Appendix B.1

TRAFFIC ANALYSIS

TRAFFIC IMPACT STUDY

For

California Crossings
(P06-102RPL, TPM 21046, ER 93-19-06AA)

Prepared For: The County of San Diego

Submitted To:

Regency Centers
915 Wilshire Boulevard, Suite 2200
Los Angeles, CA 90017

Transcan Development, LLC
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Revised: May 15, 2009
Revised: February 23, 2009
Revised: October 30, 2008
Revised: September 10, 2008
Original: November 19, 2007

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September 23, 2010
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EXECUTIVE SUMMARY

The applicant proposes to develop a 325,502 square foot retail commercial center on 28.50 net acres, located at the northwest corner of Otay Mesa Road and Harvest Road within the unincorporated area of San Diego County.

Based on the driveway trip rates, the proposed development will generate approximately 22,785 average daily trips, 684 morning peak hour trips, and 2,279 afternoon peak hour trips. The cumulative trip generation of the project, which takes into account that some of the traffic attracted to the project site is already traveling on the adjacent roadway network (i.e. pass-by trips), is approximately 15,950 average daily trips, 479 morning peak hour trips, and 1,595 afternoon peak hour trips.

This report analyzes the traffic impacts associated with the proposed project on the roadway segments and intersections under existing without and with project conditions and cumulative (2020) with SR-905 Phases 1A & 1B conditions. The 2030 conditions analysis shows that the proposed project is consistent with the East Otay Mesa Specific Plan Amendment adopted on August 1, 2007 and amended on April 8, 2009.

This report will show that the project is part of direct and cumulative impacts to roadway segments and intersections located in the County and City of San Diego.

Please refer to Section VIII of this report for a summary of the project's impacts and recommended mitigation measures.

The project applicant will be responsible for making frontage improvements along Otay Mesa Road and Harvest Road per the County's Centerline Ordinance. Please refer to Section VII of this report for more details on the project access requirements.

SECTION I – INTRODUCTION

PROJECT DESCRIPTION

The applicant proposes to develop a 325,502 square foot retail commercial center on 28.50 net acres, located at the northwest corner of Otay Mesa Road and Harvest Road within the unincorporated area of San Diego County. The current projected opening year for the project is the spring of 2012. Figure 1 shows the regional location of the project and Figure 2 shows the proposed site plan.

Based on the driveway trip rates, the proposed development will generate approximately 22,785 average daily trips, 684 morning peak hour trips, and 2,279 afternoon peak hour trips. The cumulative trip generation of the project, which takes into account that some of the traffic attracted to the project site is already traveling on the adjacent roadway network (i.e. pass-by trips), is approximately 15,950 average daily trips, 479 morning peak hour trips, and 1,595 afternoon peak hour trips. The driveway trip rates were utilized for analysis of roadway segments and intersections that provide direct access to the project site. The cumulative trip rates were utilized for analysis of all other roadway segments and intersections included in the study area that are not adjacent to the project site.

CONGESTION MANAGEMENT PROGRAM

Based on the approval of Proposition 111 in 1990, regulations require the preparation, implementation, and annual updating of a Congestion Management Program (CMP) in each of California's urbanized counties. The original CMP for the San Diego region was adopted in 1991 and has been updated periodically as an element of the Regional Transportation Plan (RTP). One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process. Authority for local land use decisions including project approvals and any required mitigation remains the responsibility of local jurisdictions.

The criteria for which a project is subject to the regulations as set forth in the CMP are determined by the trip generation potential for the project. Currently, the average daily traffic (ADT) threshold is 2,400 vehicles or 200 peak hour trips. The proposed project will generate 22,785 average daily driveway trips, 684 morning peak hour driveway trips, and 2,279 afternoon peak hour driveway trips (see Section II Project Related Conditions). Since the trips generated by proposed project are greater than the CMP threshold, the project is subject to CMP guidelines for traffic impact studies.

SCHEDULED OR PROGRAMMED ROAD IMPROVEMENTS PROJECTS

Capital Improvement Projects

The current County of San Diego's 5-Year Capital Improvement Plan 2008/09 – 2012/13 includes the following three roadway segments within the East Otay Mesa area: (1) Construction of Additional Lanes on Airway Road between Michael Faraday Drive and Enrico Fermi Drive; (2) Construction of Lone Star Road from Alta Road to the west for 0.5 miles, and (3) Widening Otay Mesa Road from Vann Centre Boulevard to Enrico Fermi Drive. Funding for the Airway Road improvements are anticipated to come from Transportation Impact fees, the schedule for completion is to be determined. The Lone Star Road improvements are anticipated to be completed in spring of 2014 with funding anticipated to come from Federal sources. The Otay Mesa Road widening project is anticipated to be completed in spring of 2014 with funding still to be determined. See excerpts from the CIP in Appendix B for more details on each of these projects.

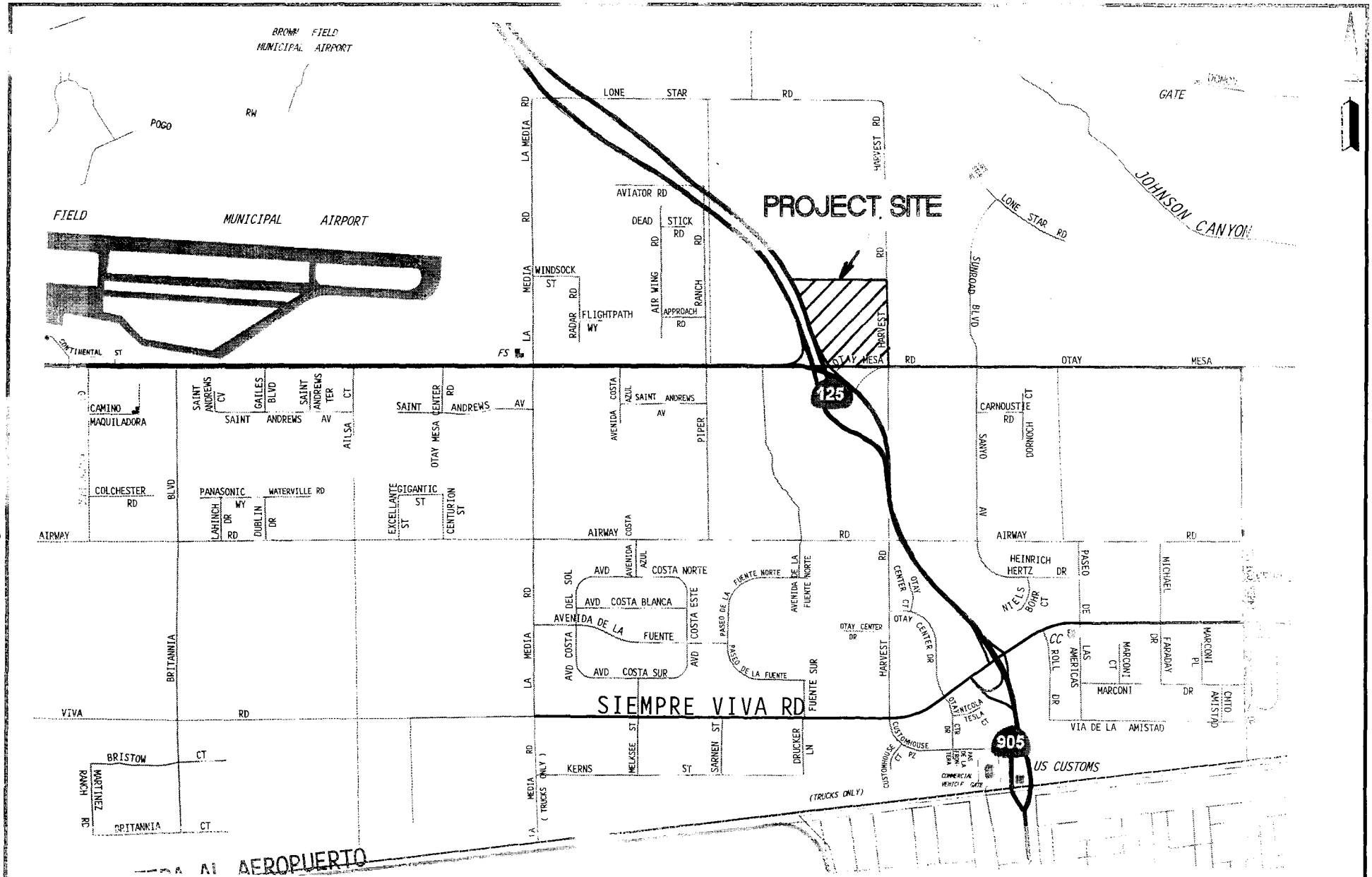

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FIGURE 1
VICINITY MAP

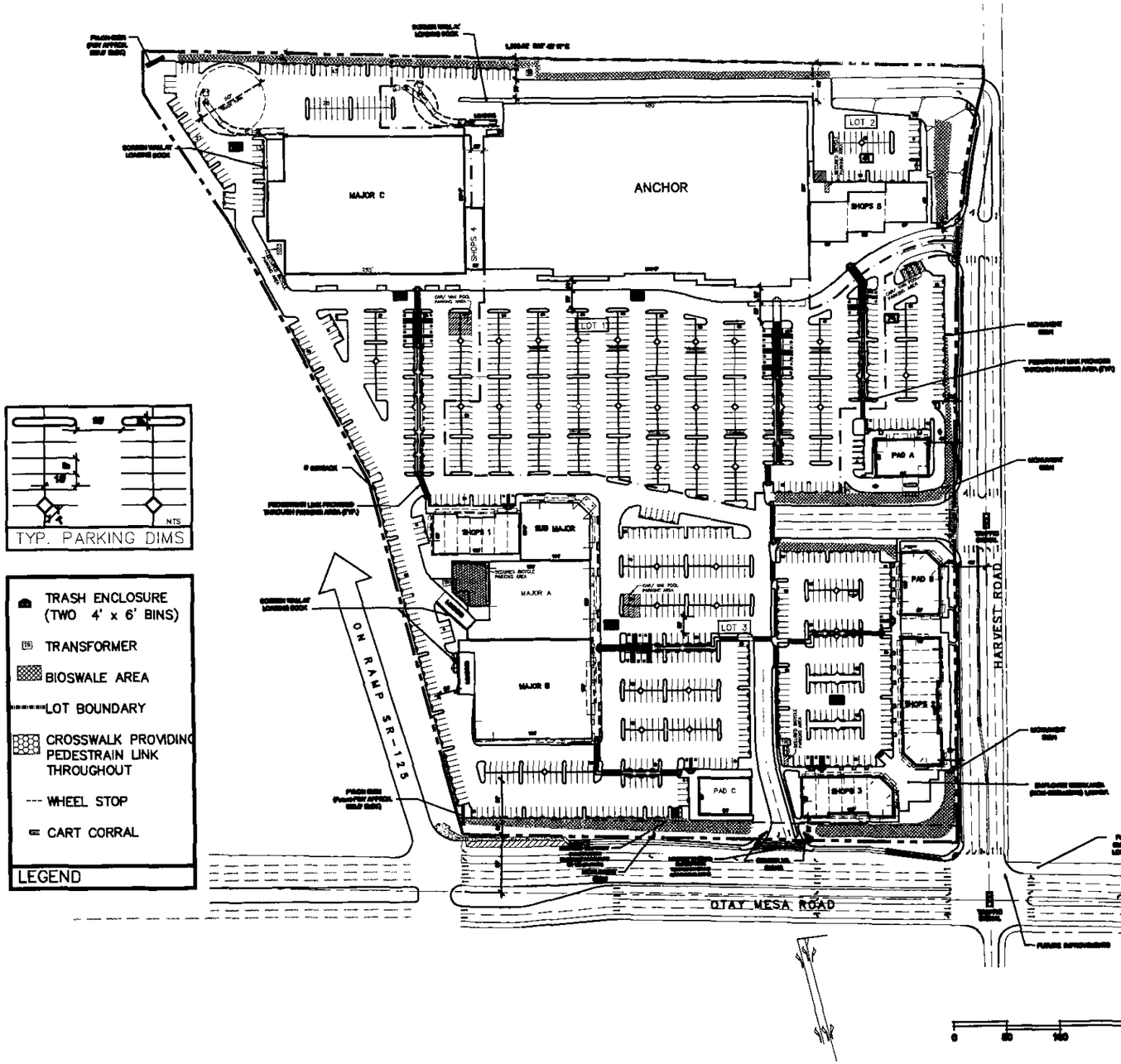

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FIGURE 2
SITE PLAN

Caltrans' Projects

Caltrans currently has two (2) major State Route facility projects in the Otay Mesa Area: (1) State Route 905 and (2) State Route 11. In addition, during the construction of the structures at the State Route 905/Airway Road intersection, Caltrans proposes to implement a detour to re-route traffic via Sanyo Avenue and Otay Mesa Road. As mitigation of the planned detour, Caltrans is required to make improvements to the Otay Mesa Road/Sanyo Road intersection and the segments of Otay Mesa Road between Harvest Road and Sanyo Avenue, and Sanyo Avenue between Otay Mesa Road and Airway Road. The following summarizes the project description and schedule for each of these projects. (A copy of Caltrans' Fact sheets for the SR-905 and SR-11 projects is provided in Appendix B.)

1. ***State Route 905 –*** The State Route 905 (SR-905) project will consist of constructing a transportation facility from Interstate 805 to the Otay Mesa Port of Entry (POE) at the US-Mexico Border. Project alternatives under study include a variable alignment of a six lane freeway alternative that would run parallel and roughly 1,300 feet to the south of the existing Otay Mesa Road, and a six lane toll way. The project will include grade separated local access interchanges with SR-125. The portion of the project from the Otay Mesa POE to Airway Road began construction in January 2003. As a part of this project the SR-905/Siempre Viva Road grade separated interchange was completed and opened to traffic in 2005. The remainder of the project has been divided into 4 phases. In discussions with Caltrans, it has been determined that the SR-905 facility would be constructed in the following four phases:

    - **Phase 1:** Phase 1 consists of two phases, namely Phase 1A (east) and Phase 1B (west). Phase 1A would consist of a six-lane facility between Britannia Boulevard and the Otay Mesa Port of Entry with a full interchange at SR-905/La Media Road and ramps on the eastern side of Britannia Boulevard. Roadway improvements will be made along Otay Mesa Road, Airway Road, Sanyo Avenue, and Harvest Road. Phase 1B consists of a six-lane facility between Caliente Avenue and Britannia Boulevard. Phase 1B includes an interchange at Caliente Avenue and ramps on the western side of Britannia Boulevard. Phase 1A is fully funded. Construction of Phase 1A began in April 2008 and is scheduled to be completed by late 2010. Phase 1B is also fully funded and secured with the majority of the funding coming from the American Recovery & Reinvestment Act funding. Construction of Phase 1B began in July 2009 and is scheduled to be completed by summer 2012.

        - ***La Media Road Improvements:*** As part of the construction of Phase 1A, Caltrans is working on improvements to La Media Road between Otay Mesa Road and approximately 300 feet (300') south of the proposed SR-905 eastbound ramp. The Caltrans improvements to La Media Road will improve the existing cross-section of the segment of La Media Road between Otay Mesa Road and approximately Saint Andrews Avenue (the approximate location of the SR-905 ramps) to the equivalent of a 4-lane Collector. The improvements include signalization of the SR-905/La Media Road ramps. See Appendix Q for Caltrans proposed striping concept of La Media Road.

        - ***Airway Road Improvements:*** As part of the construction of Phase 1A, Caltrans is also working on improvements to Airway Road from approximately 700 feet west of Harvest Road to approximately 600 feet west of Sanyo Avenue. The Caltrans improvements to Airway Road will improvement the existing cross-section of segment of Airway Road from approximately 700 feet west of Harvest Road to approximately 600 feet west of Sanyo Avenue to the equivalent of a 4-lane Major Road.

- **Phase 2**: Phase 2 consists of improvements at the interchange at Interstate 805 (I-805)/SR-905 that includes construction of the westbound SR-905 to northbound I-805 connector from SR-905. An auxiliary lane will also be constructed along northbound I-805 between SR-905 and Palm Avenue. This Phase will also include widening of the Del Sol Boulevard under crossing. Phase 2 of the SR-905 including the connection to Interstate 805 has been funded through the Transportation Investment Generating Economic Recovery Grant (TIGER) award.

- **Phase 3:** Phase 3 consists of construction of the interchange at SR-125/SR-905. Phase 3 is not currently funded.

- **Phase 4:** Construction of the interchange at Heritage Road. Phase 4 is not currently funded.

See Appendix B for the SR-905 Status Update and fact sheets provided by Caltrans.

2. ***State Route 11 –*** The State Route 11 (SR-11) project will consist of constructing approximately two miles of a new four-lane freeway from the proposed SR-905/SR-125 junction to the future Federal Port of Entry (POE) at east Otay Mesa in San Diego County. An environmental study for the SR-11 program has been completed and a second study for the project itself is underway, with completion expected in 2010. The current schedule calls for the SR-11 breaking ground in 2012 and opening in 2014, contingent on full funding. The location of the ramp interchanges, and the ramp interchange configurations will not be determined until after the completion of the SR-11 Phase 2 Project-level EIR. In the traffic analysis and study, the SR-11 facility and the POE at the third border crossing were assumed to be constructed and operational only under the 2030 conditions. Appendix B contains the Caltrans fact sheet for the SR-11 project.

3. ***Airway Road Closure/Detour Mitigation Measures –*** Currently Airway Road between the SR-905 and Sanyo Avenue is closed for the construction of the SR-905 overpass, Caltrans schedule shows Airway Road between SR-905 and Sanyo Avenue opening to traffic in January 2011. While the segment of Airway Road between SR-905 and Sanyo Avenue is closed for the construction of the SR-905/Airway Road structures, Caltrans implemented a detour to re-route traffic via Sanyo Avenue and Otay Mesa Road (Old Otay Mesa Road). As a mitigation requirement of the detour (closure of Airway Road) Caltrans signalized the Otay Mesa Road/Sanyo Avenue intersection and improved the roadway segment of Otay Mesa Road between Harvest Road and Sanyo Avenue to the standards of a 4-lane Major Road and the segment of Sanyo Avenue between Otay Mesa Road and Airway Road to the standards equivalent to that of a 4-lane Collector Road.

Planned State Routes SR-11 along with the completion of all phases of SR-905 are critical to accommodating the build out of future development of the entire Otay Mesa area. It should be noted that the SR-125 facility is a major roadway project in the Otay Mesa area that was just recently completed and opened to traffic in November 2007. All traffic counts and existing conditions included within this traffic study include the completion and operation of the SR-125.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2002

On June 12, 2002, the County Board of Supervisors approved the Specific Plan Amendment to revise the East Otay Mesa Specific Plan and divide the Specific Plan into two subareas. The proposed project is located in Subarea 1. A copy of excerpts from the Specific Plan Amendment can be found in Appendix B. In conjunction with approving the Specific Plan Amendment to revise the East Otay Mesa Specific Plan, the County Board of Supervisors also adopted the resolutions for the General Plan Amendment (GPA 02-CE1) and the Amendment of the East Otay Mesa Specific Plan (SPA 00-005). A copy of the Board Resolutions that were adopted on June 12, 2002 can be found in Appendix B. A copy of the complete list of actions taken by the Board of Supervisors on June 12, 2002 can be found in the minutes from the meeting (Minute Order No. 4) which is provided in Appendix B.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

Since the time the Specific Plan Amendment was adopted in the year 2002 significant changes have occurred in the East Otay Mesa area such as increase in traffic volumes on Otay Mesa Road within the City of San Diego, revised project and construction schedules for SR-125, SR-905 and SR-11 and the future Otay Mesa East Port of Entry, along with revised pace of development within East Otay Mesa. The County has adopted an amendment to the East Otay Mesa Specific Plan, the General Plan Circulation Element, and the County Bicycle Transportation Plan to update the circulation system and bicycle network to reflect revised project plans and construction schedules for State Route 905, State Route 11 and the future Otay Mesa East Port of Entry. There were three types of amendments for the East Otay Mesa Specific Plan Subareas 1 and 2. Those amendments were to the circulation plan, bicycle network, and regulatory standards relating to site plan requirements, fencing detail, driveway location criteria, and sidewalk design.

The Board of Supervisors for the County of San Diego approved the original amendment to the East Otay Mesa Specific Plan Amendment on August 1, 2007. A revised amendment to the East Otay Mesa Business Park Specific Plan for Subarea 1 was adopted by the Board of Supervisors on April 8, 2009. A summary of the General Plan Circulation Element and Specific Plan changes that directly impact the proposed project is provided in Section VI of the traffic study along with figures showing 2030 roadway conditions and traffic forecast. A copy of the Board Resolutions that were adopted on August 1, 2007 can be found in Appendix B. Excerpts from the East Otay Mesa Business Park Specific Plan Amendment for Subarea 1 are also provided in Appendix B.

The proposed project is consistent with the East Otay Mesa Specific Planning Subarea 1.

SCENARIOS STUDIED

The following traffic scenarios were analyzed in this report:

Existing (Year 2008) Conditions refers to that condition which exists on the ground today, including existing traffic counts and existing lane configurations at intersections and on roadway segments.

Existing (Year 2008) Conditions with Proposed Project refers to the existing condition plus the project conditions.

Cumulative (Year 2020) with SR-905 [Phases 1A & 1B] Conditions refers to that condition which are anticipated to exist by the year 2020. This condition assumes Phase 1A and 1B of the SR-905 facility are constructed and operational. The traffic forecast for this scenario has been prepared utilizing a SANDAG Series 11 model assuming development within the Otay Mesa area of San Diego County would continue to grow based on the high scenario growth rate per the Economics Research Associates (ERA) *Addendum to Real Estate Market Analysis.* (See Section V for more details on the SANDAG 2020 modeling assumptions.)

Year 2030 Conditions refers to the conditions and traffic volumes that will exist under 2030 conditions without the proposed project. All roadway segments were assumed to be built out to their classifications as identified in the *Traffic Assessment Update for the East Otay Mesa Specific Plan Amendment* 2007, prepared by D&A for the Department of Public Works at the County of San Diego. The traffic forecast for 2030 conditions was prepared from a SANDAG Series 10 model based on the 2030 Mobility Emphasis Network assuming build out of land uses within the County and City of San Diego. Since the proposed project is consistent with the EOMSP, the 2030 condition includes the traffic generated by the proposed project. Therefore, project traffic was subtracted to get the 2030 conditions analysis.

Year 2030 with Project Conditions refers to the 2030 conditions plus the project conditions.

LEVEL OF SERVICE

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway 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. Table 1 shows the delay, miles per hour (mph), and ADT ranges that are equivalent to each Level of Service.

In general, the region-wide goal for an acceptable Level of Service on all roadway segments and intersections is "D."

According to page XII 4-16 and XII 4-17 of the San Diego County General Plan Public Facility Element "A LOS 'C', which allows for stable traffic flow with room to maneuver, is generally an accepted level to strive for in new development. However, there are some cases where development cannot achieve a LOS 'C' on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS 'C'. In these cases a Level of Service 'D' is acceptable on off-site roadways." A copy of excerpts from the County's Public Facility Element can be found in Appendix A.

Table 1 – Level of Service Ranges

LOS	Intersections		Roadway Segments[3]	
			Daily	Peak Hour
	Signalized -Delay (sec/veh)[1]	Unsignalized Delay (sec/veh)[1]	Average Daily Traffic (ADT)[2]	Arterial Avg. Travel Speed (mph)
A	Less than or equal to 10.0	Less than or equal to 10.0	Less than 1,900	Greater Than 35
B	10.1 to 20.0	10.1 to 15.0	1,901 to 4,100	Greater Than 28 to 35
C	20.1 to 35.0	15.1 to 25.0	4,101 to 7,100	Greater Than 22 to 28
D	35.1 to 55.0	25.1 to 35.0	7,101 to 10,900	Greater than 17 to 22
E	55.1 to 80.0	35.1 to 50.0	10,901 to 16,200	Greater than 13 to 17
F	Greater than 80.0	Greater than 50.1	Greater than 16,200	Less Than or Equal to 13

[1] The delay ranges shown are based on the 2000 Highway Capacity Manual (HCM)
[2] The volume ranges are based on the County of San Diego Circulation Element of a Light Collector, the average daily volume ranges for the other roadway classifications has been provided in Appendix A.
[3] The average travel speeds shown are based on the 2000 HCM.
LOS = Level of Service; mph = miles per hour; sec/veh=seconds per vehicle;

ANALYSIS METHODOLOGY

Even though the proposed project lies within the County of San Diego, the roadway 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 roadway 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 roadway segment is located within the County's or City's jurisdiction.

The daily (24 hour) traffic count sheets, a copy of the City of San Diego "Roadway Classifications, and a summary of the County of San Diego's roadway classifications and their normal expected carrying capacity in terms of vehicles per day at different levels of service as identified in the County of San Diego Public Road Standards are included in Appendix A.

The arterial roadway segment levels of service analysis for the segments of Interim SR-905 (Otay Mesa Road) were determined using the Synchro, version 6 software. The arterial roadway segment level of service analysis methodology utilized by Synchro is based on the 2000 Highway Capacity Manual (HCM).

The levels of service for the freeways (SR-125, SR-905 south of Otay Mesa Road, and the new SR-905) were determined based on the California Department of Transportation (Caltrans) District 11 procedures. Caltrans determines the level of service for freeways based on the volume-to-capacity ratio which considers the variables such as the peak hour volume of traffic, the number of travel lanes, the directional split of traffic, and percentage of heavy vehicles.

Synchro, version 6, was utilized to analyze the morning and afternoon peak hour conditions of the intersections in the project vicinity. The signalized intersection methodology defines LOS based on delay using variables such as lane configuration, traffic volumes, and signal timings. The unsignalized intersection methodology defines LOS based on the longest delay experienced by any single movement. Since the Synchro program calculates the average delay per vehicle, there may be instances where the Synchro analysis will show a reduction in delay with the addition of more traffic. This phenomenon occurs when the additional traffic is added to a movement that experiences a shorter amount of delay, thereby decreasing the intersection's average delay per vehicle (i.e. a larger amount of vehicles will have to wait a shorter time while only a few vehicles have to wait an extended period of time). It should be noted that the Synchro program is based on the 2000 Highway Capacity Manual (HCM).

It should be noted the Airway Road/Sanyo Avenue intersection is currently an all-way stop-controlled intersection with three (3) westbound approach lanes (1 left, 1 through, and 1 right). The Highway Capacity Manual (HCM) and Synchro software, however, do not currently provide an analysis methodology to analyze an all-way stop-controlled intersection with more than two (2) approach lanes. Therefore, for analysis purposes, the westbound approach was assumed to have one (1) westbound shared left-through lane and one (1) westbound right turn lane. This results in a delay that is slightly larger than what would be experienced in the field.

Since SR-905 and SR-125 are state owned facilities, to meet the requirements of Caltrans, the Intersecting Lane Vehicles (ILV) analysis was utilized to assess the operating conditions of the intersections along Otay Mesa Road (Interim SR-905) between Britannia Boulevard and the SR-905 connector and the intersections of SR-905 at Siempre Viva Road. Since the control/ownership of Otay Mesa Road (Interim SR-905) between Britannia Boulevard and the SR-905 connector will be relinquished to the City of San Diego once the new SR-905 facility is constructed, the ILV analysis was only completed for these intersections under existing and existing plus project conditions. It should be noted that the ILV analysis is only applicable to signalized intersections.

The Intersecting Lane Vehicle method determines the operating condition of an intersection based upon the number of intersecting vehicles that enter the intersection per lane during the hour (ILV/hr). Where less than 1200 ILV/hr represents stable flow, 1200 to 1500 ILV/hr represents unstable flow with considerable delays possible, and 1500 ILV/hr represents capacity, or stop-and-go operation with severe delay and heavy congestion. Since the upper limits of the ILV analysis is based on the premise of an operating condition of LOS C or better, and since LOS D was considered an acceptable level of service, the ILV analysis was not utilized to determine project significance.

REPORT ORGANIZATION

Following this section, Section II examines the potential trips generated by the proposed project and it defines the trip distribution assumptions. Section III evaluates the existing roadway characteristics and traffic conditions without the project. Section IV provides analysis of project's traffic impacts under existing with project conditions. Section V provides analysis of cumulative (2020) with SR-905 (Phases 1A & 1B) conditions. Section VI describes the year 2030 conditions, Section VII addresses the project's access and internal circulation, Section VIII summarizes the direct and cumulative impacts of the project and provides mitigation measures, and Section IX summarizes the report findings and conclusions.

SECTION II – PROJECT RELATED CONDITIONS

TRIP GENERATION

Within the County of San Diego's jurisdiction, the *(Not So) Brief Guide of Traffic Generators for the San Diego Region* published by SANDAG in April 2002 is typically utilized to estimate the trip generation potential of a project. Per the San Diego Association of Governments (SANDAG), a Community Shopping Center is defined as a site that is 15-40 acres in size with 125,000 to 400,000 square feet of retail development generally consisting of one (1) major store with detached restaurant(s), grocery, and drugstore.

However, since the proposed California Crossings project is located adjacent to the City of San Diego's boundary and since the majority of the project traffic will be distributed within the City of San Diego (see the Trip Distribution/Traffic Assignment Section below), the trip generation rates provided in the City of San Diego's *Trip Generation Manual* (Revised May 2003) are considered more appropriate for the proposed project. Therefore, the project will use the trip generation as indicated in the City's *Trip Generation Manual.*

The City of San Diego describes the Community Shopping Center as 100,000 square feet or more of retail development on 10 or more acres of land. A Regional Shopping Center, on the other hand is defined by SANDAG as a site that is 40-80 acres in size with 400,000 to 800,000 square feet of retail development generally consisting of two (2) or more major stores. Per the City of San Diego, of Regional Shopping Center is described as 300,000 square feet or more of retail development.

As illustrated in Figure 2, the proposed project consists of a total of 325,502 square feet of retail development on 48.13 acres of land. Thus a review of the characteristics of the proposed project find that it falls somewhere in between the classification of a Community Shopping Center and a Regional Shopping Center.

Per the City of San Diego, the trip generation rate for a Regional Shopping Center is a logarithmic equation. Based on the square footage of the proposed project (325,502 square feet), the equivalent trip rate for the Regional Shopping Center per the City of San Diego Trip Generation Manual is calculated to be approximately 46 daily trips per 1,000 square feet. Per the City of San Diego, the trip generation rate for a Community Shopping Center is 70 daily trips per 1,000 square feet. Since the characteristics of the proposed project are somewhere in between the classification of a Community Shopping Center and a Regional Shopping Center, a daily trip rate for the proposed project based on a hybrid of the City of San Diego trip rates is estimated to be 58 daily trips per 1,000 square feet.

However, to provide a worse-case estimate, the trip generation for the proposed project were estimated based on the City of San Diego's trip generation rates for a Community Shopping Center (70/ksf). The City of San Diego's *Trip Generation Manual* (Revised May 2003) publishes two types of vehicle trip rates; (1) the driveway trip rate (70 trips) and (2) the cumulative trip rate (49 trips). Driveway trips are the total trips generated by the project site. The cumulative trips are the new vehicle trips that are added to the community and take into account that some of the traffic attracted to the project site is already traveling on the adjacent roadway network (i.e. pass-by trips). It should be noted that the SANDAG manual also provides for pass-by and diverted trips for commercial land uses.

The trip generation rates and calculations for the proposed project are summarized in Table 2. As shown in Table 2, based on the driveway trip rates, the proposed development will generate approximately 22,785 average daily trips, 684 morning peak hour trips, and 2,279 afternoon peak hour trips. The cumulative trip generation of the project is approximately 15,950 average daily trips, 479 morning peak hour trips, and 1,595 afternoon peak hour trips. The driveway trip rates were utilized for analysis of roadway segments and intersections that provide direct access to the project site. The cumulative trip rates were utilized for analysis of all other roadway segments and intersections included in the study area that are not adjacent to the project site.

Table 2 – Trip Generation Rates and Calculations Summary								
Trip Generation Rates								
Land Use	Daily		AM Peak Hour			PM Peak Hour		
			Total - % of Daily	% In	% Out	Total - % of Daily	% In	% Out
Commercial (Driveway Rate)	70 trips per ksf		3%	60%	40%	10%	50%	50%
Commercial (Cumulative Rate)	49 trips per ksf		3%	60%	40%	10%	50%	50%
Trip Generation Calculations Summary								
Land Use	Total No. of Units (ksf)	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Commercial (Driveway Trips)	325.502	22,785	684	410	274	2,279	1,140	1,139
Commercial (Cumulative Trips)	325.502	15,950	479	287	192	1,595	798	797
Trip Rates based on City of San Diego's *Trip Generation Manual* (Revised May 2003); ksf = 1,000 square feet								

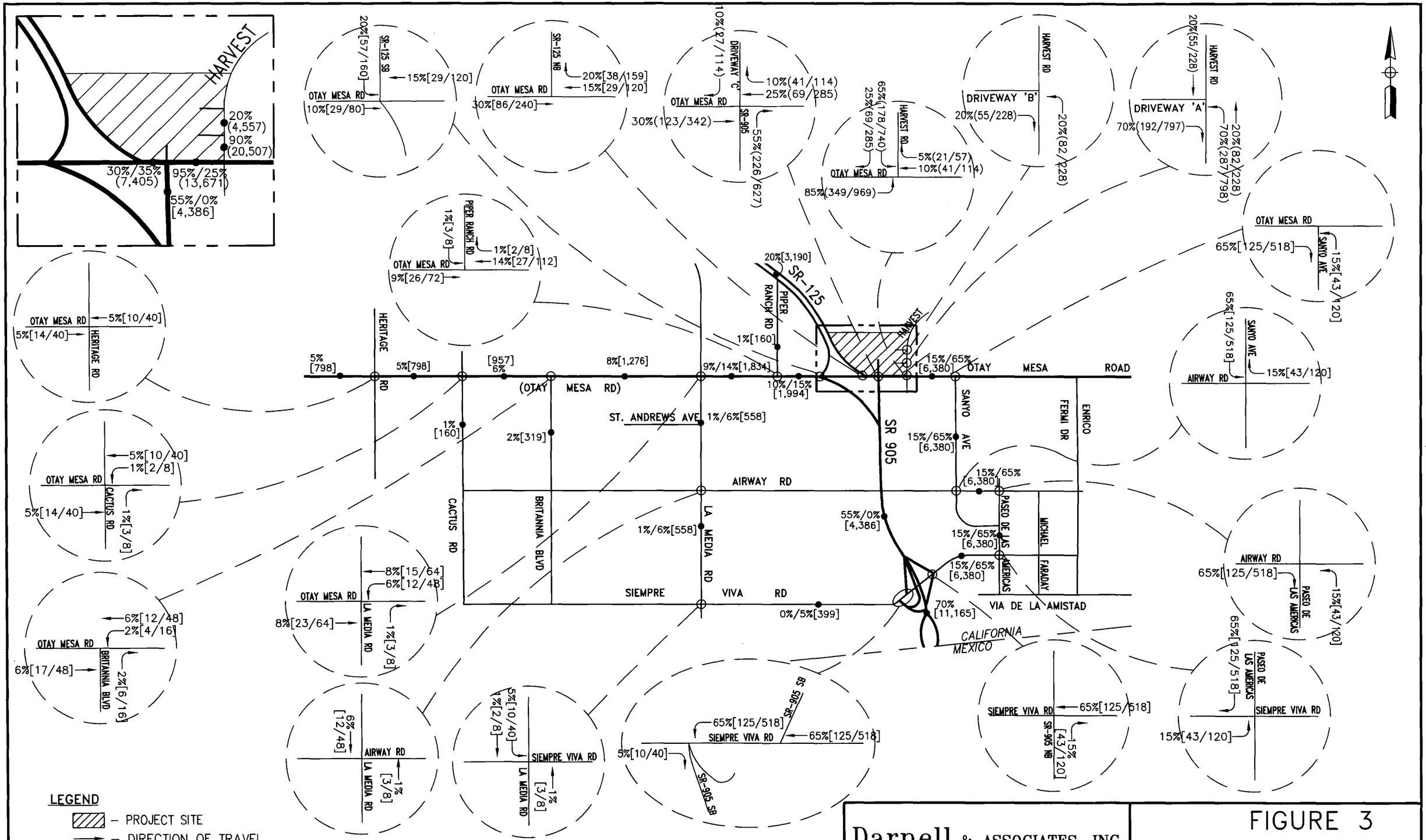
TRIP DISTRIBUTION & TRAFFIC ASSIGNMENT

The trip distribution for the project site was based on a *Retail Site Selection Analysis* prepared by CBRE for the proposed project. (A copy of the *Retail Site Selection Analysis* prepared by CBRE is provided in Appendix C.) As discussed in the *Retail Site Selection Analysis Study* prepared by CBRE, which was based on a marketing study completed by DDS Marketing in February 2006, the trade area for the California Crossings project is influenced by the population in the surrounding area both in the United States and south of the border in Mexico, as well as by the availability of transportation infrastructure providing access to the proposed development.

