2.8 Transportation and Traffic

This section of the SEIR analyzes the transportation and traffic-related environmental effects evaluated in the previous environmental documents (the 1994 EIR, the 2000 SEIR, and the 2012 Addendum). Additionally, this section summarizes information from the *Traffic Impact Analysis* prepared by Linscott Law and Greenspan (December 8, 2016) for the proposed Project, included as Appendix K of this SEIR, and evaluates existing conditions for the transportation facilities within the Project area addressed in this SEIR, as well as the potential traffic impacts that could result from implementation of the proposed Project.

One comment letter was received during the NOP scoping period that addressed transportation and traffic (see Appendix A). This comment, from Marathon Land and Cattle Company, requested that the EIR analyze alternative alignments of Zinser Road and Harvest Road. The Project has been designed to accommodate the County's approved alignments for those roadways. Furthermore, the alignments are consistent with what has been approved for TM 5538.

2.8.1 Existing Conditions

2.8.1.1 *Environmental Setting*

Study Area

Effective evaluation of the traffic impacts associated with the proposed development requires an understanding of the existing transportation system in the Project study area. Existing transportation conditions in the study area include roadway geometry, traffic control, and peak period/daily traffic flow. The principal roadways in the Project study area are described briefly below. Figure 2.8-1, *Existing Conditions Diagram*, depicts the existing conditions on the ground today.

The study area was determined in accordance with the County of San Diego and City of San Diego's published traffic impact analysis requirement guidelines. The study area includes the following 23 intersections, 18 street segments, and three freeway mainline segments. These locations were chosen because they would carry the majority of Project traffic.

Intersections

1. Otay Mesa Road/Heritage Road
2. Otay Mesa Road/Cactus Road
3. Otay Mesa Road/Britannia Boulevard
4. Otay Mesa Road/La Media Road
5. Otay Mesa Road/Piper Ranch Road
6. Otay Mesa Road/SR-125 SB Off-Ramp

7. Otay Mesa Road/SR-125 NB On-Ramp
8. Otay Mesa Road/Harvest Road
9. Otay Mesa Road/Sanyo Avenue
10. Otay Mesa Road/Vann Center Boulevard
11. Otay Mesa Road/Enrico Fermi Drive
12. Britannia Boulevard/SR-905 WB Ramps
13. Britannia Boulevard/SR-905 EB Ramps
14. La Media Road/SR-905 WB Ramps/St. Andrews Avenue
15. La Media Road/SR-905 EB Ramps
16. Airway Road/Sanyo Avenue
17. Airway Road/Paseo de las Americas
18. Airway Road/Enrico Fermi Drive
19. Siempre Viva Road EB/SR-905 SB Ramps
20. Siempre Viva Road WB/SR-905 SB Off-Ramp
21. Siempre Viva Road/SR-905 NB Ramps
22. Siempre Viva Road/Paseo de las Americas
23. Siempre Viva Road/Enrico Fermi Drive

Street Segments

Otay Mesa Road:
- West of Heritage Road
- Heritage Road to Cactus Road
- Cactus Road to Britannia Boulevard
- Britannia Boulevard to La Media Road
- La Media Road to Piper Ranch Road
- Piper Ranch Road to SR-125
- SR-125 to Harvest Road
- Harvest Road to Sanyo Avenue
- Sanyo Avenue to Vann Centre Drive
- Vann Centre Drive to Enrico Fermi Drive

Britannia Boulevard:
- Otay Mesa Road to SR-905

Sanyo Avenue:
- Otay Mesa Road to Airway Road

Enrico Fermi Drive:
- Otay Mesa Road to Airway Road
- Airway Road to Siempre Viva Road

Airway Road:
- Sanyo Avenue to Paseo de las Americas

La Media Road:
- Otay Mesa Road to SR-905 WB Ramps/St. Andrews Avenue

Siempre Viva Road:
- SR-905 to Paseo de las Americas
- Paseo de las Americas to Enrico Fermi Drive

Freeway Mainline Segments

SR-905:

- Heritage Road to Britannia Boulevard
- Britannia Boulevard to La Media Road
- La Media Road to Siempre Viva Road

Existing Roadway Network

The following is a description of the surrounding roadway network:

SR-905 is a six-lane freeway, opened in July 2012, that provides a direct east-west connection from I-805 to the Otay Mesa Port of Entry (POE). The posted speed limit is 55 mph. SR-905 is part of an ongoing effort to construct a transportation facility from I-805 to the Otay Mesa POE at the US - Mexico Border to provide for more efficient transportation of people, goods, and services within the Otay Mesa region of San Diego. The corridor is being built in multiple phases with Phases 1A and 1B, the mainlines of the freeway, already constructed and open to traffic. Phase 2 improvements to the I-805/SR-905 interchange have also been completed. Phase 3A will construct the northbound connectors between SR-905 and SR-125. Funding from the Trade Corridor Improvement Fund (TCIF) has been allocated for the construction of Phase 3A. Based on the most current information available from Caltrans, funding for the subsequent Phase 3B, which will construct the southbound connectors between SR-905 and SR-125, and Phase 4, which will construct an interchange at Heritage Road, has not yet been secured.

Otay Mesa Road falls under the jurisdiction of the City of San Diego west of Piper Ranch Road and under the jurisdiction of the County of San Diego east of Piper Ranch Road. Within the study area, Otay Mesa Road west of Piper Ranch Road is classified as a six-lane Prime Arterial with Class II bike lanes in the City's *Otay Mesa Community Plan Mobility Element* (City of San Diego 2014). In the County's General Plan *Otay Mobility Element* (County of San Diego 2011), Otay Mesa Road is classified as a Prime Arterial with Class II bike lanes between Piper Ranch Road and Enrico Fermi Drive, and as a Major Road with Class II bike lanes east of Enrico Fermi Drive. Otay Mesa Road is currently constructed as a six-lane Prime Arterial between west of Heritage Road and La Media Road, as a five-lane Major Road between La Media Road and Piper Ranch Road, as a six-lane Prime Arterial between Piper Ranch Road and SR-125, as a five-lane Major Road between SR-125 and Harvest Road, as a four-lane Major Road between Harvest Road and Sanyo Avenue and as a two-lane Collector east of Sanyo Avenue. Curbside parking is generally prohibited and bike lanes are provided east of SR-125.

Airway Road primarily falls under the jurisdiction of the City of San Diego. Airway Road is classified as a four-lane Major Road with a Class I bike path and Class II bike lanes from Sanyo Avenue to Paseo De Las Americas in the City's *Otay Mesa Community Plan Mobility Element*. Airway Road is currently a four-lane Major Road. Curbside parking is prohibited, and bike lanes are not currently provided.

Siempre Viva Road primarily falls under the jurisdiction of the City of San Diego. Siempre Viva Road is classified as a six-lane Prime Arterial with Class II bike lanes from west of the SR-905 to Enrico Fermi Drive on the City's *Otay Mesa Community Plan Mobility Element*. Siempre Viva Road is currently a six-lane Prime Arterial. Curbside parking is generally prohibited and bike lanes are currently provided east of La Media Road.

Britannia Boulevard falls under the jurisdiction of the City of San Diego. Britannia Boulevard is classified as a six-lane Prime Arterial with Class II bike lanes from Otay Mesa Road to SR-905 on the City's *Otay Mesa Community Plan Mobility Element*. Britannia Boulevard is currently a six-lane Prime Arterial between Otay Mesa Road and SR-905. Curbside parking is prohibited and bike lanes are not currently provided.

La Media Road falls under the jurisdiction of the City of San Diego. La Media Road is classified as a six-lane Prime Arterial with Class II bike lanes from Otay Mesa Road to SR-905 on the City's *Otay Mesa Community Plan Mobility Element*. La Media Road is currently a five-lane Major Road between Otay Mesa Road and SR-905. Curbside parking is prohibited and bike lanes are not currently provided.

Harvest Road falls under the jurisdiction of the City of San Diego south of Otay Mesa Road and under the jurisdiction of the County of San Diego north of Otay Mesa Road. Harvest Road north of Otay Mesa Road is unclassified on the County's General Plan *Otay Mobility Element*, but is classified as a four-lane Road in the *East Otay Mesa Business Park Specific Plan.* Harvest Road north of Otay Road is currently a two-lane undivided roadway. Harvest Road north of Otay Mesa Road is proposed to be improved by the Project and would serve as one of the Project's main access points.

Sanyo Avenue falls under the jurisdiction of the City of San Diego south of Otay Mesa Road and is classified as a four-lane Collector with Class II bike lanes on the City's *Otay Mesa Community Plan Mobility Element*. Sanyo Road is currently a four-lane Collector. Parking is prohibited and bike lanes are not currently provided. Sanyo Avenue north of Otay Mesa Road is proposed to be constructed by the Project and would serve as one of the Project's main access points.

Enrico Fermi Drive falls under the jurisdiction of the County of San Diego. It is classified as a four-lane Major Road with Class II bike lanes on the County's General Plan *Otay Mobility Element*. Enrico Fermi Drive is currently a two-lane Collector with a reduced shoulder between Otay Mesa Road and Airway Road, and as a four-lane Major Road south of Airway Road.

Existing Traffic Volumes

Peak hour freeway volumes were obtained from data collected during May 2015, as described in Section 2.8.1.2, *Methodology* below. Figure 2.8-2, *Existing Traffic Volumes*, graphically depicts existing traffic volumes in the Project vicinity.

Existing Levels of Service

Intersection Operations

Table 2.8-1, *Existing Intersection Operations*, summarizes the intersection operations under existing conditions. As seen in Table 2.8-1, the study intersections are calculated to currently operate at acceptable levels of service with the exception of the following:

4. Otay Mesa Road / La Media Road (LOS F during the AM peak hour and LOS E during the PM peak hour)
8. Otay Mesa Road / Harvest Road (LOS E during the AM peak hour)

Daily Street Segment Operations

Table 2.8-2, *Existing Segment Operations*, summarizes the roadway segment operations under Existing conditions. As seen in Table 2.8-2, the study area segments are calculated to currently operate at acceptable levels of service.

Freeway Mainline Operations

Table 2.8-3, *Existing Freeway Segment Operations*, summarizes the freeway mainline operations along SR-905 under Existing conditions. As seen in Table 6–3, the study area freeway mainline segments are calculated to currently operate at acceptable levels of service during the AM and PM peak hours.

2.8.1.2 Methodology

As described above, the study area was determined in accordance with the County of San Diego and City of San Diego's published traffic impact analysis requirement guidelines. Existing weekday AM and PM peak hour (7:00-9:00 AM and 4:00-6:00 PM) turning movement counts at the study intersections and 24-hour ADT volumes along the study area street segment were conducted on Thursday, May 14, 2015 while area schools in the area were in session. Freeway volumes were obtained from the Performance Measurement System (PeMS). The PeMS software distributes real-time peak hour and average daily traffic volumes and provides a graphical representation of volumes at each PeMS station location. Peak hour freeway volumes were obtained from data collected during May 2015. Figure 2.8-2, *Existing Traffic Volumes*, graphically depicts existing traffic volumes in the Project vicinity.

Level of Service

LOS is a professional industry standard by which the operating conditions of a given street segment or intersection is measured. Level of Service is defined on a scale of A to F; where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic

conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating speeds. In general, the region-wide goal for an acceptable Level of Service on all street segments and intersections is "D".

Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 18 of the *2010 Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 8 computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapter 19 of the *2010 HCM,* Synchro version 8 was utilized to analyze the AM and PM peak hour conditions of the intersections in the Project vicinity.

Street Segments

Even though the proposed Project lies within the County of San Diego, the street segments in the vicinity of the proposed Project are located in both the jurisdictions of the County and City of San Diego. Therefore, for the purpose of this report, the daily traffic volumes of the street segments in the vicinity of the Project were compared to the County or City of San Diego Level of Service classification thresholds, depending on whether the street segment is located within the County's or City's jurisdiction.

Freeway Mainline

Freeway segments were analyzed during the AM and PM peak hours based on the methodologies developed by Caltrans District 11. Freeway segment LOS is based on the volume to capacity ratio on the freeway.

The analysis of freeway segment LOS is based on the procedures developed by Caltrans District 11 as described in the Highway Capacity Manual. The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C). The procedure for calculating freeway LOS involves the estimation of volume to capacity (V/C) ratio using the following equation:

V/C = Peak Hour Volume / Capacity

The resulting V/C is then compared to accepted ranges of V/C values corresponding to the various LOS for each facility classification. The corresponding Level of Service represents an approximation of existing or anticipated future freeway operating condition in the peak direction of travel during the peak hour.

