	AM Peak Hour		PM Peak Hour		Location	ADT	L	Cap	AM Peak Hour		PM Peak Hour	
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C
SR-14															
Rosamond Blvd NB Off-Ramp	6,750	1	1,500	460	0.31	640	0.43	WB Rosamond Blvd SB On-Ramp	3,622	1	1,500	250	0.17	340	0.23
(not applicable)								EB Rosamond Blvd SB On-Ramp	3,200	1	1,500	110	0.07	130	0.09
Jct Rte 138/ Ave D NB Off-Ramp	1,600	1	1,500	110	0.07	130	0.09	Jct Rte 138/Avenue D SB On-Ramp	1,540	1	1,500	110	0.07	130	0.09
WB Jct Rte 138/Ave D NB On-Ramp	250	1	1,500	20	0.01	20	0.01	(not applicable)							
EB Jct Rte 138/Ave D NB On-Ramp	340	1	1,500	20	0.01	30	0.02	Jct Rte 138/Ave D SB Off-Ramp	510	1	1,500	40	0.03	40	0.03
WB Ave H NB On-Ramp	1,600	1	1,500	110	0.07	130	0.09	Ave H SB Off-Ramp	1,900	1	1,500	130	0.09	160	0.11
EB Ave H NB On-Ramp	300	1	1,500	20	0.01	20	0.01	(not applicable)							
Ave I NB On-Ramp	3,500	1	1,500	240	0.16	290	0.19	Ave I SB Off-Ramp	2,700	1	1,500	190	0.13	220	0.15
Ave J NB On-Ramp	2,700	1	1,500	190	0.13	220	0.15	Ave J SB Off-Ramp	3,200	1	1,500	220	0.15	270	0.18
EB Ave K NB On-Ramp	1,350	1	1,500	90	0.06	110	0.07	Ave K SB Off-Ram	3,250	1	1,500	230	0.15	270	0.18
WB Ave K NB On-Ramp	2,850	1	1,500	200	0.13	240	0.16	(not applicable)							
EB Ave L NB On-Ramp	1,050	1	1,500	70	0.05	90	0.06	Ave L SB Off-Ramp	3,950	1	1,500	280	0.19	330	0.22
WB Ave L NB On-Ramp	3,450	1	1,500	240	0.16	290	0.19	(not applicable)							
EB Jct Rte 138/Palmdale Blvd NB On-Ramp	2,450	1	1,500	170	0.11	200	0.13	Jct Rte 138/Palmdale Blvd SB Off-Ramp	9,400	1	1,500	660	0.44	780	0.52
WB Jct Rte 138/Palmdale Blvd NB On-Ramp	7,500	1	1,500	520	0.35	620	0.41	(not applicable)							
Golden Valley Rd NB Off-Ramp	5,500	1	1,500	400	0.27	430	0.29	Golden Valley Rd SB On-Ramp	5000	1	1,500	360	0.24	390	0.26
San Fernando Rd NB Off-Ramp	10,200	1	1,500	740	0.49	800	0.53	San Fernando Rd SB On-Ramp	11500	1	1,500	840	0.56	900	0.60
ADT: average daily traffic; L: number of lanes; Cap: Capacity; Vol: Volume; V/C: volume-to-capacity ratio; NB: northbound; WB: - Westbound; EB: Eastbound; I: Interstate; Jct: junction Source: Stantec 2017 (Table 2-6).															

Existing Transit Service

Given the rural nature of existing conditions on and near the site, no transit service is currently available in the Project area.

Future Setting

The North Los Angeles County area is projected to experience substantial growth over the next 20 years, and this anticipated growth is reflected in the demographic projections contained in the Antelope Valley Area Plan (AVAP). The North County sub-area model was used to evaluate the traffic impacts of the AVAP and encompasses the northern portion of Los Angeles County, including the cities of Lancaster, Palmdale, Santa Clarita, as well as the southern portion of Kern County, including Bakersfield, Arvin, Frazier Park, Rosamond, Taft/Maricopa and Tehachapi. It also reflects the socioeconomic projections and transportation network improvements contained in the SCAG 2012 RTP/SCS model. As discussed above, traffic counts and the most recent forecasts for 2040 in the 2014 Kern COG RTP/SCS model were used to analyze potential Project impacts along I-5 and SR-99 in Kern County.

Transportation improvements will occur with future growth, some of which are currently committed and others are planned or in the planning stages. An evaluation of long-range conditions without the Project is provided in the analysis under Threshold 10-1 in Section 5.10.6, Environmental Impacts, below.

The future traffic conditions (long-range setting) assumes the SCAG and Los Angeles County year 2035 projections for the North Los Angeles County area and the surrounding region and the Kern COG 2040 projections for I-5 and SR-99 north of the Fort Tejon/I-5 interchange. Growth in the Cities of Palmdale and Lancaster, Kern County and Santa Clarita Valley areas, as well as regional facilities, such as I-5, where which trips to and from Centennial will be oriented, are primary considerations in the traffic analysis, along with specific approved or proposed projects in the vicinity of the Project site, such as:

- Tejon Mountain Village (north of the Project in Los Angeles County)
- Tejon Ranch Commerce Center (north of the Project in Kern County)
- Gorman Post Ranch (proposed west of the Project in Los Angeles County)
- Grapevine Specific Plan (proposed north of the Project in Kern County)

Highway System

Caltrans Transportation Concept Reports for I-5 and SR-14 indicate planned improvements to these facilities, but for some of these segments there is currently no set construction schedule.

Caltrans approved a Final Environmental Impact Report/Environmental Assessment (EIR/EIS) for the I-5 High Occupancy Vehicle (HOV)/Truck Lanes Project SR-14 to Parker Road ("I-5 Improvement Project") in September 2009. The project includes the addition of one HOV lane in each direction on I-5 from the SR-14 Interchange north to Parker Road; truck climbing lanes in each direction from the SR-14 Interchange to Calgrove Boulevard

(northbound) and Pico Canyon Road/Lyons Avenue (southbound); and full auxiliary lanes within portions of the Project study area. Caltrans completed construction of the truck lanes in December 2014. In May 2013, Caltrans approved a Supplemental EIR/Environmental Reevaluation (EIR/ER) for the improvement project that replaces the planned HOV lanes with high occupancy toll (HOT) lanes. The HOT lane project currently is in the design phase and Caltrans estimates the improvements will be completed by 2022. As a result, these improvements are included in the long-range analysis below.

In the vicinity of the Project site, Caltrans is planning to widen SR-138 from two lanes to four or more lanes from I-5 to SR-14, consistent with the recommendations in the North County Combined Highway Corridors Study. The study showed that this highway will experience an increase in traffic volumes (not related to the proposed Project) that will ultimately exceed the capacity of the existing two-lane highway. Caltrans is currently in the process of preparing the Project Approval and Environmental Document (PA&ED) for this expressway project.

The Northwest 138 Corridor Improvement Project expands on the North County Combined Highway Corridor Study and evaluates operational improvements for SR-138 from I-5 to SR-14. In 2013, Caltrans and Metro initiated the draft Northwest State Route 138 Corridor Improvement Project Environmental Impact Report/Statement (draft NW SR-138 EIR/EIS) for improvements to SR-138 between I-5 and SR-14. In July 2016, Caltrans released the draft NW SR-138 EIR/EIS that identified build alternatives that would improve mobility, operations, enhance safety and accommodate foreseeable increases in travel on the SR-138 and in northern Los Angeles County. Both the draft NW SR-138 EIR/EIS and the Centennial Specific Plan Traffic Study addressed similar mainline segments and study intersections along the SR-138 corridor.

The NW SR-138 EIR/EIS evaluated the following long-range scenarios:

- No Build (2040) Alternative
- Build (2040) Alternative 1 – Freeway/Expressway
 - Build Alternative 1 with Antelope Acres Loop Design Option
- Build (2040) Alternative 2 – Expressway/Limited Access Conventional Highway
- Transportation System Management (TSM) Alternative

Specified sets of improvements were analyzed as part of the build alternatives and included mainline widening, connector improvements, access type and intersection control treatments. The analysis of the build alternatives with the forecasted demand concluded the following:

- One or more segments and study intersections on the SR-138 would operate at LOS E under No Build conditions, which exceeds the Caltrans LOS D threshold. Therefore, improvements are warranted.
- With the improvements analyzed as part of the Build Alternative 1, all study intersections and SR-138 mainline would operate at LOS D or better.

- With the improvements analyzed as part of the Build Alternative 2, all study intersections and SR-138 mainline would operate at LOS D or better.
- The TSM alternative would result in LOS E at study intersections and SR-138 mainline, therefore that alternative was removed from consideration.

While specified sets of improvements were analyzed as part of the build alternatives, the Transportation Analysis Report (TAR) also listed additional access types and control treatment options for the Build Alternatives. The analysis of the additional options is documented in the Supplemental Intersection Control Evaluation report (ICE Report). In the ICE Report, multiple improvement options for consideration along the corridor are reported in addition to the analyzed treatments, and the report notes that the options have been explored and can be selected for implementation at the appropriate time.

The draft NW SR-138 EIR/EIS, TAR and ICE Report do not identify a preferred alternative and Caltrans has deferred the selection of a preferred alternative to the Final EIR/EIS. Caltrans has also reserved the right to determine the specific preferred intersection control based on the traffic and safety data at the time the improvements occur.

A regional high capacity goods movement facility along the SR-58 and/or E-220 corridor between I-5 in Kern County and I-15 in San Bernardino County has been identified in regional planning analyses as a route for goods movement between the San Joaquin Valley and the I-15/I-40 interchange area. This facility will provide an effective by-pass route for truck trips between the Central Valley area and areas such as Southern California, Arizona, Nevada and Mexico. A significant byproduct of the goods movement corridor is a reduction in truck traffic along the I-5 corridor through the Tejon Pass and the Santa Clarita Valley.

Projected Traffic Volumes

As discussed under Methodology above, Year 2035 and Year 2040 (for Kern County freeways) traffic forecasts are based on The North County Sub-Area Travel Demand Forecasting Model, the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), and the Centennial Traffic Model (CTM), coordinated with the 2012 SCAG RTP/SCS and the 2014 Kern COG RTP/SCS models. Projected traffic volumes are provided in the analysis below under the without project conditions.

5.10.4 PROJECT DESIGN FEATURES

The following project design features (PDFs) are proposed to reduce the need to use automobiles for routine travel, to facilitate walking and other alternative modes of transportation, and to reduce length of vehicle trips that are taken by Centennial residents.

- PDF 10-1** The Project includes a Mobility Plan, included as Section 3.2 of the Specific Plan, which provides an extensive system of sidewalks, greenway trails, and community trails to serve as alternative means of transportation on the Project site. (Greenway trails and community trails would accommodate both pedestrians and bicyclists.) The Project, through the Mobility Plan, aims to:

- Reinforce and serve the Land Use Plan;
- Provide multiple modes of accessibility for internal and external trips by future residents, employees and visitors;
- Provide residents and employees with multiple opportunities for using alternative (non-auto/motorized) modes of transportation;
- Provides for 80 percent on average, but no less than 50 percent of residential units to be located within one-half mile of a Village Core or the Town Center that includes retail and service uses;
- Provide parks within a 5-minute walk (0.25 mile) of 80 percent of all residential units;
- Includes a variety of measures to reduce on-site single-occupancy automobile use by 30 percent; and
- Includes a variety of measures to reduce off-site peak hour commutes in single-occupancy automobiles by 20 percent.

As part of the Mobility Plan, the Project's Circulation Plan includes major east-west roadways, to serve the Project's east-west travel demand, to connect major on-site activity areas, and to lessen the Project's traffic demand on SR-138. The Circulation Plan sets forth requirements for roadway classifications; intersection controls; and traffic calming measures.

Each component of the Mobility Plan incorporates Transportation Demand Management (TDM) features to reduce dependence on the automobile, provide for a more efficient use of transportation resources among Project occupants, and thereby reduce pollutant emissions. The key TDM elements that are inherent in the overall Mobility Plan are:

- Sidewalks, greenway trails, and community trails that link residential, schools, shopping, and employment areas;
- Creation and ongoing operation of a Transportation Management Association (TMA) to fund and manage the operation of ongoing transportation programs, including but not limited to transit and on-demand services;
- Small- to medium-sized streets and blocks that allow for shorter walking distances to retail, parks, schools, and other destinations;
- Pedestrian environments incorporated with public streets;
- Parking behind buildings to encourage walking in retail areas along street frontage;
- Parks within 0.25 mile of 80 percent of all residences; and
- Two underpasses and one overpass over SR-138 to facilitate both pedestrian and bike access to employment areas.

- PDF 10-2** The Project strategically locates schools, parks and commercial areas with a range of service and retail uses at the village centers to facilitate pedestrian access (i.e., linked to the network of sidewalks, greenway trails and community trails); although the final school site locations are subject to final approval by the applicable school district and are subject to change.
- PDF 10-3** The Project locates higher density residential uses adjacent to commercial areas in village centers and includes a Mixed-Use Overlay District that permits residential uses in commercial areas. This land-use configuration places larger populations within commercial areas to encourage pedestrian activity and to reduce vehicle trips.
- PDF 10-4** The Project's Technology Plan, included as Section 3.9 of the Specific Plan, requires a community intranet with access for homeowners associations; interest groups; local event scheduling; schools; library facilities; carpool and transit services; other on-site entertainment and amenities. The intranet will reduce the need for people to use automobile travel to obtain information and will provide easily accessible information to facilitate telecommuting and alternate means of transportation beyond the individual automobile.

5.10.5 THRESHOLD CRITERIA

The following significance threshold criteria are derived from the County of Los Angeles Environmental Checklist. The Project would result in a significant impact if it would:

- Threshold 10-1** Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Threshold 10-2** Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Threshold 10-3** Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Threshold 10-4** Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Threshold 10-5** Result in inadequate emergency access.

Threshold 10-6 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Performance Criteria

The traffic analysis determined the potential Project impacts on freeway mainline segments,³ freeway ramps, arterial roads, and rural highways. The impact criteria are based on capacity and volume. Capacity refers to the vehicle-carrying ability of a road segment, while volume is a measure of existing or forecasted traffic. The ratio between the volume and the capacity gives a volume-to-capacity (V/C) ratio, and a corresponding level of service (LOS) is defined based on the V/C ratio. The V/C methodology is specified by the Congestion Management Plan (CMP) for Los Angeles County. Caltrans utilizes the methodology described in the Highway Capacity Manual (HCM) to estimate density and LOS for freeway analysis. The HCM methods have been utilized to derive the capacities employed for the V/C calculations in order to address the preferences of both the CMP and Caltrans for the analysis.

Traffic LOS ranges from A (free flow conditions) to F (severe traffic conditions). A description of each LOS for arterial roads and freeway segments is provided in Table 5.10-7 below.

**TABLE 5.10-7
LEVEL OF SERVICE DESCRIPTIONS**

LOS	Arterial Roads	Freeway Segments
A	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.	Describes free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B	Describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.	Represents reasonably free flow, and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	Describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.	Provides for flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal	The level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical

³ A freeway mainline segment is a portion of a freeway/highway between ramps that consists of a continuous roadway without stop signs, stop lights, or intersections.

**TABLE 5.10-7
LEVEL OF SERVICE DESCRIPTIONS**

LOS	Arterial Roads	Freeway Segments
	timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
E	Characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse signal progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	At its highest density value, LOS E describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	Describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. LOS F operations within a queue are the result of a breakdown or bottleneck at a downstream point. LOS F is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS E, as well as the operations within the queue that forms upstream. Whenever LOS F conditions exist, they have the potential to extend upstream for significant distances.
Source: Stantec 2017 (Table 1-1) from Highway Capacity Manual 2010.		

Table 5.10-8 provides the V/C ranges that correspond to LOS A through F for arterial roads and freeway segments. The V/C ranges listed for arterial roads are those used by the County of Los Angeles and are typical for local jurisdictions in the study area. The V/C ranges listed for freeway segments are based on the V/C and LOS relationships specified in the *2010 Highway Capacity Manual* (HCM 2010) for basic freeway sections with free-flow speeds of 75 miles per hour (mph).

**TABLE 5.10-8
VOLUME/CAPACITY RATIO LEVEL OF SERVICE RANGES**

LOS	V/C Ratio Range	
	Arterial Roads and Intersections ^a	Freeway Segments (FFS = 75 mph) ^b
A	0.00-0.60	0.00-0.34
B	0.61-0.70	0.35-0.56
C	0.71-0.80	0.57-0.76
D	0.81-0.90	0.77-0.90
E	0.91-1.00	0.91-1.00
F	Above 1.00	Above 1.00

V/C Ratio: volume-to-capacity ratio; FFS: free flow speed; mph: miles per hour
^a Traffic Impact Analysis Report Guidelines
^b Highway Capacity Manual 2010
Source: Stantec 2017 (Table 1-2).

This evaluation focuses on those parts of the day when such congestion typically occurs. The impact criteria are separated according to four fundamental components of the circulation system: freeway mainline segments, freeway ramps, arterial roads, and rural highways. Peak hour data (AM and PM) is used in all cases to establish V/C and LOS measures and to define what constitutes an adverse traffic impact. The following sections describe the impact criteria (i.e., V/C calculation methodology, LOS performance standards, and traffic impact thresholds) for the four circulation system components.

Impact Criteria for Freeway Mainline Segments

The impact analysis for freeway mainline segments is based on peak hour volumes by direction. Table 5.10-9, LOS Criteria for Basic Freeway Segments, shows the relationship between the three basic measurements for traffic (speed, density, and volume) and how they translate to LOS. Freeway mainline capacities were derived with the methodology utilized in the HCM 2010. A maximum service flow rate that corresponds to LOS E is determined based on the segment's free flow speed, and this maximum rate is adjusted to account for prevailing roadway and traffic conditions such as terrain, grade, and the proportion of trucks within the traffic stream.

**TABLE 5.10-9
LOS CRITERIA FOR BASIC FREEWAY SEGMENTS**

Criteria	LOS				
	A	B	C	D	E
FFS = 75 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mi/h)	75.0	74.8	70.6	62.2	53.3
Maximum V/C	0.34	0.56	0.76	0.90	1.00
Maximum service flow rate (pc/h/ln)	820	1,310	1,750	2,110	2,400
FFS = 70 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mph)	70.0	70.0	68.2	61.5	53.3
Maximum V/C	0.32	0.53	0.74	0.90	1.00
Maximum service flow rate (pc/h/ln)	770	1,250	1,690	2,080	2,400
FFS = 65 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mph)	65.0	65.0	64.6	59.7	52.2
Maximum V/C	0.30	0.50	0.71	0.89	1.00
Maximum service flow rate (pc/h/ln)	710	1,170	1,630	2,030	2,350
FFS = 60 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mph)	60.0	60.0	60.0	57.6	51.1
Maximum V/C	0.29	0.47	0.68	0.88	1.00
Maximum service flow rate (pc/h/ln)	660	1,080	1,560	2,010	2,300
FFS = 55 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mph)	55.0	55.0	55.0	54.7	50.0
Maximum V/C	0.27	0.44	0.64	0.85	1.00
Maximum service flow rate (pc/h/ln)	600	990	1,430	1,900	2,250
LOS: level of service; FFS: free flow speed; mph: miles per hour; pc/mi/ln: passenger cars per mile per lane; V/C: volume-to-capacity ratio; pc/h/ln: passenger cars per hour per lane.					
Notes: The exact mathematical relationship between density and V/C has not always been maintained at LOS boundaries because of the use of rounded values. Density is the primary determinant of LOS. The speed criterion is the speed at maximum density for a given LOS.					
Source: Stantec 2017 (Table 1-3) from Highway Capacity Manual 2010.					

Table 5.10-10, Freeway Mainline Performance Criteria, provides the impact criteria for analyzing freeway mainline segments within the study area, as specified by Caltrans and by the Los Angeles County CMP. Caltrans's goal is to maintain no worse than LOS E in urban areas and LOS C or D in rural areas (refer to Figure 1-4 in EIR Appendix 5.10-A). However, Caltrans acknowledges that this is not always feasible for some rural areas due to constraints such as geological, structural, or right-of-way conditions. To achieve conformity in the evaluation of freeway mainline segments and acknowledging that there exist some such rural segments as described above within the study area, Caltrans has agreed that, for

evaluation of the study area for the Project, LOS E is to be uniformly utilized as the performance criterion for freeways studied for the purpose of determining significant Project impacts within the study area, the following exception:

1. LOS D for the rural areas of Interstate 5 from the Parker Road interchange in Los Angeles County to the State Route 99 interchange in Kern County, LOS E from Parker Road to State Route 138, and LOS D from State Route 138 to State Route 99 interchange are to be utilized as the performance criteria. LOS D for segments on the SR-99 and SR-14.

(Refer to Appendix 5.10-B for the referenced correspondence from Caltrans).

**TABLE 5.10-10
FREEWAY MAINLINE PERFORMANCE CRITERIA**

Performance Standard
LOS D ^a – Rural areas unless specified otherwise.
LOS E ^a – Urban areas, I-5 south of Parker Road, and SR-14 from Santa Clarita to Palmdale
^a or existing LOS, whichever is worse, for the purpose of determining significant Project impacts. In rural areas, Caltrans goal is to maintain conditions no worse than LOS D.
These performance standards are applicable for the Project study only, based on Caltrans evaluation of specific factual conditions, and does not constitute a statewide standard.
In rural areas, Caltrans goal is to generally maintain conditions no worse than LOS D
Impact Threshold
A freeway mainline segment is considered to be adversely impacted if each of the following conditions are met:
1. The segment is forecasted to operate deficiently (i.e., worse than the performance standard).
2. Compared to the V/C in the No-Project Alternative, the V/C in the With-Project Alternative increases by greater than or equal to 0.02 (the impact threshold specified in the CMP).
LOS: level of service; I: Interstate; V/C: volume-to-capacity ratio; CMP: Congestion Management Program.
Source: : Stantec 2017 (Table 1-4)

Criteria for Freeway Ramps

Impacts to freeway interchange ramps were evaluated for the AM and PM peak hours. The freeway ramp carrying capacities for the study area’s existing and anticipated ramp configurations are based on information in the *Highway Design Manual* (HDM) and *The Ramp Meter Design Manual*, respectively, of the Traffic Study (Appendix 5.10-A) and refinements in various planning studies for freeway interchanges. The capacities for calculating ramp V/C ratios are summarized in Table 5.10-11, Freeway Ramp Performance Criteria, together with the overall impact criteria for freeway ramps within the study area. Capacities are listed for two basic types of interchanges: freeway to arterial road and freeway to freeway. The performance standard of LOS E is consistent with the performance standard for freeway mainline segments as noted above.

**TABLE 5.10-11
FREEWAY RAMP PERFORMANCE CRITERIA**

V/C Calculation Methodology
<p>LOS to be based on peak hour V/C ratios calculated using the following ramp capacities: Freeway to Arterial Road Interchanges:</p> <ol style="list-style-type: none"> <i>Metered On-Ramps:</i> <ul style="list-style-type: none"> A maximum capacity of 900 vph for a 1-lane metered on-ramp with only 1 mixed-flow lane at the meter. A maximum capacity of 1,080 (20% greater than 900) vph for a 1-lane metered on-ramp with 1 mixed-flow lane at the meter plus 1 HOV preferential lane at the meter. A maximum capacity of 1,500 vph for a 1-lane metered on-ramp with 2 mixed-flow lanes at the meter. A maximum capacity of 1,800 vph for a 2-lane metered on-ramp (with mainline auxiliary lane for second lane) with 2 mixed-flow lanes at the meter. <i>Non-Metered On-Ramps and Off-Ramps:</i> <ul style="list-style-type: none"> A maximum capacity of 1,500 vph for a 1-lane ramp. A maximum capacity of 2,250 (50% percent greater than 1,500) vph for a 2-lane on-ramp that tapers to 1 merge lane at or beyond the freeway mainline gore point and for a 2-lane off-ramp with only 1 auxiliary lane. A maximum capacity of 3,000 vph for a 2-lane on-ramp that does not taper to 1 merge lane and for a 2-lane off-ramp with 2 auxiliary lanes. <i>Freeway to Freeway and SR-138 to I-5 Interchanges:</i> <ul style="list-style-type: none"> A maximum capacity of 2,000 vph for a 1-lane ramp. A maximum capacity of 4,000 vph for a 2-lane ramp.
Performance Standard
<ol style="list-style-type: none"> LOS E^a (peak hour ICU less than or equal to 1.00) ^a or existing LOS, whichever is worse.
Impact Threshold
<p>A freeway ramp is considered to be adversely impacted if each of the following conditions are met:</p> <ol style="list-style-type: none"> The ramp is forecasted to operate deficiently (i.e., worse than the performance standard) Compared to the V/C in the No-Project Alternative, the V/C in the With-Project Alternative increases by greater than or equal to 0.02.
<p>V/C: volume-to-capacity ratio; LOS: level of service; HOV: high occupancy vehicle; vph: vehicles per hour; SR: State Route; ICU: intersection capacity utilization. Source: : Stantec 2017 (Table 1-5)</p>

Criteria for Arterial Roads

The capacity of the arterial road system is generally limited by the capacity of the system's intersections. Therefore, the peak-hour performance of intersections is the most representative measure for evaluating the arterial road system and potential impacts. The intersection capacity utilization (ICU) methodology is applied for signalized intersections. The County of Los Angeles uses the ICU method for planning analyses and is the specified methodology in the Los Angeles County CMP.

The ICU methodology adds the V/C ratios for the critical movements of an intersection. The ICU ranges that correspond to LOS A through F for arterial roads and signalized intersections are equal to the V/C ranges shown in Table 5.10-8. The ICU calculation methodology and associated impact criteria applied for the study area arterial system are based on the criteria of the applicable jurisdiction and are summarized in Table 5.10-12. LOS D (ICU not to exceed 0.90) has been utilized as the design standard for new intersections within the Project site.

**TABLE 5.10-12
ARTERIAL INTERSECTION PERFORMANCE CRITERIA**

V/C Calculation Methodology		
LOS to be based on peak hour ICU values calculated using the following assumptions:		
Saturation Flow Rate: 1,600 vphpl for all lanes except dual left-turn lanes 2,880 vph (total) for dual left-turn lanes 1,750 vphpl for all lanes at City of Santa Clarita intersections		
Clearance Interval: 0.10 (ICU)		
Performance Standard		
<i>County of Los Angeles Intersections:</i> LOS D (peak hour ICU less than or equal to 0.90) for new (future) intersections. LOS C (peak hour ICU less than or equal to 0.80) or future No-Project conditions LOS, whichever is worse, for existing intersections.		
<i>State Highways and County of Kern Intersections:</i> LOS D or existing LOS, whichever is worse.		
Impact Threshold		
An intersection is considered to be adversely impacted if each of the following conditions are met:		
1. The intersection is forecasted to operate deficiently (i.e., worse than the performance standard).		
2. Compared to the ICU in the No-Project Alternative, the ICU in the With-Project Alternative increases by the following:		
<u>Pre-Project ICU*</u>	<u>Project ICU Increment</u>	<u>Applicable Jurisdiction</u>
0.71–0.80 (LOS C)	greater than or equal to 0.04	LA County Arterials Only
0.81–0.90 (LOS D)	greater than or equal to 0.02	LA County/City of Santa Clarita Arterials Only
> 0.90 (LOS E/F)	greater than or equal to 0.01	All
HOV: high occupancy vehicle; LOS: level of service; ICU: Intersection Capacity Utilization; vphpl: vehicles per hour per lane; vph: vehicles per hour.		
For LA County intersections, Project impacts are identified by comparing existing conditions to existing plus Project conditions. For cumulative conditions, cumulative impacts on SR-138 are identified by comparing existing conditions to cumulative with-Project conditions. For other locations, impacts are identified by comparing cumulative no-Project conditions to cumulative with-Project conditions.		
For Kern County, Caltrans and City of Santa Clarita intersections, Project impacts are identified by comparing existing to existing plus Project conditions. For cumulative conditions, cumulative impacts are identified by comparing cumulative no-Project conditions to cumulative with-Project conditions.		
If the LOS and net increase in ICU meets the two criteria listed above, the intersection is identified as being significantly impacted either by the Project or by a combination of cumulative and Project traffic.		
* The City of Santa Clarita utilizes the With Project ICU to determine the ICU impact threshold.		
Source: Stantec 2017 (Table 1-6).		

Criteria for Rural Highways

The SR-138, a two-lane rural highway, passes through the Project site. The HCM 2010 emphasizes average travel speeds and vehicles’ abilities to use the opposing lane of traffic while passing. According to the HCM 2010 methodology, the LOS for a two-lane rural highway is heavily influenced by the traffic flows in both directions. Thus, LOS is emphasized rather than actual capacity. By contrast, the HCM 2010 methodology for assessing capacity on multi-lane rural highways considers the average flow rate across two lanes, and in this case the LOS addresses actual “capacity” rather than simply the ability to pass.

The HCM 2010 criteria for two-lane rural highways are presented in Table 5.10-13, LOS Criteria for Two-Lane Rural Highways.

**TABLE 5.10-13
LOS CRITERIA FOR TWO-LANE RURAL HIGHWAYS**

LOS	Maximum Two-Way Service Flow Rate (pc/h) ^a	Percent of Time Delayed By Slow Vehicles ^{a,b}	Average Speed (mph) ^a	Maximum Two-Way Volume ^c
A	490	≤ 35	≥ 55	1,500/1,680
B	780	36-50	50-54	1,750/1,960
C	1,190	51-65	45-49	2,000/2,240
D	1,830	66-80	40-44	2,250/2,520
E	3,200	> 80	< 40	2,500/2,800

LOS: level of service; pc/h: passenger cars per hour; mph: miles per hour; HCM: Highway Capacity Manual
^a HCM Methodology (maximum directional flow = 1,700 pc/h).
^b Also referred to as “Percent of Time-Spent-Following”.
^c County guidelines, lower value is for 70/30 directional split and higher value is for 50/50 directional split.
 Source: Stantec 2017 (Table 1-7).

For the SR-138 analysis, the HCM 2010 methodology was used to calculate LOS. As specified by Caltrans, the analysis considers the percent of time-spent-following instead of average speed. Table 5.10-14, Two-Lane Rural State Highway Performance Criteria, summarizes the overall impact criteria for analyzing two-lane State highways within the study area.

**TABLE 5.10-14
TWO-LANE RURAL STATE HIGHWAY PERFORMANCE CRITERIA**

Performance Standard
LOS D or existing LOS, whichever is worse.
Impact Threshold
A 2-lane rural State highway is considered to be adversely impacted if each of the following conditions are met: 1. The segment is forecasted to operate deficiently (i.e., worse than the performance standard). 2. Compared to the “percent of time delayed by slow vehicles” in the No-Project scenario, the “percent of time delayed by slow vehicles” in the With-Project scenario increases by greater than or equal to 2%.
LOS – level of service Source: Stantec 2017 (Table 1-8).

The impact analysis for multi-lane rural highways is based on peak-hour volumes by direction. The HCM 2010 methodology was used for calculating the capacities used to derive peak hour V/C ratios. First, the maximum service flow rate that corresponds to LOS E is determined based on the segment’s free flow speed. Using this value, a service flow rate is calculated based on prevailing roadway and traffic conditions such as terrain, grade, and the proportion of trucks within the traffic stream. Table 5.10-15, LOS Criteria for Multiple Lane Rural Highways, shows the relationship between traffic speed, density, volume, and how each translates to LOS.

**TABLE 5.10-15
LOS CRITERIA FOR MULTIPLE LANE RURAL HIGHWAYS**

Criteria	LOS				
	A	B	C	D	E
FFS = 60 mph					
Maximum density (pc/mi/ln)	11	18	26	35	40
Average speed (mi/h)	60.0	60.0	59.4	56.7	55.0
Maximum V/C ratio	0.30	0.49	0.70	0.90	1.00
Maximum service flow rate (pc/h/ln)	660	1,080	1,550	1,980	2,200
FFS = 55 mph					
Maximum density (pc/mi/ln)	11	18	26	35	41
Average speed (mph)	55.0	55.0	54.9	52.9	51.2
Maximum V/C ratio	0.29	0.47	0.68	0.88	1.00
Maximum service flow rate (pc/h/ln)	600	990	1,430	1,850	2,100
FFS = 50 mph					
Maximum density (pc/mi/ln)	11	18	26	35	43
Average speed (mph)	50.0	50.0	50.0	48.9	47.5
Maximum V/C ratio	0.28	0.45	0.65	0.86	1.00
Maximum service flow rate (pc/h/ln)	550	900	1,300	1,710	2,000
FFS = 45 mph					
Maximum density (pc/mi/ln)	11	18	26	35	45
Average speed (mph)	45.0	45.0	45.0	44.4	42.2
Maximum V/C ratio	0.26	0.43	0.62	0.82	1.00
Maximum service flow rate (pc/h/ln)	290	810	1,170	1,550	1,900
LOS: level of service; FFS: free flow speed; mph: miles per hour; pc: passenger cars; mi: mile; ln - lane; V/C: Volume/Capacity Ratio; h: hour.					
The exact mathematical relationship between density and V/C has not always been maintained at LOS boundaries because of the use of rounded values. Density is the primary determinant of LOS. LOS F is characterized by highly unstable and variable traffic flow. Prediction of accurate flow rate, density, and speed at LOS F is difficult.					
Source: Stantec 2017 (Table 1-9).					

Table 5.10-16, Multiple Lane Rural Highway Performance Criteria, summarizes the performance criteria specified by Caltrans for multi-lane rural highways.

**TABLE 5.10-16
MULTIPLE LANE RURAL HIGHWAY PERFORMANCE CRITERIA**

Performance Standard
LOS D or existing LOS, whichever is worse.
Impact Threshold
A multi-lane rural highway segment is considered to be adversely impacted if each of the following conditions are met:
<ol style="list-style-type: none"> 1. The segment is forecasted to operate deficiently (i.e., worse than the performance standard). 2. Compared to the V/C in the No-Project Alternative, the V/C in the With-Project Alternative increases by greater than or equal to 0.02.
LOS: level of service; V/C: volume-to-capacity ratio. Source: Stantec 2017 (Table 1-10).

5.10.6 ENVIRONMENTAL IMPACTS

Threshold 10-1 **Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

The Project would result in additional housing, commercial and job-creating land uses and residents at the northwestern corner of Los Angeles County and would add new vehicle trips to the area's roadway circulation network. The site is located on SR-138, a State Route that currently experiences very low traffic volumes. The site is also located between the I-5 and SR-14, which provide two options for north-south travel. Project trips would be a combination of trips occurring within the Project site (internal trips) and trips occurring between the Project site and external locations (external trips).

Traffic Assumptions

For the purpose of measuring impacts to the regional highway network, the quantity and distribution of Project trips are derived using the North County sub-area model. Socioeconomic data that corresponds to the proposed Project was coded into the model, which estimates the number of vehicle trips to be generated by the Project.

Trips are estimated for the critical AM and PM peak periods, as well as each of the off-peak periods. Average daily traffic (ADT) volumes represent the sum of the peak and off-peak periods. Since the North County sub-area model is a derivative of the SCAG regional travel demand forecasting model, the trip generation estimates for the Project are consistent with SCAG's regional forecasting methodology in the 2012 RTP/SCS model.

The SCAG model utilizes traffic analysis zones (TAZs), which are geographic subunits of the overall SCAG region, to analyze traffic flow patterns and volumes. The SCAG analysis methodology uses projections of socioeconomic variables, such as housing, population, and employment to generate estimates of the number and location of trips within and to and from each TAZ. The TAZs that include the Project area are shown in Exhibit 5.10-6, SCAG Traffic Analysis Zones (TAZ). The socioeconomic data that is used by SCAG for analysis purposes in the TAZs are summarized in Table 5.10-17. The Specific Plan area represents approximately 83 percent of the total planned dwelling unit development (19,333 of 23,197 units) included in the AVAP and SCAG RTP/SCS projections for the TAZs.

**TABLE 5.10-17
PROJECT AREA SCAG TAZ SOCIOECONOMIC DATA SUMMARY**

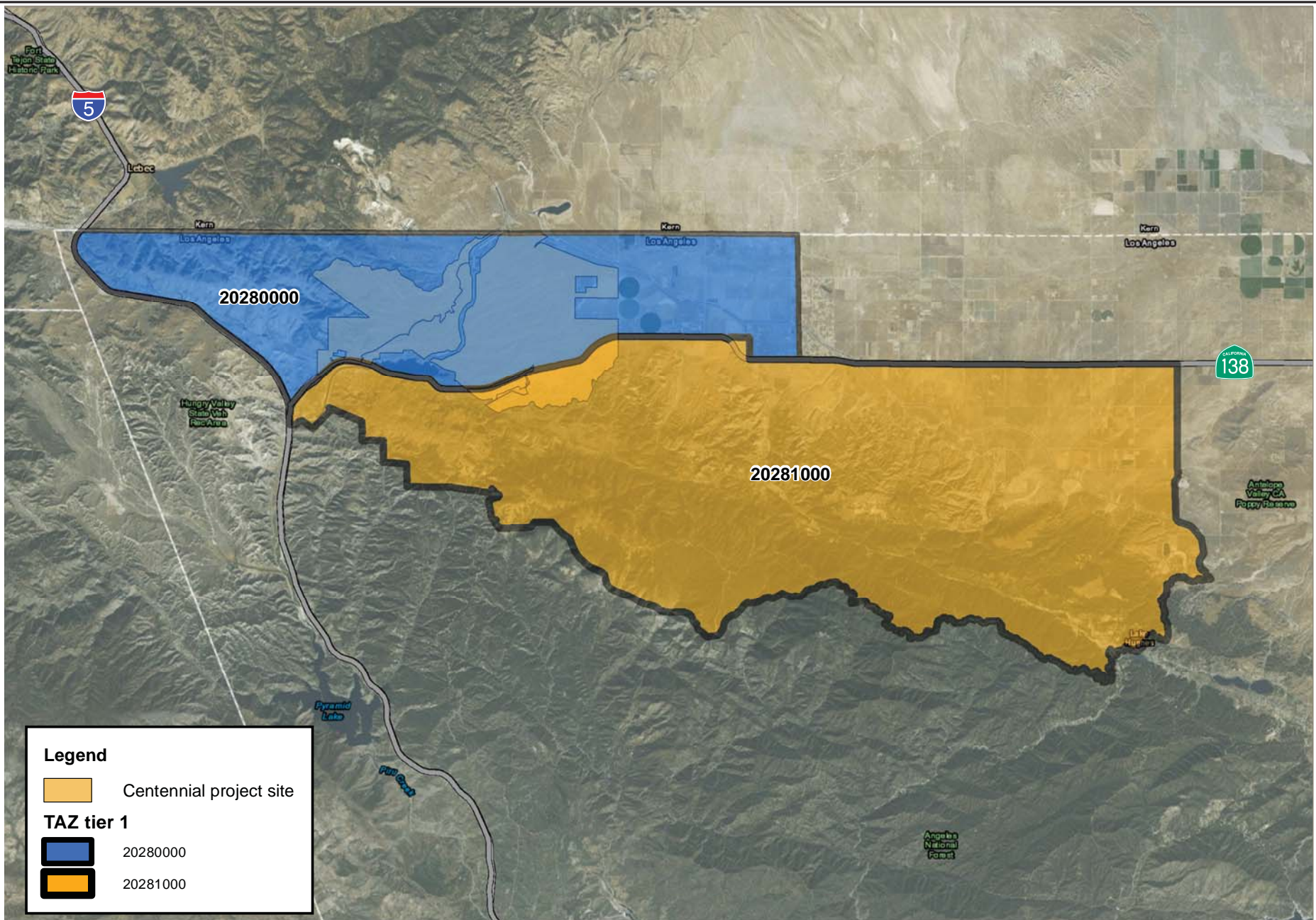
Year	Population*	Housing*	Employment*
2012	4,686 residents	1,635 units	1,156 jobs
2035	89,310 residents	23,197 units	20,361 jobs
Growth	84,624 residents	21,562 units	19,205 jobs
SCAG: Southern California Association of Governments; TAZ: Traffic Analysis Zone			
* Data represents TAZs 20280000 and 20281000 (from Antelope Valley Area Plan [AVAP])			
Source: Stantec 2017 (Table 3-1).			