The trade area for the project is expected to vary in the short-term and long-term, based on the timing of construction of new freeways serving Otay Mesa and the surrounding region, and the timing of additional development in Otay Mesa. In both the short and long term, the proposed commercial center with the Super Target as an anchor tenant is expected to attract a large percentage of its customer base from Mexico. As illustrated in the CBRE *Retail Site Selection Analysis Study*, sales data from similar large format retail centers located near Ports of Entry along the international border in California have a majority of the customer base from cross-border traffic. In addition, major general merchandise stores strategically located near Ports of Entry are typically some of the highest grossing stores based on the sales from cross-border customers.

The marketing analysis summarized in the CBRE *Retail Site Selection Analysis Study* concluded that in the short-term prior to the completion of the SR-11 freeway, approximately 70% of the customer base is expected from cross border traffic from Mexico, with approximately 20% from the north traveling on SR-125, and approximately 10% from development to the west. Since the SR-11 facility was not included in the analysis until the future (2030 analysis), this distribution was utilized for existing and cumulative (2020) with SR-905 Phases 1A & 1B conditions. Figure 3 illustrates the trip distribution percentages and project related traffic for the existing conditions and Figure 4 illustrates the trip distribution percentages and project related traffic for the cumulative with SR-905 Phases 1A & 1B conditions.

In the long-term, after the SR-11 is constructed across Otay Mesa and additional residential development occurs in Otay Mesa, the trade area for the project is expected to expand and capture additional customers to the west of SR-125. In the long-term the anticipated customer base is anticipated to be approximately 50% from cross border traffic from Mexico, approximately 20% from the north traveling on SR-125, and approximately 30% from development to the west. This distribution was utilized under the 2030 conditions. Figure 5 illustrates the trip distribution percentages and project related traffic for the 2030 conditions.



LEGEND

▨ – PROJECT SITE

→ – DIRECTION OF TRAVEL

● **XX%/YY%(Z,ZZZ)** – IN/OUT DISTRIBUTION PERCENTAGE/(DRIVEWAY AVERAGE DAILY TRAFFIC) [CUMULATIVE AVERAGE DAILY TRAFFIC]

● **UU%(VV/WW)** –DISTRIBUTION PERCENTAGE/ (DRIVEWAY AM/PM PEAK HOUR TRAFFIC) [CUMULATIVE AM/PM PEAK HOUR TRAFFIC]

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FIGURE 3

TRIP DISTRIBUTION & PROJECT TRAFFIC FOR EXISTING CONDITIONS

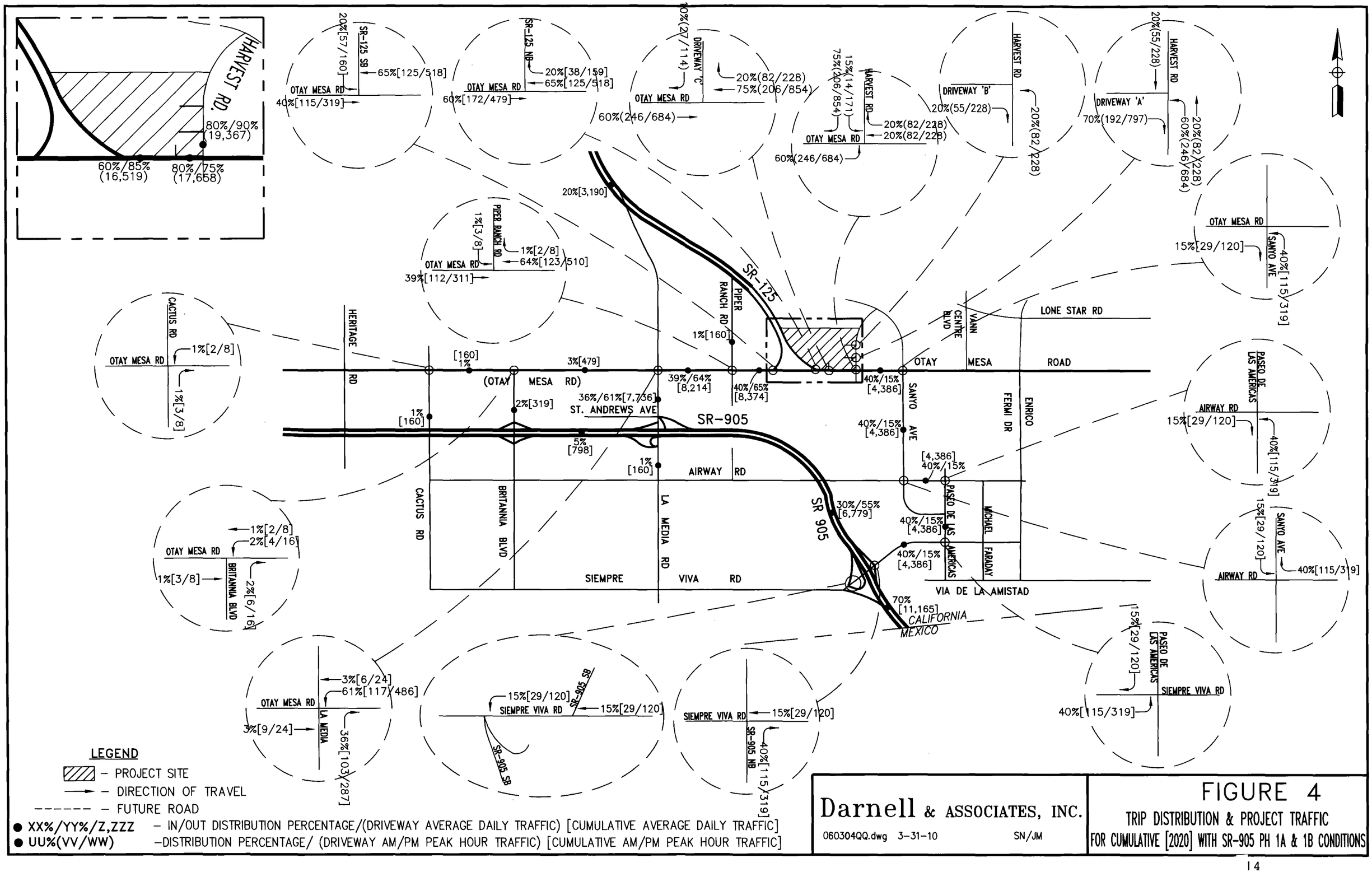

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FIGURE 4

TRIP DISTRIBUTION & PROJECT TRAFFIC
FOR CUMULATIVE [2020] WITH SR-905 PH 1A & 1B CONDITIONS

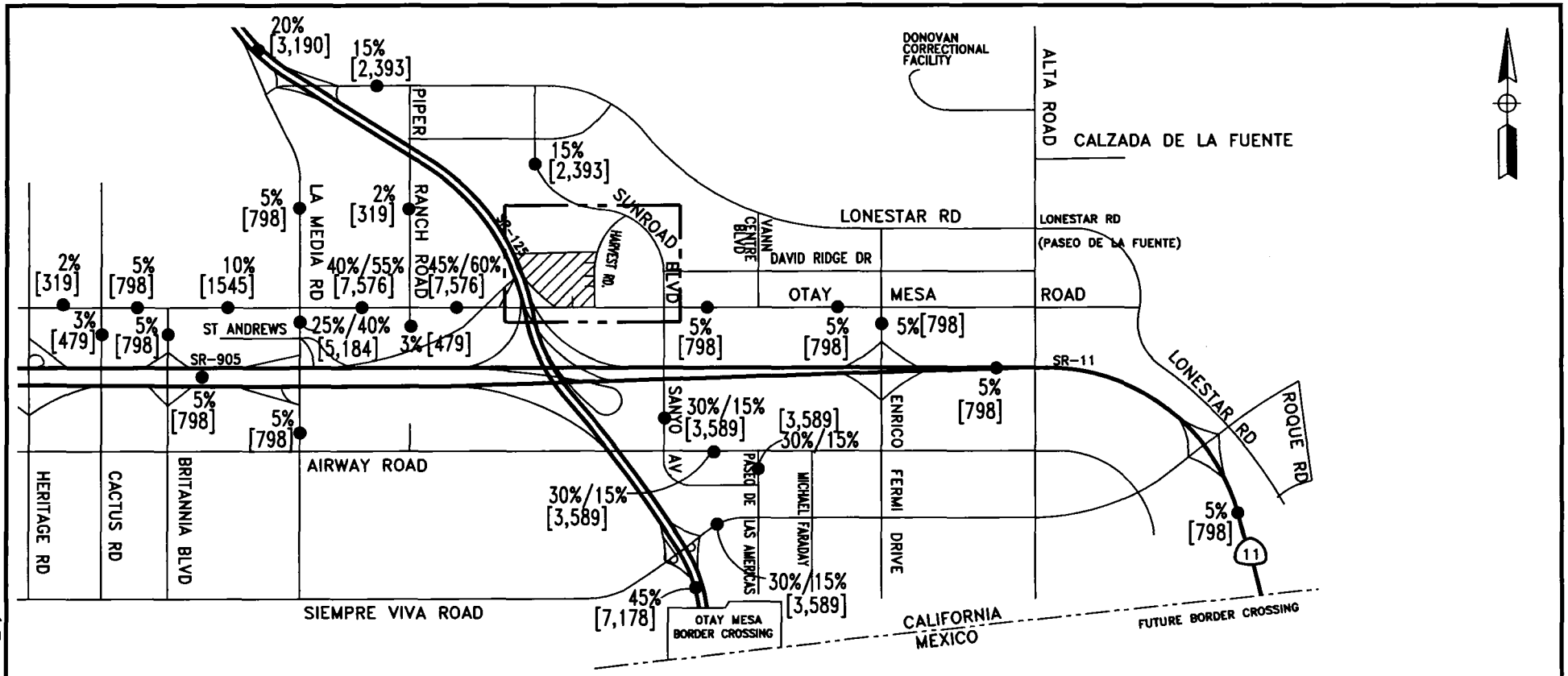

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FIGURE 5
TRIP DISTRIBUTION AND PROJECT TRAFFIC – FOR 2030 CONDITIONS

STUDY AREA

To determine the study area for the project D&A utilized the County of San Diego's criteria which recommends the inclusion of all transportation facilities that receive 25 or more peak hour trips from the proposed project, and the of City of San Diego's criteria which requires the analysis of all regionally significant arterial system segments and intersections where the proposed project will add 50 or more peak hour trips in either direction. The County or City criteria was utilized dependent on the jurisdiction which the roadway segment or intersection or intersection was located in.

Based on the County and City's criteria and a review of figures 3-5, it was determined that under existing conditions the study area would need to include the following intersections: Interim SR-905 (Otay Mesa Road)/Britannia Boulevard; Interim SR-905 (Otay Mesa Road)/La Media Road; Interim SR-905 (Otay Mesa Road)/Piper Ranch Road; Interim SR-905 (Otay Mesa Road)/SR-125 Southbound Ramp; Interim SR-905 (Otay Mesa Road)/SR-125 Northbound Ramp; Otay Mesa Road/SR-905 Connector; Otay Mesa Road/Harvest Road; Otay Mesa Road/Sanyo Avenue; Airway Road/Sanyo Avenue; Airway Road/Paseo De Las Americas; Siempre Viva Road/SR-905 Southbound Ramps; Siempre Viva Road/SR-905 Northbound Ramps; Siempre Viva Road/Paseo De Las Americas; and the project access points.

Under cumulative (2020) with SR-905 Phases 1A & 1B conditions the study area would need to include all of the same intersections as listed above with the exception of the Interim SR-905 (Otay Mesa Road)/Britannia Boulevard intersection. See Table 3 for a summary of the study area for each study scenario. To maintain consistency, the same intersections were analyzed for all scenarios.

Table 3 – Summary of Study Area Intersections by Scenario

Intersection	Criteria Utilized to Determine Study Area	Peak Hour Trip Threshold	Scenario Where Analysis is Required
Interim SR-905 @ Heritage Rd	City	50	None
Interim SR-905 @ Cactus Rd	City	50	None
Interim SR-905 @ Britannia Blvd	City	50	Existing
Interim SR-905 @ La Media Rd	City	50	Existing Cumulative
Interim SR-905 @ Piper Ranch Rd	County	25	Existing Cumulative (2015)
Otay Mesa Rd @ SR125 SB	County	25	Existing Cumulative
Otay Mesa Rd @ SR 125 NB	County	25	Existing Cumulative
Otay Mesa Rd @ SR-905 Conector	County	25	Existing
Otay Mesa Rd @ Harvest Rd	County	25	Existing Cumulative
Otay Mesa Rd @ Sanyo Av	County	25	Existing Cumulative
Airway Rd @ Sanyo Av	City	50	Existing Cumulative
Airway Rd @ Paseo De Las Americas	County	25	Existing Cumulative
SR-905 SB Ramp @ EB Siempre Viva	City	50	Existing Cumulative
SR-905 SB Ramp @ WB Siempre Viva	City	50	Existing Cumulative
SR-905 NB Ramp @ Siempre Viva	City	50	Existing Cumulative
Siempre Viva @ Paseo De Las Americas	City	50	Existing Cumulative

SECTION III – EXISTING CONDITIONS

This section of the traffic study is intended to assess the existing conditions of the roadways within the vicinity of the project to determine travel flow difficulties, if any, that exist prior to adding the traffic generated by the proposed project. The existing conditions analysis establishes a base condition that is used to assess the other scenarios discussed in this report. Darnell & Associates, Inc (D&A) conducted a field review of the area surrounding the project in January 2009. Figure 6 illustrates the existing roadway conditions in the project vicinity.

EXISTING ROADWAY CHARACTERISTICS

The key segments analyzed in the study area are identified below:

Interim State Route 905 (SR-905)/Otay Mesa Road (SC-1120) is an east-west six-lane expressway which extends from Interstate 5 to the City of San Diego Otay Mesa Community. Approximately one mile east of Interstate 805, there is a break in the route and SR-905 becomes Otay Mesa Road. The posted speed limit on Otay Mesa Road is 55 miles per hour (mph).

The study refers the segment of SR-905/Otay Mesa Road from Heritage Road to SR-125 (Old Otay Mesa Road) as interim SR-905 (Otay Mesa Road) and the segment from SR-125 (Old Otay Mesa Road) to Siempre Viva Road as SR-905 under existing conditions. It is at the junction with SR-125 where SR-905 and Otay Mesa Road split from one another (Otay Mesa Road continues traveling in the east-west direction, while SR-905 becomes a north-south roadway).

Interim SR-905 (Otay Mesa Road) is improved to six lane Prime Arterial standards from west of Caliente Avenue to approximately Piper Ranch Road. Immediately east of Piper Ranch Road, Interim SR-905 (Otay Mesa Road) provides five (5) travel lanes (2 eastbound lanes and 3 westbound lanes), however as it traverses easterly towards the SR-125; Otay Mesa Road widens to provide a total of seven (7) travel lanes (4 eastbound lanes and 3 westbound lanes). For analysis purposes, this segment of Interim SR-905 (Otay Mesa Road) was assumed to have the capacity equivalent to that of a six-lane Prime Arterial. (Copies of Caltrans striping concepts for the segment of Otay Mesa Road between Piper Ranch Road and Harvest Road are provided in Appendix R.) From its junction at SR-125 to the international border, SR-905 is a four-lane Major Arterial.

The segment of interim SR-905/Otay Mesa Road from west of Heritage Road to approximately Piper Ranch Road and the segment of SR-905 from Otay Mesa Road to south of Siempre Viva Road are currently located within the jurisdictions of both the City of San Diego and Caltrans, while the segments from approximately Piper Ranch Road to SR-125 is located with the jurisdictions of the City of San Diego, the County of San Diego, and Caltrans. In the City of San Diego Circulation Element, a six-lane Prime Arterial has a capacity of 60,000 Average Daily Trips (ADT) at Level of Service (LOS) E with a cross section of 102 feet (102') curb to curb and a right-of-way of 122 feet (122'). A four-lane Major Arterial has a capacity of 40,000 ADT at LOS E with a cross section of 78 feet (78') curb to curb and a right-of-way of 98 feet (98'). In the County of San Diego Circulation Element a six-lane Prime Arterial has a capacity of 57,000 ADT at LOS E.

Otay Mesa Road (Old Otay Mesa Road) (SC-1120) is basically an east-west roadway located within the jurisdictions of the County and City of San Diego. The segment from SR-125 to approximately 1,200 feet east of Sanyo Avenue is located within both jurisdictions, with the centerline of the existing road as the boundary. The posted speed limit on this section of Otay Mesa Road is 55 mph.

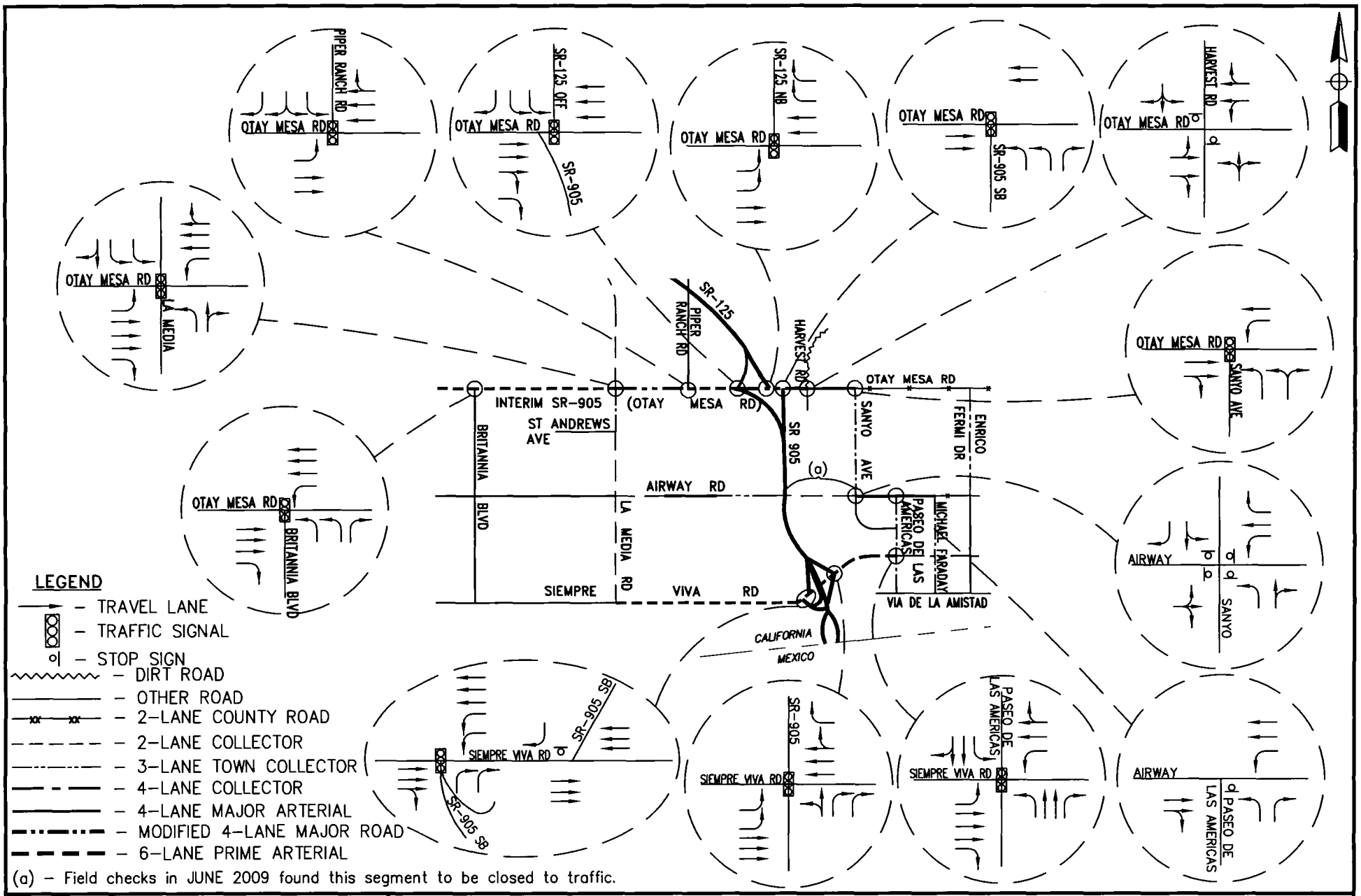

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FIGURE 6
EXISTING CONDITIONS

The segment of Otay Mesa Road (Old Otay Mesa Road) between the SR-125 Southbound ramp and the Interim SR-905 connection is currently constructed to provide six (6) travel lanes (2 eastbound lanes and 4 westbound lanes). The segment of Otay Mesa Road (Old Otay Mesa Road) between the Interim SR-905 connection and Harvest Road is currently constructed to provide five (5) travel lanes (2 eastbound lanes and 3 westbound lanes). For the purpose of analysis, these segments of Otay Mesa Road (Old Otay Mesa Road) were assumed to have the capacity equivalent to that of a modified 4-lane Major Road, approximately 47,000 ADT at LOS E (the half-way point between a 4-lane Major Road and a 6-lane Prime Arterial).

The segment of Otay Mesa Road (Old Otay Mesa Road) between Harvest Road and Sanyo Avenue is currently constructed to provide four (4) travel lanes (2 eastbound lanes and 2 westbound lanes). For analysis purposes, this segment of Otay Mesa Road (Old Otay Mesa Road) was assumed to have the capacity equivalent to that of a 4-lane Major Road with a capacity of 37,000 ADT at LOS E.

The segment of Otay Mesa Road between Sanyo Avenue and Alta Road is basically a two-lane undivided roadway. This section of Otay Mesa Road has a varying pavement width of 29 to 58 feet.

The current capacity on the City two-lane segments of Otay Mesa Road (Old Otay Mesa Road) is estimated to be equivalent to that of a two-lane Collector Road with no fronting property, capacity of 10,000 ADT at LOS E. The current capacity on the County two-lane segments of (Otay Mesa Road) is estimated to be equivalent to that of a Light Collector, capacity of 16,200 ADT at LOS E. A two-lane Collector for the City and a Light Collector for the County have the same cross section of 40 feet (40') curb to curb, and 60 feet (60') of right-of-way.

Based on the East Otay Mesa Specific Plan, the ultimate classification of the segment of Otay Mesa Road between Harvest Road and Enrico Fermi Drive is classified as a Prime Arterial. In the East Otay Mesa Specific Plan, this segment is a Prime Arterial with a capacity of 57,000 ADT at LOS E, with a modified cross section of 90 feet (90') curb to curb and 110 feet (110') of right-of-way. Between Enrico Fermi Drive and Alta Road, Otay Mesa Road is classified as a four-lane Major Road. A Major Road has a capacity of 37,000 ADT at LOS E, with a cross section of 78 feet (78') curb to curb and 98 feet (98') of right-of-way.

Airway Road (SC-2300) is an east-west roadway that is located within the jurisdiction of both the City of San Diego (west of Paseo de Las Americas) and the County of San Diego (between Paseo de Las Americas to Enrico Fermi Drive). Airway Road, between La Media Road and Avenida Costa Azul, is a two-lane undivided roadway. Between Avenida Costa Azul and Piper Ranch Road, Airway Road widens to a four-lane roadway with a raised median. East of Piper Ranch Road, for approximately 150 feet, Airway Road provides one (1) eastbound lane and two (2) westbound lanes. Just west of State Route 905, Airway Road narrows back down to a two-lane undivided facility with approximately 11-foot travel lanes. Between State Route 905 and Sanyo Avenue, Airway Road is only striped to provide two travel lanes, however, the westbound lane is approximately 29 feet wide, and the eastbound lane is approximately 25 feet wide. Airway Road between Sanyo Avenue and Michael Faraday Drive has been improved to the standards of a four lane Major Road. Between Michael Faraday Drive and Enrico Fermi Drive, Airway Road narrows back down to a two-lane roadway. Just east of Enrico Fermi Drive to its current terminus, Airway Road is currently constructed as a four-lane roadway with a raised median.

For the purpose of analysis, the segment of Airway Road between La Media and Sanyo Avenue was assumed to have the capacity equivalent to that of a two lane Collector Road with no frontage property with a capacity of 10,000 ADT at LOS E. The segment between Sanyo Avenue and Michael Faraday Drive was assumed to have the capacity equivalent to the City's classification of a Major Arterial with a capacity of 40,000 ADT at LOS E. The segment between Michael Faraday Drive and Enrico Fermi Drive was assumed to have the capacity equivalent to that of the County of San Diego's Light Collector with a capacity of 16,200 ADT at LOS E with a cross section of 40 feet (40') curb to curb, with 60 feet (60') right-of-way. It should be noted that Airway Road will be reconstructed as to no longer be provided with access to State Route 905.

In the East Otay Mesa Specific Plan Amendment, Airway Road has the ultimate classification as a four-lane Major facility with a capacity of 40,000 ADT at LOS E for the segment located within the City and a capacity of 37,000 ADT at LOS E for the segment located within the County. The cross section for a four-lane Major facility is 78 feet (78') curb to curb, with 98 feet (98') right-of-way.

Siempre Viva Road is an east-west roadway that is located under the jurisdiction of the City of San Diego. From west of SR-905 to Paseo De Las Americas, Siempre Viva Road is a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Currently, east of Paseo De Las Americas to Enrico Fermi Drive, Siempre Viva Road is a four-lane road with a cross-section equivalent to that of a Collector Road, capacity of 30,000 ADT at LOS E. This segment of Siempre Viva Road is planned as a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Just east of Enrico Fermi Drive to the CHP facility located, Siempre Viva Road is currently constructed to provide one (1) eastbound lane and two (2) westbound travel lanes. From the CHP facility to Airway Place, Siempre Viva Road is constructed to provide two (2) westbound travel lanes. For purposes of analysis, the segment of Siempre Viva Road between Enrico Fermi Drive and Airway Place was assumed to have the capacity equivalent to that of a Light Collector, 16,200 ADT at LOS E.

La Media Road (SA 1103) is a north-south facility that is currently under construction for the SR-905 interchange. La Media Road immediately south of Otay Mesa Road currently provides two (2) northbound travel lanes (1 northbound left, and 1 northbound shared through-right) and three (3) southbound lanes (2 southbound through and 1 southbound right turn lane) along with a partially painted median. Just north of Saint Andrews Avenue and the future SR-905 westbound off ramp, La Media Road provides one (1) northbound travel lane, and two (2) southbound travel lanes (1 southbound through and 1 southbound right) along with a painted median. For purposes of analysis, the segment of La Media Road between Otay Mesa Road and Saint Andrews Avenue/future SR-905 westbound off ramp was assumed to have the capacity equivalent to that of a 4-lane Collector, 30,000 ADT at LOS E. La Media Road from Saint Andrews Avenue/SR-905 westbound off ramp to Siempre Viva Road is currently constructed as a two-lane undivided roadway that has a classification equivalent to that of a 2-lane Collector, capacity 10,000 ADT at LOS E.

Upon completion of the SR-905 interchange, La Media Road from Otay Mesa Road to Saint Andrews Avenue will still provide two (2) northbound travel lanes (1 northbound left, and 1 northbound shared through-right) and three (3) southbound lanes (2 southbound through and 1 southbound right turn lane) along with a partially painted median immediately south of Otay Mesa Road. However, just north of Saint Andrews Avenue, La Media Road will be widened to provide two (2) northbound through lanes, three (3) southbound through lanes, one (1) southbound right turn lane, and a painted median. Therefore, upon completion of the SR-905 interchange, La Media Road from Otay Mesa Road to Saint Andrews Avenue (SR-905 westbound off ramp) is estimated to have a capacity equivalent to that of a modified 4-lane Collector, approximately 35,000 ADT at LOS E (the half-way point between a 4-lane Collector and a 4-lane Major Arterial).

Upon completion of the SR-905 interchange, La Media Road from Saint Andrews Avenue (SR-905 westbound off ramp) to the SR-905 eastbound ramp is a six-lane divided roadway that has a classification equivalent to that of a 6-lane Prime Arterial, capacity of 60,000 ADT at LOS E. La Media Road from approximately 300 feet (300') south of the proposed SR-905 eastbound ramp to Siempre Viva Road is constructed as a two-lane undivided roadway that has a classification equivalent to that of a 2-lane Collector, capacity 10,000 ADT at LOS E.

Harvest Road is a proposed north-south roadway that is located under the jurisdiction of the County of San Diego. Harvest Road has the ultimate classification in the East Otay Mesa Specific Plan Amendment as a four-lane Specific Plan Road with a capacity of 34,200 ADT at LOS E.

Sanyo Avenue is a north-south facility that is currently constructed as a four-lane undivided roadway between Otay Mesa Road (Old Otay Mesa Road) and Airway Road. The roadway segment of Sanyo Avenue between Otay Mesa Road (Old Otay Mesa Road) and Airway Road is under the City's jurisdiction and has the classification of a 4 lane Collector, capacity of 30,000 ADT at LOS E.

Paseo De Las Americas is a north-south facility that is currently constructed as a four-lane undivided roadway between Airway Road and Siempre Viva Road. The segment of Paseo De Las Americas between Airway Road and Siempre Viva Road is under the City's jurisdiction and has a classification of a 4 lane Collector, capacity of 30,000 ADT at LOS E.

ROADWAY SEGMENT DAILY TRAFFIC

Twenty-four (24) hour count data for the key roadway segments were collected on typical weekdays during the months of February and March, 2008. Count summary sheets can be found in Appendix A. The existing daily traffic volumes are illustrated in Figure 7.

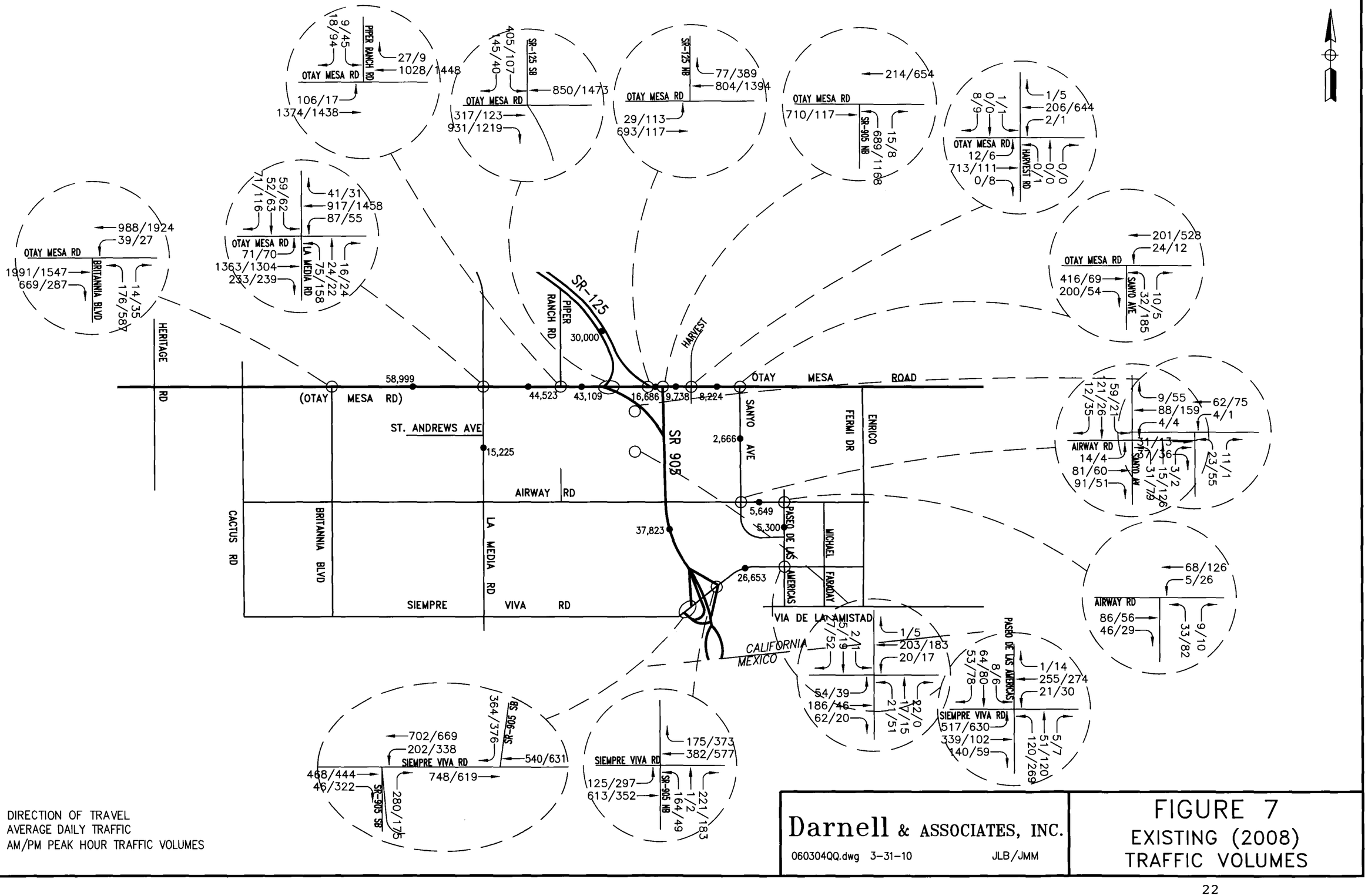
KEY INTERSECTIONS

Figure 6 provides intersection configurations and traffic control for the key intersections. The key intersections analyzed include:

- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard (signalized);
- Interim SR-905 (Otay Mesa Road)/La Media Road (signalized);
- Interim SR-905 (Otay Mesa Road)/Piper Ranch Road (signalized);
- Otay Mesa Road/SR-125 SB Ramp (signalized);
- Otay Mesa Road/SR-125 NB Ramp (signalized);
- Otay Mesa Road/Interim SR-905 Connector (signalized)
- Otay Mesa Road/Harvest Road (two-way stop-controlled);
- Otay Mesa Road/Sanyo Avenue (signalized);
- Airway Road/Sanyo Avenue (all-way stop controlled);
- Airway Road/Paseo De Las Americas (one-way stop-controlled);
- SR-905 Southbound Ramp/Eastbound Siempre Viva Road (signalized);
- SR-905 Southbound Ramp/Westbound Siempre Viva Road (one-way stop-controlled);
- SR-905 Northbound Ramp/Siempre Viva Road (signalized); and
- Siempre Viva Road/Paseo De Las Americas (signalized).

INTERSECTION TRAFFIC COUNTS

Morning and afternoon peak hour turn counts for each of the key intersections were collected on typical weekdays during the months of February and March, 2008. It should be noted that at the end of August 2009, Caltrans restricted the westbound left and eastbound right turn movements at the Otay Mesa Road/SR-905 connector intersection. Thus the intersection volumes collected in the field were manually adjusted to reflect this restriction. Count summary sheets can be found in Appendix A. Figure 7 presents the existing conditions traffic volumes used in this analysis.



LEGEND

→ – DIRECTION OF TRAVEL
● Z,ZZZ – AVERAGE DAILY TRAFFIC
XX/YY – AM/PM PEAK HOUR TRAFFIC VOLUMES

Darnell & ASSOCIATES, INC.
060304QQ.dwg 3-31-10 JLB/JMM

FIGURE 7
EXISTING (2008) TRAFFIC VOLUMES

EXISTING LEVEL OF SERVICE CONDITIONS

Roadway Segments

Table 4 summarizes the daily segment analysis for the existing conditions. As shown in Table 4, based on average daily conditions the following roadway segments currently operate at an unacceptable LOS E:

- Interim SR-905 (Otay Mesa Rd) between Britannia Blvd and La Media Road (LOS E);
- Interim SR-905 (Otay Mesa Rd) between La Media Rd and Piper Ranch Rd (LOS E); and
- State Route 905 between Otay Mesa Rd and Siempre Viva Rd (LOS E).

All other key roadway segments currently operate at an acceptable LOS C or better under existing conditions.

Table 4 – Existing Conditions Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	ADT	V/C	LOS
Interim SR-905 (Otay Mesa Rd)						
Britannia to La Media Rd	**City**/Caltrans	6P	60,000	**58,999**	**0.98**	**E (c)**
La Media Rd to Piper Ranch Rd	**City**/Caltrans	4M(m)	45,000(a)	**44,523**	**0.99**	**E(c)**
Piper Ranch Rd to SR-125	**County**/City/Caltrans	6P	57,000	43,109	0.76	C
Otay Mesa Rd (Old Otay Mesa Rd)						
SR-125 to Interim SR-905 Connector	**County**/City/Caltrans	4M(m)	47,000(a)	16,686	036	A
Interim SR-905 Connector to Harvest Rd	**County**/City/Caltrans	4M(m)	47,000(a)	9,738	0.21	A
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	8,224	0.22	A
Airway Road						
Sanyo Ave to Paseo de las Americas	City	4M	40,000	5,649	0.14	A
Siempre Viva Road						
SR-905 NB to Paseo de las Americas	City	6P	60,000	26,653	0.44	B
La Media Road						
Otay Mesa Rd to St Andrews	City	4C	30,000	15,225	0.51	C
SR-125						
North of Otay Mesa Rd	SBX	4-FWY	(b)	30,000	0.33	A
State Route 905						
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	4M	40,000	**37,823**	**0.95**	**E**
South of Siempre Viva Rd	City/**Caltrans**	4-FWY	(b)	28,000	0.32	A
Sanyo Avenue						
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A
Paseo De Las Americas						
Airway Rd to Siempre Viva Rd	City	4C	30,000	5,300	0.18	A

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego;
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego;
Bold = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; SBX = South Bay Expressway
V/C = Volume-to LOS E Capacity Ratio; 4-FWY = 4-Lane Freeway; 6P = 6-Lane Prime Arterial; 4M(m) = Modified 4-Lane Major Road;
4M = 4-Lane Major Arterial; C = Collector; 4C = 4-Lane Collector; LC = Light Collector.
(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 45,000 for City or 47,000 for County at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix K for LOS calculations
(c) The Arterial Roadway Segment analysis found that these segments operate acceptably during the AM/PM peak hours

Arterial Roadway Segments

A review of the 24 hour count sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 5.