2.8.1.3 Regulatory Framework

Local

County of San Diego Guidelines for Determining Significance

The following criteria was utilized to evaluate potential significant impacts, based on the County's document, *Guidelines for Determining Significance*, August 24, 2011, for study area facilities within the County of San Diego. For study area facilities located in the City of San Diego, the City of San Diego's guidelines were used.

Intersections

Signalized Intersections—Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or LOS traffic impact on a signalized intersection:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table 2.8-4.
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

Unsignalized Intersections—The operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic impact on an unsignalized intersection as listed in Table 2.8-4 and described as text below:

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or
- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or

- The additional or redistributed ADT generated by the proposed project will add six or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or
- The additional or redistributed ADT generated by the proposed project will add six or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

Using County of San Diego guidelines, impacts calculated in the Existing + Project scenario are considered "direct" and impacts calculated in the Existing + Project + Cumulative Projects time frame are considered "cumulative".

County of San Diego General Plan Mobility Element

Street Segments

Pursuant to the County's *General Plan Mobility Element*, new development must provide improvements or other measures to mitigate traffic impacts to avoid:

- Reduction in LOS below "C" for on-site Mobility Element roads;
- Reduction in LOS below "D" for off-site and on-site abutting *Mobility Element* roads; and
- "Significantly impacting congestion" on roads that operate at LOS "E" or "F". If impacts cannot be mitigated, the project cannot be approved unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. The *Mobility Element*, however, does not include specific guidelines for determining the amount of additional traffic that would "significantly impact congestion" on such roads.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in Table 2.8-5, *Measures of Significant Project Impacts to Congestion on Mobility Element Road Segments/Allowable Increases on Congested Road Segment.* The thresholds in Table 2.8-5 are based upon average operating conditions on County roadways. It should be noted that these thresholds only establish general guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

On-site Mobility Element Roads—The *General Plan Mobility Element* Policy 2.1 (ME Policy 2.1) states that "new development shall provide needed roadway expansion and improvements on-site to meet demand created by the development, and to maintain LOS

C on Mobility Element Roads during peak traffic hours". Pursuant to this policy, a significant traffic impact would result if:

> The additional or redistributed ADT generated by the proposed land development project will cause on-site *Mobility Element* Roads to operate below LOS C during peak traffic hours except within the Otay Ranch and Harmony Grove Village plans as specified in the previously adopted G*eneral Plan's* PFE, Implementation Measure 1.1.2.

Off-site Circulation Element Roads— ME Policy 2.1 also addresses off-site *Mobility Element* roads. It states that "new development shall provide off-site improvements designed to contribute to the overall achievement of LOS D on *Mobility Element* Roads." ME Policy 2.1 addressed projects that would significantly impact congestion on roads operating at LOS E or F. It states, "new development that would significantly impact congestion on roads operating at LOS E or F, either currently or as a result of the project, will be denied unless improvements are scheduled to attain a LOS to D or better or appropriate mitigation is provided." In circumstances in which appropriate mitigation is not feasible, the project can only be approved if "a specific statement of overriding findings is made pursuant to" the State CEQA Guidelines. The following significance guidelines define a method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed project will "significantly impact congestion" on County roads, operating at LOS E or F, either currently or as a result of the project.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or LOS impact on a road segment:

> The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Mobility Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 2.8-5, or The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

City of San Diego Significance Criteria

According to the City of San Diego's *Significance Determination Thresholds* dated January 2011, a project is considered to have a significant impact if project traffic would decrease the operations of surrounding roadways by a defined threshold. For projects deemed complete on or after January 1, 2007, the City defined thresholds are shown in Table 2.8-6, *City of San Diego Traffic Impact Significance Thresholds.*

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

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

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

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

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

If the project exceeds the thresholds in Table 2.8-6, then the project is considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the Level of Service to degrade from D to E, even if the allowable increases in Table 2.8-6 are not exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

2.8.2 Analysis of Project Effects and Determination as to Significance

2.8.2.1 *Guidelines for Determination of Significance*

Based on Appendix G of the CEQA Guidelines, the Project would result in a significant impact to transportation and traffic if the Project would:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
e) Result in inadequate emergency access.
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

2.8.2.2 1994 East Otay Mesa Specific Plan EIR

The 1994 EIR included an analysis of transportation regulations pertinent at the time of adoption, as well as existing conditions and impacts related to the East Otay Mesa Specific Plan project. The 1994 EIR identified the following transportation and circulation impact:

- Interjurisdictional inconsistencies in future roadway designations

Mitigation for transportation impacts was general and required interjurisdictional coordination for future roadway designations. Due to the general nature of these mitigation measures and the fact that all applicable interjurisdictional roadways have been constructed, the mitigation measures included in the 1994 EIR are superseded by mitigation included within this section and are not applicable to the Project. The 1994 EIR mitigation measures are located on page 4.7-28 of the 1994 EIR.

2.8.2.3 2000 East Otay Mesa Specific Plan Sunroad Centrum SEIR

The 2000 SEIR also addressed transportation/traffic and contained new mitigation for new impacts (due to the extension of Otay Mesa Road to SR-905), in addition to carrying over previous mitigation that remained applicable to the Sunroad Centrum project. That mitigation is also superseded by the mitigation included within this section due to its broad and general nature. The 2000 SEIR mitigation measures are located on pages 2-62 through 2-66 of the 2000 SEIR.

2.8.2.4 2012 Sunroad Otay Tech Centre Addendum

A project-specific traffic study was prepared for the Sunroad Otay Tech Centre project (LLG Engineers, December 2, 2011). The traffic study found that the project would result in significant direct impacts to Otay Mesa Road between Sanyo Avenue and Vann Centre Boulevard; Otay Mesa Road between Heritage Road and SR-125 northbound ramp; and intersections of Otay Mesa Road/Harvest Road, Otay Mesa Road/Sanyo Ave., and Otay Mesa Road/Heritage Road. The project would have cumulative impacts to intersections of Otay Mesa Road/Vann Centre Blvd., Airway Road/Sanyo Ave., and Airway/Paseo De La Americas. Mitigation measures were required to reduce impacts to less than

significant. 2012 Addendum mitigation measures are located on pages 24 through 26 of the 2012 Addendum.

2.8.2.5 Proposed Project

Circulation System Operations and Congestion Management

Guideline for the Determination of Significance:

> *Would the proposed 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?*
>
> *Would the proposed Project 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?*

Project Trip Generation

The Project proposes to develop up to 3,158 residential dwelling units, 47.7 acres of Technology Park land uses, a 6.8 acre Neighborhood Shopping Center, and 1.0 acre of Specialty Retail land uses. Trip generation rates for the Project were obtained from the *(Not So) Brief Guide of Traffic Generators for the San Diego Region* published by the SANDAG in April 2002. The trip generation for all of the residential land uses was conservatively calculated using SANDAG's "Condominium" rate of 8 ADT/DU despite the fact that a portion of the 3,158 proposed dwelling units will likely serve as apartments (SANDAG rate of 6 ADT/DU).

The trip generation for the proposed 47.7 acres of technology park land uses was calculated using SANDAG's industrial trip rate of 120 ADT/acre. This is consistent with the methodology used in the previously approved December 2011 study prepared for a previous processing of the Project.

The trip generation for the proposed 6.8-acre Neighborhood Shopping Center within the Mixed-Use Retail Emphasis area of the Project was calculated using SANDAG's "Neighborhood Shopping Center" rate of 1,200 ADT/acre. This is the highest retail shopping center trip rate provided by SANDAG and is considered conservative. This component of the Project is expected to be widely used by the surrounding residential and employment uses both within the proposed Project and by surrounding developments. SANDAG indicates pass-by reductions of 22 percent for retail based shopping centers on a daily basis and 40 percent during the PM peak hour. In order to provide a conservative analysis, a 20 percent pass-by rate was applied to the ADT and

AM and PM peak hour trip rates for this specific land use. Per SANDAG, pass-by reductions can be taken to account for trips that are already on the street network whether the Project is built or not.

The trip generation rate for the proposed Specialty Retail land uses within the Mixed-Use Residential Emphasis area of the Project was calculated using SANDAG's "Specialty Retail/Strip Commercial" rate of 400 ADT/acre.

Based on the trip generation rates summarized above, the Project was calculated to generate 37,916 ADT with 3,095 AM peak hour trips and 3,860 PM peak hour trips. Due to the nature of the Project, which proposes a mixed-use community with a variety of complimentary land uses, a ten-percent mixed-use credit was applied to the aforementioned volumes, as supported by footnote "T, [2]" of the SANDAG trip generation table.

Table 2.8-7, *Project Trip Generation*, shows the trip generation for the total Project. As shown in Table 2.8-7, the total Project is calculated to generate 34,124 ADT with a total of 2,785 trips during the AM peak hour (1,090 inbound/1,695 outbound trips) and 3,474 total trips during PM peak hour (2,000 inbound/1,474 outbound trips).

Existing Plus Project Conditions

This scenario analyzes the traffic impacts of the total Project under Existing conditions. Figure 2.8-3, *Existing Year + Project Traffic Volumes*, illustrates the Existing + Project traffic volumes.

Intersection Operations

Table 2.8-8, *Existing + Project Intersection Operations*, summarizes the intersection operations under Existing + Project conditions. As seen in Table 2.8-8, with the addition of Project traffic, the study intersections are calculated to operate at acceptable levels of service with the exception of the following:

4. Otay Mesa Road / La Media Road (LOS F during the AM peak hour and PM peak hours)
8. Otay Mesa Road / Harvest Road (LOS F during the AM and PM peak hours)
9. Otay Mesa Road / Sanyo Avenue (LOS F during the AM and PM peak hours)
10. Otay Mesa Road / Vann Centre Boulevard (LOS F during the AM and PM peak hours)

A Project related significant direct impact is calculated at the following intersection, which falls within the City of San Diego's jurisdiction, based on the City's significance criteria:

4. Otay Mesa Road / La Media Road **(Impact TR-1)**

Project related significant direct impacts are calculated at the following intersections, which fall within the County of San Diego's jurisdiction, based on the County's significance criteria:

8. Otay Mesa Road / Harvest Road **(Impact TR-2)**
9. Otay Mesa Road / Sanyo Avenue **(Impact TR-3)**
10. Otay Mesa Road / Vann Centre Boulevard **(Impact TR-4)**

Daily Street Segment Operations

Table 2.8-9, *Existing + Project Street Segment Operations*, summarizes the roadway segment operations under Existing + Project conditions. As seen in Table 2.8-9, with the addition of Project traffic, the study area segments are calculated to operate at acceptable levels of service with the exception of the following:

- Otay Mesa Road: Sanyo Avenue to Vann Centre Boulevard (LOS F) **(Impact TR-5)**
- Otay Mesa Road: Vann Centre Boulevard to Enrico Fermi Drive (LOS E) **(Impact TR-6)**

Project related significant direct impacts are calculated along the above listed street segments, which fall within the County of San Diego's jurisdiction, based on the County's significance criteria:

Freeway Mainline Operations

Table 2.8-10, *Existing + Project Freeway Mainline Operations*, summarizes the freeway mainline operations along SR-905 under Existing + Project conditions. As seen in Table 2.8-10, with the addition of Project traffic, the study area freeway mainline segments are calculated to operate at acceptable levels of service during the AM and PM peak hours.

Project Access

The Project would be primarily served by three access points at Harvest Road, Sanyo Avenue, and Vann Centre Boulevard, north of Otay Mesa Road. The existing north leg of Harvest Road at Otay Mesa Road is currently constructed as a two-lane undivided roadway that provides access to Lone Star Road to the north, serving very limited land uses. The north legs of Sanyo Avenue and Vann Centre Boulevard do not exist under Existing Conditions.

Analysis of the Project's access points at Sanyo Avenue and Vann Centre Boulevard was conducted assuming construction of only the most rudimentary lane configurations north of Otay Mesa Road. The Project access point at Harvest Road was analyzed under Existing Conditions. Significant direct and cumulative impacts are calculated at all three Project access points prior to implementation of the mitigation measure improvements detailed in Section 2.8.6 of this SEIR. Under post-mitigation conditions, the Project access

points are calculated to operate at an acceptable LOS according to County standards. In addition, pavement widening along the Otay Mesa Road Project frontage should be provided to County Prime Arterial Standards as part of the direct impact mitigation. However, the striping of 6-lanes on Otay Mesa Road would not be provided since six-lanes are not currently provided off site.

The recommended Ultimate Improvements at the Project's access points are shown on Figure 2.8-4, *Ultimate Project Access Improvements*. Implementation of these improvements will provide acceptable operations under cumulative conditions and are recommended to be provided when Otay Mesa Road is ultimately constructed to its sixsix Prime Arterial classification. The ultimate Improvements are not needed to mitigate the Project's significant impacts.