The Centennial Project has been designed to balance residential and non-residential uses and to balance number of on-site jobs available with on-site housing units to encourage local trips. Because of the balanced land use plan, all jobs could be filled by workers in the community and all service needs could be met by on-site retail and other service land uses. Non-work activities such as schools, parks, library facilities, and retail have been planned on the Project site in an effort to meet the needs of residents at buildout, reducing the need to access such services by making trips external to the Project.

A portion of the Project workforce and resident population can be expected to live or work outside the Project area and would commute to jobs outside or within the Centennial Specific Plan area. A portion of the on-site residents and workers would also be expected to travel for services and amenities outside of the Project. The North County sub-area traffic model estimates the volume of external and internal trips within a geographic area, such as the Project, based on parameters such as population and employment and the relative distances between areas for which trips will be made. The traffic model used for the Project analysis was the same model used by the County and other public agencies for transportation planning studies in the region, including the 2015 AVAP and General Plan update, and is consistent with the SCAG regional model.

Table 5.10-18, Internal/External Trip Ends, shows the estimated ADT and peak hour trips for the Project and the corresponding internal and external components that produce the overall internal trip capture percentages derived by the North County sub-area traffic model. A “trip end” refers to a trip start or destination point. Each internal trip is considered to have two Project-generated trip ends because the trip has both a start and end point within the site. Each external trip is considered to have a single Project-generated trip end because only

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Legend

- Centennial project site
- TAZ tier 1**
- 20280000
- 20281000

Source: Stantec 2016

SCAG Traffic Analysis Zones (TAZ)

Exhibit 5.10-6

Centennial Project



the trip termination point (for inbound trips) or start point (for outbound trips) is located in the Project site. Centennial includes schools, parks, and retail shopping areas within the Project site located and sized to meet the Project’s residential and workforce needs. Most of the trips generated by travel to and from these locations will be internal to the Project area. In addition, at buildout, the Project will include approximately 10.1 million square feet (sf) of commercial office, shopping/retail, and industrial land uses that will provide approximately 23,675 jobs, many of which would be filled by future Centennial residents. As shown in Table 5.10-18, about 140,492 (65 percent) of the average daily total of 216,400 trip ends that would be generated by the Project at buildout will be internal to and both originate and end within the site.

**TABLE 5.10-18
INTERNAL/EXTERNAL TRIP ENDS**

		AM Peak Hour			PM Peak Hour			ADT
		IB	OB	Total	IB	OB	Total	
Trip ends	Internal	4,975	4,975	9,951	5,422	5,422	10,844	140,492
	External	2,344	4,146	6,489	4,378	2,144	6,521	75,908
	Total	7,319	9,121	16,440	9,800	7,566	17,366	216,400
	Internal %	68%	55%	61%	55%	72%	62%	65%

IB: inbound; OB: outbound.; ADT: average daily trips
Source: Stantec 2017 (Table 3-2).

As discussed above, each internal trip has two trip ends, and each external trip has one trip end within the Project site. Table 5.10-19, Trip End and Trip Summary, summarizes the average daily total trips that would be generated by the Project at buildout and shows that 48 percent will be internal to the Project, and 52 percent would be external.

**TABLE 5.10-19
TRIP END AND TRIP SUMMARY**

Trip Type	Trip Ends	% Of Total Trip Ends	Trips	% Of Total Trips
Internal	140,492	65	70,246	48
External	75,908	35	75,908	52
Total	216,400	100	146,154	100

Trip end: One end of a trip (e.g., a driveway count).
 Trip: Occurs from a point of origin to a point of destination and involves 2 trip ends (1 at each end of the trip).
 Internal: Both the origin and destination trip ends are on site.
 External: One trip end (either origin or destination) on site, the other trip end (either destination or origin) off site.
 Source: Stantec 2017 (Table 3-3).

An average single-family residential unit generates approximately nine “home-based” trips per day. On average, about two of these nine trips are directly between home and work with no stops in-between. The remaining home-based trips are between the home and a non-work activity such as school, shopping, or recreation (see Appendix 5.10-A). Most of these

services and amenities will be located within the Project site, and the Project has been designed to include all the services that generate non-work trips by residents and on-site workers. Consequently, as shown in Tables 5.10-18 and 5.10-19, nearly two-thirds of all Project-generated trip ends and half of all trips will be internal to the site.

Trip Distribution

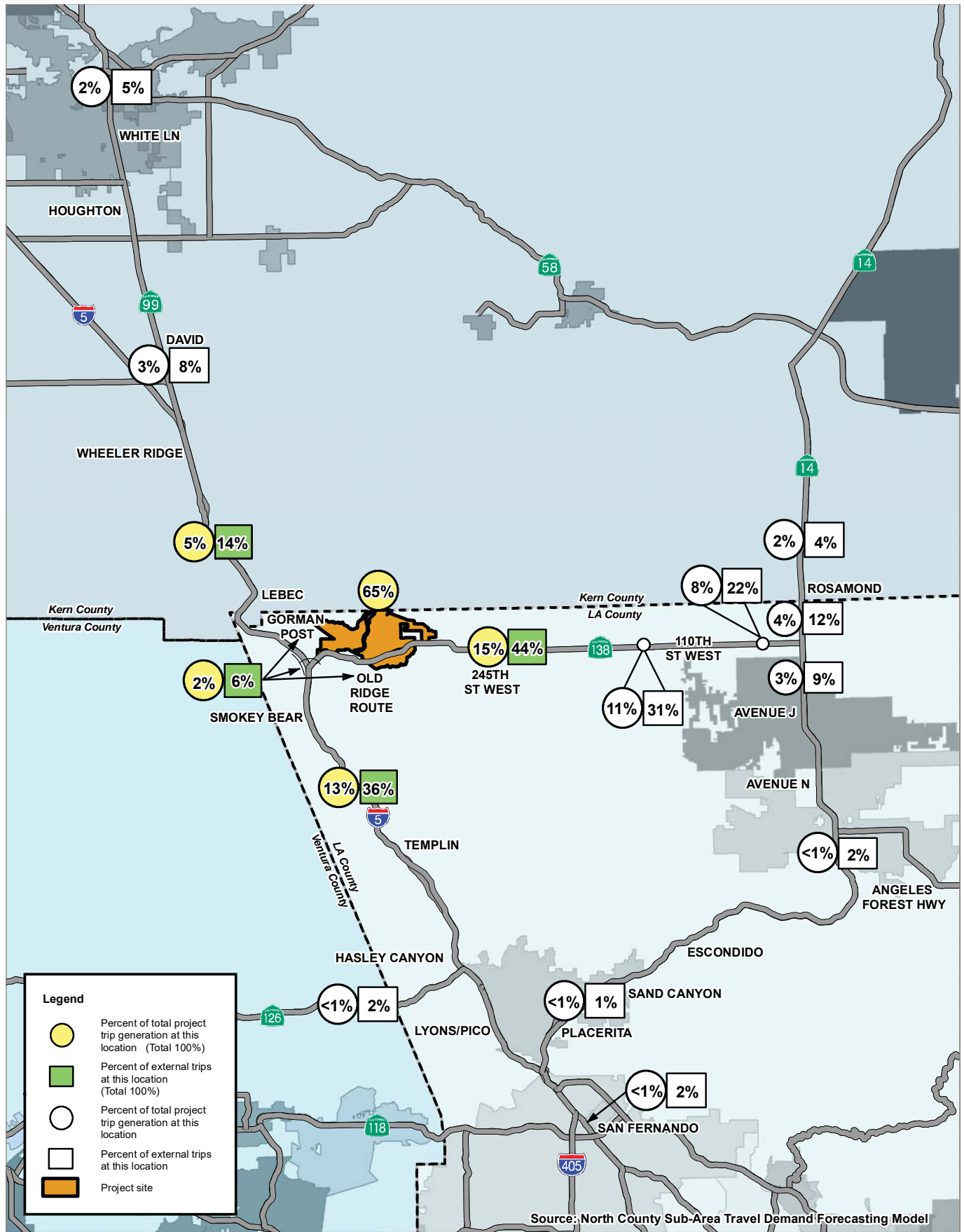
The percent of Project trips on each major roadway serving the Project site that would occur at buildout is shown in Exhibit 5.10-7. Interactions between Centennial and the outside region were derived from the North County sub-area traffic model. The results indicate that the Santa Clarita Valley area will be primarily characterized by out-commuting from Centennial. For Lancaster, Palmdale and Kern County, the amount of in- and out-commuting is generally balanced, but with a slight bias towards out-commuting to Centennial (see Appendix 5.10-A).

On-Site Impacts

The Project would generate vehicle trips that will require an internal roadway circulation network. As described in PDF 10-1, the Project includes a Mobility Plan, which will provide an extensive system of sidewalks, greenway trails, and community trails to serve as alternative means of transportation on the Project site. It is estimated that 40 percent of the trips made on-site would be 3 miles or less in length, which is a comfortable biking distance that most people can make in less than 15 to 20 minutes, and close to 70 percent of the trips would be 4 miles or less. Also, four percent would be one mile or less in length (see Table 3-8 of Traffic Study [Appendix 5.10-A]). Centennial's planned circulation network and transit system are discussed in Section 4.5.5, Mobility Plan, of the Project Description. MM 10-29 requires that this Mobility Plan be implemented to provide an adequate on-site circulation system. The ADT volumes within the internal Project roadway system at buildout are shown in Exhibit 5.10-8, On-Site Average Daily Traffic Volumes with Proposed Project Buildout.

In addition, a number of PDFs would reduce vehicle trips. Specifically, the Project strategically locates schools, parks and commercial areas in the village centers to facilitate pedestrian access (PDF 10-2). The Project also locates the highest density residential uses adjacent to commercial areas and includes a Mixed-Use Overlay District that permits residential uses in commercial areas. This land-use configuration places larger populations within key commercial areas to encourage pedestrian activity and to reduce vehicle trips (PDF 10-3). The proposed on-site roadway system includes major east-west roadways, to serve the Project's east-west travel demand, to connect major on-site activity areas, and to lessen the Project's traffic demand on SR-138 (PDF 10-4). The Project's Technology Plan requires a community intranet to allow online access to public and shared information to facilitate telecommuting and reduce the need for automobile travel (PDF 10-4). MM 10-1 requires implementation of the community intranet.

The internal circulation system for the Project has been designed to serve the estimated future traffic volumes (using the roadway capacities included in the AVAP) and for all roadways to operate within acceptable levels of service (LOS C) within the proposed circulation system (PDFs 10-1 and 10-3). Since the internal roadways would meet



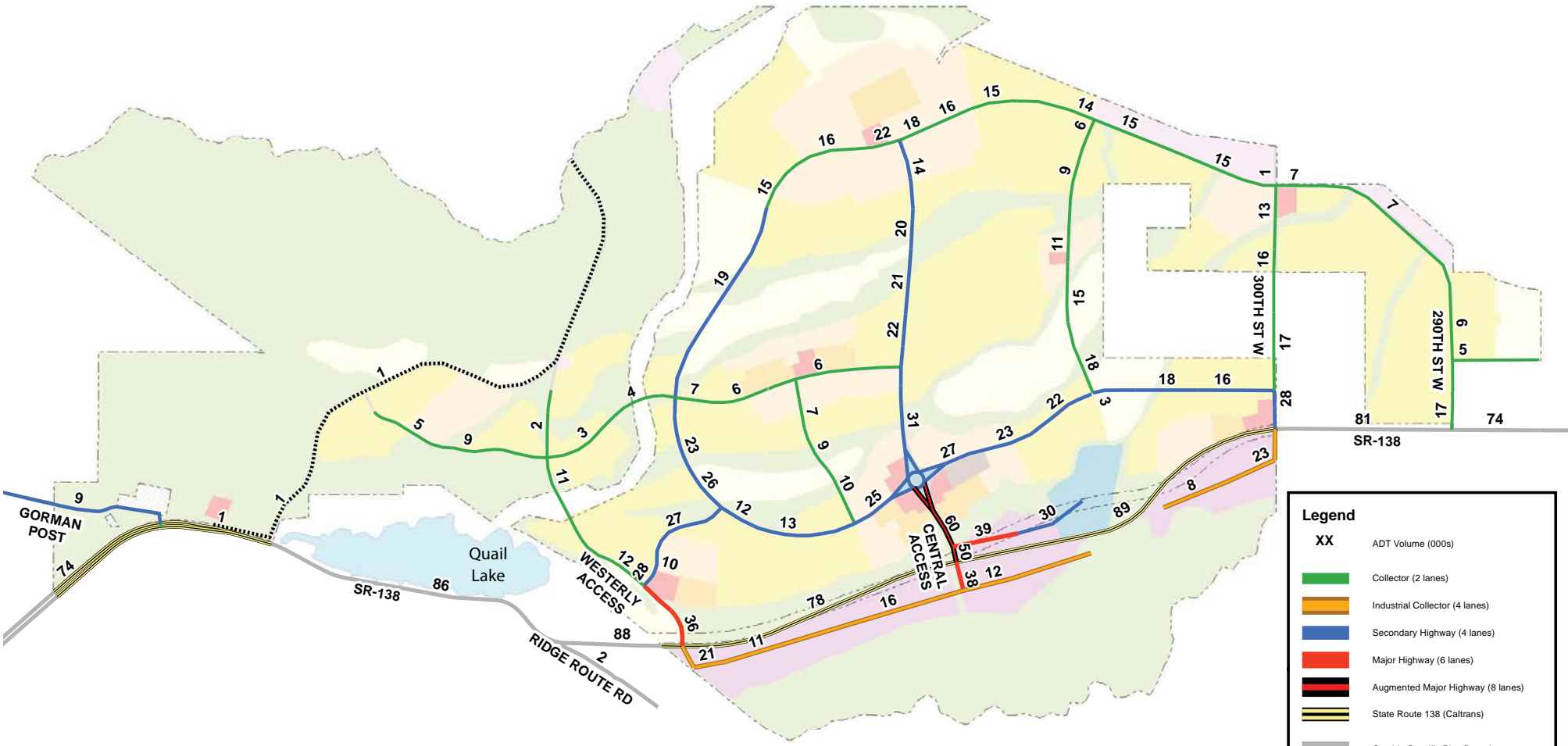
Source: Stantec 2017

Proposed Project Trip Distribution at Buildout

Exhibit 5.10-7

Centennial Project





Legend

- XX ADT Volume (000s)
- Collector (2 lanes)
- Industrial Collector (4 lanes)
- Secondary Highway (4 lanes)
- Major Highway (6 lanes)
- Augmented Major Highway (8 lanes)
- State Route 138 (Caltrans)
- Outside Specific Plan Boundary
- Private Cement Plant Road/Emergency Access
- Specific Plan Boundary

Source: Stantec 2017

On-Site Average Daily Traffic Volumes with Proposed Project Buildout

Exhibit 5.10-8

Centennial Project



established performance criteria and the Project includes the construction of these roadways and the internal circulation network under MM 10-29 and MM 10-30 (e.g., community trails, greenway trails, and sidewalks), impacts would be less than significant.

MM 10-2 requires the preparation of traffic studies prior to the approval of each tentative tract map to identify necessary on-site roadway network and intersection configurations required to meet applicable performance objectives.

SR-138 is a State highway adjacent to but not part of the site. As discussed in more detail in Appendix 5.10-A, Project access and SR-138 intersection conditions at buildout were analyzed to determine the intersection improvements that would be required to meet applicable performance standards. Four Project access locations along SR-138 would require the installation of traffic signals as the Project is developed. MM 10-23 requires that these intersections be signalized when monitoring indicates that traffic signals meet warrants, which define applicable thresholds for installation at each location.

As stated below, the SR-138 and all intersections along SR-138 from the I-5 to 30th Street West (off site) would be impacted by the Project. MM 10-3 requires the Project Applicant to seek to enter into a Centennial Transportation Improvement Program (CTIP) agreement with the County and Caltrans that would identify, mitigate, and fund traffic mitigation measures for the Project. If implemented, the CTIP would include specific traffic improvements, proposed scheduling, funding mechanisms, and monetary or in-kind contributions by the Project Applicant in order to ensure that traffic impacts will be mitigated to a less than significant level. The CTIP would also provide Caltrans with a private funding commitment that would assist with obtaining public funding for regional traffic improvements, including planning and obtaining matching grants for construction. These funding commitments would assist with the timely completion of improvements that would alleviate existing or anticipated congestion along SR-138 and I-5 and reduce potentially adverse air quality and greenhouse gas impacts associated with traffic congestion.

An initial estimate of the Project's equitable share of potential impacts to State facilities has been prepared in accordance with Caltrans guidelines for traffic impact studies (see Section 5.3 and Table 5-5 in the Traffic Study [Appendix 5.10-A]). Equitable share calculations would be used to identify the monetary or in-kind contributions that the Project will make to achieve the objectives of the CTIP. In the event that a CTIP is not entered into, MM 10-3, MM 10-6 through MM 10-28, and MMs 10-31 through 10-45 require that the Project Applicant contribute fair share funding towards the improvements required to mitigate for Project impacts.

MM 10-4 requires that the Project Applicant work with the County and/or Caltrans to establish a traffic mitigation fee program, assessment district or other equivalent program to mitigate vehicular trips accessing the SR-138 corridor between I-5 and SR-14. If implemented, the program would establish a fair share contribution and payment system for new development to ensure that the required improvements for SR-138 are fully funded.

The County's Construction and Encroachment Permit Requirements call for construction activities on public rights-of-way to be performed in accordance with the current Standard

Specifications for Public Works Construction (Greenbook) and Additions and Amendments to the Standard Specifications for Public Works Construction (Graybook), including Traffic Control Provisions. To avoid traffic disruption during the construction phases of each development, MM 10-5 requires that temporary traffic controls in accordance with the Greenbook and Graybook and a Transportation Management Plan be prepared and implemented during Project construction activities.

Impacts would be less than significant after compliance with the Greenbook and Graybook and the implementation of MMs 10-1 through 10-5, MM 10-29, MM 10-30, and MM 10-23.

Off-Site Impacts

Existing Plus Project Scenario

Exhibit 5.10-9, Average Daily Traffic Volumes – Project Only, shows the Project-generated ADT volumes that would be distributed onto the study area roadway system.

An evaluation of the off-site impacts to SR-138 roadway segments and intersections and freeway mainline segments and ramps due to buildout of the Specific Plan under existing plus Project conditions was prepared by directly adding the traffic that would be generated by the Project to existing conditions. The purpose of this analysis is to differentiate the significant impacts due only to the Project from the significant impacts that would occur from other traffic sources. To provide a conservative analysis, the Project traffic forecasts do not reflect supplemental reductions for trip reducing measures, such as TDM measures that would be implemented by the Project (see MM 10-29 and MM 10-30). Exhibit 5.10-10, Average Daily Traffic Volumes – Existing (2014 and 2015) Plus Project, shows the existing plus Project ADT volumes on the study area roadway system.

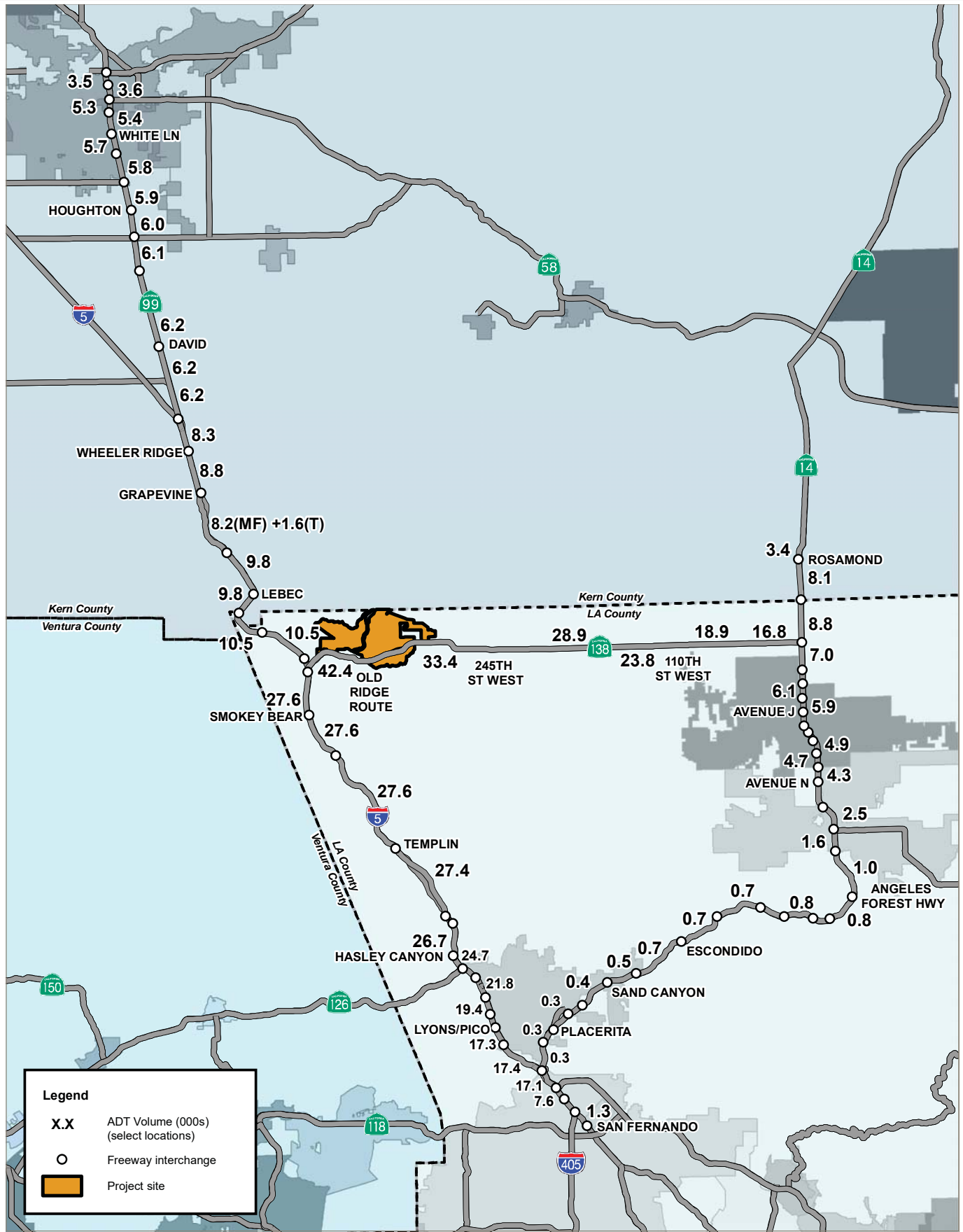
The existing plus Project analysis conservatively assumes that the existing background traffic conditions do not change, other than changes directly due to the Project, over the approximate 20-year time frame required to build the Project. The analysis does not include other approved, planned and anticipated projects that would also change traffic patterns in the study area over time.

State Route 138 Highway Segments

Using the two-lane highway methodology in the HCM 2010, the LOS for each segment of SR-138 under existing and existing plus Project conditions are provided in Table 5.10-20.

**TABLE 5.10-20
SR-138 TWO-LANE HIGHWAY IMPACT SUMMARY – EXISTING PLUS PROJECT CONDITIONS**

	PTSF and LOS Segment Analysis							
	61. Between Gorman Post Rd and Old Ridge Route Rd	62. Between Old Ridge Route Rd and 300 th St West	63. Between 300 th St West and Three Points	64. Between Three Points and 245 th St West	65. Between 245 th St West and 190 th St West	66. Between 190 th St West and 110 th St West	67. Between 110 th St West and 60 th St West	68. Between 60 th St West and Jct SR-14 North
AM Peak Hour – Eastbound								
Existing (2015) Counts	28.5%/A	20.6%/A	23.1%/A	20.5%/A	20.2%/A	17.0%/A	26.2%/A	26.3%/A
Existing (2015) plus Project	94.2%/E	93.4%/E	98.4%/E	97.8%/E	92.6%/E	85.7%/E	84.0%/E	80.1%/E
AM Peak Hour – Westbound								
Existing (2015) Counts	46.7%/B	33.6%/A	37.8%/B	26.8%/A	25.3%/A	21.6%/A	21.5%/A	23.0%/A
Existing (2015) plus Project	100.0%/F	100.0%/F	91.7%/E	91.1%/E	89.0%/E	84.6%/E	78.0%/D	75.2%/D
PM Peak Hour – Eastbound								
Existing (2015) Counts	50.8%/C	37.9%/B	41.5%/B	31.2%/A	30.7%/A	27.9%/A	31.6%/A	31.2%/A
Existing (2015) plus Project	100.0%/F	100.0%/F	89.3%/E	87.8%/E	85.4%/E	82.1%/E	76.5%/D	73.4%/D
PM Peak Hour – Westbound								
Existing (2015) Counts	29.2%/A	22.0%/A	24.5%/A	17.4%/A	18.8%/A	18.4%/A	19.2%/A	26.4%/A
Existing (2015) plus Project	94.2%/E	93.1%/E	100.0%/F	100.0%/F	99.0%/E	95.0%/E	89.1%/E	88.1%/E
SR: State Route; PTSF: Percent Time-Spent-Following; LOS: level of service; Jct: junction; pc/hr: passenger cars per hour Bold = Significant Impact (see Section 5.10.5 for criteria) LOS Ranges A = 0–35 PTSF B = 36–50 PTSF C = 51–65 PTSF D = 66–80 PTSF E > 80 PTSF LOS F occurs when the total volume exceeds 3,200 pc/hr, or when the highest directional volume exceeds 1,700 pc/hr. Source: Stantec 2017 (Table 4-1).								



Source: Stantec 2017

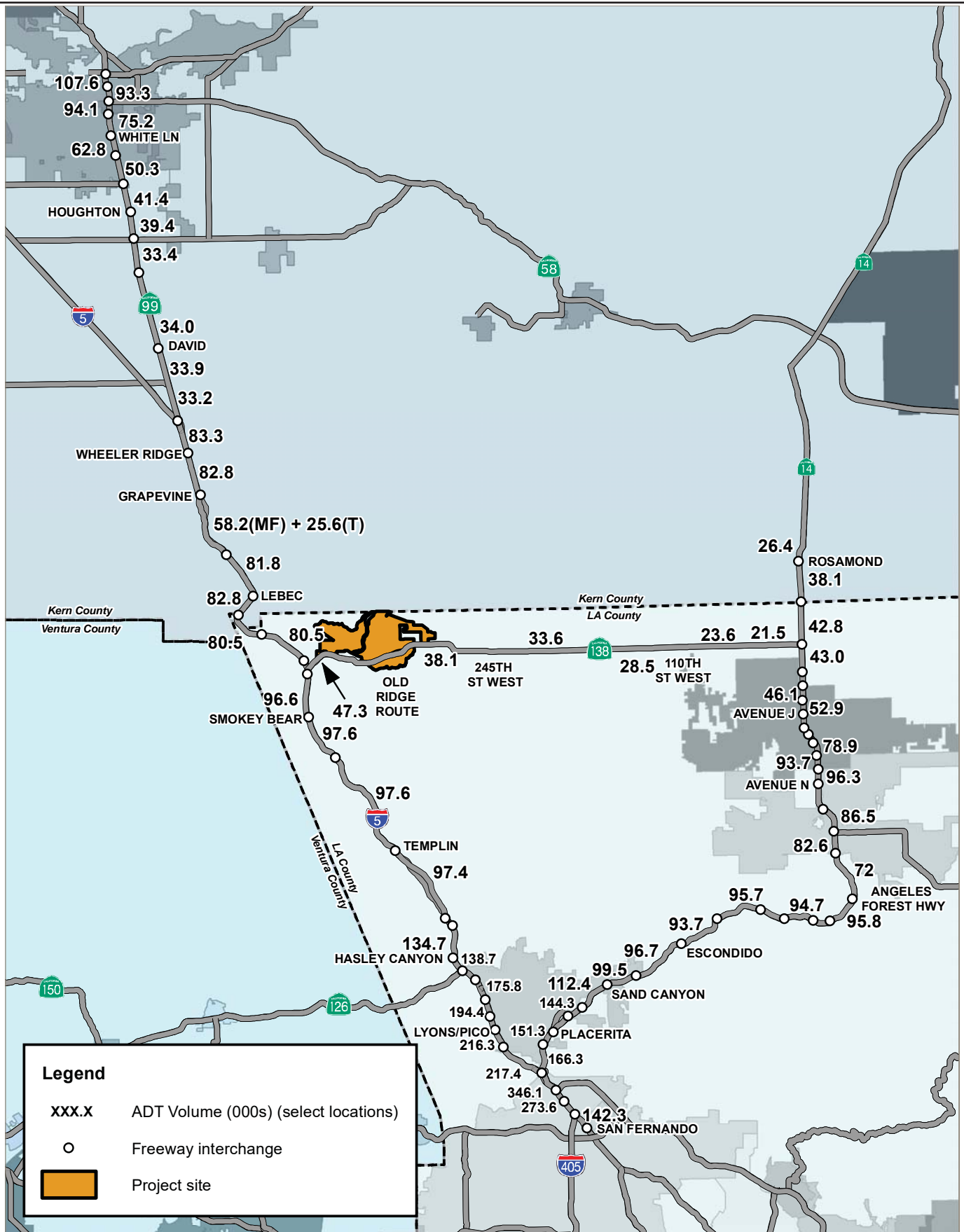
Average Daily Traffic Volumes – Project Only

Exhibit 5.10-9

Centennial Project



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Source: Stantec 2017

Average Daily Traffic Volumes - Existing (2014 and 2015) Plus Project Exhibit 5.10-10

Centennial Project



As shown, eight segments of SR-138 from Gorman Post Road to SR-14 would be significantly impacted by the Project under existing plus Project conditions:

61. **Between Gorman Post Road and Old Ridge Route Road:** eastbound (EB) morning peak hour (AM), EB PM (afternoon peak hour), WB AM, WB PM
62. **Between Old Ridge Route Road and 300th St West:** EB AM, EB PM, westbound (WB) AM, WB PM
63. **Between 300th St West and Three Points Road:** EB AM, EB PM, WB AM, WB PM
64. **Between Three Points Road and 245th St West:** EB AM, EB PM, WB AM, WB PM
65. **Between 245th Street West and 190th St West:** EB AM, EB PM, WB AM, WB PM
66. **Between 190th St West and 110th Street West:** EB AM, EB PM, WB AM, WB PM
67. **Between 110th St West and 60th Street West:** EB AM, WB PM
68. **Between 60th St West and SR-14:** EB AM, WB PM

The addition of one lane in each direction on SR-138 from Gorman Post Road to 190th Street, with right-of-way reserved for a six-lane expressway between I-5 and 300th Street West, would provide adequate capacity and mitigate Project impacts to the eight SR-138 segments under existing plus Project conditions to less than significant levels (see Table 4-11 and Table 4-12 of the Traffic Study [Appendix 5.10-A]). The Project is required to contribute to funding for SR-138 improvements under an approved CTIP, in conjunction with an approved traffic mitigation fee program or by making fair share contributions in accordance with MM 10-23, MMs 10-3 through 10-20, and MM 10-27.

Freeway Mainline Segments

The peak hour V/C ratios on freeway mainline segments with and without Project traffic is provided in Table 5.10-21.

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**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
I-5																	
1 Btw SR-99 and Laval/Wheeler		4M							4M								
2015 Count	75,000		2,050	8,200	1,561	0.19	2,158	0.26		2,050	8,200	1,461	0.18	1,884	0.23	LOS D	
Project Traffic	8,300				168		206				489			251			
2015 + Full Project	83,300		2,050	8,200	1,729	0.21	2,364	0.29		2,050	8,200	1,950	0.24	2,135	0.26		
Project V/C						0.02		0.03					0.06		0.03		
2 Btw Laval/Wheeler and Grapevine		4M							4M								
2015 Count	74,000		2,050	8,200	1,570	0.19	2,051	0.25		2,050	8,200	1,422	0.17	1,780	0.22	LOS D	
Project Traffic	8,800				198		256				509			301			
2015 + Full Project	82,800		2,050	8,200	1,768	0.22	2,307	0.28		2,050	8,200	1,931	0.24	2,081	0.25		
Project V/C						0.03		0.03					0.07		0.03		
3 Btw Grapevine and Fort Tejon Rd (MF)		2M							2M								
2015 Count	57,000		2,206	4,412	1,013	0.23	1,362	0.31		2,070	4,140	880	0.21	1,038	0.25	LOS D	
Project Traffic	8,200				139		204				387			267			
2015 + Full Project	58,200		2,206	4,412	1,152	0.26	1,566	0.35		2,070	4,140	1,267	0.31	1,305	0.32		
Project V/C						0.03		0.04					0.10		0.07		
3a Btw Grapevine and Fort Tejon Rd (MF + Truck lane)		2T							2T								
2015 Count	24,000		1,025	2,050	528	0.26	673	0.33		1,025	2,050	518	0.25	744	0.36	LOS D	
Project Traffic	1,600				89		102				151			94			
2015 + Full Project	25,600		1,025	2,050	617	0.30	775	0.38		1,025	2,050	669	0.33	838	0.41		
Project V/C						0.04		0.05					0.08		0.05		
4 Btw Fort Tejon Rd and Lebec Rd		4M							4M								
2014 Count	72,000		1,839	7,355	1,390	0.19	2,426	0.33		2,036	8,143	1,346	0.17	2,304	0.28	LOS D	
Project Traffic	9,800				228		306				539			361			
2014 + Full Project	81,800		1,839	7,355	1,618	0.22	2,732	0.37		2,036	8,143	1,885	0.23	2,665	0.33		
Project V/C						0.03		0.04					0.06		0.05		
5 Btw Lebec Rd and Frazier Mtn Park		4M							4M								
2014 Count	73,000		1,839	7,355	1,409	0.19	2,460	0.33		2,036	8,143	1,365	0.17	2,336	0.29	LOS D	
Project Traffic	9,800				228		306				539			361			
2014 + Full Project	82,800		1,839	7,355	1,637	0.22	2,766	0.38		2,036	8,143	1,904	0.23	2,697	0.33		
Project V/C						0.03		0.05					0.06		0.04		
6 Btw Frazier Mtn Park and Gorman Rd		4M							4M								
2014 Count	70,000		2,036	8,143	1,351	0.17	2,359	0.29		1,401	5,606	1,309	0.23	2,240	0.40	LOS D	
Project Traffic	10,500				245		330				583			402			
2014 + Full Project	80,500		2,036	8,143	1,596	0.20	2,689	0.33		1,401	5,606	1,892	0.34	2,642	0.47		
Project V/C						0.03		0.04					0.11		0.07		
7 Btw Gorman Rd and N Jct SR-138		4M							4M								
2014 Count	70,000		1,849	7,398	1,351	0.18	2,359	0.32		2,042	8,169	1,309	0.16	2,240	0.27	LOS D	
Project Traffic	10,500				245		330				583			402			
2014 + Full Project	80,500		1,849	7,398	1,596	0.22	2,689	0.36		2,042	8,169	1,892	0.23	2,642	0.32		
Project V/C						0.04		0.04					0.07		0.05		
8 Btw N Jct SR-138 and Quail Lake Rd		4M							4M								
2014 Count	67,000		1,849	7,398	1,293	0.17	2,258	0.31		2,042	8,169	1,253	0.15	2,144	0.26	LOS D	
Project Traffic	0				0		0				0			0			
2014 + Full Project	67,000		1,849	7,398	1,293	0.17	2,258	0.31		2,042	8,169	1,253	0.15	2,144	0.26		
Project V/C						0.00		0.00					0.00		0.00		

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
9 Btw Quail Lake Rd and S Jct SR-138		4M							4M								
2014 Count	67,000		1,375	5,500	1,293	0.24	2,258	0.41		1,375	5,500	1,253	0.23	2,144	0.39	LOS D	
Project Traffic	1,700				0		476				17		0				
2015 + Full Project	68,700		1,375	5,500	1,293	0.24	2,734	0.50		1,375	5,500	1,270	0.23	2,144	0.39		
Project V/C						0.00		0.09				0.00		0.00			
10 Btw S Jct SR-138 and Smokey Bear Rd		4M							4M								
2014 Count	69,000		1,375	5,500	1,332	0.24	2,325	0.42		1,375	5,500	1,290	0.23	2,208	0.40	LOS D	
Project Traffic	27,600				370		1,702				2,019		678				
2014 + Full Project	96,600		1,375	5,500	1,702	0.31	4,027	0.73		1,375	5,500	3,309	0.60	2,886	0.52		
Project V/C						0.07		0.31				0.37		0.12			
11 Btw Smokey Bear Rd and Vista Del Lago Rd		4M							4M								
2014 Count	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38	LOS D	
Project Traffic	27,600				370		1,701				2,018		678				
2014 + Full Project	97,600		1,489	5,957	1,721	0.29	4,060	0.68		1,489	5,957	3,327	0.56	2,918	0.49		
Project V/C						0.06		0.28				0.34		0.11			
12 Btw Vista Del Lago Rd and Templin Hwy		4M							4M								
2014 Count	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38	LOS D	
Project Traffic	27,600				370		1,701				2,018		678				
2014 + Full Project	97,600		1,489	5,957	1,721	0.29	4,060	0.68		1,489	5,957	3,327	0.56	2,918	0.49		
Project V/C						0.06		0.28				0.34		0.11			
13 Btw Templin Hwy and Lake Hughes Rd		4M							4M								
2014	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38	LOS D	
Project Traffic	27,400				366		1,693				2,010		673				
2014 + Full Project	97,400		1,489	5,957	1,717	0.29	4,052	0.68		1,489	5,957	3,319	0.56	2,913	0.49		
Project V/C						0.06		0.28				0.34		0.11			
14 Btw Lake Hughes Rd and Parker Rd		4M							4M								
2014 Count	73,000		1,856	7,422	1,504	0.20	1,949	0.26		1,856	7,422	1,854	0.25	2,519	0.34	LOS E	
Project Traffic	26,700				357		1,639				1,948		658				
2014 + Full Project	99,700		1,856	7,422	1,861	0.25	3,588	0.48		1,856	7,422	3,802	0.51	3,177	0.43		
Project V/C						0.05		0.22				0.26		0.09			
15 Btw Parker Rd and Hasley Cyn Rd		4M							4M								
2014 Count	108,000		1,856	7,422	2,225	0.30	2,884	0.39		1,856	7,422	2,743	0.37	3,726	0.50	LOS E	
Project Traffic	26,700				357		1,638				1,947		657				
2014 + Full Project	134,700		1,856	7,422	2,582	0.35	4,522	0.61		1,856	7,422	4,690	0.63	4,383	0.59		
Project V/C						0.05		0.22				0.26		0.09			
16 Btw Hasley Cyn Rd and N Jct SR-126 (NB)		4M (+1A)							4M (+1A)								
2014 Count	114,000		1,856	8,422	2,348	0.28	3,044	0.36		1,856	8,422	2,896	0.34	3,933	0.47	LOS E	
Project Traffic	24,700				309		1,497				1,766		582				
2014 + Full Project	138,700		1,856	8,422	2,657	0.32	4,541	0.54		1,856	8,422	4,662	0.55	4,515	0.54		
Project IV/C						0.04		0.18				0.21		0.07			
17 Btw N Jct SR-126 and Rye Cyn Rd		4M							4M								
2014 Count	130,000		1,867	7,470	2,678	0.36	3,471	0.46		1,867	7,470	3,302	0.44	4,485	0.60	LOS E	
Project Traffic	21,800				272		1,230				1,626		560				
2014 + Full Project	151,800		1,867	7,470	2,950	0.39	4,701	0.63		1,867	7,470	4,928	0.66	5,045	0.68		
Project V/C						0.03		0.17				0.22		0.08			
18 Btw Rye Cyn Rd and Magic Mountain Pkwy		4M							4M								
2014 Count	154,000		1,918	7,670	3,172	0.41	4,112	0.54		1,918	7,670	3,912	0.51	5,313	0.69	LOS E	
Project Traffic	21,800				277		1,260				1,354		457				
2014 + Full Project	175,800		1,918	7,670	3,449	0.45	5,372	0.70		1,918	7,670	5,266	0.69	5,770	0.75		
ProjectV/C						0.04		0.16				0.18		0.06			