Table 5 illustrates the existing conditions arterial level of service summary during the AM and PM peak hours. As shown in Table 5, all arterial roadway segments along Interim SR-905 (Otay Mesa Road) operate at an acceptable LOS B or better under existing conditions. As such, it can be concluded that these segments of Interim SR-905 operate acceptably. A copy of the Synchro worksheets can be found in Appendix E.

Table 5 – Existing Arterial LOS Summary

Intersection	Jurisdiction	Direction of Travel	AM Peak Hour		PM Peak Hour	
			Speed (mph)	LOS	Speed (mph)	LOS
Interim SR-905 – Britannia Blvd. to La Media Rd.	City/Caltrans	Eastbound	42.6	A	35.4	A
		Westbound	43.6	A	39.4	A
Interim SR-905 – La Media Rd. to Piper Ranch Rd.	City/Caltrans	Eastbound	38.5	A	38.1	A
		Westbound	33.0	B	28.3	B
Interim SR-905 – Piper Ranch Rd to SR125	City/Caltrans/County	Eastbound	34.0	B	35.8	A
		Westbound	29.5	B	34.2	B

LOS = Level of Service; Speed is measured in miles per hour (mph)

Intersections

Synchro Analysis

Table 6 illustrates the existing conditions intersection levels of service summary (based on the Synchro analysis). A copy of the Synchro worksheets for the existing conditions can be found in Appendix E. As can be seen from Table 6, all intersections currently operate at LOS D or better during both peak hours under existing conditions.

Table 6 – Existing Conditions Intersection LOS Summary							
Intersection	Jurisdiction	Traffic Control	Critical Move	AM Peak		PM Peak	
				Delay	LOS	Delay	LOS
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	**City**/Caltrans	Sig	Int.	10.3	B	18.8	B
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	**City**/Caltrans	Sig	Int.	14.1	B	27.0	C
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	**County**/City/Caltrans	Sig	Int.	6.1	A	3.6	A
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	**County**/City/SBX	Sig	Int.	11.2	B	2.5	A
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	**County**/City/SBX	Sig	Int.	0.9	A	5.6	A
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	**County**/City/SBX	Sig	Int.	16.1	B	21.1	C
Otay Mesa Rd (E-W) @ Harvest Rd (N-S)	**County**/City/Caltrans	TWSC	NB	-	-	13.1	B
			SB	9.5	B	11.4	B
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	**County**/City	Sig	Int.	4.1	A	12.6	B
Airway Rd (E-W) @ Sanyo Av (N-S)	**City**	AWSC	EB	10.1	A	9.9	A
			WB	8.1	A	9.1	A
			NB	8.0	A	9.2	A
			SB	9.6	A	8.0	A
			Int.	9.3	A	9.1	A
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	**County**/City	OWSC	NBL	9.7	A	10.6	B
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	City/**Caltrans**	Sig	Int.	7.0	A	8.5	A
Siempre Viva (E-W) @ SR-905 SB to WB Siempre Viva (N-S)	City/**Caltrans**	OWSC	SB	14.3	B	13.3	B
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	City/**Caltrans**	Sig	Int.	10.8	B	11.0	B
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	Sig	Int.	24.7	C	40.0	D

Delay is measured in seconds/vehicle; LOS=Level of Service; sig=signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; sig – Signalized; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway

ILV Analysis

Table 7 summarizes the existing conditions ILV analysis. As shown in Table 7, all state-owned intersections currently operate under stable flow during the AM and PM peak hours. A copy of the ILV worksheets can be found in Appendix E.

Table 7 - Existing Intersection ILV Analysis				
Intersection	AM Peak Hour		PM Peak Hour	
	ILV/Hour	Operating Condition	ILV/Hour	Operating Condition
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	796	Stable Flow	963	Stable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	802	Stable Flow	783	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	425	Stable Flow	677	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	442	Stable Flow	578	Stable Flow

ILV/Hour = Intersecting Lane Vehicles Per Hour; E-W = East-West Roadway; N-S = North-South Roadway
<1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation

SECTION IV - IMPACTS

PUBLIC FACILITIES ELEMENT IN COUNTY

According to page XII-4-20 of the Public Facility Element for San Diego County, a discretionary project which has a significant impact on roadways will be required, as a condition of approval, to make "improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below 'D' on off-site and on-site abutting County of San Diego's Circulation Element roads. New development that would significantly impact congestion on roads at LOS 'E' or 'F', either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to 'D' or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines."

The *Public Facility Element* for the County of San Diego also requires that all on-site County Circulation Element roads operate at Level of Service C or better. If the Level of Service at an on-site County Circulation Element road is reduced below LOS C, the proposed project must provide appropriate mitigation measures. A copy of excerpts from the County's *Public Facility Element* can be found in Appendix A.

LEVELS OF SIGNIFICANCE STANDARDS

The roadway segments and intersections in the vicinity of the proposed project are located in the jurisdiction of both the City and County of San Diego. The criteria for determining project significance depend on whether the roadway segment or intersection is located in the City or the County. Both the City's and the County's significance of impact criteria are discussed below.

City of San Diego

For projects deemed complete on or after January 1, 2007, the City of San Diego has adopted a modification in the significance criteria in the level of service thresholds for facilities operating at LOS E or F. Therefore, the study utilizes the adopted level of significance thresholds to assess the proposed project's traffic impact on the roadway network operating at LOS E or F located within the City's jurisdiction. The City of San Diego's Significance Transportation Impact Measures and significance thresholds per California Environmental Quality Act (CEQA) that the City has adopted in January 2007 are summarized in Table 8. A copy of excerpts from the City of San Diego's Significance Determination Thresholds, adopted January 2007 is provided in Appendix A. Since the City of San Diego considers LOS D to be an acceptable level of service, the City of San Diego's Significant Transportation Impact Measures were only applied to the segments and intersections located within the City of San Diego that were found to operate at LOS E or F.

County of San Diego

Although the *Public Facility Element (PFE)* sets standards as to which level of service roadways and intersections must operate within the County (i.e. requires operation of LOS D or better), it does not establish a guideline to evaluate whether a project is significant if it adds traffic to a roadway facility that is currently operating at an unacceptable LOS E or F. Thus, the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010* was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. A summary of the County's Guidelines is provided in Table 8. Excerpts from the County's Guidelines are provided in Appendix A.

Table 8 – Measures of Significant Project Impacts

City of San Diego

LOS w/Project	Allowable Increase/Decrease Due to Project Impacts (for projects deemed complete after January 1, 2007)		
	Intersection	Roadway Segments	
	Delay (sec)	V/C	Speed (mph)
E	2.0	0.02	1.0
F	1.0	0.01	0.5

County of San Diego

LOS	Allowable Increase on Congested Roads and Intersections				
	Intersections		Road Segments		
	Signalized	Unsignalized	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement	200 ADT	400 ADT	600 ADT
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	100 ADT	200 ADT	300 ADT

County Notes:
– A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
– 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.
– 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.
– For determining significance at signalized intersection 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.

ADT = Average Daily Traffic; LOS = Level of Service, sec = Seconds of Delay per Vehicle

Roadway Segments

As shown in Table 8, per the County's Guidelines, "[t]raffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation 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 [8], or

- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity."

As discussed on pages 13 and 14 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, an increase of the daily thresholds established for roadway segments operating at LOS E would result in only one additional car every 2.4 minutes per lane while the thresholds established for roadway segments operating at LOS F would result in only one additional car every 4.8 minutes. Therefore, the thresholds identified in Table 7, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact on the roadway.

Two-Lane Highways

Intersection Spacing Over One (1) Mile

In the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010* the County of San Diego established a higher capacity and a higher impact significance level for two-lane highways with signalized intersection spacing over one mile. Table 9 provides a summary of the level of service criteria and guidelines for significance for two-lane highways with intersection spacing over one-mile.

Table 9 – Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing > 1 Mile		
Level of Service	LOS Criteria	Impact Significance Level
E	> 16,200 ADT	>325 ADT
F	> 22,900 ADT	>225 ADT
Note: Where detailed data is available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual		

Intersection Spacing Less Than One (1) Mile

"Similar to the experience of drivers in urban areas with closely space intersections, the functionality of two-lane highway conditions with signalized intersection spacing under one-mile becomes constrained not due to the segment capacity but the intersection operations. Therefore the assessment of operates of intersection on two-lane highways shall be guided by a Level of Service standard. Level of Service for purposes of this significance guideline is based upon the overall intersection operations similar - to Urban Street analysis in Chapter 15 Highway Capacity Manual." Impacts for the two-lane highways with signalized intersection under one mile spacing will be determined by evaluating the intersection impact criteria identified in Table 10.

Table 10 – Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing < 1 Mile	
Level of Service	Adjacent Signalized Intersection
E	Delay of 2 seconds or less
F	Delay of 1 second, or 5 peak hour trips or less on a critical movement
Notes: – A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues which typically operate at LOS F. – 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. – 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.	

It should be noted that per the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010,* "[i]mpacts related to operational features on two-lane highways will be evaluated on a case-by-case basis based upon traffic flow patterns, geometrics, available sight distance, accident histories, and other factors."

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 level of service 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 [8]."

- 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."

As discussed on page 16 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, an increase in delay of two seconds or less, the threshold established for signalized intersections operating at LOS E, "…is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low." Thus, the increase in delay of two (2) seconds or less, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. Since small changes and disruptions to the traffic flow at a signalized intersection can have a greater effect on the overall intersection operation when the intersection is operating at LOS F, versus LOS E, a more stringent guideline of one (1) second of delay was established for intersections operating at LOS F.

The five (5)-peak hour trip threshold, established for the critical movement of a signalized intersection operating at LOS F, when spread out over the peak hour, results in an increase of one (1) vehicle every 12 minutes or 720 seconds. This increase would not be noticeable to the average driver because one additional vehicle during a 12-minute interval on average would clear the traffic signal cycles well within the 12-minute period. Further, even if all five (5) additional peak hour vehicles arrived at the same time, these trips would also, on average, clear the traffic cycle and the existing queue lengths would be re-established. Thus, the increase of five (5) peak hour trips to a critical movement at a signalized intersection, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. (See page 17 of the County's *Guidelines for Determining Significance* provided in Appendix A.)

Unsignalized Intersections

"Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant impact at an unsignalized intersection as listed in Table [8] 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 6 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 6 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."

As discussed on page 18 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010,* the addition of 20 peak hour trips to a critical movement, would result in an increase of one (1) vehicle every 3.0 minutes or 180 seconds. "Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E conditions; this would not be noticeable to the average driver and would not be considered a significant impact." Five (5) – trips spread out over an hour would result in an increase of one (1) vehicle every 12.0 minutes or 720 seconds. "This typically exceeds the average wait time in the queue and would not be noticeable to the average driver." (See page 18 of the County's *Guidelines for Determining Significance* provided in Appendix A.)

Regionally Significant Arterials

For Regionally Significant Arterials (RSA), such as Interim SR-905 and SR-125, Caltrans utilizes the *San Diego Traffic Engineers' Council (SANTEC)/Institute of Transportation Engineers (ITE) Guidelines For Traffic Impact studies (TIS) in the San Diego Region* to determine significance. A summary of the SANTEC/ITE Guidelines are provided in Table 11. Since Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to SR-125 is also a regionally significant arterial that is currently under the jurisdiction of Caltrans as well as the City of San Diego and/or County of San Diego, this traffic study utilizes the SANTEC/ITE guidelines summarized in Table 11 to determine the level of significance for the peak hour arterial level of service analysis based on an increase in average speed.

Table 11 – SANTEC/ITE Guidelines for Measures of Significant Project Impacts

LOS with Project	Allowable Change due to Project Impact					
	Freeways		Roadway Segments		Signalized Intersections	Ramps with > 15 min. delay
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E & F	0.01	1	0.02	1	2	2
V/C = Volume to Capacity Ratio						

Consistent with the *Public Facility Element* the criteria described above for roadway segments, intersections, and regionally significant arterials were applied to segments and intersections that operate at LOS E or LOS F. It should be noted that as outlined in the *Public Facility Element,* if the addition of the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F), it is considered to be significant regardless of the volume of traffic it adds to the segment or intersection.

Caltrans

Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002 requires that State highway facilities (i.e., freeway segments, signalized intersections, on-or off-ramps, etc.) maintain a target LOS at the transition between LOS C and LOS D. See Appendix A for excerpts from Caltrans traffic impact guidelines.

Definition of Direct and Cumulative Impact in the City of San Diego and the County of San Diego

The County's *Guidelines for Determining Significance* adopted on February 19, 2010 was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. It should be noted that the significance guidelines summarized in Table 8 are currently only

utilized by the County of San Diego to determine if a project has a significant direct and/or future impact. A project is considered to have a significant cumulative impact if it adds any traffic to a roadway segment and/or intersection that operates at LOS E or F under cumulative conditions and the total cumulative traffic added to the roadway segment and/or intersection exceeds the value identified in Table 8. The City of San Diego defines cumulative traffic impacts as those projected to occur at some point after a proposed development becomes operational, such as when the affected community plan area reaches full planned build out.

Since the project is located in the County of San Diego, the traffic study is prepared in accordance with the guidelines provided by the County of San Diego. However, the City's significance thresholds are utilized in analyzing the roadway segments and intersections located in the City of San Diego.

The City of San Diego identifies direct impacts based on a comparison of two scenarios: (1) Existing traffic conditions plus cumulative (approved) projects versus (2) Existing traffic conditions plus cumulative (approved) projects plus the proposed project. The City's methodology is designed to capture impacts from projects that will likely be open by the time the proposed project opens. Compared to the County's methodology, this type of analysis creates a third scenario, a "near-term cumulative," in addition to the County's two standard analyses: (1) Existing plus Project and (2) cumulative (2020). A near-term cumulative analysis would include fewer projects than the County's 2020 cumulative analysis because none of the Tentative Map projects can start applying for building permits until after they record a Final Map and obtain approval of a Site Plan. Thus, approval of a Site Plan, not a Tentative Map, is the threshold for a near-term cumulative project.

The County's East Otay Mesa cumulative analysis methodology uses expected development conditions as of the year 2020, thus it assumes SR-905 Phases 1A and 1B are completed; project phases are scheduled to open to traffic by 2010 and 2012 respectively. Normally future road improvements would not be assumed in a near-term analysis. However, in this case it is reasonable to assume completion of Phases 1A and 1B because they are fully funded and construction on both phases has already begun. In addition, no project that requires Phase 1A or 1B of the SR-905 for mitigation will get occupancy before those segments are open to traffic, as is further explained below.

Near Term Cumulative Conditions

The County's analysis found the potential for impacts on the interim 905 caused by "near-term" cumulative projects to be less than significant. Specifically, there are nine (9) near-term cumulative projects: California Crossings, CCA, COPART, FEDEX, Insurance Auto Auctions, Salvage Yards, Sunroad Interim Uses, Travel Plaza, and Vulcan Materials. Together, those 9 projects produce 36,522 ADT, which is less than one quarter of the trips included in the County's 2020 cumulative analysis. Of the 36,522 ADT, the majority of the trips (62%) are from one project, California Crossings. California Crossings is located very close to the City/County of San Diego boundary, so it is more likely to affect City streets than most of the other near-term cumulative projects. Nonetheless, California Crossings does not require SR-905 Phase 1B for mitigation, because the study area required by the City of San Diego does not need to be extended west of Britannia Boulevard. California Crossings does rely on the completion of SR-905 Phase 1A, but this is not a development constraint because the project is not expected to get Site Plan approval (let alone building permits) until late 2011 and Phase 1A is expected to be completed a year earlier (late 2010). In addition, California Crossings will be conditioned to require Phase 1A to be open to traffic prior to issuance of building permits. The other eight projects combined produce only 13,737 trips, and all are located farther east than California Crossings (farther away from impacted City street segments). Therefore, it's reasonable to assume that those projects won't have significant impacts on Otay Mesa Road (Interim SR-905) before the freeway SR-905 Phases 1A and 1B are completed.

EXISTING CONDITIONS WITH PROJECT LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions with the proposed project. As part of the development of the project, the applicant will install a traffic signal at the Otay Mesa Road/Harvest Road intersection, modify the Otay Mesa Road/Harvest Road intersection to provide dual eastbound left turn lanes, improve the segment of Harvest Road between Street 'D' and Street 'B' along its project frontage to the standards of a modified 2-Lane Industrial/Commercial Collector to accommodate a painted median, and improve the segment of Harvest Road between Street 'B' and Otay Mesa Road along its project frontage to the standards of a modified 4-Lane Industrial/Commercial Collector to accommodate a painted median and turn lanes at intersections. A copy of the preliminary and ultimate striping concept for Harvest Road is provided in Appendix L.

Figure 8 illustrates the lane configurations that were assumed to be in place along the project's frontage under existing plus project conditions. Figure 9 illustrates the existing plus project traffic volumes.

Roadway Segments

Table 12 summarizes the daily roadway segment level of service analysis under existing plus the proposed project conditions. As shown in Table 12 based on daily capacity, the following roadway segments operate at an unacceptable LOS F under existing conditions with the proposed project:

- Interim SR-905 (Otay Mesa Rd) between Britannia Blvd and La Media Rd (LOS F);
- Interim SR-905 (Otay Mesa Rd) between La Media Rd and Piper Ranch Rd (LOS F); and
- State Route 905 between Otay Mesa Rd and Siempre Viva Rd (LOS F).

The segment of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and La Media Road operates at an unacceptable LOS E under existing conditions. With the addition of 1,276 ADT from the project, the v/c ratio will be increased by 0.02 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. This exceeds the 0.01 allowed per the City of San Diego' thresholds for significance for a roadway segment operating at LOS F, thus, based on average daily conditions the project has a significant direct impact on this segment of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and La Media Road operates at an acceptable level of service, further as shown later in Table 14 both the Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/La Media Road intersections operate at acceptable levels of service during the AM and PM peak hours. Therefore the project is not considered to have a significant direct impact. See the arterial roadway segment and intersection level of service analysis sections for more details.

The segment of Interim SR-905 (Otay Mesa Road) between La Media Road and Piper Ranch Road operates at an unacceptable LOS E under existing conditions. With the addition of 1,834 ADT from the project, the v/c ratio will be increased by 0.04 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. This exceeds the 0.01 allowed per the City of San Diego' thresholds for significance for a roadway segment operating at LOS F, thus, based on average daily conditions the project has a significant direct impact on this segment of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between La Media Road and Piper Ranch Road operates at an acceptable level of service, further as shown later in Table 14 both the Otay Mesa Road/La Media Road and Otay Mesa Road/Piper Ranch Road intersections operate at acceptable levels of service during the AM and PM peak hours. Therefore the project is not considered to have a significant direct impact. See the arterial roadway segment and intersection level of service analysis sections for more details.

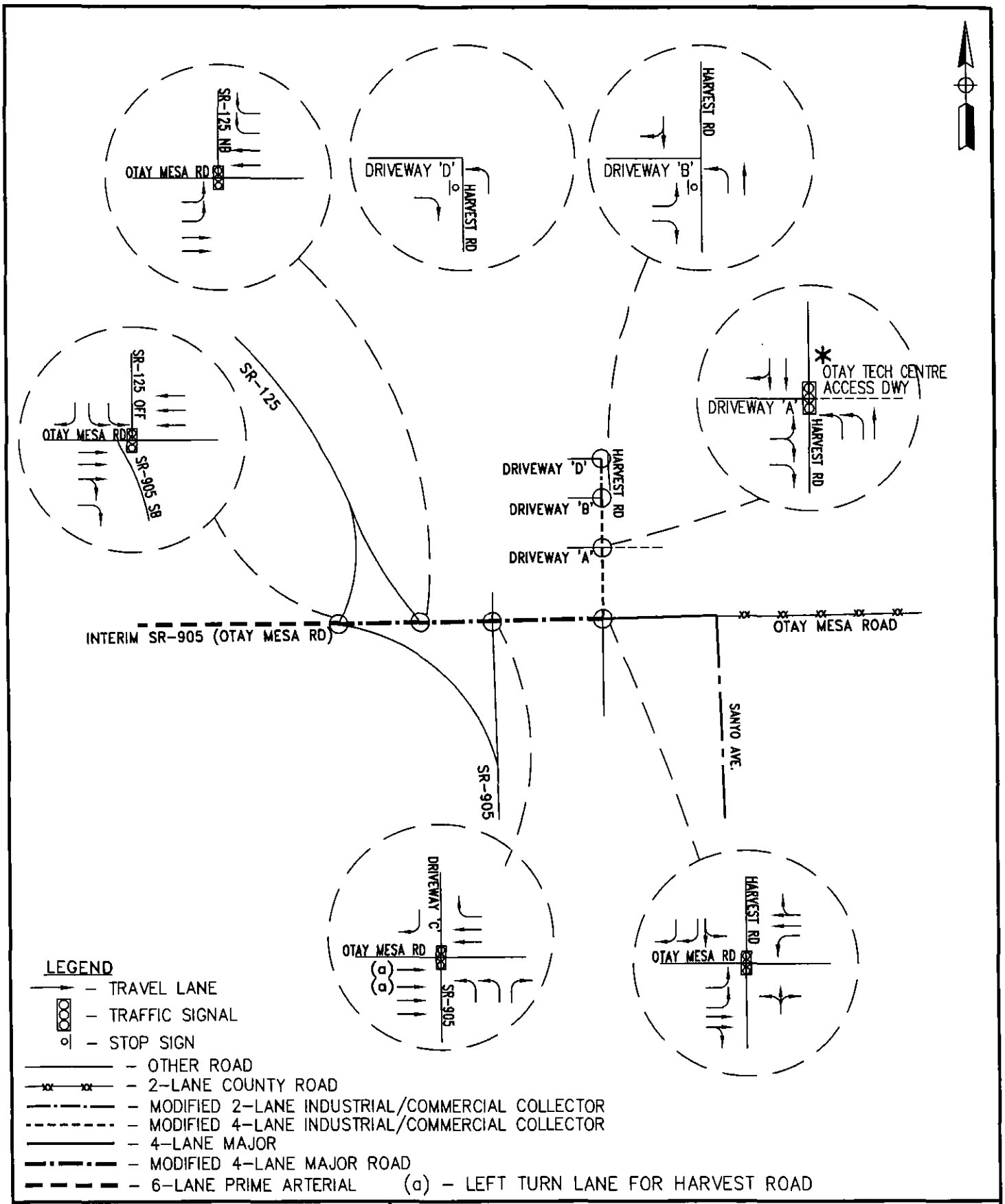


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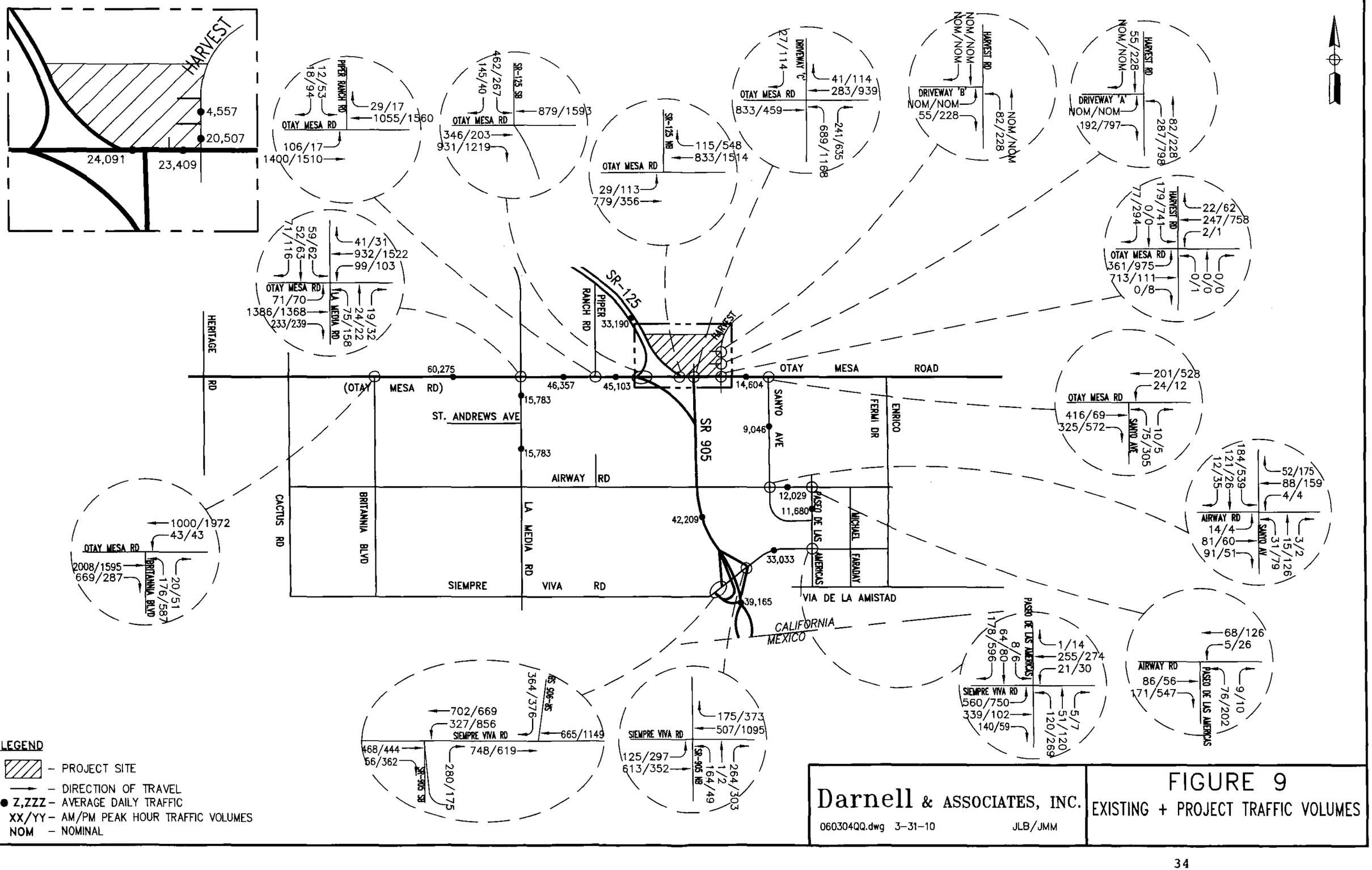
FIGURE 8

EXISTING + PROJECT CONDITIONS



LEGEND

- PROJECT SITE
- DIRECTION OF TRAVEL
- Z,ZZZ – AVERAGE DAILY TRAFFIC
- XX/YY – AM/PM PEAK HOUR TRAFFIC VOLUMES
- NOM – NOMINAL

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FIGURE 9

EXISTING + PROJECT TRAFFIC VOLUMES

Table 12 – Existing Plus Project Conditions Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing			Existing + Project					
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig
Interim SR-905 (Otay Mesa Rd)												
Britannia to La Media Rd	**City**/Caltrans	6P	60,000	**58,999**	**0.98**	**E**	**1,276**	**60,275**	**1.00**	**F**	**0.02**	**Yes (d)**
La Media Rd to Piper Ranch Rd	**City**/Caltrans	4M(m)	45,000(a)	**44,523**	**0.99**	**E**	**1,834**	**46,357**	**1.03**	**F**	**0.04**	**Yes (d)**
Piper Ranch Rd to SR-125	**County**/City/Caltrans	6P	57,000	43,109	0.76	C	1,994	45,103	0.79	D	0.03	No
Otay Mesa Rd (Old Otay Mesa Rd)												
SR-125 to SR-905 Connector	**County**/City/Caltrans	4M(m)	47,000(a)	16,686	036	A	7,405	24,091	0.51	B	0.15	No
SR-905 Connector to Harvest Rd	**County**/City/Caltrans	4M(m)	47,000(a)	9,738	0.21	A	13,671	23,409	0.50	B	0.29	No
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	8,224	0.22	A	6,380	14,604	0.39	A	0.17	No
Airway Road												
Sanyo Ave to Paseo de las Americas	City	4M	40,000	5,649	0.14	A	6,380	12,029	0.30	A	0.16	No
Siempre Viva Road												
SR-905 NB to Paseo de las Americas	City	6P	60,000	26,653	0.44	B	6,380	33,033	0.55	B	0.11	No
La Media Road												
Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	558	15,783	0.53	C	0.02	No
SR-125												
North of Otay Mesa Rd	SBX	4-FWY	(b)	30,000	0.33	A	3,190	33,190	0.36	A	0.03	No
State Route 905												
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	4M	40,000	**37,823**	**0.95**	**E**	**4,386**	**42,209**	**1.06**	**F**	**0.11**	**Yes**
South of Siempre Viva Rd	City/**Caltrans**	4-FWY	(b)	28,000	0.32	A	11,165	39,165	0.44	B	0.12	No
Harvest Road												
Project Access B to Project Access A	County	4I/C(m)	34,200	(c)	-	-	4,557	4,557	0.13	A	-	No
Project Access A to Otay Mesa Rd	County	4I/C(m)	34,200	(c)	-	-	20,507	20,507	0.60	B	-	No
Sanyo Avenue												
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	6,380	9,046	0.30	A	0.21	No
Paseo De Las Americas												
Airway Rd to Siempre Viva Rd	City	4C	30,000	5,300	0.18	A	6,380	11,680	0.39	B	0.21	No

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego;
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway;
Bold = Jurisdiction which capacity & significance criteria is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; 4-FWY = 4-Lane Freeway:
6P = 6-Lane Prime Arterial; 4M(m) = Modified 4-Lane Major Road; 4M = 4-Lane Major Arterial; C = Collector; 4C = 4-Lane Collector; ;
LC = Light Collector 4I/C(m)= Modified 4-Lane Industrial/Commercial Collector
(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 45,000 for City or 47,000 for County at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix K for LOS calculations
(c) Harvest Road currently only exists as a dirt road and has nominal traffic-(see report changes in Appendix L Page L-14 and Figure 2 site plan proposed interim improvements.
(d) Table 13 shows that based on Arterial Roadway Segment analysis these segments operate acceptably during the AM/PM peak hours; therefore the project does not have a significant impact.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at an unacceptable LOS E under existing conditions. With addition of 4,386 ADT from the project, the v/c ratio will be increased by 0.11 and the level of service on this segment of SR-905 will degrade to LOS F. Thus, the project has a significant direct impact on the segment of SR-905 under existing plus the proposed project conditions.

See Section VIII for the recommended mitigation of the project's direct impacts.

Arterial Roadway Segments

A review of the 24 hour count sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00 AM to 6:00 PM, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software.

Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 13.

Based on daily roadway segment capacities, the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road); however, as shown in the arterial roadway segment analysis in Table 13 the failing segments of the Interim SR-905 (Otay Mesa Road) operate under acceptable level of service conditions during both the peak hours.

A copy of the Synchro worksheets can be found in Appendix E and F.

Table 13 – Existing + Project Arterial LOS Summary

AM Peak Hour

Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Project (B)			(B) – (A)
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact
Interim SR-905 – Britannia Blvd. to La Media Rd.	City/Caltrans	Eastbound	42.6	A	42.5	A	(0.1)	No
		Westbound	43.6	A	43.5	A	(0.1)	
Interim SR-905 – La Media Rd. to Piper Ranch Rd.	City/Caltrans	Eastbound	38.5	A	38.4	A	(0.1)	No
		Westbound	33.0	B	32.9	B	(0.1)	
Interim SR-905 – Piper Ranch Rd to SR125	City/Caltrans/County	Eastbound	34.0	B	33.5	B	(0.5)	No
		Westbound	29.5	B	29.4	B	(0.1)	

PM Peak Hour

Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Project (B)			(B) – (A)
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact
Interim SR-905 – Britannia Blvd. to La Media Rd.	City/Caltrans	Eastbound	35.4	A	35.0	B	(0.4)	No
		Westbound	39.4	A	39.3	A	(0.1)	
Interim SR-905 – La Media Rd. to Piper Ranch Rd.	City/Caltrans	Eastbound	38.1	A	37.9	A	(0.2)	No
		Westbound	28.3	B	28.1	B	(0.2)	
Interim SR-905 – Piper Ranch Rd to SR125	City/Caltrans/County	Eastbound	35.8	A	35.3	A	(0.5)	No
		Westbound	34.2	B	35.3	A	1.1	

LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed;
Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.

Intersections

Synchro Analysis

Table 14 illustrates the existing without and with project conditions intersection peak hour level of service summary. (A copy of the Synchro worksheets for the existing plus project conditions can be found in Appendix F.)

As illustrated in Table 14, the following intersections operate at an unacceptable LOS E or F under existing plus project conditions during at least one of the peak hours:

- Otay Mesa Road/Harvest Road (LOS F during PM); and
- Airway Road/Sanyo Avenue (LOS F during AM and PM).

Under existing conditions, the Otay Mesa Road/Harvest Road intersection is currently two-way stop-sign controlled with all critical movements operating at an acceptable LOS C or better. As part of the project; however, the developer will install a traffic signal at the Otay Mesa Road/Harvest Road intersection, modify the Otay Mesa Road/Harvest Road to provide dual eastbound left turn lanes, and improve the segment of Harvest Road along its project frontage to the standards of a Collector Road. (Copies of signal warrants for the Otay Mesa Road/Harvest Road intersection are provided in Appendix J.) With these additional intersection modifications and the addition of the project traffic, the Otay Mesa Road/Harvest Road intersection will operate at LOS B during the AM peak hour and LOS F during the PM peak hour. Thus, the proposed project is considered to be significant and will have a direct impact at the Otay Mesa Road/Harvest Road intersection and the project would be required to mitigate the impacts.

The Airway Road/Sanyo Avenue intersection currently operates at LOS A overall during the AM and PM peak hours. With the addition of 638 PM peak hour trips (518 to the southbound approach) the PM peak hour delay of the overall intersection will be increased by 73.5 seconds degrading the overall intersection level of service to LOS F. The increase in delay exceeds the one (1) second allowed per the City of San Diego' thresholds for significance for an intersection operating at LOS F, thus, the proposed project has a significant direct impact on the Airway Road/Sanyo Avenue intersection.

See Section VIII for the recommended mitigation of the project's direct impacts.

Table 14 – Existing + Project Intersection LOS Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Existing + Project									
				AM Peak		PM Peak		AM Peak					PM Peak				
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	**City**/Caltrans	Sig	Int.	10.3	B	18.8	B	10.8	B	39	0.5	No	19.9	B	128	1.1	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	**City**/Caltrans	Sig	Int.	14.1	B	27.0	C	14.3	B	53	0.2	No	28.1	C	184	1.1	No
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	**County**/City/Caltrans	Sig	Int.	6.1	A	3.6	A	6.2	A	58	0.1	No	3.3	A	200	(0.3)	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	**County**/City/SBX	Sig	Int.	11.2	B	2.5	A	11.8	B	115	0.6	No	5.0	A	360	2.5	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	**County**/City/SBX	Sig	Int.	0.9	A	5.6	A	0.8	A	153	(0.1)	No	4.6	A	518	(1.0)	No
Otay Mesa Rd (E-W) @ SR-905 Connector/Driveway 'C' (N-S)	**County**/City/SBX	Sig	Int.	16.1	B	21.1	C	13.6	B	486	(2.5)	No	17.4	B	1482	(3.7)	No
Otay Mesa Rd (E-W) @ Harvest Rd (N-S) [(a)]	**County**/City/Caltrans	TWSC	NB	-	-	13.1	B	(a)	(a)	(a)	(a)	No	(a)	(a)	(a)	(a)	**Yes**
			SB	9.5	B	11.4	B	(a)	(a)	(a)	(a)		(a)	(a)	(a)	(a)	
		Sig	Int.	(a)	(a)	(a)	(a)	14.6	B	658	-		**123.1**	**F**	**2165**	-	
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	**County**/City	Sig	Int.	4.1	A	12.6	B	5.7	A	168	1.6	No	11.8	B	638	(0.8)	No
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	A	9.9	A	11.2	B	0	1.1	No	13.4	B	0	3.5	**Yes**
			WB	8.1	A	9.1	A	8.5	A	43	0.4		12.9	B	120	3.8	
			NB	8.0	A	9.2	A	8.4	A	0	0.4		11.8	B	0	2.6	
			SB	9.6	A	8.0	A	14.1	B	125	4.5		**159.6**	**F**	**518**	**151.6**	
			Int.	9.3	A	9.1	A	11.8	B	168	2.5		**82.6**	**F**	**638**	**73.5**	
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	**County**/City	OWSC	NBL	9.7	A	10.6	B	10.6	B	43	0.9	No	19.6	C	120	9.0	No
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	City/**Caltrans**	Sig	Int.	7.0	A	8.5	A	9.5	A	135	2.5	No	29.8	C	558	21.3	No
Siempre Viva (E-W) @ SR-905 SB to WB Siempre Viva (N-S)	City/**Caltrans**	OWSC	SB	14.3	B	13.3	B	15.9	C	0	1.6	No	13.0	B	0	(0.3)	No
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	City/**Caltrans**	Sig	Int.	10.8	B	11.0	B	10.4	B	168	(0.4)	No	10.9	B	638	(0.1)	No
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	Sig	Int.	24.7	C	40.0	D	24.5	C	168	0.2	No	45.8	D	638	5.8	No

(a) Intersection is two-way stop-controlled under existing conditions and signalized under existing plus project conditions
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled;
Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left; SBX = South Bay Expressway;
E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on
Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

ILV Analysis

Table 15 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 15, all intersections operate under stable flow during the AM and PM peak hours under existing without and with project conditions. A copy of the ILV worksheets can be found in Appendix F.