On-Site Circulation

The Project would construct a number of roadways within the Project site to facilitate internal circulation and comply with the existing East Otay Mesa Specific Plan. All on-site roadways would be designed and constructed per County of San Diego Public Road Standards. In addition, all classified Mobility Element roadways within the Project site would be constructed to conform to the roadway classifications outlined in Table 2.2-1 of the *East Otay Mesa Specific Plan Circulation Element*. The on-site Mobility Element roadways and their corresponding classifications are summarized below in Table 2.8-11, *On-Site Circulation Element Roadways*. The Project would also be responsible for making half-width frontage improvements along Otay Mesa Road between Harvest Road and Vann Centre Boulevard to improve the roadway to six-lane Prime Arterial standards per the County's Centerline Ordinance.

The proposed Project would not result in a significant transportation hazard. Although the Project results in a change in the roadway network, these roadway improvements are anticipated in the East Otay Business Park Mesa Specific Plan. The Project would not include design features that would affect traffic safety, nor would it cause incompatible uses on local roads. Therefore, the Project would not result in an increase in hazards associated with a design feature.

Guideline for the Determination of Significance:

> *Would the proposed 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?*

As discussed in Section 2.4, the Project site is located within Review Area 1 of Brown Field Municipal Airport (see Figure 2.4-3). The western portion of the Project site is located within three safety zones for Brown Field: Zone 2: Inner Approach/Departure Zone, Zone 4: Outer Approach/Departure Zone, and Zone 6: Traffic Pattern Zone (see Figure 2.4-4).

The Brown Field Airport is located north of Otay Mesa Road, generally between Heritage Road and Lonestar Road within the City of San Diego. Brown Field is located approximately one mile west of the site and functions as a general aviation airport and reliever airport for the San Diego International Airport. The proposed Specific Plan Amendment complies with the development regulations outlined in the Brown Field ALUCP. A small portion of the site falls within Zone 2 and, per the compatibility guidelines, residential uses would not be permitted in that area. The portion of the site within Zone 4 would be limited to a maximum of 20 dwelling units per acre consistent with the ALUCP. Future Site Plan review would be required to ensure that individual development proposals comply with the requirements of the Brown Field ALUCP, including restrictions relative to building heights. Therefore, the proposed Project would not result in a chance to air traffic patterns.

Guideline for the Determination of Significance:

> *Would the proposed Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersection or incompatible uses (e.g., farm equipment)?*
>
> *Would the proposed Project result in inadequate emergency access?*

The Project would be primarily served by three access points: Harvest Road; Sanyo Avenue; and Vann Centre Boulevard, north of Otay Mesa Road. The existing north leg of Harvest Road at Otay Mesa Road is currently constructed as a two-lane undivided roadway that provides access to Lone Star Road to the north, serving very limited land uses. The north legs of Sanyo Avenue and Vann Centre Boulevard do not exist under existing conditions.

The Project would construct a number of roadways within the Project site to facilitate internal circulation and comply with the existing EOMSP. All on-site roadways would be designed and constructed per County of San Diego Public Road Standards. In addition, all classified Mobility Element roadways within the Project site would be constructed to conform to the roadway classifications outlined in the EOMSP Circulation Element. The Project will also be responsible for making half-width frontage improvements along Otay Mesa Road between Harvest Road and Vann Centre Boulevard to improve the roadway to six-lane Prime Arterial standards per the County's Centerline Ordinance.

Because the proposed Project would be consistent with all County of San Diego Public Road Standards and regulations, the proposed Project would not result in a substantial increase in hazards due to a roadway design feature. Additionally, because of this compliance with standards and regulations, the proposed Project would not result in inadequate emergency access.

Guideline for Determination of Significance:

> *Would the proposed 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?*

The proposed Project facilitates multi-modal transportation. The Project includes pedestrian facilities along all Project roadways, as well as a trail connection to the Otay River Valley Regional Park. Bike routes would be located along all internal Project streets. Additionally, a transit stop would be provided at Otay Mesa Road and Harvest Road, to be serviced by Bus Route 905. As such, the proposed Project would promote multi-modal and active transportation plans and programs for the region and would contribute to the performance and safety of these facilities.

2.8.3 Cumulative Impact Analysis

Cumulative (Year 2020) with Project Traffic Volumes

The Otay Mesa area, in which the proposed Project is located, is planned to be developed within the coming years, with a large number of forthcoming cumulative projects planned. Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future.

"Year 2020 with Project" traffic model, which was developed for use in the previously approved December 2011 study for the Sunroad Otay Tech Centre project, was used to analyze the cumulative condition. The model assumes the addition of the proposed Project, forthcoming cumulative projects and planned roadway network improvements. The previously approved study calculated the project to generate peak hour traffic equal to or greater than the calculated peak hour traffic for the currently proposed Project (2,785/3,687 AM/PM peak hour volumes calculated in the previously approved study as compared to 2,785/3,474 AM/PM peak hour volumes calculated for the currently proposed Project), and therefore use of the Year 2020 peak hour volumes from the previous study represents a conservative approach. However, the currently proposed Project is calculated to generate 3,558 additional ADT as compared to the previously approved study (30,566 ADT from the previously approved study vs. 34,124 ADT for the currently proposed Project). This difference was manually added to the Year 2020 ADT volumes.

Figure 2.8-5, *Cumulative (Year 2020) with Project Traffic Volumes*, shows the Year 2020 (with Project) cumulative traffic volumes. Some changes to the existing travel patterns are reflected in the traffic volumes under Year 2020 with Project conditions as a result of the proposed forthcoming network changes, as discussed further in the following section.

Cumulative (Year 2020) Scheduled Network Improvement Projects

There are currently two major network improvement projects in the Otay Mesa area that are expected to be complete by Year 2020: the SR-905/SR-125 Northbound Connectors project and the SR-11/Otay Mesa East project. These projects were taken into account in the Year 2020 with Project model and the resulting Year 2020 with Project analysis presented in this study. These network changes account for some relatively large-scale differences in the traffic volumes as compared to Existing Conditions, due to a greater variety of travel options and the opportunities for regional travel. The following summarizes the project description and schedule for each of these projects.

State Route 905 - The SR-905 project is an ongoing effort to construct a transportation facility from I-805 to the Otay Mesa POE at the US-Mexico Border to provide for more efficient transpiration of people, goods, and services within the Otay Mesa region of San Diego. The corridor is being built in multiple phases with Phases 1A and 1B, the mainlines of the freeway, already constructed and open to traffic. Phase 2 improvements to the I-805/SR-905 interchange have also been completed. Phase 3A will construct the northbound connectors between SR-905 and SR-125. Funding from the TCIF has been allocated for the construction of Phase 3A. Construction of the freeway-to-freeway northbound connectors is expected to begin in 2016. Based on the most current information available from Caltrans, funding for the subsequent Phase 3B, which will construct the southbound connectors between SR-905 and SR-125, and Phase 4, which will construct an interchange at Heritage Road, has yet to be secured, and therefore the associated improvements were not assumed under Year 2020 conditions.

State Route 11 - The SR-11 project will ultimately consist of constructing a four-lane freeway facility from the proposed SR-905/SR-125 junction to the future Federal POE at east Otay Mesa in San Diego County. The project is proposed to be constructed in three segments. The construction of Segment 1, an approximately 1.2-mile stretch between the SR-905/SR-125 junction and Enrico Fermi Drive opened to traffic in March 2016. Based on the most current information available from SANDAG and Caltrans, funding for the subsequent Segment 2 and Segment 3 phases of the project, which will construct the remainder of the freeway between Enrico Fermi and the future Federal POE at East Otay Mesa, has yet to be secured, and therefore the associated improvements were not assumed under Year 2020 conditions.

Year 2020 Cumulative Conditions Analysis

Intersection Operations

Table 2.8-12, *Year 2020 Cumulative Intersection Operations*, summarizes the intersection operations under Year 2020 conditions. As seen in Table 2.8-12, the study intersections are calculated to operate at acceptable levels of service with the exception of the following:

4. Otay Mesa Road / La Media Road (LOS E during the AM peak hour and PM peak hours)
8. Otay Mesa Road / Harvest Road (LOS F during the AM and PM peak hours)
9. Otay Mesa Road / Sanyo Avenue (LOS F during the AM and PM peak hours)
10. Otay Mesa Road / Vann Centre Boulevard (LOS F during the AM and PM peak hours)
16. Airway Road / Sanyo Avenue (LOS F during the AM and PM peak hours)
17. Airway Road / Paseo de las Americas (LOS F during the AM and PM peak hours)
22. Siempre Viva Road / Paseo de las Americas (LOS F during the AM and PM peak hours)
23. Siempre Viva Road / Enrico Fermi Drive (LOS F during the AM peak hour)

Project related significant cumulative impacts are calculated at the following intersections, which fall within the City of San Diego's jurisdiction, based on the City's significance criteria:

4. Otay Mesa Road / La Media Road **(Impact TR-7)**
16. Airway Road / Sanyo Avenue **(Impact TR-8)**
22. Siempre Viva Road / Paseo de las Americas **(Impact TR-9)**

Project related significant cumulative impacts are calculated at the following intersections, which fall within the County of San Diego's jurisdiction, based on the County's significance criteria:

8. Otay Mesa Road / Harvest Road **(Impact TR-10)**
9. Otay Mesa Road / Sanyo Avenue **(Impact TR-11)**
10. Otay Mesa Road / Vann Centre Boulevard **(Impact TR-12)**
17. Airway Road / Paseo de las Americas **(Impact TR-13)**
23. Siempre Viva Road / Enrico Fermi Drive **(Impact TR-14)**

Daily Street Segment Operations

Table 2.8-13, *Year 2020 Cumulative Segment Operations*, summarizes the roadway segment operations under Year 2020 conditions. As seen in Table 2.8-13, the study area segments are calculated to operate at acceptable levels of service with the exception of the following:

Enrico Fermi Drive: Otay Mesa Road to Airway Road (LOS F) **(Impact TR-15)**

A Project related significant cumulative impact is calculated along the above listed street segment, which falls within the County of San Diego's jurisdiction, based on the County's significance criteria.

Freeway Mainline Operations

Table 2.8-14, *Year 2020 Cumulative Freeway Mainline Operations*, summarizes the freeway mainline operations along SR 905 under Year 2020 conditions. As seen in Table 2.8-14, the study area freeway mainline segments are calculated to operate at acceptable levels of service during the AM and PM peak hours.

2.8.4 Significance of Impacts Prior to Mitigation

The following significant impact related to transportation and traffic would occur with Project implementation:

Impact TR-1/TR-7: A Project related significant direct and cumulative impact (respectively) to the intersection of Otay Mesa Road/La Media Road.

Impact TR-2/TR-10: A Project related significant direct and cumulative impact (respectively) to the intersection of Otay Mesa Road/Harvest Road.

Impact TR-3/TR-11: A Project related significant direct and cumulative impact (respectively) to the intersection of Otay Mesa Road/Sanyo Avenue.

Impact TR-4/TR-12: A Project related significant direct and cumulative impact (respectively) to the intersection of Otay Mesa Road/Vann Centre Boulevard.

Impact TR-5: A Project related significant direct impact to the street segment of Otay Mesa Road from Sanyo Avenue to Vann Centre Boulevard.

Impact TR-6: A Project related significant direct impact to the street segment of Otay Mesa Road from Vann Centre Boulevard to Enrico Fermi Drive.

Impact TR-8: A Project related significant cumulative impact to the intersection of Airway Road and Sanyo Avenue.

Impact TR-9: A Project related significant cumulative impact to the intersection of Siempre Viva Road and Paseo de las Americas.

Impact TR-13: A Project related significant cumulative impact to the intersection of Airway Road and Paseo de las Americas.

Impact TR-14: A Project related significant cumulative impact to the intersection of Siempre Viva Road and Enrico Fermi Drive.

Impact TR-15: A Project related significant cumulative impact to the street segment of Enciro Fermi Drive from Otay Mesa Road to Airway Road.

2.8.5 Mitigation

Table 2.8-15, *Summary of Significant Impacts and Mitigation Measures*, provides a summary of the Project impacts and corresponding mitigation measures. Tables 2.8-16, *Intersection Post-Mitigation Analysis*, and 2.8-16, *Segment Post-Mitigation Analysis*, provide an analysis of post-mitigation conditions for intersections and street segments, respectively.

2.8.6 Conclusion

As shown in Tables 2.8-16 and 2.8-17, with the incorporation of mitigation measures, all Project impacts (**Impacts TR-1** through **TR-15**) are reduced to below a level of significance.