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
19 Btw Magic Mountain Pkwy and Valencia Blvd		4M							4M								
2014 Count	165,000		1,918	7,670	3,399	0.44	4,406	0.57		1,918	7,670	4,191	0.55	5,693	0.74	LOS E	
Project Traffic	20,200				257		1,186				1,231		455				
2014 + Full Project	185,200		1,918	7,670	3,656	0.48	5,592	0.73	1,918	7,670	5,422	0.71	6,148	0.80			
Project V/C					0.04		0.16				0.16		0.06				
20 Btw Valencia Blvd and McBean Pkwy		4M							4M								
2014 Count	175,000		1,918	7,670	3,605	0.47	4,673	0.61		1,918	7,670	4,445	0.58	6,038	0.79	LOS E	
Project Traffic	19,400				267		1,139				1,163		433				
2014 + Full Project	194,400		1,918	7,670	3,872	0.50	5,812	0.76	1,918	7,670	5,608	0.73	6,471	0.84			
Project V/C					0.03		0.15				0.15		0.05				
21 Btw McBean Pkwy and Lyons Ave/Pico Cyn Rd		4M							4M								
2014 Count	186,000		1,990	7,960	3,832	0.48	4,966	0.62		1,990	7,960	4,724	0.59	6,417	0.81	LOS E	
Project Traffic	18,500				231		1,050				1,090		440				
2014 + Full Project	204,500		1,990	7,960	4,063	0.51	6,016	0.76	1,990	7,960	5,814	0.73	6,857	0.86			
Project V/C					0.03		0.14				0.14		0.05				
22 Btw Lyons Ave and Calgrove Blvd		4M							4M (+1T)								
2014 Count	199,000		1,990	7,960	4,099	0.52	5,313	0.67		1,990	9,560	5,055	0.53	6,866	0.72	LOS E	
Project Traffic	17,300				243		1,081				1,056		424				
2014 + Full Project	216,300		1,990	7,960	4,342	0.55	6,394	0.80	1,990	9,560	6,111	0.64	7,290	0.76			
Project V/C					0.03		0.13				0.11		0.04				
23 Btw Calgrove Blvd and SR-14		4M (+1T[C])							4M (+2T[C])								
2014 Count	200,000		1,990	9,160	4,120	0.45	5,340	0.58		1,990	10,360	5,080	0.49	6,900	0.67	LOS E	
Project Traffic	17,400				218		1,003				1,077		448				
2014 + Full Project	217,400		1,990	9,160	4,338	0.47	6,343	0.69	1,990	10,360	6,157	0.59	7,348	0.71			
Project V/C					0.02		0.11				0.10		0.04				
24 Btw SR-14 and SR-210		3M (+1H+3A[F]+2T)							4M (+1H+2A[F]+2T)								
2014 Count	329,000		1,997	16,791	7,863	0.47	12,930	0.77		1,997	16,788	14,213	0.85	9,409	0.56	LOS E	
Project Traffic	17,100				216		845				1,006		487				
2014 + Full Project	346,100		1,997	16,791	8,079	0.48	13,775	0.82	1,997	16,788	15,219	0.91	9,896	0.59			
Project V/C					0.01		0.05				0.06		0.03				
25 Btw SR-210 and Roxford St		4M (+1H+1A[F])							5M (+1H)								
2014 Count	266,000		2,212	12,449	6,357	0.51	10,454	0.84		2,212	12,661	11,491	0.91	7,608	0.60	LOS E	
Project Traffic	7,600				97		378				309		216				
2014 + Full Project	273,600		2,212	12,449	6,454	0.52	10,832	0.87	2,212	12,661	11,941	0.94	7,825	0.62			
Project V/C					0.01		0.03				0.03		0.02				
26 Btw Roxford St and I-405		5M (+1H+1A[F])							5M (+1H+1A[F])								
2014 Count	283,000		2,212	14,661	6,764	0.46	11,122	0.76		2,212	14,661	12,226	0.83	8,094	0.55	LOS E	
Project Traffic	3,900				50		195				232		112				
2014 + Full Project	286,900		2,212	14,661	6,814	0.46	11,317	0.77	2,212	14,661	12,457	0.85	8,206	0.56			
Project V/C					0.00		0.01				0.02		0.01				
27 Btw I-405 and San Fernando Mission Blvd		3M (+1H)							3M (+1H)								
2014 Count	141,000		2,190	8,171	3,370	0.41	5,541	0.68		2,190	8,171	6,091	0.75	4,033	0.49	LOS E	
Project Traffic	1,300				17		65				77		37				
2014 + Full Project	142,300		2,190	8,171	3,386	0.41	5,606	0.69	2,190	8,171	6,168	0.75	4,070	0.50			
Project V/C					0.00		0.01				0.01		0.00				

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
SR-14																	
28 Btw Dawn Rd and Rosamond Blvd		2M							2M								
2014 Count	23,000		2,332	4,665	1,083	0.23	849	0.18		2,332	4,665	499	0.11	1,323	0.28	LOS D	
Project Traffic	3,400				68		103					167		133			
2014 + Full Project	26,400		2,332	4,665	1,151	0.25	952	0.20		2,332	4,665	666	0.14	1,456	0.31		
Project V/C						0.02		0.02					0.03		0.03		
29 Btw Rosamond Blvd and Ave A		2M							2M								
2014 Count	30,000		2,339	4,679	1,413	0.30	1,107	0.24		2,339	4,679	651	0.14	1,725	0.37	LOS D	
Project Traffic	8,100				172		280					401		367			
2014 + Full Project	38,100		2,339	4,679	1,585	0.34	1,387	0.30		2,339	4,679	1,052	0.22	2,092	0.45		
Project V/C						0.04		0.06					0.08		0.08		
30 Ave A and N Jct SR-138/Ave D		2M							2M								
2014 Count	34,000		2,339	4,679	1,129	0.24	1,261	0.27		2,339	4,679	1,244	0.27	1,567	0.34	LOS D	
Project Traffic	8,800				191		300					439		406			
2014 + Full Project	42,800		2,339	4,679	1,320	0.28	1,561	0.33		2,339	4,679	1,683	0.36	1,973	0.42		
Project V/C						0.04		0.06					0.09		0.08		
31 Btw Jct SR-138/Ave D and Ave F		2M							2M								
2014 Count	36,000		2,332	4,665	1,195	0.26	1,336	0.29		2,332	4,665	1,318	0.28	1,660	0.36	LOS D	
Project Traffic	7,000				165		550					460		166			
2014 + Full Project	43,000		2,332	4,665	1,360	0.29	1,886	0.40		2,332	4,665	1,778	0.38	1,826	0.39		
Project V/C						0.03		0.11					0.10		0.03		
32 Btw Ave F and Ave G		2M							2M								
2014 Count	38,000		2,332	4,665	1,262	0.27	1,410	0.30		2,332	4,665	1,391	0.30	1,752	0.38	LOS D	
Project Traffic	7,000				165		547					459		164			
2014 + Full Project	45,000		2,332	4,665	1,427	0.31	1,957	0.42		2,332	4,665	1,850	0.40	1,916	0.41		
Project V/C						0.04		0.12					0.10		0.03		
33 Btw Ave G and Ave H		2M							2M								
2014 Count	38,000		2,332	4,665	1,262	0.27	1,410	0.30		2,332	4,665	1,391	0.30	1,752	0.38	LOS D	
Project Traffic	6,500				158		511					412		154			
2014 + Full Project	44,500		2,332	4,665	1,420	0.30	1,921	0.41		2,332	4,665	1,803	0.39	1,906	0.41		
Project V/C						0.03		0.11					0.09		0.03		
34 Btw Ave H and Ave I		2M							2M								
2014 Count	40,000		2,332	4,665	1,328	0.28	1,484	0.32		2,332	4,665	1,464	0.31	1,844	0.40	LOS E	
Project Traffic	6,100				150		483					380		143			
2014 + Full Project	46,100		2,332	4,665	1,478	0.32	1,967	0.42		2,332	4,665	1,844	0.40	1,987	0.43		
Project V/C						0.04		0.10					0.09		0.03		
35 Btw Ave I and Ave J		3M							3M								
2014 Count	47,000		2,332	6,997	1,560	0.22	1,744	0.25		2,332	6,997	1,720	0.25	2,167	0.31	LOS E	
Project Traffic	5,900				150		481					340		142			
2014 + Full Project	52,900		2,332	6,997	1,710	0.24	2,225	0.32		2,332	6,997	2,060	0.29	2,309	0.33		
Project V/C						0.02		0.07					0.04		0.02		
36 Btw Ave J and 20th St W		3M							3M								
2014 Count	42,000		2,339	7,016	1,394	0.20	1,558	0.22		2,339	7,016	1,537	0.22	1,936	0.28	LOS E	
Project Traffic	5,300				141		444					281		130			
2014 + Full Project	47,300		2,339	7,016	1,535	0.22	2,002	0.29		2,339	7,016	1,818	0.26	2,066	0.29		
Project V/C						0.02		0.07					0.04		0.01		

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
37 Btw 20th St W and Ave K 2014 Count Project Traffic 2014 + Full Project Project V/C	59,000	3M	2,339	7,016	1,959	0.28	2,189	0.31	3M	2,339	7,016	2,159	0.31	2,720	0.39	LOS E	
	5,300				141		444					281		130			
	64,300				2,100	0.30	2,633	0.38				2,440	0.35	2,850	0.41		
					0.02	0.07		0.04				0.02					
38 Btw Ave K and Ave L 2014 Count Project Traffic 2014 + Full Project Project V/C	74,000	3M	2,339	7,016	2,457	0.35	2,745	0.39	3M	2,339	7,016	2,708	0.39	3,411	0.49	LOS E	
	4,900				135		413					238		121			
	78,900				2,592	0.37	3,158	0.45				2,946	0.42	3,532	0.50		
					0.02	0.06		0.03				0.01					
39 Btw Ave L and Ave M 2014 Count Project Traffic 2014 + Full Project Project V/C	89,000	3M	2,339	7,016	2,955	0.42	3,302	0.47	3M	2,339	7,016	3,257	0.46	4,103	0.58	LOS E	
	4,700				130		397					217		115			
	93,700				3,085	0.44	3,699	0.53				3,474	0.50	4,218	0.60		
					0.02	0.06		0.04				0.02					
40 Btw Ave M and Ave N 2014 Count Project Traffic 2014 + Full Project Project V/C	92,000	3M	2,339	7,016	3,054	0.44	3,413	0.49	3M	2,339	7,016	3,367	0.48	4,241	0.60	LOS E	
	4,300				127		374					187		108			
	96,300				3,181	0.45	3,787	0.54				3,554	0.51	4,349	0.62		
					0.01	0.05		0.03				0.02					
41 Btw Ave N and 10th St W 2014 Count Project Traffic 2014 + Full Project Project V/C	87,000	3M	2,339	7,016	2,888	0.41	3,228	0.46	3M	2,339	7,016	3,184	0.45	4,011	0.57	LOS E	
	4,100				124		365					157		106			
	91,100				3,012	0.43	3,593	0.51				3,341	0.48	4,117	0.59		
					0.02	0.05		0.03				0.02					
42 Btw 10th St W and Rancho Vista Blvd 2014 Count Project Traffic 2014 + Full Project Project V/C	87,000	3M	2,225	6,675	2,888	0.43	3,228	0.48	3M	2,225	6,675	3,184	0.48	4,011	0.60	LOS E	
	3,800				62		267					99		53			
	90,800				2,950	0.44	3,495	0.52				3,283	0.49	4,064	0.61		
					0.01	0.04		0.01				0.01					
43 Btw Rancho Vista Blvd and S Jct SR-138 2014 Count Project Traffic 2014 + Full Project Project V/C	84,000	3M	2,225	6,675	2,789	0.42	3,116	0.47	3M	2,225	6,675	3,074	0.46	3,872	0.58	LOS E	
	2,500				62		249					99		48			
	86,500				2,851	0.43	3,365	0.50				3,173	0.48	3,920	0.59		
					0.01	0.03		0.02				0.01					
44 Btw S Jct SR-138 and Ave S 2014 Count Project Traffic 2014 + Full Project Project V/C	81,000	2M (+1H)	2,225	6,050	2,689	0.44	3,005	0.50	3M (+1H)	2,225	8,275	2,965	0.36	3,734	0.45	LOS E	
	1,600				17		212					47		19			
	82,600				2,706	0.45	3,217	0.53				3,012	0.36	3,753	0.45		
					0.01	0.03		0.00				0.00					
45 Btw Ave S and Pearblossom/Sierra Hwy 2014 Count Project Traffic 2014 + Full Project Project V/C	71,000	2M (+1H)	2,225	6,050	2,357	0.39	2,634	0.44	3M (+1H)	2,225	8,275	2,599	0.31	3,273	0.40	LOS E	
	1,000				6		178					5		2			
	72,000				2,363	0.39	2,812	0.46				2,604	0.31	3,275	0.40		
					0.00	0.02		0.00				0.00					

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
46 Btw Pearblossom/Sierra Hwy and Angeles Forest		2M (+1H)							3M (+1H)								
2014 Count	83,000		2,225	6,050	2,756	0.46	3,079	0.51		2,225	8,275	3,038	0.37	3,826	0.46	LOS E	
Project Traffic	800				4		178				5		2				
2014 + Full Project	83,800		2,225	6,050	2,760	0.46	3,257	0.54	2,225	8,275	3,043	0.37	3,828	0.46			
Project V/C						0.00	0.03					0.00	0.00				
47 Btw Angeles Forest Hwy and Soledad		3M (+1H)							2M (+1H)								
2014 Count	95,000		2,225	8,275	3,154	0.38	3,525	0.43		2,225	6,050	3,477	0.57	4,380	0.72	LOS E	
Project Traffic	800				5		178				5		1				
2014 + Full Project	95,800		2,225	8,275	3,159	0.38	3,703	0.45	2,225	6,050	3,482	0.58	4,381	0.72			
Project V/C						0.00	0.02					0.01	0.00				
48 Btw Soledad and Santiago Rd		2M (+1H)							2M (+1H)								
2014 Count	95,000		2,236	6,071	3,154	0.52	3,525	0.58		2,236	6,071	3,477	0.57	4,380	0.72	LOS E	
Project Traffic	800				5		178				5		1				
2014 + Full Project	95,800		2,236	6,071	3,159	0.52	3,703	0.61	2,236	6,071	3,482	0.57	4,381	0.72			
Project V/C						0.00	0.03					0.00	0.00				
49 Btw Santiago Rd and Crown Valley Rd		2M (+1H)							2M (+1H)								
2014 Count	94,000		2,236	6,071	3,121	0.51	3,487	0.57		2,236	6,071	3,440	0.57	4,333	0.71	LOS E	
Project Traffic	700				4		176				2		0				
2014 + Full Project	94,700		2,236	6,071	3,125	0.51	3,663	0.60	2,236	6,071	3,442	0.57	4,333	0.71			
Project V/C						0.00	0.03					0.00	0.00				
50 Btw Crown Valley Rd and Ward Rd		2M (+1H)							2M (+1H)								
2014 Count	95,000		2,236	6,071	3,154	0.52	3,525	0.58		2,236	6,071	3,477	0.57	4,380	0.72	LOS E	
Project Traffic	700				4		174				0		0				
2014 + Full Project	95,700		2,236	6,071	3,158	0.52	3,699	0.61	2,236	6,071	3,477	0.57	4,380	0.72			
Project V/C						0.00	0.03					0.00	0.00				
51 Btw Ward Rd and Escondido Cyn Rd		3M (+1H)							2M (+1H)								
2014 Count	93,000		2,189	8,167	3,088	0.38	3,450	0.42		2,189	5,978	3,404	0.57	4,287	0.72	LOS E	
Project Traffic	700				4		182				0		0				
2014 + Full Project	93,700		2,189	8,167	3,092	0.38	3,632	0.44	2,189	5,978	3,404	0.57	4,287	0.72			
Project V/C						0.00	0.02					0.00	0.00				
52 Btw Escondido Cyn Rd and Agua Dulce Cyn Rd		3M (+1H)							2M (+1H)								
2014 Count	93,000		2,236	8,307	1,776	0.21	4,669	0.56		2,236	6,071	4,994	0.82	2,613	0.43	LOS E	
Project Traffic	700				2		176				0		0				
2014 + Full Project	93,700		2,236	8,307	1,778	0.21	4,845	0.58	2,236	6,071	4,994	0.82	2,613	0.43			
Project V/C						0.00	0.02					0.00	0.00				
53 Btw Agua Dulce Cyn Rd and Soledad Rd		3M (+1H)							2M (+1H)								
2014 Count	96,000		2,236	8,307	1,834	0.22	4,819	0.58		2,236	6,071	5,155	0.85	2,698	0.44	LOS E	
Project Traffic	700				3		172				0		0				
2014 + Full Project	96,700		2,236	8,307	1,837	0.22	4,991	0.60	2,236	6,071	5,155	0.85	2,698	0.44			
Project V/C						0.00	0.02					0.00	0.00				
54 Btw Shadow Pines/Soledad Rd and Sand Cyn Rd		2M (+1H)							2M (+1H)								
2014 Count	99,000		2,236	6,071	1,891	0.31	4,970	0.82		2,236	6,071	5,316	0.88	2,782	0.46	LOS E	
Project Traffic	500				2		103				0		0				
2014 + Full Project	99,500		2,236	6,071	1,893	0.31	5,073	0.84	2,236	6,071	5,316	0.88	2,782	0.46			
Project V/C						0.00	0.02					0.00	0.00				

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
55 Btw Sand Cyn Rd and Via Princessa		3M (+1H)							3M (+1H)								
2014 Count	112,000		2,215	8,246	2,139	0.26	5,622	0.68		2,215	8,246	6,014	0.73	3,147	0.38	LOS E	
Project Traffic	400				0		119				0		0				
2014 + Full Project	112,400		2,215	8,246	2,139	0.26	5,741	0.70		2,215	8,246	6,014	0.73	3,147	0.38		
Project V/C					0.00		0.02					0.00		0.00			
56 Btw Via Princessa and Golden Valley Rd		3M (+1H+1A)							3M (+1H+1A)								
2014 Count	144,000		2,215	9,246	2,750	0.30	7,229	0.78		2,215	9,246	7,733	0.84	4,046	0.44	LOS E	
Project Traffic	300				0		92				0		0				
2014 + Full Project	144,300		2,215	9,246	2,750	0.30	7,321	0.79		2,215	9,246	7,733	0.84	4,046	0.44		
Project V/C					0.00		0.01					0.00		0.00			
57 Btw Golden Valley Rd and Placerita Cyn Rd		3M (+1H)							3M (+1H)								
2014 Count	144,000		2,215	8,246	2,750	0.33	7,229	0.88		2,215	8,246	7,733	0.94	4,046	0.49	LOS E	
Project Traffic	300				0		83				0		0				
2014 + Full Project	144,300		2,215	8,246	2,750	0.33	7,312	0.89		2,215	8,246	7,733	0.94	4,046	0.49		
Project V/C					0.00		0.01					0.00		0.00			
58 Btw Placerita Cyn Rd and San Fernando Rd		3M (+1H)							3M (+1H)								
2014 Count	151,000		2,215	8,246	2,884	0.35	7,580	0.92		2,215	8,246	8,109	0.98	4,243	0.51	LOS E	
Project Traffic	300				0		78				0		0				
2014 + Full Project	151,300		2,215	8,246	2,884	0.35	7,658	0.93		2,215	8,246	8,109	0.98	4,243	0.51		
Project V/C					0.00		0.01					0.00		0.00			
59 Btw San Fernando Rd//Newhall Ave and Jct I-5		5M (+1H)							5M (+1H)								
2014 Count	166,000		2,215	12,676	3,171	0.25	8,333	0.66		2,215	12,676	8,914	0.70	4,665	0.37	LOS E	
Project Traffic	300				0		74				1		0				
2014 + Full Project	166,300		2,215	12,676	3,171	0.25	8,407	0.66		2,215	12,676	8,915	0.70	4,665	0.37		
Project V/C	0				0.00		0.0					0.00		0.00			
SR-138																	
60 Btw Jct I-5 and Gorman Post Rd		2M							2M								
2015 Count	4,500		1,904	3,808	73	0.02	154	0.04		1,904	3,808	122	0.03	87	0.02	LOS D	
Project Traffic	40,300				1,148		2,585					2,471		1,056			
2015 + Full Project	44,800		1,904	3,808	1,221	0.32	2,739	0.72		1,904	3,808	2,593	0.68	1,143	0.30		
Project V/C					0.30		0.68					0.65		0.28			
61 Btw Gorman Post Rd and Old Ridge Route		1M							1M								
2015 Count	4,900		1,904	1,904	73	0.04	154	0.08		1,904	1,904	122	0.06	87	0.05	LOS D	
Project Traffic	42,400				1,255		2,818					2,671		1,239			
2015 + Full Project	47,300		1,904	1,904	1,328	0.70	2,972	1.56		1,904	1,904	2,793	1.47	1,326	0.70		Yes
Project V/C					0.66		1.48					1.41		0.65			
62 Btw Old Ridge Route Rd and 300th St		1M							1M								
2015 Count	4,700		1,904	1,904	73	0.04	154	0.08		1,904	1,904	122	0.06	87	0.05	LOS D	
Project Traffic	43,500				1,285		2,858					2,729		1,253			
2015 + Full Project	48,200		1,904	1,904	1,358	0.71	3,012	1.58		1,904	1,904	2,851	1.50	1,340	0.70		Yes
Project V/C					0.67		1.50					1.44		0.65			
63 Btw 300th St and Three Points		1M							1M								
2015 Count	4,700		1,904	1,904	73	0.04	152	0.08		1,904	1,904	122	0.06	87	0.05	LOS D	
Project Traffic	33,400				1,706		907					1,104		2,136			
2015 + Full Project	38,100		1,904	1,904	1,779	0.93	1,059	0.56		1,904	1,904	1,226	0.64	2,223	1.17		Yes
Project V/C					0.89		0.48					0.58		1.12			

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
64 Btw 3 points and 245th St 2015 Count Project Traffic 2015 + Full Project Project V/C	4,700	1M	1,904	1,904	92	0.05	151	0.08	1M	1,904	1,904	122	0.06	81	0.04	LOS D	
	33,400				1,706		907					1,104		2,136			
	38,100				1,798	0.94	1,058	0.56				1,226	0.64	2,217	1.16		
					0.89		0.48					0.58		1.12			
65 Btw 245th St West and 190th St West 2015 Count Project Traffic 2015 + Full Project Project V/C	4,700	1M	1,904	1,904	89	0.05	147	0.08	1M	1,904	1,904	113	0.06	87	0.05	LOS D	
	28,900				1,304		809					1,018		1,875			
	33,600				1,393	0.73	956	0.50				1,131	0.59	1,962	1.03		
					0.68		0.42					0.53		0.98			
66 Btw 190th St West and 110th St West 2015 Count Project Traffic 2015 + Full Project Project V/C	4,700	1M	1,962	1,962	82	0.04	149	0.08	1M	1,962	1,962	106	0.05	95	0.05	LOS D	
	23,800				959		696					890		1,559			
	28,500				1,041	0.53	845	0.43				996	0.51	1,654	0.84		
					0.49		0.35					0.46		0.79			
67 Btw 110th St West and 60th St West 2015 Count Project Traffic 2015 + Full Project Project V/C	4,700	1M	1,962	1,962	139	0.07	180	0.09	1M	1,962	1,962	113	0.06	105	0.05	LOS D	
	18,900				862		534					681		1,163			
	23,600				1,001	0.51	714	0.36				794	0.40	1,268	0.65		
					0.44		0.27					0.34		0.60			
68 Btw 60th St West and Jct SR-14 North 2015 Count Project Traffic 2015 + Full Project Project V/C	4,700	1M	1,962	1,962	141	0.07	177	0.09	1M	1,962	1,962	123	0.06	148	0.08	LOS D	
	16,800				729		482					615		1,044			
	21,500				870	0.44	659	0.34				738	0.38	1,192	0.61		
					0.37		0.25					0.32		0.53			
SR-99																	
70 Btw Jct SR-58 W and California 2015 Count Project Traffic 2015 + Full Project Project V/C	104,110	4M	2,246	8,985	3,848	0.43	6,276	0.70	4M	2,246	8,985	4,004	0.45	6,694	0.75	LOS E	
	3,500				84		102					187		144			
	107,610				3,932	0.44	6,378	0.71				4,191	0.47	6,838	0.76		
					0.01		0.01					0.02		0.01			
71 Btw California and Jct SR-58 E 2015 Count Project Traffic 2015 + Full Project Project V/C	89,700	4M	2,246	8,985	3,392	0.38	5,263	0.59	4M	2,246	8,985	3,390	0.38	6,895	0.77	LOS E	
	3,600				86		105					192		147			
	93,300				3,478	0.39	5,368	0.60				3,582	0.40	7,042	0.78		
					0.01		0.01					0.02		0.01			
72 Btw Jct SR-58 E and Ming Ave 2015 Count Project Traffic 2015 + Full Project Project V/C	88,820	5M	2,246	10,107	3,406	0.34	5,478	0.54	5M	2,246	10,107	3,217	0.32	5,663	0.56	LOS E	
	5,300				117		161					300		180			
	94,120				3,523	0.35	5,639	0.56				3,517	0.35	5,843	0.58		
					0.01		0.02					0.03		0.02			
73 Btw Ming Ave and White Lane 2015 Count Project Traffic 2015 + Full Project Project V/C	69,755	4M	2,246	8,985	2,614	0.29	4,435	0.49	4M	2,296	9,186	2,394	0.26	4,508	0.49	LOS E	
	5,400				119		165					308		185			
	75,155				2,733	0.30	4,600	0.51				2,702	0.29	4,693	0.51		
					0.01		0.02					0.03		0.02			

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
74 Btw White Lane and Panama Lane		4M							4M								
2015 Count	57,090		2,296	9,186	2,165	0.24	3,616	0.39		2,296	9,186	2,072	0.23	3,565	0.39	LOS E	
Project Traffic	5,700				123		173				323		193				
2015 + Full Project	62,790		2,296	9,186	2,288	0.25	3,789	0.41		2,296	9,186	2,395	0.26	3,758	0.41		
Project V/C						0.01		0.02					0.03		0.02		
75 Btw Panama Lane and Jct SR-119 W		4M							4M								
2015 Count	44,450		2,296	9,186	1,622	0.18	2,890	0.31		2,296	9,186	1,797	0.20	2,581	0.28	LOS E	
Project Traffic	5,800				126		179				328		199				
2015 + Full Project	50,250		2,296	9,186	1,748	0.19	3,069	0.33		2,296	9,186	2,125	0.23	2,780	0.30		
Project V/C						0.01		0.02					0.03		0.02		
76 Btw Jct SR-119 W and Houghton Rd		3M							3M								
2015 Count	35,470		2,296	6,889	1,229	0.18	2,345	0.34		2,141	6,422	1,533	0.24	1,987	0.31	LOS D	
Project Traffic	5,900				128		182				331		201				
2015 + Full Project	41,370		2,296	6,889	1,357	0.20	2,527	0.37		2,141	6,422	1,864	0.29	2,188	0.34		
Project V/C						0.02		0.03					0.05		0.03		
77 Btw Houghton Rd and Jct SR-233 E		3M							3M								
2015 Count	33,360		2,141	6,422	1,158	0.18	2,176	0.34		2,141	6,422	1,473	0.23	1,865	0.29	LOS D	
Project Traffic	6,000				129		185				343		205				
2015 + Full Project	39,360		2,141	6,422	1,287	0.20	2,361	0.37		2,141	6,422	1,816	0.28	2,070	0.32		
Project V/C						0.02		0.03					0.05		0.03		
78 Btw Jct SR-223 E and Old U.S. 99*		3M							3M								
2015 Count	27,270		2,141	6,422	945	0.15	1,788	0.28		2,133	6,400	1,233	0.19	1,488	0.23	LOS D	
Project Traffic	6,100				131		187				347		208				
2015 + Full Project	33,370		2,141	6,422	1,076	0.17	1,975	0.31		2,133	6,400	1,580	0.25	1,696	0.27		
Project V/C						0.02		0.03					0.06		0.04		
SR-99																	
79 Btw Old U.S. 99 and Herring Rd		3M							3M								
2015 Count	28,585		2,133	6,400	987	0.15	1,860	0.29		2,133	6,400	1,284	0.20	1,586	0.25	LOS D	
Project Traffic	6,200				131		187				347		208				
2015 + Full Project	34,785		2,133	6,400	1,118	0.17	2,047	0.32		2,133	6,400	1,631	0.25	1,794	0.28		
Project V/C						0.02		0.03					0.05		0.03		
80 Btw Herring Rd and Sandrini Rd.		3M							3M								
2015 Count	27,775		2,133	6,400	960	0.15	1,805	0.28		2,133	6,400	1,253	0.20	1,537	0.24	LOS D	
Project Traffic	6,200				131		188				348		208				
2015 + Full Project	33,975		2,133	6,400	1,091	0.17	1,993	0.31		2,133	6,400	1,601	0.25	1,745	0.27		
Project V/C						0.02		0.03					0.05		0.03		
81 Btw Sandrini Rd and David Rd		3M							3M								
2015 Count	27,775		2,133	6,400	960	0.15	1,805	0.28		2,133	6,400	1,253	0.20	1,537	0.24	LOS D	
Project Traffic	6,200				131		188				348		208				
2015 + Full Project	33,975		2,133	6,400	1,091	0.17	1,993	0.31		2,133	6,400	1,601	0.25	1,745	0.27		
Project V/C						0.02		0.03					0.05		0.03		
82 Btw David Rd and Valpredo		3M							3M								
2015 Count	27,740		2,133	6,400	959	0.15	1,803	0.28		2,133	6,400	1,251	0.20	1,535	0.24	LOS D	
Project Traffic	6,200				131		188				349		209				
2015 + Full Project	33,940		2,133	6,400	1,090	0.17	1,991	0.31		2,133	6,400	1,600	0.25	1,744	0.27		
Project V/C						0.02		0.03					0.05		0.03		

**TABLE 5.10-21
FREEWAY/EXPRESSWAY VOLUME AND CAPACITY SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT WITH EXISTING LANES**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							LOS Threshold	Project Impact?	
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C			
83 Btw Valpredo and Jct SR-166 W		3M							3M									
2015 Count	27,740		2,133	6,400	959	0.15	1,803	0.28		2,096	6,288	1,251	0.20	1,535	0.24		LOS D	
Project Traffic	6,200				131		188					349		209				
2015 + Full Project	33,940		2,133	6,400	1,090	0.17	1,991	0.31		2,096	6,288	1,600	0.25	1,744	0.28			
Project V/C						0.02		0.03					0.05		0.04			
84 Btw Jct SR-166 W and Jct I-5		3M							3M									
2015 Count	26,965		2,096	6,288	934	0.15	1,733	0.28		2,054	6,162	1,219	0.20	1,507	0.24		LOS D	
Project Traffic	6,200				131		188					349		209				
2015 + Full Project	33,165		2,096	6,288	1,065	0.17	1,921	0.31		2,054	6,162	1,568	0.25	1,716	0.28			
Project V/C						0.02		0.03					0.05		0.04			

Notes:

Boldface text denotes LOS exceeds the performance standard

ADT: annual average daily traffic

Cap: capacity

L: Lanes

V/C - volume-to-capacity ratio

Vol: Volume

Btw: between

SR: State Route

M: Mixed flow lane

MF: Mixed flow lanes

T: Truck lane

Jct: junction

SR: State Route

I: Interstate

Source: Stantec 2017 (Table 4-2).

LOS	Freeway Segment V/C Ranges
A	0.00-0.30
B	0.31-0.56
C	0.57-0.76
D	0.77-0.90
E	0.91-1.00
F	Above 1.00

Existing volumes represent 2014 conditions for freeway segments located in LA County (i.e., SR-138, SR-14 and I-5) and Kern County freeway segments on the I-5 from Fort Tejon Interchange to the LA/Kern County line.

Existing volumes represent 2015 conditions for freeway segments located in Kern County (i.e., SR-99 and I-5 from the Grapevine Grade to SR-99).

As shown, the Project would not cause a significant adverse impact on the I-5, SR-99, and SR-14 freeways under existing plus Project conditions.

Freeway Interchange Ramps

The peak hour traffic volumes at freeway interchange ramps for existing plus Project conditions are provided in Table 5.10-22.

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
I-5																
SR-99 NB Off Ramp								SR-99 SB On Ramp								
Existing	20,600	2	4,000	980	0.25	1,280	0.32	Existing	21,400	2	4,000	1,000	0.25	1,020	0.26	
Project Traffic	2,217			131		188		Project Traffic	3,964			349		209		
Existing Plus Project	22,817	2	4,000	1,111	0.28	1,468	0.37	Existing Plus Project	25,364	2	4,000	1,349	0.34	1,229	0.31	
Project V/C					0.03		0.05	Project V/C					0.09		0.05	
Laval/Wheeler West NB Off Ramp								Laval/Wheeler Ridge West SB On Ramp								
Existing	1,450	1	1,500	50	0.03	80	0.05	Existing	6,200	1	1,500	270	0.18	330	0.22	
Project Traffic	500			15		25		Project Traffic	1,000			20		50		
Existing Plus Project	1,950	1	1,500	65	0.04	105	0.07	Existing Plus Project	7,200	1	1,500	290	0.19	380	0.25	
Project V/C					0.01		0.02	Project V/C					0.01		0.03	
Laval/Wheeler East NB Off Ramp								(not applicable)								
Existing	3,850	1	1,500	170	0.11	260	0.17									
Project Traffic	500			15		25										
Existing Plus Project	4,350	1	1,500	185	0.12	285	0.19									
Project V/C					0.01		0.02									