Table 15 – Existing Plus Project ILV Analysis

Intersection	Existing				Existing + Project			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	796	Stable Flow	963	Stable Flow	801	Stable Flow	995	Stable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	759	Stable Flow	978	Stable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	802	Stable Flow	783	Stable Flow	818	Stable Flow	825	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	736	Stable Flow	773	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	431	Stable Flow	814	Stable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector/ Driveway 'C' (N-S)	700	Stable Flow	911	Stable Flow	595	Stable Flow	1,158	Stable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	425	Stable Flow	677	Stable Flow	488	Stable Flow	996	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	442	Stable Flow	578	Stable Flow	484	Stable Flow	801	Stable Flow

ILV/Hour = Intersecting Lane Vehicles Per Hour;
<1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation
E-W = East-West Roadway; N-S = North-South Roadway

SECTION V – CUMULATIVE (YEAR 2020) CONDITIONS

APPROVED/PENDING PROJECTS

In discussions with the County of San Diego, it was determined that the impacts of cumulative development, caused by placing all cumulative trips on the network at one time, exceeded the rate of the real estate market to potentially absorb developed industrial land. The County's decision was based on a review of the December 15, 2006 *Addendum to Real Estate Market Analysis*, which was prepared by Economics Research Associates (ERA) for the City of San Diego during the preparation of the Otay Mesa Community Plan. The percentage of development that could be expected by the year 2020 was estimated by taking the total industrial acreage forecast for the unincorporated County portion of the East Otay Mesa area between 2006 and 2020, based on the high scenario growth rate (or 135 acres), divided by the total acreage of industrial subdivisions proposed in the County (or 1,068 acres). A copy of excerpts from the ERA market forecast is provided in Appendix C.

In the unincorporated County of San Diego, there are seventeen (17) cumulative projects, including many large-scale subdivisions and the proposed project, which are located in the Otay Mesa Specific Plan Area. The methodology used to apply the ERA market analysis was as follows:

- Traffic generated by projects processed as Major Use Permits, Interim Use Permits, and Site Plans would be applied at 100% of their planned development capacity by the year 2020. Nine (9) of the seventeen (17) approved/pending projects met that criteria and marketing assumptions in the ERA analysis and were applied to this group of projects.

- Traffic generated by projects processed as subdivisions (Tentative Maps, Tentative Parcel Maps) would be applied at a reduced percentage of the planned development capacity by the year 2020. The reduced percentage was based on market absorption data in the ERA market study. This group included the remaining eight (8) approved/pending projects. The County estimated that these eight (8) projects, based on the market absorption factors described above, could reasonably develop a calculated percentage of the total acreage available for future development. This percentage was determined to be approximately 13% of their total development capacity by the year 2020. Thus the cumulative traffic volumes attributed to these large subdivisions was factored at 13% of total traffic volumes.

This methodology presents a more reasonable approach to cumulative traffic analysis by recognizing the real-estate/market-absorption factors that influence the rate at which industrial land is subdivided and made fully operational by development and therefore the cumulative traffic impacts realized. This methodology also takes into consideration the fact that developers must process a second permit, called a Site Plan, before development can occur within subdivisions located in the East Otay Mesa Specific Plan Area. The County will monitor market trends and the level of development in the East Otay Mesa area to ensure that the assumptions utilized above remain valid and reasonable. In addition, the cumulative project list will be updated, as appropriate, when Site Plans are submitted to the County. Traffic generated by projects with Site Plans would then be applied at 100%.

Table 16 summarizes the list of approved/pending projects and identifies which ones were assumed by the County of San Diego to be developed at 100% or 13% of its planned development by the year 2020. Figure 10 illustrates the location of the approved/pending projects in the Otay Mesa area of the County of San Diego. As shown in Table 16, the approved/pending projects within the County of San Diego are estimated to generate a total of approximately 155,932 average daily trips, of which, approximately 52,045 ADT are anticipated to be added to the roadway network by the year 2020.

Table 16 - Summary of Approved/Pending Projects in County of San Diego

Map ID #	Project Name	County Project #	Project Location	# Acres	Land Use	Trip Generation		
						Total ADT	% Cumulative Traffic applied to year 2020	
							%	ADT
Project's Processing Site Plans								
1	California Crossings	P06-102 TPM 21046	NW Corner of Otay Mesa Rd & Harvest Rd	29.6 Acres	325.502 ksf of Community Shopping Ctr	22,785	100%	22,785
2	CCA San Diego Correctional Facility	MPA 09-029 P 06-074	n/o Calzada De La Fuente, e/o Alta Rd	37.0 Acres	2,132 Bed Correctional Detention Facility	2,323	100%	2,323
3	COPART County Sales Yard Time Extension (a)	P 88-020W1	SW Corner of Otay Mesa Rd & Alta Rd	38.2 Acres	Auto Auction	846	100%	846
4	FEDEX Site Plan	S08-018	NE Corner of Airway Rd & Paseo De Las Americas	18.9 Acres	FEDEX Distribution Center	1,598	100%	1,598
5	Insurance Auto Auctions	P00-012TE	NW Corner of Otay Mesa Rd & Alta Rd	38.2 Acres	Auto Auction	354	100%	354
6	Salvage Yards/ National Enterprises Recycling	P 98-001	East & West Side of Alta Rd, n/o Otay Mesa Rd	162.0 Acres	Auto Recycling & Salvage Yards	2,408	100%	2,408
7	Sunroad Interim Uses -Sunroad Centre I Harvest Ranch Nursery	P 09-009 P 09-005	n/o Otay Mesa Rd btwn Harvest Rd & Vann Centre Blvd	138.0 Acres	Nursery	14	100%	14
8	Travel Plaza	P 98-024W1 TPM 20414	e/o Enrico Fermi Drive, btwn Otay Mesa Rd & Airway Rd	83.6 Acres	Truck Stop	5,116	100%	5,116
9	Vulcan	S 07-038	NE quadrant of Lone Star Rd (Paseo De La Fuente) & Otay Mesa Rd	12.7 Acres	Asphalt & Concrete Plant	1,078	100%	1,078
			Sub-Total:	**558.2 Acres**		**36,522**	**100%**	**36,522**
Project's Processing Tentative Maps								
10	International Industrial Park	TM 5549	n/o Lone Star Rd btwn Vann Centre Blvd & e/o Enrico Fermi Dr	170.6 Acres	111.05 Net Acres Business/Technology Park	13,326	13%	1,732
11	OMC Properties	TPM 21140	NE Corner of Otay Mesa Rd & Alta Rd	49.8 Acres	30.1 Acres Technology Business Park & 8.4 Acres Commercial Retail	9,380	13%	1,219
12	Otay Business Park	TM 5505	s/o Airway Rd, East of Alta Rd	161.6 Acres	2092.9 ksf of Industrial/ Business Park	33,486	13%	4,353
13	Otay Crossings Commerce Park	TM 5405 SPA 04-006	SE Quadrant of Otay Mesa Rd & Alta Rd	311.4 Acres	Mixed Industrial & Temporary Truck Parking	21,279	13%	2,766
14	Sunroad/Otay Tech Centre	SPA 07-003 TM 5538	n/o Otay Mesa Rd btwn Harvest Rd & Vann Centre Blvd	253.1 Acres	130 Acres Technology Business Park & 27 Acres Commercial Retail	30,566	13%	3,974
15	Piper Otay Park	TM 5527	NE quadrant of Otay Mesa Rd & Piper Ranch Rd	25.0 Acres	Light Industrial	1,612	13%	210
16	South County Commerce Centre	TM 5394R	SW Corner of Otay Mesa Rd & Enrico Fermi Dr	80.0 Acres	Industrial	7,159	13%	931
17	Saeed Revised Map	TM 5304R	n/o Airway Rd btwn Paseo De Las Americas & Michael Faraday Dr	16.1 Acres	Industrial	2,602	13%	338
			Sub-Total:	**1,067.6 Acres**		**119,410**	**13%**	**15,523**
			Grand-Total:	**1,625.8 Acres**		**155,932**	**-**	**52,045**

(a) Existing Interim Use processing a time Extension
NW = Northwest; NE = Northeast; SW = Southwest; SE = Southeast; n/o = north of; s/o = south of; e/o = East of; btwn = between

LIST OF CUMMULATIVE PROJECTS

PROJECT'S THAT ARE PROCESSING SITE PLANS

① CALIFORNIA CROSSINGS
② CCA SAN DIEGO CORRECTIOANL FACILITY
③ COPART COUNTY SALES YARD
④ FEDEX SITE PLAN
⑤ INSURANCE AUTO AUCTIONS
⑥ SALVAGE YARDS/NATIONAL ENTERPRISE RECYCLING
⑦ SUNROAD CENTRE I HARVEST RANCH NURSERY
⑧ TRAVEL PLAZA
⑨ VULCAN

PROJECT'S THAT ARE PROCESSING TENTATIVE MAPS

⑩ INTERNATIONAL INDUSTRIAL PARK
⑪ OMC PROPERTIES
⑫ OTAY BUSINESS PARK
⑬ OTAY CROSSINGS COMMERCE PARK
⑭ SUNROAD/OTAY TECH CENTRE
⑮ PIPER OTAY PARK
⑯ SOUTH COUNTY COMMERCE CENTRE
⑰ SAEED REVISED MAP

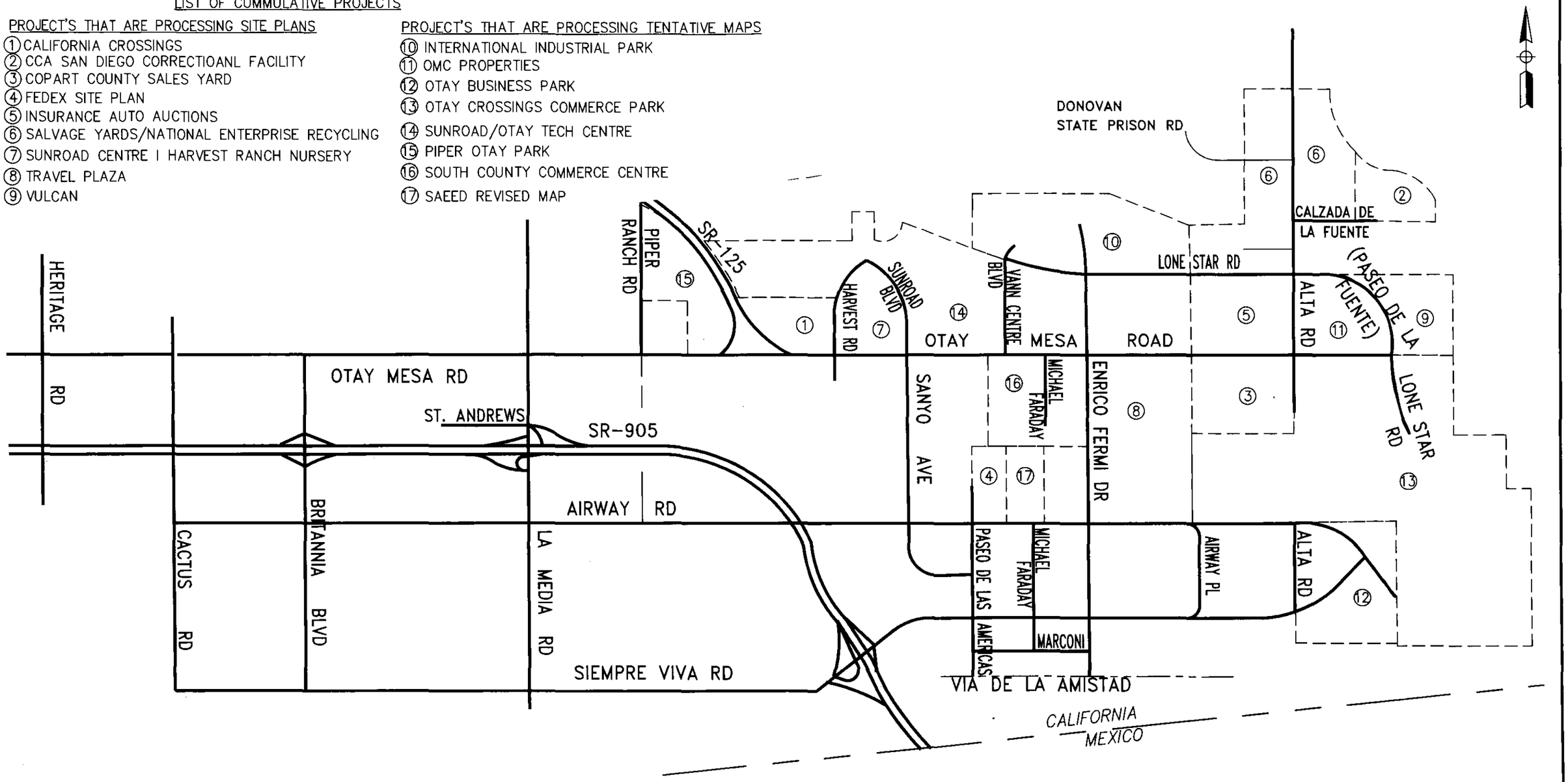

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FIGURE 10
LOCATION OF APPROVED/PENDING PROJECT IN EAST OTAY MESA

APPROVED/PENDING PROJECTS ACCESS

Three (3) of the approved/pending projects listed in Table 16: (1) International Industrial Park, TM 5549 (2) Otay Business Park, TM 5505; and (3) Otay Crossings Commerce Park, TM 5405 do not have project frontage along existing roadways. Thus, in order to include the traffic generated by these projects in the cumulative analysis some assumptions have to be made as to how the traffic associated with each of these projects would get to/from the existing roadway network. Figure 11 provides an illustration of the assumed points of access for each of these projects.

Each project's traffic will be assigned to the network presented on Figure 11. As each project is processed it will identify the facilities needed to accommodate its development and pay the County's Traffic Impact Fees (TIF) to mitigate cumulative impacts. It should be noted, that as illustrated in Figure 11, the extension of Airway Road and Siempre Viva Road east of Airway Place are only needed to provide access to the Otay Business Park (TM 5505) project and no other approved/pending projects traffic were assigned to these roadway segments under cumulative (2020) conditions.

CUMULATIVE (YEAR 2020) WITH SR-905 1A &1B ROADWAY CONDITIONS

In addition to the roads that will be required to be constructed to provide access to the (1) International Industrial Park, TM 5549; (2) Otay Business Park, TM 5505; and (3) Otay Crossings Commerce Park, TM 5405 projects as described above, the development of several of the approved/pending projects listed in Table 16 will also result in the construction/modifications of existing intersections or roadway improvements in order to provide access to the project site. It is reasonable to assume the completion of the intersections modifications and roadway improvements because the cumulative projects associated with the improvements could not open without the completion of the assumed improvements. Since all the cumulative projects were assumed to be constructed by the year 2020, the following new roadway facilities and intersection modifications within the County of San Diego were assumed to be constructed under the cumulative conditions. The roadway conditions listed here are based on the pending projects constructing facilities required for their development.

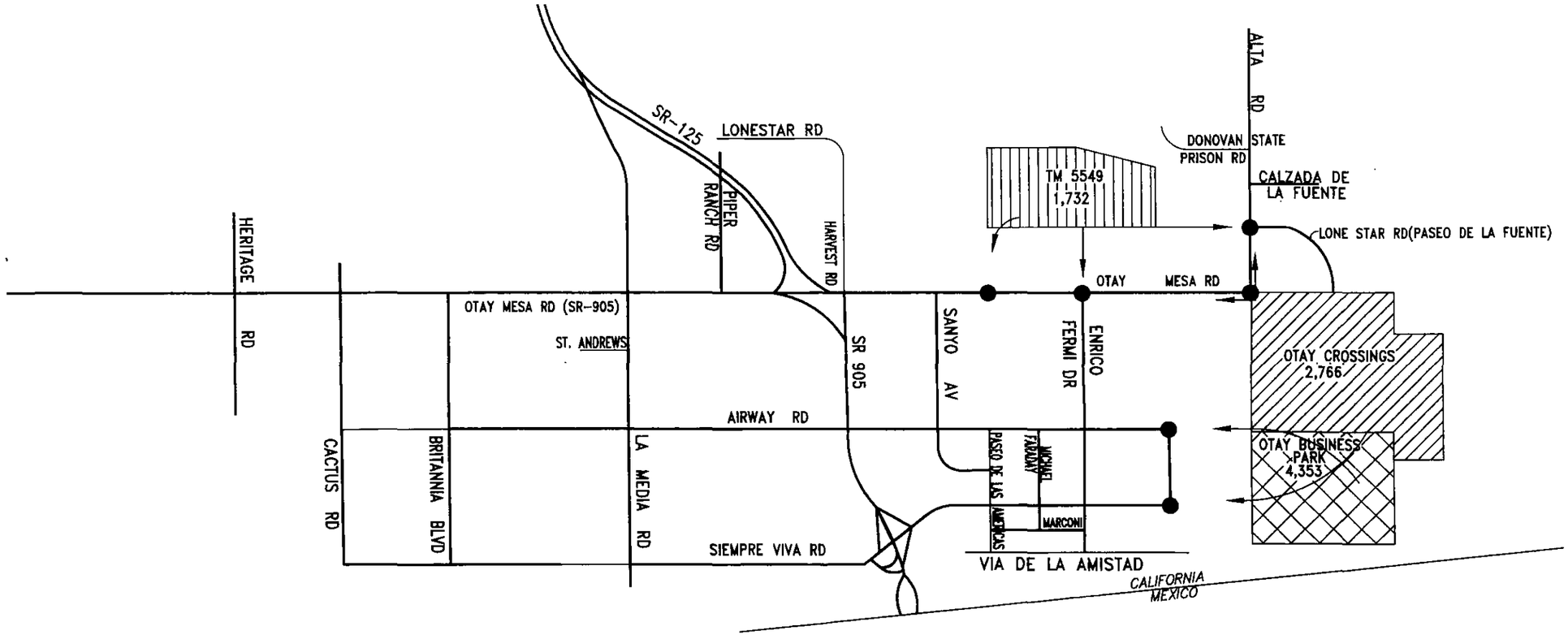
- SR-905 Phases 1A & 1B were assumed to be completed and operational. See Section I for more details on the description of Phases 1A &1B of SR-905.

- The Interim Signalized SR-905 Intersection at Otay Mesa (Old Otay Mesa Road) will be removed upon opening of Phase 1A of SR-905.

- The segment of Interim SR-905 between Otay Mesa Road and Airway Road will be removed upon opening of Phase 1A of SR-905.

- Old Otay Mesa Road between Alta Road and Lone Star Road (Paseo De La Fuente) (currently a dirt road) will be built to the standards of a Light Collector (provides access for the following cumulative projects: Vulcan Materials [cumulative traffic assumed at 100%] and Otay Crossing Commerce Park [cumulative traffic assumed at 13%]);

- Airway Road between Airway Place and Siempre Viva Road (currently does not exist) will be built to the standards of a Light Collector (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);



LEGEND

● – CONNECTION POINT FOR CUMULATIVE PROJECTS

– – – – EXISTING DIRT ROAD

——— EXISTING PAVED ROADWAY FACILITY

—o—o— CUMULATIVE PROJECTS BOUNDARY

NOTE: ADT'S REPRESENT THE TRAFFIC GENERATED BY APROXIMATELY 13% OF THE DEVELOPMENT

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FIGURE 11

PROPOSED METHOD OF CONNECTING CUMULATIVE PROJECT TRAFFIC TO EXISTING CIRCULATION SYSTEM

- Siempre Viva Road between the CHP entrance east of Enrico Fermi Drive and Airway Place (currently only provides 2 westbound travel lanes) will be improved to the standards of a Light Collector Road (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);

- Siempre Viva Road between Airway Place and Lone Star Road (currently does not exist) will be built to the standards of a Light Collector Road (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);

- Harvest Road between Old Otay Mesa Road and Sunroad Boulevard (currently a dirt road) will be built to the standards of a Modified 4-Lane Industrial/Commercial Collector to accommodate a painted median and turn lanes at intersections (provides access for the following cumulative projects: California Crossings [cumulative traffic assumed at 100%] and Otay Tech Centre [Sunroad] [cumulative traffic assumed at 13%]);

- The Otay Mesa Road (SR-905)/Piper Ranch Road intersection has been modified to a four (4) legged intersection (south leg does not currently exist, provides access for the following cumulative projects: Interstate Industrial Centre [cumulative traffic assumed at 13%]); and Sunroad Otay Park [cumulative traffic assumed at 13%]);

- The Old Otay Mesa Road/Sanyo Avenue-Sunroad Boulevard intersection has been constructed as a four (4) legged intersection (north leg does not currently exist, provides access for the following cumulative project: Otay Tech Centre [cumulative traffic assumed at 13%]);

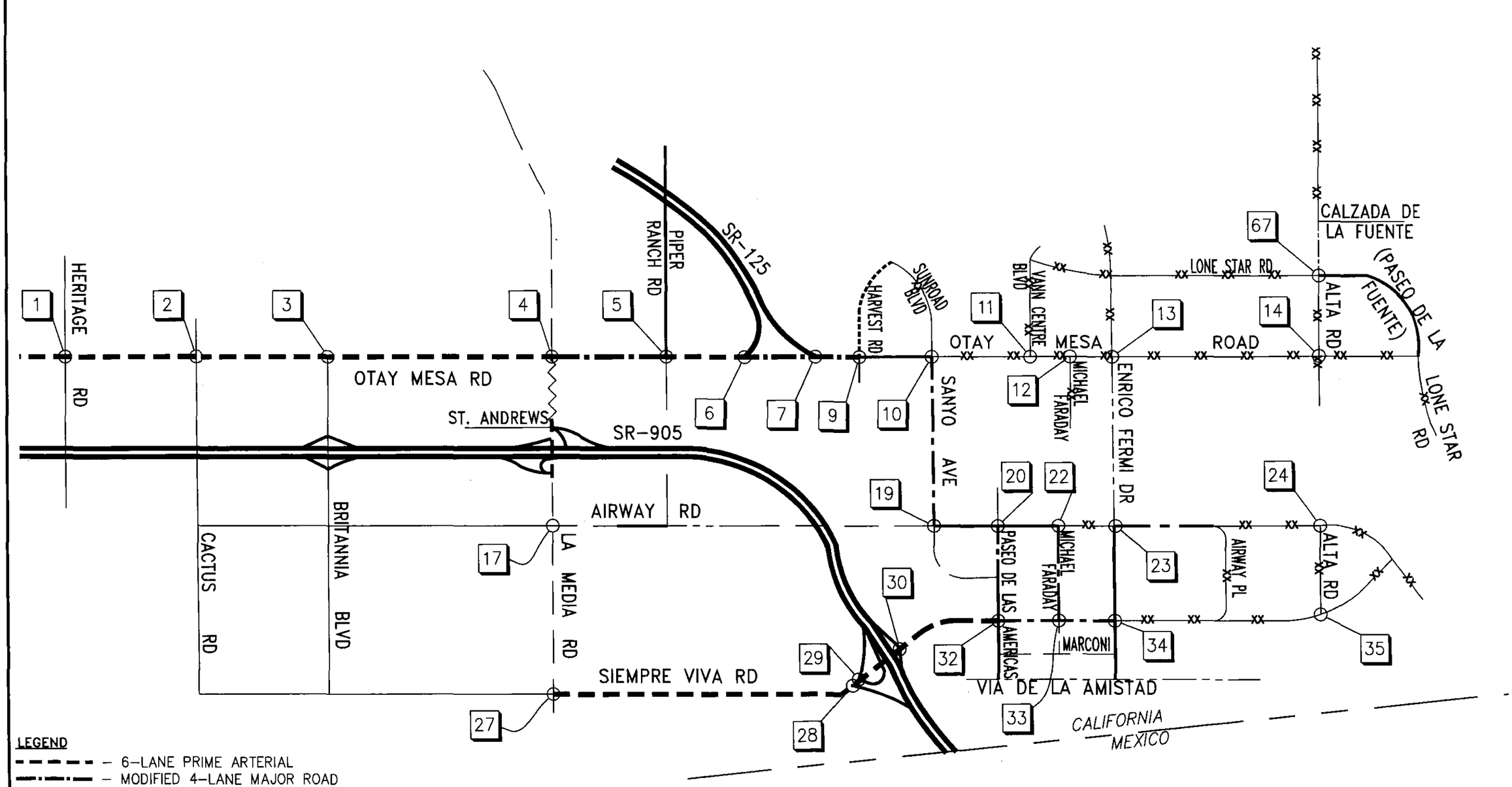
- The Old Otay Mesa Road/Vann Centre Boulevard intersection has been constructed as a T-intersection (Vann Center Boulevard does not currently exist, provides access for the following cumulative projects: Otay Tech Centre [cumulative traffic assumed at 13%] and International Industrial Park[cumulative traffic assumed at 13%]);

- The Old Otay Mesa Road/Enrico Fermi Drive intersection has been modified to a four (4) legged intersection (north leg does not currently exist access, provides access for the following cumulative project: International Industrial Park [cumulative traffic assumed at 13%]);

- The Alta Road/Lone Star Road (Paseo De La Fuente) intersection has been modified to a four (4) legged intersection (west leg currently does not exist, provides access for the following cumulative project: International Industrial Park [cumulative traffic assumed at 13%]);

- The Old Otay Mesa Road/Harvest Road intersection was assumed to be signalized (signalization of this intersections is required to provide access for the following cumulative project: California Crossings [cumulative traffic assumed at 100%]);

All other roadway segments and intersections were assumed to have the same lane configuration and traffic control as what currently exists (See Figure 6 in Section III). Figures 12 and 13 illustrate the cumulative (2020) with SR-905 1A & 1B roadway conditions.



LEGEND

- 6–LANE PRIME ARTERIAL
- MODIFIED 4–LANE MAJOR ROAD
- 4–LANE MAJOR ARTERIAL
- 4–LANE COLLECTOR
- 3–LANE TOWN COLLECTOR
- 2–LANE COLLECTOR
- 2–LANE COUNTY ROAD
- OTHER ROAD
- MODIFIED 4–LANE INDUSTRIAL/COMMERCIAL COLLECTOR
- 4–LANE MODIFIED COLLECTOR

XX – INTERSECTION ID #, SEE FIGURE 13 FOR INTERSECTION LANE CONFIGURATIONS

NOTE: INTERSECTION NUMBERS ARE NOT SEQUENTIAL

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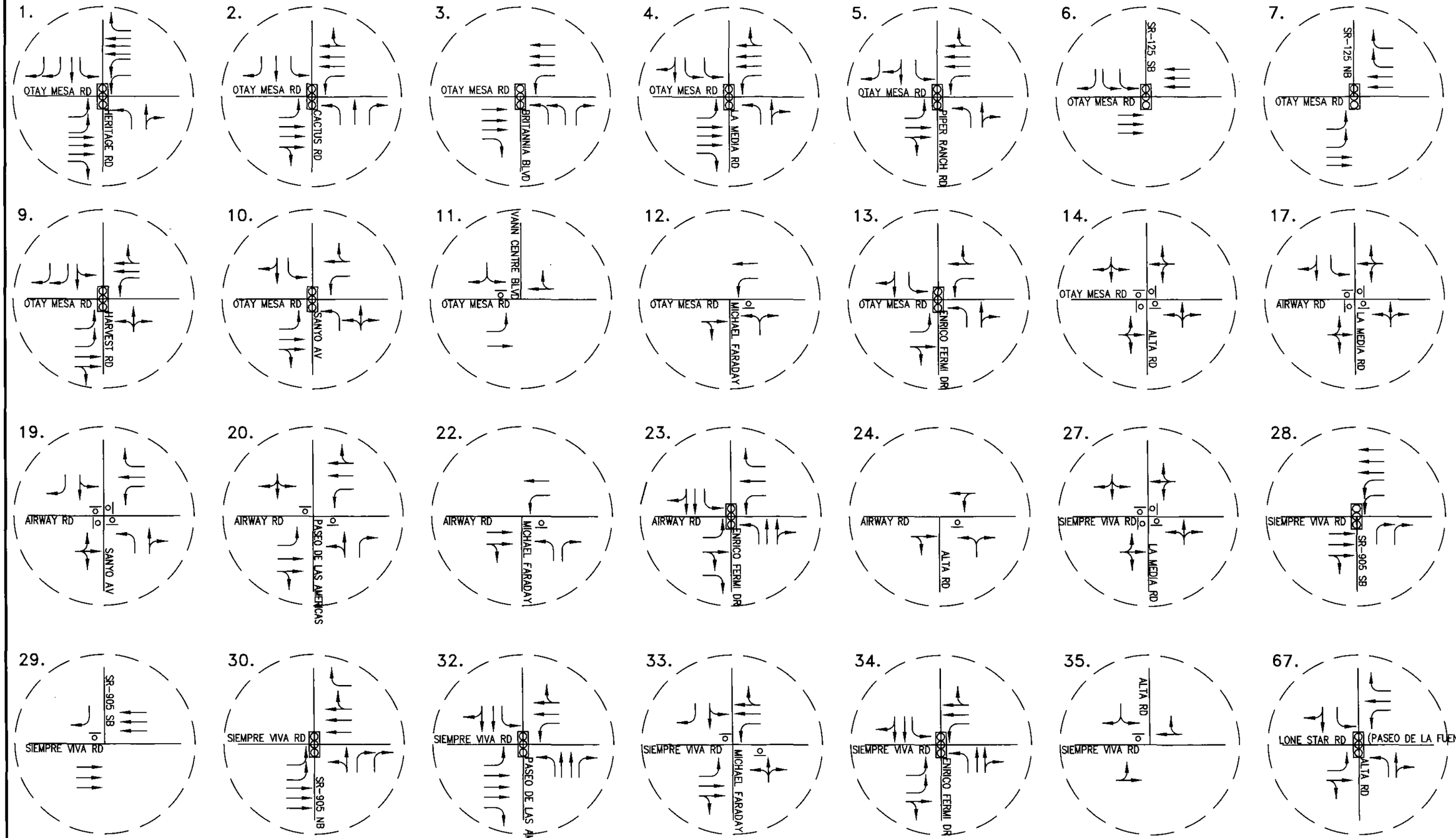
FIGURE 12

CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B] ROADWAY SEGMENT CONDITIONS



LEGEND

- TRAVEL LANE
- TRAFFIC SIGNAL
- STOP SIGN

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FIGURE 13

CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B]
INTERSECTION GEOMETRICS

CUMULATIVE (YEAR 2020) WITH SR-905 1A &1B TRAFFIC FORECASTS

The traffic forecast for cumulative (2020) with SR-905 Phases 1A and 1B was prepared by SANDAG based on the Series 11 model. The 2020 land use information included in the model was based on the list of approved/pending projects in the County of San Diego summarized in Table 16. In addition, the City of San Diego provided SANDAG with proposed intensity of development that would occur by the year 2020 for the area of Otay Mesa located within the City's jurisdiction.

The roadway network assumptions included in the SANDAG model forecasts for the year 2020 were based on the assumptions previously described and illustrated in Figures 12 and 13. A copy of a map illustrating the roadway network assumptions utilized in the SANDAG 2020 model forecasts along with a copy of the SANDAG 2020 forecast are provided in Appendix B.

The trip distribution for the California Crossings project was based on a *Retail Site Selection Analysis* prepared by CBRE rather than a Select Zone distribution assignment generated by SANDAG. The *Retail Site Selection Analysis* estimated that approximately 70% of the customer base for California Crossings would come from cross border traffic from Mexico, while the SANDAG Select Zone forecast only estimated that 14% of the customer base for California Crossings would come from Mexico. Therefore, the results obtained from the SANDAG 2020 model forecast were modified to adjust the distribution for the California Crossings Project to reflect the findings of the *Retail Site Selection Analysis.*

Figures 14 and 15 provide the cumulative (2020) with SR-905 Phases 1A & 1B traffic volumes utilized in this analysis.

CUMULATIVE (YEAR 2020) WITH SR-905 1A &1B LEVEL OF SERVICE

Roadway Segments

Table 17 summarizes the daily roadway segment level of service analysis under cumulative (2020) with SR-905 (Phases 1A & 1B). As shown in Table 17, all key roadway segments operate at an acceptable LOS D or better under cumulative (2020) with SR-905 (Phases 1A & 1B) conditions.

Intersections

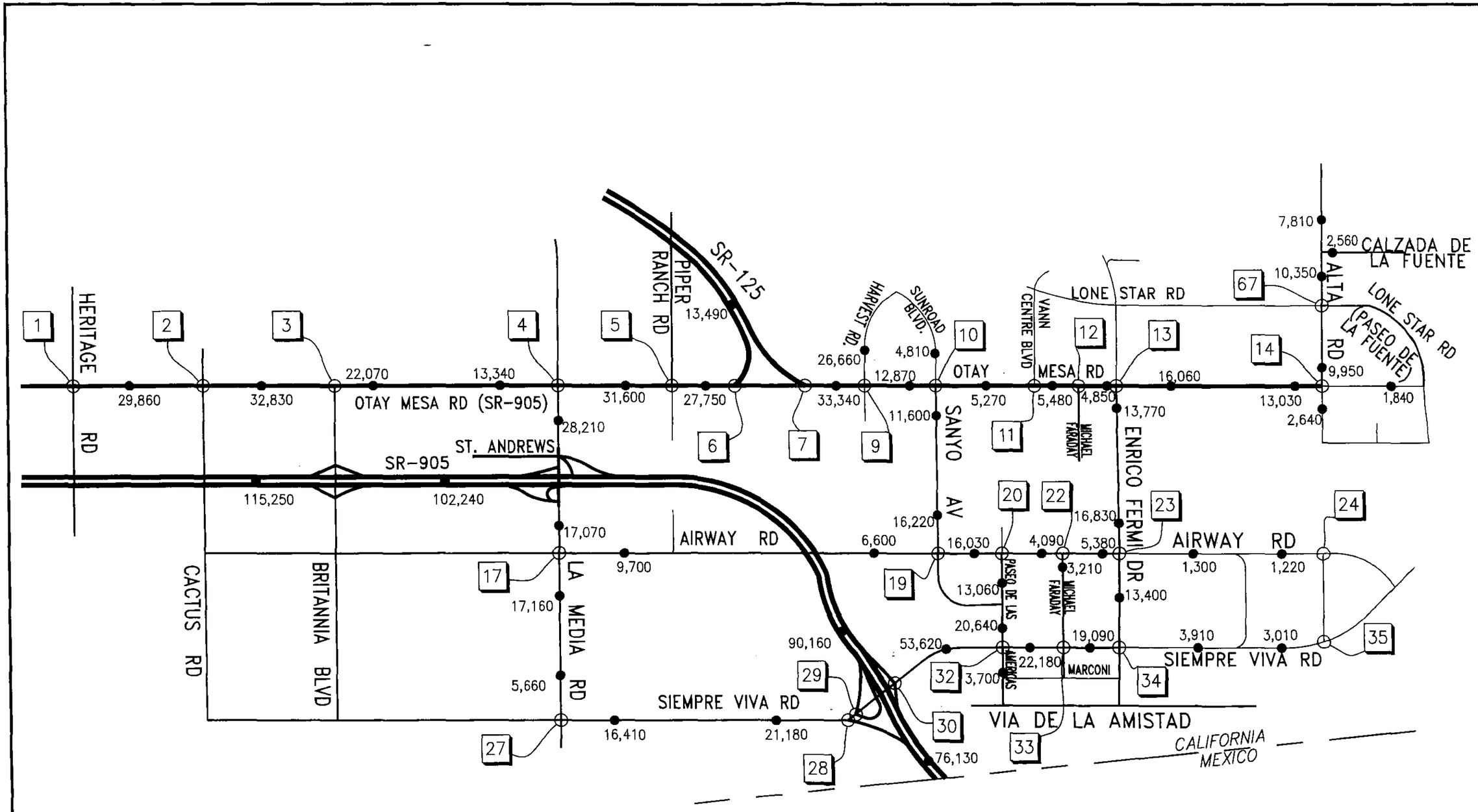
Synchro Analysis

Table 18 summarizes the cumulative (2020) with SR-905 (Phases 1A & 1B) peak hour intersection level of service analysis. (A copy of the Synchro worksheets for cumulative conditions are provided in Appendix G.)

As shown in Table 18, the following intersections operate at an unacceptable LOS F under cumulative (2020) with SR-905 Phases 1A & 1B conditions:

- Airway Road/Sanyo Avenue; and
- Airway Road/Paseo De Las Americas.