TABLE 2.8-1. *EXISTING INTERSECTION OPERATIONS*

Intersection	Jurisdiction	Control Type	Peak Hour	Existing	
				Delay [a]	LOS [b]
1. Otay Mesa Road / Heritage Road	City	Signal	AM	37.9	D
			PM	35.7	D
2. Otay Mesa Road / Cactus Road	City	Signal	AM	17.8	B
			PM	16.1	B
3. Otay Mesa Road / Britannia Boulevard	City	Signal	AM	28.5	C
			PM	27.9	C
4. Otay Mesa Road / La Media Road	City	Signal	AM	**178.8**	**F**
			PM	**61.4**	**E**
5. Otay Mesa Road / Piper Ranch Road	County	Signal	AM	14.7	B
			PM	19.7	B
6. Otay Mesa Road / SR-125 SB Off-Ramp	County	Signal	AM	18.4	B
			PM	8.4	A
7. Otay Mesa Road / SR-125 NB On-Ramp	County	Signal	AM	1.9	A
			PM	4.5	A
8. Otay Mesa Road / Harvest Road	County	TWSC [c]	AM	**48.0**	**E**
			PM	11.8	B
9. Otay Mesa Road / Sanyo Avenue	County	Signal	AM	12.2	B
			PM	17.6	B
10. Otay Mesa Road / Vann Centre Boulevard	County	*DNE*[f]	AM	*DNE*	-
			PM	*DNE*	-
11. Otay Mesa Road / Enrico Fermi Drive	County	Signal	AM	11.0	B
			PM	8.8	A
12. SR-905 WB Ramps / Britannia Boulevard	City	Signal	AM	22.8	C
			PM	22.8	C
13. SR-905 EB Ramps / Britannia Boulevard	City	Signal	AM	23.1	C
			PM	18.4	B
14. SR-905 WB Ramps / La Media Road	City	Signal	AM	13.4	B
			PM	12.3	B
15. SR-905 EB Ramps / La Media Road	City	Signal	AM	28.7	C
			PM	17.0	B
16. Airway Road / Sanyo Avenue	City	AWSC [d]	AM	10.4	B
			PM	11.1	B
17. Airway Road / Paseo de las Americas	County	TWSC	AM	11.1	B
			PM	13.3	B
18. Airway Road / Enrico Fermi Drive	County	Signal	AM	12.0	B
			PM	12.1	B
19. Siempre Viva Road EB / SR-905 SB Off-Ramp	City	Signal	AM	21.9	C
			PM	16.2	B
20. Siempre Viva Road WB / SR-905 SB Off-Ramp	City	OWSC [e]	AM	19.8	C
			PM	15.7	C
21. Siempre Viva Road / SR-905 NB Ramps	City	Signal	AM	22.4	C
			PM	20.3	C
22. Siempre Viva Road / Paseo de las Americas	City	Signal	AM	25.6	C
			PM	35.2	C
23. Siempre Viva Road / Enrico Fermi Drive	County	Signal	AM	49.1	D

Footnotes:
a. Average Intersection delay per vehicle in seconds.
b. Level of Service
c. TWSC: Two-Way-Stop-Controlled Intersection. Minor Street left-turn delay and LOS reported.
d. AWSC: All-Way-Stop-Controlled Intersection
e. OWSC: One-Way-Stop-Controlled intersection. Minor Street left-turn delay and LOS reported.
f. Intersection does not exist under Existing conditions

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

TABLE 2.8-2. *EXISTING SEGMENT OPERATIONS*

Roadway Segment	Jurisdiction	Functional Classification	Capacity (LOS E)[a]	ADT[b]	V/C[c]	LOS[d]
Otay Mesa Road						
West of Heritage Rd	City	Six-Lane Prime	60,000	9,670	0.161	A
Heritage Rd to Cactus Rd	City	Six-Lane Prime	60,000	8,260	0.138	A
Cactus Rd to Britannia Blvd	City	Six-Lane Prime	60,000	8,710	0.145	A
Britannia Blvd to La Media Rd	City	Six-Lane Prime	60,000	8,600	0.143	A
La Media Rd to Piper Ranch Rd	City	Five-Lane Major	45,000	15,560	0.346	A
Piper Ranch Rd to SR 125 Ramps	County	Six-Lane Prime	57,000	13,110	0.230	A
SR 125 Ramps to Harvest Rd	County	Five-Lane Major	47,000	10,510	0.224	A
Harvest Rd to Sanyo Ave	County	Four-Lane Major	37,000	10,410	0.281	A
Sanyo Ave to Vann Centre Blvd	County	Local Collector	16,200	10,410	0.643	D
Vann Centre Blvd to Enrico Fermi Dr	County	Local Collector	16,200	10,090	0.623	D
Britannia Boulevard						
Otay Mesa Rd to SR 905 Ramps	City	Six-Lane Prime	60,000	10,800	0.180	A
Sanyo Avenue						
Otay Mesa Rd to Airway Rd	City	Four-Lane Collector	30,000	5,600	0.187	A
Enrico Fermi Drive						
Otay Mesa Rd to Airway Rd	County	Two-Lane Collector	9,700	4,180	0.431	A
Airway Rd to Siempre Viva Rd	County	Four-Lane Major	37,000	3,200	0.086	A
Airway Road						
Sanyo Ave to Paseo delLas Americas	City	Four-Lane Major	40,000	2,810	0.070	A
La Media Road						
Otay Mesa Rd to SR 905 Ramps	City	Five-Lane Major	45,000	15,700	0.349	A
Siempre Viva Road						
SR 905 Ramps to Paseo de las Americas	City	Six-Lane Prime	60,000	18,800	0.313	A
Paseo de las Americas to Enrico Fermi Dr	City	Six-Lane Prime	60,000	11,400	0.190	A

Footnotes:

a. Capacity from City / County LOS threshold tables
b. Average Daily Traffic
c. Volume / Capacity
d. Level of Service

TABLE 2.8-3. *EXISTING FREEWAY SEGMENT OPERATIONS*

Freeway and Segment	Direction, Number of Lanes [a] & Capacity [b]			ADT [c]	Peak Hour Volume		V/C [d]		LOS[e]	
					AM	PM	AM	PM	AM	PM
SR 905										
Heritage Road to Britannia Blvd	WB Mainline	3M	6,000	72,100	2,160	3,690	0.360	0.615	B	B
	EB Mainline	3M	6,000	72,100	2,080	1,510	0.347	0.252	B	B
Britannia Blvd to La Media Rd	WB Mainline	3M	6,000	58,800	1,700	2,340	0.283	0.390	B	B
	EB Mainline	3M + 1A	7,200	58,800	1,970	1,730	0.274	0.240	B	B
La Media Rd to Siempre Viva Rd	NB Mainline	3M	6,000	60,600	1,610	1,940	0.268	0.323	B	B
	SB Mainline	3M	6,000	60,600	1,670	1,720	0.278	0.287	B	B

Footnotes:

a. "M" = Mainline, "A" = Auxiliary Lane
b. Capacity = 2,000 vehicles per hour per lane (mainline), 1,200 vehicles per hour per lane (auxiliary).
c. Existing ADT Volumes were obtained directly from the freeway Performance Measurement System (PeMS) website.
d. Volume to Capacity ratio.
e. Level of Service

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 2.8-4. *MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON INTERSECTIONS/ALLOWABLE INCREASES ON CONGESTED INTERSECTIONS*

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

General Notes:

1. A critical movement is an intersection movement (right-turn, left-turn, through-movement) that experiences excessive queues, which typically operate at LOS F.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay ***and*** the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

TABLE 2.8-5. *MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON MOBILITY ELEMENT ROAD SEGMENTS ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS*

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

General Notes:

1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

TABLE 2.8-6. *CITY OF SAN DIEGO TRAFFIC IMPACT SIGNIFICANT THRESHOLDS*

Level of Service with Project[b]	Allowable Increase Due to Project Impacts[a]					
	Freeways		Roadway Segments		Intersections	Ramp Metering[c]
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E	0.010	1.0	0.02	1.0	2.0	2.0
F	0.005	0.5	0.01	0.5	1.0	1.0

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

General Notes:

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

TABLE 2.8-7. *PROJECT TRIP GENERATION*

Land Use	Quantity	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate [a]	Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Mixed-Use Emphasis													
Planning Area A													
Residential (6-20 DU/Acre)	596 Units	8 /Unit	4,768	8%	20 : 80	76	305	381	9%	70 : 30	300	129	429
Tech Park[b]	13.5 Acres	120 /Acre	1,620	14%	80 : 20	182	45	227	15%	30 : 70	73	170	243
Subtotal	-	-	*6,388*	-	-	*258*	*350*	*608*	-	-	*373*	*299*	*672*
Planning Area B													
Residential (6-20 DU/Acre)	1,381 Units	8 /Unit	11,084	8%	20 : 80	177	707	884	9%	70 : 30	697	298	995
Tech Park[b]	1.9 Acres	120 /Acre	228	14%	80 : 20	26	6	32	15%	30 : 70	10	24	34
Specialty Retail	0.5 Acres	400 /Acre	200	3%	60 : 40	4	2	6	9%	50 : 50	9	9	18
Subtotal	-	-	*11,476*	-	-	*207*	*715*	*922*	-	-	*716*	*331*	*1,047*
Planning Area C													
Residential (6-20 DU/Acre)	227 Units	8 /Unit	1,816	8%	20 : 80	29	116	145	9%	70 : 30	114	49	163
Tech Park[b]	10.4 Acres	120 /Acre	1,248	14%	80 : 20	140	35	175	15%	30 : 70	56	131	187
Neighborhood Shopping Center	6.8 Acres	960 /Acre[c]	6,528	4%	60 : 40	157	104	261	10%	50 : 50	327	327	654
Subtotal	-	-	*9,592*	-	-	*326*	*255*	*581*	-	-	*497*	*507*	*1,004*
Planning Area D													
Residential (6-20 DU/Acre)	954 Units	8 /Unit	7,632	8%	20 : 80	121	489	610	9%	70 : 30	509	216	725
Tech Park	14.1 Acres	120 /Acre	1,692	14%	80 : 20	190	47	237	15%	30 : 70	76	178	254
Specialty Retail	0.5 Acres	400 /Acre	200	3%	60 : 40	4	2	6	9%	50 : 50	9	9	18
Subtotal	-	-	*9,524*	-	-	*315*	*538*	*853*	-	-	*594*	*403*	*997*
Technology Business Park													
Planning Area IE													
Tech Park	7.8 Acres	120 /Acre	936	14%	80 : 20	105	26	131	15%	30 : 70	42	98	140
Subtotal	-	-	*936*	-	-	*105*	*26*	*131*	-	-	*42*	*98*	*140*
Total	-	-	***37,916***	-		***1,211***	***1,884***	***3,095***	-		***2,222***	***1,638***	***3,860***
Mixed Use Credit (10%)	-	-	*(3,792)*	-		*(121)*	*(189)*	*(310)*	-		*(222)*	*(164)*	*(386)*
Net Total	-	-	***34,124***	-		***1,090***	***1,695***	***2,785***	-		***2,000***	***1,474***	***3,474***

Footnotes:

a. Rates from SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.

b. Industrial Plant Land Use trip generation rate used, as used in the Otay Tech Center Project TIA.

c. 20% pass-by reduction applied to the Neighborhood Shopping Center trip generation rate of 1,200 ADT / Acre.