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Grapevine NB Off Ramp								Grapevine SB On Ramp								
Existing	1,750	1	1,500	50	0.03	40	0.03	Existing	1,200	1	1,500	40	0.03	50	0.03	
Project Traffic	1,000			30		50		Project Traffic	1,000			30		60		
Existing Plus Project	2,750	1	1,500	80	0.05	90	0.06	Existing Plus Project	2,200	1	1,500	70	0.05	110	0.07	
Project V/C					0.02		0.03	Project V/C					0.02		0.04	
Fort Tejon Rd NB-Off Ramp								Fort Tejon Rd SB-On Ramp								
Existing	140	1	1,500	10	0.01	10	0.01	Existing	230	1	1,500	10	0.01	20	0.01	
Project Traffic	96			5		5		Project Traffic	96			5		5		
Existing Plus Project	236	1	1,500	15	0.01	15	0.01	Existing Plus Project	326	1	1,500	15	0.01	25	0.02	
Project V/C					0.00		0.00	Project V/C					0.00		0.01	
Lebec NB Off-Ramp								Lebec SB-On Ramp								
Existing	690	1	1,500	30	0.02	50	0.03	Existing	320	1	1,500	10	0.01	20	0.01	
Project Traffic	96			5		5		Project Traffic	96			5		5		
Existing Plus Project	786	1	1,500	35	0.02	55	0.04	Existing Plus Project	416	1	1,500	15	0.01	25	0.02	
Project V/C					0.00		0.01	Project V/C					0.00		0.01	
Frazier NB Off-Ramp								Frazier SB On-Ramp								
Existing	3,350	1	1,500	130	0.09	220	0.15	Existing	4,200	1	1,500	160	0.11	280	0.19	
Project Traffic	236			17		24		Project Traffic	458			42		41		
Existing Plus Project	3,586	1	1,500	147	0.10	244	0.16	Existing Plus Project	4,658	1	1,500	202	0.13	321	0.21	
Project V/C					0.01		0.01	Project V/C					0.02		0.02	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Gorman Rd NB Off-Ramp								Gorman Rd SB On-Ramp								
Existing	2,900	1	1,500	110	0.07	190	0.13	Existing	1,250	1	1,500	50	0.03	80	0.05	
Project Traffic	386			10		30		Project Traffic	482			30		20		
Existing Plus Project	3,286		1,500	120	0.08	220	0.15	Existing Plus Project	1,732	1	1,500	80	0.05	100	0.07	
Project V/C					0.01		0.02	Project V/C					0.02		0.02	
WB Rte SR-138 NB On-Ramp								SR-SB Off-Ramp								
Existing	1,650	2*	1,500	60	0.04	110	0.07	Existing	1,350	2*	1,500	50	0.03	90	0.06	
Project Traffic	3,832			245		330		Project Traffic	6,682			583		402		
Existing Plus Project	5,482	2*	1,500	305	0.20	440	0.29	Existing Plus Project	8,032	2*	1,500	633	0.42	492	0.33	
Project V/C					0.16		0.22	Project V/C					0.39		0.27	
EB SR-138 NB Off-Ramp								WB SR-138 SB On-Ramp								
Existing	750	2*	1,500	30	0.02	50	0.03	Existing	740	2*	1,500	30	0.02	50	0.03	
Project Traffic	11,672			370		1,226		Project Traffic	14,167			2,002		678		
Existing Plus Project	12,422	2*	1,500	400	0.27	1,276	0.85	Existing Plus Project	14,907	2*	1,500	2,032	1.35	728	0.49	Yes
Project V/C					0.25		0.82	Project V/C					1.33		0.45	
Templin Hwy NB On-Ramp								Templin Hwy SB Off-Ramp								
Existing	140	1	1,500	10	0.01	10	0.01	Existing	140	1	1,500	10	0.01	10	0.01	
Project Traffic	69			3		8		Project Traffic	70			7		4		
Existing Plus Project	209	1	1,500	13	0.01	18	0.01	Existing Plus Project	210	1	1,500	17	0.01	14	0.01	
Project V/C					0.00		0.00	Project V/C					0.00		0.00	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Lake Hughes Rd NB On-Ramp								Lake Hughes Rd SB Off-Ramp								
Existing	6,700	1	1,500	250	0.17	440	0.29	Existing	3,850	1	1,500	150	0.10	250	0.17	
Project Traffic	371			9		53		Project Traffic	369			61		14		
Existing Plus Project	7,071	1	1,500	259	0.17	493	0.33	Existing Plus Project	4,219	1	1,500	211	0.14	264	0.18	
Project V/C					0.00		0.04	Project V/C					0.04		0.01	
Hasley Cyn Rd NB On-Ramp								Hasley Cyn Rd SB-Off Ramp								
Existing	870	1	1,500	40	0.03	50	0.03	Existing	1,250	1	1,500	60	0.04	80	0.05	
Project Traffic	1,385			60		191		Project Traffic	1,099			180		75		
Existing Plus Project	2,255	1	1,500	100	0.07	241	0.16	Existing Plus Project	2,349	1	1,500	240	0.16	155	0.10	
Project V/C					0.04		0.13	Project V/C					0.12		0.05	
WB SR-126 NB On-Ramp								WB SR-126 SB Off-Ramp								
Existing	5,100	1	1,500	240	0.16	310	0.21	Existing	7,700	1	1,500	350	0.23	470	0.31	
Project Traffic	827			12		157		Project Traffic	930			139		21		
Existing Plus Project	5,927	1	1,500	252	0.17	467	0.31	Existing Plus Project	8,630	1	1,500	489	0.33	491	0.33	
Project V/C					0.01		0.10	Project V/C					0.10		0.02	
(not applicable)								Rye Canyon Rd SB Off-Ramp								
								Existing	1,650	1	1,500	80	0.05	100	0.07	
								Project Traffic	1,070			191		45		
								Existing Plus Project	2,720	1	1,500	271	0.18	145	0.10	
								Project V/C					0.13		0.03	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Magic Mountain Pkwy NB On-Ramp								Magic Mountain Pkwy SB Off-Ramp								
Existing	4,500	2	2,250	210	0.09	280	0.12	Existing	3,950	2	2,250	180	0.08	240	0.11	
Project Traffic	727			22		76		Project Traffic	1,095			201		30		
Existing Plus Project	5,227	2	2,250	232	0.10	356	0.16	Existing Plus Project	5,045	2	2,250	381	0.17	270	0.12	
Project V/C					0.01		0.04	Project V/C					0.09		0.01	
Valencia Blvd NB On-Ramp								Valencia Blvd SB Off-Ramp								
Existing	2,150	2	2,250	100	0.04	130	0.06	Existing	2,850	2	2,250	130	0.06	170	0.08	
Project Traffic	144			1		19		Project Traffic	131			24		7		
Existing Plus Project	2,294	2	2,250	101	0.04	149	0.07	Existing Plus Project	2,981	2	2,250	154	0.07	177	0.08	
Project V/C					0.00		0.01	Project V/C					0.01		0.00	
WB McBean Pkwy NB On-Ramp								McBean Pkwy SB Off-Ramp								
Existing	2,550	1	1,500	70	0.05	90	0.06	Existing	3,500	1	1,500	160	0.11	210	0.14	
Project Traffic	458			12		66		Project Traffic	544			106		19		
Existing Plus Project	3,008	1	1,500	82	0.05	156	0.10	Existing Plus Project	4,044	1	1,500	266	0.18	229	0.15	
Project V/C					0.00		0.04	Project V/C					0.07		0.01	
Pico Cyn/Lyons NB On-Ramp								Lyons Ave SB Off-Ramp								
Existing	9,400	1	1,500	430	0.29	580	0.39	Existing	4,400	1	1,500	200	0.13	270	0.18	
Project Traffic	56			2		7		Project Traffic	93			14		7		
Existing Plus Project	9,456	1	1,500	432	0.29	587	0.39	Existing Plus Project	4,493	1	1,500	214	0.14	277	0.18	
Project V/C					0.00		0.00	Project V/C					0.01		0.00	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Calgrove Blvd NB On-Ramp								Calgrove Blvd SB Off-Ramp								
Existing	2,650	1	1,500	120	0.08	160	0.11	Existing	2,100	1	1,500	100	0.07	130	0.09	
Project Traffic	245			10		38		Project Traffic	31			9		5		
Existing Plus Project	2,895	1	1,500	130	0.09	198	0.13	Existing Plus Project	2,131	1	1,500	109	0.07	135	0.09	
Project V/C					0.01		0.02	Project V/C					0.00		0.00	
SB SR-14 NB On-Ramp								NB SR-14 SB Off-Ramp								
Existing	5,200	1	2,000	240	0.12	320	0.16	Existing	5,900	1	2,000	270	0.14	360	0.18	
Project Traffic	1,491			2		158		Project Traffic	708			71		5		
Existing Plus Project	6,691	1	2,000	242	0.12	478	0.24	Existing Plus Project	6,608	1	2,000	341	0.17	365	0.18	
Project V/C					0.00		0.08	Project V/C					0.03		0.00	
WB SR-210 NB On-Ramp								EB SR-210 SB Off-Ramp								
Existing	28,472	2	4,000	1,910	0.48	1,930	0.48	Existing	30,274	2	4,000	2,030	0.51	2,060	0.52	
Project Traffic	5,070			147		537		Project Traffic	7,680			697		339		
Existing Plus Project	33,542	2	4,000	2,057	0.51	2,467	0.62	Existing Plus Project	37,954	2	4,000	2,727	0.68	2,399	0.60	
Project V/C					0.03		0.14	Project V/C					0.17		0.08	
Roxford St NB On-Ramp								Roxford St SB Off-Ramp								
Existing	4,050	1	1,500	270	0.18	270	0.18	Existing	3,000	1	1,500	200	0.13	200	0.13	
Project Traffic	1,349			33		149		Project Traffic	1,646			150		72		
Existing Plus Project	5,399	1	1,500	303	0.20	419	0.28	Existing Plus Project	4,646	1	1,500	350	0.23	272	0.18	
Project V/C					0.02		0.10	Project V/C					0.10		0.05	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
I-405 NB On-Ramp								I-405 SB Off-Ramp								
Existing	62,000	3	6,000	4,150	0.69	4,210	0.70	Existing	65,000	3	6,000	4,360	0.73	4,410	0.74	
Project Traffic	964			24		106		Project Traffic	1,164			106		51		
Existing Plus Project	62,964	3	6,000	4,174	0.70	4,316	0.72	Existing Plus Project	66,164	3	6,000	4,466	0.74	4,461	0.74	
Project V/C					0.01		0.02	Project V/C					0.01		0.00	
SR-14																
Rosamond Blvd NB Off-Ramp								WB Rosamond Blvd SB On-Ramp								
Existing	6,750	1	1,500	460	0.31	640	0.43	Existing	3,622	1	1,500	250	0.17	340	0.23	
Project Traffic	1,844			104		177		Project Traffic	1,492			124		124		
Existing Plus Project	8,594	1	1,500	564	0.38	817	0.54	Existing Plus Project	5,114	1	1,500	374	0.25	464	0.31	
Project V/C					0.07		0.11	Project V/C					0.08		0.08	
(not applicable)								EB Rosamond SB On-Ramp								
								Existing	3,211	1	1,500	220	0.15	300	0.20	
								Project Traffic	1,322			109		109		
								Existing Plus Project		1	1,500	329	0.22	409	0.27	
								Project V/C					0.07		0.07	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Jct SR-138/Ave D NB Off-Ramp								Ave Jct SR-138/D SB On-Ramp								
Existing	1,600	1	1,500	110	0.07	130	0.09	Existing	1,540	1	1,500	110	0.07	130	0.09	
Project Traffic	4,065			165		551		Project Traffic	2,949			460		166		
Existing Plus Project	5,665	1	1,500	275	0.18	681	0.45	Existing Plus Project	4,489	1	1,500	570	0.38	296	0.20	
Project V/C					0.11		0.36	Project V/C					0.31		0.11	
WB Jct SR-138/Ave D NB On-Ramp								(not applicable)								
Existing	250	1	1,500	20	0.01	20	0.01									
Project Traffic	1,430			68		127										
Existing Plus Project	1,680	1	1,500	88	0.06	147	0.10									
Project V/C					0.05		0.09									
I-5																
EB Jct SR-138/Ave D NB On-Ramp								Jct SR-138/Ave D SB Off-Ramp								
Existing	340	1	1,500	20	0.01	30	0.02	Existing	510	1	1,500	40	0.03	40	0.03	
Project Traffic	1,945			123		173		Project Traffic	5,460			439		407		
Existing Plus Project	2,285	1	1,500	143	0.10	203	0.14	Existing Plus Project	5,970	1	1,500	479	0.32	447	0.30	
Project V/C					0.09		0.12	Project V/C					0.29		0.27	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
WB Ave H NB On-Ramp								Ave H SB Off-Ramp								
Existing	1,600	1	1,500	110	0.07	130	0.09	Existing	1,900	1	1,500	130	0.09	160	0.11	
Project Traffic	231			4		14		Project Traffic	195			32		11		
Existing Plus Project	1,831	1	1,500	114	0.08	144	0.10	Existing Plus Project	2,095	1	1,500	162	0.11	171	0.11	
Project V/C					0.01		0.01	Project V/C					0.02		0.00	
EB Ave H NB On-Ramp								(not applicable)								
Existing	300	1	1,500	20	0.01	20	0.01									
Project Traffic	111			4		13										
Existing Plus Project	411	1	1,500	24	0.02	33	0.02									
Project V/C					0.01		0.01									
Ave I NB On-Ramp								Ave I SB Off-Ramp								
Existing	3,500	1	1,500	240	0.16	290	0.19	Existing	2,700	1	1,500	190	0.13	220	0.15	
Project Traffic	13			0		2		Project Traffic	140			40		1		
Existing Plus Project	3,513	1	1,500	240	0.16	292	0.19	Existing Plus Project	2,840	1	1,500	230	0.15	221	0.15	
Project V/C					0.00		0.00	Project V/C					0.02		0.00	
Ave J NB On-Ramp								Ave J SB Off-Ramp								
Existing	2,700	1	1,500	190	0.13	220	0.15	Existing	3,200	1	1,500	220	0.15	270	0.18	
Project Traffic	301			9		37		Project Traffic	464			59		12		
Existing Plus Project	3,001	1	1,500	199	0.13	257	0.17	Existing Plus Project	3,664	1	1,500	279	0.19	282	0.19	
Project V/C					0.00		0.02	Project V/C					0.04		0.01	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
EB Ave K NB On-Ramp								Ave K SB Off-Ramp								
Existing	1,350	1	1,500	90	0.06	110	0.07	Existing	3,250	1	1,500	230	0.15	270	0.18	
Project Traffic	72			2		9		Project Traffic	219			43		9		
Existing Plus Project	1,422	1	1,500	92	0.06	119	0.08	Existing Plus Project	3,469	1	1,500	273	0.18	279	0.19	
Project V/C					0.00		0.01	Project V/C					0.03		0.01	
WB Ave K NB On-Ramp								(not applicable)								
Existing	2,850	1	1,500	200	0.13	240	0.16									
Project Traffic	180			4		26										
Existing Plus Project	3,030	1	1,500	204	0.14	266	0.18									
Project V/C					0.01		0.02									
SR-14																
EB Ave L NB On-Ramp								Ave L SB Off-Ramp								
Existing	1,050	1	1,500	70	0.05	90	0.06	Existing	3,950	1	1,500	280	0.19	330	0.22	
Project Traffic	59			3		6		Project Traffic	113			21		6		
Existing Plus Project	1,109	1	1,500	73	0.05	96	0.06	Existing Plus Project	4,063	1	1,500	301	0.20	336	0.22	
Project V/C					0.00		0.00	Project V/C					0.01		0.00	
WB Ave L NB On-Ramp								(not applicable)								
Existing	3,450	1	1,500	240	0.16	290	0.19									
Project Traffic	78			2		10										
Existing Plus Project	3,528	1	1,500	242	0.16	300	0.20									
Project V/C					0.00		0.01									

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY - EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
EB Jct SR-138/ Palmdale Blvd NB On-Ramp								Jct SR-138/ Palmdale Blvd SB Off-Ramp								
Existing	2,450	1	1,500	170	0.11	200	0.13	Existing	9,400	1	1,500	660	0.44	780	0.52	
Project Traffic	275			23		19		Project Traffic	529			52		29		
Existing Plus Project	2,725	1	1,500	193	0.13	219	0.15	Existing Plus Project	9,929	1	1,500	712	0.47	809	0.54	
Project V/C					0.02		0.02	Project V/C					0.03		0.02	
WB Jct SR- 138/Palmdale Blvd NB On-Ramp								(not applicable)								
Existing	7,500	1	1,500	520	0.35	620	0.41									
Project Traffic	187			22		18										
Existing Plus Project	7,687	1	1,500	542	0.36	638	0.43									
Project V/C					0.01		0.02									
Golden Valley Rd NB Off-Ramp								Golden Valley Rd SB On- Ramp								
Existing	5,500	1	1,500	400	0.27	430	0.29	Existing	5,000	1	1,500	360	0.24	390	0.26	
Project Traffic	59			0		9		Project Traffic	0			0		0		
Existing Plus Project	5,559	1	1,500	400	0.27	439	0.29	Existing Plus Project	5,000	1	1,500	360	0.24	390	0.26	
Project V/C					0.00		0.01	Project V/C					0.00		0.00	

**TABLE 5.10-22
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
San Fernando Rd NB Off-Ramp								San Fernando Rd SB On-Ramp								
Existing	10,200	1	1,500	740	0.49	800	0.53	Existing	11,500	1	1,500	840	0.56	900	0.60	
Project Traffic	78			0		12		Project Traffic	0			0		0		
Existing Plus Project	10,278	1	1,500	740	0.49	812	0.54	Existing Plus Project	11,500	1	1,500	840	0.56	900	0.60	
Project V/C					0.00		0.01	Project V/C					0.00		0.00	

V/C: volume-to-capacity ratio; ADT: average daily trips; Vol: volume; SR: State Route; NB: northbound; SB: southbound; EB: eastbound; WB: westbound
 * Connector ramps with no auxiliary lane at freeway mainline
Boldface type denotes exceeds performance threshold
 Source: Stantec 2017 (Table 4-3).

Table 5.10-22 shows that no significant impact to freeway interchange ramps would occur under existing plus Project conditions. However, the connector ramp from westbound SR-138 to southbound I-5 is forecasted to have more than 1,500 vehicles per hour, which would result in the need for an auxiliary lane at the point where the connector ramps meet the I-5 mainline. The connector ramp currently has two lanes that tapers to a single lane at the connection with I-5, and no mainline auxiliary lane is provided. The Project is required to contribute to funding for this improvement under an approved CTIP, in conjunction with an approved traffic mitigation fee program, or by making fair share contributions in accordance with MM 10-23, MM 10-3, MM 10-4, MM 10-21, and MMs 10-32 through 10-35. The ramp improvement would reduce potential existing plus Project impacts at this location to less than significant levels.

Arterial Roadway Intersections

An ICU analysis was conducted for intersections along the SR-138, select intersections in Kern County (per the request of Caltrans and the County of Kern Department of Public Works), and I-5 ramp-arterial intersections in the Castaic area and Santa Clarita Valley (per the request of the Los Angeles County Department of Public Works) under Existing Plus Project Conditions. The resulting ICU values and LOS are summarized in Table 5.10-23. To provide a conservative assessment of potential Project impacts, no future roadway improvements are assumed in the analysis. Impacts are identified based on the performance criteria of the jurisdiction in which each intersection is located.

**TABLE 5.10-23
ICU AND LOS SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Intersection Control	Existing				Existing Plus Project				ICU Difference		
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM	
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS			
1. Westerly Access and SR-138	LA County/Caltrans	N/A	N/A	N/A	N/A	N/A	N/A	1.34	F	2.21	F	N/A	N/A
2. Central Access and SR-138	LA County/Caltrans	N/A	N/A	N/A	N/A	N/A	N/A	1.81	F	1.94	F	N/A	N/A
3. 300 th St W and SR-138 ¹	LA County/Caltrans	North leg stop	0.17	A	0.20	A	1.36	F	1.63	F	1.19	1.43	
4. 290 th St W and SR-138	LA County/Caltrans	No control	0.18	A	0.20	A	1.51	F	1.95	F	1.33	1.75	
5. Margalo Dr and SR-138	LA County/Caltrans	No control	0.18	A	0.20	A	1.28	F	1.50	F	1.10	1.30	
6. Three Points Road and SR-138	LA County/Caltrans	North/South legs stop	0.19	A	0.21	A	1.22	F	1.41	F	1.03	1.20	
7. 245 th St W and SR-138	LA County/Caltrans	South leg stop	0.17	A	0.19	A	1.28	F	1.44	F	1.11	1.25	
8. 230 th St W and SR-138	LA County/Caltrans	No Control	0.16	A	0.19	A	0.97	E	1.32	F	0.81	1.13	
9. 190 th St W and SR-138	LA County/Caltrans	North/South legs stop	0.17	A	0.19	A	1.06	F	1.35	F	0.89	1.16	
10. 170 th St W and SR-138	LA County/Caltrans	North/South legs stop	0.20	A	0.20	A	0.77	C	1.13	F	0.57	0.93	
11 110 th St W and SR-138	LA County/Caltrans	North/South legs stop	0.17	A	0.21	A	0.90	D	1.22	F	0.73	1.01	
12. 90 th St W and SR-138	LA County/Caltrans	North/South legs stop	0.20	A	0.25	A	0.73	C	0.93	E	0.53	0.68	
13. 60 th St W and SR-138 ¹	LA County/Caltrans	North/South legs stop	0.22	A	0.25	A	0.80	C	0.94	E	0.58	0.69	
14. 30 th St W and SR-138	LA County/Caltrans	North/South legs stop	0.20	A	0.21	A	0.65	B	0.84	D	0.45	0.63	
15. SR-14 SB Ramps and SR-138	Caltrans	North leg stop	0.18	A	0.19	A	0.56	A	0.85	D	0.38	0.66	
16. SR-14 NB Ramps and SR-138	Caltrans	South let stop	0.18	A	0.20	A	0.33	A	0.58	A	0.15	0.38	

**TABLE 5.10-23
ICU AND LOS SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Intersection Control	Existing				Existing Plus Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS		
17. 90 th St W/Willow Springs and Rosamond ²	Kern County	4-way stop	0.16	A	0.22	A	0.24	A	0.31	A	0.08	0.09
18. Willow Springs and Oak Creek ²	Kern County	East leg stop	0.21	A	0.22	A	0.28	A	0.29	A	0.07	0.07
19. Willow Springs and Highline ²	Kern County	West leg stop	0.21	A	0.30	A	0.27	A	0.38	A	0.06	0.08
20. Bear Mountain Blvd/SR-223 and Wheeler Ridge Rd ²	Kern County /Caltrans	4-way stop	0.32	A	0.46	A	0.34	A	0.47	A	0.02	0.01
21. The Old Road and I-5 SB Ramps	LA County/Caltrans	4-way stop	0.41	A	0.39	A	0.42	A	0.40	A	0.01	0.01
22. I-5 NB Ramps and Lake Hughes	LA County/Caltrans	South leg stop	0.31	A	0.41	A	0.31	A	0.43	A	0.00	0.02
23. I-5 SB On Ramp and Parker	LA County/Caltrans	No control	0.60	A	0.52	A	0.60	A	0.52	A	0.00	0.00
24. I-5 NB Off Ramp and Parker	LA County/Caltrans	South leg stop	0.46	A	0.55	A	0.46	A	0.55	A	0.00	0.00
25. I-5 NB Ramps and Hasley Canyon	LA County/Caltrans	Roundabout	11.5*	B	11.9*	B	11.5*	B	12.3*	B	0.0	0.4
26. I-5 SB Ramps and Sedona/Old Road	LA County/Caltrans	Signal	0.71	C	0.55	A	0.76	C	0.61	B	0.05	0.06
27. The Old Road and Hasley Canyon	LA County	Roundabout	8.7*	A	9.5*	A	10.1*	B	9.9*	A	1.4	0.4
28. I-5 NB Ramps and SR-126	Caltrans	Signal	0.66	B	0.64	B	0.66	B	0.64	B	0.00	0.00
29. I-5 SB Ramps and SR-126	Caltrans	Signal	0.75	C	0.48	A	0.75	C	0.48	A	0.00	0.00
30. The Old Road and I-5 SB Ramps	LA County/Caltrans	Signal	0.70	B	0.85	D	0.72	C	0.86	D	0.02	0.01
31. I-5 SB Ramps and Magic Mountain	LA County/Caltrans	Signal	0.44	A	0.40	A	0.51	A	0.41	A	0.07	0.01

**TABLE 5.10-23
ICU AND LOS SUMMARY – EXISTING (2014 AND 2015) PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Intersection Control	Existing				Existing Plus Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS		
32. I-5 NB Ramps and Magic Mountain	City Santa Clarita/ Caltrans	Signal	0.52	A	0.45	A	0.53	A	0.46	A	0.01	0.01
33. I-5 SB Ramps and Valencia	LA County/ Caltrans	Signal	0.41	A	0.39	A	0.41	A	0.39	A	0.00	0.00
34. I-5 NB Ramps and Valencia	City Santa Clarita/ Caltrans	Signal	0.55	A	0.48	A	0.55	A	0.48	A	0.00	0.00
35. I-5 SB Ramps and McBean	LA County/ Caltrans	Signal	0.43	A	0.55	A	0.46	A	0.56	A	0.03	0.01
36. I-5 NB Ramps and McBean	City Santa Clarita/ Caltrans	Signal	0.44	A	0.53	A	0.46	A	0.54	A	0.02	0.01
37. I-5 SB/Marriott and Pico/Lyons	LA County/ Caltrans	Signal	0.43	A	0.63	B	0.44	A	0.63	B	0.01	0.00
38. I-5 NB On/Off and Lyons Ave	City Santa Clarita/ Caltrans	Signal	0.55	A	0.63	B	0.55	A	0.64	B	0.00	0.01
39. I-5 SB Ramps and Calgrove	City Santa Clarita/ Caltrans	North leg stop	0.46	A	0.57	A	0.47	A	0.57	A	0.01	0.00
40. I-5 NB Ramps and Calgrove	City Santa Clarita/ Caltrans	South leg stop	0.53	A	0.46	A	0.53	A	0.46	A	0.00	0.00

ICU: intersection capacity utilization; LOS: level of service; SR: State Route; N/A: not applicable; I: Interstate; NB: northbound; SB: southbound
Boldface type denotes significant impact.
Performance Criteria is outlined in Table 5.10-12 (Table 1-6 in Traffic Study).
* This location is a roundabout; therefore, the LOS shown is based on average delay (sec/veh)
¹ denotes Los Angeles CMP route and cross street
² denotes Kern County CMP principal arterial
Source: Stantec 2017 (Table 4-4).

As shown in Table 5.10-23, several intersections along the SR-138 would be impacted by the Project under existing plus Project conditions. Improvements that will mitigate these impacts to less than significant levels include the following:

- 1. Westerly Access and SR-138** Widen SR-138 to a four-lane highway from westerly Project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions. Construct intersection to include two northbound (NB) left-turn lanes, three NB through lanes and one NB right-turn lane. In the SB direction, construct two left-turn lanes, three through lanes and one free-flow right-turn lane. In the EB direction, construct three left-turn lanes and one right-turn lane. In the WB direction, construct two left-turn lanes and a free-flow right-turn lane. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-7 and Traffic Study MM-2)
- 2. Central Access and SR-138** Widen SR-138 to a four-lane highway from the westerly Project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions. In the NB and southbound (SB) directions, construct two left-turn lanes, three through lanes and one right-turn lane. In the EB direction, construct two left-turn lanes and one right-turn lane. In the WB direction, construct two left-turn lanes and a free-flow right-turn lane. Install a traffic signal and include SB and NB right-turn overlap phasing. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-8 and Traffic Study MM-3)
- 3. 300th St W and SR-138** Widen SR-138 to a four-lane highway from westerly Project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions. Construct two left-turn lanes and one right-turn lane in the EB direction and two left-turn lanes and dual right-turn lanes in the WB direction. In the NB direction, construct two left-turn lanes, three through lanes, and one right-turn lane. In the SB direction, construct two left-turn lanes, three through lanes and one free-flow right-turn lane. Install traffic

signal and include WB right-turn overlap phasing. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-9 and Traffic Study MM-4)

4. 290th St W and SR-138

Widen SR-138 to a four-lane highway from westerly Project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions. Additional intersection improvements include two EB left-turn lanes, one WB right-turn lane, two SB left-turn and two SB right-turn lanes. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-10 and Traffic Study MM-5)

5. Margalo Dr and SR-138

Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West, with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions. Additional intersection improvements include one EB left-turn lane and one WB right-turn lane. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-11 and Traffic Study MM-6)

6. Three Points Rd and SR-138

Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions. Additional improvements include adding one NB left-turn lane and one SB left-turn lane. Or contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-12 and Traffic Study MM-7)

7. 245th St W and SR-138

Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation

at intersection, approximately $\frac{1}{4}$ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions. Additional improvements include adding one NB left-turn lane and one SB left-turn lane and one dedicated EB right-turn lane. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-13 and Traffic Study MM-8)

8. 230th St W and SR-138

Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West. Additional improvements include one SB left-turn lane, one SB right-turn lane and one EB left-turn lane. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-14 and Traffic Study MM-9)

9. 190th St W and SR-138

Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately $\frac{1}{4}$ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions. Additional improvements include adding one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left-turn lane and one dedicated EB right-turn lane. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-15 and Traffic Study MM-10)

10. 170th St W and SR-138

Roadway augmentation at intersection, approximately $\frac{1}{4}$ mile in length for the east and west legs, resulting in two through lanes in the WB and EB directions at the intersection. Additional improvements include one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left-turn lane. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-16 and Traffic Study MM-11)

11. 110th St W and SR-138

Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in two through lanes in the WB and EB directions at the intersection. Additional improvements include one EB left-turn lane, one WB left-turn lane, two NB left-turn lanes, one SB left-turn lane and two SB right-turn lanes. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-17 and Traffic Study MM-12)

12. 90th St W and SR-138

Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in two through lanes in the WB and EB directions at the intersection. Additional improvements include one EB left-turn lane, one WB left-turn lane, one NB left-turn lane, and one SB left-turn lane. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-18 and Traffic Study MM-13)

13. 60th St W and SR-138

Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in two through lanes in the WB and EB directions at the intersection. Additional improvements include one EB left-turn lane, one WB left-turn lane, one NB left-turn lane, and one SB left-turn lane. Install traffic signal. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-19 and Traffic Study MM-14)

14. 30th St W and SR-138

Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in two through lanes in the WB and EB directions at the intersection. Additional improvements include adding one EB left-turn lane and one WB left-turn lane. Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-20 and Traffic Study MM-15)

In addition, the Project would impact the I-5 SB Ramps and Sedona/The Old Road intersection under existing plus Project conditions. The following improvement that will mitigate this impact to a less than significant level:

1. **I-5 SB Ramps and Sedona/The Old Road** Addition of a second southbound left-turn lane from The Old Road to the I-5 Southbound On-Ramp. (MM 10-22 and Traffic Study MM-34)

The Project is required to contribute to funding for these improvements under an approved CTIP, in conjunction with an approved traffic mitigation fee program, or by making fair share contributions in accordance with MM 10-23, MM 10-3, MM 10-6, MMs 10-7 through 10-20, and MM 10-27 (SR-138) and MM 10-22 (SR-138 and I-5 SB Ramps and Sedona/The Old Road intersections). These improvements would reduce potential existing plus Project impacts at the intersections to less than significant levels.

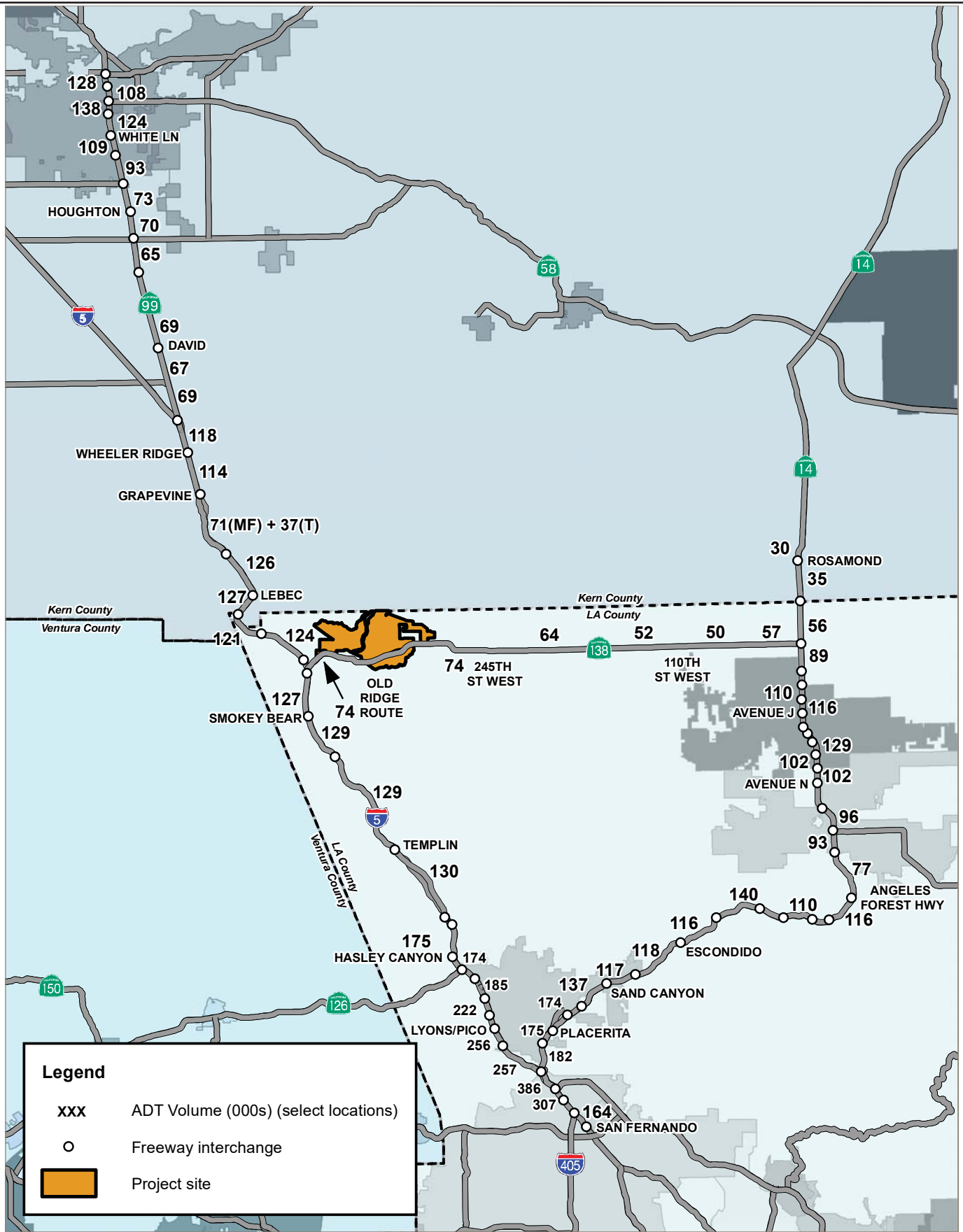
Cumulative Plus Project Scenario

Potential future Project impacts were evaluated by using the most current forecasts of traffic conditions in 2035 for locations in Los Angeles County south of the Fort Tejon/I-5 interchange (SCAG 2012 RTP/SCS model) and 2040 for I-5 and SR-99 locations north of the Fort Tejon/I-5 interchange (Kern COG 2014 RTP/SCS model). The amount of traffic that would be generated under future conditions in developed areas outside the Project site would not change with or without the Project. Future vehicle trips without the Project would be distributed throughout the region in response to future employment areas and residential areas. As discussed above, this distribution would be affected by the development of the Project because a proportion of Project residents would be expected to commute to external work sites or other amenities, and a proportion of residents in other locations, such as Lancaster, Palmdale and the Santa Clarita Valley, would likely travel to Centennial for work and other purposes. Under cumulative conditions, the Project would result in a net increase or net decrease in traffic volumes depending on the forecasted changes in internal and external trips.

Cumulative traffic volumes with the Project for representative locations within the study area are illustrated in Exhibit 5.9-11, Average Daily Traffic Volumes – Cumulative (2035 and 2040) with Project. These forecasts are based on the long-range assumptions for regional growth in the AVAP, the SCAG RTP/SCS model, the Kern COG 2014 RTP/SCS model and from the buildout of the Project site. To provide a conservative assessment, the cumulative with Project traffic analysis does not reflect supplemental reductions for trip reducing measures, such as the TDM measures that the Project is required to implement under MM 10-30.

State Route 138 Highway Segments

Forecasted traffic volumes for SR-138 in 2035, with and without Project traffic are listed in Table 5.10-24. The analysis shows that traffic on the existing two-lane highway is forecasted to exceed available capacity in several locations under cumulative conditions with and without the proposed Project.



Source: Stantec 2017

Average Daily Traffic Volumes – Cumulative (2035 and 2040) with Project Exhibit 5.10-11

Centennial Project



TABLE 5.10-24
SR-138 CUMULATIVE (2035) CONDITIONS TWO-LANE HIGHWAY IMPACT ANALYSIS

Location	ADT	AM Peak Hour						PM Peak Hour						
		EB	V/C	LOS	WB	V/C	LOS	EB	V/C	LOS	WB	V/C	LOS	
60	Btw Jct I-5 and Gorman Post Rd													
Existing	4,500	73	0.04	A	122	0.07	A	154	0.09	A	87	0.05	A	
2035 No Project	43,000	1,400	0.37	A	2,110	0.55	A	2,000	0.53	A	1,870	0.49	A	
2035 With Project	74,000	2,610	0.69	C	3,950	1.04	F	3,970	1.04	F	2,870	0.75	C	
Project Traffic & V/C	31,000	1,210	0.32		1,840	0.48		1,970	0.52		1,000	0.26		
61	Btw Gorman Post Rd and Old Ridge Route Rd													
Existing	4,900	73	0.04	A	122	0.07	A	154	0.09	A	87	0.05	A	
2035 No Project	45,000	1,480	0.78	D	2,190	1.29	F	2,080	1.22	F	1,940	1.14	F	
2035 With Project	86,000	2,870	1.51	F	4,620	2.43	F	4,820	2.53	F	3,200	1.68	F	
Project Traffic & V/C	41,000	1,390	0.73		2,430	1.28		2,740	1.44		1,260	0.66		
62	Btw Old Ridge Route Rd and 300th St West													
Existing	4,700	73	0.04	A	122	0.07	A	154	0.09	A	87	0.05	A	
2035 No Project	43,000	1,360	0.80	D	2,140	1.26	F	2,040	1.20	F	1,860	1.09	F	
2035 With Project	89,000	2,920	1.53	F	4,720	2.48	F	4,910	2.58	F	3,240	1.70	F	
Project Traffic & V/C	46,000	1,560	0.82		2,580	1.35		2,870	1.51		1,380	0.72		
63	Btw 300th St West and 245th St West													
Existing	4,700	73	0.04	A	122	0.07	A	152	0.09	A	87	0.05	A	
2035 No Project	38,000	1,260	0.74	C	1,930	1.14	F	1,760	1.04	F	1,670	0.98	E	
2035 With Project	74,000	3,560	1.87	E	2,990	1.57	F	2,990	1.57	F	3,940	2.07	F	
Project Traffic & V/C	38,000	2,300	1.21		1,060	0.56		1,230	0.65		2,270	1.19		
65	Btw 245th St West and 190th St West													
Existing	4,700	89	0.05	A	113	0.07	A	147	0.09	A	87	0.05	A	
2035 No Project	39,000	1,490	0.88	D	1,850	1.09	F	1,660	0.98	E	1,900	1.12	F	
2035 With Project	64,000	2,660	1.40	F	2,540	1.33	F	2,430	1.28	F	3,160	1.66	F	
Project Traffic & V/C	25,000	1,170	0.61		690	0.36		770	0.40		1,260	0.66		
66	Btw 190th St West and 110th St West													
Existing	4,700	82	0.05	A	106	0.06	A	149	0.09	A	95	0.06	A	
2035 No Project	39,000	1,480	0.87	D	1,850	1.09	F	1,660	0.98	E	1,880	1.11	F	
2035 With Project	52,000	2,060	1.21	F	2,090	1.23	F	1,860	1.09	F	2,530	1.49	F	
Project Traffic & V/C	13,000	580	0.34		240	0.14		200	0.12		650	0.38		
67	Btw 110th St West and 60th St West													
Existing	4,700	139	0.08	A	113	0.07	A	180	0.11	A	105	0.06	A	
2035 No Project	38,000	1,690	0.99	E	1,590	0.94	E	1,460	0.86	D	1,980	1.16	F	
2035 With Project	50,000	2,270	1.34	F	1,860	1.09	F	1,720	1.01	F	2,570	1.51	F	
Project Traffic & V/C	12,000	580	0.34		270	0.16		260	0.15		590	0.35		

TABLE 5.10-24
SR-138 CUMULATIVE (2035) CONDITIONS TWO-LANE HIGHWAY IMPACT ANALYSIS

Location	ADT	AM Peak Hour						PM Peak Hour						
		EB	V/C	LOS	WB	V/C	LOS	EB	V/C	LOS	WB	V/C	LOS	
68	Btw 60th St West and Jct SR-14 North													
	Existing	4,700	141	0.08	A	123	0.07	A	177	0.10	A	148	0.09	A
	2035 No Project	46,000	1,910	1.12	F	1850	1.09	F	1,770	1.04	F	2,280	1.34	F
	2035 With Project	57,000	2,420	1.42	F	2060	1.21	F	2,000	1.18	F	2,810	1.65	F
	Project Traffic & V/C	11,000	510	0.30		210	0.12		230	0.14		530	0.31	
ADT: average daily trips; EB: eastbound; V/C: volume-to-capacity ratio; LOS: level of service; WB: westbound; Btw: between; Jct: junction; I: Interstate Bold denotes LOS does not meet the performance standard and therefore exceeds impact threshold. Source: Stantec 2017 (Table 4-5).														

As shown, all segments on the SR-138 from I-5 to SR-14 are forecasted to exceed available capacity based on the current highway configuration. The following segments of SR-138 would be significantly impacted by the Project under cumulative with Project conditions:

- 60. **Between Jct I-5 and Gorman Post Road:** WB AM, EB PM
- 61. **Between Gorman Post Road and Old Ridge Route Road:** EB AM and PM, WB AM and PM
- 62. **Between Old Ridge Route Road and 300th St West:** EB AM and PM, WB AM and PM
- 63. **Between 300th St West and 245th St West:** EB AM and PM, WB AM and PM
- 65. **Between 245th Street West and 170th St West:** EB AM and PM, WB AM and PM
- 66. **Between 170th St West and 110th St West:** EB AM and PM, WB AM and PM
- 67. **Between 110th St West and 60th St West:** EB AM and PM, WB AM and PM
- 68. **Between 60th St West and Jct SR-14 North:** EB AM and PM, WB AM and PM

As discussed above, improvements to SR-138 will be required under future conditions regardless of whether the Project is developed as proposed. To address these future transportation requirements, Caltrans and Metro are considering the implementation of the Northwest 138 Corridor Improvement Project under which SR-138 would be upgraded to a limited access expressway consistent with the analysis by the County for the AVAP. An EIR for the Northwest 138 Corridor Improvement Project is being prepared for public review and comment by Caltrans and Metro. All SR-138 highway segments would operate within acceptable performance criteria under cumulative with Project conditions if SR-138 is improved to include (a) the upgrade of SR-138 to a six-lane expressway from I-5 to 300th Street West; (b) the upgrade of SR-138 to a four-lane expressway from 300th Street West to SR-14 with one auxiliary lane in each direction from 300th Street West to 245th Street; (c) the upgrade of SR-138 to a limited access facility with grade-separated interchanges; (d) Kern COG RTP/SCS improvement projects on SR-58 between I-5 in Kern County and I-15 in San Bernardino County, which could include development of a high capacity goods

movement facility along the SR-58 and/or E-220⁴ corridors; and (e) the inside and outside shoulders of I-5 between the Fort Tejon and Grapevine Road interchanges and between the SR-138 and Lake Hughes Road interchanges are strengthened and widened (see Table 4-11 of the Traffic Study [Appendix 5.10-A]). With these improvements, all potential impacts to SR-138 highway segments under cumulative with Project conditions would be less than significant (see Table 4-14 of the Traffic Study [Appendix 5.10-A]).

MM 10-3 and MM 10-4 require the Project Applicant to seek to enter into a CTIP and transportation mitigation fee program that would fully mitigate for all impacts to SR-138 highway segments under cumulative plus Project conditions or to contribute fair share funding for the required improvements. MMs 10-6 through 10-21, MM 10-23, MM 10-27, and MMs 10-32 through 10-35 require fair share funding mitigation for impacts to SR-138 segments, intersections and I-5 ramps. MM 10-23 requires that the Project dedicate right-of-way along the segment of the SR-138 that runs adjacent to the Project site to ensure that sufficient land is reserved for future rights-of-way that would be used to widen and realign SR-138 at these locations. MM 10-24 requires fair share funding toward the widening of SR-138, including the addition of an auxiliary lane in each direction (six lanes total) from I-5 to 300th Street West and from 300th Street West to 245th Street West. Compliance with these mitigation measures or the fair share contributions towards the improvements described above would reduce potential cumulative plus Project impacts to SR-138 highway segments to less than significant levels.