If the project is fully occupied (the 2020 forecast assumes California Crossings is developed at 100%), it would add between 115 to 439 peak hour trips to the critical (failing movements) at these intersections and is therefore considered to be part of the significant cumulative impact. See Section VIII for the recommended mitigation of the project's cumulative impacts to the Airway Road/Sanyo Avenue and Airway Road/Paseo De Las Americas intersections.



LEGEND

● Z,ZZZ – AVERAGE DAILY TRAFFIC

XX – INTERSECTION ID #, SEE FIGURE 15 FOR INTERSECTION PEAK HOUR TURNING VOLUMES

NOTE: INTERSECTION NUMBERS ARE NOT SEQUENTIAL

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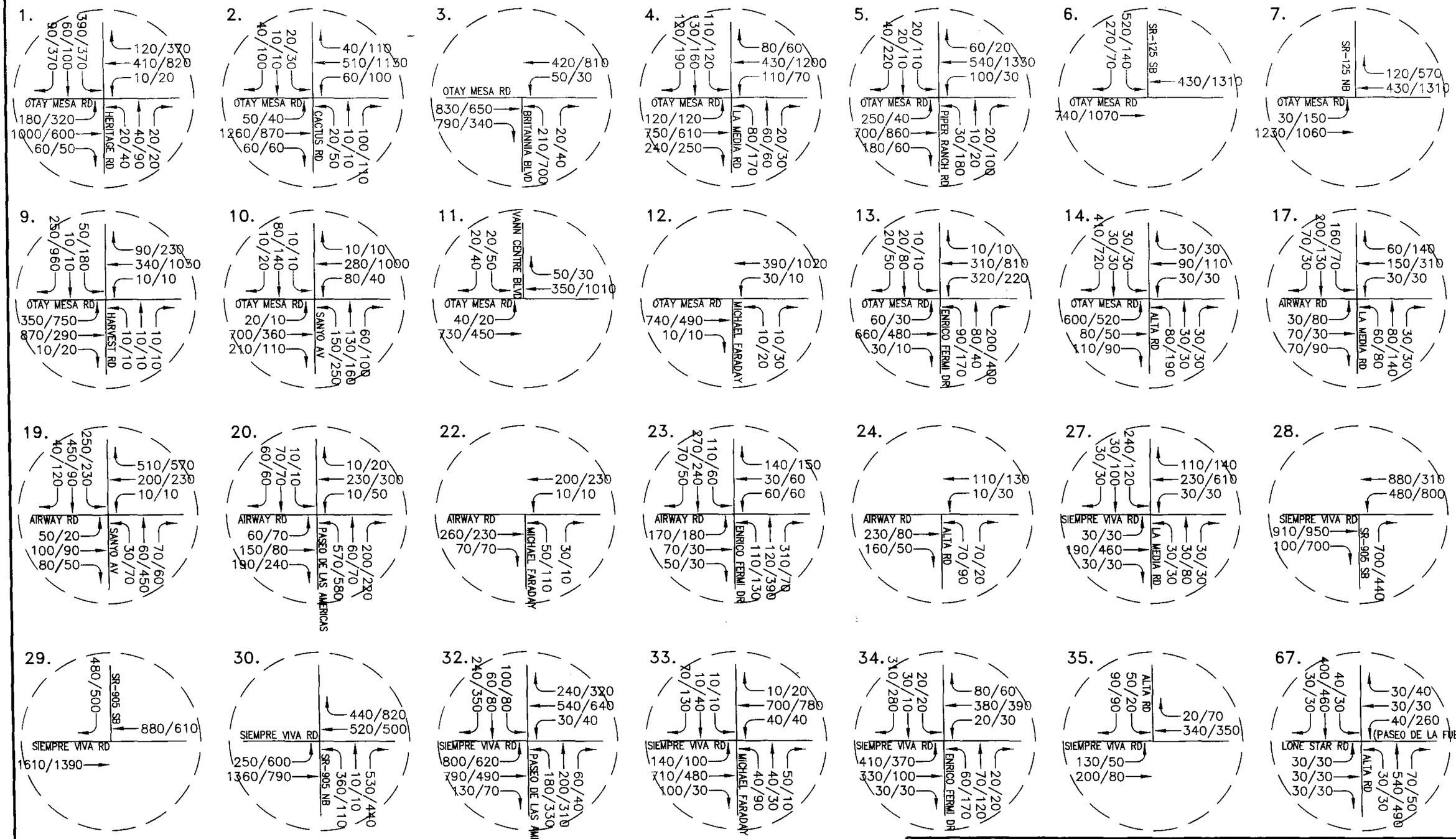
FIGURE 14

CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B] DAILY VOLUMES



LEGEND

——→ – DIRECTION OF TRAVEL

XX/YY – AM/PM PEAK HOUR TRAFFIC VOLUMES

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FIGURE 15

CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B] PEAK HOUR TRAFFIC VOLUMES

Table 17 – Cumulative (2020) With SR-905 1A &1B Roadway Segment Daily LOS Summary

Roadway Segment	Existing						Cumulative (2020) With SR-905 1A & 1B						
	Jurisdiction	Class	Capacity (LOS E)	ADT	V/C	LOS	Class	Capacity (LOS E)	Proj. Tr (e)	ADT	V/C	LOS	Cuml Impact?
Otay Mesa Rd													
Britannia to La Media Rd	**City**/Caltrans	6P	60,000	**58,999**	**0.98**	**E**	6P	60,000	479	22,070	0.37	A	No
La Media Rd to Piper Ranch Rd	**City**/Caltrans	4M(m)	45,000	**44,523**	**0.99**	**E**	4M(m)	45,000	8,214	31,600	0.70	C	No
Piper Ranch Rd to SR-125	**County**/City/Caltrans	6P	57,000	43,109	0.76	C	6P	57,000	8,374	27,750	0.49	B	No
Old Otay Mesa Rd													
SR-125 to Driveway 'C'	**County**/City/Caltrans	4M(m)	47,000(a)	16,686	036	A	4M(m)	47,000(a)	16,519	33,300	0.71	C	No
Driveway 'C' to Harvest Rd	**County**/City/Caltrans	4M(m)	47,000(a)	9,738	0.21	A	4M(m)	47,000(a)	17,658	33,340	071	C	No
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	8,224	0.22	A	4M	37,000	4,386	12.870	0.35	A	No
Airway Road													
Sanyo Ave to Paseo de las Americas	City	4M	40,000	5,649	0.14	A	4M	40,000	4,386	16,030	0.40	B	No
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	26,653	0.44	B	6P	60,000	4,386	53,6250	0.89	D	No
La Media Road													
Otay Mesa Rd to St. Andrews/SR-905 WB Ramp	City	4C	30,000	15,225	0.51	C	4C(m)	35,000(b)	7,736	28,210	0.81	D	No
SR-125													
North of Otay Mesa Rd	SBX	4-FWY	(c)	30,000	0.33	A	4-FWY	(c)	3,190	13,490	0.15	A	No
Existing State Route 905													
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	4M	40,000	**37,823**	**0.95**	**E**	Does Not Exist		-	-	-	-	-
South of Siempre Viva Rd	City/**Caltrans**	4-FWY	(c)	28,000	0.32	A	4-FWY	(c)	11,165	76,130	0.86	D	No
New State Route 905													
Britannia to La Media	Caltrans	Does Not Exist		-	-	-	6-FWY	(c)	798	102,240	0.77	C	No
La Media to Siempre Viva Rd	Caltrans	Does Not Exist		-	-	-	6-FWY	(c)	6,779	90,160	0.68	C	No
Harvest Road													
Project Access B to Project Access A	County	Dirt	-	(d)	-	-	4I/C(m)	34,200	4,557	11,390	0.33	A	No
Project Access A to Otay Mesa Rd	County	Dirt	-	(d)	-	-	4I/C(m)	34,200	19,367	26,660	0.78	C	No
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	4C	30,000	4,386	16,220	0.54	C	No
Paseo De Las Americas													
Airway Rd to Siempre Viva Rd	City	4C	30,000	5,300	0.18	A	4C	30,000	4,386	20,640	0.69	D	No

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego;
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway;
Bold = Jurisdiction which capacity & significance criteria is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; 6-FWY = 6-Lane Freeway:
4-FWY = 4-Lane Freeway:6P = 6-Lane Prime Arterial; 4M(m) = Modified 4-Lane Major Road; 4M = 4-Lane Major Arterial; C = Collector; 4C = 4-Lane Collector; 4C(m) = 4-Lane Modified Collector;
LC = Light Collector; 4I/C(m)=4-Lane Modified Industrial/Commercial Collector; Cuml. Impact = Identifies whether there is a significant cumulative impact
(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 45,000 for City or 47,000 for County at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
(b) This segment of La Media Road provides 2 Northbound through lanes, 3 Southbound through lanes, 1 Southbound right turn lane, and a painted median; hence the roadway capacity was assumed to be 35,000 ADT at LOS E (half-way between a 4-lane Collector & 4-Lane Major Arterial), see page 20 for more details.
(c) Capacity based on Caltrans District 11 & HCM procedures, See Appendix K for LOS calculations
(d) Harvest Road currently only exists as a dirt road and has nominal traffic
(e) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 4 in Section II

Table 18 – Cumulative (2020) With SR-905 1A &1B Intersection LOS Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Cumulative (2020) With SR-905 1A & 1B							
				AM Peak		PM Peak		AM Peak				PM Peak			
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips (c)	Cuml Impact?	Delay	LOS	Proj. Trips (c)	Cuml Impact?
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	**City**/Caltrans	Sig	Int.	10.3	B	18.8	B	8.6	A	15	No	12.6	B	48	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	**City**/Caltrans	Sig	Int.	14.1	B	27.0	C	11.3	B	235	No	23.7	C	821	No
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	**County**/City/Caltrans	Sig	Int.	6.1	A	3.6	A	10.0	A	240	No	8.7	A	837	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	**County**/City/SBX	Sig	Int.	11.2	B	2.5	A	11.2	B	297	No	7.3	A	997	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	**County**/City/SBX	Sig	Int.	0.9	A	5.6	A	3.0	A	335	No	3.3	A	1156	No
Otay Mesa Rd (E-W) @ Harvest Rd (N-S) [(a)]	**County**/City/Caltrans	TWSC	NB	-	-	13.1	B	-	-	-	No	-	-	-	No
			SB	9.5	B	11.4	B	-	-	-		-	-	-	
		Sig	Int.	(a)	(a)	(a)	(a)	14.0	B	657		23.3	C	2165	
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	**County**/City	Sig	Int.	4.1	A	12.6	B	18.9	B	144	No	52.6	D	439	No
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	A	9.9	A	21.5	C	0	**Yes**	21.2	C	0	**Yes**
			WB	8.1	A	9.1	A	**63.6**	**F**	**115**		**165.5**	**F**	**319**	
			NB	8.0	A	9.2	A	13.8	B	0		**191.2**	**F**	**0**	
			SB	9.6	A	8.0	A	312.8	F	29		**46.0**	**E**	**120**	
			Int.	9.3	A	9.1	A	**153.8**	**F**	**144**		**135.0**	**F**	**439**	
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	**County**/City	OWSC TWSC(b)	NBL-T	9.7	A	10.6	B	**837.4**	**F**	**115**	**Yes**	**Err**	**F**	**319**	**Yes**
			SB	-	-	-	-	20.1	C	0		33.8	D	0	
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	City/**Caltrans**	Sig	Int.	7.0	A	8.5	A	9.3	A	29	No	16.5	B	120	No
Siempre Viva (E-W) @ SR-905 SB to WB Siempre Viva (N-S)	City/**Caltrans**	OWSC	SB	14.3	B	13.3	B	32.2	D	0	No	18.9	C	0	No
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	City/**Caltrans**	Sig	Int.	10.8	B	11.0	B	13.9	B	144	No	14.7	B	439	No
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	Sig	Int.	24.7	C	40.0	D	47.3	D	144	No	51.9	D	439	No

(a) Intersection is two-way stop-controlled under existing conditions and signalized under existing plus project conditions; (b) OWSC under Existing conditions, TWSC under cumulative conditions
(c) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 4 in Section II
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL-T = Northbound Left-Through; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Err = Delay is too high for the software to calculate; **Bold** = Jurisdiction which significance criteria is based on

ILV Analysis

Table 19 summarizes the cumulative (2020) with SR-905 (Phases 1A & 1B) ILV analysis. As shown in Table 19, the Siempre Viva Road/SR-905 SB Ramp to EB Siempre Viva Road intersection operates under stable flow during the AM peak hour and under unstable flow during the PM peak hour under cumulative (2020) with SR-905 [Phases 1A & 1B] conditions. All other intersections operate under stable flow during the AM and PM peak hours. A copy of the ILV worksheets can be found in Appendix G.

Table 19 - Cumulative (2020) With SR-905 1A &1B ILV Analysis

Intersection	Existing				Cumulative (2020) With SR-905 1A &1B			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	517	Stable Flow	507	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	630	Stable Flow	730	Stable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	425	Stable Flow	677	Stable Flow	943	Stable Flow	1,260	Unstable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	442	Stable Flow	578	Stable Flow	949	Stable Flow	1,036	Stable Flow

(a) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 4 in Section II
ILV/Hour = Intersecting Lane Vehicles Per Hour;
<1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation
E-W = East-West Roadway; N-S = North-South Roadway

SECTION VI – YEAR 2030 CONDITIONS

The 2030 roadway conditions and traffic forecast for the East Otay Mesa area are based on the recent study prepared by the County for the amendment of the East Otay Mesa Specific Plan. A description of the East Otay Mesa Specific Plan Amendment and the traffic assessment update to the amendment are provided in this section of the study.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

The Board of Supervisors for the County of San Diego approved the East Otay Mesa Specific Plan Amendment on August 1, 2007. Subsequently, the County Board of Supervisors recently approved a revision to the East Otay Mesa Business Park Specific Plan Amendment for Subarea 1 on April 8, 2009. (Copies of excerpts from the April 8, 2009 East Otay Mesa Business Park Specific Plan for Subarea 1 is provided in Appendix B.) There were three types of amendments adopted for the East Otay Mesa Specific Plan Subareas 1 and 2. The amendments were to the circulation plan, bicycle network, and regulatory standards relating to site plan requirements, fencing detail, driveway location criteria, and sidewalk design. The following summarizes the General Plan Circulation Element and Specific Plan changes that directly impact the roadway network in the vicinity of the proposed project.

Circulation Network

Figure 16 illustrates the recently adopted circulation plan for 2030 conditions in the East Otay Mesa area in the County of San Diego.

Under the proposed project, the Subarea 1 and Subarea 2 circulation network has been revised to include the following changes to Circulation Element Roads:

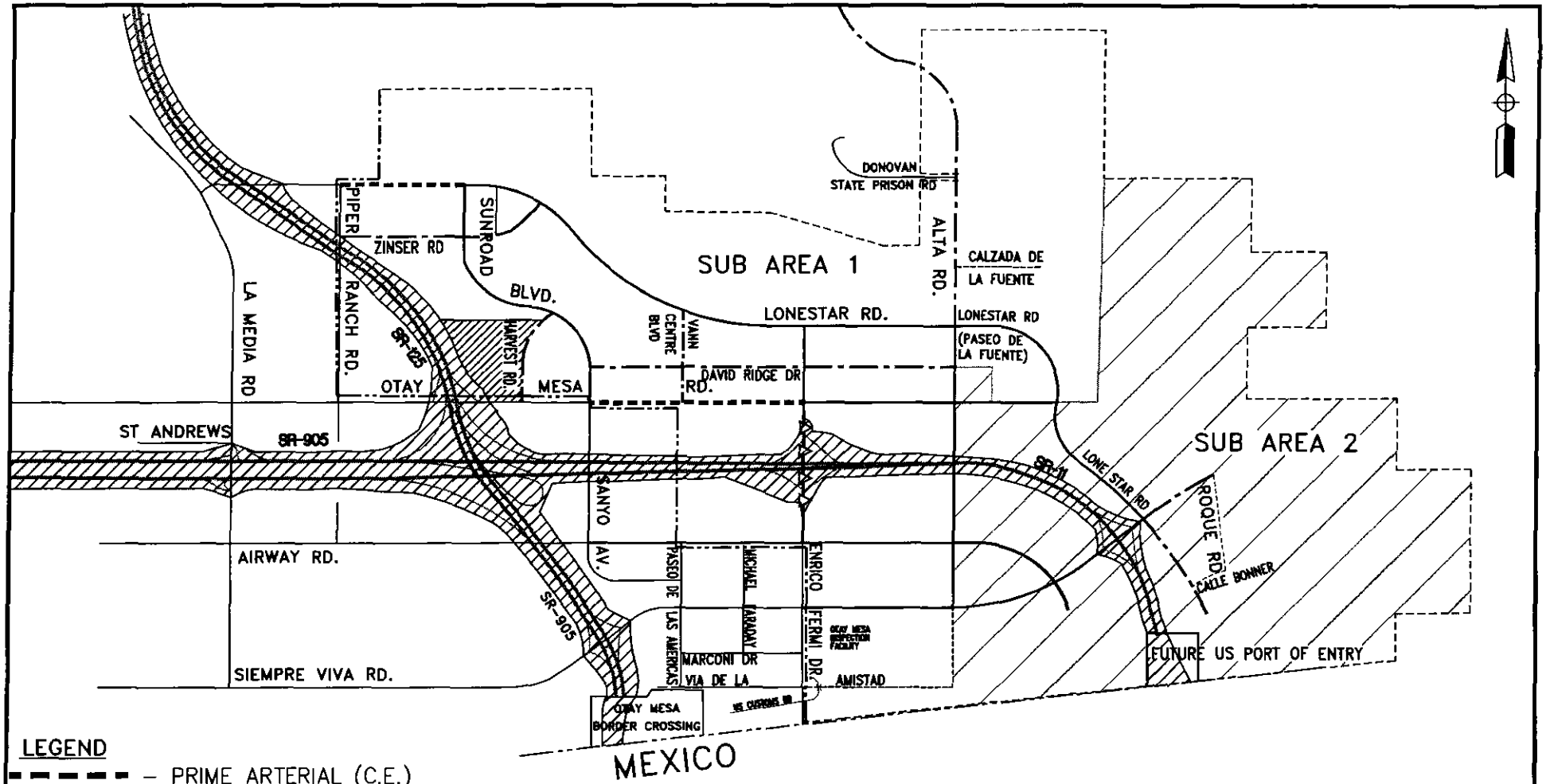
1. ***Ellis Road:*** Delete (segment between Lone Star Road and Otay Mesa Road) from the General Plan Circulation Element and replace it with the extension of Sanyo Avenue (to be renamed Sunroad Boulevard) from Lone Star Road to Otay Mesa Road. With the extension of Sunroad Boulevard, Ellis Road is no longer necessary. Also, the alignment of Ellis Road conflicts with the extension of SR-125 at Otay Mesa Road.

2. ***Sunroad Boulevard:*** Extend northerly from Otay Mesa Road to Lone Star Road. This extension will replace Ellis Road and provide a direct connection from Lone Star Road southerly to Airway Road.

3. ***Enrico Fermi Drive:*** Between Otay Mesa Road and SR-11, change road classification from four-lane (4L) Major to an Enhanced 4L Major. Additional turn lanes will be needed to accommodate traffic at the Enrico Fermi Drive/SR-11 interchange due to the deletion of Michael Faraday Drive.

4. ***Otay Mesa Road:*** Delete Bike Route from Piper Ranch Road to Enrico Fermi Drive on Otay Mesa Road. This change is required since the 69kv utility poles will not be placed underground and those utility poles contain a critical fiber optic communications line for the State and County prisons that cannot be interrupted.

5. ***Lone Star Road/Loop Road:*** Extend Lone Star Road easterly to intersect with Siempre Viva Road easterly of SR-11. Loop Road as a separate road classification will be deleted. This section is being redesigned due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road.



LEGEND

- PRIME ARTERIAL (C.E.)
- ENCHANCED MAJOR ROAD(C.E.)(REQUIRES ADDITIONAL RIGHT-OF-WAY TO ACCOMODATE TURN MOVEMENTS AND FREEWAY ACCESS FROM OTAY MESA ROAD TO SR-11)
- MAJOR ROAD (C.E.)
- 4-LANE COLLECTOR ROAD (C.E.)
- 4-LANE ROAD (S.P.)
- 2-LANE ROAD (S.P.)
- CITY ROAD/OTHER ROAD
- CITY/COUNTY BOUNDARY
- SUB AREA BOUNDARY
- FREEWAY RIGHT-OF-WAY
- PROJECT SITE

NOTE:
C.E. - CIRCULATION ELEMENT ROAD
S.P. - SPECIFIC PLAN ROAD

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FIGURE 16
ADOPTED CIRCULATION PLAN FOR EAST OTAY MESA (2030 CONDITIONS)

6. ***Siempre Viva Road:*** Extend Siempre Viva Road easterly to intersect with the new extension of Lone Star Road. This section is being redesigned due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road.

7. ***Airway Road:*** Extend easterly to intersect with the new extension of Siempre Viva Road. This section is being redesigned due to the latest design of SR-11 and Siempre Viva Road.

8. ***Alta Road***: No amendment to the circulation element; however, the Specific plan will include conceptual geometrics to reflect a modified street section of Alta Road north of Otay Mesa Road.

9. ***SR-11:*** Realign SR-11 Right-of-way to represent the latest Caltrans design and U.S. Port of Entry location. This represents the latest design for SR-11 and assists in the implementation of the supporting EOM circulation system.

Under the proposed project, the Subarea 1 and Subarea 2 circulation network has been revised to include the following changes to Specific Plan Roads:

10. ***Tech Center Way:*** Delete from Ellis Road extending east of Sanyo Avenue (Sunroad Boulevard). This section is no longer needed due to the redesign of Zinser Road.

11. ***Zinser Road:*** Extend Zinser Road easterly from the proposed Sunroad Boulevard to Lone Star Road. This extension provides a direct connection between Piper Ranch Road and Lone Star Road.

12. ***Harvest Road:*** Extend northerly from current the David Ridge Drive to Sunroad Boulevard. This provides an alternate connection between Otay Mesa Road and Sunroad Boulevard.

13. ***David Ridge Drive:*** Delete westerly from Sunroad Boulevard (existing Sanyo Avenue). Based on the design of the Otay Tech Centre (Sunroad Business Park), this roadway is no longer needed.

14. ***Vann Centre Boulevard:*** Extend Vann Centre Boulevard northerly from David Ridge Drive to Lone Star Road. With the deletion of Michael Faraday Drive, this provides an alternate north-south route from Otay Mesa Road to Lone Star Road.

15. ***Michael Faraday Drive:*** Delete from Lone Star Road to Airway Road. This deletion is necessary since it would potentially conflict with the ramp at Enrico Fermi Drive and the crossing at SR-11 and the circulation alternatives being proposed in this amendment would be more cost effective.

16. Due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road, the easterly extensions of Airway Road and Siempre Viva Road from Lone Star Road (existing Loop Road) to Roque Road are realigned. Siempre Viva Road extends easterly to end at Roque Road. Calle Bonner connects Lone Star Road to Roque Road. The easterly extensions of Airway Road and Siempre Viva Road from Lone Star Road (existing Loop Road) to Roque Road are Specific Plan Roads.

Bicycle Network

Under the proposed project, the Subarea 1 and Subarea 2 bicycle network system has been revised to include the following:

1. Addition of bicycle lane on Sunroad Boulevard from David Ridge Drive to Lone Star Road;

2. Addition of bicycle lane to Zinser Road from Lone Star Road to Piper Ranch Road;

3. Addition of bicycle lane to Enrico Fermi Drive from Lone Star Road to Siempre Viva Road to provide connectivity for bike lanes on Lone Star Road, David Ridge Drive, Airway Road, and Siempre Viva Road;

4. Addition of bicycle lane to Alta Road from Otay Mesa Road to Siempre Viva Road to provide additional connectivity for bike lanes on Lone Star Road, David Ridge Drive, Airway Road, and Siempre Viva Road;

5. Deletion of bicycle lane on Otay Mesa Road from Piper Ranch Road to Enrico Fermi Drive since construction of this roadway segment per the County's standards of a six-lane (6-L) prime arterial is constrained due to existence of high voltage transmission lines and existing building along the southerly side of the road and realignment to the northerly side would require additional right-of-way and appropriate transition east of Enrico Fermi Drive. In addition, there would be a large volume of traffic including trucks crossing the location of the on and off ramps for SR-125, hence this segment of Otay Mesa Road is not an ideal location for a bike lane;

6. Deletion of bicycle lane on David Ridge Drive westerly of Sunroad Boulevard (existing Sanyo Avenue) since that section of the road is being deleted;

7. Deletion of bicycle lane on Michael Faraday Drive from Lone Star Road to Airway Road since that section of the road is being deleted;

8. Realignment of roadway network and bicycle lanes on Lone Star Road, Airway Road, and Siempre Viva Road;

These changes have been approved due to an overall update of the circulation system and the need to provide alternative bicycle connections when an existing route was deleted.

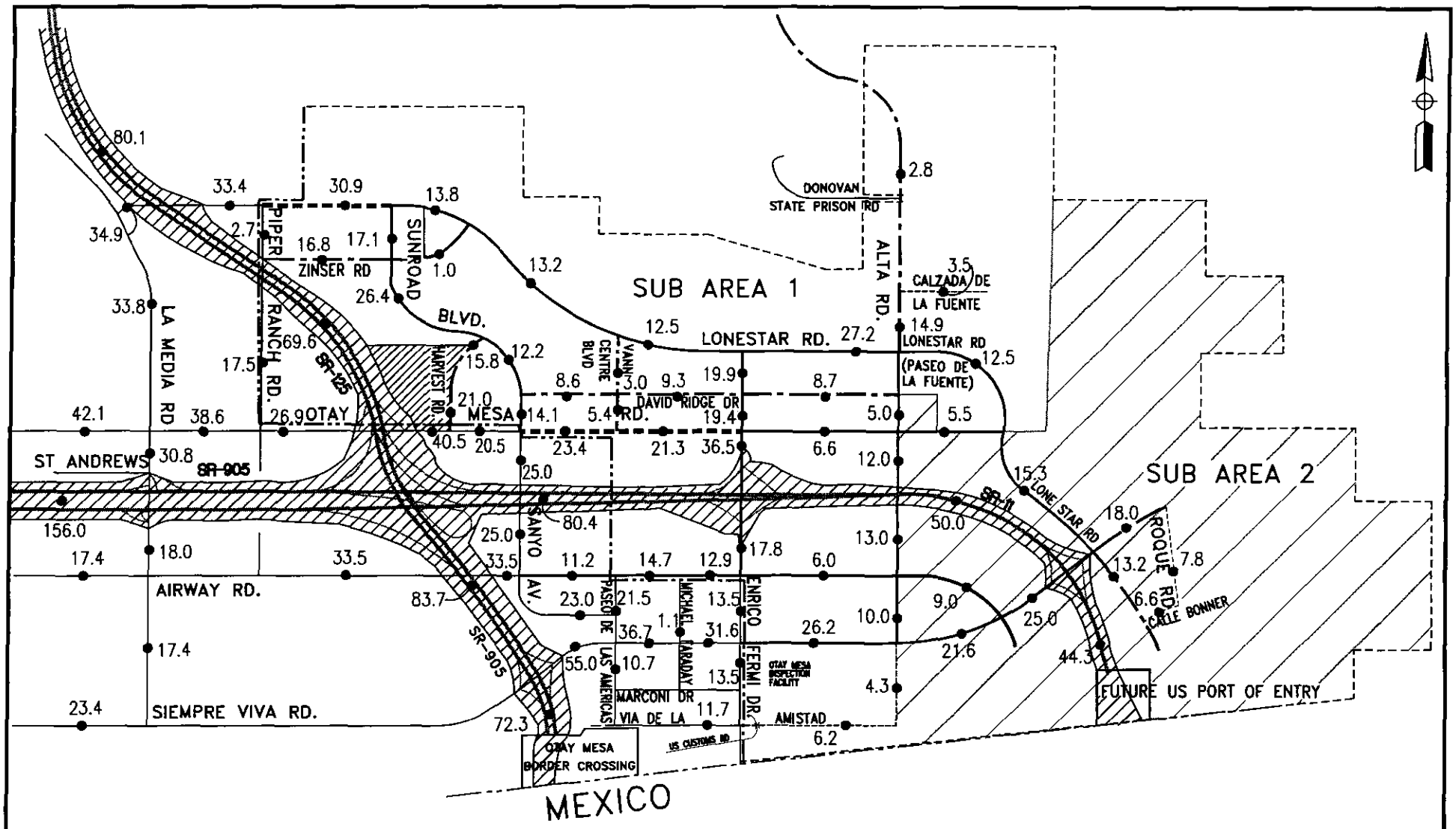
TRAFFIC ASSESSMENT UPDATE FOR THE EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

In June 2006, the County retained the services of Darnell & Associates (D&A) to provide an update to the traffic assessment for the Specific Plan Amendment 2002. The report provides a program-level analysis to update the traffic assessment for the East Otay Mesa Specific Plan prepared by the Department of Public Works in May 2002. The original amendment to the Specific Plan was adopted by the Board of Supervisors on August 1, 2007. A revised amendment to the East Otay Mesa Business Park Specific Plan for Subarea 1 was adopted by the Board of Supervisors on April 8, 2009. The amendment also includes the traffic forecast for build out of land uses in the EOMSPA including the changes in circulation plan described previously. The build out forecast provided in traffic assessment update for EOMSPA includes the retention of previously approved land uses. Since the project is consistent with the EOMSP, the traffic from the proposed project is included in the 2030 forecast as part of the traffic generated by the County's proposed 40 acre commercial overlay.

Figure 17 provides the 2030 traffic forecast (including the proposed project) for East Otay Mesa area.

YEAR 2030 ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

As shown in Table 20, all roadway segments in the proposed circulation plan for EOMSPA operate at acceptable levels of service under 2030 conditions analyzed in the traffic assessment update. Since all roadway segments operate at LOS D or better under 2030 conditions with and without the proposed project, the project does not have an impact under 2030 conditions.



LEGEND

XX.X – AVERAGE DAILY TRAFFIC VOLUMES IN THOUSAND (INCLUDES PROJECT TRAFFIC)

– CITY/COUNTY BOUNDARY

– SUB AREA BOUNDARY

– FREEWAY RIGHT-OF-WAY

– PROJECT SITE

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FIGURE 17

ADOPTED CIRCULATION PLAN TRAFFIC FORECAST – 2030 + PROJECT

Table 20 – 2030 Conditions Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	2030 w/o Project			2030 + Project					
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Impact?
Lone Star Road												
SR-125 to Sunroad Blvd	County	4M	37,000	31,007	0.84	D	2,393	33,400	0.90	D	0.06	No
Otay Mesa Road												
Britannia to La Media	**City**	6P	60,000	40,505	0.68	C	1,595	42,100	0.70	C	0.02	No
La Media Rd to Piper Ranch Rd	**City**	6P	60,000	31,024	0.52	B	7,576	38,600	0.64	C	0.12	No
Piper Ranch Road to SR-125	**County**/City	P	57,000	18,526	0.33	A	8,374	26,900	0.47	B	0.14	No
SR-125 to Project Access C	**County**/City	P	57,000	27,399	0.48	B	13,101	40,500	0.71	C	0.23	No
Project Access C to Harvest	**County**/City	P	57,000	27,399	0.48	B	14,241	41,640	0.73	C	0.25	No
Harvest to Sunroad Blvd/Sanyo Av	**County**/City	P	57,000	16,114	0.28	A	4,386	20,500	0.36	A	0.08	No
Sunroad Blvd/Sanyo Av to Vann Centre	**County**/City	P	57,000	22,602	0.40	B	798	23,400	0.41	B	0.01	No
Vann Centre to Enrico Fermi	County	P	57,000	20,502	0.36	A	798	21,300	0.37	A	0.01	No
Airway Road												
Sanyo Av to Paseo de las Americas	City	4M	40,000	7,611	0.19	A	3,589	11,200	0.28	A	0.09	No
Siempre Viva Road												
SR-905 to Paseo de las Americas	City	6P	60,000	51,411	0.86	D	3,589	55,000	0.92	D	0.06	No
La Media Road												
Otay Mesa to SR-905	City	6P	60,000	25,616	0.43	B	5,184	30,800	0.51	B	0.08	No
SR-125												
Lone Star Rd to Otay Mesa Rd	SBX	4-FWY	(b)	66,410	0.73	C	3,190	69,600	0.76	C	0.03	No
State Route 905												
Britannia Blvd to La Media Rd	Caltrans	8-FWY	(b)	155,202	0.88	D	798	156,000	0.89	D	0.01	No
La Media Rd to Siempre Viva Rd	Caltrans	8-FWY	(b)	80,111	0.46	B	3,589	83,700	0.48	B	0.02	No
South of Siempre Viva Rd	Caltrans	4-FWY	(b)	65,122	0.74	C	7,178	72,300	0.82	D	0.08	No
Harvest Road												
Sunroad Blvd to Project Access B	County	4I/C(m)	34,200	12,382	0.36	A	3,418	15,800	0.46	B	0.10	No
Project Access B to Project Access A	County	4I/C(m)	34,200	9,534	0.28	A	6,266	15,800	0.46	B	0.18	No
Project Access A to Otay Mesa Rd	County	4I/C(m)	34,200	4,050	0.12	A	15,950	20,000	0.58	B	0.46	No
Sunroad Boulevard												
Lone Star Road to Zinser Rd	County	4M	37,000	14,707	0.40	A	2,393	17,100	0.46	B	0.06	No
Zinser Rd to Harvest Rd	County	4M	37,000	24,007	0.65	B	2,393	26,400	0.71	C	0.06	No
Sanyo Avenue												
Otay Mesa Rd to Airway Rd	City	4C	30,000	21,411	0.71	D	3,589	25,000	0.83	D	0.12	No
Paseo De Las Americas												
Airway Rd to Siempre Viva Rd	City	4C	30,000	17,911	0.60	C	3,589	21,500	0.72	D	0.12	No
Enrico Fermi Drive												
Otay Mesa Rd to SR-11	County	4M(m)	47,000(a)	35,702	0.76	C	798	36,500	0.78	C	0.02	No

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego;
Bold = Jurisdiction which capacity & significance criteria is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; SBX = South Bay Expressway;
8-FWY =8-Lane Freeway; 4-FWY =4-Lane Freeway; 6P/P = 6-Lane Prime Arterial; 4M(m) = Modified 4-Lane Major Arterial; 4M = 4-Lane Major Arterial; C = Collector; 4C = 4-Lane Collector; 4I/C(m)=4-Lane Modified Industrial/Commercial Collector
(a) Additional lanes are provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
(b) The LOS for SR-905 was determined based on the Caltrans District 11 procedures, See Appendix K for LOS Calculations

SECTION VII – PROJECT ACCESS AND PARKING REQUIREMENTS

PROJECT ACCESS

The project proposes to provide four (4) access driveways: one (1) on Otay Mesa Road (Driveway 'C') and three (3) on Harvest Road (Driveway 'A', 'B', and 'D'). Driveway 'C' is approximately 310 feet (310') west of Harvest Road and will be a 28 foot (28') wide driveway providing only a right in/out access. It should be noted that Driveway 'C' is proposed to be aligned with the existing Interim SR-905 Connector on Otay Mesa Road.

Driveway 'A' is located approximately 591 feet (591') north of Otay Mesa Road and will be a 52 foot (52') wide driveway providing full access to the project allowing left turns in/out of the project driveway, with two (2) lanes of ingress and two (2) lanes of egress. The applicant currently proposes to provide dual northbound left turn lanes on Harvest Road at Driveway 'A'. In addition, the developer proposes to construct a traffic signal at Driveway 'A'. Signal warrant analysis found that daily and peak hour existing plus project traffic volumes warrant a traffic signal at the Harvest Road/Driveway 'A' intersection, thus all analysis has assumed that a traffic signal has been constructed at the Harvest Road/Driveway 'A' intersection. (A copy of the signal warrants for the Harvest Road/Driveway 'A' intersection are provided in Appendix J.)

Driveway 'B' is approximately 1,038 feet (1,038') north of Otay Mesa Road (447 feet north of Driveway 'A') and will be a 36 foot (36') wide driveway providing full access to the project allowing left turns in/out of the project driveway, with one (1) lane of ingress and two (2) lanes of egress. The applicant currently proposes to provide a single northbound left turn lane on Harvest Road at Driveway 'B'. In addition, the developer proposes to construct a traffic signal at Driveway 'B'. Due to the close spacing to Driveway 'A'; however, signalization is not recommended. Further, the signal warrant analysis provided in Appendix J, found that neither daily nor peak hour volumes warrant the installation of a traffic signal at the Harvest Road/Driveway 'B' intersection under existing plus project conditions and only the daily volume warrant for signalization is satisfied under the cumulative (2020) with SR-905 (Phases 1A &1B) conditions. Therefore, all analysis has assumed that the Harvest Road/Driveway 'B' intersection was stop-sign controlled on the access (eastbound) approach.