TABLE 2.8-8. *EXISTING + PROJECT INTERSECTION OPERATIONS*

Intersection	Jurisdiction	Control Type	Peak Hour	Existing		Existing + Project		Δ[c]	Impact
				Delay [a]	LOS [b]	Delay	LOS		
1. Otay Mesa Road / Heritage Road	City	Signal	AM	37.9	D	38.8	D	0.9	None
			PM	35.7	D	37.1	D	1.4	None
2. Otay Mesa Road / Cactus Road	City	Signal	AM	17.8	B	17.9	B	0.1	None
			PM	16.1	B	16.2	B	0.1	None
3. Otay Mesa Road / Britannia Boulevard	City	Signal	AM	28.5	C	34.9	C	6.4	None
			PM	27.9	C	44.6	D	16.7	None
4. Otay Mesa Road / La Media Road	City	Signal	AM	178.8	F	**322.9**	**F**	**144.1**	**Direct**
			PM	61.4	E	**237.8**	**F**	**176.4**	**Direct**
5. Otay Mesa Road / Piper Ranch Road	County	Signal	AM	14.7	B	18.2	B	3.5	None
			PM	19.7	B	19.8	B	0.1	None
6. Otay Mesa Road / SR-125 SB Off-Ramp	County	Signal	AM	18.4	B	20.2	C	1.8	None
			PM	8.4	A	13.8	B	5.4	None
7. Otay Mesa Road / SR-125 NB On-Ramp	County	Signal	AM	1.9	A	2.0	A	0.1	None
			PM	4.5	A	4.6	A	0.1	None
8. Otay Mesa Road / Harvest Road	County	TWSC [d]	AM	48.0	E	**>300**	**F**	**68[c]**	**Direct**
			PM	11.8	B	**>300**	**F**	**59[c]**	**Direct**
9. Otay Mesa Road / Sanyo Avenue	County	Signal	AM	12.2	B	**178.2**	**F**	**166.0**	**Direct**
			PM	17.6	B	**170.4**	**F**	**152.8**	**Direct**
10. Otay Mesa Road / Vann Centre Boulevard	County	OWSC [e]	AM	*DNE*[g]	-	**>300**	**F**	**119[c]**	**Direct**
			PM	*DNE*	-	**>300**	**F**	**103[c]**	**Direct**
11. Otay Mesa Road / Enrico Fermi Drive	County	Signal	AM	11.0	B	46.7	D	35.7	None
			PM	8.6	A	15.7	B	6.9	None
12. SR-905 WB Ramps / Britannia Boulevard	City	Signal	AM	22.8	C	22.9	C	0.1	None
			PM	22.8	C	23.8	C	1.0	None
13. SR-905 EB Ramps / Britannia Boulevard	City	Signal	AM	23.1	C	23.6	C	0.5	None
			PM	18.4	B	22.4	C	4.0	None
14. SR-905 WB Ramps / La Media Road	City	Signal	AM	13.4	B	13.5	B	0.1	None
			PM	12.3	B	12.4	B	0.1	None

15. SR-905 EB Ramps / La Media Road	City	Signal	AM	28.7	C	30.4	C	1.7	None
			PM	17.0	B	35.7	C	18.7	None
16. Airway Road / Sanyo Avenue	City	AWSC [f]	AM	10.4	B	12.8	B	2.3	None
			PM	11.1	B	14.9	B	3.8	None
17. Airway Road / Paseo de las Americas	County	TWSC	AM	11.2	B	12.1	B	68[c]	None
			PM	13.3	B	16.9	C	80[c]	None
18. Airway Road / Enrico Fermi Drive	County	Signal	AM	12.1	B	12.2	B	0.1	None
			PM	12.8	B	12.9	B	0.1	None
19. Siempre Viva Road EB / SR-905 SB Ramps	City	Signal	AM	21.0	C	24.5	C	3.5	None
			PM	16.2	B	19.2	B	3.0	None
20. Siempre Viva Road WB / SR-905 SB Off-Ramp	City	OWSC	AM	19.8	C	29.7	C	9.9	None
			PM	15.7	C	19.3	B	3.6	None
21. Siempre Viva Road / SR-905 NB Ramps	City	Signal	AM	22.4	C	23.9	C	1.5	None
			PM	20.3	C	28.2	C	7.9	None
22. Siempre Viva Road / Paseo de las Americas	City	Signal	AM	25.6	C	31.4	C	5.8	None
			PM	35.2	D	51.9	D	19.7	None
23. Siempre Viva Road / Enrico Fermi Drive	County	Signal	AM	49.1	D	49.4	D	0.3	None
			PM	50.4	D	50.5	D	0.1	None

Footnotes:

a. Average intersection delay per vehicle in seconds
b. Level of Service
c. Increase in delay due to Project traffic. For unsignalized intersections in the County, "Δ" denotes the increase in volume due to Project related traffic on the critical movement.
d. TWSC: Two-Way-Stop-Controlled intersection. Minor Street left-turn delay and LOS reported.
e. OWSC: One-Way-Stop-Controlled intersection. Minor Street left-turn delay and LOS reported.
f. AWSC: All-Way-Stop-Controlled intersection.
g. Intersection does not exist under Existing conditions.

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

General Notes:

Bold indicates potential significant impact.

TABLE 2.8-9. *EXISTING + PROJECT SEGMENT OPERATIONS*

Roadway Segment	Jurisdiction	Functional Classification	Capacity (LOS E)[a]	Existing			Existing + Project				
				ADT[b]	V/C[c]	LOS[d]	ADT	V/C	LOS	Δ[e]	Sig
Otay Mesa Road											
West of Heritage Rd	City	Six-Lane Prime	60,000	9,670	0.161	A	11,717	0.195	A	0.034	None
Heritage Rd to Cactus Rd	City	Six-Lane Prime	60,000	8,260	0.138	A	10,990	0.183	A	0.046	None
Cactus Rd to Britannia Blvd	City	Six-Lane Prime	60,000	8,710	0.145	A	11,781	0.196	A	0.051	None
Britannia Blvd to La Media Rd	City	Six-Lane Prime	60,000	8,600	0.143	A	14,401	0.240	A	0.097	None
La Media Rd to Piper Ranch Rd	City	Five-Lane Major	45,000	15,560	0.346	A	30,575	0.679	C	0.334	None
Piper Ranch Rd to SR 125 Ramps	County	Six-Lane Prime	57,000	13,110	0.230	A	29,148	0.511	B	>600[c]	None
SR 125 Ramps to Harvest Rd	County	Five-Lane Major	47,000	10,510	0.224	A	37,468	0.797	D	>600[c]	None
Harvest Rd to Sanyo Ave	County	Four-Lane Major	37,000	10,410	0.281	A	28,154	0.761	C	>400[c]	None
Sanyo Ave to Vann Centre Blvd	County	Local Collector	16,200	10,410	0.643	D	**20,647**	**1.275**	**F**	**>100[c]**	**Direct**
Vann Centre Blvd to Enrico Fermi Dr	County	Local Collector	16,200	10,090	0.623	D	**14,867**	**0.918**	**E**	**>200[c]**	**Direct**
Britannia Boulevard											
Otay Mesa Rd to SR 905	City	Six-Lane Prime	60,000	10,800	0.180	A	13,530	0.226	A	0.046	None
Sanyo Avenue											
Otay Mesa Rd to Airway Rd	City	Four-Lane Collector	30,000	5,600	0.187	A	7,989	0.266	A	0.080	None
Enrico Fermi Drive											
Otay Mesa Rd to Airway Rd	County	Two-Lane Collector	9,700	4,180	0.431	A	8,275	0.853	D	>200[c]	None
Airway Rd to Siempre Viva Rd	County	Four-Lane Major	37,000	3,200	0.086	A	6,954	0.188	A	>400[c]	None
Airway Road											
Sanyo Ave to Paseo De Las Americas	City	Four-Lane Major	40,000	2,810	0.070	A	4,175	0.104	A	0.034	None

TABLE 2.8-9. *EXISTING + PROJECT SEGMENT OPERATIONS*

Roadway Segment	Jurisdiction	Functional Classification	Capacity (LOS E)[a]	Existing			Existing + Project				
				ADT[b]	V/C[c]	LOS[d]	ADT	V/C	LOS	Δ[e]	Sig
La Media Road											
Otay Mesa Rd to SR-905	City	Five-Lane Major	45,000	15,700	0.349	A	24,572	0.546	C	0.197	None
Siempre Viva Road											
SR 905 to Paseo De Las Americas	City	Six-Lane Prime	60,000	18,800	0.313	A	23,577	0.393	A	0.080	None
Paseo De Las Americas to Enrico Fermi Dr	City	Six-Lane Prime	60,000	11,400	0.190	A	14,812	0.247	A	0.057	None

Footnotes:

a. Capacity from City / County LOS threshold tables
b. Average Daily Traffic
c. Volume / Capacity
d. Level of Service
e. "Δ" denotes the Project induced increase in V/C. For segments in the County, "Δ" denotes the increase in volume due to Project related traffic.

General Notes:

BOLD indicates a potential significant Project impact

TABLE 2.8-10. *EXISTING + PROJECT FREEWAY MAINLINE OPERATIONS*

Freeway and Segment	Direction, Number of Lanes [a] & Capacity [b]			Existing						Existing + Project						Δ [d]		Significant Impact?	
				Peak Hour Volume		V/C [c]		LOS [e]		Peak Hour Volume		V/C		LOS					
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR-905																			
Heritage Road to Britannia Blvd	WB	3M	6,000	2,160	3,690	0.360	0.615	B	B	2,669	4,132	0.445	0.689	B	C	0.085	0.074	No	No
	EB	3M	6,000	2,080	1,510	0.347	0.252	B	B	2,407	2,110	0.401	0.352	B	B	0.055	0.100	No	No
Britannia Blvd to La Media Rd	WB	3M	6,000	1,700	2,340	0.283	0.390	B	B	2,107	2,694	0.351	0.449	B	B	0.068	0.059	No	No
	EB	3M + 1A	7,200	1,970	1,730	0.274	0.240	B	B	2,232	2,210	0.310	0.307	B	B	0.036	0.067	No	No
La Media Rd to Siempre Viva Rd	NB	3M	6,000	1,610	1,940	0.268	0.323	B	B	1,610	1,940	0.268	0.323	B	B	0.000	0.000	No	No
	SB	3M	6,000	1,670	1,720	0.278	0.287	B	B	1,670	1,720	0.278	0.287	B	B	0.000	0.000	No	No

Footnotes:

a. "M" = Mainline, "A" = Auxiliary Lane
b. Capacity = 2,000 vehicles per hour per lane (mainline), 1,200 vehicles per hour per lane (auxiliary).
c. Volume to Capacity ratio.
d. "Δ" denotes the Project-induced increase in Volume to Capacity ratio.
e. Level of Service

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 2.8-11. *ON-SITE CIRCULATION ELEMENT ROADWAYS*

On-Site Roadway	Classification[a]
David Ridge Drive: Sunroad Boulevard (Sanyo Avenue) to Alta Road	Two-lane Collector with Bike Route
Harvest Road: Sunroad Boulevard (Sanyo Avenue) to Otay Mesa Road	Four-lane Collector with Bike Route
Sunroad Boulevard (Sanyo Avenue): Lone Star Road to Otay Mesa Road	Four-lane Major Road with Bike Route
Vann Centre Boulevard: Otay Mesa Road to Lone Star Road	Four-lane Collector with Bike Route south of Lone Star Road
Zinser Road: west of Sunroad Boulevard (Sanyo Avenue)	Four-lane Collector with Bike Route
Zinser Road: Sunroad Boulevard (Sanyo Avenue) to Lone Star Road	Two-lane Collector with Bike Route

Footnotes:

a. As classified in the *East Otay Mesa Specific Plan Circulation Element*

TABLE 2.8-12. *YEAR 2020 CUMULATIVE INTERSECTION OPERATIONS*

Intersection	Jurisdiction	Control Type	Peak Hour	Year 2020+ Project		Impact
				Delay [a]	LOS [b]	
1. Otay Mesa Road / Heritage Road	City	Signal	AM	42.8	D	None
			PM	40.2	D	
2. Otay Mesa Road / Cactus Road	City	Signal	AM	21.6	C	None
			PM	28.4	C	
3. Otay Mesa Road / Britannia Boulevard	City	Signal	AM	43.9	D	None
			PM	23.7	C	
4. Otay Mesa Road / La Media Road	City	Signal	AM	**61.4**	**E**	**Cumulative**
			PM	**65.8**	**E**	
5. Otay Mesa Road / Piper Ranch Road	County	Signal	AM	13.5	B	None
			PM	23.7	C	
6. Otay Mesa Road / SR-125 SB Off-Ramp	County	Signal	AM	13.8	B	None
			PM	6.0	A	
7. Otay Mesa Road / SR-125 NB On-Ramp	County	Signal	AM	0.2	A	None
			PM	0.5	A	
8. Otay Mesa Road / Harvest Road	County	TWSC [c]	AM	**>300**	**F**	**Cumulative**
			PM	**>300**	**F**	
9. Otay Mesa Road / Sanyo Avenue	County	Signal	AM	**195.3**	**F**	**Cumulative**
			PM	**191.2**	**F**	
10. Otay Mesa Road / Vann Centre Boulevard	County	OWSC [d]	AM	**>300**	**F**	**Cumulative**
			PM	**>300**	**F**	
11. Otay Mesa Road / Enrico Fermi Drive	County	Signal	AM	23.8	C	None
			PM	54.1	D	
12. SR-905 WB Ramps / Britannia Boulevard	City	Signal	AM	26.2	C	None
			PM	23.3	C	
13. SR-905 EB Ramps / Britannia Boulevard	City	Signal	AM	54.4	D	None
			PM	19.8	B	
14. SR-905 WB Ramps / La Media Road	City	Signal	AM	10.7	B	None
			PM	12.8	B	
15. SR-905 EB Ramps / La Media Road	City	Signal	AM	32.1	C	None
			PM	17.1	B	
16. Airway Road / Sanyo Avenue	City	AWSC [e]	AM	**69.7**	**F**	**Cumulative**
			PM	**64.3**	**F**	
17. Airway Road / Paseo De Las Americas	County	TWSC	AM	**>300**	**F**	**Cumulative**
			PM	**>300**	**F**	
18. Airway Road / Enrico Fermi Drive	County	Signal	AM	29.9	C	None
			PM	26.8	C	
19. Siempre Viva Road EB / SR-905 SB Ramps	City	Signal	AM	50.6	D	None
			PM	48.7	D	
	City	OWSC	AM	25.0	D	None