Freeway Mainline Segments

Forecasted traffic volumes for freeway mainline segments in 2035 and 2040, with and without Project traffic are listed in Table 5.10-25. The table shows that, 7 freeway segments on the I-5, and 5 segments on the SR-14, would operate over the LOS performance standard. However, the Project would only contribute to a significant impact under the applicable criteria on 6 mainline segments on the I-5.

⁴ The E-220 corridor is the High-Desert Corridor, which runs from SR-14 in Los Angeles County to I-15 in San Bernardino County.

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**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
I-5																	
1 Btw SR-99 and Laval/Wheeler		4M							4M								
2015 Count	75,000		2,050	8,200	1,561	0.19	2,158	0.26		2,050	8,200	1,461	0.18	1,884	0.23		
2040 Without Project	110,250		2,050	8,200	5,120	0.62	6,570	0.80		2,050	8,200	4,540	0.55	6,170	0.75	LOS D	
2040 With Project	118,250		2,050	8,200	5,420	0.66	6,730	0.82		2,050	8,200	4,810	0.59	6,690	0.82		
Project Traffic & V/C	8,000				300	0.04	160	0.02				270	0.04	520	0.07		
2 Btw Laval/Wheeler and Grapevine		4M							4M								
2015 Count	74,000		2,050	8,200	1,570	0.19	2,051	0.25		2,050	8,200	1,422	0.17	1,780	0.22		
2040 Without Project	105,450		2,050	8,200	5,090	0.62	6,250	0.76		2,050	8,200	4,580	0.56	5,560	0.68	LOS D	
2040 With Project	114,450		2,050	8,200	5,420	0.66	6,450	0.79		2,050	8,200	4,880	0.60	6,140	0.75		
Project Traffic & V/C	9,000				330	0.04	200	0.03				300	0.04	580	0.07		
3 Btw Grapevine and Fort Tejon Rd (MF)		2M							2M								
2015 Count	50,000		2,206	4,412	1,013	0.23	1,362	0.31		2,070	4,140	880	0.21	1,238	0.30		
2040 Without Project	63,400		2,206	4,412	3,260	0.74	5,310	1.20		2,070	4,140	3,310	0.80	4,250	1.03	LOS D	
2040 With Project	70,800		2,206	4,412	3,500	0.79	5,500	1.25		2,070	4,140	3,520	0.85	4,650	1.12	Yes	
Project Traffic & V/C	7,400				240	0.05	190	0.05				210	0.05	400	0.09		
3a Btw Grapevine and Fort Tejon Rd (MF + Truck lane)		2T							2T								
2015 Count	24,000		1,025	2,050	528	0.26	673	0.33		1,025	2,050	518	0.25	744	0.36		
2040 Without Project	33,900		1,025	2,050	900	0.44	990	0.48		1,025	2,050	950	0.46	930	0.45	LOS D	
2040 With Project	36,500		1,025	2,050	1,020	0.50	1,050	0.51		1,025	2,050	1,060	0.52	1,160	0.57		
Project Traffic & V/C	2,600				120	0.06	60	0.03				110	0.06	230	0.12		
4 Btw Fort Tejon Rd and Lebec Rd		4M							4M								
2014 Count	72,000		1,839	7,355	1,390	0.19	2,426	0.33		2,036	8,143	1,346	0.17	2,304	0.28		
2035 Without Project	116,000		1,839	7,355	2,780	0.38	4,390	0.60		2,036	8,143	3,080	0.38	3,380	0.42	LOS D	
2035 With Project	126,000		1,839	7,355	3,140	0.43	4,640	0.63		2,036	8,143	3,400	0.42	4,010	0.49		
Project Traffic & V/C	10,000				360	0.05	250	0.03				320	0.04	630	0.07		
5 Btw Lebec Rd and Frazier Mtn Park		4M							4M								
2014 Count	73,000		1,839	7,355	1,409	0.19	2,460	0.33		2,036	8,143	1,365	0.17	2,336	0.29		
2035 Without Project	117,000		1,839	7,355	2,800	0.38	4,420	0.60		2,036	8,143	3,100	0.38	3,420	0.42	LOS D	
2035 With Project	127,000		1,839	7,355	3,160	0.43	4,670	0.63		2,036	8,143	3,420	0.42	4,050	0.50		
Project Traffic & V/C	10,000				360	0.05	250	0.03				320	0.04	630	0.08		
6 Btw Frazier Mtn Park and Gorman Rd		4M							4M								
2014 Count	70,000		2,036	8,143	1,351	0.17	2,359	0.29		1,401	5,606	1,309	0.23	2,240	0.40		
2035 Without Project	117,000		2,036	8,143	2,840	0.35	4,400	0.54		1,401	5,606	3,100	0.55	3,340	0.60	LOS D	
2035 With Project	121,000		2,036	8,143	3,020	0.37	4,400	0.54		1,401	5,606	3,250	0.58	3,750	0.67		
Project Traffic & V/C	4,000				180	0.02	0	0.00				150	0.03	410	0.07		
7 Btw Gorman Rd and N Jct SR-138		4M							4M								
2014 Count	70,000		1,849	7,398	1,351	0.18	2,359	0.32		2,042	8,169	1,309	0.16	2,240	0.27		
2035 Without Project	117,000		1,849	7,398	2,840	0.38	4,400	0.59		2,042	8,169	3,100	0.38	3,340	0.41	LOS D	
2035 With Project	124,000		1,849	7,398	2,990	0.40	4,790	0.65		2,042	8,169	3,510	0.43	3,720	0.46		
Project Traffic & V/C	7,000				150	0.02	390	0.06				410	0.05	380	0.05		
8 Btw N Jct SR-138 and Quail Lake Rd		4M							4M								
2014 Count	67,000		1,849	7,398	1,293	0.17	2,258	0.31		2,042	8,169	1,253	0.15	2,144	0.26		
2035 Without Project	90,000		1,849	7,398	1,680	0.23	3,050	0.41		2,042	8,169	2,080	0.25	2,420	0.30	LOS D	
2035 With Project	93,000		1,849	7,398	1,900	0.26	3,380	0.46		2,042	8,169	2,200	0.27	2,590	0.32		
Project Traffic & V/C	3,000				220	0.03	330	0.05				120	0.02	170	0.02		

**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
9 Btw Quail Lake Rd and S Jct SR-138		4M							4M								
2014 Count	67,000		1,375	5,500	1,293	0.24	2,258	0.41		1,375	5,500	1,253	0.23	2,144	0.39		
2035 Without Project	90,000		1,375	5,500	1,680	0.31	3,050	0.55		1,375	5,500	2,080	0.38	2,420	0.44	LOS D	
2035 With Project	94,000		1,375	5,500	1,900	0.35	3,830	0.70		1,375	5,500	2,200	0.40	2,590	0.47		
Project Traffic & V/C	4,000				220	0.04	780	0.15				120	0.02	170	0.03		
10 Btw S Jct SR-138 and Smokey Bear Rd		4M							4M								
2014 Count	69,000		1,375	5,500	1,332	0.24	2,325	0.42		1,375	5,500	1,290	0.23	2,208	0.40		
2035 Without Project	105,000		1,375	5,500	2,010	0.37	4,040	0.73		1,375	5,500	2,880	0.52	2,930	0.53	LOS D	
2035 With Project	127,000		1,375	5,500	2,390	0.43	5,410	0.98		1,375	5,500	4,290	0.78	3,470	0.63		Yes
Project Traffic & V/C	22,000				380	0.06	1,370	0.25				1,410	0.26	540	0.10		
11 Btw Smokey Bear Rd and Vista Del Lago Rd		4M							4M								
2014 Count	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38		
2035 Without Project	110,000		1,489	5,957	2,330	0.39	4,150	0.70		1,489	5,957	2,980	0.50	3,230	0.54	LOS D	
2035 With Project	129,000		1,489	5,957	2,490	0.42	5,500	0.92		1,489	5,957	4,390	0.74	3,610	0.61		Yes
Project Traffic & V/C	19,000				160	0.03	1,350	0.22				1,410	0.24	380	0.07		
12 Btw Vista Del Lago Rd and Templin Hwy		4M							4M								
2014 Count	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38		
2035 Without Project	117,000		1,489	5,957	2,330	0.39	4,150	0.70		1,489	5,957	2,980	0.50	3,230	0.54	LOS D	
2035 With Project	129,000		1,489	5,957	2,490	0.42	5,500	0.92		1,489	5,957	4,390	0.74	3,610	0.61		Yes
Project Traffic & V/C	12,000				160	0.03	1,350	0.22				1,410	0.24	380	0.07		
13 Btw Templin Hwy and Lake Hughes Rd		4M							4M								
2014 Count	70,000		1,489	5,957	1,351	0.23	2,359	0.40		1,489	5,957	1,309	0.22	2,240	0.38		
2035 Without Project	114,000		1,489	5,957	2,410	0.40	4,160	0.70		1,489	5,957	2,930	0.49	3,300	0.55	LOS D	
2035 With Project	130,000		1,489	5,957	2,530	0.42	5,500	0.92		1,489	5,957	4,350	0.73	3,640	0.61		Yes
Project Traffic & V/C	16,000				120	0.02	1,340	0.22				1,420	0.24	340	0.06		
14 Btw Lake Hughes Rd and Parker Rd		4M							4M								
2014 Count	73,000	4M	1,856	7,422	1,504	0.20	1,949	0.26	4M	1,856	7,422	1,854	0.25	2,519	0.34		
2035 Without Project	140,000	4M (+ 1A)	1,856	8,422	5,440	0.65	7,070	0.84	4M (+ 1A)	1,856	8,422	7,230	0.86	4,940	0.59	LOS E	
2035 With Project	158,000	4M (+ 1A)	1,856	8,422	5,510	0.65	8,320	0.99	4M (+ 1A)	1,856	8,422	8,550	1.02	5,250	0.62		Yes
Project Traffic & V/C	18,000				70	0.00	1,250	0.15				1,320	0.16	310	0.03		
15 Btw Parker Rd and Hasley Cyn Rd		4M							4M								
2014 Count	108,000	4M	1,856	7,422	2,225	0.30	2,884	0.39	4M	1,856	7,422	2,743	0.37	3,726	0.50		
2035 Without Project	160,000	4M (+ 1H)	1,856	9,022	5,570	0.62	6,090	0.68	4M (+ 1H)	1,856	9,022	6,090	0.68	5,070	0.56	LOS E	
2035 With Project	175,000	4M (+ 1H)	1,856	9,022	5,510	0.61	7,270	0.81	4M (+ 1H)	1,856	9,022	7,430	0.82	5,350	0.59		
Project Traffic & V/C	15,000				(60)	(0.01)	1,180	0.13				1,340	0.14	280	0.03		
16 Btw Hasley Cyn Rd and N Jct SR-126 (NB)		4M (+1A)							4M (+1A)								
2014 Count	114,000	4M (+1A)	1,856	8,422	2,348	0.28	3,044	0.36	4M (+1A)	1,856	8,422	2,896	0.34	3,933	0.47		
2035 Without Project	163,000	4M (+ 1H + 1A)	1,856	10,022	5,340	0.53	6,200	0.62	4M (+ 1H)	1,856	9,022	6,090	0.68	5,090	0.56	LOS E	
2035 With Project	174,000	4M (+ 1H + 1A)	1,856	10,022	5,330	0.53	7,040	0.70	4M (+ 1H)	1,856	9,022	7,230	0.80	5,350	0.59		
Project Traffic & V/C	11,000				(10)	0.00	840	0.08				1,140	0.12	260	0.03		
17 Btw N Jct SR-126 and Rye Cyn Rd		4M							4M								
2014 Count	130,000	4M	1,867	7,470	2,678	0.36	3,471	0.46	4M	1,867	7,470	3,302	0.44	4,485	0.60		
2035 Without Project	172,000	4M (+ 1H)	1,867	9,070	4,860	0.54	6,130	0.68	4M (+ 1H + 1A)	1,867	10,070	6,050	0.60	5,620	0.56	LOS E	
2035 With Project	179,000	4M (+ 1H)	1,867	9,070	4,760	0.52	6,680	0.74	4M (+ 1H + 1A)	1,867	10,070	7,000	0.70	5,780	0.57		
Project Traffic & V/C	7,000				(100)	(0.02)	550	0.06				950	0.10	160	0.01		
18 Btw Rye Cyn Rd and Magic Mountain Pkwy		4M							4M								
2014 Count	154,000	4M	1,918	7,670	3,172	0.41	4,112	0.54	4M	1,918	7,670	3,912	0.51	5,313	0.69		
2035 Without Project	177,000	4M (+ 1H)	1,918	9,270	4,800	0.52	6,150	0.66	4M (+ 1H + 1A)	1,918	10,270	6,280	0.61	5,430	0.53	LOS E	
2035 With Project	185,000	4M (+ 1H)	1,918	9,270	4,760	0.51	6,680	0.72	4M (+ 1H + 1A)	1,918	10,270	7,010	0.68	5,610	0.55		
Project Traffic & V/C	8,000				(40)	(0.01)	530	0.06				730	0.07	180	0.02		

**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?	
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C			
19 Btw Magic Mountain Pkwy and Valencia Blvd																		
2014 Count	165,000	4M	1,918	7,670	3,399	0.44	4,406	0.57	4M	1,918	7,670	4,191	0.55	5,693	0.74	LOS E		
2035 Without Project	191,000	4M (+ 1H + 1A)	1,918	10,270	5,760	0.56	6,790	0.66	4M (+ 1H)	1,918	9,270	6,430	0.69	5,830	0.63			
2035 With Project	198,000	4M (+ 1H + 1A)	1,918	10,270	5,760	0.56	7,210	0.70	4M (+ 1H)	1,918	9,270	6,950	0.75	5,950	0.64			
Project Traffic & V/C	7,000				0	0.00	420	0.04				520	0.06	120	0.01			
20 Btw Valencia Blvd and McBean Pkwy																		
2014 Count	175,000	4M	1,918	7,670	3,605	0.47	4,673	0.61	4M	1,918	7,670	4,445	0.58	6,038	0.79	LOS E		
2035 Without Project	217,000	4M (+ 1H)	1,918	9,270	6,620	0.71	8,160	0.88	4M (+ 1H + 1A)	1,918	10,270	7,900	0.77	6,770	0.66			
2035 With Project	222,000	4M (+ 1H)	1,918	9,270	6,620	0.71	8,520	0.92	4M (+ 1H + 1A)	1,918	10,270	8,270	0.81	6,830	0.67			
Project Traffic & V/C	5,000				0	0.00	360	0.04				370	0.04	60	0.01			
21 Btw McBean Pkwy and Lyons Ave/Pico Cyn Rd																		
2014 Count	186,000	4M	1,990	7,960	3,832	0.48	4,966	0.62	4M	1,990	7,960	4,724	0.59	6,417	0.81	LOS E		
2035 Without Project	222,000	4M (+ 1H)	1,990	9,560	6,690	0.70	8,640	0.90	4M (+ 1H)	1,990	9,560	9,040	0.95	6,840	0.72			
2035 With Project	226,000	4M (+ 1H)	1,990	9,560	6,700	0.70	8,870	0.93	4M (+ 1H)	1,990	9,560	9,240	0.97	6,900	0.72			
Project Traffic & V/C	4,000				10	0.00	230	0.03				200	0.02	60	0.00			
22 Btw Lyons Ave and Calgrove Blvd																		
2014 Count	199,000	4M	1,990	7,960	4,099	0.52	5,313	0.67	4M (+1T)	1,990	9,560	5,055	0.53	6,866	0.72	LOS E		
2035 Without Project	253,000	4M (+ 1H + 1A)	1,990	10,560	7,010	0.66	10,090	0.96	4M (+ 1H + 1T)	1,990	11,160	9,120	0.82	6,930	0.62			
2035 With Project	256,000	4M (+ 1H + 1A)	1,990	10,560	7,000	0.66	10,300	0.98	4M (+ 1H + 1T)	1,990	11,160	9,310	0.83	6,920	0.62			
Project Traffic & V/C	3,000				(10)	0.00	210	0.02				190	0.01	(10)	0.00			
23 Btw Calgrove Blvd and SR-14																		
2014 Count	200,000	4M (+1T[C])	1,990	9,160	4,120	0.45	5,340	0.58	4M (+2T[C])	1,990	10,360	5,080	0.49	6,900	0.67	LOS E		
2035 Without Project	253,900	4M (+ 1H + 1T(C))	1,990	10,760	5,900	0.55	9,250	0.86	4M (+ 1H + 2T[C])	1,990	11,960	9,760	0.82	7,060	0.59			
2035 With Project	257,000	4M (+ 1H + 1T(C))	1,990	10,760	5,870	0.55	9,420	0.88	4M (+ 1H + 2T[C])	1,990	11,960	9,940	0.83	7,060	0.59			
Project Traffic & V/C	3,100				(30)	0.00	170	0.02				180	0.01	0	0.00			
24 Btw SR-14 and SR-210																		
2014 Count	329,000	3M (+1H+3A[F]+2T)	1,997	16,791	7,863	0.47	12,930	0.77	4M (+1H+2A[F]+2T)	1,997	16,788	14,213	0.85	9,409	0.56	LOS E		
2035 Without Project	384,500		1,997	16,791	9,240	0.55	15,090	0.90		1,997	16,788	16,580	0.99	11,030	0.66			
2035 With Project	386,000		1,997	16,791	9,220	0.55	15,160	0.90		1,997	16,788	16,660	0.99	11,030	0.66			
Project Traffic & V/C	1,500				(20)	0.00	70	0.00				80	0.00	0	0.00			
25 Btw SR-210 and Roxford St																		
2014 Count	266,000	4M (+1H+1A[F])	2,212	12,449	6,357	0.51	10,454	0.84	5M (+1H)	2,212	12,661	11,491	0.91	7,608	0.60	LOS E		
2035 Without Project	306,300		2,212	12,449	7,340	0.59	12,030	0.97		2,212	12,661	13,210	1.04	8,770	0.69			
2035 With Project	307,000		2,212	12,449	7,330	0.59	12,060	0.97		2,212	12,661	13,250	1.05	8,770	0.69			
Project Traffic & V/C	700				(10)	0.00	30	0.00				40	0.01	0	0.00			
26 Btw Roxford St and I-405																		
2014 Count	283,000	5M (+1H+1A[F])	2,212	14,661	6,764	0.46	11,122	0.76	5M (+1H+1A[F])	2,212	14,661	12,226	0.83	8,094	0.55	LOS E		
2035 Without Project	320,700		2,212	14,661	7,680	0.52	12,600	0.86		2,212	14,661	13,850	0.94	9,180	0.63			
2035 With Project	321,000		2,212	14,661	7,670	0.52	12,620	0.86		2,212	14,661	13,870	0.95	9,180	0.63			
Project Traffic & V/C	300				(10)	0.00	20	0.00				20	0.01	0	0.00			

**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
27 Btw I-405 and San Fernando Mission Blvd		3M (+1H)							3M (+1H)								
2014 Count	141,000		2,190	8,171	3,370	0.41	5,541	0.68		2,190	8,171	6,091	0.75	4,033	0.49		
2035 Without Project	163,900		2,190	8,171	3,920	0.48	6,440	0.79		2,190	8,171	7,080	0.87	4,690	0.57	LOS E	
2035 With Project	164,000		2,190	8,171	3,920	0.48	6,450	0.79		2,190	8,171	7,090	0.87	4,690	0.57		
Project Traffic & V/C	100				0	0.00	10	0.00				10	0.00	0	0.00		
SR-14																	
28 Btw Dawn Rd and Rosamond Blvd		2M							2M								
2014 Count	23,000		2,332	4,665	1,083	0.23	849	0.18		2,332	4,665	499	0.11	1,323	0.28		
2035 Without Project	29,000		2,332	4,665	1,180	0.25	1,120	0.24		2,332	4,665	690	0.15	1,420	0.30	LOS D	
2035 With Project	30,000		2,332	4,665	1,350	0.29	1,100	0.24		2,332	4,665	620	0.13	1,550	0.33		
Project Traffic & V/C	1,000				170	0.04	(20)	0.00				(70)	(0.02)	130	0.03		
29 Btw Rosamond Blvd and Ave A		2M							2M								
2014 Count	30,000		2,339	4,679	1,413	0.30	1,107	0.24		2,339	4,679	651	0.14	1,725	0.37		
2035 Without Project	30,000		2,339	4,679	1,420	0.30	1,200	0.26		2,339	4,679	690	0.15	1,600	0.34	LOS D	
2035 With Project	35,000		2,339	4,679	1,720	0.37	1,340	0.29		2,339	4,679	730	0.16	1,870	0.40		
Project Traffic & V/C	5,000				300	0.07	140	0.03				40	0.01	270	0.06		
30 Ave A and N Jct SR-138/Ave D		2M							2M								
2014 Count	34,000		2,339	4,679	1,129	0.24	1,261	0.27		2,339	4,679	1,244	0.27	1,567	0.34		
2035 Without Project	51,000		2,339	4,679	1,810	0.39	2,040	0.44		2,339	4,679	1,840	0.39	2,230	0.48	LOS D	
2035 With Project	56,000		2,339	4,679	2,120	0.45	2,130	0.46		2,339	4,679	1,960	0.42	2,350	0.50		
Project Traffic & V/C	5,000				310	0.06	90	0.02				120	0.03	120	0.02		
31 Btw Jct SR-138/Ave D and Ave F		2M							2M								
2014 Count	36,000		2,332	4,665	1,195	0.26	1,336	0.29		2,332	4,665	1,318	0.28	1,660	0.36		
2035 Without Project	88,000		2,332	4,665	3,550	0.76	3,640	0.78		2,332	4,665	3,290	0.71	3,830	0.82	LOS D	
2035 With Project	89,000		2,332	4,665	3,590	0.77	3,780	0.81		2,332	4,665	3,410	0.73	3,780	0.81		
Project Traffic & V/C	1,000				40	0.01	140	0.03				120	0.02	(50)	(0.01)		
32 Btw Ave F and Ave G		2M							2M								
2014 Count	38,000		2,332	4,665	1,262	0.27	1,410	0.30		2,332	4,665	1,391	0.30	1,752	0.38		
2035 Without Project	104,000		2,332	4,665	4,240	0.91	3,860	0.83		2,332	4,665	3,610	0.77	4,590	0.98	LOS D	
2035 With Project	104,000		2,332	4,665	4,300	0.92	3,930	0.84		2,332	4,665	3,740	0.80	4,520	0.97		
Project Traffic & V/C	0				60	0.01	70	0.01				130	0.03	(70)	(0.01)		
33 Btw Ave G and Ave H		2M							2M								
2014 Count	38,000		2,332	4,665	1,262	0.27	1,410	0.30		2,332	4,665	1,391	0.30	1,752	0.38		
2035 Without Project	109,000		2,332	4,665	4,470	0.96	3,850	0.83		2,332	4,665	3,780	0.81	4,690	1.01	LOS D	
2035 With Project	109,000		2,332	4,665	4,450	0.95	3,910	0.84		2,332	4,665	3,860	0.83	4,660	1.00		
Project Traffic & V/C	0				(20)	(0.01)	60	0.01				80	0.02	(30)	(0.01)		
34 Btw Ave H and Ave I		2M							2M								
2014 Count	40,000		2,332	4,665	1,328	0.28	1,484	0.32		2,332	4,665	1,464	0.31	1,844	0.40		
2035 Without Project	109,000		2,332	4,665	4,390	0.94	3,940	0.84		2,332	4,665	3,840	0.82	4,630	0.99	LOS E	
2035 With Project	110,000		2,332	4,665	4,410	0.95	4,120	0.88		2,332	4,665	3,930	0.84	4,590	0.98		
Project Traffic & V/C	1,000				20	0.01	180	0.04				90	0.02	(40)	(0.01)		
35 Btw Ave I and Ave J		3M							3M								
2014 Count	47,000		2,332	6,997	1,560	0.22	1,744	0.25		2,332	6,997	1,720	0.25	2,167	0.31		
2035 Without Project	115,000		2,332	6,997	4,660	0.67	4,310	0.62		2,332	6,997	3,870	0.55	5,020	0.72	LOS E	
2035 With Project	116,000		2,332	6,997	4,670	0.67	4,460	0.64		2,332	6,997	4,000	0.57	4,950	0.71		
Project Traffic & V/C	1,000				10	0.00	150	0.02				130	0.02	(70)	(0.01)		

**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY - CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
36 Btw Ave J and 20th St W		3M							3M								
2014 Count	42,000		2,339	7,016	1,394	0.20	1,558	0.22		2,339	7,016	1,537	0.22	1,936	0.28		
2035 Without Project	100,000		2,339	7,016	4,150	0.59	3,800	0.54		2,339	7,016	3,410	0.49	4,500	0.64	LOS E	
2035 With Project	101,000		2,339	7,016	4,170	0.59	4,000	0.57		2,339	7,016	3,550	0.51	4,430	0.63		
Project Traffic & V/C	1,000				20	0.00	200	0.03				140	0.02	(70)	(0.01)		
37 Btw 20th St W and Ave K		3M							3M								
2014 Count	59,000		2,339	7,016	1,959	0.28	2,189	0.31		2,339	7,016	2,159	0.31	2,720	0.39		
2035 Without Project	119,000		2,339	7,016	4,770	0.68	4,480	0.64		2,339	7,016	4,080	0.58	5,310	0.76	LOS E	
2035 With Project	120,000		2,339	7,016	4,780	0.68	4,680	0.67		2,339	7,016	4,210	0.60	5,240	0.75		
Project Traffic & V/C	1,000				10	0.00	200	0.03				130	0.02	(70)	(0.01)		
38 Btw Ave K and Ave L		3M							3M								
2014 Count	74,000		2,339	7,016	2,457	0.35	2,745	0.39		2,339	7,016	2,708	0.39	3,411	0.49		
2035 Without Project	128,000		2,339	7,016	5,020	0.72	4,720	0.67		2,339	7,016	4,360	0.62	5,780	0.82	LOS E	
2035 With Project	129,000		2,339	7,016	5,040	0.72	4,930	0.70		2,339	7,016	4,490	0.64	5,710	0.81		
Project Traffic & V/C	1,000				20	0.00	210	0.03				130	0.02	(70)	(0.01)		
39 Btw Ave L and Ave M		3M							3M								
2014 Count	89,000		2,339	7,016	2,955	0.42	3,302	0.47		2,339	7,016	3,257	0.46	4,103	0.58		
2035 Without Project	101,000		2,339	7,016	3,960	0.56	3,420	0.49		2,339	7,016	3,600	0.51	4,660	0.66	LOS E	
2035 With Project	102,000		2,339	7,016	3,940	0.56	3,530	0.50		2,339	7,016	3,680	0.52	4,600	0.66		
Project Traffic & V/C	1,000				(20)	0.00	110	0.01				80	0.01	(60)	0.00		
40 Btw Ave M and Ave N		3M							3M								
2014 Count	92,000		2,339	7,016	3,054	0.44	3,413	0.49		2,339	7,016	3,367	0.48	4,241	0.60		
2035 Without Project	101,000		2,339	7,016	3,970	0.57	3,250	0.46		2,339	7,016	3,540	0.50	4,830	0.69	LOS E	
2035 With Project	102,000		2,339	7,016	3,960	0.56	3,460	0.49		2,339	7,016	3,600	0.51	4,770	0.68		
Project Traffic & V/C	1,000				(10)	(0.01)	210	0.03				60	0.01	(60)	(0.01)		
41 Btw Ave N and 10th St W		3M							3M								
2014 Count	87,000		2,339	7,016	2,888	0.41	3,228	0.46		2,339	7,016	3,184	0.45	4,011	0.57		
2035 Without Project	100,000		2,339	7,016	4,140	0.59	3,210	0.46		2,339	7,016	3,300	0.47	4,810	0.69	LOS E	
2035 With Project	100,000		2,339	7,016	4,150	0.59	3,310	0.47		2,339	7,016	3,330	0.47	4,760	0.68		
Project Traffic & V/C	0				10	0.00	100	0.01				30	0.00	(50)	(0.01)		
42 Btw 10th St W and Rancho Vista Blvd		3M							3M								
2014 Count	87,000		2,225	6,675	2,888	0.43	3,228	0.48		2,225	6,675	3,184	0.48	4,011	0.60		
2035 Without Project	95,000		2,225	6,675	4,030	0.60	2,990	0.45		2,225	6,675	3,180	0.48	4,600	0.69	LOS E	
2035 With Project	95,000		2,225	6,675	4,030	0.60	3,260	0.49		2,225	6,675	3,220	0.48	4,570	0.68		
Project Traffic & V/C	0				0	0.00	270	0.04				40	0.00	(30)	(0.01)		
43 Btw Rancho Vista Blvd and S Jct SR-138		3M							3M								
2014 Count	84,000		2,225	6,675	2,789	0.42	3,116	0.47		2,225	6,675	3,074	0.46	3,872	0.58		
2035 Without Project	96,000		2,225	6,675	4,080	0.61	2,900	0.43		2,225	6,675	3,160	0.47	4,680	0.70	LOS E	
2035 With Project	96,000		2,225	6,675	4,080	0.61	3,180	0.48		2,225	6,675	3,190	0.48	4,630	0.69		
Project Traffic & V/C	0				0	0.00	280	(0.05)				30	0.01	(50)	(0.01)		
44 Btw S Jct SR-138 and Ave S		2M (+1H)							3M (+1H)								
2014 Count	81,000		2,225	6,050	2,689	0.44	3,005	0.50		2,225	8,275	2,965	0.36	3,734	0.45		
2035 Without Project	97,000		2,225	6,050	3,500	0.58	3,710	0.61		2,225	8,275	3,390	0.41	4,590	0.55	LOS E	
2035 With Project	93,000		2,225	6,050	3,600	0.60	3,570	0.59		2,225	8,275	3,310	0.40	4,650	0.56		
Project Traffic & V/C	(4,000)				100	0.02	(140)	(0.02)				(80)	(0.01)	60	0.01		
45 Btw Ave S and Pearblossom/Sierra Hwy		2M (+1H)							3M (+1H)								
2014 Count	71,000		2,225	6,050	2,357	0.39	2,634	0.44		2,225	8,275	2,599	0.31	3,273	0.40		
2035 Without Project	84,000		2,225	6,050	2,940	0.49	2,910	0.48		2,225	8,275	2,800	0.34	3,840	0.46	LOS E	
2035 With Project	77,000		2,225	6,050	3,080	0.51	2,750	0.45		2,225	8,275	2,710	0.33	3,880	0.47		
Project Traffic & V/C	(7,000)				140	0.02	(160)	(0.03)				(90)	(0.01)	40	0.01		

**TABLE 5.10-25
 FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?	
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C			
46 Btw Pearblossom/Sierra Hwy and Angeles Forest		2M (+1H)								3M (+1H)								
2014 Count	83,000		2,225	6,050	2,756	0.46	3,079	0.51		2,225	8,275	3,038	0.37	3,826	0.46		LOS E	
2035 Without Project	92,000		2,225	6,050	3,160	0.52	3,310	0.55		2,225	8,275	3,230	0.39	4,380	0.53			
2035 With Project	90,000		2,225	6,050	3,290	0.54	3,160	0.52		2,225	8,275	3,150	0.38	4,440	0.54			
Project Traffic & V/C	(2,000)				130	0.02	(150)	(0.03)				(80)	(0.01)	60	0.01			
47 Btw Angeles Forest Hwy and Soledad		3M (+1H)								2M (+1H)								
2014 Count	144,000		2,225	8,275	3,154	0.38	3,525	0.43		2,225	6,050	3,477	0.57	4,380	0.72		LOS E	
2035 Without Project	118,000		2,225	8,275	3,690	0.45	4,140	0.50		2,225	6,050	3,970	0.66	5,980	0.99			
2035 With Project	116,000		2,225	8,275	3,910	0.47	3,970	0.48		2,225	6,050	3,670	0.61	6,060	1.00			
Project Traffic & V/C	(2,000)				220	0.02	(170)	(0.02)				(300)	(0.05)	80	0.01			
48 Btw Soledad and Santiago Rd		2M (+1H)								2M (+1H)								
2014 Count	95,000		2,236	6,071	3,154	0.52	3,525	0.58		2,236	6,071	3,477	0.57	4,380	0.72		LOS E	
2035 Without Project	117,000		2,236	6,071	3,750	0.62	4,160	0.69		2,236	6,071	3,700	0.61	5,650	0.93			
2035 With Project	115,000		2,236	6,071	3,910	0.64	4,000	0.66		2,236	6,071	3,480	0.57	5,700	0.94			
Project Traffic & V/C	(2,000)				160	0.02	(160)	(0.03)				(220)	(0.04)	50	0.01			
49 Btw Santiago Rd and Crown Valley Rd		2M (+1H)								2M (+1H)								
2014 Count	94,000		2,236	6,071	3,121	0.51	3,487	0.57		2,236	6,071	3,440	0.57	4,333	0.71		LOS E	
2035 Without Project	113,000		2,236	6,071	3,580	0.59	4,260	0.70		2,236	6,071	3,700	0.61	5,450	0.90			
2035 With Project	110,000		2,236	6,071	3,690	0.61	4,050	0.67		2,236	6,071	3,480	0.57	5,480	0.90			
Project Traffic & V/C	(3,000)				110	0.02	(210)	(0.03)				(220)	(0.04)	30	0.00			
50 Btw Crown Valley Rd and Ward Rd		2M (+1H)								2M (+1H)								
2014 Count	95,000		2,236	6,071	3,154	0.52	3,525	0.58		2,236	6,071	3,477	0.57	4,380	0.72		LOS E	
2035 Without Project	142,000		2,236	6,071	3,660	0.60	4,160	0.69		2,236	6,071	3,730	0.61	5,690	0.94			
2035 With Project	140,000		2,236	6,071	3,830	0.63	3,970	0.65		2,236	6,071	3,510	0.58	5,730	0.94			
Project Traffic & V/C	(2,000)				170	0.03	(190)	(0.04)				(220)	(0.03)	40	0.00			
51 Btw Ward Rd and Escondido Cyn Rd		3M (+1H)								2M (+1H)								
2014 Count	93,000		2,189	8,167	3,088	0.38	3,450	0.42		2,189	5,978	3,404	0.57	4,287	0.72		LOS E	
2035 Without Project	120,000		2,189	8,167	3,660	0.45	4,780	0.59		2,189	5,978	3,970	0.66	5,730	0.96			
2035 With Project	117,000		2,189	8,167	3,810	0.47	4,540	0.56		2,189	5,978	3,700	0.62	5,780	0.97			
Project Traffic & V/C	(3,000)				150	0.02	(240)	(0.03)				(270)	(0.04)	50	0.01			
52 Btw Escondido Cyn Rd and Agua Dulce Cyn Rd		2M (+1H)								3M (+1H)								
2014 Count	93,000		2,236	8,307	1,776	0.21	4,669	0.56		2,236	6,071	4,994	0.82	2,613	0.43		LOS E	
2035 Without Project	119,000		2,236	8,307	2,240	0.27	5,950	0.72		2,236	6,071	5,660	0.93	3,980	0.66			
2035 With Project	116,000		2,236	8,307	2,350	0.28	5,650	0.68		2,236	6,071	5,370	0.88	4,010	0.66			
Project Traffic & V/C	(3,000)				110	0.01	(300)	(0.04)				(290)	(0.05)	30	0.00			
53 Btw Agua Dulce Cyn Rd and Soledad Rd		3M (+1H)								2M (+1H)								
2014 Count	96,000		2,236	8,307	1,834	0.22	4,819	0.58		2,236	6,071	5,155	0.85	2,698	0.44		LOS E	
2035 Without Project	121,000		2,236	8,307	2,350	0.28	5,930	0.71		2,236	6,071	5,550	0.91	4,100	0.68			
2035 With Project	118,000		2,236	8,307	2,480	0.30	5,660	0.68		2,236	6,071	5,270	0.87	4,130	0.68			
Project Traffic & V/C	(3,000)				130	0.02	(270)	(0.03)				(280)	(0.04)	30	0.00			
54 Btw Shadow Pines/Soledad Rd and Sand Cyn Rd		2M (+1H)								2M (+1H)								
2014 Count	99,000		2,236	6,071	1,891	0.31	4,970	0.82		2,236	6,071	5,316	0.88	2,782	0.46		LOS E	
2035 Without Project	119,000		2,236	6,071	2,340	0.39	5,470	0.90		2,236	6,071	5,680	0.94	3,850	0.63			
2035 With Project	117,000		2,236	6,071	2,460	0.41	5,300	0.87		2,236	6,071	5,430	0.89	3,880	0.64			
Project Traffic & V/C	(2,000)				120	0.02	(170)	(0.03)				(250)	(0.05)	30	0.01			

**TABLE 5.10-25
FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
55 Btw Sand Cyn Rd and Via Princessa		3M (+1H)							3M (+1H)								
2014 Count	112,000		2,215	8,246	2,139	0.26	5,622	0.68		2,215	8,246	6,014	0.73	3,147	0.38		
2035 Without Project	140,000		2,215	8,246	2,540	0.31	6,670	0.81		2,215	8,246	7,160	0.87	4,810	0.58	LOS E	
2035 With Project	137,000		2,215	8,246	2,640	0.32	6,460	0.78		2,215	8,246	6,890	0.84	4,830	0.59		
Project Traffic & V/C	(3,000)				100	0.01	(210)	(0.03)				(270)	(0.03)	20	0.01		
56 Btw Via Princessa and Golden Valley Rd		3M (+1H+1A)							3M (+1H+1A)								
2014 Count	144,000		2,215	9,246	2,750	0.30	7,229	0.78		2,215	9,246	7,733	0.84	4,046	0.44		
2035 Without Project	177,000		2,215	9,246	3,220	0.35	8,200	0.89		2,215	9,246	8,800	0.95	5,570	0.60	LOS E	
2035 With Project	174,000		2,215	9,246	3,320	0.36	7,990	0.86		2,215	9,246	8,640	0.93	5,530	0.60		
Project Traffic & V/C	(3,000)				100	0.01	(210)	(0.03)				(160)	(0.02)	(40)	0.00		
57 Btw Golden Valley Rd and Placerita Cyn Rd		3M (+1H)							3M (+1H)								
2014 Count	144,000		2,215	8,246	2,750	0.33	7,229	0.88		2,215	8,246	7,733	0.94	4,046	0.49		
2035 Without Project	174,000		2,215	8,246	3,070	0.37	7,920	0.96		2,215	8,246	8,760	1.06	5,240	0.64	LOS E	
2035 With Project	171,000		2,215	8,246	3,170	0.38	7,740	0.94		2,215	8,246	8,570	1.04	5,200	0.63		
Project Traffic & V/C	(3,000)				100	0.01	(180)	(0.02)				(190)	(0.02)	(40)	(0.01)		
58 Btw Placerita Cyn Rd and San Fernando Rd		3M (+1H)							3M (+1H)								
2014 Count	151,000		2,215	8,246	2,884	0.35	7,580	0.92		2,215	8,246	8,109	0.98	4,243	0.51		
2035 Without Project	178,000		2,215	8,246	3,130	0.38	8,230	1.00		2,215	8,246	8,680	1.05	5,270	0.64	LOS E	
2035 With Project	175,000		2,215	8,246	3,220	0.39	8,090	0.98		2,215	8,246	8,570	1.04	5,170	0.63		
Project Traffic & V/C	(3,000)				90	0.01	(140)	(0.02)				(110)	(0.01)	(100)	(0.01)		
59 Btw San Fernando Rd//Newhall Ave and Jct I-5		5M (+1H)							5M (+1H)								
2014 Count	166,000		2,215	12,676	3,171	0.25	8,333	0.66		2,215	12,676	8,914	0.70	4,665	0.37		
2035 Without Project	185,000		2,215	12,676	3,180	0.25	8,860	0.70		2,215	12,676	9,360	0.74	5,170	0.41	LOS E	
2035 With Project	182,000		2,215	12,676	3,210	0.25	8,720	0.69		2,215	12,676	9,360	0.74	5,110	0.40		
Project Traffic & V/C	(3,000)				30	0.00	(140)	(0.01)				0	0.00	(60)	(0.01)		
SR-99																	
70 Btw Jct SR-58 W and California		4M							4M								
2015 Count	104,110		2,246	8,985	3,848	0.43	6,276	0.70		2,246	8,985	4,004	0.45	6,694	0.75		
2040 Without Project	126,890		2,246	8,985	4,808	0.54	8,042	0.90		2,246	8,985	5,443	0.61	7,702	0.86	LOS E	
2040 With Project	127,890		2,246	8,985	4,948	0.55	7,452	0.83		2,246	8,985	5,413	0.60	7,802	0.87		
Project Traffic & V/C	1,000				140	0.01	(590)	(0.07)				(30)	(0.01)	100	0.01		
71 Btw California and Jct SR-58 E		4M							4M								
2015 Count	89,700		2,246	8,985	3,392	0.38	5,263	0.59		2,246	8,985	3,390	0.38	5,895	0.66		
2040 Without Project	106,855		2,246	8,985	3,970	0.44	6,335	0.71		2,246	8,985	4,394	0.49	6,702	0.75	LOS E	
2040 With Project	107,855		2,246	8,985	4,120	0.46	6,255	0.70		2,246	8,985	4,374	0.49	6,822	0.76		
Project Traffic & V/C	1,000				150	0.02	(80)	(0.01)				(20)	0.00	120	0.01		
72 Btw Jct SR-58 E and Ming Ave		5M							5M								
2015 Count	88,820		2,246	10,107	3,406	0.34	5,478	0.54		2,246	10,107	3,217	0.32	5,663	0.56		
2040 Without Project	135,885		2,246	10,107	5,304	0.52	7,887	0.78		2,246	10,107	5,643	0.56	8,613	0.85	LOS E	
2040 With Project	137,885		2,246	10,107	5,334	0.53	7,807	0.77		2,246	10,107	5,693	0.56	8,743	0.87		
Project Traffic & V/C	2,000				30	0.01	(80)	(0.01)				50	0.00	130	0.02		
73 Btw Ming Ave and White Lane		4M							4M								
2015 Count	69,755		2,246	8,985	2,614	0.29	4,435	0.49		2,296	9,186	2,394	0.26	4,508	0.49		
2040 Without Project	121,880		2,246	8,985	5,502	0.61	7,209	0.80		2,296	9,186	4,853	0.53	7,112	0.77	LOS E	
2040 With Project	123,880		2,246	8,985	5,522	0.61	7,139	0.79		2,296	9,186	4,863	0.53	7,252	0.79		
Project Traffic & V/C	2,000				20	0.00	(70)	(0.01)				10	0.00	140	0.02		