Driveway 'D' (the service driveway) is approximately 1,279 feet (1,279') north of Otay Mesa Road (241 feet north of Driveway 'B') and will be a 31 foot (31') wide driveway providing one (1) lane of ingress and one (1) lane of egress. Driveway 'D' is proposed to be a right-in/right-out only driveway. It should be noted that Driveway 'D' (the service driveway) will be constructed at the beginning of the project and Harvest Road will terminate at this location until Harvest Road is extended by others.

Since the proposed project will not open up until after the opening of Phase 1A of the SR-905, the project access points were analyzed under opening day with SR-905 Phase 1A plus project conditions, rather than existing plus project conditions. (An illustration of the project's trip distribution and traffic assignment, and the opening day with SR-905 Phase 1A plus project traffic volumes are provided on Figure I-1 and I-2, respectively in Appendix I.) Figures 18 and 19 illustrate the proposed geometry for project access intersections and the Otay Mesa Road/Harvest Road intersection under opening day with SR-905 Phase 1A conditions and cumulative (2020) with SR-905 (Phases 1A & 1B conditions, respectively.

The project driveways were analyzed under opening day with SR-905 Phase 1A plus project and cumulative (2020) with SR-905 (Phases 1A & 1B). Figures 20 and 21 illustrate the daily and peak hour traffic volumes at the project access intersections and the Otay Mesa Road/Harvest Road intersection under opening day with SR-905 Phase 1A plus project and cumulative (2020) with SR-905 Phases 1A & 1B conditions, respectively. (A copy of the Synchro worksheets for the project access analysis are provided in Appendix H.)

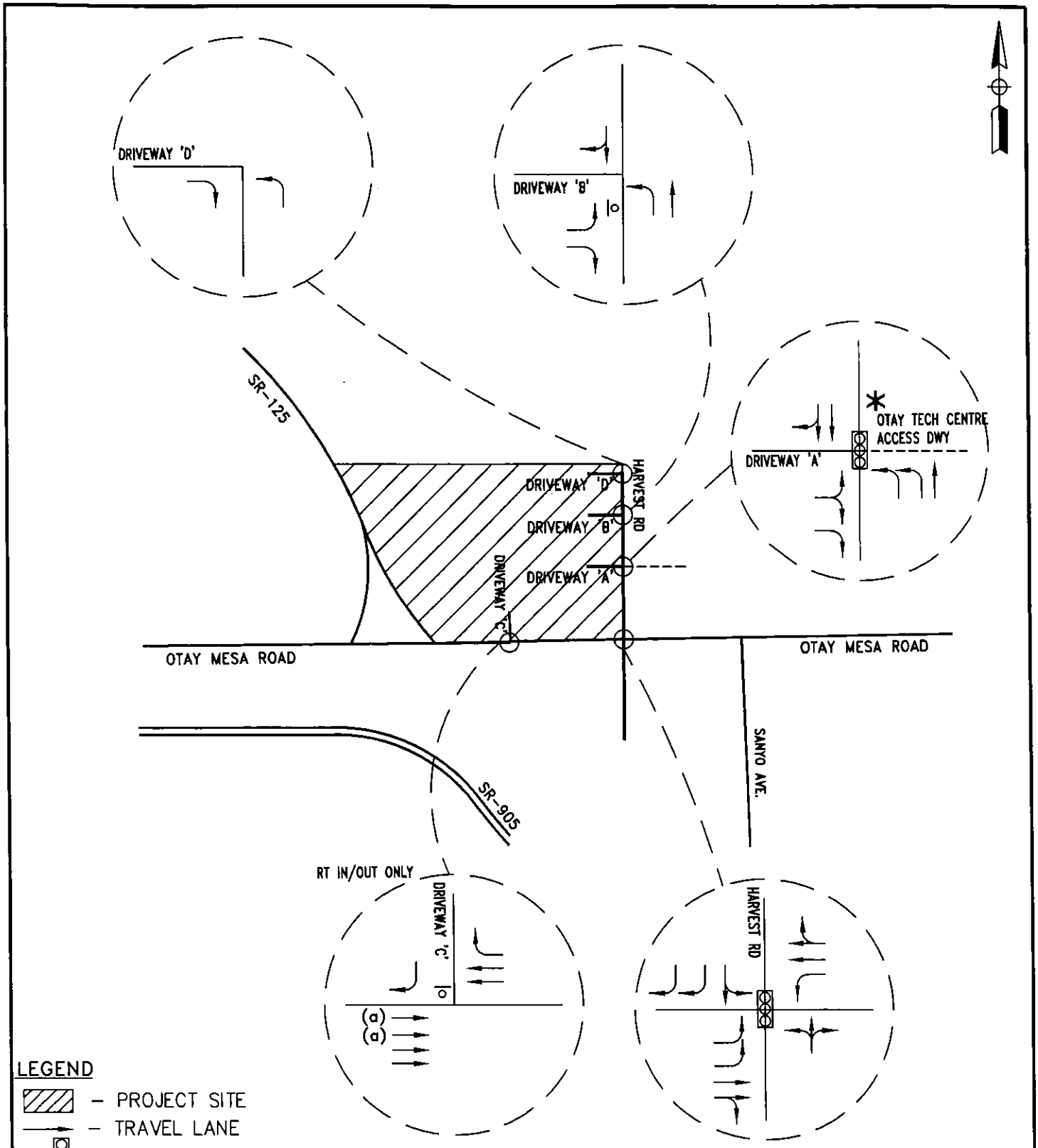

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FIGURE 18

PROJECT ACCESS GEOMETRIES FOR OPENING DAY WITH SR-905 PHASE 1A + PROJECT CONDITIONS

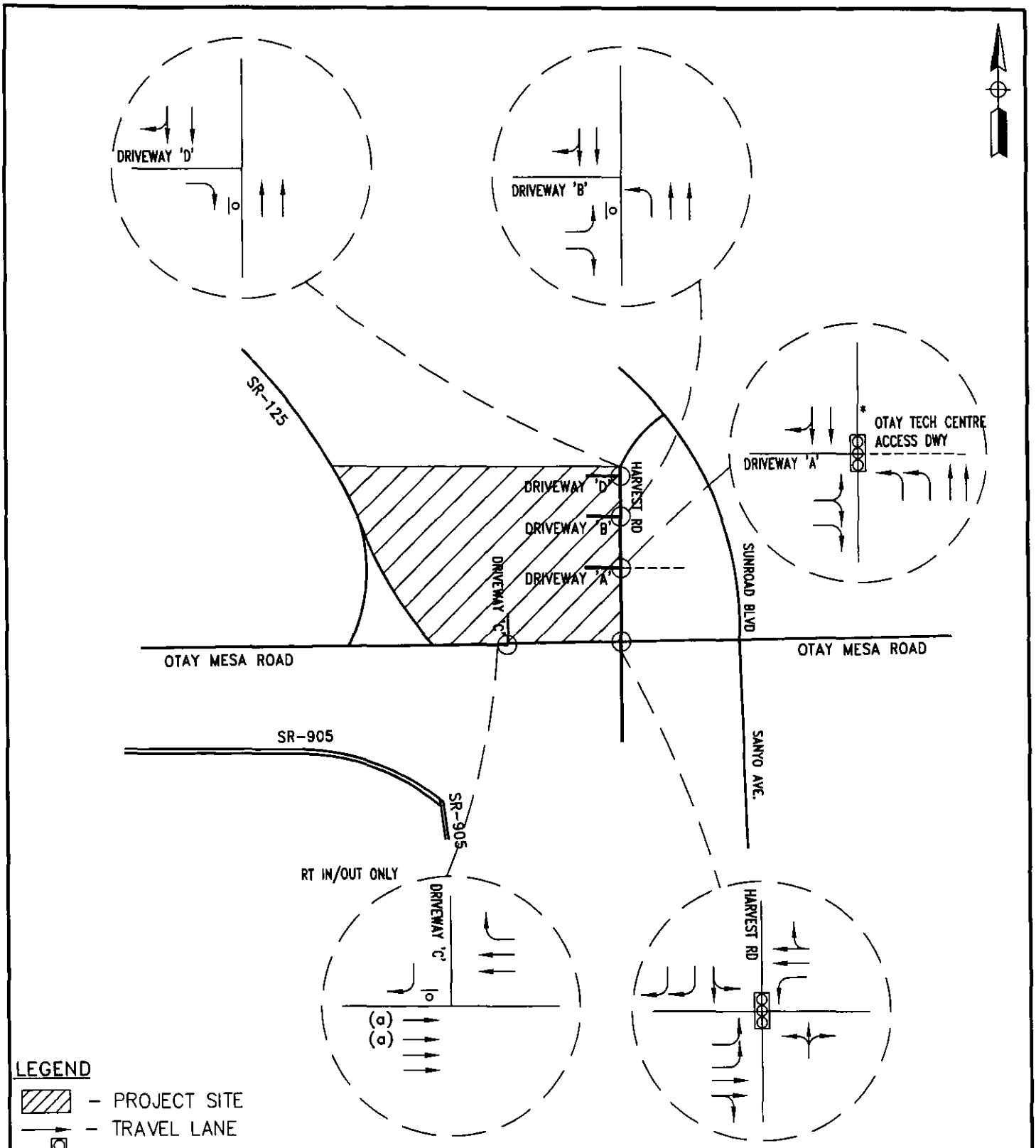

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FIGURE 19

PROJECT ACCESS GEOMETRIES FOR CUMULATIVE (2020) W/ SR-905 PHASES 1A & 1B CONDITIONS

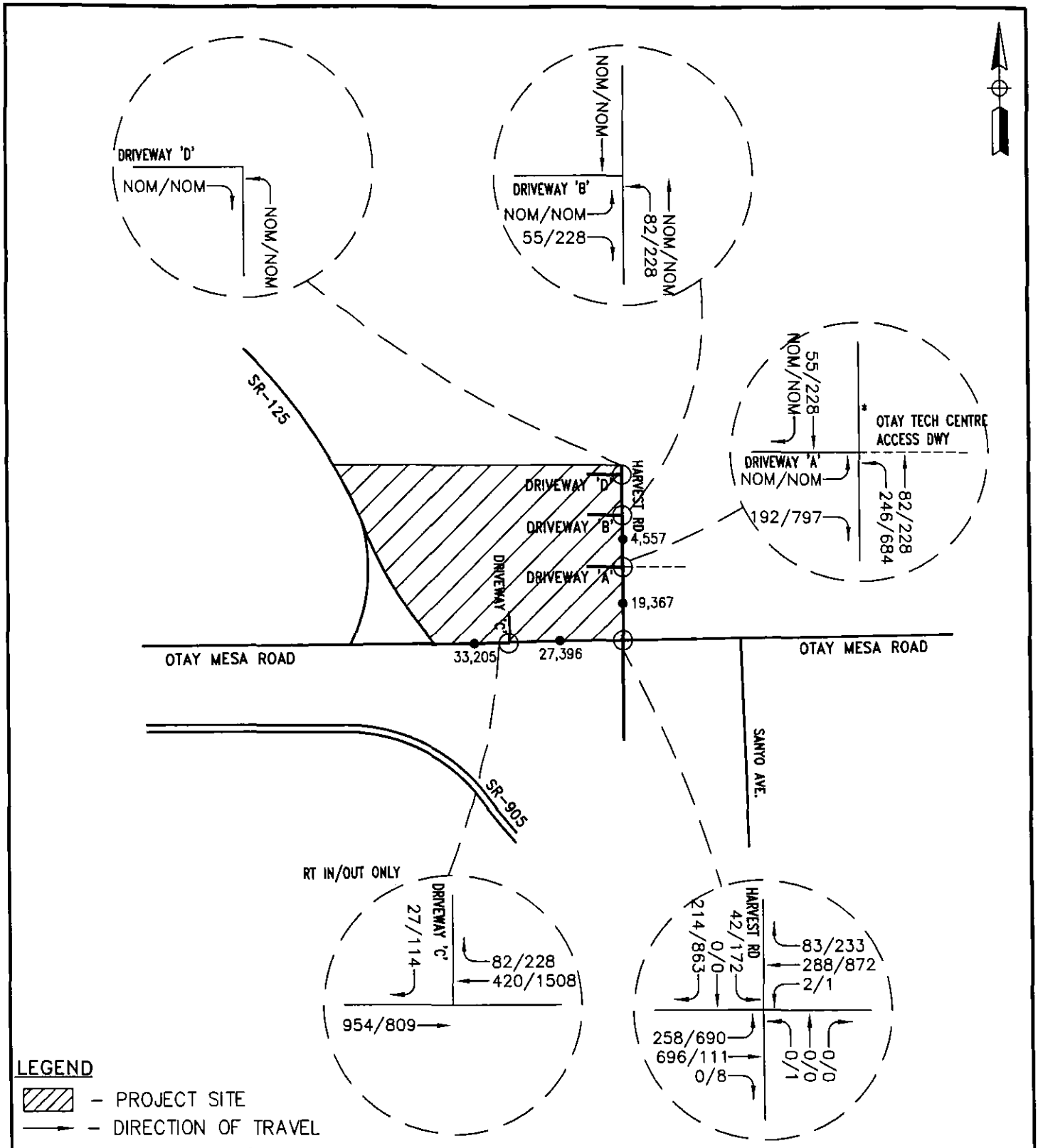

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FIGURE 20

OPENING DAY WITH SR-905 PHASE 1A + PROJECT TRAFFIC VOLUMES AT PROJECT ACCESS POINTS

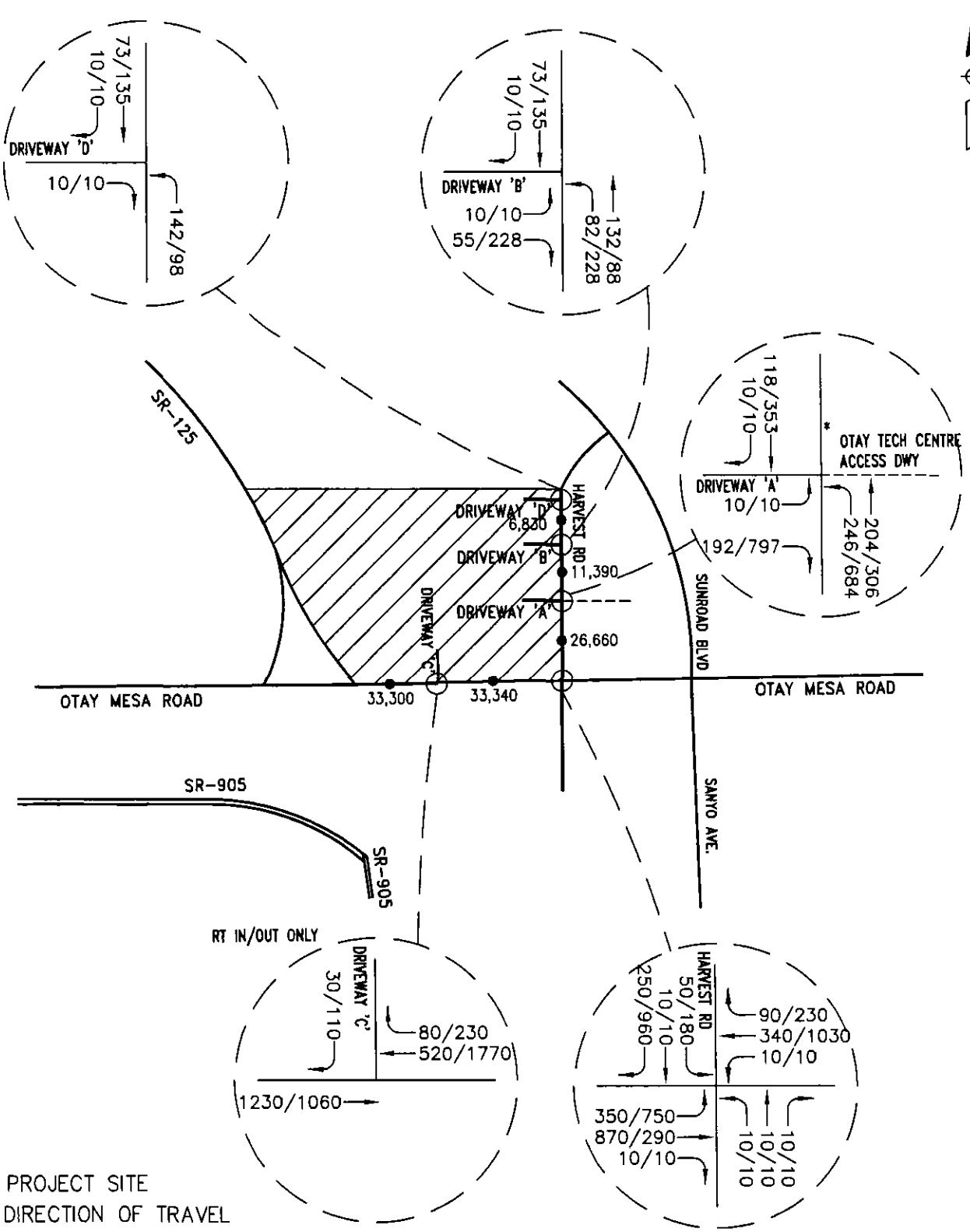

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FIGURE 21

CUMULATIVE TRAFFIC VOLUMES AT PROJECT ACCESS POINTS

Table 21 summarizes the project access levels of service under opening day with SR-905 Phase 1A plus project conditions and cumulative (2020) with SR-905 (Phases 1A & 1B) conditions based on the lane configurations shown in Figures 18 and 19.

Table 21 – Project Access Intersection LOS Summary

Intersection	Traffic Control	Critical Move	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
Opening Day With SR-905 Phase 1A + Project						
Harvest Road @ Driveway 'A'	Signalized	Int.	17.4	B	17.1	B
Harvest Road @ Driveway 'B'	OWSC	EB	8.5	A	9.3	A
		NBL	7.3	A	7.6	A
Otay Mesa Rd @ Interim SR-905-Driveway 'C'	OWSC	SB	9.8	A	15.3	C
Cumulative (2020) w/SR-905 Phases 1A & 1B						
Harvest Road @ Driveway 'A'	Signalized	Int.	18.2	B	17.6	B
Harvest Road @ Driveway 'B'	OWSC	EB	9.1	A	10.3	B
		NBL	7.5	A	8.1	A
Otay Mesa Rd @ Driveway 'C'	OWSC	SB	10.2	B	18.6	C

See Figures 18 and 19 for proposed intersection geometry and traffic control for project access points
Delay – is measured in seconds/vehicle; LOS – Level of Service; Crit. Move – Critical Movement; OWSC = One-Way Stop-Controlled

As summarized in Table 21, all three driveways will operate at acceptable levels of service under existing plus project and cumulative conditions. Since Driveway 'B' will operate at an acceptable level of service under one-way stop sign control, it is recommended that the developer not install the traffic signal at the intersection until traffic volumes, levels of service, and/or safety concerns warrant the installation of the signal.

Under existing conditions, Driveway 'C' will be aligned with the Interim SR-905 Connector. The Interim SR-905 will be eliminated with the completion of Phase 1A (currently scheduled to be completed by November 2010). This intersection is currently controlled by Caltrans, however, once the Interim SR-905 connector is eliminated with the completion of Phase 1A of the SR-905, Caltrans will relinquish right-of-way control/access control along Otay Mesa Road at the proposed Driveway 'C' (Caltrans will maintain right-of-way/access control along Otay Mesa Road to 100 feet east of the Northbound SR-125 curb ramp).

While under Caltrans control, access at Driveway 'C' will not be permitted; therefore, Driveway 'C' will not be opened to traffic until after the Interim SR-905 Connection at Otay Mesa Road has been removed and access rights have been relinquished to the County of San Diego (estimated to be mid 2011). Once the Interim SR-905 Connection at Otay Mesa Road is removed, the Otay Mesa Road/Driveway 'C' intersection will operate as a one-way stop-controlled intersection and will operate at an acceptable LOS C or better. The proposed interim and ultimate striping concepts for Otay Mesa Road and Harvest Road along the project's frontage are provided in Appendix L.

As shown in Figures 18 and 19 northbound left turn lanes are provided at Driveway 'A' and 'B' along Harvest Road. It should be noted that based on the County of San Diego's general policy, a left turn lane is required when either the left turn volumes exceeds 300 vehicles per day and/or there is a LOS or safety concern per County's requirement. As was illustrated in Figures 20 and 21, the northbound left turn volume at Driveway 'A' is anticipated to be 798 vehicles during the PM peak hour under opening day with SR-905 Phase 1A plus project conditions. Thus a left turn lane is needed at Driveway 'A'. Actually, based on the general rule of thumb which requires dual left turn lanes when the peak hour volume exceeds 300 vehicles, dual northbound left turn lanes are required at Driveway 'A'. As previously discussed, the developer proposes to provide dual northbound left turn lanes at Driveway 'A' and will thus satisfy the County's requirements.

Figures 20 and 21, also illustrate that the northbound left turn volume at Driveway 'B' is anticipated to be 228 vehicles during the PM peak hour. Since the PM peak hour left turning volume at Driveway 'B' almost matches the daily left-turning volume criteria for left turn lanes, a left turn lane is needed at Driveway 'B'. As previously discussed, the developer proposes to provide a single northbound left turn lane at Driveway 'B' and will thus satisfy the County's requirements.

It is estimated that the project will be serviced by approximately 30 trucks per day and hence will generate 60 daily truck trips (or 60×1.5 = 90 passenger car equivalent trips) on an average day. Therefore, even if Driveway 'D' were to be opened up to provide full access, a northbound left turn lane would not be required at the project's Driveway 'D' (the service driveway) along Harvest Road.

QUEUING ANALYSIS

To assess the adequacy of the proposed driveway spacing for the California Crossing Project Darnell & Associates, Inc. conducted a queuing analysis at each of the driveways and at the Otay Mesa Road/SR-125 Northbound Ramp and the Otay Mesa Road/Harvest Road intersections.

The queuing analysis was conducted utilizing SimTraffic; a simulation software which uses the input values from the Synchro program. Since the PM peak hour represented the highest peak hour demand or traffic entering and exiting the project site, the queuing analysis was conducted for the PM peak hour. Five (5) simulation runs were conducted for the project. All queuing analysis was conducted under existing plus project and cumulative (2020) with SR-905 (Phases 1A & 1B) conditions which represents the worse-case traffic volume scenario. It should be noted; that the queuing analysis was based on the lane configurations shown in Figures 18 and 19. A summary of the results of the queuing analysis is provided in Table 22. (A copy of the queuing analysis worksheets are provided in Appendix I.)

Table 22 - Project Access Queuing Summary										
Intersection	Movement	Lane #	Storage Length (Feet)	95th Percentile Queue Length (Feet)						
				Run 1	Run 2	Run 3	Run 4	Run 5	Avg.	Max
Opening Day With SR-905 Phase 1A Plus Project										
Otay Mesa Rd @ SR-125 NB Ramp	WBR	1	310	56	59	54	50	55	55	59
		2	430	51	52	48	32	39	44	52
Otay Mesa Rd @ Driveway 'C'	WBR	1	110	-	-	-	-	-	-	-
	SBR	1	280	69	56	56	29	57	53	69
Otay Mesa Rd @ Harvest Rd	EBL	1	500	299	358	**598**	299	299	371	**598**
		2	500	331	365	304	301	337	328	365
	SBL-T	1	120	**182**	**174**	**148**	**177**	**149**	**166**	**182**
	SBR	1	490	**535**	**570**	**657**	**505**	**441**	**542**	**657**
	SBR	2	490	**639**	471	**573**	165	41	378	**639**
Harvest Rd @ Driveway 'A'	EBL-R	1	280	**475**	198	**444**	113	143	275	**475**
	EBR	1	280	**403**	156	277	109	80	205	**403**
	NBL	1	250	184	174	177	157	176	174	184
		2	250	215	171	214	166	198	193	215
Cumulative (2020) with SR-905 Phases 1A &1B (Mitigated)										
Otay Mesa Rd @ SR-125 NB Ramp	WBR	1	310	52	52	51	60	50	53	60
		2	430	59	52	33	44	52	48	59
Otay Mesa Rd @ Driveway 'C'	WBR	1	110	-	-	-	-	-	-	-
	SBR	1	280	67	112	77	52	93	81	112
Otay Mesa Rd @ Harvest Rd	EBL	1	500	300	298	298	299	297	299	300
		2	500	61	49	78	221	146	111	221
	SBL-T	1	120	**159**	**190**	**165**	**158**	**180**	**171**	**190**
	SBR	1	490	292	339	390	211	272	301	390
		2	490	332	310	274	191	153	252	332
Harvest Rd @ Driveway 'A'	EBL-R	1	280	104	101	90	99	68	93	104
	EBR	1	280	155	92	95	89	92	105	155
	NBL	1	250	169	113	158	113	127	136	169
		2	250	194	134	181	157	174	168	194

EBL = Eastbound Left; EBL-R = Shared Eastbound Left-Right; EBR = Eastbound Right; WBR = Westbound Right; NBL = Northbound Left; SBL = Southbound Left; SBL-T = Shared Southbound Left-Through;
95% Percentile Queue = Is the Maximum Back of Queue with the 95-percentile Traffic Volumes
Avg = Average of the 95% Percentile Queue Observed; Max = Maximum 95% Percentile Queue Observed

Opening Day With SR-905 Phase 1A Plus Project Queuing Analysis

As shown in Table 22, the following queues exceed the storage length for the opening day with SR-905 Phase 1A plus project condition.

Otay Mesa Road/Harvest Road

- Southbound shared left-thru lane
- Both Southbound right turn lanes

Harvest Road/Driveway "A"

- Eastbound shared left-right lane
- Eastbound right turn lane

At the Otay Mesa Road/Harvest Road intersection, all excessive queues occur for the southbound lanes. This is primarily due to the Synchro software which provides maximum green times to through traffic on the major arterials, creating more queues for the minor side streets. The average queue for the southbound shared-left through lane is approximately three (3) vehicles (46 feet) over the available storage length. The average queue for the southbound right turn lanes is approximately three (3) vehicles (52 feet) over the available storage length.

At the Harvest Road/Driveway "A" queues, the eastbound movement which exceeds capacity occurs on-site and will not affect through traffic on local arterials. Vehicles can queue within the site. No other queues at this intersection exceed storage lengths.

Cumulative (2020) With SR-905 Queuing Analysis

As shown in Table 22, the following queues exceed the storage length for the cumulative (2020) with SR-905 (Phases 1A &1B) condition.

Otay Mesa Road/Harvest Road

- Southbound shared left-through lane

At the Otay Mesa Road/Harvest Road intersection, all excessive queues occur for the southbound left-through lane. This is primarily due to the Synchro software which provides maximum green times to through traffic on the major arterials, creating more queues for the minor side streets. The average southbound left-through turn queue is approximately three (3) vehicles (51 feet) over the available storage length.

PARKING REQUIREMENTS

Per the County of San Diego's Parking Schedule (see Appendix A), the parking requirement for commercial use above 250,000 square feet is 4.0 parking spaces per 1,000 square feet of Gross Floor Area (GFA) or 1 parking space per 250 square feet of GFA.

Based on County standards, the project's parking requirements are summarized in Table 23.

Table 23 – Parking Requirement Summary

Use	Square Footage	Parking Rate (1)	Required Parking (No. of Stalls)	Proposed Parking (No. of Stalls)
Commercial	325,502 SF	1 / 250 square feet	1,302	1,453

(1) Parking rate is described as number of parking spaces per sq-ft of gross floor area;
SF = Square Feet

Figure 2 in Section I provides the project's site plan which illustrates the proposed parking. As currently shown the site plan provides for 1,453 parking spaces and per County standards 1,302 parking spaces should be provided. Therefore, the project site provides adequate on-site parking per County standards.

SECTION VIII – SUMMARY OF IMPACTS AND MITIGATION

TRANSPORTATION IMPACT FEE (TIF)

The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portions of San Diego County. This program includes the adoption of a Transportation Impact Fee (TIF) program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out (year 2030) development conditions on the existing circulation element roadway throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway build out over the next 30 years, will use funds from TransNet, state and federal funding to improve freeways to projected level of service objectives in the RTP.

The project is estimated to generate 22,785 average daily driveway trips. These trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. The potential growth represented by the proposed project was included in the growth projections upon which the TIF program is based. Therefore, compliance with the County TIF ordinance, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative traffic impacts to County Circulation Element Roadways to less than significant. The TIF program provides a mechanism for developers to mitigate their cumulative impacts by paying a specified fee for the use that is being proposed.

The County Board of Supervisors adopted the County of San Diego Traffic Impact Fee (TIF) program in April 2005. The TIF Ordinance Update was adopted by the Board of Supervisors on February 27, 2008. The TIF Program Update 2008 has revised the Otay Fee Schedule for non-residential use. It should be noted that the actual traffic impact fees are subject to change as the TIF ordinance is updated annually as the fees are adjusted to reflect the engineering cost index. Compliance with the County TIF ordinance will mitigate any cumulative impact that the project has on the County roadway facilities located within the Otay Sub region and the South TIF region. The project proposes to comply with the County's TIF to mitigate the project's local and regional cumulative impacts within the unincorporated area.

COMMUNITY FACILITIES DISTRICT (CFD)

It should be noted that the East Otay Mesa Property Owners Association (EOMPOA) is currently assessing the formation of a Community Facilities District (CFD) to fund roadway improvements necessary in East Otay Mesa. The CFD could include roadway facilities located in both the City and the County of San Diego. If the CFD is established, it could serve as an additional or alternative mechanism to mitigate direct and cumulative impacts of the projects proposed in the East Otay Mesa on a fair-share basis.

DIRECT IMPACTS

Direct Impacts – Roadway Segments

As shown in Section IV, the proposed project exceeds the significance guidelines on the following roadway segment under existing plus project conditions:

- SR-905 between Otay Mesa Road and Siempre Viva Road.

Roadway Segments Direct Impacts Recommended Mitigation Measures

SR-905 between Otay Mesa Road and Siempre Viva Road: Delay issuance of building permits for the project until SR-905 Phase 1A is open to traffic. (See EIR Impact M-TI-1.)

Direct Impacts – Intersections

As shown in Section IV, the proposed project is part of a significant direct impact at the following intersection under existing plus project conditions and opening of SR 905 1A

- Otay Mesa Road/Harvest Road; and
- Airway Road/Sanyo Avenue.

Intersections Direct Impacts Recommended Mitigation Measures

Otay Mesa Road/Harvest Road: Prior to issuance of building permits for the project the project applicant shall either (i) have constructed intersection improvements, or (ii) entered into a secured agreement with the City and, if applicable, Caltrans to construct the improvements. The intersection improvements include the construction of a traffic signal (when warrants are met) and the widening of the Otay Mesa Road/Harvest Road intersection to provide the following lane configurations:

- Signalization;
- Two (2) eastbound left turn lanes;
- One (1) eastbound through lane;
- One (1) eastbound shared through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane;
- One (1) northbound shared left-through-right lane;
- One (1) southbound shared left through lane; and
- Two (2) southbound right turn lanes; (See EIR Impact M-TI-2.)

If an agreement is entered into with the City and/or, if applicable, Caltrans, the agreement should specify that the improvements be operation prior to occupancy of the Project. All improvements shall be implemented to the satisfaction of the County of San Diego and City of San Diego Departments of Public Works and, if applicable, Caltrans. (Since mitigation is outside the jurisdiction of the Lead Agency, it is infeasible to guarantee completion.)

Airway Road/Sanyo Avenue: Prior to issuance of building permits for the project the project applicant shall either (i) have constructed intersection improvements, or (ii) entered into a secured agreement with the City to construct the improvements. The intersection improvements include the construction of a traffic signal (when warrants are met) while maintaining the following existing lane configurations:

- Signalization;
- One (1) eastbound shared left-through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound right turn lane;
- One (1) northbound left turn lane;
- One (1) northbound shared through-right turn lane;
- One (1) southbound left-through turn lane;
- One (1) southbound right turn lane (See EIR Impact M-TI-3.)

If an agreement is entered into with the City, the agreement should specify that the improvements be operational prior to occupancy of the Project. All improvements shall be implemented to the satisfaction of the County of San Diego and City of San Diego Departments of Public Works. (Since mitigation is outside the jurisdiction of the Lead Agency, it is infeasible to guarantee completion.)

See Figure 22 for the recommended mitigation measures of each intersection for the direct impacts associated with the proposed project.

CUMULATIVE IMPACTS

Cumulative Impacts – Roadway Segments

As shown in Section V, the proposed project does not have a significant cumulative impact on any key roadway segment.

Cumulative Impacts – Intersections

As shown in Section V, the proposed project adds traffic to the following intersections that operate at unacceptable levels of service under cumulative (2020) with SR-905 conditions and is therefore considered to be part of a significant cumulative impact:

- Airway Road/Sanyo Avenue; and
- Airway Road/Paseo De Las Americas.

Intersections Cumulative Impacts Recommended Mitigation Measures

Airway Road/Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus proposed project conditions will mitigate the cumulative impacts under cumulative (2020) with SR-905 conditions. (See EIR Impact M-TI-3.)

Airway Road/Paseo De Las Americas: Prior to issuance of building permits, the applicant shall pay the County's TIF towards the signalization and widening of the Airway Road/Paseo De Las Americas intersection to provide the following lane configurations:

- Signalization;
- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound shared through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane;
- One (1) northbound shared left-through lane;
- One (1) northbound right turn lane; and
- One (1) southbound left-through-right turn lane (See EIR Impact M-TI-4.)

See Figure 23 for the recommended mitigation measures of each intersection for the cumulative impacts.

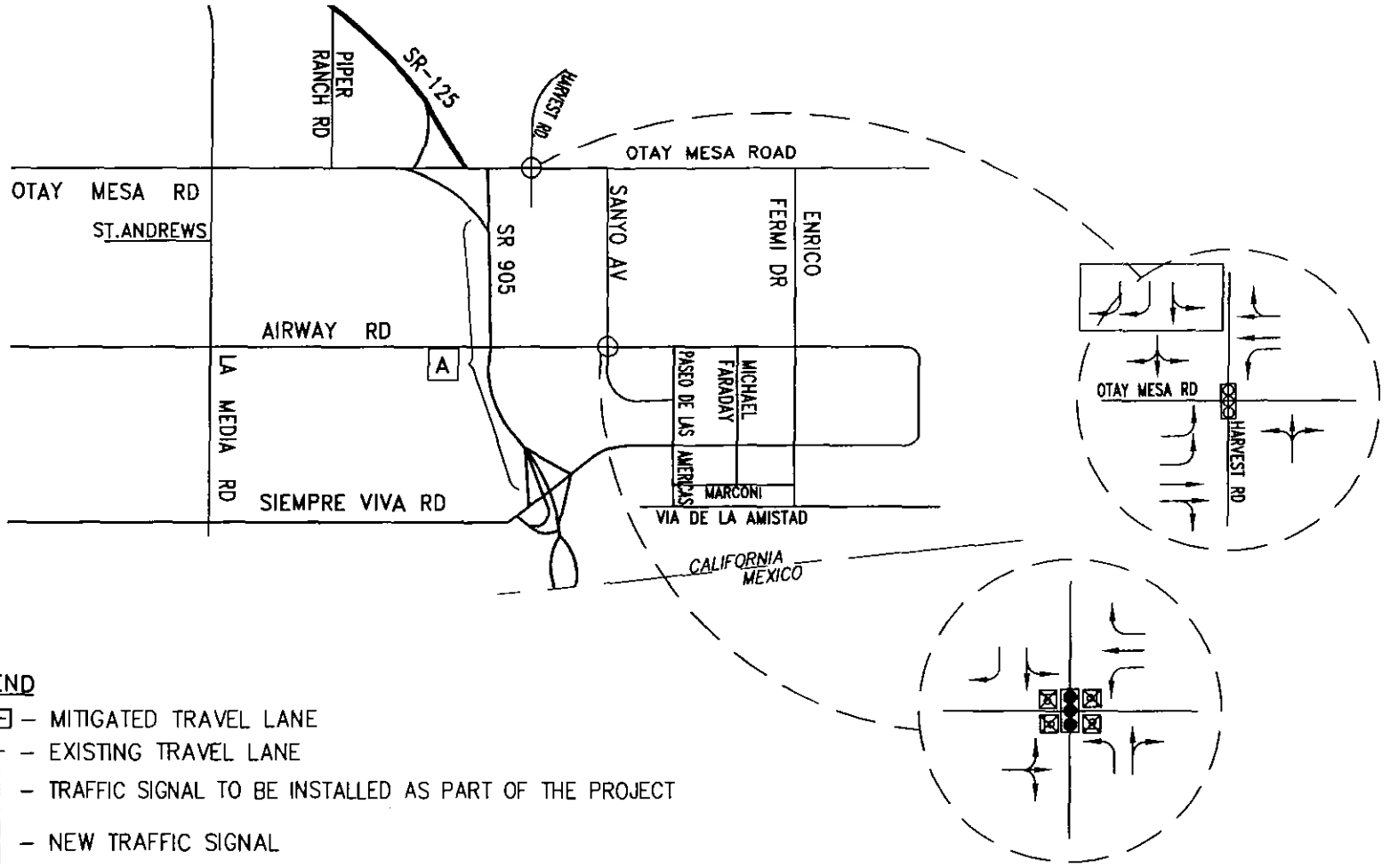

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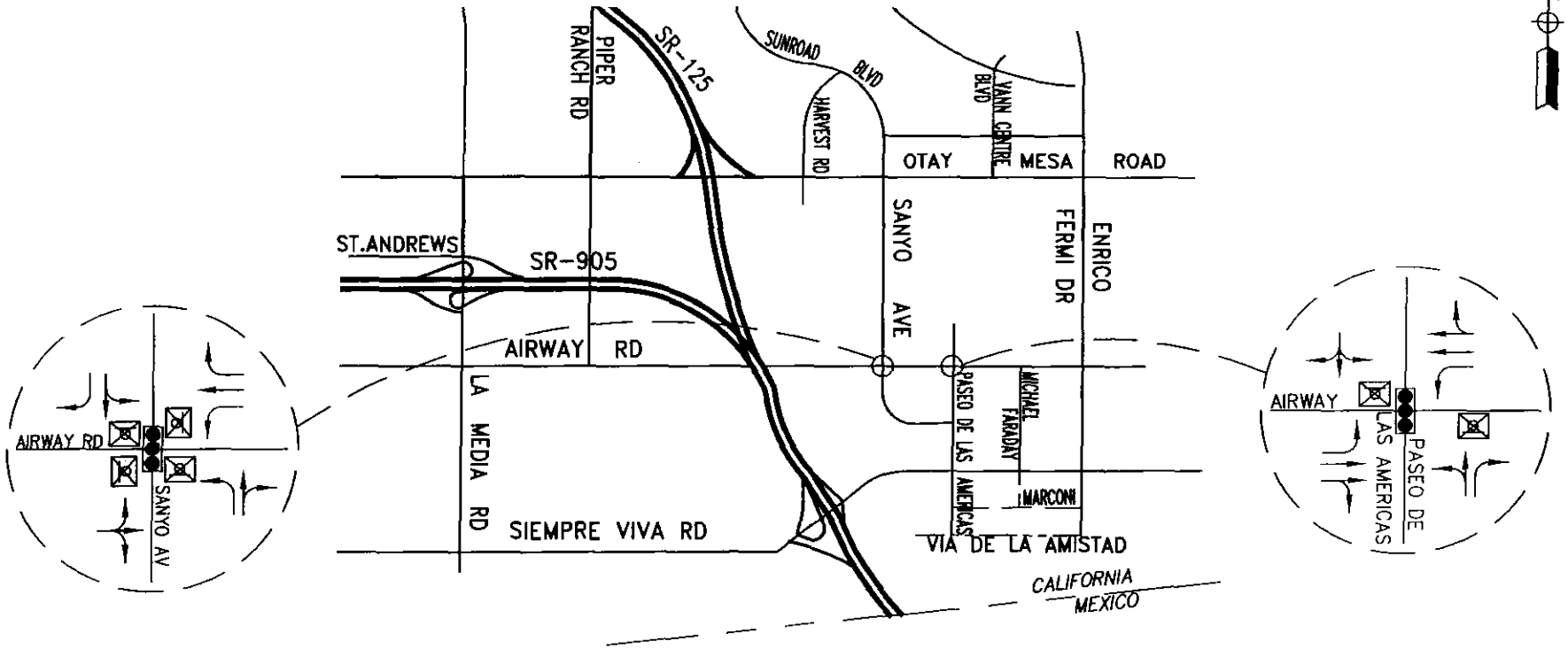
FIGURE 22

EXISTING + PROJECT RECOMMENDED MITIGATION



LEGEND

— EXISTING TRAVEL LANE

▮ — NEW TRAFFIC SIGNAL

⊠ — REMOVE STOP SIGN

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FIGURE 23

CUMULATIVE (2020) W/ SR-905 PHASES 1A & 1B RECOMMENDED MITIGATION

FUTURE IMPACTS AND MITIGATION MEASURES

The project is consistent with the County's East Otay Mesa Specific Plan Amendment 2007. As shown in Section VI, the project does not have an impact under 2030 conditions in the County or City of San Diego.