TABLE 2.8-12. *YEAR 2020 CUMULATIVE INTERSECTION OPERATIONS*

Intersection	Jurisdiction	Control Type	Peak Hour	Year 2020+ Project		Impact
				Delay [a]	LOS [b]	
20. Siempre Viva Road WB / SR-905 SB Off-Ramp			PM	20.1	C	
21. Siempre Viva Road / SR-905 NB Ramps	City	Signal	AM	23.7	C	None
			PM	36.1	D	
22. Siempre Viva Road / Paseo de las Americas	City	Signal	AM	**247.0**	**F**	**Cumulative**
			PM	**219.4**	**F**	
23. Siempre Viva Road / Enrico Fermi Drive	County	Signal	AM	**244.5**	**F**	**Cumulative**
			PM	54.1	D	

Footnotes:

a. Average intersection delay per vehicle in seconds
b. Level of Service
c. TWSC: Two-Way-Stop-Controlled intersection. Minor Street left-turn delay and LOS reported
d. OWSC: One-Way-Stop-Controlled intersection. Minor Street left-turn delay and LOS reported
e. AWSC: All-Way-Stop-Controlled intersection

General Notes:

Bold indicates potential significant Project impact.

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

TABLE 2.8-13. *YEAR 2020 CUMULATIVE SEGMENT OPERATIONS*

Roadway Segment	Jurisdiction	Functional Classification	Capacity (LOS E)[a]	ADT[b]	V/C[c]	LOS[d]	Sig
Otay Mesa Road							
West of Heritage Rd	City	Six-Lane Prime	60,000	32,313	0.539	B	None
Heritage Rd to Cactus Rd	City	Six-Lane Prime	60,000	30,145	0.502	B	None
Cactus Rd to Britannia Blvd	City	Six-Lane Prime	60,000	33,150	0.553	B	None
Britannia Blvd to La Media Rd	City	Six-Lane Prime	60,000	22,675	0.378	A	None
La Media Rd to Piper Ranch Rd	City	Five-Lane Major	45,000	33,166	0.737	C	None
Piper Ranch Road to SR 125 Ramps	County	Six-Lane Prime	57,000	29,422	0.516	B	None
SR 125 Ramps to Harvest Rd	County	Five-Lane Major	47,000	36,009	0.766	C	None
Harvest Rd to Sanyo Ave	County	Four-Lane Major	37,000	14,258	0.385	A	None
Sanyo Ave to Vann Centre Blvd	County	Local Collector	16,200	5,519	0.341	C	None
Vann Centre Blvd to Enrico Fermi Dr	County	Local Collector	16,200	5,943	0.367	C	None
Britannia Boulevard							
Otay Mesa Rd to SR 905 Ramps	City	Six-Lane Prime	60,000	16,384	0.273	A	None
Sanyo Avenue							
Otay Mesa Rd to Airway Rd	City	Four-Lane Collector	30,000	16,647	0.555	C	None
Enrico Fermi Drive							
Otay Mesa Rd to Airway Rd	County	Two-Lane Collector	9,700	**17,221**	**1.775**	**F**	**Cumulative**
Airway Rd to Siempre Viva Rd	County	Four-Lane Major	37,000	13,756	0.372	A	None
Airway Road							
Sanyo Ave to Paseo De Las Americas	City	Four-Lane Major	40,000	16,350	0.409	B	None

TABLE 2.8-13. *YEAR 2020 CUMULATIVE SEGMENT OPERATIONS*

Roadway Segment	Jurisdiction	Functional Classification	Capacity (LOS E)[a]	ADT[b]	V/C[c]	LOS[d]	Sig
La Media Road							
Otay Mesa Rd to SR 905 Ramps	City of San Diego	Five-Lane Major	45,000	29,135	0.647	C	None
Siempre Viva Road							
SR 905 Ramps to Paseo de las Americas	City of San Diego	Six-Lane Prime	60,000	44,260	0.738	C	None
Paseo de las Americas to Enrico Fermi Dr	City of San Diego	Six-Lane Prime	60,000	22,500	0.375	A	None

Footnotes:

a. Capacity from City / County LOS threshold tables
b. Average Daily Traffic
c. Volume / Capacity
d. Level of Service

General Notes:

BOLD indicates a potential significant Project impact.

TABLE 2.8-14. *YEAR 2020 CUMULATIVE FREEWAY MAINLINE OPERATIONS*

Freeway and Segment	Direction, Number of Lanes [a] & Capacity [b]			ADT	Peak Hour Volume		V/C [c]		LOS [d]	
					AM	PM	AM	PM	AM	PM
SR 905										
Heritage Road to Britannia Blvd	WB Mainline	3M	6,000	116,500	2,936	4,545	0.489	0.758	B	C
	EB Mainline	3M	6,000	116,500	2,648	2,321	0.441	0.387	B	B
Britannia Blvd to La Media Rd S	WB Mainline	3M	6,000	103,500	2,318	2,963	0.386	0.494	B	B
	EB Mainline	3M + 1A	7,200	103,500	2,455	2,431	0.341	0.338	B	B
La Media Rd to Siempre Viva Rd S	NB Mainline	3M	6,000	91,020	1,771	2,134	0.295	0.356	B	B
	SB Mainline	3M	6,000	91,020	1,837	1,892	0.306	0.315	B	B

Footnotes:

a. "M" = Mainline, "A" = Auxiliary Lane
b. Capacity = 2,000 vehicles per hour per lane (mainline), 1,200 vehicles per hour per lane (auxiliary)
c. Volume to Capacity ratio
d. Level of Service

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 2.8-15. *SUMMARY OF SIGNIFICANT TRAFFIC IMPACTS & MITIGATION MEASURES*

Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level? Yes/No?
Intersections			
#4. Otay Mesa Road / La Media Road *(City of San Diego)* (**Impact TR-1, TR-7)**	Direct & Cumulative	**M-TR-1:** In order to mitigate the Project's direct and cumulative impacts to this intersection, it is recommended that the Project contribute a fairshare towards the planned improvements to this intersection as reported in the *Transportation Analysis for the Otay Mesa Community Plan Update,* Urban Systems, August 30, 2013. The study recommends providing the following lane configurations at the intersection: • Southbound movement: two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes. • Westbound movement: two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes. • Northbound movement: two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes. • Eastbound movement: two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes. Payment of the Project's fairshare towards these improvements would reduce this direct and cumulative impact to below a level of significance.	Yes
#8. Otay Mesa Road / Harvest Road (*County of San Diego*) (**Impact TR-2, TR-10)**)	Direct & Cumulative	**M-TR-2:** In order to mitigate the Project's direct impacts to this Project access intersection, it is recommended that the Project signalize the intersection and provide the following lane configurations: • Southbound movement: one dedicated right turn lane with overlap phasing and a shared thru / left turn lane. • Westbound movement: one shared thru/right turn lane, one dedicated thru lane, and one dedicated left turn lane. • Northbound movement: one shared thru/right turn/left turn lane. • Eastbound movement: one shared thru/right turn lane, one dedicated thru lane, and two dedicated left turn lanes. Since this intersection falls under Caltrans jurisdiction, a signal warrant was conducted to ensure the installation of a signal at the intersection is warranted. Based on the signal warrant included in ***Appendix K*** a signal is warranted at the intersection under Existing + Project conditions. In addition, the Project should pay the appropriate TIF amount toward the County TIF Program to mitigate the Project's cumulative impact.	Yes

TABLE 2.8-15. *SUMMARY OF SIGNIFICANT TRAFFIC IMPACTS & MITIGATION MEASURES*

Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level? Yes/No?
		Implementation of these recommendations would reduce this direct and cumulative impact to below a level of significance.	
#9. Otay Mesa Road / Sanyo Road (*County of San Diego*) (**Impact TR-3, TR-11)**	Direct & Cumulative	**M-TR-3:** In order to mitigate the Project's direct impacts to this Project access intersection, it is recommended that the Project provide the following lane configurations: • Southbound movement: two dedicated right turn lanes with overlap phasing, one thru lane and one dedicated left turn lane. • Westbound movement: one shared thru/right turn lane, one dedicated thru lane, and one dedicated left turn lane. • Northbound movement: one shared thru/right turn lane, one dedicated thru lane, and one dedicated left turn lane. • Eastbound movement: one shared thru/right turn lane, one dedicated thru lane, and two dedicated left turn lanes. The Project should also pay the appropriate TIF amount toward the County TIF Program to mitigate the Project's cumulative impact. Implementation of these recommendations would reduce this direct and cumulative impact to below a level of significance.	Yes

TABLE 2.8-15. *SUMMARY OF SIGNIFICANT TRAFFIC IMPACTS & MITIGATION MEASURES*

Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level? Yes/No?
#10. Otay Mesa Road / Vann Centre Boulevard (*County of San Diego*) (**Impact TR-4, TR-12)**	Direct & Cumulative	**M-TR-4:** In order to mitigate the Project's direct impacts to this Project access intersection, it is recommended that the Project signalize the intersection and provide the following lane configurations: • Southbound movement: one dedicated right turn lane with overlap phasing and one dedicated left turn lane. • Westbound movement: one shared thru/right turn lane. • Eastbound movement: one thru lane and one dedicated left turn lane. The Project should also pay the appropriate TIF amount toward the County TIF Program to mitigate the Project's cumulative impact. Implementation of these recommendations would reduce this direct and cumulative impact to below a level of significance.	Yes
#16. Airway Road / Sanyo Avenue *(City of San Diego)* (**Impact TR-8)**	Cumulative	**M-TR-5:** In order to mitigate the Project's cumulative impact to this intersection, it is recommended that the Project contribute a fairshare towards the planned improvements to this intersection as reported in the *Transportation Analysis for the Otay Mesa Community Plan Update,* Urban Systems, August 30, 2013. The study recommends signalizing the intersection and providing the following lane configurations: • Southbound movement: two dedicated right turn lanes, two thru lanes and two dedicated left turn lanes. • Westbound movement: one dedicated right turn lane, two thru lanes and two dedicated left turn lanes. • Northbound movement: one dedicated right turn lane, two thru lanes and two dedicated left turn lanes. • Eastbound movement: two dedicated right turn lanes, two thru lanes and two dedicated left turn lanes. Payment of the Project's fairshare towards these improvements would reduce this cumulative impact to below a level of significance.	Yes
#17. Airway Road / Paseo de las Americas *(County of San Diego)* (**Impact TR-13)**	Cumulative	**M-TR-6:** Payment of the appropriate TIF amount toward the County TIF Program would reduce this cumulative impact to below a level of significance.	Yes

TABLE 2.8-15. *SUMMARY OF SIGNIFICANT TRAFFIC IMPACTS & MITIGATION MEASURES*

Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level? Yes/No?
#22. Siempre Viva Road/ Paseo de las Americas (*City of San Diego*) (**Impact TR-9, TR-14)**	Cumulative	**M-TR-7:** In order to mitigate the Project's cumulative impact to this intersection, it is recommended that the Project contribute a fairshare towards the planned improvements to this intersection as reported in the *Transportation Analysis for the Otay Mesa Community Plan Update,* Urban Systems, August 30, 2013. The study recommends providing the following lane configurations: • Southbound movement: two dedicated right turn lanes, one thru lane and one dedicated left turn lane. • Westbound movement: one dedicated right turn lane, two thru lanes and one dedicated left turn lane. • Northbound movement: one dedicated right turn lane, one shared thru / left turn lane and one dedicated left turn lane. • Eastbound movement: one dedicated right turn lane, three thru lanes and two dedicated left turn lanes. Payment of the Project's fairshare towards these improvements would reduce this cumulative impact to below a level of significance.	Yes
#23. Siempre Viva Road/ Enrico Fermi Drive *(County of San Diego)* (**Impact TR-14)**	Cumulative	**M-TR-8:** Payment of the appropriate TIF amount toward the County TIF Program would reduce this cumulative impact to below a level of significance.	Yes
Street Segments			
Otay Mesa Road: Sanyo Avenue to Vann Centre Boulevard *(County of San Diego)* (**Impact TR-5)**	Direct	**M-TR-9:** Widening this segment of Otay Mesa Road between Sanyo Avenue and Vann Centre Boulevard along the Project frontage to Four-lanes would reduce this direct impact to below a level of significance. The Project will also be responsible for making ½ width frontage improvements along Otay Mesa Road between Harvest Road and Vann Centre Boulevard to improve the roadway to six-lane Prime Arterial standards per the County's Centerline Ordinance.	Yes