**TABLE 5.10-25
 FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND							SOUTHBOUND/WESTBOUND							LOS Threshold	Project Impact?
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C		
74 Btw White Lane and Panama Lane		4M							4M								
2015 Count	57,090		2,296	9,186	2,165	0.24	3,616	0.39		2,296	9,186	2,072	0.23	3,565	0.39		
2040 Without Project	106,660		2,296	9,186	4,840	0.53	6,369	0.69		2,296	9,186	3,957	0.43	6,396	0.70	LOS E	
2040 With Project	108,660		2,296	9,186	4,890	0.53	6,289	0.68		2,296	9,186	3,977	0.43	6,576	0.72		
Project Traffic & V/C	2,000				50	0.00	(80)	(0.01)				20	0.00	180	0.02		
75 Btw Panama Lane and Jct SR-119 W		4M							4M								
2015 Count	44,450		2,296	9,186	1,622	0.18	2,890	0.31		2,296	9,186	1,797	0.20	2,581	0.28		
2040 Without Project	91,405		2,296	9,186	4,114	0.45	5,581	0.61		2,296	9,186	3,481	0.38	5,345	0.58	LOS E	
2040 With Project	93,405		2,296	9,186	4,154	0.45	5,481	0.60		2,296	9,186	3,481	0.38	5,565	0.61		
Project Traffic & V/C	2,000				40	0.00	(100)	(0.01)				0	0.00	220	0.03		
76 Btw Jct SR-119 W and Houghton Rd		3M							3M								
2015 Count	35,470		2,296	6,889	1,229	0.18	2,345	0.34		2,141	6,422	1,533	0.24	1,987	0.31		
2040 Without Project	69,590		2,296	6,889	3,114	0.45	4,387	0.64		2,141	6,422	2,950	0.46	3,914	0.61	LOS D	
2040 With Project	72,590		2,296	6,889	3,174	0.46	4,287	0.62		2,141	6,422	2,970	0.46	4,134	0.64		
Project Traffic & V/C	3,000				60	0.01	(100)	(0.02)				20	0.00	220	0.03		
77 Btw Houghton Rd and Jct SR-233 E		3M							3M								
2015 Count	33,360		2,141	6,422	1,158	0.18	2,176	0.34		2,141	6,422	1,473	0.23	1,865	0.29		
2040 Without Project	67,150		2,141	6,422	3,031	0.47	4,202	0.65		2,141	6,422	2,826	0.44	3,741	0.58	LOS D	
2040 With Project	70,150		2,141	6,422	3,091	0.48	4,112	0.64		2,141	6,422	2,836	0.44	3,991	0.62		
Project Traffic & V/C	3,000				60	0.01	(90)	(0.01)				10	0.00	250	0.04		
78 Btw Jct SR-223 E and Old U.S. 99*		3M							3M								
2015 Count	27,270		2,141	6,422	945	0.15	1,788	0.28		2,133	6,400	1,233	0.19	1,488	0.23		
2040 Without Project	61,975		2,141	6,422	2,772	0.43	3,900	0.61		2,133	6,400	2,635	0.41	3,468	0.54	LOS D	
2040 With Project	64,975		2,141	6,422	2,832	0.44	3,790	0.59		2,133	6,400	2,645	0.41	3,728	0.58		
Project Traffic & V/C	3,000				60	0.01	(110)	(0.02)				10	0.00	260	0.04		
79 Btw Old U.S. 99 and Herring Rd		3M							3M								
2015 Count	28,585		2,133	6,400	987	0.15	1,860	0.29		2,133	6,400	1,284	0.20	1,586	0.25		
2040 Without Project	66,340		2,133	6,400	2,922	0.46	4,092	0.64		2,133	6,400	2,761	0.43	3,873	0.61	LOS D	
2040 With Project	69,340		2,133	6,400	2,982	0.47	3,982	0.62		2,133	6,400	2,771	0.43	4,133	0.65		
Project Traffic & V/C	3,000				60	0.01	(110)	(0.02)				10	0.00	260	0.04		
80 Btw Herring Rd and Sandrini Rd.		3M							3M								
2015 Count	27,775		2,133	6,400	960	0.15	1,805	0.28		2,133	6,400	1,253	0.20	1,537	0.24		
2040 Without Project	65,985		2,133	6,400	2,889	0.45	4,058	0.63		2,133	6,400	2,748	0.43	3,852	0.60	LOS D	
2040 With Project	68,985		2,133	6,400	2,969	0.46	3,958	0.62		2,133	6,400	2,758	0.43	4,112	0.64		
Project Traffic & V/C	3,000				80	0.01	(100)	(0.01)				10	0.00	260	0.04		
81 Btw Sandrini Rd and David Rd		3M							3M								
2015 Count	27,775		2,133	6,400	960	0.15	1,805	0.28		2,133	6,400	1,253	0.20	1,537	0.24		
2040 Without Project	65,985		2,133	6,400	2,889	0.45	4,058	0.63		2,133	6,400	2,748	0.43	3,852	0.60	LOS D	
2040 With Project	68,985		2,133	6,400	2,969	0.46	3,958	0.62		2,133	6,400	2,758	0.43	4,112	0.64		
Project Traffic & V/C	3,000				80	0.01	(100)	(0.01)				10	0.00	260	0.04		
82 Btw David Rd and Valpredo		3M							3M								
2015 Count	27,740		2,133	6,400	959	0.15	1,803	0.28		2,133	6,400	1,251	0.20	1,535	0.24		
2040 Without Project	63,995		2,133	6,400	2,811	0.44	3,922	0.61		2,133	6,400	2,660	0.42	3,716	0.58	LOS D	
2040 With Project	66,995		2,133	6,400	2,901	0.45	3,832	0.60		2,133	6,400	2,680	0.42	3,986	0.62		
Project Traffic & V/C	3,000				90	0.01	(90)	(0.01)				20	0.00	270	0.04		
83 Btw Valpredo and Jct SR-166 W		3M							3M								
2015 Count	27,740		2,133	6,400	959	0.15	1,803	0.28		2,096	6,288	1,251	0.20	1,535	0.24		
2040 Without Project	63,995		2,133	6,400	2,811	0.44	3,922	0.61		2,096	6,288	2,660	0.42	3,716	0.59	LOS D	
2040 With Project	66,995		2,133	6,400	2,901	0.45	3,832	0.60		2,096	6,288	2,680	0.43	3,986	0.63		
Project Traffic & V/C	3,000				90	0.01	(90)	(0.01)				20	0.01	270	0.04		

**TABLE 5.10-25
 FREEWAY VOLUME AND CAPACITY SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS WITH AND WITHOUT THE PROJECT**

Location	ADT Volume	NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND						LOS Threshold	Project Impact?	
		Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C	Lanes	Cap/Lane	Total Cap	AM Vol	AM V/C	PM Vol	PM V/C			
84 Btw Jct SR-166 W and Jct I-5		3M								3M								
2015 Count	26,965		2,096	6,288	934	0.15	1,733	0.28		2,054	6,162	1,219	0.20	1,507	0.24			
2040 Without Project	66,375		2,096	6,288	2,813	0.45	4,077	0.65		2,054	6,162	2,746	0.45	3,949	0.64		LOS D	
2040 With Project	69,375		2,096	6,288	2,903	0.46	3,987	0.63		2,054	6,162	2,766	0.45	4,219	0.68			
Project Traffic & V/C	3,000				90	0.01	(90)	(0.02)				20	0.00	270	0.04			
Notes:	LOS	Freeway Segment V/C Ranges																
Boldface type denotes LOS exceeds the performance standard	A	0.00–0.30																
ADT: average daily traffic	B	0.31–0.56																
Cap: capacity	C	0.57–0.76																
V/C: volume-to-capacity ratio	D	0.77–0.90																
Btw: between	E	0.91–1.00																
SR: State Route	F	Above 1.00																
M: Mixed flow lane																		
T: Truck Lane																		
N: north																		
Jct: junction																		
S: south																		
A: Auxiliary lane																		
H: High Occupancy Vehicle lane																		
NB: northbound																		
C: Climbing lane																		
F: Freeway to Freeway																		
I: Interstate																		
W: west																		
E: east																		
Source: Stantec 2017 (Table 4-6).																		
		For freeway segments located in LA County (i.e., SR-138, SR-14 and I-5) and Kern County freeway segments on the I-5 from Fort Tejon Interchange to the LA/Kern County line, volumes represent 2035 cumulative conditions. For freeway segments located in Kern County (i.e., SR-99 and I-5 from the Grapevine Grade to SR-99), volumes represent 2040 cumulative conditions. *Capacity of High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane: 1,600 vehicles/hour/lane *Capacity of Auxiliary Lane: 1,000 vehicles/hour/lane																

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The following freeway mainline segments would be significantly impacted by the Project under the cumulative plus Project conditions:

I-5 Freeway

- 3. **Between Grapevine and Fort Tejon Road:** NB PM, SB PM.
- 11. **Between Smokey Bear Road and Vista Del Lago Road:** NB PM
- 12. **Between Vista Del Lago Road and Templin Highway:** NB PM
- 13. **Between Templin Highway and Lake Hughes Road:** NB PM
- 14. **Between Lake Hughes Road and Parker Road:** SB AM

All affected freeway segments would operate within acceptable performance criteria under cumulative with Project conditions with the following improvements (see Exhibit 10-26, which excerpts the pre- and post-mitigation analysis of impacted freeway segments under Cumulative Plus Project conditions, and Table 4-16 of the Traffic Study [Appendix 5.10-A] for a complete freeway mainline pre- and post-mitigation analysis):

- **I-5 between Parker Road and SR-14:** Add one HOV or HOT lane in each direction
- **I-5 between Lake Hughes and Parker:** Add one auxiliary lane in each direction
- Development of a high capacity goods movement facility along the SR-58 and/or E-220 corridors between I-5 in Kern County and I-15 in San Bernardino County.

Caltrans approved the I-5 High Occupancy Vehicle (HOV)/Truck Lanes Project SR-14 to Parker Road project in 2009. The project initially consisted of adding a high-occupancy vehicle (HOV) lane in each direction between SR-14 and Parker Road in northern Santa Clarita Valley and adding an auxiliary truck lane in each direction between SR-14 and Pico Canyon Road/Lyons Avenue. In 2013, Caltrans approved the replacement of the planned HOV lanes with high occupancy toll (HOT) lanes and this modification is currently in the design phase. The HOT lanes are currently estimated for completion by 2022. A regional high capacity goods movement facility along the SR-58 and/or the E-220 corridor between I-5 in Kern County and I-15 in San Bernardino County is in the planning stages and included in the Kern COG RTP/SCS. MM 10-3 and MM 10-4 require the Project Applicant to seek to enter into a CTIP and transportation mitigation fee program that would fully mitigate for all impacts to freeway segments under cumulative plus Project conditions or to contribute fair share funding for the required improvements. MM 10-26 requires fair share funding for Kern COG RTP/SCS improvement projects on SR-58 between I-5 in Kern County and I-15 in San Bernardino County, which could include development of a high capacity goods movement facility along the SR-58 and/or E-220 corridors the high capacity goods movement facility along the SR-58 and/or E-220 corridors in Kern County. MM 10-31 requires fair share funding for the addition of one auxiliary lane in each direction between Lake Hughes and Parker roads, the addition of one HOV or HOT lane in each direction between Parker Road and SR-14, and MM 10-28 for the strengthening and widening of the inside and outside shoulders of I-5 between the Fort Tejon and Grapevine Road and SR-138 and Lake Hughes Road interchanges.

MMs 10-29 and 10-30 also require the implementation of on-site programs to reduce vehicle trips (see PDFs 10-1 through 10-4), including the formation of a Transportation Management Association (TMA) that would coordinate and manage the following programs:

1. Ride Share Program
2. Transit Program
3. Commuter Bus Program

As shown in Table 5.10-26, compliance with these mitigation measures and fair share contributions towards the improvements described above would reduce potential cumulative plus Project impacts to freeway mainline segments to less than significant levels.

**TABLE 5.10-26
VOLUME AND CAPACITY SUMMARY - 2035 AND 2040 FREEWAY CONDITIONS WITH MITIGATION**

Location	ADT Volume	Northbound/Eastbound							Southbound/Westbound							
		Lanes	Cap/ lane	Total Cap	AM Volume	AM V/C	PM Volume	PM V/C	Lane	Cap/ lane	Total Cap	AM Volume	AM V/C	PM Volume	PM V/C	
I-5																
3	Btw. Grapevine and Fort Tejon Rd (MF+Truck)		4M							4M						
	2040 Without Project	97,300		1,750	7,000	4,160	0.59	6,300	0.90		1,550	6,200	4,260	0.69	5,180	0.84
	2040 With Project	107,300		1,750	7,000	4,520	0.65	6,550	0.94		1,550	6,200	4,580	0.74	5,810	0.94
	2040 w/ Project and T&RP	107,100				4,520	0.65	6,510	0.93				4,540	0.73	5,810	0.94
	2040 w/Proj, T&RP and GMP	99,230				4,295	0.61	6,210	0.89				4,315	0.70	5,510	0.89
	Project Traffic & V/C (w/mit)	1,930				135	0.02	(90)	(0.01)				55	0.01	330	0.05
10	Btw S Jct SR-138 and Smokey Bear Rd		4M							4M						
	2035 Without Project	105,000		1,375	5,500	2,010	0.37	4,040	0.73		1,375	5,500	2,880	0.52	2,930	0.53
	2035 With Project	127,000		1,375	5,500	2,390	0.43	5,410	0.98		1,375	5,500	4,290	0.78	3,470	0.63
	2035 w/ Project and T&RP	126,000				2,390	0.43	5,210	0.95				4,090	0.74	3,470	0.63
	2035 w/Proj, TandRP and GMP	119,200				2,210	0.40	4,970	0.90				3,910	0.71	3,230	0.59
	Project Traffic & V/C (w/mit)	14,200				200	0.03	930	0.17				1,030	0.19	300	0.06
11	Btw Smokey Bear Rd & Vista Del Lago Rd		4M							4M						
	2035 Without Project	110,000		1,489	5,957	2,330	0.39	4,150	0.70		1,489	5,957	2,980	0.50	3,230	0.54
	2035 With Project	129,000		1,489	5,957	2,490	0.42	5,500	0.92		1,489	5,957	4,390	0.74	3,610	0.61
	2035 w/ Project and T&RP	128,000				2,490	0.42	5,300	0.89				4,190	0.70	3,610	0.61
	2035 w/Proj, T&RP and GMP	121,200				2,310	0.39	5,060	0.85				4,010	0.67	3,370	0.57
	Project Traffic & V/C (w/mit)	11,200				(20)	0.00	910	0.15				1,030	0.17	140	0.03
12	Btw Vista Del Lago Rd and Templin Hwy		4M							4M						
	2035 Without Project	117,000		1,489	5,957	2,330	0.39	4,150	0.70		1,489	5,957	2,980	0.50	3,230	0.54
	2035 With Project	129,000		1,489	5,957	2,490	0.42	5,500	0.92		1,489	5,957	4,390	0.74	3,610	0.61
	2035 w/ Project and T&RP	128,000				2,490	0.42	5,300	0.89				4,190	0.70	3,610	0.61
	2035 w/Proj, T&RP and GMP	121,200				2,310	0.39	5,060	0.85				4,010	0.67	3,370	0.57
	Project Traffic & V/C (w/mit)	4,200				(20)	(0.00)	910	0.15				1,030	0.17	140	0.03
13	Btw Templin Hwy and Lake Hughes Rd		4M							4M						
	2035 Without Project	114,000		1,489	5,957	2,410	0.40	4,160	0.70		1,489	5,957	2,930	0.49	3,300	0.55
	2035 With Project	130,000		1,489	5,957	2,530	0.42	5,500	0.92		1,489	5,957	4,350	0.73	3,640	0.61
	2035 w/ Project and T&RP	129,000				2,530	0.42	5,300	0.89				4,150	0.70	3,640	0.61
	2035 w/Proj, T&RP and GMP	122,200				2,350	0.39	5,060	0.85				3,970	0.67	3,400	0.57
	Project Traffic & V/C (w/mit)	8,200				(60)	(0.01)	900	0.15				1,040	0.18	100	0.02

**TABLE 5.10-26
VOLUME AND CAPACITY SUMMARY - 2035 AND 2040 FREEWAY CONDITIONS WITH MITIGATION**

Location	ADT Volume	Northbound/Eastbound								Southbound/Westbound					
		Lanes	Cap/ lane	Total Cap	AM Volume	AM V/C	PM Volume	PM V/C	Lane	Cap/ lane	Total Cap	AM Volume	AM V/C	PM Volume	PM V/C
14 Btw Lake Hughes Rd and Parker Rd		4M (+ 1A)								4M (+ 1A)					
2035 Without Project	140,300		1,856	8,422	5,440	0.65	7,070	0.84		1,856	8,422	7,230	0.86	4,940	0.59
2035 With Project	158,000		1,856	8,422	5,510	0.65	8,320	0.99		1,856	8,422	8,550	1.02	5,250	0.62
2035 w/ Project and T&RP	157,000				5,510	0.65	8,120	0.96				8,350	0.99	5,250	0.62
2035 w/Proj, T&RP and GMP	150,200				5,330	0.63	7,880	0.94				8,170	0.97	5,010	0.59
Project Traffic & V/C (w/mit)	9,900				(110)	(0.02)	810	0.10				940	0.11	70	0.00
<p>Boldface type denotes LOS exceeds the performance standard</p> <p>ADT: annual average daily traffic</p> <p>L: Lanes</p> <p>Cap: Capacity</p> <p>Vol: Volume</p> <p>V/C: Volume-to-capacity ratio</p> <p>Btw: between</p> <p>MF: Mixed Flow Lanes</p> <p>M: Mixed flow lane</p> <p>T&RP: Transit and Rideshare Program</p> <p>GMP: Goods Movement Corridor Project</p> <p>SR: State Route</p> <p>w/mit: with mitigation</p> <p>A: Auxiliary Lane</p> <p>Source: Stantec 2017 (Table 4-16).</p>		<p>LOS</p> <p>A</p> <p>B</p> <p>C</p> <p>D</p> <p>E</p> <p>F</p>	<p>Freeway Segment V/C Ranges</p> <p>0.00-0.30</p> <p>0.31-0.56</p> <p>0.57-0.76</p> <p>0.77-0.90</p> <p>0.91-1.00</p> <p>Above 1.00</p>	<p>For freeway segments located in LA County (i.e., I-5) and Kern County freeway segments on the I-5 from Fort Tejon Interchange to the LA/Kern County line, volumes represent 2035 cumulative conditions.</p> <p>For freeway segments located in Kern County (i.e., I-5 from the Grapevine Grade to SR-99), volumes represent 2040 cumulative conditions.</p> <p>*Capacity of High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane: 1,600 vehicles/hour/lane</p> <p>*Capacity of Auxiliary Lane: 1,000 vehicles/hour/lane</p>											

Freeway Interchange Ramps

Potential impacts to freeway ramps under cumulative plus Project conditions were evaluated for study area locations, including within the Santa Clarita Valley as identified by the Los Angeles County Department of Public Works. Cumulative with and without peak hour AM and PM traffic volumes for conditions at northbound/eastbound and southbound/westbound freeway ramps are summarized in Table 5.10-27.

The table shows that significant impacts would occur under cumulative with Project conditions at the SR-14 northbound off-ramp to SR-138 (AM peak hour) and at the SR-14 southbound on-ramp from SR-138 (PM peak hour). The I-5/SR-138 interchange connector ramps from westbound SR-138 to southbound I-5 and from northbound I-5 to eastbound SR-138 would also exceed 1,500 vehicles per hour, which is the capacity of the single lane connections to I-5 at these locations.

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
I-5																
SR-99 NB Off Ramp								SR-99 SB On Ramp								
Existing	20,600	2	4,000	980	0.25	1,280	0.32	Existing	21,400	2	4,000	1,000	0.25	1,020	0.26	
2040 No Project	44,800	2	4,000	3,050	0.76	3,790	0.95	2040 No Project	32,500	2	4,000	2,060	0.52	2,870	0.72	
2040 With Project	45,400	2	4,000	3,120	0.78	3,690	0.92	2040 With Project	34,800	2	4,000	2,090	0.52	3,130	0.78	
Project Traffic & V/C	600			70	0.02	(100)	(0.03)	Project Traffic & V/C	2,300			30	0.00	260	0.06	
Laval/Wheeler West NB Off Ramp								Laval/Wheeler Ridge West SB On Ramp								
Existing	1,450	1	1,500	50	0.03	80	0.05	Existing	6,200	1	1,500	270	0.18	330	0.22	
2040 No Project	967	1	1,500	90	0.06	50	0.03	2040 No Project	7,667	1	1,500	620	0.41	610	0.41	
2040 With Project	1,667	1	1,500	140	0.09	110	0.07	2040 With Project	9,067	1	1,500	710	0.47	650	0.43	
Project Traffic & V/C	700			50	0.03	60	0.04	Project Traffic & V/C	1,400			90	0.06	40	0.02	
Laval/Wheeler East NB Off Ramp								Grapevine SB On Ramp Loop								
Existing	3,850	1	1,500	170	0.11	260	0.17	Existing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2040 No Project	5,100	1	1,500	540	0.36	420	0.28	2040 No Project	5,600	1	1,500	230	0.15	620	0.41	
2040 With Project	7,000	1	1,500	580	0.39	470	0.31	2040 With Project	6,200	1	1,500	280	0.19	650	0.43	
Project Traffic & V/C	1,900			40	0.03	50	0.03	Project Traffic & V/C	600			50	0.04	30	0.02	
Grapevine NB Off Ramp								Grapevine SB On Ramp								
Existing	1,750	1	1,500	50	0.03	40	0.03	Existing	1,200	1	1,500	40	0.03	50	0.03	
2040 No Project	11,467	1	1,500	620	0.41	1,010	0.67	2040 No Project	4,600	1	1,500	330	0.22	360	0.24	
2040 With Project	11,667	1	1,500	680	0.45	1,070	0.71	2040 With Project	5,200	1	1,500	390	0.26	390	0.26	
Project Traffic & V/C	200			60	0.04	60	0.04	Project Traffic & V/C	600			60	0.04	30	0.02	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Fort Tejon Rd NB-Off Ramp								Fort Tejon Rd SB-On Ramp								
Existing	140	1	1,500	10	0.01	10	0.01	Existing	230	1	1,500	10	0.01	20	0.01	
2035 No Project	5,800	1	1,500	220	0.15	380	0.25	2035 No Project	3,000	1	1,500	200	0.13	110	0.07	
2035 With Project	6,000	1	1,500	230	0.15	390	0.26	2035 With Project	3,200	1	1,500	210	0.14	120	0.08	
Project Traffic & V/C	200			10	0.00	10	0.01	Project Traffic & V/C	200			10	0.01	10	0.01	
Lebec NB Off-Ramp								Lebec SB-On Ramp								
Existing	690	1	1,500	30	0.02	50	0.03	Existing	320	1	1,500	10	0.01	20	0.01	
2035 No Project	19,500	1	1,500	580	0.39	1,440	0.96	2035 No Project	26,200	1	1,500	1,520	1.01	1,200	0.80	
2035 With Project	19,700	1	1,500	590	0.39	1,450	0.97	2035 With Project	26,400	1	1,500	1,530	1.02	1,210	0.81	
Project Traffic & V/C	200			10	0.00	10	0.01	Project Traffic & V/C	200			10	0.01	10	0.01	
Frazier NB Off-Ramp								Frazier SB On-Ramp								
Existing	3,350	1	1,500	130	0.09	220	0.15	Existing	4,200	1	1,500	160	0.11	280	0.19	
2035 No Project	6,300	1	1,500	300	0.20	390	0.26	2035 No Project	6,700	1	1,500	270	0.18	430	0.29	
2035 With Project	5,300	1	1,500	260	0.17	240	0.16	2035 With Project	5,500	1	1,500	140	0.09	360	0.24	
Project Traffic & V/C	(1,000)			(40)	(0.03)	(150)	(0.10)	Project Traffic & V/C	(1,200)			(130)	(0.09)	(70)	(0.05)	
Gorman Rd NB Off-Ramp								Gorman Rd SB On-Ramp								
Existing	2,900	1	1,500	110	0.07	190	0.13	Existing	1,250	1	1,500	50	0.03	80	0.05	
2035 No Project	3,100	1	1,500	120	0.08	200	0.13	2035 No Project	1,400	1	1,500	60	0.04	90	0.06	
2035 With Project	5,800	1	1,500	170	0.11	680	0.45	2035 With Project	3,800	1	1,500	510	0.34	180	0.12	
Project Traffic & V/C	2,700			50	0.03	480	0.32	Project Traffic & V/C	2,400			450	0.30	90	0.06	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
WB SR-138 NB On-Ramp								EB SR-138 SB Off-Ramp								
Existing	1,650	2*	1,500	60	0.04	110	0.07	Existing	1,350	2*	1,500	50	0.03	90	0.06	
2035 No Project	14,500	2*	1,500	1,130	0.75	1,340	0.89	2035 No Project	11,700	2*	1,500	990	0.66	890	0.59	
2035 With Project	15,400	2*	1,500	1,060	0.71	1,380	0.92	2035 With Project	14,600	2*	1,500	1,200	0.80	1,080	0.72	
Project Traffic & V/C	900			(70)	(0.04)	40	0.03	Project Traffic & V/C	2,900			210	0.14	190	0.13	
EB SR-138 NB Off-Ramp								WB SR-138 SB On-Ramp								
Existing	750	2*	1,500	30	0.02	50	0.03	Existing	740	2*	1,500	30	0.02	50	0.03	
2035 No Project	7,100	2*	1,500	300	0.20	960	0.64	2035 No Project	6,600	2*	1,500	780	0.52	490	0.33	
2035 With Project	15,100	2*	1,500	480	0.32	1,570	1.05	2035 With Project	16,700	2*	1,500	2,110	1.41	860	0.57	Yes
Project Traffic & V/C	8,000			180	0.12	610	0.41	Project Traffic & V/C	10,100			1,330	0.89	370	0.25	
Templin Hwy NB On-Ramp								Templin Hwy SB Off-Ramp								
Existing	140	1	1,500	10	0.01	10	0.01	Existing	140	1	1,500	10	0.01	10	0.01	
2035 No Project	200	1	1,500	20	0.01	10	0.01	2035 No Project	200	1	1,500	20	0.01	20	0.01	
2035 With Project	300	1	1,500	20	0.01	10	0.01	2035 With Project	200	1	1,500	20	0.01	20	0.01	
Project Traffic & V/C	100			0	0.00	0	0.00	Project Traffic & V/C	0			0	0.00	0	0.00	
Lake Hughes Rd NB On-Ramp								Lake Hughes Rd SB Off-Ramp								
Existing	6,700	1	1,500	250	0.17	440	0.29	Existing	3,850	1	1,500	150	0.10	250	0.17	
2035 No Project	7,000	1	1,500	280	0.19	470	0.31	2035 No Project	4,200	1	1,500	180	0.12	280	0.19	
2035 With Project	7,300	1	1,500	280	0.19	510	0.34	2035 With Project	4,400	1	1,500	230	0.15	280	0.19	
Project Traffic & V/C	300			0	0.00	40	0.03	Project Traffic & V/C	200			50	0.03	0	0.00	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Hasley Cyn Rd NB On-Ramp								Hasley Cyn Rd SB-Off Ramp								
Existing	870	1	1,500	40	0.03	50	0.03	Existing	1,250	1	1,500	60	0.04	80	0.05	
2035 No Project	4,800	1	1,500	490	0.33	390	0.26	2035 No Project	4,200	1	1,500	270	0.18	510	0.34	
2035 With Project	6,100	1	1,500	420	0.28	650	0.43	2035 With Project	4,800	1	1,500	400	0.27	490	0.33	
Project Traffic & V/C	1,300			(70)	(0.05)	260	0.17	Project Traffic & V/C	600			130	0.09	(20)	(0.01)	
WB SR-126 NB On-Ramp								WB SR-126 SB Off-Ramp								
Existing	5,100	1	1,500	240	0.16	310	0.21	Existing	7,700	1	1,500	350	0.23	470	0.31	
2035 No Project	7,300	1	1,500	360	0.24	630	0.42	2035 No Project	9,100	1	1,500	550	0.37	480	0.32	
2035 With Project	7,900	1	1,500	300	0.20	800	0.53	2035 With Project	9,900	1	1,500	660	0.44	480	0.32	
Project Traffic & V/C	600			(60)	(0.04)	170	0.11	Project Traffic & V/C	800			110	0.07	0	0.00	
(not applicable)								Rye Canyon Rd SB Off-Ramp								
								Existing	1,650	1	1,500	80	0.05	100	0.07	
								2035 No Project	4,500	1	1,500	200	0.13	440	0.29	
								2035 With Project	5,100	1	1,500	360	0.24	410	0.27	
								Project Traffic & V/C	600				0.11		(0.02)	
Magic Mountain Pkwy NB On-Ramp								Magic Mountain Pkwy SB Off-Ramp								
Existing	4,500	2	2,250	210	0.09	280	0.12	Existing	3,950	2	2,250	180	0.08	240	0.11	
2035 No Project	5,300	2	2,250	260	0.12	200	0.09	2035 No Project	5,300	2	2,250	280	0.12	240	0.11	
2035 With Project	6,000	2	2,250	270	0.12	290	0.13	2035 With Project	6,000	2	2,250	370	0.16	270	0.12	
Project Traffic & V/C	700			10	0.00	90	0.04	Project Traffic & V/C	700			90	0.04	30	0.01	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY – CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Valencia Blvd NB On-Ramp								Valencia Blvd SB Off-Ramp								
Existing	2,150	2	2,250	100	0.04	130	0.06	Existing	2,850	2	2,250	130	0.06	170	0.08	
2035 No Project	2,300	2	2,250	110	0.05	160	0.07	2035 No Project	3,500	2	2,250	220	0.10	210	0.09	
2035 With Project	2,500	2	2,250	110	0.05	190	0.08	2035 With Project	3,700	2	2,250	240	0.11	240	0.11	
Project Traffic & V/C	200			0	0.00	30	0.01	Project Traffic & V/C	200			20	0.01	30	0.02	
McBean Pkwy NB On-Ramp								McBean Pkwy SB Off-Ramp								
Existing	2,550	1	1,500	70	0.05	90	0.06	Existing	3,500	1	1,500	150	0.10	190	0.13	
2035 No Project	2,700	1	1,500	160	0.11	200	0.13	2035 No Project	5,400	1	1,500	350	0.23	370	0.25	
2035 With Project	3,100	1	1,500	140	0.09	270	0.18	2035 With Project	5,600	1	1,500	420	0.28	350	0.23	
Project Traffic & V/C	400			(20)	(0.02)	70	0.05	Project Traffic & V/C	200			70	0.05	(20)	(0.02)	
Lyons Ave NB On-Ramp								Lyons Ave SB Off-Ramp								
Existing	9,400	1	1,500	430	0.29	580	0.39	Existing	4,400	1	1,500	200	0.13	270	0.18	
2035 No Project	9,600	1	1,500	450	0.30	590	0.39	2035 No Project	4,600	1	1,500	150	0.10	340	0.23	
2035 With Project	9,600	1	1500	450	0.30	580	0.39	2035 With Project	4,800	1	1500	190	0.13	360	0.24	
Project Traffic & V/C	0			0	0.00	(10)	0.00	Project Traffic & V/C	200			40	0.03	20	0.01	
Calgrove Blvd NB On-Ramp								Calgrove Blvd SB Off-Ramp								
Existing	2,650	1	1,500	120	0.08	160	0.11	Existing	2,100	1	1,500	100	0.07	130	0.09	
2035 No Project	16,100	1	1,500	670	0.45	1,000	0.67	2035 No Project	8,500	1	1,500	470	0.31	410	0.27	
2035 With Project	16,100	1	1500	670	0.45	1,000	0.67	2035 With Project	8,600	1	1500	480	0.32	410	0.27	
Project Traffic & V/C	0			0	0.00	0	0.00	Project Traffic & V/C	100			10	0.01	0	0.00	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
NB On-Ramp from SB SR-14								SB Off-Ramp to NB SR-14								
Existing	5,200	1	2,000	240	0.12	320	0.16	Existing	5,900	1	2,000	270	0.14	360	0.18	
2035 No Project	8,300	1	2,000	340	0.17	550	0.28	2035 No Project	8,300	1	2,000	520	0.26	370	0.19	
2035 With Project	8,400	1	2,000	340	0.17	560	0.28	2035 With Project	8,400	1	2,000	530	0.27	370	0.19	
Project Traffic & V/C	100			0	0.00	10	0.00	Project Traffic & V/C	100			10	0.01	0	0.00	
WB SR-210 NB On-Ramp								EB SR-210 SB Off-Ramp								
Existing	28,472	2	4,000	1,910	0.48	1,930	0.48	Existing	30,274	2	4,000	2,030	0.51	2,060	0.52	
2035 No Project	32,500	2	4,000	2,240	0.56	2,150	0.54	2035 No Project	35,400	2	4,000	2,370	0.59	2,410	0.60	
2035 With Project	33,400	2	4,000	2,240	0.56	2,260	0.57	2035 With Project	35,500	2	4,000	2,380	0.60	2,410	0.60	
Project Traffic & V/C	900			0	0.00	110	0.03	Project Traffic & V/C	100			10	0.01	0	0.00	
Roxford St NB On-Ramp								Roxford St SB Off-Ramp								
Existing	4,050	1	1,500	270	0.18	270	0.18	Existing	3,000	1	1,500	200	0.13	200	0.13	
2035 No Project	4,600	1	1,500	310	0.21	300	0.20	2035 No Project	3,500	1	1,500	230	0.15	230	0.15	
2035 With Project	4,700	1	1,500	310	0.21	310	0.21	2035 With Project	3,500	1	1,500	230	0.15	230	0.15	
Project Traffic & V/C	100			0	0.00	10	0.01	Project Traffic & V/C	0			0	0.00	0	0.00	
I-405 NB On-Ramp								I-405 SB Off-Ramp								
Existing	62,000	3	6,000	4,150	0.69	4,210	0.70	Existing	65,000	3	6,000	4,360	0.73	4,410	0.74	
2035 No Project	70,700	3	6,000	4,710	0.79	4,710	0.79	2035 No Project	74,600	3	6,000	4,940	0.82	5,000	0.83	
2035 With Project	71,200	3	6,000	4,710	0.79	4,780	0.80	2035 With Project	74,600	3	6,000	4,940	0.82	5,000	0.83	
Project Traffic & V/C	500			0	0.00	70	0.01	Project Traffic & V/C	0			0	0.00	0	0.00	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
SR-14																
Rosamond Blvd NB Off-Ramp								WB Rosamond Blvd SB On-Ramp								
Existing	6,750	1	1,500	460	0.31	640	0.43	Existing	3,622	1	1,500	250	0.17	340	0.23	
2035 No Project	7,900	1	1,500	480	0.32	780	0.52	2035 No Project	3,700	1	1,500	300	0.20	320	0.21	
2035 With Project	9,400	1	1,500	610	0.41	880	0.59	2035 With Project	4,600	1	1,500	340	0.23	400	0.27	
Project Traffic & V/C	1,500			130	0.09	100	0.07	Project Traffic & V/C	900			40	0.03	80	0.06	
(not applicable)								EB Rosamond SB On-Ramp								
								Existing	3,211	1	1,500	220	0.15	300	0.20	
								2035 No Project	3,300	1	1,500	260	0.17	280	0.19	
								2035 With Project	4,100	1	1,500	300	0.20	350	0.23	
								Project Traffic & V/C	800			40	0.03	70	0.04	
Jct SR-138/ Ave D NB Off-Ramp								Jct SR-138/ Ave D SB On-Ramp								
Existing	1,600	1	1,500	110	0.07	130	0.09	Existing	1,540	1	1,500	110	0.07	130	0.09	
2035 No Project	21,600	1	1,500	1,830	1.22	1,840	1.23	2035 No Project	19,400	1	1,500	1,630	1.09	1,800	1.20	
2035 With Project	23,300	1	1,500	1,670	1.11	2,130	1.42	2035 With Project	20,900	1	1,500	1,980	1.32	1,850	1.23	Yes
Project Traffic & V/C	1,700			(160)	(0.11)	290	0.19	Project Traffic & V/C	1,500			350	0.23	50	0.03	
WB Jct SR-138/Ave D NB On-Ramp								(not applicable)								
Existing	250	1	1,500	20	0.01	20	0.01									
2035 No Project	1,100	1	1,500	70	0.05	110	0.07									
2035 With Project	4,000	1	1,500	80	0.05	80	0.05									
Project Traffic & V/C	2,900			10	0.00	(30)	(0.02)									