FRONTAGE IMPROVEMENTS

The project applicant will be responsible for making frontage improvements along Otay Mesa Road and Harvest Road per County's Centerline Ordinance. A summary of the specific frontage improvements are described below. It should be noted that the County will require construction and encroachment permits for any work performed within the County's right-of-way, and Caltrans will have similar requirements. See Appendix L for the preliminary striping concept for Otay Mesa Road and Harvest Road.

Otay Mesa Road between SR-125 Northbound Ramps and Harvest Road: Prior to issuance of building permits, the applicant shall improve Otay Mesa Road between the SR-125 Northbound Ramps and Harvest Road to provide the following: two (2) eastbound through lanes, two (2) eastbound left turn lanes at Harvest Road, a raised median, three (3) westbound through lanes, one (1) westbound right turn lane at Driveway 'C', and two (2) westbound right turn lanes at the SR-125 northbound ramps. These improvements are included as project features and are depicted in Appendix L, Page L-14.

Harvest Road between Otay Mesa Road and Northern Project Boundary: Prior to issuance of building permits for the project, the applicant shall construct Harvest Road between Otay Mesa Road and the Driveway A to provide two (2) travel lanes in each direction with a painted median. Dual (2) northbound left turn lanes and are depicted in Appendix L Page L-14 shall be constructed at the intersection with Driveway 'A'. A single (1) northbound left turn lane, one northbound through lane, painted median and two southbound through lanes shall be constructed at the intersection with Driveway 'B'. These improvements are included as project features.

MITIGATION SUMMARY LEVEL OF SERVICE

For convenience of the reader Tables 24-29 have been created to summarize the project impacts, off-site roadway and intersection improvements, and the level of service for the roadway segments and intersections before and after the recommended mitigation measures.

Table 24 – Summary of Project's Direct and Cumulative Roadway Segment Impacts					
Roadway Segment	Jurisdiction	Scenario	Type of Impact	Project Significant	Explanation
Interim SR-905 (Otay Mesa Rd)					
Britannia Blvd to La Media Rd	**City**/Caltrans	E+P	None	No	Daily LOS E to LOS F; Project increases v/c by 0.02, Peak hour operates at LOS B or better
		C w/ 905	None	No	Daily LOS A
La Media Rd to Piper Ranch Rd	**Cit**y/Caltrans	E+P	None	No	Daily LOS E to LOS F; Project increases v/c by 0.04, Peak hour operates at LOS B or better
		C w/ 905	Cum	No	Daily LOS C
Piper Ranch Rd to SR-125	**County**/City/ Caltrans	E+P	None	No	Daily LOS C to LOS D
		C w/ 905	Cum	No	Daily LOS B
Otay Mesa Road (Old Otay Mesa Road)					
SR-125 to Interim SR-905 Connector-Driveway 'C'	**County**/City/ Caltrans	E+P	None	No	Daily LOS A to LOS B
		C w/ 905	Cum	No	Daily LOS C
Interim SR-905 Connector-Driveway 'C' to Harvest Rd	**County**/City/ Caltrans	E+P	None	No	Daily LOS A to LOS B
		C w/ 905	Cum	No	Daily LOS C
Harvest Rd to Sanyo Ave	**County**/City/ Caltrans	E+P	Direct	No	Daily LOS A to LOS A
		C w/ 905	Cum	No	Daily LOS A
Airway Road					
Sanyo Ave to Paseo de Las Americas	City	E+P	None	No	Daily LOS A to LOS A
		C w/ 905	None	No	Daily LOS B
Siempre Viva Road					
SR-905 to Paseo de Las Americas	City	E+P	None	No	Daily LOS B to LOS B
		C w/ 905	None	No	Daily LOS D
La Media Road					
Otay Mesa Rd to St Andrews/SR-905 WB Ramp	City	E+P	None	No	LOS C to LOS C
		C w/ 905	None	No	Daily LOS D
State Route 125					
North of Otay Mesa Road	SBX	E+P	None	No	Daily LOS A to LOS A
		C w/ 905	None	No	Daily LOS A
Existing SR-905					
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	E+P	**Direct**	**Yes**	**Daily LOS E to LOS F; Project increases v/c by 0.11**
South of Siempre Viva Rd	City/**Caltrans**	E+P	None	No	Daily LOS A to LOS B
		C w/ 905	None	No	Daily LOS D
New SR-905					
Britannia Blvd to La Media Rd	Caltrans	C w/ 905	None	No	Daily LOS C
La Media Rd Siempre Viva Rd	Caltrans	C w/ 905	None	No	Daily LOS C
Harvest Road					
Project Access B to Project Access A	County	E+P	None	No	Existing Dirt Road – Improved to Collector Road, resulting LOS A
		C w/ 905	None	No	LOS A
Project Access A to Otay Mesa Rd	County	E+P	None	No	Existing Dirt Road – Improved to Collector Road, resulting LOS B
		C w/ 905	None	No	LOS C
Sanyo Avenue					
Otay Mesa Rd to Airway Rd	City	E+P	None	No	Daily LOS A to LOS A
		C w/ 905	None	No	Daily LOS C
Paseo De Las Americas					
Airway Rd to Siempre Viva Rd	City	E+P	None	No	Daily LOS A to LOS B
		C w/ 905	None	No	Daily LOS D

Table 25 – Summary of Project's Roadway Segment Improvement Requirements

Roadway Segment	Jurisdiction	Scenario	Required Improvement
Interim SR-905 (Otay Mesa Rd)			
Britannia Blvd to La Media Rd	**City**/Caltrans	E+P	None
		C w/ 905	None
La Media Rd to Piper Ranch Rd	**City**/Caltrans	E+P	None
		C w/ 905	None
Piper Ranch Rd to SR-125	**County**/City/ Caltrans	E+P	None
		C w/ 905	None
Otay Mesa Road (Old Otay Mesa Road)			
SR-125 to Interim SR-905 Connector-Driveway 'C' (a)	**County**/City/ Caltrans	E+P	Prior issuance of building permits for the project, the applicant shall improve Otay Mesa Road between the SR-125 Northbound Ramps and Driveway 'C' to provide the following: two (2) eastbound through lanes, two (2) eastbound left turn lanes for Harvest Road, a raised median, three (3) westbound through lanes, one (1) westbound right turn lane at Driveway 'C', and two (2) westbound right turn lanes at the SR-125 northbound ramps. Improvements included in EIR as project features.
		C w/ 905	Complete Required Improvements under E+P. Improvements included in EIR as project features.
Interim SR-905 Connector-Driveway 'C' to Harvest Rd (a)	**County**/City/ Caltrans	E+P	Prior issuance of building permits for the project, the applicant shall improve Otay Mesa Road between the SR-125 Northbound Ramps and Harvest Road to provide the following: two (2) eastbound through lanes, two (2) eastbound left turn lanes at Harvest Road, a raised median, three (3) westbound through lanes, one (1) westbound right turn lane at Driveway 'C', and two (2) westbound right turn lanes at the SR-125 northbound ramps. Improvements included in EIR as project features.
		C w/ 905	Complete Required Improvements under E+P. Improvements included in EIR as project features.
Harvest Rd to Sanyo Ave	**County**/City/ Caltrans	E+P	None
		C w/ 905	None
Airway Road			
Sanyo Ave to Paseo de Las Americas	City	E+P	None
		C w/ 905	None
Siempre Viva Road			
SR-905 to Paseo de Las Americas	City	E+P	None
		C w/ 905	None
La Media Road			
Otay Mesa Rd to St Andrews/SR-905 WB Ramp	City	E+P	None
		C w/ 905	None
State Route 125			
North of Otay Mesa Road	SBX	E+P	None
		C w/ 905	None
Existing SR-905			
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	E+P	Delay issuance of building permits for the project until SR-905 Phase 1A is open to traffic. (See EIR Impact M-TI-1.)
South of Siempre Viva Rd	City/**Caltrans**	E+P	None
		C w/ 905	None
New SR-905			
Britannia Blvd to La Media Rd	Caltrans	C w/ 905	None
La Media Rd Siempre Viva Rd	Caltrans	C w/ 905	None

E+P = Existing + Project; C w/905 = Cumulative 2020 w/SR-905 [Phases 1A & 1B]; Cum = Cumulative Impact; SBX = South Bay Expressway
(a) This segment is located on-site

Table 25 – Summary of Project's Roadway Segment Improvement Requirements			
Roadway Segment	Jurisdiction	Scenario	Required Improvement
Harvest Road (a)			
Project Access D to Project Access B	County	E+P	Prior to issuance of building permits, the applicant will construct roadway segment to provide 2 travel lanes, 1 lane in each direction with a painted median. Improvements included in EIR as project features.
		C w/ 905	Prior to issuance of building permits, the applicant will construct roadway segment to provide 4 travel lanes, 2 lanes in each direction with a painted median. Improvements included in EIR as project features.
Project Access B to Otay Mesa Rd	County	E+P	Prior to issuance of building permits, the applicant will construct roadway segment to provide 4 travel lanes, 2 lanes in each direction with a painted median. Improvements included in EIR as project features.
		C w/ 905	Complete Required Improvements under E+P. Improvements included in EIR as project features.
Sanyo Avenue			
Otay Mesa Rd to Airway Rd	City	E+P	None
		C w/ 905	None
Paseo De Las Americas			
Airway Rd to Siempre Viva Rd	City	E+P	None
		C w/ 905	None
E+P = Existing + Project; C w/905 = Cumulative 2020 w/SR-905 [Phases 1A & 1B]; Cum = Cumulative Impact (a) This segment is located on-site			

Table 26 – Summary of Roadway Segments Mitigated Level of Service					
Roadway Segment	Jurisdiction	Existing + Project		Cumulative (2020) w/SR-905	
		LOS Before Mitigation	LOS After Mitigation	LOS Before Mitigation	LOS After Mitigation
Interim SR-905 (Otay Mesa Rd)					
Britannia to La Media Rd	**City**/Caltrans	**F**	**(a)**	A	N/A
La Media Rd to Piper Ranch Rd	**City**/Caltrans	**F**	**(a)**	C	N/A
Piper Ranch Rd to SR-125	**County**/City/Caltrans	D	N/A	B	N/A
Otay Mesa Rd (Old Otay Mesa Rd)					
SR-125 to SR-905 Connector	**County**/City/Caltrans	B	N/A	C	N/A
SR-905 Connector to Harvest Rd	**County**/City/Caltrans	B	N/A	C	N/A
Harvest Rd to Sanyo Av	**County**/City/Caltrans	A	N/A	A	N/A
Airway Road					
Sanyo Ave to Paseo de las Americas	City	A	N/A	B	N/A
Siempre Viva Road					
SR-905 NB to Paseo de las Americas	City	B	N/A	D	N/A
La Media Road					
Otay Mesa Rd to St. Andrews	City	C	N/A	D	N/A
SR-125					
North of Otay Mesa Rd	SBX	A	N/A	A	N/A
State Route 905					
Otay Mesa Rd to Siempre Viva Rd	**City**/Caltrans	**F**	**(b)**	Does Not Exist	
South of Siempre Viva Rd	City/**Caltrans**	B	N/A	D	N/A
New State Route 905					
Britannia to La Media	Caltrans	Does Not Exist		C	N/A
La Media to Siempre Viva Rd	Caltrans	Does Not Exist		C	N/A
Harvest Road					
Project Access B to Project Access A	County	A	N/A	A	N/A
Project Access A to Otay Mesa Rd	County	B	N/A	C	N/A
Sanyo Avenue					
Otay Mesa Rd to Airway Rd	City	A	N/A	C	N/A
Paseo De Las Americas					
Airway Rd to Siempre Viva Rd	City	B	N/A	D	N/A

(a) Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact; (b) The project does not add traffic to this segment; thus, there is no significant impact.
(b) Mitigation is to Delay recordation of final maps until Phases 1A &1B of SR-905 are completed; once Phases 1A &1B of the SR-905 are completed this segment will be eliminated.

Table 27 - Summary of Project's Direct and Cumulative Intersection Impacts

Intersection	Jurisdiction	Scenario	Traffic Control	Type of Impact	Project Significant	Explanation
Otay Mesa Rd @ Britannia Blvd	**City**/Caltrans	E+P	Sig	None	No	AM & PM LOS B to LOS B
		C w/ SR-905		None	No	AM LOS A, PM LOS B
Otay Mesa Rd @ La Media Rd	**City**/Caltrans	E+P	Sig	None	No	AM LOS B to LOS B; PM LOS C to LOS C
		C w/ SR-905		None	No	AM LOS B, PM LOS C
Otay Mesa Rd @ Piper Ranch Rd	**County**/City/ Caltrans	E+P	Sig	None	No	AM & PM LOS A to LOS A
		C w/ SR-905		None	No	AM LOS A, PM LOS A
Otay Mesa Rd @ SR-125 SB	**County**/City/ Caltrans	E+P	Sig	None	No	AM LOS B to LOS B; PM LOS A to LOS A
		C w/ SR-905		None	No	AM LOS B, PM LOS A
Otay Mesa Rd @ SR-125 NB	**County**/City/ Caltrans	E+P	Sig	None	No	AM & PM LOS A to LOS A
		C w/ SR-905		None	No	AM LOS A, PM LOS A
Otay Mesa Rd @ SR-905 Connector/Driveway 'C'	**County**/City/ Caltrans	E+P	Sig	None	No	AM LOS B to LOS B; PM LOS C to LOS B
Otay Mesa Rd @ Harvest Rd	**County**/City/ Caltrans	E+P	Sig	**Direct**	**Yes**	AM LOS B to LOS B; **PM LOS B to LOS F; Project adds 658 AM and 2,165 PM trips.**
		C w/ SR-905		None	No	AM LOS B, PM LOS C
Otay Mesa Rd @ Sanyo Av	**County**/City	E+P	Sig	None	No	AM LOS A to LOS A; PM LOS B to LOS B
		C w/ SR-905		None	No	AM LOS B, PM LOS D
Airway Rd @ Sanyo Av	City	E+P	AWSC	**Direct**	**Yes**	AM LOS A to LOS B; **PM LOS A to LOS F increases delay by 73.5 seconds in the PM.**
		C w/ SR-905		**Cum**	**Yes**	**AM LOS F, PM LOS F, When 100% occupied project adds 144 AM and 439 PM trips**
Airway Rd @ Paseo De Las America	**County**/City	E+P	OWSC	None	No	AM LOS A to LOS B; PM LOS B to LOS C
		C w/ SR-905	TWSC	**Cum**	**Yes**	**AM LOS F, PM LOS F, When 100% occupied project adds 115AM and 319 PM trips**
Siempre Viva Rd @ SR-905 SB to EB Siempre Viva	City/**Caltrans**	E+P	Sig	None	No	AM LOS A to LOS A; PM LOS A to LOS C
		C w/ SR-905		None	No	AM LOS A, PM LOS B
Siempre Viva Rd @ SR-905 SB to WB Siempre Viva	City/**Caltrans**	E+P	OWSC	None	No	AM LOS B to LOS C; PM LOS B to LOS B
		C w/ SR-905		None	No	AM LOS D, PM LOS C
Siempre Viva Rd @ SR-905 NB Ramp	City/**Caltrans**	E+P	Sig	None	No	AM & PM LOS B to LOS B
		C w/ SR-905		None	No	AM LOS B, PM LOS B
Siempre Viva Rd @ Paseo De Las Americas	City	E+P	Sig	None	No	AM LOS C to LOS C; PM LOS D to LOS D
		C w/ SR-905		None	No	AM LOS D, PM LOS D

E+P = Existing + Project; C w/905 = Cumulative 2020 w/SR-905 [Phases 1A & 1B]; Cum = Cumulative Impact;
Sig = Signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC = One-Way Stop-Controlled

Table 28 - Summary of Intersection Improvement Requirements

Intersection	Jurisdiction	Scenario	Required Improvement
Otay Mesa Rd @ Britannia Blvd	**City**/Caltrans	E+P	None
		C w/ SR-905	None
Otay Mesa Rd @ La Media Rd	**City**/Caltrans	E+P	None
		C w/ SR-905	None
Otay Mesa Rd @ Piper Ranch Rd	**County**/City/ Caltrans	E+P	None
		C w/ SR-905	None
Otay Mesa Rd @ SR-125 SB	**County**/City/ Caltrans	E+P	None
		C w/ SR-905	None
Otay Mesa Rd @ SR-125 NB	**County**/City/ Caltrans	E+P	None
		C w/ SR-905	None
Otay Mesa Rd @ SR-905 Connector/ Driveway 'C' (a)	**County**/City/ Caltrans	E+P	Delay the opening of Driveway 'C' until SR-905 Phase 1A is open to traffic and the SR-905 Connector to Otay Mesa Road has been removed. Improvements included in EIR as project features.
Otay Mesa Rd @ Harvest Rd (a)	**County**/City/ Caltrans	E+P	Prior to issuance of building permits for the project the project applicant shall either (i) have constructed intersection improvements, or (ii) entered into a secured agreement with the City and, if applicable, Caltrans to construct the improvements. The intersection improvements include the construction of a traffic signal (when warrants are met) and the widening of the Otay Mesa Road/Harvest Road intersection to provide the following lane configurations: Signalization; Two (2) EBL; One (1) EBT; One (1) EBTR; One (1) WBL; One (1) WBT; One (1) WBTR; One (1) NBLTR; One (1) SBLT; and Two (2) SBR. If an agreement is entered into with the City and/or, if applicable, Caltrans, the agreement should specify that the improvements be operation prior to occupancy of the Project. All improvements shall be implemented to the satisfaction of the County of San Diego and City of San Diego Departments of Public Works and, if applicable, Caltrans. (Since mitigation is outside the jurisdiction of the Lead Agency, it is infeasible to guarantee completion.) (See EIR Impact M-TI-2.)
		C w/ SR-905	None
Otay Mesa Rd @ Sanyo Av	**County**/City	E+P	None
		C w/ SR-905	None
Airway Rd @ Sanyo Av	City	E+P	Prior to issuance of building permits for the project the project applicant shall either (i) have constructed intersection improvements, or (ii) entered into a secured agreement with the City to construct the improvements. The intersection improvements include the construction of a traffic signal (when warrants are met) while maintaining the following existing lane configurations: Signalization; One (1) EBLTR; One (1) WBL; One (1) WBT; One (1) WBR; One (1) NBL; One (1) NBTR; One (1) SBLT, Two (2) SBR. If an agreement is entered into with the City, the agreement should specify that the improvements be operational prior to occupancy of the Project. All improvements shall be implemented to the satisfaction of the County of San Diego and City of San Diego Departments of Public Works. (Since mitigation is outside the jurisdiction of the Lead Agency, it is infeasible to guarantee completion.) (See EIR Impact M-TI-3.)
		C w/ SR-905	Complete Required Improvements under E+P. (See EIR Impact M-TI-3.)
Airway Rd @ Paseo De Las America	**County**/City	E+P	None
		C w/ SR-905	Prior to issuance of building permits, the applicant shall pay County TIF to signalize intersection to provide the following lane configurations: Signalization; One (1) EBL; One (1) EBT; One (1) EBTR; One (1) WBL; One (1) WBT; One (1) WBTR; One (1) NBLT; One (1) NBR; One (1) SBLTR. (See EIR Impact M-TI-4.)
Siempre Viva Rd @ SR-905 SB to EB Siempre Viva	City/**Caltrans**	E+P	None
		C w/ SR-905	None
Siempre Viva Rd @ SR-905 SB to WB Siempre Viva	City/**Caltrans**	E+P	None
		C w/ SR-905	None
Siempre Viva Rd @ SR-905 NB Ramp	City/**Caltrans**	E+P	None
		C w/ SR-905	None
Siempre Viva Rd @ Paseo De Las Americas	City	E+P	None
		C w/ SR-905	None

E+P = Existing + Project; C w/905 = Cumulative 2020 w/SR-905 [Phases 1A & 1B]; Cum = Cumulative Impact;
Sig = Signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC = One-Way Stop-Controlled
EBL = Eastbound Left; EBT = Eastbound Through; EBTR = Eastbound Shared Through-Right; EBLTR = Eastbound Shared Left-Through-Right;
WBL = Westbound Left; WBT = Westbound Through; WBR = Westbound Right; WBTR = Westbound Shared Through-Right;
NBL = Northbound Left; NBLT = Northbound Shared Left-Through; NBTR = Northbound Shared Through-Right; NBLTR = Northbound Shared Left-Through-Right; NBR = Northbound Right;
SBL = Southbound Left; SBLTR = Southbound Shared Left-Through-Right; SBR = Southbound Right
(a) These intersections are located along the project's frontage and provide direct access to the project

Table 29 – Summary of Intersections Mitigated Level of Service

Intersection	Jurisdiction	Traffic Control	Critical Move	Existing + Project				Cumulative (2020) w/SR-905			
				LOS Before Mitigation		LOS After Mitigation		LOS Before Mitigation		LOS After Mitigation	
				AM	PM	AM	PM	AM	PM	AM	PM
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	**City**/Caltrans	Sig	Int.	B	B	N/A	N/A	A	B	N/A	N/A
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	**City**/Caltrans	Sig	Int.	B	C	N/A	N/A	B	C	N/A	N/A
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	**County**/City Caltrans	Sig	Int.	A	A	N/A	N/A	A	A	N/A	N/A
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	**County**/City/ SBX	Sig	Int.	B	A	N/A	N/A	B	A	N/A	N/A
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	**County**/City/ SBX	Sig	Int.	A	A	N/A	N/A	A	A	N/A	N/A
Otay Mesa Rd (E-W) @ SR-905 Connector/Driveway 'C' (N-S)	**County**/City/ SBX	Sig	Int.	B	B	N/A	N/A	(a)	(a)	(a)	(a)
		OWSC	SB	(a)	(a)	(a)	(a)	B	C	N/A	N/A
Otay Mesa Rd (E-W) @ Harvest Rd (N-S) [(a)]	**County**/City Caltrans	Sig	Int.	B	**F**	B	D	B	C	N/A	N/A
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	**County**/City	Sig	Int.	A	B	N/A	N/A	B	D	N/A	N/A
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC /Sig	EB	B	B	(b)	(b)	C	C	(b)	(b)
			WB	A	B			F	F		
			NB	A	B			B	F		
			SB	B	**F**			**F**	**E**		
			Int.	B	**F**	B	C	F	F	C	C
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	**County**/City	TWSC	NBL	B	C	N/A	N/A	F	F	(b)	(b)
			SB	-	-	N/A	N/A	C	D		
		Sig(b)	Int	-	-	N/A	N/A	-	-	C	C
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	City/**Caltrans**	Sig	Int.	A	C	N/A	N/A	A	B	N/A	N/A
Siempre Viva (E-W) @ SR-905 SB to WB Siempre Viva (N-S)	City/**Caltrans**	OWSC	SB	C	B	N/A	N/A	D	C	N/A	N/A
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	City/**Caltrans**	Sig	Int.	B	B	N/A	N/A	B	B	N/A	N/A
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	Sig	Int.	C	D	N/A	N/A	D	D	N/A	N/A

(a) The Interim SR-905 Connector will be removed with the completion of SR-905 Phase 1A, thus eliminating the signalized intersection. The project's Driveway 'C' is proposed to be aligned with the current location of the Interim SR-905 Connector and will create a right-in/right-out only access to the project site

(b) Intersection is stop-controlled under the before mitigation scenario and signalized under the after mitigation scenario

Bold = Jurisdiction which capacity is based on; N/A = Not Applicable; E-W = East-West Roadway; N-S = North-South Roadway

AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; Sig = Signalized

EB = Eastbound Approach; WB = Westbound Approach; NB = Northbound Approach; SB = Southbound Approach; Int. = Intersection; NBL = Northbound Left

SECTION IX – SUMMARY OF FINDINGS AND CONCLUSIONS

- The applicant proposes to develop a 325,502 square foot retail commercial center on 28.50 net acres, located at the northwest corner of Otay Mesa Road and Harvest Road within the unincorporated area of San Diego County.

- Based on the driveway trip rates, the proposed development will generate approximately 22,785 average daily trips, 684 morning peak hour trips, and 2,279 afternoon peak hour trips. The cumulative trip generation of the project, which takes into account that some of the traffic attracted to the project site is already traveling on the adjacent roadway network (i.e. pass-by trips), is approximately 15,950 average daily trips, 479 morning peak hour trips, and 1,595 afternoon peak hour trips.

- The project is part of direct and cumulative impacts to roadway segments and intersections located in the County of San Diego and the City of San Diego.

- Please refer to Section VIII of this report for a summary of the project's impacts and recommended mitigation measures.

- The project applicant will be responsible for making frontage improvements along Otay Mesa Road and Harvest Road per the County's Centerline Ordinance. Please refer to Section VII of this report for more details on the project access requirements.

APPENDIX A

- 24 Hour Machine Counts
- AM/PM Peak Hour Traffic Counts
- City of San Diego Level of Service Thresholds
- Excerpts from the County of San Diego Public Facility Element
- Excerpts from County of San Diego Public Road Standards
- SANDAG's Trip Generation Rates
- City of San Diego Trip Generation Rate Summary
- Excerpts from County's Guidelines for Determining Significance
- City of San Diego's Significance Determination Thresholds, January 2007
- Caltrans Guidelines for the Preparation of TIS, December 2002
- County Board Policy J-25
- Excerpt from County of San Diego Parking Schedule

24 Hour Machine Counts

MetroCount Traffic Executive
Event Counts

EventCount-364 -- English (ENU)

Datasets:

Site:	**[8017.04] OTAY MESA RD (LA MEDIA RD-BRITANNIA BLVD) EASTBOUND**
Input A:	2 - East bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	22:09 Monday, February 25, 2008 => 21:30 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.04.E27Feb2008.EC0 (Regular)
Identifier:	T5450FAN MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 26636 / 52651 (50.59%)

* **Tuesday, February 26, 2008=26636, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
233	**186**	**167**	**274**	**249**	**878**	**1240**	**1962**	**1863**	**1770**	**1435**	**1401**	**1660**	**1699**	**1708**	**1718**	**1905**	**1784**	**1402**	**907**	**708**	**693**	**470**	**324**	
54	46	41	53	52	91	245	419	**547**	422	364	319	405	474	417	351	462	451	388	245	174	170	132	102	-
62	40	42	57	46	173	210	**512**	456	462	381	335	429	426	400	445	462	462	354	232	192	192	108	63	-
62	46	41	79	92	292	362	**448**	407	453	381	372	475	381	419	456	473	489	334	227	195	164	116	77	-
55	54	43	85	59	322	423	**583**	453	433	309	375	351	418	472	466	508	382	326	203	147	167	114	82	-

AM Peak 0715 - 0815 (2090), AM PHF=0.90

MetroCount Traffic Executive
Event Counts

EventCount-365 -- English (ENU)

Datasets:

Site:	**[8017.04] OTAY MESA RD (LA MEDIA RD-BRITANNIA BLVD) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	22:06 Monday, February 25, 2008 => 21:13 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.04.W27Feb2008.EC0 (Regular)
Identifier:	T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 32364 / 62532 (51.76%)

*** Tuesday, February 26, 2008=32363, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
321	**221**	**232**	**462**	**890**	**1058**	**1583**	**1559**	**1639**	**1811**	**1885**	**1970**	**1918**	**1979**	**2224**	**2365**	**2288**	**2162**	**1711**	**1382**	**918**	**628**	**733**	**424**	
93	61	59	50	195	256	344	415	378	441	494	481	**477**	511	528	551	617	694	453	359	244	172	238	105	-
77	47	51	71	223	265	404	346	387	427	489	490	**509**	507	545	571	545	603	454	373	244	134	197	89	-
83	54	68	158	255	257	394	364	440	469	441	**520**	427	437	579	642	610	463	450	339	221	178	182	132	-
68	59	54	183	217	280	441	434	434	474	461	**479**	505	524	572	601	516	402	354	311	209	144	116	98	-

AM Peak 1130 - 1230 (1985), AM PHF=0.95

MetroCount Traffic Executive
Event Counts

EventCount-366 -- English (ENU)

Datasets:

Site:	**[8017.05] OTAY MESA RD (PIPER RANCH RD-LA MEDIA RD) EASTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	21:22 Monday, February 25, 2008 => 21:16 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.05.E27Feb2008.EC0 (Base)
Identifier:	V273S0NX MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 20086 / 39973 (50.25%)

*** Tuesday, February 26, 2008=20085, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
147	**74**	**74**	**126**	**137**	**635**	**950**	**1419**	**1336**	**1321**	**1036**	**1100**	**1183**	**1165**	**1260**	**1341**	**1504**	**1473**	**1194**	**782**	**613**	**583**	**388**	**244**	
37	22	18	24	24	48	203	289	**415**	301	268	251	314	327	337	279	340	396	312	231	161	136	103	72	-
41	3	28	29	31	136	179	**390**	318	327	257	263	298	295	297	311	393	386	313	192	166	170	93	64	-
36	25	19	32	46	210	253	**331**	289	369	282	290	308	272	279	386	393	404	291	194	158	144	98	58	-
33	24	9	41	36	241	315	**409**	314	324	229	296	263	271	347	365	378	287	278	165	128	133	94	50	-

AM Peak 0715 - 0815 (1545), AM PHF=0.93

MetroCount Traffic Executive
Event Counts

EventCount-367 -- English (ENU)

Datasets:

Site:	**[8017.05] OTAY MESA RD (PIPER RANCH RD-LA MEDIA RD) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	21:24 Monday, February 25, 2008 => 21:18 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.05.W27Feb2008.EC0 (Regular)
Identifier:	S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 24438 / 48158 (50.75%)

* **Tuesday, February 26, 2008=24438, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
217	**137**	**136**	**312**	**653**	**752**	**1214**	**1267**	**1314**	**1425**	**1356**	**1447**	**1487**	**1465**	**1757**	**1852**	**1813**	**1680**	**1234**	**991**	**643**	**446**	**563**	**277**	
64	38	33	31	146	171	273	334	298	342	302	347	**367**	319	417	423	488	545	317	259	182	94	189	65	-
52	24	35	48	163	179	300	285	327	325	382	352	**417**	400	439	469	416	444	330	274	159	113	159	53	-
54	30	39	118	179	199	341	301	367	374	323	**382**	331	349	496	493	486	372	330	234	166	122	128	102	-
47	45	29	115	165	203	300	347	322	384	349	**366**	372	397	405	467	423	319	257	224	136	117	87	57	-

AM Peak 1130 - 1230 (1532), AM PHF=0.92

MetroCount Traffic Executive
Event Counts

EventCount-395 -- English (ENU)

Datasets:

Site:	**[8021.00] OTAY MESA RD (PIPER LANE- HWY-125) EASTBOUND**
Input A:	4 - West bound. - Excluded from totals. (0)
Input B:	2 - East bound. - Added to totals. (1)
Survey Duration:	23:02 Monday, March 03, 2008 => 22:38 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.00.05Mar2008.EC0 (Demo L)
Identifier:	W558TFAZ MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 43110 / 85523 (50.41%)

*** Tuesday, March 04, 2008=19996, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
156	**83**	**94**	**108**	**107**	**642**	**972**	**1451**	**1328**	**1107**	**1094**	**1101**	**1119**	**1227**	**1253**	**1373**	**1630**	**1452**	**1199**	**779**	**548**	**569**	**377**	**227**	
38	21	13	30	15	54	188	264	**353**	298	283	261	265	301	290	299	411	386	313	189	150	135	93	49	-
58	29	36	20	31	129	193	**384**	335	260	277	254	285	296	287	331	440	398	307	218	157	156	98	74	-
39	18	21	27	27	220	278	**414**	336	280	270	293	299	358	299	370	387	343	307	183	124	125	105	51	-
21	15	24	31	34	239	313	**389**	304	269	264	293	270	272	377	373	392	325	272	189	117	153	81	53	-

AM Peak 0715 - 0815 (1540), AM PHF=0.93

MetroCount Traffic Executive
Event Counts

EventCount-394 -- English (ENU)

Datasets:

Site:	**[8021.00] OTAY MESA RD (PIPER LANE- HWY-125) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	2 - East bound. - Excluded from totals. (0)
Survey Duration:	23:02 Monday, March 03, 2008 => 22:38 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.00.05Mar2008.EC0 (Demo L)
Identifier:	W558TFAZ MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 43110 / 85523 (50.41%)

*** Tuesday, March 04, 2008=23113, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
191	**115**	**132**	**240**	**616**	**851**	**1105**	**1237**	**1209**	**1269**	**1273**	**1374**	**1429**	**1436**	**1687**	**1909**	**1687**	**1495**	**1066**	**901**	**551**	**434**	**569**	**337**	
53	29	37	49	127	169	252	302	302	277	305	309	**343**	344	374	489	434	480	326	197	168	108	176	123	-
55	31	30	42	177	226	291	269	301	333	256	357	**354**	366	413	467	434	393	284	248	137	108	126	73	-
39	27	24	62	156	230	260	326	301	320	357	342	**379**	339	504	523	407	316	241	221	130	120	142	73	-
44	28	41	87	156	226	302	340	305	339	355	**366**	353	387	396	430	412	306	215	235	116	98	125	68	-

AM Peak 1145 - 1245 (1442), AM PHF=0.95

MetroCount Traffic Executive
Event Counts

EventCount-230 -- English (ENU)

Datasets:

Site:	**[8002.01] OTAY MESA RD (HARVEST RD-SR-905) EASTBOUND**
Input A:	2 - East bound. - Added to totals. (1)
Input B:	4 - West bound. - Subtracted from totals. (-1)
Survey Duration:	20:39 Tuesday, January 22, 2008 => 11:46 Thursday, January 24, 2008
File:	C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0124Jan2008.EC0 (Regular)
Identifier:	R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