TABLE 2.8-15. *SUMMARY OF SIGNIFICANT TRAFFIC IMPACTS & MITIGATION MEASURES*

Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level? Yes/No?
Otay Mesa Road: Vann Centre Boulevard to Enrico Fermi Drive *(County of San Diego)* (**Impact TR-6)**	Direct	**M-TR-10:** This segment of Otay Mesa Road between Vann Centre Boulevard and Enrico Fermi Drive was analyzed under Existing conditions without the addition of SR 11 between SR 905/SR 125 and Enrico Fermi Drive to the roadway network. SR 11 is currently under construction and expected to open during the fall of 2015, before completion of the Otay 250 – Sunroad East Otay Mesa Business Park Specific Plan Amendment Project. Under Year 2020 Cumulative conditions, with the addition of SR 11, a significant impact is not calculated along the segment (2 lanes provide adequate operations). Therefore, the construction of SR 11, which is fully funded, will mitigate the Project's direct impact, and no additional mitigation measures are necessary.	Yes
Enrico Fermi Drive: Otay Mesa Road to Airway Road *(County of San Diego)* (**Impact TR-15)**	Cumulative	**M-TR-11:** Payment of the appropriate TIF amount toward the County TIF Program would reduce this cumulative impact to below a level of significance.	Yes

TABLE 2.8-16. *INTERSECTION POST-MITIGATION ANALYSIS*

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Existing + Project + Mitigation			Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Δ[c]	
4. Otay Mesa Road / La Media Road	Signal	AM	**178.8**	**F**	**322.9**	**F**	**109.2**	**F**	(69.6) [d]	*Contribute a fairshare towards the following planned improvements to this intersection:* *Southbound Movement - two dedicated right turn lanes, three thru lanes, three thru lanes, and two dedicated left turn lanes.* *Westbound Movement - two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes.* *Northbound Movement - two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes.* *Eastbound Movement - two dedicated right turn lanes, three thru lanes and two dedicated left turn lanes.*
		PM	**61.4**	**E**	**237.8**	**F**	**61.1**	**E**	(0.3) [d]	
8. Otay Mesa Road / Harvest Road	TWSC / Signal [e]	AM	**48.0**	**E**	**>300**	**F**	54.9	D	6.9	*Signalize the intersection and provide the following:* *Southbound movement - one dedicated right turn lane with overlap phasing and a shared thru / left turn lane.* *Westbound movement - one shared thru/right turn lane, one thru lane, and one dedicated left turn lane.* *Northbound movement: one shared thru / right turn /left turn lane.* *Eastbound movement - one shared thru / right turn lane, two thru lanes and one dedicated left turn lane.*
		PM	11.8	B	**>300**	**F**	42.8	D	30.9	
9. Otay Mesa Road / Sanyo Road	Signal	AM	12.2	B	**178.2**	**F**	37.0	C	24.8	*Provide the following:* *Southbound movement - two dedicated right turn lanes with overlap phasing, one thru lane and one dedicated left turn lane.* *Westbound movement - one shared thru / right lane, one thru lane, and one dedicated left turn lane.* *Northbound movement: one shared thru / right turn lane and one dedicated left turn lane.* *Eastbound movement - one shared thru / right turn lane, one thru lane, and two dedicated left turn lanes.*
		PM	17.6	B	**170.4**	**F**	44.8	D	27.2	
		AM	-	-	**>300**	**F**	11.1	B	-	

TABLE 2.8-16. *INTERSECTION POST-MITIGATION ANALYSIS*

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Existing + Project + Mitigation			Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Δ[c]	
10. Otay Mesa Road / Vann Centre Boulevard	DNE/ Signal[f]	PM	-	-	**>300**	**F**	22.3	C	-	*Signalize the intersection and provide the following: Southbound movement - one dedicated right turn lane with overlap phasing and one dedicated left turn lane. Westbound movement – one shared thru / right turn lane. Eastbound movement - one thru lane and one dedicated left turn lane.*

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes a decrease in delay with the addition of Project trips and proposed mitigation measures as compared to Existing conditions.
d. Even though the level of service with mitigation is LOS E / F, the delay is lower than without the Project and mitigation. Therefore, the improvement fully mitigates the significant impact.
e. TWSC – Two-way Stop Control. The mitigation measure proposes to signalize the intersection.
f. DNE – Does Not Exist. The mitigation measure proposes to signalize the intersection.

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

TABLE 2.8-17. *SEGMENT POST-MITIGATION ANALYSIS*

Roadway Segment	Capacity (LOS E)[a]	Existing			Existing + Project			Existing + Project + Mitigation				
		ADT[b]	V/C[c]	LOS[d]	ADT	V/C	LOS	Capacity (LOS E)[a]	ADT	V/C	LOS	Δ[e]
Otay Mesa Road												
Sanyo Ave to Vann Centre Blvd	16,200	10,410	0.643	D	**20,647**	**1.275**	**F**	37,000	20,647	0.558	B	(0.085)

Footnotes:

a. Capacity from City / County LOS threshold tables
b. Average Daily Traffic
c. Volume / Capacity
d. Level of Service
e. "Δ" denotes the decrease in V/C due to the mitigation measure.