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
SR-14																
EB Jct SR-138/Ave D NB On-Ramp								Jct SR-138/Ave D SB Off-Ramp								
Existing	340	1	1,500	20	0.01	30	0.02	Existing	510	1	1,500	40	0.03	40	0.03	
2035 No Project	1,000	1	1,500	80	0.05	130	0.09	2035 No Project	1,800	1	1,500	180	0.12	200	0.13	
2035 With Project	1,000	1	1,500	170	0.11	390	0.26	2035 With Project	6,000	1	1,500	540	0.36	370	0.25	
Project Traffic & V/C	0			90	0.06	260	0.17	Project Traffic & V/C	4,200			360	0.24	170	0.12	
WB Ave H NB On-Ramp								Ave H SB Off-Ramp								
Existing	1,600	1	1,500	110	0.07	130	0.09	Existing	1,900	1	1,500	130	0.09	160	0.11	
2035 No Project	4,100	1	1,500	380	0.25	260	0.17	2035 No Project	3,200	1	1,500	160	0.11	330	0.22	
2035 With Project	3,900	1	1,500	350	0.23	210	0.14	2035 With Project	3,000	1	1,500	130	0.09	310	0.21	
Project Traffic & V/C	(200)			(30)	(0.02)	(50)	(0.03)	Project Traffic & V/C	(200)			(30)	(0.02)	(20)	(0.01)	
EB Ave H NB On-Ramp								(not applicable)								
Existing	300	1	1,500	20	0.01	20	0.01									
2035 No Project	500	1	1,500	20	0.01	20	0.01									
2035 With Project	500	1	1,500	20	0.01	20	0.01									
Project Traffic & V/C	0				0.00		0.01									
Ave I NB On-Ramp								Ave I SB Off-Ramp								
Existing	3,500	1	1,500	240	0.16	290	0.19	Existing	2,700	1	1,500	190	0.13	220	0.15	
2035 No Project	4,000	1	1,500	230	0.15	260	0.17	2035 No Project	4,600	1	1,500	550	0.37	220	0.15	
2035 With Project	3,900	1	1,500	230	0.15	260	0.17	2035 With Project	4,500	1	1,500	1,110	0.74	250	0.17	
Project Traffic & V/C	(100)			0	0.00	0	0.00	Project Traffic & V/C	(100)			560	0.37	30	0.02	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
Ave J NB On-Ramp								Ave J SB Off-Ramp								
Existing	2,700	1	1,500	190	0.13	220	0.15	Existing	3,200	1	1,500	220	0.15	270	0.18	
2035 No Project	3,600	1	1,500	300	0.20	300	0.20	2035 No Project	5,100	1	1,500	580	0.39	270	0.18	
2035 With Project	3,600	1	1,500	310	0.21	290	0.19	2035 With Project	5,000	1	1,500	540	0.36	300	0.20	
Difference	0			10	0.01	(10)	(0.01)	Project Traffic & V/C	(100)			(40)	(0.03)	30	0.02	
EB Ave K NB On-Ramp								Ave K SB Off-Ramp								
Existing	1,350	1	1,500	90	0.06	110	0.07	Existing	3,250	1	1,500	230	0.15	270	0.18	
2035 No Project	1,200	1	1,500	80	0.05	100	0.07	2035 No Project	6,500	1	1,500	510	0.34	540	0.36	
2035 With Project	1,200	1	1,500	80	0.05	90	0.06	2035 With Project	6,400	1	1,500	510	0.34	540	0.36	
Project Traffic & V/C	0			0	0.00	(10)	(0.01)	Project Traffic & V/C	(100)			0	0.00	0	0.00	
WB Ave K NB On-Ramp								(not applicable)								
Existing	2,850	1	1,500	200	0.13	240	0.16									
2035 No Project	6,400	1	1,500	460	0.31	540	0.36									
2035 With Project	6,400	1	1,500	460	0.31	540	0.36									
Project Traffic & V/C	0			0	0.00	0	0.00									
SR-14																
EB Ave L NB On-Ramp								Ave L SB Off-Ramp								
Existing	1,050	1	1,500	70	0.05	90	0.06	Existing	3,950	1	1,500	280	0.19	330	0.22	
2035 No Project	2,000	1	1,500	150	0.10	150	0.10	2035 No Project	6,400	1	1,500	470	0.31	470	0.31	
2035 With Project	2,000	1	1,500	150	0.10	140	0.09	2035 With Project	6,300	1	1,500	470	0.31	510	0.34	
Project Traffic & V/C	0			0	0.00	(10)	(0.01)	Project Traffic & V/C	(100)			0	0.00	40	0.03	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
WB Ave L NB On-Ramp								(not applicable)								
Existing	3,450	1	1,500	240	0.16	290	0.19									
2035 No Project	5,400	1	1,500	370	0.25	370	0.25									
2035 With Project	5,400	1	1,500	380	0.25	420	0.28									
Project Traffic & V/C	0			10	0.00	50	0.03									
EB Jct SR-138/Palmdale Blvd NB On-Ramp								Jct SR-138/Palmdale Blvd SB Off-Ramp								
Existing	2,450	1	1,500	170	0.11	200	0.13	Existing	9,400	1	1,500	660	0.44	780	0.52	
2035 No Project	3,200	1	1,500	210	0.14	220	0.15	2035 No Project	10,800	1	1,500	750	0.50	830	0.55	
2035 With Project	3,200	1	1,500	220	0.15	300	0.20	2035 With Project	10,800	1	1,500	760	0.51	830	0.55	
Project Traffic & V/C	0			10	0.01	80	0.05	Project Traffic & V/C	0			10	0.01	0	0.00	
WB Jct SR-138/Palmdale Blvd NB On-Ramp								(not applicable)								
Existing	7,500	1	1,500	520	0.35	620	0.41									
2035 No Project	8,900	1	1,500	540	0.36	750	0.50									
2035 With Project	9,000	1	1,500	540	0.36	750	0.50									
Project Traffic & V/C	100			0	0.00	0	0.00									
Golden Valley Rd NB Off-Ramp								Golden Valley Rd SB On-Ramp								
Existing	5,500	1	1,500	400	0.27	430	0.29	Existing	5,000	1	1,500	360	0.24	390	0.26	
2035 No Project	5,300	1	1,500	390	0.26	420	0.28	2035 No Project	5,500	1	1,500	890	0.59	390	0.26	
2035 With Project	5,300	1	1,500	410	0.27	390	0.26	2035 With Project	5,200	1	1,500	870	0.58	370	0.25	
Project Traffic & V/C	0			20	0.01	(30)	(0.02)	Project Traffic & V/C	(300)			(20)	(0.01)	(20)	(0.01)	

**TABLE 5.10-27
RAMP PEAK HOUR VOLUMES AND V/C SUMMARY –CUMULATIVE (2035 AND 2040) CONDITIONS**

NORTHBOUND/EASTBOUND								SOUTHBOUND/WESTBOUND								Project Impact?
LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		LOCATION	ADT	Lanes	Cap	AM Peak Hour		PM Peak Hour		
				Vol	V/C	Vol	V/C					Vol	V/C	Vol	V/C	
San Fernando Rd NB Off-Ramp								San Fernando Rd SB On-Ramp								
Existing	10,200	1	1,500	740	0.49	800	0.53	Existing	11,500	1	1,500	840	0.56	900	0.60	
2035 No Project	9,100	1	1500	750	0.50	1,290	0.86	2035 No Project	8,500	1	1500	870	0.58	620	0.41	
2035 With Project	8,900	1	1,500	750	0.50	1,270	0.85	2035 With Project	8,200	1	1,500	870	0.58	610	0.41	
Project Traffic & V/C	(200)			0	0.00	(20)	(0.01)	Project Traffic & V/C	(300)			0	0.00	(10)	0.00	

V/C: volume-to-capacity ratio; ADT: average daily trips; Cap: capacity; Vol: volume; I: Interstate; SR: State Route; NB: northbound; SB: southbound; WB: westbound; EB: eastbound; Jct: junction
* Connector ramps with no auxiliary lane at freeway mainline
See Table 5.10-11 for ramp performance criteria (Table 1-5 of Traffic Study).
Boldface type denotes an intersection that exceeds performance threshold.
Source: Stantec 2017 (Table 4-7).

All affected freeway ramps would operate within acceptable performance criteria under cumulative with Project conditions with the following improvements (see Table 4-17 of the Traffic Study [Appendix 5.10-A]):

- **WB SR-138 to SB I-5 Connector:** add two auxiliary lanes to the I-5 mainline connector ramp;
- **NB I-5 Off Ramp to SR-138:** add two auxiliary lanes to the I-5 mainline before the northbound I-5 to eastbound SR-138 connector ramp;
- **NB SR-14 Off Ramp to SR-138:** add one mainline auxiliary lane and a second off-ramp lane for the SR-14 northbound off ramp to SR-138; and
- **SB SR-14 On Ramp from SR-138:** add a second lane on the SR-14 southbound on-ramp from SR-138.

MM 10-3 and MM 10-4 require the Project Applicant to seek to enter into a CTIP and transportation mitigation fee program that would fully mitigate for all impacts to freeway ramps under cumulative plus Project conditions or to contribute fair share funding for the required improvements. MM 10-32 requires fair share funding for the addition of two auxiliary lanes at the connector ramp from westbound SR-138 to southbound I-5; MM 10-33 requires the addition of two auxiliary lanes at the connector ramp mainline before the northbound I-5 to eastbound SR-138 connector ramp; MM 10-31 requires the construction of one auxiliary lane and a second off-ramp lane for the SR 14 northbound off ramp to SR-138; and MM 10-35 requires the construction of a second lane on the SR-14 southbound on-ramp from SR-138. Compliance with these mitigation measures and the fair share contributions towards the improvements described above would reduce potential cumulative plus Project impacts to freeway ramps to less than significant levels (see Table 4-17 of the Traffic Study [Appendix 5.10-A]).

Arterial Roadway Intersections

An ICU analysis for long-range cumulative conditions was conducted for key intersections within the study area, including all intersections along SR-138, select intersections in Kern County (per the request of Caltrans and the County of Kern Department of Public Works) and ramp-arterial intersections in the Castaic area and Santa Clarita Valley (per the request of the Los Angeles County Department of Public Works) under cumulative plus Project conditions.

The ICU analysis for all intersections in the study area compared cumulative without Project to cumulative with Project impacts to identify Project-related impacts. The resulting ICU values and LOS for these locations are summarized in Table 5.10-28.

As requested by Los Angeles County, the ICU analysis of SR-138 intersections compared cumulative plus Project conditions with existing conditions to identify potential impacts. If implemented, the proposed Northwest 138 Corridor Improvement Project (discussed above) would reduce the number of access locations along the SR-138 corridor from existing levels to meet freeway and expressway standards. Certain existing intersections with SR-138 would be eliminated and access to SR-138 would be obtained by other means (such as by

way of parallel access roads connecting to the remaining intersections). To reflect the more limited access along SR-138 that would occur under future conditions, the cumulative analysis is based on the assumptions utilized by the County of Los Angeles in the AVAP EIR analysis. The results of the SR-138 ICU analysis under cumulative plus Project conditions are summarized in Table 5.10-29.

**TABLE 5.10-28
ICU AND LOS SUMMARY – CUMULATIVE (2035) NO PROJECT AND WITH PROJECT COMPARISON**

Intersection	Jurisdiction	Intersection Control	Cumulative (2035) Without Project				Cumulative (2035) With Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
1. Westerly Access & SR-138	LA County/Caltrans	NA	NA ¹	NA ¹	NA ¹	NA ¹	0.98	E	1.20	F	NA	NA
2. Central Access & SR-138	LA County/Caltrans	NA	NA ¹	NA ¹	NA ¹	NA ¹	1.11	F	1.22	F	NA	NA
3. 300 th St W & SR-138 ²	LA County/Caltrans	North leg stop	1.25	F	1.21	F	0.98	E	1.04	F	(0.27)	(0.17)
4. 290 th St W & SR-138	LA County/Caltrans	No control	1.26	F	1.21	F	0.86	D	1.04	F	(0.40)	(0.17)
7. 245 th St W & SR-138	LA County/Caltrans	South leg stop	1.43	F	1.41	F	1.84	F	1.86	F	0.41	0.45
9. 190 th St W & SR-138	LA County/Caltrans	North/South legs stop	1.38	F	1.48	F	1.65	F	1.81	F	0.27	0.33
11 110 th St W & SR-138	LA County/Caltrans	North/South legs stop	1.31	F	1.44	F	1.68	F	1.83	F	0.37	0.39
13. 60 th St W & SR-138 ²	LA County/Caltrans	North/South legs stop	1.68	F	2.09	F	2.03	F	2.46	F	0.35	0.37
15. SR-14 SB Ramps and SR-138	Caltrans	North leg stop	1.26	F	1.52	F	1.49	F	1.87	F	0.23	0.35
16. SR-14 NB Ramps and SR-138	Caltrans	South leg stop	1.31	F	1.69	F	1.24	F	1.90	F	(0.07)	0.21
17. 90 th St W/Willow Springs and Rosamond ³	Kern County	4-way stop	0.25	A	0.33	A	0.27	A	0.42	A	0.02	0.09
18. Willow Springs and Oak Creek ³	Kern County	East leg stop	0.30	A	0.35	A	0.32	A	0.38	A	0.02	0.03
19. Willow Springs and Highline	Kern County	West leg stop	0.33	A	0.49	A	0.35	A	0.54	A	0.02	0.05
20. Bear Mountain Blvd/SR-223 and Wheeler Ridge Rd	Kern County/Caltrans	4-way stop	0.51	A	0.84	D	0.53	A	0.87	D	0.02	0.03
21. The Old Road and I-5 SB Ramps	LA County/Caltrans	4-way stop	0.82	D	0.65	B	0.82	D	0.66	B	0.00	0.01

**TABLE 5.10-28
ICU AND LOS SUMMARY – CUMULATIVE (2035) NO PROJECT AND WITH PROJECT COMPARISON**

Intersection	Jurisdiction	Intersection Control	Cumulative (2035) Without Project				Cumulative (2035) With Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
22. I-5 NB Ramps and Lake Hughes	LA County/ Caltrans	South leg stop	0.63	B	0.74	C	0.69	B	0.81	D	0.06	0.07
23. I-5 SB On Ramp and Parker	LA County/ Caltrans	No control	1.17	F	1.23	F	1.17	F	1.23	F	0.00	0.00
24. I-5 NB Off Ramp and Parker	LA County/ Caltrans	South leg stop	1.17	F	1.54	F	1.17	F	1.54	F	0.00	0.00
25. I-5 NB Ramps and Hasley Canyon	LA County/ Caltrans	Roundabout	12.2*	B	12.3*	B	12.2*	B	13.4*	B	0.0	1.1
26. I-5 SB Ramps and Sedona/Old Road	LA County/ Caltrans	Signal	0.97	E	0.70	B	1.03	F	0.71	C	0.06	0.01
27. The Old Road and Hasley Canyon	LA County	Roundabout	11.1*	B	8.0*	A	11.1*	B	8.0*	A	0.0	0.0
28. I-5 NB Ramps and SR-126	Caltrans	Signal	0.73	C	0.90	D	0.73	C	0.90	D	0.00	0.00
29. I-5 SB Ramps and SR-126	Caltrans	Signal	1.00	E	0.64	B	1.00	E	0.67	B	0.00	0.03
30. The Old Road and I-5 SB Ramps	LA County/ Caltrans	Signal	0.67	B	1.54	F	0.74	C	1.54	F	0.07	0.00
31. I-5 SB Ramps and Magic Mountain	LA County/ Caltrans	Signal	0.82	D	0.59	A	0.88	D	0.63	B	0.06	0.04
32. I-5 NB Ramps and Magic Mountain	City of Santa Clarita/ Caltrans	Signal	0.82	D	0.68	B	0.85	D	0.71	C	0.03	0.03
33. I-5 SB Ramps and Valencia	LA County/ Caltrans	Signal	0.88	D	1.04	F	0.91	E	1.06	F	0.03	0.02
34. I-5 NB Ramps and Valencia	City of Santa Clarita/ Caltrans	Signal	0.80	C	.77	C	0.82	D	0.78	C	0.02	0.01
35. I-5 SB Ramps and McBean	LA County/ Caltrans	Signal	0.62	B	0.79	C	0.70	B	0.81	D	0.08	0.02

**TABLE 5.10-28
ICU AND LOS SUMMARY – CUMULATIVE (2035) NO PROJECT AND WITH PROJECT COMPARISON**

Intersection	Jurisdiction	Intersection Control	Cumulative (2035) Without Project				Cumulative (2035) With Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
36. I-5 NB Ramps and McBean	City of Santa Clarita/ Caltrans	Signal	0.44	A	0.60	A	0.46	A	0.62	B	0.02	0.02
37. I-5 SB/Marriott and Pico/Lyons	LA County/ Caltrans	Signal	0.65	B	0.71	C	0.66	B	0.71	C	0.01	0.00
38. I-5 NB On/Off and Lyons Ave	City of Santa Clarita/ Caltrans	Signal	0.51	A	0.78	C	0.51	A	0.78	C	0.00	0.00
39. I-5 SB Ramps and Calgrove	City of Santa Clarita/ Caltrans	North leg stop	0.79	C	1.07	F	0.80	C	1.08	F	0.01	0.01
40. I-5 NB Ramps and Calgrove	City of Santa Clarita/ Caltrans	South leg stop	0.69	A	0.81	D	0.69	B	0.84	D	0.00	0.03

ICU: intersection capacity utilization; LOS: level of service; SR: State Route; SB: southbound Caltrans: California Department of Transportation; NB: northbound; I: Interstate

Boldface type denotes significant impact.

Performance Criteria is outlined in Table 5.10-12 (Table 1-6 of Traffic Study).

* This location is a roundabout; therefore the LOS shown is based on average delay (sec/veh)

¹ not an existing intersection
² denotes Los Angeles CMP route and cross street
³ denotes Kern County CMP principal arterial

Note: See Table 5.10-29 for SR-138 intersections cumulative analysis comparison using LA County's methodology.-
Intersections 5, 6, 8, 10, 12, 14 have limited or no access to the SR-138 consistent with assumptions used for the AVAP EIR.

Source: Stantec 2017 (Table 4-8).

**TABLE 5.10-29
ICU AND LOS SUMMARY – EXISTING (2014 & 2015) CONDITIONS AND CUMULATIVE (2035) WITH PROJECT
COMPARISON (LOS ANGELES COUNTY SR-138 INTERSECTIONS)**

Intersection	Jurisdiction	Control	Existing (2014 & 2015) Conditions				Cumulative (2035) With Project				ICU Difference	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
1. Westerly Access & SR-138	LA County/ Caltrans	NA	NA ¹	NA ¹	NA ¹	NA ¹	0.98	E	1.20	F	NA ¹	NA ¹
2. Central Access & SR-138	LA County/ Caltrans	NA	NA ¹	NA ¹	NA ¹	NA ¹	1.11	F	1.22	F	NA ¹	NA ¹
3. 300 th St W & SR-138 ²	LA County/ Caltrans	North leg stop	0.17	A	0.20	A	0.98	D	1.04	F	0.81	0.84
4. 290 th St W & SR-138	LA County/ Caltrans	No control	0.18	A	0.20	A	0.86	D	1.04	F	0.68	0.84
7. 245 th St W & SR-138	LA County/ Caltrans	South leg stop	0.17	A	0.19	A	1.84	F	1.86	F	1.67	1.67
9. 190 th St W & SR-138	LA County/ Caltrans	North/South leg stop	0.17	A	0.19	A	1.65	F	1.81	F	1.48	1.62
11. 110 th St W & SR-138	LA County/ Caltrans	North/South leg stop	0.17	A	0.21	A	1.68	F	1.83	F	1.51	1.62
13. 60 th St W & SR-138 ²	LA County/ Caltrans	North/South leg stop	0.22	A	0.25	A	2.03	F	2.46	F	1.81	2.21

¹ not an existing intersection
² denotes Los Angeles CMP route and cross street
Note: The SR-138 freeway/expressway configuration results in a reduced number of access locations to the SR-138 due to expressway intersection spacing requirements.
Boldface type – denotes significant impact.
Performance Criteria is outlined in Table 5.10-12 (Table 1-6 of Traffic Study).
Source: Stantec 2017 (Table 4-9).

The LOS summary in Table 5.10-29 shows that the following intersections along SR-138 would be impacted under cumulative plus Project conditions compared with existing conditions (see Table 4-9 of the Traffic Study [Appendix 5.10-A]):

1. Westerly Access and SR-138
2. Central Access and SR-138
3. 300th St W and SR-138
4. 290th St W and SR-138
7. 245th St W and SR-138
9. 190th St W and SR-138
11. 110th St W and SR-138
13. 60th St W and SR-138

Certain of these intersections will be constructed to serve the Project (the Westerly Access and SR-138 and Central Access and SR-138 intersections) and others will be improved in conjunction with the planned and required improvements to SR-138. With these improvements, which would be supported by Project fair share contributions under the CTIP (MM 10-3), traffic mitigation fee program (MM 10-4), and/or fair share contributions as required by MM 10-3 and MMs 10-6 through 10-25, MM 10-27, and MMs 10-32 through 10-35, SR-138 intersections would operate at acceptable levels under cumulative with Project conditions (see Table 4-15 of the Traffic Study [Appendix 5.10-A]).

The LOS summary in Table 5.10-28 intersections shows that the following 11 intersections would be impacted under cumulative plus Project conditions:

15. SR-14 SB Ramps and SR-138
16. SR-14 NB Ramps and SR-138
22. I-5 NB Ramps and Lake Hughes
26. I-5 SB Ramps and Sedona/Old Road
31. I-5 SB Ramps and Magic Mountain
32. I-5 NB Ramps and Magic Mountain
33. I-5 SB Ramps and Valencia
34. I-5 NB Ramps and Valencia
35. I-5 SB Ramps and McBean
39. I-5 SB Ramps and Calgrove
40. I-5 NB Ramps and Calgrove

Mitigation measures that would reduce impacts to the 11 affected intersections to less than significant levels include the following:

- 15. SR-14 SB Ramps and SR-138** Reconfigure interchange to include two eastbound through lanes and three westbound through lanes. In the southbound direction, add a second right-turn lane. Also, install traffic signal and include right-turn overlap phasing. Or contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-36 and Traffic Study MM-31)
- 16. SR-14 NB Ramps and SR-138** Reconfigure interchange to include two eastbound through lanes and two westbound through lanes. In the northbound direction, add two left-turn lanes. Also, install traffic signal. Or contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-37 and Traffic Study MM-32)
- 22. I-5 NB Ramps and Lake Hughes** Add one lane to the northbound off-ramp and restripe the configuration to include one left-turn, one shared left/right-turn lane, and one dedicated right-turn lane. (MM 10-38 and Traffic Study MM-33)
- 26. I-5 SB Ramps and Sedona/The Old Road** Add a second southbound left-turn lane. (MM 10-22 and Traffic Study MM-34)
- 31. I-5 SB Ramps and Magic Mountain** Restripe the southbound off-ramp to provide two left-turn lanes, one shared left-turn/through lane, and one right-turn lane. (MM 10-39 and Traffic Study MM-35)
- 32. I-5 NB Ramps and Magic Mountain** Convert the shared through/right-turn lane to a shared left-/through/right-turn lane. (MM 10-40 and Traffic Study MM-36)
- 33. I-5 SB Ramps and Valencia** Stripe a third westbound through lane. (MM 10-41 and Traffic Study MM-37)

- | | |
|--------------------------------------|---|
| 34. I-5 NB Ramps and Valencia | Traffic signal modification to add a northbound right-turn overlap phase. (MM 10-42 and Traffic Study MM-38) |
| 35. I-5 SB Ramps and McBean | Restripe the dedicated westbound right-turn lane to a shared through/right-turn lane. (MM 10-43 and Traffic Study MM-39) |
| 39. I-5 SB Ramps and Calgrove | Add second eastbound through lane and a de-facto right-turn lane. In the westbound direction, add a second through lane. (MM 10-44 and Traffic Study MM-40) |
| 40. I-5 NB Ramps and Calgrove | Restripe to add a westbound de-facto right-turn lane. (MM 10-45 and Traffic Study MM-41) |

As shown in Table 5.10-31, construction of the improvements for the 11 intersections would reduce impacts to less than significant levels. MM 10-3, 10-4 and MMs 10-36 through 10-45 require that the Project provide fair share funding for all of the improvements required to mitigate potential intersection impacts under cumulative plus Project conditions.

The improvements to SR-138 and related intersections, and the improvements included in MMs 10-36 through 10-45 for other intersections, as shown in Table 5.10-29B, would ensure

that the Project would not cause significant intersection impacts under cumulative plus Project conditions.

**TABLE 5.10-30
CUMULATIVE IMPACT SUMMARY FOR SR-138 WITH IMPROVEMENTS**

Intersection	Existing (2014 and 2015) Conditions				Cumulative (2035) With Project (SR-138 Expressway Improvements)				ICU Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
1a. Westerly Access and SR-138 WB Ramps*	N/A	N/A	N/A	N/A	0.76	C	0.70	B	N/A	N/A
1b. Westerly Access and SR-138 EB Ramps*					0.66	B	0.71	C	N/A	N/A
2a. Central Access and SR-138 WB Ramps*	N/A	N/A	N/A	N/A	0.74	C	0.76	C	N/A	N/A
2b. Central Access and SR-138 WB Ramps*					0.64	B	0.61	B	N/A	N/A
3a. 300 th St W and SR-138 WB Ramps	0.17	A	0.20	A	0.43	A	0.65	B	0.26	0.45
3b. 300 th St W and SR-138 EB Ramps					0.40	A	0.51	A	0.23	0.31
4a. 290 th St W and SR-138 WB Ramps	0.18	A	0.20	A	0.46	A	0.69	B	0.28	0.49
4b. 290 th St W and SR-138 EB Ramps					0.54	A	0.52	A	0.36	0.32
7a. 245 th St and SR-138 WB Ramps	0.17	A	0.19	A	0.44	A	0.45	A	0.27	0.26
7b. 245 th St and SR-138 EB Ramps					0.37	A	0.44	A	0.20	0.25
9a. 190 th St and SR-138 WB Ramps	0.17	A	0.19	A	0.32	A	0.33	A	0.15	0.14
9b. 190 th St and SR-138 EB Ramps					0.35	A	0.20	A	0.18	0.01
11a. 110 th St and SR-138 WB Ramps	0.17	A	0.21	A	0.30	A	0.20	A	0.13	(0.01)
11b. 110 th St and SR-138 EB Ramps					0.26	A	0.21	A	0.09	0.00
13a. 60 th St and SR-138 WB Ramps	0.22	A	0.25	A	0.54	A	0.64	B	0.32	0.39
13b. 60 th St and SR-138 EB Ramps					0.53	A	0.58	A	0.31	0.33

ICU: intersection capacity utilization; LOS: level of service; SR: State Route; WB: westbound; N/A: not applicable; EB: eastbound
 * not an existing intersection
 Note: The ICU and LOS shown under existing conditions represent the existing at-grade intersection configuration. The SR-138 Expressway improvements would replace the existing at-grade intersections with grade-separated interchanges consisting of two ramp-arterial intersections at each interchange.
 Source: Stantec 2017 (Table 4-15).

**TABLE 5.10-31
PROJECT IMPACT SUMMARY WITH MITIGATION**

Intersection	Cumulative (2035) With Project				Cumulative (2035) With Project + Mitigation				ICU Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
15. SR-14 SB Ramps and SR-138	1.49	F	1.87	F	0.62	B	0.72	C	(0.87)	(1.15)
16. SR-14 NB Ramps and SR-138	1.31	F	1.69	F	0.56	A	0.84	D	(0.75)	(0.85)
22. I-5 NB Ramps and Lake Hughes	0.63	B	0.74	C	0.66	B	0.69	B	0.03	(0.05)
26. I-5 SB Ramps and Sedona/Old Road	0.97	E	0.70	B	0.88	D	0.63	B	(0.09)	(0.07)
31. I-5 SB Ramps and Magic Mountain	0.82	D	0.59	A	0.76	C	0.56	A	(0.06)	(0.03)
32. I-5 NB Ramps and Magic Mountain	0.82	D	0.68	B	0.74	C	0.71	C	(0.08)	0.03
33. I-5 SB Ramps and Valencia	0.88	D	1.04	F	0.73	C	0.80	C	(0.15)	(0.24)
34. I-5 NB Ramps and Valencia	0.80	C	0.77	C	0.80	C	0.78	C	0.00	0.01
35. I-5 SB Ramps and McBean	0.62	B	0.79	C	0.70	B	0.76	C	0.08	(0.03)
39. I-5 SB Ramps and Calgrove	0.79	C	1.07	F	0.62	B	0.70	B	(0.17)	(0.37)
40. I-5 NB Ramps and Calgrove	0.69	A	0.81	D	0.53	A	0.69	B	(0.16)	(0.12)

ICU: intersection capacity utilization; LOS: level of service; SR: State Route; SB: southbound; WB: westbound; I: Interstate
Source: Stantec 2017 (Table 4-19)

Off-Site Impacts

The proposed off-site wells and utility connections would cause essentially no increase in traffic. It is anticipated that one daily visit to each well location would be necessary for maintenance and monitoring purposes. This level of traffic would be nominal relative to the anticipated daily trips associated with the Project. The proposed off-site roadway improvements (e.g., deceleration lanes, acceleration lanes, turn pockets, and signalized traffic lights on SR-138) would be constructed within Caltrans rights-of-way to allow for safe ingress/egress to and from the site. These improvements would have beneficial impacts on traffic and are evaluated in the discussion of On-Site Impacts above. Aqueduct crossings, while off-site, would be part of the internal circulation system and are also evaluated in the discussion of On-Site Impacts above. Improvements to SR-138 and I-5 are subject to the environmental review process of Caltrans and are not part of the Project. Proposed off-site improvements would have no impact related to traffic congestion and no mitigation is required.

Impact Summary: The on-site roadway network has been designed to accommodate projected traffic from proposed land uses. Impacts on the internal roadway system would be less than significant after mitigation. If improvements at Project access points on SR-138 are not constructed, impacts would be significant and unavoidable. Project buildout would result in significant traffic impacts on off-site roadways and freeways, including SR-138, I-5 mainline segments and interchange ramps, and arterial roadway intersections (see Table 5.10-30 below). Mitigation measures have been identified to reduce all significant Project impacts, as listed in Table 5.10-31, Mitigation Summary. In addition, MM 10-23 would protect the right-of-way needed to widen and realign SR-138.

Although mitigation measures identified for Caltrans facilities would reduce Project impacts, it is outside the control of the County of Los Angeles to implement these measures. The CTIP or the Project Applicant's fair share contribution requirements in MM 10-3 and MMs 10-6 through 10-28 and MMs 10-31 through 10-45 will provide funding for the planning, design, and construction of certain improvements. MM 10-4 requires the Project Applicant to work to establish a funding program to collect fair share contributions from other projects for the required improvements. Compliance with these mitigation measures would reduce traffic impacts to a less than significant level. Potential Project impacts would be significant and unavoidable, however, if the improvements are not constructed by Caltrans because the County (as the Lead Agency) lacks jurisdiction and control over State highway facilities and cannot mandate the construction of improvements to these facilities.

**TABLE 5.10-32
PROJECT IMPACT SUMMARY**

Location	Impacts
SR-138	Based on the existing SR-138 facility, significant impacts would occur at the following segments: SR-138 between I-5 and SR-14 (Existing Plus Project and Cumulative) Intersections along SR-138 from westerly access of the Specific Plan area to SR-14 NB Ramps (Existing Plus Project and 2035 Cumulative)
I-5	Based on the existing I-5 facility, significant impacts would occur at the following segments: Between Grapevine and Fort Tejon Road (Cumulative) Between SR-138 and Parker Road (Cumulative)
I-5/SR-138 Interchange	Based on the existing I-5/SR-138 Interchange, significant impacts would occur at the following connector ramps: WB SR-138 to SB I-5 Connector (Existing Plus Project and Cumulative) NB I-5 Connector to EB SR-138 (Cumulative) NB SR-14 Off Ramp to SR-138 (Cumulative) SB SR-14 On Ramp from SR-138 (Cumulative)
Freeway Interchange Intersections	Based on existing lane configurations, significant impacts would occur at the following intersections: SR-14 NB Ramps and SR-138 (Cumulative) SR-14 SB Ramps and SR-138 (Cumulative) I-5 NB Ramps and Lake Hughes (Cumulative) I-5 SB Ramps and Sedona/The Old Road (Existing Plus Project and Cumulative) I-5 SB Ramps and Magic Mountain (Cumulative) I-5 NB Ramps and Magic Mountain (Cumulative) I-5 SB Ramps and Valencia (Cumulative) I-5 NB Ramps and Valencia (Cumulative) I-5 SB Ramps and McBean (Cumulative) I-5 SB Ramps and Calgrove (Cumulative) I-5 NB Ramps and Calgrove (Cumulative)
SR: State Route; NB: northbound; I: Interstate; WB: westbound; SB: southbound; EB: eastbound Source: Stantec 2017 (Table 4-10).	

**TABLE 5.10-33
MITIGATION SUMMARY**

Mitigation
SR-138
<p>Existing Plus Project Mitigation</p> <ul style="list-style-type: none"> • Improve SR-138 to a four lane expressway from I-5 to 190th Street West, with right-of-way reserved for a six-lane expressway between I-5 and 300th Street West or comparable improvements consistent with the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-6/Traffic Study MM-1) • Intersection improvements from the westerly access of the Centennial Specific Plan area to 30th Street West or comparable improvements consistent with the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative): <ul style="list-style-type: none"> ○ Specific Plan Westerly Access and SR-138 ○ Specific Plan Central Access and SR-138 ○ 300th Street West and SR-138 ○ 290th Street West and SR-138 ○ Margalo Drive and SR-138 ○ Three Points and SR-138 ○ 245th Street West and SR-138 ○ 230th Street West and SR-138 ○ 190th Street West and SR-138 ○ 170th Street West and SR-138 ○ 110th Street West and SR-138 ○ 90th Street West and SR-138 ○ 60th Street West and SR-138 ○ 30th Street West and SR-138 <p>Cumulative Conditions Mitigation</p> <ul style="list-style-type: none"> • Dedicate right-of-way within the Project site at each site access location to accommodate the ultimate intersection or interchange configuration as determined by the Northwest 138 Corridor Improvement project (specific improvements pending Caltrans selection of a preferred alternative) (MM 10-23/Traffic Study MM-18) • Contribute fair share of adding one lane in both directions (six lanes total) on SR-138 from I-5 to 300th Street West (in addition to above), or contribute fair share to the SR-138 improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-24/Traffic Study MM-19) • Contribute fair share of adding one auxiliary lane in both directions (six lanes total) on SR-138 from 300th Street West to 245th Street West (in addition to above), or contribute fair share to the SR-138 improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-25/Traffic Study MM-20) • Fair share participation and/or contribution to the Kern COG RTP/SCS improvement projects on SR-58 between I-5 in Kern County and I-15 in San Bernardino County, which could include development of a high capacity goods movement facility along the SR-58 and/or E-220 corridors. (MM 10-26/Traffic Study MM-21) • Fair share participation and/or contribution to the SR-138 improvements to a limited access facility with grade-separated interchanges, consistent with the County's analysis of the AVAP, or fair share participation and/or contribution to the SR-138 improvements (freeway/ expressway or expressway/limited access conventional highway) being advanced by Caltrans in the Northwest 138

**TABLE 5.10-33
MITIGATION SUMMARY**

Mitigation
<p>Corridor Improvement project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-27/Traffic Study MM-22)</p> <ul style="list-style-type: none"> Fair share participation and/or contribution to strengthening and widening the inside and outside shoulders of I-5 between the Fort Tejon and Grapevine Road interchanges and between the SR-138 and Lake Hughes Road interchanges. (MM 10-28/Traffic Study MM-23)
I-5
<p>Cumulative Conditions Mitigation</p> <ul style="list-style-type: none"> On-Site Transportation Management Association (TMA) that would coordinate and manage the following programs: (MM 10-29/Traffic Study MM-24) <ol style="list-style-type: none"> Ride Share Program Transit Program Commuter Bus Program Contribute fair share to planned freeway mainline improvements for the following segments: (MM 10-31/Traffic Study MM-25) <ol style="list-style-type: none"> Between Parker Road and SR-14 – add one HOV or HOT lane in each direction. Between Lake Hughes and Parker – add one auxiliary lane in each direction. Fair share participation and/or contribution to the development of a high capacity goods movement facility along the SR-58 and/or E-220 corridors between I-5 in Kern County and I-15 in San Bernardino County. (MM 10-26/Traffic Study MM-26)
I-5/SR-138 Interchange
<p>Existing Plus Project Mitigation</p> <ul style="list-style-type: none"> To mitigate the westbound SR-138 to SB I-5 connector ramp, construct one auxiliary lane to the I-5 mainline, or contribute fair share to the SR-138/I-5 connector ramps improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-21/Traffic Study MM-16) <p>Cumulative Conditions Mitigation</p> <ul style="list-style-type: none"> To mitigate the westbound SR-138 to SB I-5 connector ramp, contribute fair-share to the construction of two auxiliary lanes to the I-5 mainline, or contribute fair share to the SR-138/I-5 connector ramps improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-32/Traffic Study MM-27) To mitigate the northbound I-5 to eastbound SR-138 connector ramp, contribute fair share to the construction of two auxiliary lanes to the I-5 mainline before the northbound I-5 to eastbound SR-138 connector ramp, or contribute fair share to the SR-138/I-5 connector ramps improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-33/Traffic Study MM-28)
SR-14/SR-138 Interchange
<p>Cumulative Conditions Mitigation</p> <ul style="list-style-type: none"> Contribute fair share to the construction of one mainline auxiliary lane and a second off-ramp lane for the SR-14 northbound off ramp to SR-138, or contribute fair share to the SR-138/SR-14 connector ramps improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project

**TABLE 5.10-33
MITIGATION SUMMARY**

Mitigation
<p>(specific improvements pending Caltrans selection of a preferred alternative). (MM 10-34/Traffic Study MM-29)</p> <ul style="list-style-type: none"> Contribute fair share to the construction of a second lane on the SR-14 southbound on-ramp from SR-138, or contribute fair share to the SR-138/SR-14 connector ramps improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative). (MM 10-35/Traffic Study MM-30)
Off-Site Intersections
<p>Existing Plus Project Mitigation</p> <ul style="list-style-type: none"> Contribute fair-share to recommended mitigation measures at the following intersections, or contribute fair share to the SR-138 improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative): <ul style="list-style-type: none"> Intersection improvements from the westerly access of the Centennial Specific Plan area to 30th Street West (MMs 10-7 through 10-20/Traffic Study MM-2 through MM-15) I-5 SB Ramps and Sedona/The Old Road (Intersection 26) (MM 10-22/Traffic Study MM-17) <p>Cumulative Conditions Mitigation</p> <ul style="list-style-type: none"> Contribute fair-share to recommended mitigation measures at the following intersections, or contribute fair share to the SR-138 improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative): <ul style="list-style-type: none"> SR-14 SB Ramps and SR-138 (Caltrans Intersection) (MM 10-36/Traffic Study MM-31) SR-14 NB Ramps and SR-138 (Caltrans Intersection) (MM 10-37/Traffic Study MM-32) I-5 NB Ramps and Lake Hughes (LA County/Caltrans Intersection) (MM 10-38/Traffic Study MM-33) I-5 SB Ramps and Sedona/The Old Road (LA County/Caltrans Intersection) (MM 10-22/Traffic Study MM-34) I-5 SB Ramps and Magic Mountain (LA County/Caltrans Intersection) (MM 10-39/Traffic Study MM-35) I-5 NB Ramps and Magic Mountain (City of Santa Clarita/Caltrans Intersection) (MM 10-40/Traffic Study MM-36) I-5 SB Ramps and Valencia (LA County/Caltrans Intersection) (MM 10-41/Traffic Study MM-37) I-5 NB Ramps and Valencia (City of Santa Clarita/Caltrans Intersection) (MM 10-42/Traffic Study MM-38) I-5 SB Ramps and McBean (LA County/Caltrans Intersection) (MM 10-43/Traffic Study MM-39) I-5 SB Ramps and Calgrove (City of Santa Clarita/Caltrans Intersection) (MM 10-44/Traffic Study MM-40) I-5 NB Ramps and Calgrove (City of Santa Clarita/Caltrans Intersection) (MM 10-45/Traffic Study MM-41)
<p>393SR: State Route; I: Interstate; Kern COG: Kern Council of Governments; RTP/SCS: Regional Transportation Plan/Sustainable Communities Strategy; HOT: high-occupancy toll; Caltrans: California Department of Transportation.</p> <p>Source: Stantec 2017 (Table 4-11).</p>

Threshold 10-2 **Would the project conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?**

The Los Angeles County CMP includes a Land Use Analysis Program, which requires that the impacts of land use decisions on the regional transportation system be evaluated for projects preparing an EIR. Impacts are evaluated by monitoring level of service performance standards for highway segments and key roadway intersections on the CMP highway network. The CMP Land Use Analysis Program also requires a Transit System Impact Analysis, which monitors project impacts on the regional transit system and provides the planning framework to make the most effective use of transit services.