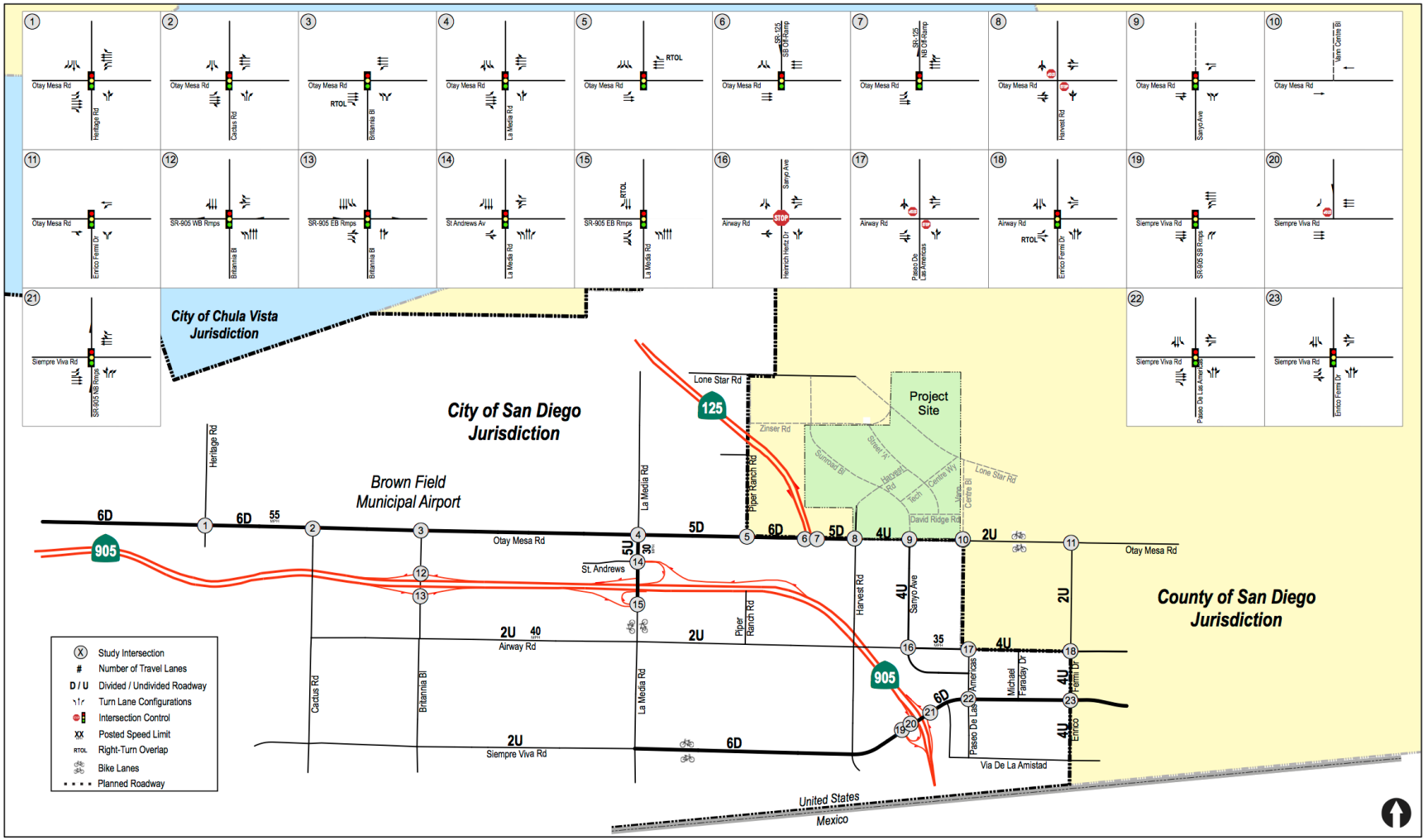

FIGURE 2.8-1. *EXISTING CONDITIONS DIAGRAM*

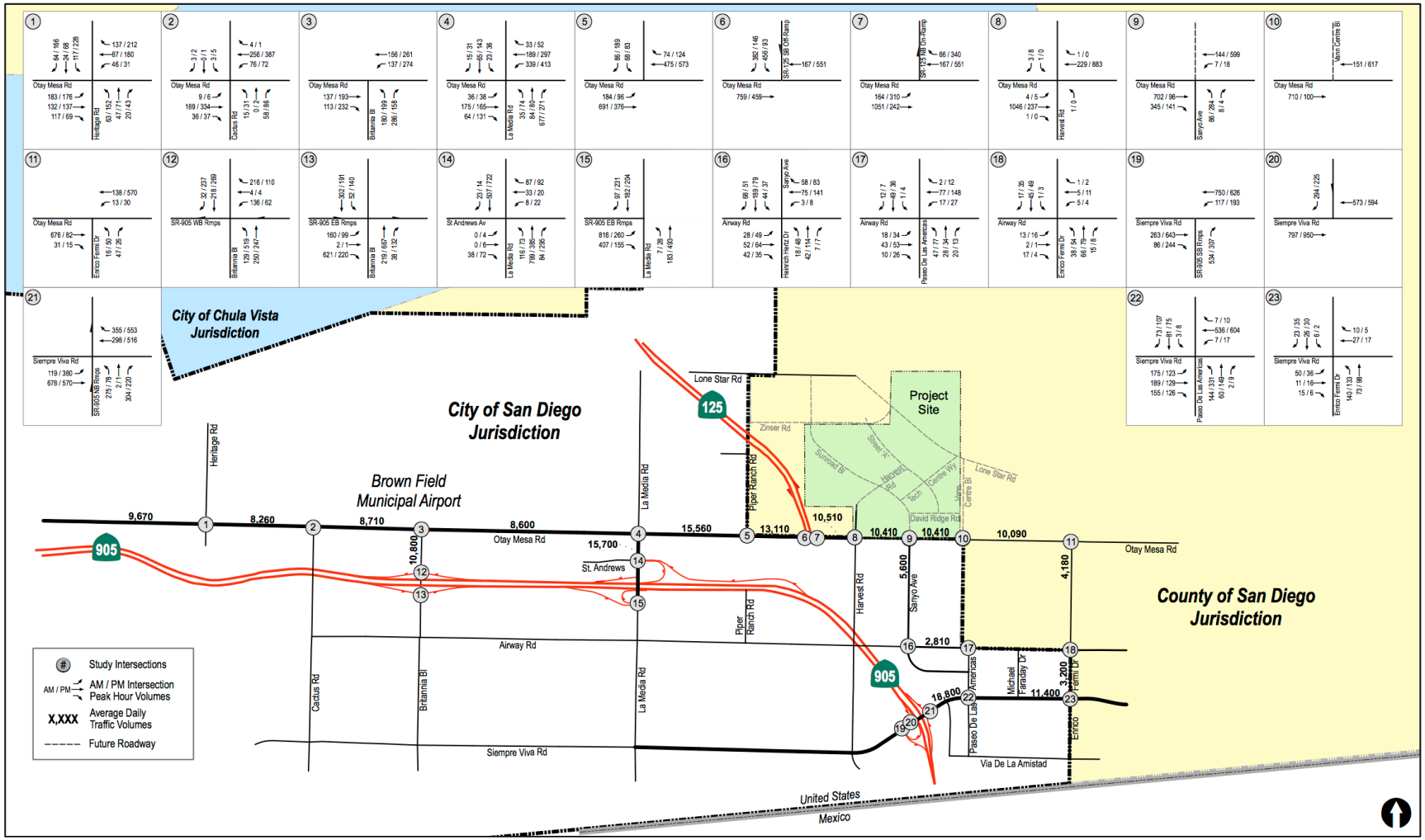

FIGURE 2.8-2. *EXISTING TRAFFIC VOLUMES*

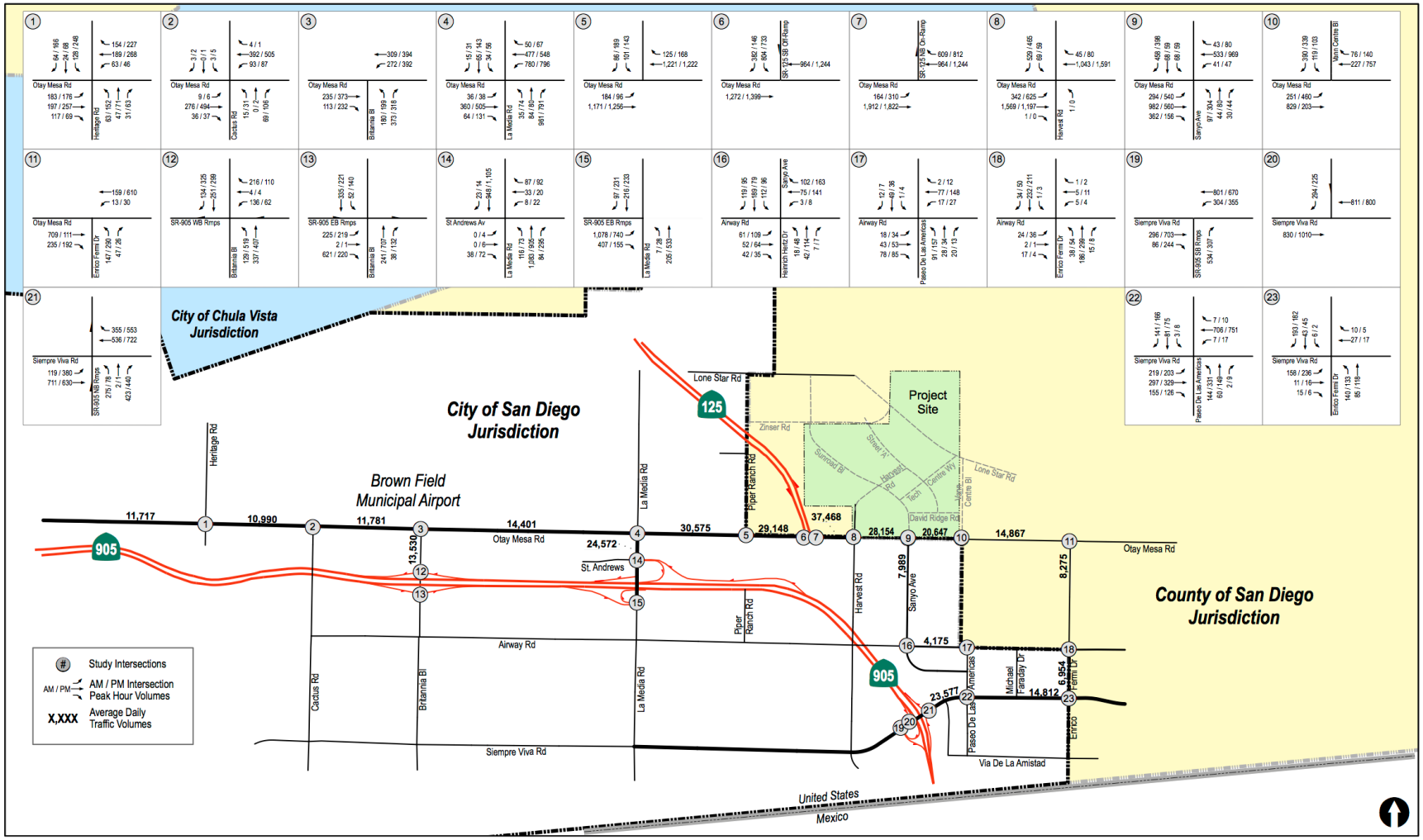

FIGURE 2.8-3. *EXISTING YEAR + PROJECT TRAFFIC VOLUMES*

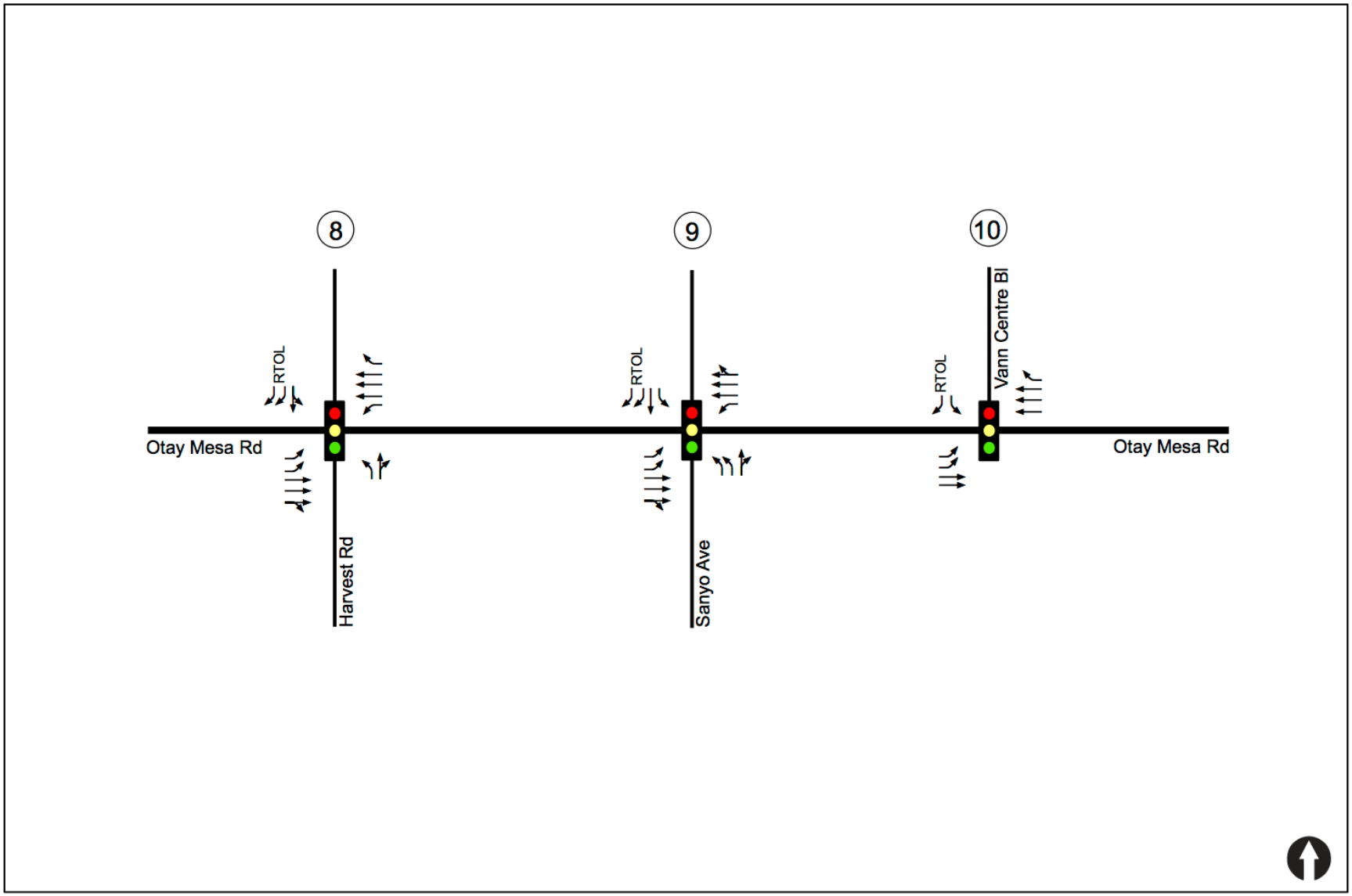

FIGURE 2.8-4. *ULTIMATE PROJECT ACCESS IMPROVEMENTS*

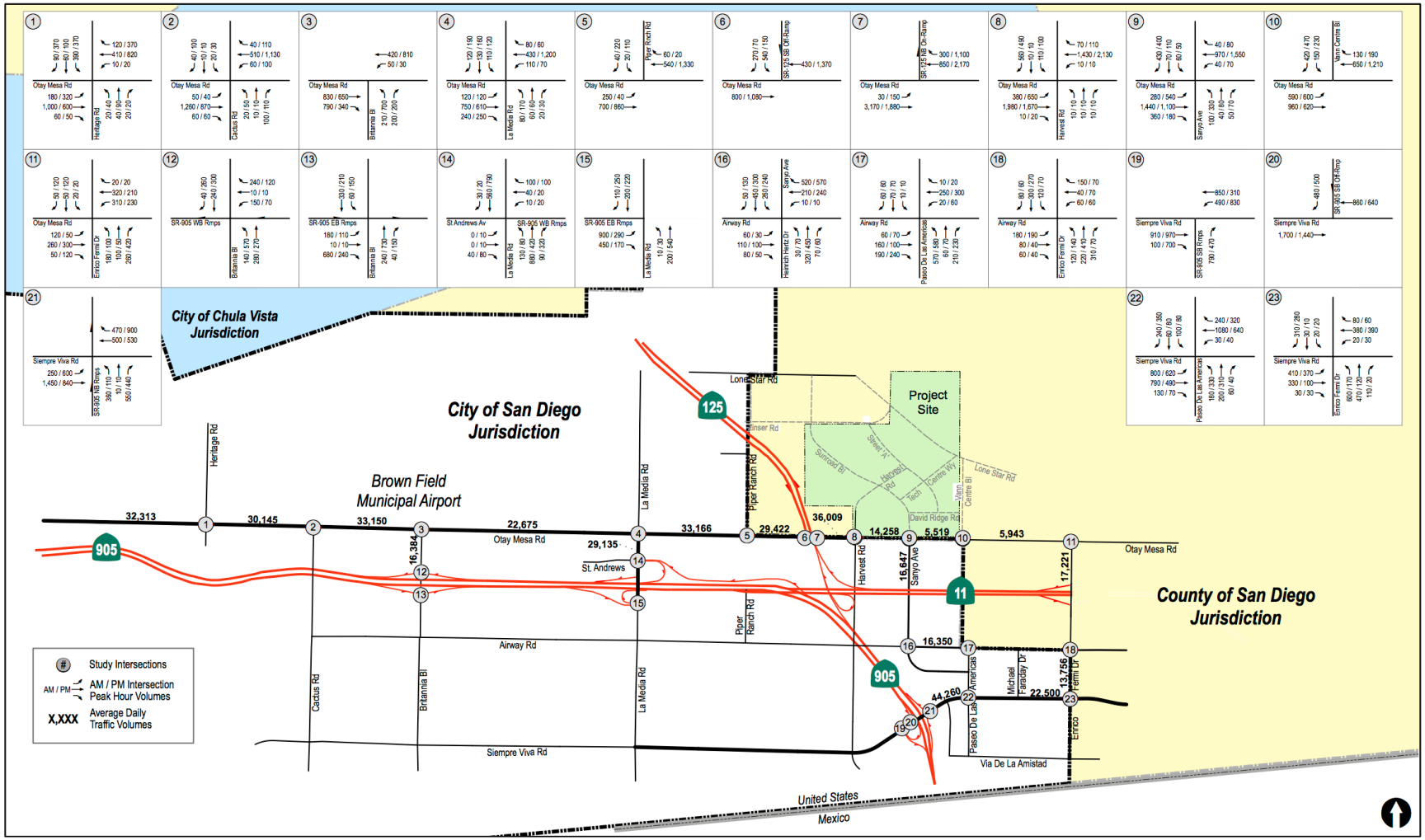

FIGURE 2.8-5. *CUMULATIVE (YEAR 2020) WITH PROJECT TRAFFIC VOLUMES*