On-Site Impacts

The CMP highway network, which is evaluated in the impact analysis, consists of all state highways (both freeways and arterials) and principal arterials that meet the criteria established by Metro. The Project site is largely undeveloped and does not have roadways that are part of the CMP highway network. Also, there is no transit system on or near the site. Thus, no on-site impacts would occur.

Off-Site Impacts

Transportation Impact Analysis

A Transportation Impact Analysis (TIA) is required as part of the CMP Land Use Analysis Program for CEQA documentation. (Development projects requiring subsequent approvals do not need to repeat this process as long as no significant changes are made to the Project.)

The study area of the CMP TIA is defined by a focused set of criteria used only to satisfy CMP requirements. In many cases, the study area used in the Project's traffic analysis may differ from the study area used for the CMP TIA. The study area for the CMP TIA is defined by the following criteria:

1. CMP intersections where the proposed Project will add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).
2. Mainline freeway locations where the Project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

Table 5.10-32 lists the freeway and intersection locations affected by the Project that meet the CMP criteria. As specified in the CMP guidelines, the criteria for determining significant impacts for arterial intersections and freeway monitoring stations is defined by an ICU or V/C increase of two percent or more ($V/C \geq .02$) which causes or worsens LOS "F" ($V/C > 1.00$). Evaluation of Project impacts for CMP locations is based on peak hour volumes.

**TABLE 5.10-34
CMP ANALYSIS LOCATIONS**

Location	Meet Criteria?	Project Traffic	
		AM Peak Hour	PM Peak Hour
Freeways			
I-5 n/o Jct SR-126 NB	Yes	0	1,180
I-5 n/o Jct SR-126 SB	Yes	1,340	280
I-5 n/o Jct SR-14 NB	Yes	0	170
I-5 n/o Jct SR-14 SB	Yes	190	0
SR-14 s/o Jct SR-138/Ave D NB	No	40	140
SR-14 s/o Jct SR-138/Ave D SB	No	120	0
SR-14 n/o Jct I-5 NB	No	30	0
SR-14 n/o Jct I-5 SB	No	0	0
Intersections			
Lancaster Rd (SR-138) and 300 th St West	Yes	4,950	5,390
Ave D (SR-138) and 60 th St West	Yes	1,540	1,700
I: Interstate; n/o: north of; SR: State Route; NB: northbound; SB: southbound; s/o: south of Source: Stantec 2017 (Table 5-1).			

The long-range analysis presented under Threshold 10-1 above shows that based on the current freeway and arterial configurations, the Project would cause a significant impact at the following CMP monitoring stations:

- I-5 north of SR-126
- SR-138 at 300th Street West
- SR-138 at 60th Street West

The analysis above under Threshold 10-1 shows that with the proposed mitigation measures at these facilities, Project impacts would be fully mitigated.

Countywide Deficiency Plan

The CMP statute requires the preparation of deficiency plans when portions of the CMP highway system do not meet the established level of service standard. The deficiency plan is linked to the Land Use Analysis Program because it provides jurisdictions the opportunity to plan for mitigation before impacts occur due to new development.

The CMP allows each jurisdiction to mitigate impacts created by new development with an appropriate amount of improvements and/or land use strategies based on a point system. Under this point system, new development generates debit points which represent the jurisdiction's mitigation goal. Credit points are awarded based on the construction of improvements and/or a number of land use strategies. These credits serve as the basis by which the jurisdictions meet mitigation goals. The CMP allows mitigation in the form of credits to not be directly associated with a specific deficiency, thereby giving local

jurisdictions the flexibility to prioritize improvements based on local needs and also to partner with other jurisdictions to resolve regional issues.

While the CMP requires an assessment of Project impacts through the TIA, deficiency plan debits and credits will be assigned when building permits are issued, or when land use strategies are implemented and/or transportation improvements are made. Therefore, this analysis shows the gross impact on the CMP system and provides an estimate of the relative balance of mitigation contained in the plan. Actual debits and credits will be determined in the future and documented through an Annual Monitoring Activity Report based on the CMP guidelines and prepared in consultation with Metro. The specific value of individual development and improvement projects within the Centennial Specific Plan area will be determined at that time.

Transit System Impact Analysis

The CMP Land Use Analysis Program also requires a Transit System Impact Analysis, which monitors project impacts on the regional transit system and provides the planning framework to make the most effective use of transit services. The CMP has a transit monitoring network which consists of bus and rail routes that are within the corridors of the Congested Corridor Progress Report and provide service parallel to the CMP highway system for five miles or greater.

The CMP TIA requires a review of transit impacts that include evidence that transit operators received the Notice of Preparation, identification of existing transit services near the Project (none for this area), estimation of the number of Project trips assigned to transit, information on facilities and/or programs that will encourage public transit use, and an analysis of Project impacts on transit service.

The proposed Project is forecasted to generate approximately 216,400 ADT. The conversion to person trips is accomplished by using Metro guidelines (multiplying the ADT by an occupancy factor of 1.4) which results in a total of 302,960 average daily person trips. Applying Metro's factor for converting total person trips to transit trips (.035) results in approximately 10,600 total daily transit trips and approximately 1,660 peak hour AM plus PM transit trips. The estimated transit trips are summarized in Table 5.10-33.

**TABLE 5.10-35
TRANSIT TRIP SUMMARY**

Description	Time Period		
	Daily	AM Peak Hour	PM Peak Hour
Vehicle Trips	216,400	16,440	17,370
Person Trips*	302,960	23,020	24,310
Factor to Transit Trips	3.5%	3.5%	3.5%
Total Transit Trips	10,604	810	850
* Person Trips = Vehicle Trips x 1.4 (from Congestion Management Program for Los Angeles County, 2002, 2004, and 2010)			
Source: Stantec 2017 (Table 5-2).			

The transit demand created by the Project will occur in increments as the Project develops. As required by MM 10-2, transit services will be evaluated at the tentative tract map level and the vehicle trip reduction measures and transit friendly design standards contained in the Specific Plan (PDFs 10-1 to 10-4), and transit operator assessment of the capacity and demand for transit services, will occur as the Project is developed.

Kern County CMP

The Congestion Management Program for Kern County (Kern County CMP) is a section of the County's Regional Transportation Plan. The purpose of the CMP is to help ensure that a balanced transportation system is developed that relates population growth, traffic growth and land use decisions to transportation system LOS performance standards and air quality improvement.

The Kern County CMP contains six elements and places the requirements of these elements on the local agencies (City and County governments) and on the Kern Council of Governments. No specific requirements are not placed on private developments. The Centennial Project is consistent with the goals of the CMP based on its consistency with each element of the CMP, as discussed below.

Land Use Impact Analysis: The impacts of the Project are evaluated for the roadways within Kern County. The analysis demonstrates that the Project would not result in a significant impact to the Kern County transportation system.

Multi-Modal Performance Standards: The Project has been evaluated based on the performance standards of Caltrans and the County of Kern, which equal or exceed the performance standards of the Kern County CMP. Since the Project is located in Los Angeles County, bus/transit service is being coordinated with operators based in Los Angeles County.

Regional Traffic Model: The traffic impact analysis utilizes the Kern COG traffic model for traffic volume forecasts for Kern County roadways. Kern COG modeling staff prepared special model runs of the Kern COG regional traffic model to account for the traffic generation of the Project. The analysis demonstrates that the Project would not result in a significant impact to the Kern County Congestion Management system.

Transportation Demand Management: The Project has been designed to promote alternatives to driving, such as walking, biking, transit, and the use of neighborhood electric vehicles. In addition, the Project will include formation of a Traffic Management Association to promote transit use and other alternatives to automobile use and to reduce vehicle trips from the Project.

Capital Improvement Program: The Project Applicant worked with the local agencies to ensure that needed roadway improvements are programmed into the appropriate plans of those agencies, and will be contributing its fair share of funding for improvements at locations significantly impacted by the Project. Also, the analysis shows that the Project would not result in a significant impact to the Kern County roadway system.

Deficiency Plan: Where significant traffic impacts have been determined, the Project would implement mitigation measures for these impacts. Also, the analysis shows that the Project would not result in a significant impact to the Kern County roadway system.

Impact Summary: The Project would not conflict with the Los Angeles County and Kern County CMPs. Impacts would be less than significant, and no mitigation is required beyond those previously identified (MMs 10-23 through 10-28 and MMs 10-31 through 10-45). However, if Caltrans does not implement the needed improvements identified under Threshold 10-1 above, impacts on freeways, arterial roadways, and intersections on the CMP highway network would be significant and unavoidable.

Threshold 10-3 **Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

On-Site Impacts

The Quail Lake Skypark Airport, a small, single-strip, general aviation (i.e., non-jet) private airport, is the closest airport to the Project site and is located east of Quail Lake and south of the Project site. Because the Quail Lake Skypark is privately owned and only has six locally based aircraft, the number and frequency of flights is expected to be minimal. Development of the Project would not increase the flights in or out of this airport as it would still be privately owned. As such, there would be no changes to air traffic patterns, nor would there be increased safety risks as a result. Impacts would be less than significant. Please see Section 5.3, Hazards and Fire Safety, for more information about impacts as a result of the Quail Lake Skypark Airport.

Off-Site Impacts

Construction of off-site roadway and utility improvements would not change air traffic patterns or levels at the Quail Lake Skypark Airport, nor would it result in increased safety risks. There would be no impact, and no mitigation is required. As determined for the Centennial Project above, exposure to hazards created by aircraft operations at the Quail Lake Skypark Airport would not have a significant impact on the proposed wells, utility connections, and roadway improvements due to the small scale of airport operations. Also, the off-site Project features would not result in glare, emit smoke, or otherwise affect air traffic. Therefore, impacts would be considered less than significant and no mitigation is required.

Impact Summary: The Project would not change air traffic patterns; create an increase in air traffic levels; or create substantial safety risks from air traffic. Impacts would be less than significant, and no mitigation is required.

Threshold 10-4 **Will the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

Threshold 10-5 Will the project result in inadequate emergency access?

On-Site Impacts

The Circulation Plan for the Project was designed to accommodate the projected traffic volumes that would be generated by on-site development. The Project's Mobility Plan (PDF 10-1/MMs 10-29 and 10-30) has been designed to reduce vehicle trip generation and provide adequate roadway capacity. A capacity verification of the on-site circulation system was made using long-range traffic forecast data from the CTM.

The Project roadways would be built to County of Los Angeles Department of Public Works standards as contained in County design manuals, the AVAP and the *Centennial Specific Plan*. The roadways will be designed to ensure that there is proper access for emergency ingress and egress for evacuation and for access by emergency vehicles. In addition, the conceptual alignment of the roadways for the Project area has been designed to accommodate general design speeds in accordance with County standards.

National Cement Plant Road is planned to be realigned to the west to provide a shorter route of access for the cement trucks to the I-5 and separate cement truck traffic from Project-generated vehicle trips. The Project also includes the construction of off-site roadway improvements under MMs 10-23 and 10-7 through 10-20 (e.g., deceleration lanes, acceleration lanes, turn pockets, and signalized traffic lights on SR-138) to allow for safe ingress/egress to and from the site. Thus, no traffic hazards or inadequate emergency access would occur as a result of the Project.

Off-Site Impacts

The proposed wells would not involve modifications to existing roadways, nor would they require new roadways. The proposed well locations would be accessed via the existing dirt or decomposed granite roads serving the Tejon Ranch Company Water Bank or via West Avenue B. Therefore, the off-site wells would not affect traffic circulation or otherwise affect emergency access in any way. The proposed wells would not increase traffic hazards or result in inadequate emergency response.

The proposed utility connections would be underground and would not affect traffic flow or emergency access. In addition, the proposed roadway improvements would provide safe and efficient access to and from the site. The proposed off-site roadway improvements (e.g., deceleration lanes, acceleration lanes, turn pockets, and signalized traffic lights on SR-138 and Aqueduct crossings) would improve traffic safety.

There are no off-site Project features being proposed that will impede traffic flow or restrict emergency access to or from the Project site or create a hazardous situation; therefore there will be no impacts to or from off-site Project features.

Construction of the proposed off-site Project features would lead to temporary obstruction of roadways where utility lines connections and roadway improvements are planned but this impact would be temporary and would occur at scattered locations. Compliance with the Greenbook and Graybook and implementation of traffic management plans during

construction (MM 10-5) would prevent traffic and emergency access obstruction. Impacts would be less than significant.

Impact Summary: There are no known traffic hazards, nor are there existing or planned Project components that may create hazards that will impact the Project or surrounding area. There will be less than significant impacts to emergency access with implementation of the proposed roadway improvements at intersections with SR-138 and compliance with existing regulations and implementation of MMs 10-7 through 10-20, MMs 10-29, 10-30, 10-23, and 10-5.

Threshold 10-6 **Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

On-Site Impacts

Intersections, Streets, Highways and Freeways

Please see the discussion under Threshold 10-1 for the impact analysis regarding intersections, streets, highways, and freeways. Please see Section 5.8, Land Use, Entitlements, and Planning, for a consistency analysis with the SCAG Regional Comprehensive Plan (RCP) and RTP/SCS, the County of Los Angeles General Plan, and the Antelope Valley Area Plan (AVAP).

Pedestrian and Bicycle Paths

Please see Section 5.8, Land Use, Entitlements, and Planning, for a consistency analysis with goals and policies related to pedestrian and bicycle paths, as contained in the SCAG RCP and RTP/SCS, the County of Los Angeles General Plan, and the AVAP.

Transit

As part of the Project's overall transportation demand management (TDM) strategy to reduce the dependence on the private automobile, which would result in a consequential reduction in overall volume of Project-generated trips off site, the Project Applicant will participate in or form a Transportation Management Association (TMA) to serve the residents and employees of businesses within the Project area or will be organized in conjunction with an existing organization in the Antelope Valley or Santa Clarita area. If the former, the Centennial TMA will specifically develop strategic linkages with other Antelope Valley/Santa Clarita Valley TMAs or like organizations in order to maximize transit efficiencies and services. Such coordination will also help match ride sharers and provide information on transit options. The TMA's purpose will be to coordinate and facilitate transit and rideshare usage to serve as many riders as possible. Commuter buses that may be utilized by Project residents to travel to and from the Santa Clarita Valley, Antelope Valley and the Tejon Ranch Commerce Center are expected to lead to 100 less vehicle trips to and from the Santa Clarita Valley and 50 less vehicle trips to and from the Antelope Valley during peak hours on weekdays.

Rideshare programs are also expected to lead to a net reduction of 100 single occupancy vehicle trips to (AM) and from (PM) the Santa Clarita Valley and a net reduction of 60 single occupancy vehicle trips from (AM) and to (PM) the Antelope Valley. A total of 200 vehicle trips to and from the Santa Clarita Valley and 110 trips to and from the Antelope Valley would be reduced by commuter buses and rideshare programs.

Under MM 10-30, TDM measures such as the transit and rideshare program will be implemented at the onset of Project development, although conceivably on a smaller scale and expanded as demand increases through buildout.

Policy Compliance

In a regional context, SCAG policies have been assessed in Table 5.8-4, SCAG Regional Comprehensive Plan Consistency, and Table 5.8-2, Consistency with SCAG RTP/SCS Goals and Policies, in Section 5.8, Land Use, Entitlements, and Planning. There are six policies in SCAG's RTP/SCS that are applicable to the Project. They are listed below with a discussion of how the Centennial Project complies with each policy.

- **Policy 1:** Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.

The RTP Performance Criteria, as noted in Table 5.10-1, depict the following Performance Indicators: Location Efficiency, Mobility and Accessibility, Safety and Health, Environmental Quality, Economic Well Being, Investment Effectiveness, and System Sustainability. Location Efficiency is met by the site's location on SR-138 and near the I-5, a major regional transportation corridor, where improvements have been planned for both Caltrans facilities. Mobility is addressed through mitigation measures that enhance capacity and flow of the transportation network. Accessibility is provided through a comprehensive plan of on-site roadways, greenway trails, and community trails. Safety and health is met by building a circulation system in accordance with County safety standards. Environmental quality is promoted by Project features and mitigation measures that provide alternatives to vehicle use and minimize vehicle emissions and road runoff generated by on-site uses. Economic well-being is met by development of a new community where residents can work and obtain goods and services within the site and employees can live near their place of work in the Centennial community. Investment effectiveness is increased through Project investment in roadway and infrastructure improvements in the area and funding mechanisms to ensure the improvements are maintained. Lastly, the Project's Green Development Program incorporates sustainability measures through planned infrastructure and the fossil fuel reduction that would occur with ADT reduction as a result of balanced growth on-site and development in accordance with the AVAP.

- **Policy 2:** Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities for any incremental funding in the region

The Project includes a Green Development Program, which would serve to improve the efficiency of the transportation network. Among the policies of the Green Development Program, the Project would result in the construction of streets and parking lot aisles to the

minimum widths in accordance with the *Centennial Specific Plan*, in compliance with regulations for the Americans with Disabilities Act, and in accordance with safety requirements for fire and emergency vehicle access. Additionally, as identified above, safety would be met via building improvements in accordance with County safety standards. The Project's TMA would also coordinate with public transportation providers to provide transit service, special charter operations, and other similar types of transit to reduce vehicle trips.

- **Policy 3:** RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives

Developed via interagency coordination, the Project is included in demographic analyses with respect to anticipated population, housing, and employment growth assumed in the 2012 RTP/SCS. The Project was developed to utilize smart growth strategies, including the development of walkable neighborhoods with a range of housing choices in close proximity to schools, parks and commercial uses in village centers, and non-residential uses to accommodate employment for local residents.

- **Policy 4:** Transportation demand management (TDM) and non-motorized transportation will be focus areas, subject to Policy 1

The Project includes an on-site network of sidewalks, greenway trails, and community trails that contribute to TDM measures; participation in a TMA that promotes the use of transit, ridesharing, carpools and/or vanpools; and a community intranet for public education and information sharing.

- **Policy 5:** HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1

To mitigate impacts to the I-5 mainline, the Project will contribute its fair share to the planned I-5 improvement Project, which consists of adding one auxiliary lane in each direction between Lake Hughes and Parker and adding one HOT lane in each direction between Parker Road and SR-14.

- **Policy 6:** Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan

The Project includes a detailed Mitigation Monitoring and Reporting Plan (MMRP) to ensure that the mitigation measures are implemented to reduce or avoid significant environmental impacts. Specifically, the proposed Project includes design elements called project design features (PDFs) and mitigation measures (MMs). PDFs are design features that the Project Applicant incorporates into a project to minimize impacts. The MMs serve to address potential significant impacts related to Project implementation. Because PDFs have been incorporated into the Project, they do not constitute mitigation measures as defined by CEQA; however, PDFs will be included in the MMRP to ensure that they are implemented as part of the Project and monitored as required.

Trip Balance Between Residential and Non-residential

The Centennial Project has been designed to balance residential and non-residential uses and to balance the number of on-site jobs with on-site housing units to encourage local trips. Because of the balanced land use plan, all jobs could be filled by workers in the community and all service needs could be met by on-site retail and other service land uses. Non-work activities such as schools, parks, library facilities, and retail have also been planned on the Project site in an effort to reduce the need to access such services by making trips external to the Project. As discussed in Threshold 10-1, a proportion of Project residential work and service or amenity transit can be expected to consist of external trips to or from the site, and a proportion of residents and workers outside of the site can be expected to commute to the Project. Overall, about 65 percent of all daily trips, measured by trip ends, will be internal to the Project. The estimated proportion of Project internal (on site) and external (off site) trip ends and trips is summarized in Table 5.10-18 and Table 5.10-19.

Off-Site Impacts

The proposed off-site wells and well infrastructure, utility connections, and roadway improvements would not cause an increase in traffic. The only traffic would be generated by the anticipated daily visit to each well location for maintenance and monitoring. Therefore, the proposed off-site improvements would not conflict with any measures for performance of the circulation system. There would be no interference with existing or proposed alternative transportation facilities. There would be no impact and no mitigation is required.

Impact Summary: The Project will promote the use of alternatives to the automobile and will comply with applicable transportation plans, policies, and regulations. The bicycle and pedestrian facilities proposed for the Project will be built for safe performance, consistent with regional and County plans. In addition, the proposed Transportation Management Association would promote transit use and reduce vehicle trips. There will be no impact on alternative transportation systems as a result of Project implementation.

5.10.7 MITIGATION MEASURES

MM 10-1 The Project shall provide internet infrastructure and a community intranet with access for homeowners associations; interest groups; local event scheduling; schools, library, carpool and transit services; and other on-site entertainment and amenities for residential land uses. The internet and intranet will reduce the need for people to use automobile travel to obtain the information that is provided by both. The intranet shall also provide education about greenhouse gas (GHG) emissions; GHG reduction opportunities; energy and water conservation opportunities; financial incentives (e.g., rebates and low-interest loans) for energy-efficiency improvements; and energy-efficiency technology systems, including those suitable for large commercial and industrial users.

- MM 10-2** The Project Applicant/Developer shall submit a traffic study that addresses site access and local circulation in accordance with the County of Los Angeles Department of Public Works Traffic Impact Analysis Report Guidelines. The Project Applicant/Developer shall retain a Traffic Engineer or Civil Engineer licensed in the State of California to perform the traffic study to the satisfaction of the County.
- MM 10-3** The Project Applicant/Developer shall seek to enter into a Centennial Transportation Improvement Program (CTIP) for Land Development Impacts to California State Transportation Facilities with Caltrans and shall comply with the terms the CTIP agreement if approved and implemented. Compliance with the CTIP shall constitute compliance with the mitigation measures for the Project's traffic impacts on the State highway system. Any required improvements that result from direct Project impacts (i.e., not from cumulative impacts), and are required on Caltrans-owned facilities, shall be implemented through a CTIP. Any required improvements that result from cumulative traffic impacts may be implemented through payment of fair share fees.
- MM 10-4** The Project Applicant/Developer will work with the County and/or Caltrans to establish a Traffic Mitigation Fee Program or an assessment district (an example of such is the Bridge and Thoroughfare District pursuant to *California Government Code*, Sections 66484 et seq.) or other equivalent program. Such a program or assessment district will mitigate vehicular trips related to new development accessing the SR-138 corridor between I-5 and SR-14 by establishing a fair share contribution from such new development to ensure the SR-138 needed improvements are fully funded. These fees shall be used for the needed improvements and may include the cost of engineering, soils analysis, right-of-way acquisition, demolition, relocation, construction, inspection, and other related expenses.
- MM 10-5** The Project Applicant/Developer shall submit Traffic Management Plans to the County for review and approval. The Traffic Management Plans shall describe traffic-control measures that shall be implemented to maintain traffic flow in all directions, including where utilities and other improvements are being implemented in existing roadways. The Traffic Management Plans shall identify the following: construction haul routes; duration and location of lane closures; location of parking for the public and construction workers during construction phases; use of flag persons; and any pedestrian-related impacts to sidewalks and intersection crossings. The Traffic Management Plan shall be implemented during all stages of Project construction that generate traffic impacts.
- MM 10-6** (*Traffic Study MM-1*) To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP to improve SR-138 to a four lane expressway from I-5 to 190th Street West, with right-of-way reserved for a six-lane expressway between I-5 and 300th Street West, or

comparable improvements consistent with the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-7 *(Traffic Study MM-2)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for the following intersection improvements at Specific Plan Westerly Access and SR-138:

- Widen SR-138 to a four-lane highway from westerly project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions.
- Construct intersection to include: two NB left-turn lanes, three NB through lanes and one NB right-turn lane.
- In the SB direction, construct two left turn lanes, three through lanes and one free-flow right-turn lane.
- In the EB direction, construct three left-turn lanes and one right-turn lane.
- In the WB direction, construct two left-turn lanes and a free-flow right-turn lane.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-8 *(Traffic Study MM-3)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at Specific Plan Central Access and SR-138:

- Widen SR-138 to a four-lane highway from westerly project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions.
- In the NB and SB directions, construct two left-turn lanes, three through lanes and one right-turn lane.
- In the EB direction, construct two left-turn lanes and one right-turn lane.
- In the WB direction, construct two left-turn lanes and a free-flow right-turn lane.
- Install traffic signal and include SB and NB right-turn overlap phasing.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-9 *(Traffic Study MM-4)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 300th Street West and SR-138:

- Widen SR-138 to a four-lane highway from westerly project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions.
- Construct two left-turn lanes and one right-turn lane in the EB direction and two left-turn lanes and dual right-turn lanes in the WB direction.
- In the NB direction, construct two left-turn lanes, three through lanes, and one right-turn lane.
- In the SB direction, construct two left turn lanes, three through lanes and one free-flow right-turn lane.
- Install traffic signal and include WB right-turn overlap phasing.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-10 *(Traffic Study MM-5)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 290th Street West and SR-138:

- Widen SR-138 to a four-lane highway from westerly project entrance to 290th Street West, with auxiliary lanes between intersections, resulting in three through lanes in the WB and EB directions.
- Additional intersection improvements include: two EB left turn lanes, one WB right-turn lane, two SB left turn and two SB right-turn lanes.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-11 *(Traffic Study MM-6)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at Margalo Drive and SR-138:

- Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions.
- Additional intersection improvements include: one EB left turn lane and one WB right-turn lane.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-12 *(Traffic Study MM-7)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at Three Points and SR-138:

- Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions.
- Additional improvements include adding one NB left-turn lane and one SB left turn lane.

Or contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-13 *(Traffic Study MM-8)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 245th Street West and SR-138:

- Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions.
- Additional improvements include adding one NB left-turn lane and one SB left turn lane and one dedicated EB right-turn lane.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-14 *(Traffic Study MM-9)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 230th Street West and SR-138:

- Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West.
- Additional improvements include one SB left-turn lane, one SB right-turn lane and one EB left-turn lane.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-15 *(Traffic Study MM-10)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 190th Street West and SR-138:

- Widen SR-138 to a four-lane highway from 290th Street West to 190th Street West with roadway augmentation at intersection, approximately ¼ mile in length for the west and east legs resulting in three through lanes in the WB and EB directions.
- Additional improvements include adding one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left turn lane and one dedicated EB right-turn lane.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-16 *(Traffic Study MM-11)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 170th Street West and SR-138:

- Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in 2 through lanes in the WB and EB directions at the intersection.
- Additional improvements include one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left-turn lane.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-17 *(Traffic Study MM-12)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 110th Street West and SR-138:

- Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in 2 through lanes in the WB and EB directions at the intersection.
- Additional improvements include: one EB left-turn lane, one WB left-turn lane, two NB left-turn lanes, one SB left-turn lane and two SB right-turn lanes.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-18 *(Traffic Study MM-13)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 90th Street West and SR-138:

- Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in 2 through lanes in the WB and EB directions at the intersection.
- Additional improvements include: one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left-turn lane.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-19 *(Traffic Study MM-14)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 60th Street West and SR-138:

- Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in 2 through lanes in the WB and EB directions at the intersection.
- Additional improvements include: one EB left-turn lane, one WB left-turn lane, one NB left-turn lane and one SB left-turn lane.
- Install traffic signal.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-20 *(Traffic Study MM-15)* To mitigate the Project's impacts to SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for implementation of the following intersection improvements at 30th Street West and SR-138:

- Roadway augmentation at intersection, approximately ¼ mile in length for the east and west legs, resulting in 2 through lanes in the WB and EB directions at the intersection.
- Additional improvements include adding one EB left-turn lane and one WB left-turn lane.

Or, contribute fair share to intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-21 *(Traffic Study MM-16)* To provide adequate capacity at the I-5/SR-138 interchange, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the following ramp improvement at I-5/SR-138:

- Addition of one auxiliary lane at the connector ramp from westbound SR-138 to southbound I-5 for existing plus Project conditions

MM 10-22 *(Traffic Study MM-17 and MM-34)* To provide adequate capacity at The Old Road at I-5 SB Ramps/Sedona intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the addition of a second southbound left-turn lane from The Old Road to the I-5 Southbound On-Ramp.

MM 10-23 *(Traffic Study MM-18)* To mitigate the increase of side-street delay for the existing adjacent off-site areas and for planned on-site side streets along SR-138, the Project Applicant/Developer shall either (1) comply with the terms of the Centennial Transportation Improvement Program (CTIP) or (2) dedicate right-of-way within the project site at each site access location to accommodate the ultimate intersection or interchange configuration to be determined by the Northwest Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative) at the following SR-138 intersections:

- Westerly Access
- Central Access
- 300th Street West

- 290th Street West

MM 10-24 *(Traffic Study MM-19)* To provide adequate on- and off-site capacity, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the widening of SR-138, including:

- Addition of an auxiliary lane in each direction (six lanes total) from I-5 to 300th Street West

MM 10-25 *(Traffic Study MM-20)* To provide adequate on- and off-site capacity, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the widening of SR-138, including:

- Addition of an auxiliary lane in each direction (six lanes total) from 300th Street West to 245th Street West

MM 10-26 *(Traffic Study MM-21 and MM-26)* To provide adequate capacity to the I-5 mainline freeway, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding towards RTP/SCS improvement projects on SR-58 between I-5 in Kern County and I-15 in San Bernardino County, as verified by the County in consultation with the Kern COG and Caltrans. Improvements could include development of a high capacity goods movement facility along the SR-58 and/or E-220 corridors.

MM 10-27 *(Traffic Study MM-22)* To provide adequate capacity on SR-138, the Project Applicant/Developer shall comply with the terms of the CTIP for the SR-138 improvements to a limited access facility with grade-separated interchanges, consistent with the County's analysis of the AVAP, or fair share participation and/or contribution to the SR-138 improvements (freeway/expressway or expressway/limited access conventional highway) being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).

MM 10-28 *(Traffic Study MM-23)* To provide adequate capacity to the I-5 mainline freeway, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding towards the following planned improvements to I-5:

- I-5 between Fort Tejon and Grapevine Road and between SR-138 and Lake Hughes Road interchanges: Strengthening and widening the inside and outside shoulders of I-5.

MM 10-29 *(Traffic Study MM-24)* The Project Applicant/Developer shall implement the Mobility Plan, included as Section 3.2 of the Specific Plan, which provides an extensive system of sidewalks, greenway trails, community trails, and two transit hubs to serve as alternative means of transportation on the Project site. The Mobility Plan also requires creation and ongoing operation of a

Transportation Management Association (TMA) to implement ongoing transportation improvements and programs.

The Project Applicant/Developer, through the required implementation of the Mobility Plan, shall:

- Reinforce and serve the Land Use Plan;
- Provide residents and employees with multiple modes of accessibility for internal and external trips by future residents and visitors;
- Provide options to reduce vehicle trips and emissions by linking effective travel demand management with transportation systems and parking policies;
- Provide residents and employees on the Project site with multiple modes of transportation;
- Provides for 80 percent on average, but no less than 50 percent of residential units to be located within one-half mile of a Village center that includes retail and service uses;
- Provide parks within a 5-minute walk (0.25 mile) of 80 percent of all residential units;
- Require TMA implementation of combination of transit and transportation measures to reduce on-site single-occupancy automobile use by 30 percent in relation to standard ITE-generation rates for the overall Project; and
- Require TMA implementation of a combination of measures to reduce off-site peak hour commutes to and from the Project site in single-occupancy automobiles by 20 percent.
- Require TMA implementation of a program to coordinate with automotive dealers on the Project site to promote CNG, electric, and hybrid electric vehicles.
- Require TMA oversight of requirement for service fleet vehicles for agencies or businesses located on-site to be alternative fuel vehicles to the maximum extent feasible, as determine by the Project Applicant/Developer.

The Circulation Plan sets forth requirements for roadway classifications; intersection controls; and traffic calming measures. Where approved by the California Department of Transportation (Caltrans) and the County and where maintenance and durability costs are comparable to traditional materials, use “cool” pavement materials, which reduce heat island effect.

MM 10-30 *(Traffic Study MM-24)* Each component of the Mobility Plan incorporates Transportation Demand Management (TDM) features to reduce dependence

on the automobile, provide for a more efficient use of transportation resources among Project occupants, and thereby reduce pollutant emissions. Related to this is the creation and ongoing operation of a Transportation Management Association (TMA) to fund and manage the operation of ongoing transportation programs, including but not limited to transit and on-demand services.

The key TDM elements that are inherent in the overall Mobility Plan are:

- Sidewalks, greenway trails, and community trails that link residential, schools, shopping, and employment areas;
- Small- to medium-sized streets and blocks that allow for shorter walking distances to retail, parks, schools, and other destinations;
- Pedestrian environments incorporated with public streets;
- Parking behind buildings to encourage walking in retail areas along street frontage; and
- Parks within 0.25 mile of 80 percent of all residential units

MM 10-31 *(Traffic Study MM-25)* To provide adequate capacity to the I-5 mainline freeway, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding towards the following planned improvements to I-5:

- I-5 between Lake Hughes and Parker: Addition of one auxiliary lane in each direction.
- I-5 between Parker Road and SR-14: Addition of one HOV or HOT lane in each direction.

MM 10-32 *(Traffic Study MM-27)* To provide adequate capacity at the I-5/SR-138 interchange, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the following ramp improvement at I-5/SR-138:

- Addition of two auxiliary lanes at the connector ramp from westbound SR-138 to southbound I-5 for Year 2035 cumulative buildout conditions.

MM 10-33 *(Traffic Study MM-28)* To provide adequate capacity at the I-5/SR-138 interchange, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the following ramp improvement at I-5/SR-138:

- Addition of two auxiliary lanes at the connector ramp mainline before the northbound I-5 to eastbound SR-138 connector ramp.

- MM 10-34** *(Traffic Study MM-29)* To provide adequate capacity at the SR-14/SR-138 interchange, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the following ramp improvement at SR-14/SR-138:
- Construction of one auxiliary lane and a second off-ramp lane for the SR-14 northbound off ramp to SR-138.
- MM 10-35** *(Traffic Study MM-30)* To provide adequate capacity at the SR-14/SR-138 interchange, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the following ramp improvement at SR-14/SR-138:
- Construction of a second lane on the SR-14 southbound on-ramp from SR-138.
- MM 10-36** *(Traffic Study MM-31)* To provide adequate capacity at the SR-14 SB Ramps and SR-138 interchange, the Project Applicant/Developer shall (1) comply with the terms of the CTIP for the reconfiguration of the interchange to include two eastbound through lanes and three westbound through lanes. In the southbound direction, add a second right-turn lane; and install a traffic signal and include right-turn overlap phasing or (2) contribute fair share funding for intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).
- MM 10-37** *(Traffic Study MM-32)* To provide adequate capacity at SR-14 NB Ramps and SR-138 interchange, the Project Applicant/Developer shall (1) comply with the terms of the CTIP for the reconfiguration of the interchange to include two eastbound through lanes and two westbound through lanes and, in the northbound direction, add two left-turn lanes and a traffic signal or (2) contribute fair share funding for intersection improvements being advanced by Caltrans in the Northwest 138 Corridor Improvement Project (specific improvements pending Caltrans selection of a preferred alternative).
- MM 10-38** *(Traffic Study MM-33)* To provide adequate capacity at Lake Hughes Road at I-NB Ramps intersection, the Project Applicant/Developer shall (1) comply with the terms of the CTIP or (2) contribute fair share funding towards planned improvements to I-5 for the addition of one lane to the northbound off-ramp and restripe the configuration to include one left-turn, one shared left/right-turn lane, and one dedicated right-turn lane.
- MM 10-39** *(Traffic Study MM-35)* To provide adequate capacity at the Magic Mountain Parkway at I-5 SB Ramps intersection, the Project Applicant/Developer shall (1) comply with the terms of the CTIP or (2) contribute fair share funding towards planned improvements to I-5 for the restriping of the southbound off-ramp to provide two left-turn lanes, one shared left-turn/through lane, and one right-turn lane.

- MM 10-40** *(Traffic Study MM-36)* To provide adequate capacity at the Magic Mountain Parkway at I-5 NB Ramps intersection, the Project Applicant/Developer shall (1) comply with the terms of the CTIP or (2) contribute fair share funding towards planned improvements to I-5 for the conversion of the shared through/right-turn lane to a shared left/through/right-turn lane.
- MM 10-41** *(Traffic Study MM-37)* To provide adequate capacity at the Valencia Road at I-5 SB Ramps intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the striping of a third westbound through lane.
- MM 10-42** *(Traffic Study MM-38)* To provide adequate capacity at the Valencia Road at I-5 NB Ramps intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the traffic signal modification to add a northbound right-turn overlap phase.
- MM 10-43** *(Traffic Study MM-39)* To provide adequate capacity at the McBean Parkway at I-5 SB Ramps intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward the restriping of the dedicated westbound right-turn lane to a shared through/right-turn lane.
- MM 10-44** *(Traffic Study MM-40)* To provide adequate capacity at the Calgrove Road at I-5 SB Ramps intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward adding a second eastbound through lane and a de-facto right-turn lane and a second through lane in the westbound direction.
- MM 10-45** *(Traffic Study MM-41)* To provide adequate capacity at the Calgrove Road at I-5 NB Ramps intersection, the Project Applicant/Developer shall either (1) comply with the terms of the CTIP or (2) contribute fair share funding toward restriping to add a westbound de facto right-turn lane.

Since Caltrans has deferred the selection of a preferred build alternative for the Northwest 138 Corridor Improvement Project and has also reserved the right to determine the specific types of intersection controls at the time the improvements occur and MMs 10-6 through 10-27 and MMs 10-31 through 10-35 would mitigate the Project's impacts and cumulative impacts on the SR-138, these mitigation measures are subject to change pending Caltrans determination of the preferred 138 Corridor alternative. Therefore, the Centennial Project will contribute its fair share and/or contribute towards the cost of the Northwest 138 Corridor Improvement Project for the alternative ultimately selected by Caltrans and Metro. Refer to the Traffic Study (Appendix 5.10-A) for additional detail on the traffic mitigation.

Under MM 10-29, the Project is required to reduce use of automobiles by implementing PDFs and TDM measures to be administered and monitored by a Transportation Management Association. These mandatory mitigation measures require the reduction of single-occupancy automobile use for off-site commutes by 20 percent, and require the reduction of

single occupancy automobile use within the Project site by 30 percent. The traffic analysis above conservatively assumes full trip (i.e., single occupancy automobile) volumes on- and off-site, and thus, is conservative and actual traffic volumes from the Project are anticipated to be lower.

5.10.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation measures have been established to reduce the Project's significant impacts on traffic access and circulation. However, these mitigation measures call for improvements to Caltrans facilities, which are outside the control of the County of Los Angeles and the Project Applicant. Implementation of the CTIP or fair share contributions by the Project Applicant in accordance with MM 10-3, MMs 10-6 through 10-28, and MMs 10-31 through 10-45 will ensure that the Project provides fair share funding required to mitigate potential Project impacts. Implementation of a traffic mitigation fee program (MM 10-4) would provide a mechanism for providing fair share contributions from other projects and future activity affecting State facilities.

Accordingly, pursuant to Section 21081 of CEQA, the County determines that:

- (a) Changes or alterations have been requested or incorporated into the Project which mitigate the traffic effects to a less than significant level, and
- (b) The mitigations are within the responsibility and jurisdiction of Caltrans and can and should be adopted by Caltrans.

It is recognized that if Caltrans does not implement the improvements outlined in the mitigation measures above in the manner or within the time frame needed to serve the Project, significant and unavoidable impacts to traffic circulation may result.

5.10.9 REFERENCES

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