Profile:

Filter time:	**0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 17651 / 23126 (76.33%)

* **Wednesday, January 23, 2008=1826, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**0**	**2**	**8**	**12**	**207**	**308**	**334**	**230**	**108**	**51**	**66**	**63**	**144**	**72**	**41**	**36**	**36**	**15**	**11**	**10**	**43**	**21**	**6**	
0	0	1	0	1	7	101	69	**76**	35	16	21	12	28	17	9	11	11	5	3	4	2	6	2	-
0	0	0	3	6	26	47	**65**	60	26	11	10	21	23	18	8	12	6	4	5	3	6	7	0	-
0	0	0	0	5	60	55	**74**	53	23	10	19	15	50	15	9	5	7	4	2	1	19	3	1	-
2	0	1	5	0	114	105	**126**	41	24	14	16	15	43	22	15	8	12	2	1	2	16	5	3	-

AM Peak 0715 - 0815 (341), AM PHF=0.68

MetroCount Traffic Executive
Event Counts

EventCount-231 -- English (ENU)

Datasets:

Site:	**[8002.01] OTAY MESA RD (HARVEST RD-SR-905) WESTBOUND**
Input A:	2 - East bound. - Excluded from totals. (0)
Input B:	4 - West bound. - Added to totals. (1)
Survey Duration:	20:39 Tuesday, January 22, 2008 => 11:46 Thursday, January 24, 2008
File:	C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0124Jan2008.EC0 (Regular)
Identifier:	R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

Profile:

Filter time:	**0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 17651 / 23126 (76.33%)

* **Wednesday, January 23, 2008=7912, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
27	**16**	**10**	**18**	**17**	**13**	**286**	**397**	**298**	**328**	**425**	**471**	**491**	**457**	**835**	**1084**	**939**	**779**	**344**	**161**	**101**	**88**	**256**	**71**	
5	5	2	4	4	2	19	67	51	47	121	104	**121**	103	207	306	199	241	91	63	21	34	108	20	-
3	8	5	3	9	1	79	75	78	105	86	133	**115**	126	233	305	230	248	112	32	23	24	90	7	-
14	2	0	2	1	2	97	126	76	75	113	104	**128**	89	217	206	233	187	69	35	33	17	29	14	-
5	1	3	9	3	8	91	129	93	101	105	**130**	127	139	178	267	277	103	72	31	24	13	29	30	-

AM Peak 1145 - 1245 (494), AM PHF=0.95

MetroCount Traffic Executive
Event Counts

EventCount-233 -- English (ENU)

Datasets:

Site:	**[8002.02] OTAY MESA RD (SANYO AVE-HARVEST RD) EASTBOUND**
Input A:	4 - West bound. - Excluded from totals. (0)
Input B:	2 - East bound. - Added to totals. (1)
Survey Duration:	20:17 Tuesday, January 22, 2008 => 11:49 Thursday, January 24, 2008
File:	C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0224Jan2008.EC0 (Regular)
Identifier:	S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

Profile:

Filter time:	**0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 10075 / 14832 (67.93%)

* **Wednesday, January 23, 2008=1849, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**1**	**2**	**11**	**9**	**201**	**302**	**341**	**227**	**104**	**47**	**65**	**65**	**142**	**72**	**41**	**45**	**46**	**16**	**16**	**11**	**53**	**24**	**6**	
0	0	1	0	1	8	101	75	**78**	33	13	21	13	28	22	7	12	10	4	7	3	2	8	3	-
0	1	0	3	2	23	48	**66**	54	22	8	9	17	25	15	6	15	10	5	5	4	7	5	0	-
0	0	0	0	6	61	47	**75**	55	21	10	18	16	48	10	7	7	14	3	2	2	25	5	1	-
2	0	1	8	0	109	106	**125**	40	28	16	17	19	41	25	21	11	12	4	2	2	19	6	2	-

AM Peak 0715 - 0815 (344), AM PHF=0.69

MetroCount Traffic Executive
Event Counts

EventCount-232 -- English (ENU)

Datasets:

Site:	**[8002.02] OTAY MESA RD (SANYO AVE-HARVEST RD) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	2 - East bound. - Subtracted from totals. (-1)
Survey Duration:	20:17 Tuesday, January 22, 2008 => 11:49 Thursday, January 24, 2008
File:	C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0224Jan2008.EC0 (Regular)
Identifier:	S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

Profile:

Filter time:	**0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 10075 / 14832 (67.93%)

*** Wednesday, January 23, 2008=6375, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
27	**18**	**11**	**14**	**18**	**24**	**250**	**306**	**245**	**245**	**329**	**377**	**382**	**336**	**650**	**883**	**776**	**595**	**288**	**132**	**92**	**70**	**239**	**68**	
5	5	4	4	4	2	18	58	47	41	82	88	**103**	73	167	262	182	203	77	50	22	31	102	18	-
3	5	4	2	8	1	75	65	61	66	66	**110**	86	93	180	236	185	180	95	26	19	20	83	7	-
14	7	0	2	2	6	90	90	64	63	93	**82**	99	71	172	174	199	131	62	30	31	10	26	13	-
5	1	3	6	4	15	67	93	73	75	88	**97**	94	99	131	211	210	81	54	26	20	9	28	30	-

AM Peak 1115 - 1215 (392), AM PHF=0.89

MetroCount Traffic Executive
Event Counts

EventCount-423 -- English (ENU)

Datasets:

Site:	**[8021.14] AIRWAY RD (PASEO DE LAS AMERICAS-SANYO AVE) EASTBOUND**
Input A:	2 - East bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	21:37 Wednesday, March 05, 2008 => 12:12 Friday, March 07, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.14.E07Mar2008.EC0 (Regular)
Identifier:	T5441WJP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 2224 / 3233 (68.79%)

*** Thursday, March 06, 2008=2224, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
24	**3**	**1**	**14**	**11**	**41**	**69**	**122**	**185**	**219**	**178**	**215**	**166**	**190**	**207**	**178**	**91**	**92**	**47**	**37**	**48**	**45**	**19**	**22**	
0	1	0	1	0	7	6	21	51	52	**58**	76	48	45	53	72	13	27	18	19	2	21	4	5	-
3	2	0	10	2	8	12	27	45	**61**	46	29	38	36	60	41	37	24	12	9	9	9	4	2	-
14	0	1	1	7	4	14	33	50	**68**	32	57	44	47	43	33	19	19	9	3	25	11	5	11	-
7	0	0	2	2	22	37	41	39	**38**	42	53	36	62	51	32	22	22	8	6	12	4	6	4	-

AM Peak 0915 - 1015 (225), AM PHF=0.83

MetroCount Traffic Executive
Event Counts

EventCount-424 -- English (ENU)

Datasets:

Site:	**[8021.14] AIRWAY RD (PASEO DE LAS AMERICAS-SANYO AVE) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	21:34 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.14.W07Mar2008.EC0 (Regular)
Identifier:	T575QTP3 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 3425 / 4711 (72.70%)

*** Thursday, March 06, 2008=3425, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	**1**	**1**	**5**	**12**	**26**	**111**	**168**	**226**	**270**	**268**	**291**	**322**	**291**	**293**	**257**	**208**	**296**	**151**	**135**	**46**	**20**	**9**	**10**	
1	1	0	3	3	1	6	33	53	53	82	72	**73**	84	61	64	51	92	60	54	12	3	4	6	-
0	0	0	2	2	6	19	35	52	68	59	80	**75**	65	77	63	48	66	51	31	18	7	3	1	-
3	0	1	0	7	13	37	57	65	70	67	63	**79**	78	89	61	59	68	25	34	10	7	2	1	-
4	0	0	0	0	6	49	43	56	79	60	**76**	95	64	66	69	50	70	15	16	6	3	0	2	-

AM Peak 1145 - 1245 (303), AM PHF=0.96

MetroCount Traffic Executive
Event Counts

EventCount-411 -- English (ENU)

Datasets:

Site:	**[8021.06] SIEMPRE VIVA RD (SR-905 RAMPS-PASEO DE LA AMERICAS) EASTBOUND**
Input A:	4 - West bound. - Excluded from totals. (0)
Input B:	3 - East bound. - Added to totals. (1)
Survey Duration:	20:28 Monday, March 03, 2008 => 19:14 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.06.05Mar2008.EC0 (Regular)
Identifier:	R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 26654 / 47294 (56.36%)

*** Tuesday, March 04, 2008=12898, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
75	**25**	**22**	**46**	**82**	**281**	**562**	**836**	**1016**	**1060**	**1022**	**968**	**1068**	**918**	**967**	**822**	**875**	**694**	**513**	**453**	**225**	**189**	**110**	**69**	
45	5	7	10	25	36	119	161	242	245	**291**	222	258	230	245	199	228	185	143	106	75	59	44	19	-
22	5	3	12	14	66	103	232	271	**298**	253	239	295	230	255	203	231	182	142	143	63	56	26	12	-
6	7	5	15	25	70	149	208	239	**256**	241	233	273	240	263	206	209	175	101	93	51	40	17	10	-
2	8	7	9	18	109	191	235	264	**261**	237	274	242	218	204	214	207	152	127	111	36	34	23	28	-

AM Peak 0915 - 1015 (1106), AM PHF=0.93

MetroCount Traffic Executive
Event Counts

EventCount-410 -- English (ENU)

Datasets:

Site:	**[8021.06] SIEMPRE VIVA RD (SR-905 RAMPS-PASEO DE LA AMERICAS) WESTBOUND**
Input A:	4 - West bound. - Added to totals. (1)
Input B:	3 - East bound. - Excluded from totals. (0)
Survey Duration:	20:28 Monday, March 03, 2008 => 19:14 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.06.05Mar2008.EC0 (Regular)
Identifier:	R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 26654 / 47294 (56.36%)

*** Tuesday, March 04, 2008=13755, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
58	**24**	**20**	**48**	**72**	**148**	**397**	**558**	**726**	**851**	**1090**	**1139**	**1219**	**1109**	**1127**	**1169**	**1153**	**1125**	**749**	**454**	**226**	**145**	**87**	**61**	
31	4	5	8	21	15	76	128	166	177	284	**284**	287	310	245	317	296	337	228	138	81	49	35	25	-
17	7	6	13	19	47	100	107	175	260	234	**281**	260	251	287	268	270	283	173	118	57	36	22	14	-
6	7	4	7	21	37	108	139	195	213	276	**298**	259	275	302	291	290	263	172	94	48	34	15	4	-
4	6	5	20	11	49	113	184	190	201	**296**	276	413	273	293	293	297	242	176	104	40	26	15	18	-

AM Peak 1045 - 1145 (1159), AM PHF=0.97

MetroCount Traffic Executive
Event Counts

EventCount-402 -- English (ENU)

Datasets:

Site:	**[8021.02] LA MEDIA RD (OTAY MESA RD-AIRWAY RD) NORTHBOUND**
Input A:	1 - North bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	18:34 Monday, March 03, 2008 => 17:40 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.02.N05Mar2008.EC0 (Regular)
Identifier:	S1079HQH MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 6320 / 13182 (47.94%)

*** Tuesday, March 04, 2008=6319, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
54	**37**	**55**	**107**	**137**	**120**	**177**	**220**	**348**	**402**	**359**	**554**	**500**	**453**	**480**	**421**	**443**	**441**	**346**	**269**	**149**	**107**	**70**	**70**	
18	11	13	36	47	37	40	58	65	77	113	115	**129**	91	111	122	106	137	90	68	45	25	22	20	-
13	10	19	25	33	23	39	41	78	102	92	**116**	116	120	95	94	109	120	87	81	32	23	15	13	-
17	8	6	17	33	23	59	56	114	147	73	**176**	136	108	160	109	113	111	80	44	21	37	12	28	-
6	8	17	29	24	37	39	65	91	76	81	**147**	119	134	114	96	115	73	89	76	51	22	21	9	-

AM Peak 1115 - 1215 (568), AM PHF=0.81

MetroCount Traffic Executive
Event Counts

EventCount-403 -- English (ENU)

Datasets:

Site:	**[8021.02] LA MEDIA RD (OTAY MESA RD-AIRWAY RD) SOUTHBOUND**
Input A:	3 - South bound. - Added to totals. (1)
Input B:	0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration:	18:35 Monday, March 03, 2008 => 17:38 Wednesday, March 05, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.02.S05Mar2008.EC0 (Regular)
Identifier:	S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 8906 / 17239 (51.66%)

*** Tuesday, March 04, 2008=8906, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
86	**56**	**210**	**65**	**81**	**242**	**294**	**659**	**594**	**530**	**587**	**679**	**738**	**622**	**651**	**637**	**583**	**484**	**414**	**243**	**137**	**101**	**151**	**62**	
25	13	37	16	14	11	61	142	180	142	164	138	**154**	141	166	147	137	141	131	74	42	26	35	13	-
28	12	37	12	24	49	52	135	142	153	150	187	**201**	165	179	165	163	104	90	73	34	17	39	23	-
16	15	70	14	21	84	93	163	150	105	113	152	**188**	170	137	158	125	129	112	46	29	27	47	4	-
17	16	66	23	22	98	88	219	122	130	160	**202**	195	146	169	167	158	110	81	50	32	31	30	22	-

AM Peak 1145 - 1245 (745), AM PHF=0.92

MetroCount Traffic Executive
Event Counts

EventCount-370 -- English (ENU)

Datasets:

Site:	**[8017.07] HWY-905 (SIEMPRE VIVA RD-AIRWAY RD) NORTHBOUND**
Input A:	1 - North bound. - Added to totals. (1)
Input B:	3 - South bound. - Excluded from totals. (0)
Survey Duration:	19:40 Monday, February 25, 2008 => 21:20 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.07.27Feb2008.EC0 (Base)
Identifier:	V289W1MS MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 37824 / 76336 (49.55%)

*** Tuesday, February 26, 2008=20706, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
172	**136**	**131**	**317**	**656**	**774**	**1089**	**960**	**1188**	**1141**	**1133**	**1244**	**1283**	**1305**	**1336**	**1388**	**1333**	**1365**	**1209**	**921**	**598**	**409**	**406**	**212**	
52	32	33	34	144	167	234	241	268	252	302	288	**306**	293	308	299	355	430	303	242	180	99	118	50	-
46	27	28	54	172	192	284	209	309	288	339	262	**341**	339	402	363	296	353	328	262	159	91	116	44	-
36	39	35	101	174	196	296	256	287	268	218	**364**	278	341	320	362	367	300	332	205	147	117	109	67	-
38	38	35	128	166	219	275	254	324	333	274	**330**	358	332	306	364	315	282	246	212	112	102	63	51	-

AM Peak 1130 - 1230 (1341), AM PHF=0.92

MetroCount Traffic Executive
Event Counts

EventCount-371 -- English (ENU)

Datasets:

Site:	**[8017.07] HWY-905 (SIEMPRE VIVA RD-AIRWAY RD) SOUTHBOUND**
Input A:	1 - North bound. - Excluded from totals. (0)
Input B:	3 - South bound. - Added to totals. (1)
Survey Duration:	19:40 Monday, February 25, 2008 => 21:20 Wednesday, February 27, 2008
File:	C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.07.27Feb2008.EC0 (Base)
Identifier:	V289W1MS MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Separate (Count)

Profile:

Filter time:	**0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 37824 / 76336 (49.55%)

*** Tuesday, February 26, 2008=17117, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
127	**76**	**61**	**79**	**100**	**207**	**486**	**1000**	**1008**	**945**	**841**	**915**	**983**	**941**	**1031**	**1298**	**1515**	**1596**	**1297**	**850**	**622**	**529**	**354**	**256**	
45	22	10	17	24	17	76	204	**290**	246	222	203	281	282	262	253	354	388	358	249	166	141	112	67	-
30	18	23	22	26	37	95	226	**250**	238	212	231	234	234	239	332	404	425	307	223	155	151	84	79	-
32	16	18	16	30	60	118	**261**	224	229	191	239	240	217	234	344	376	431	338	213	158	122	81	66	-
20	20	10	24	20	93	197	**309**	244	232	216	242	228	208	296	369	381	352	294	165	143	115	77	44	-

AM Peak 0730 - 0830 (1110), AM PHF=0.90

MetroCount Traffic Executive
Event Counts

EventCount-428 -- English (ENU)

Datasets:

Site:	**[8021.15] SANYO AVE (AIRWAY RD-OTAY MESA RD) NORTHBOUND**
Input A:	3 - South bound. - Excluded from totals. (0)
Input B:	1 - North bound. - Added to totals. (1)
Survey Duration:	22:01 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.15.07Mar2008.EC0 (Base)
Identifier:	V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

Profile:

Filter time:	**0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 3935 / 5174 (76.05%)

*** Thursday, March 06, 2008=1270, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
6	**1**	**1**	**5**	**3**	**18**	**23**	**44**	**43**	**50**	**87**	**96**	**95**	**86**	**122**	**107**	**154**	**186**	**63**	**35**	**17**	**18**	**8**	**2**	
1	0	0	0	0	0	4	8	16	12	20	**30**	23	29	41	24	32	62	32	7	3	5	1	0	-
0	0	1	0	1	2	1	12	9	10	15	**25**	30	12	25	25	34	60	13	14	2	7	3	0	-
5	0	0	0	1	6	5	12	9	13	19	**23**	19	24	31	23	51	31	13	12	8	5	4	2	-
0	1	0	5	1	10	13	12	9	15	**33**	18	23	21	25	35	37	33	5	2	4	1	0	0	-

AM Peak 1045 - 1145 (111), AM PHF=0.84

MetroCount Traffic Executive
Event Counts

EventCount-425 -- English (ENU)

Datasets:

Site:	**[8021.15] SANYO AVE (AIRWAY RD-OTAY MESA RD) SOUTHBOUND**
Input A:	1 - South bound. - Added to totals. (1)
Input B:	3 - North bound. - Subtracted from totals. (-1)
Survey Duration:	22:01 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File:	C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.15.07Mar2008.EC0 (Base)
Identifier:	V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Event Count
Data type:	Axle sensors - Split (Count)

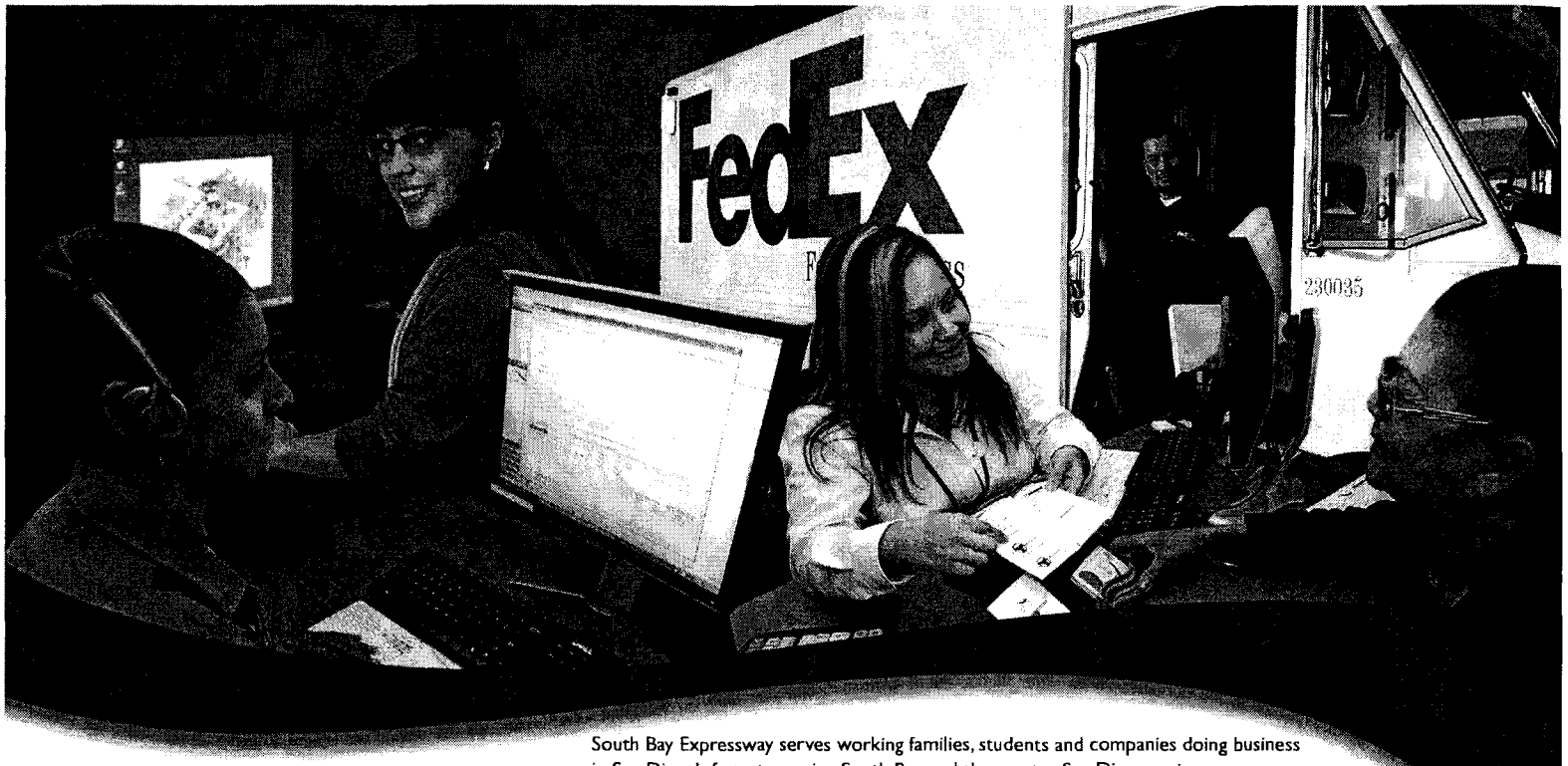
Profile:

Filter time:	**0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008**
Name:	TC Default Profile
Scheme:	Count events divided by two.
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Events = 3935 / 5174 (76.05%)

*** Thursday, March 06, 2008=1396, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**0**	**0**	**2**	**1**	**7**	**36**	**173**	**185**	**138**	**111**	**110**	**109**	**115**	**104**	**119**	**61**	**45**	**20**	**19**	**10**	**13**	**10**	**6**	
0	0	0	0	0	1	5	29	**52**	46	27	24	29	27	28	40	24	13	7	11	0	4	3	1	-
0	0	0	0	0	3	3	48	**42**	37	29	26	26	33	26	31	10	8	3	1	6	5	1	0	-
1	0	0	1	1	1	7	33	**41**	28	29	30	19	18	21	30	14	17	6	4	2	2	4	5	-
1	0	0	1	0	2	21	**63**	50	27	26	30	35	37	29	18	13	7	4	3	2	2	2	0	-

AM Peak 0745 - 0845 (198), AM PHF=0.79



South Bay Expressway serves working families, students and companies doing business in San Diego's fastest-growing South Bay and the greater San Diego region.

South Bay Expressway℠

Putting the Fun Back in Driving

Connecting People to the Places They Want to Go

South Bay Expressway opened to traffic November 19, 2007, immediately slashing motorists' driving times by as much as half. Hailed by *The San Diego Union Tribune* as San Diego's environmentally friendly highway, the project serves a diverse customer base:

- Commuter customers are largely bilingual working families with household incomes averaging less than $75,000 per year.
- These time-sensitive families have a need to be at work on time and home to attend to family and household affairs.
- Commercial customers include local and international shippers who appreciate the speedy new connection South Bay Expressway provides to ports, the international border, regional highway system and local customers.

New Tool for Transportation and Economic Development

Drawing on a decade of lessons learned from public-private partnership projects, South Bay Expressway could serve as a new and improved model for such partnerships in the State of California – partnerships that, selectively used, can provide:

- New tools for funding critical transportation infrastructure.
- A catalyst for local economic development.
- Relief to strapped state and local budgets allowing public transportation dollars to be used on other important projects.

Results to Date

South Bay Expressway is living up to the expectations of local officials and motorists. Results so far include:

- Congestion relief on I-805, SR-905 and local streets.
- Savings of up to 30 minutes per trip on commutes.
- Improved access for merchants and businesses.
- Quicker, more convenient access to and from the Otay Mesa port of entry.
- Increased business activity in eastern Chula Vista.

Traffic Relief

Customers make approximately 30,000 trips every week day on South Bay Expressway – over 11 million trips to date; trips that would otherwise be clogging I-805, SR-905 and local arterials.

High Customer Satisfaction

South Bay Expressway recently conducted Customer Round Tables to see what our customers thought about South Bay Expressway. The feedback was very positive:

- "Thank you, South Bay Expressway, for giving me back some much needed personal time." - *Tamaryn B.*
- "I love the nonstop traffic. My commute to downtown is a cakewalk from Eastlake." - *Denise R.*
- "It's a blessing to be a little less stressed everyday." - *Francesco B.*
- "Thank you for making it easier to keep my family connected." - *Natasha R.*

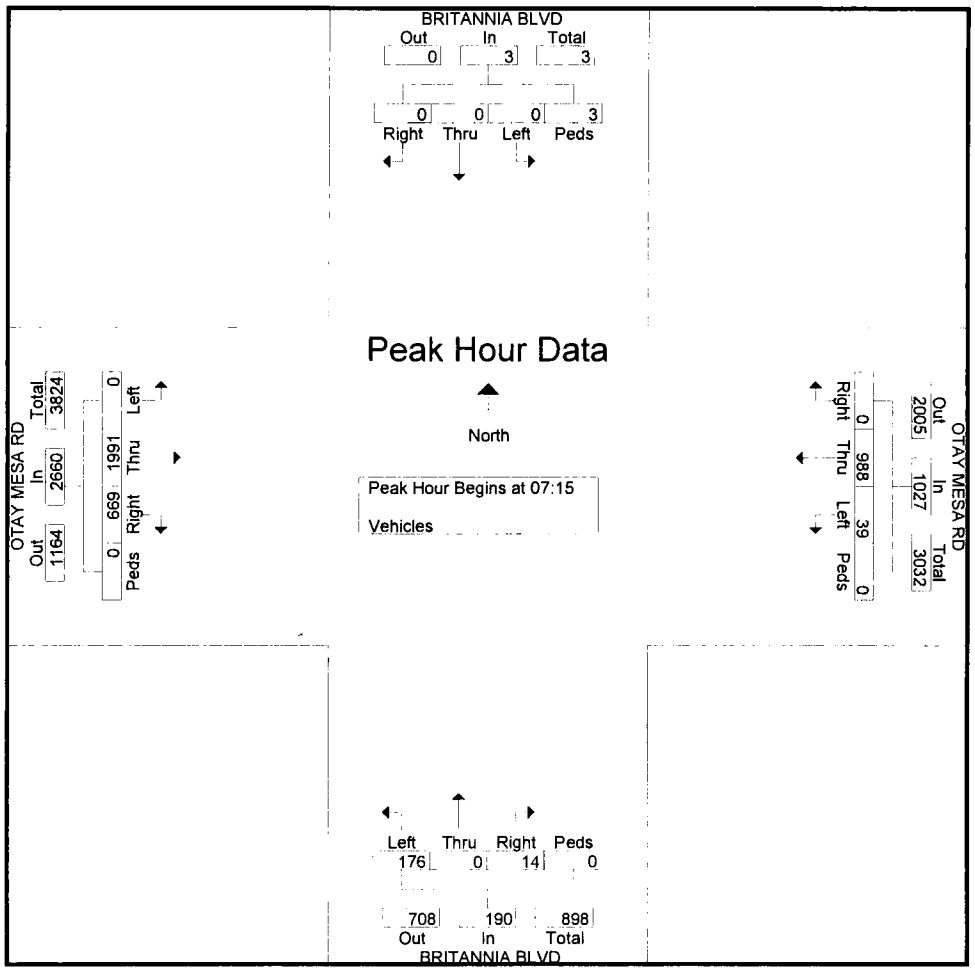
AM/PM Peak Hour Traffic Counts

True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.03.BRITANNIA BLVD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/28/2008
Page No : 2

	BRITANNIA BLVD Southbound					OTAY MESA RD Westbound					BRITANNIA BLVD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	6	**270**	0	0	**276**	29	0	1	0	30	0	439	147	0	586	892
07:30	0	0	0	1	1	12	247	0	0	259	44	0	1	0	45	0	481	144	0	625	930
07:45	0	0	0	**2**	**2**	**14**	247	0	0	261	49	0	5	0	54	0	**610**	**215**	0	**825**	**1142**
08:00	0	0	0	0	0	7	224	0	0	231	**54**	0	**7**	0	**61**	0	461	163	0	624	916
Total Volume	0	0	0	3	3	39	988	0	0	1027	176	0	14	0	190	0	1991	669	0	2660	3880
% App. Total	0	0	0	100		3.8	96.2	0	0		92.6	0	7.4	0		0	74.8	25.2	0		
PHF	.000	.000	.000	.375	.375	.696	.915	.000	.000	.930	.815	.000	.500	.000	.779	.000	.816	.778	.000	.806	.849

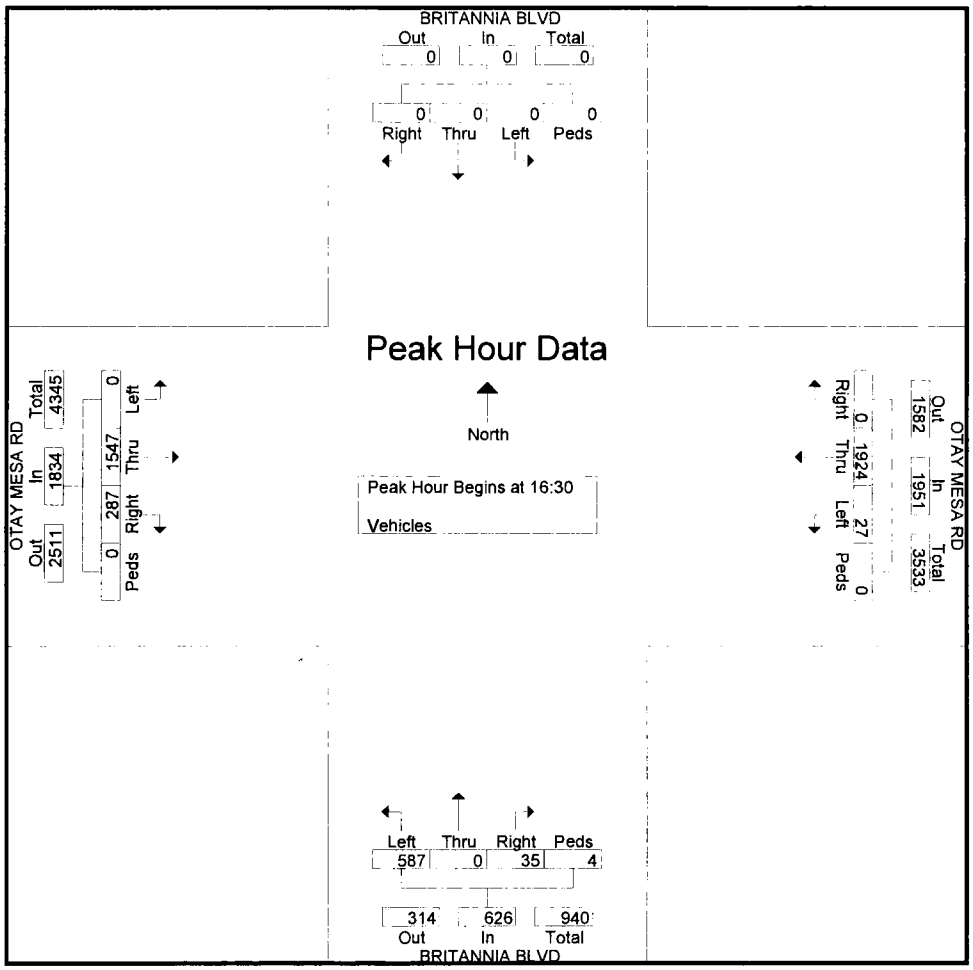


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.03.BRITANNIA BLVD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/28/2008
Page No : 3

	BRITANNIA BLVD Southbound					OTAY MESA RD Westbound					BRITANNIA BLVD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	**10**	509	0	0	519	146	0	**17**	1	164	0	380	63	0	443	1126
16:45	0	0	0	0	0	6	414	0	0	420	120	0	7	0	127	0	**410**	**78**	0	**488**	1035
17:00	0	0	0	0	0	9	**537**	0	0	**546**	**187**	0	7	**3**	**197**	0	367	72	0	439	**1182**
17:15	0	0	0	0	0	2	464	0	0	466	134	0	4	0	138	0	390	74	0	464	1068
Total Volume	0	0	0	0	0	27	1924	0	0	1951	587	0	35	4	626	0	1547	287	0	1834	4411
% App. Total	0	0	0	0		1.4	98.6	0	0		93.8	0	5.6	0.6		0	84.4	15.6	0		
PHF	.000	.000	.000	.000	.000	.675	.896	.000	.000	.893	.785	.000	.515	.333	.794	.000	.943	.920	.000	.940	.933

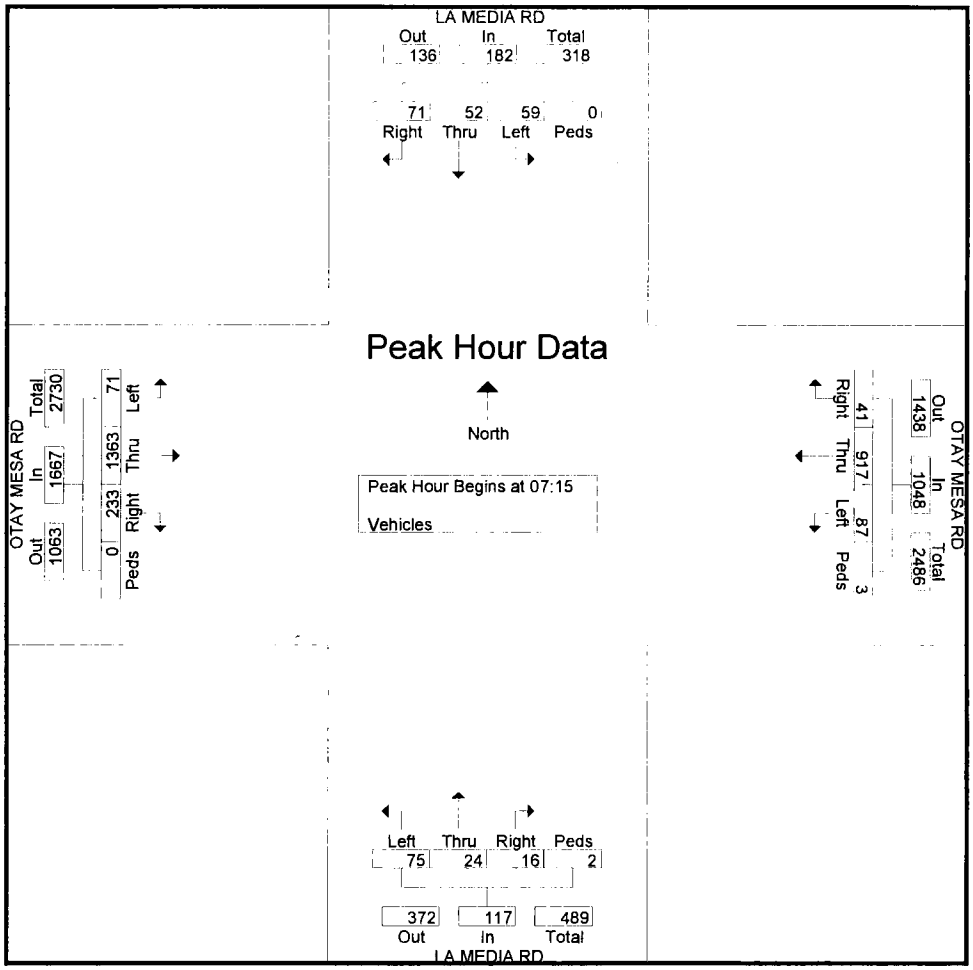


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.04.LA MEDIA RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 2

	LA MEDIA RD Southbound					OTAY MESA RD Westbound					LA MEDIA RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	**18**	12	**23**	0	**53**	**29**	243	**14**	**2**	**288**	19	6	2	**2**	29	17	298	49	0	364	734
07:30	16	**16**	21	0	53	16	228	9	1	254	16	**7**	1	0	24	18	**363**	55	0	**436**	767
07:45	11	14	14	0	39	25	**245**	12	0	282	**24**	6	5	0	**35**	15	357	62	0	434	**790**
08:00	14	10	13	0	37	17	201	6	0	224	16	5	**8**	0	29	**21**	345	**67**	0	433	723
Total Volume	59	52	71	0	182	87	917	41	3	1048	75	24	16	2	117	71	1363	233	0	1667	3014
% App. Total	32.4	28.6	39	0		8.3	87.5	3.9	0.3		64.1	20.5	13.7	1.7		4.3	81.8	14	0		
PHF	.819	.813	.772	.000	.858	.750	.936	.732	.375	.910	.781	.857	.500	.250	.836	.845	.939	.869	.000	.956	.954

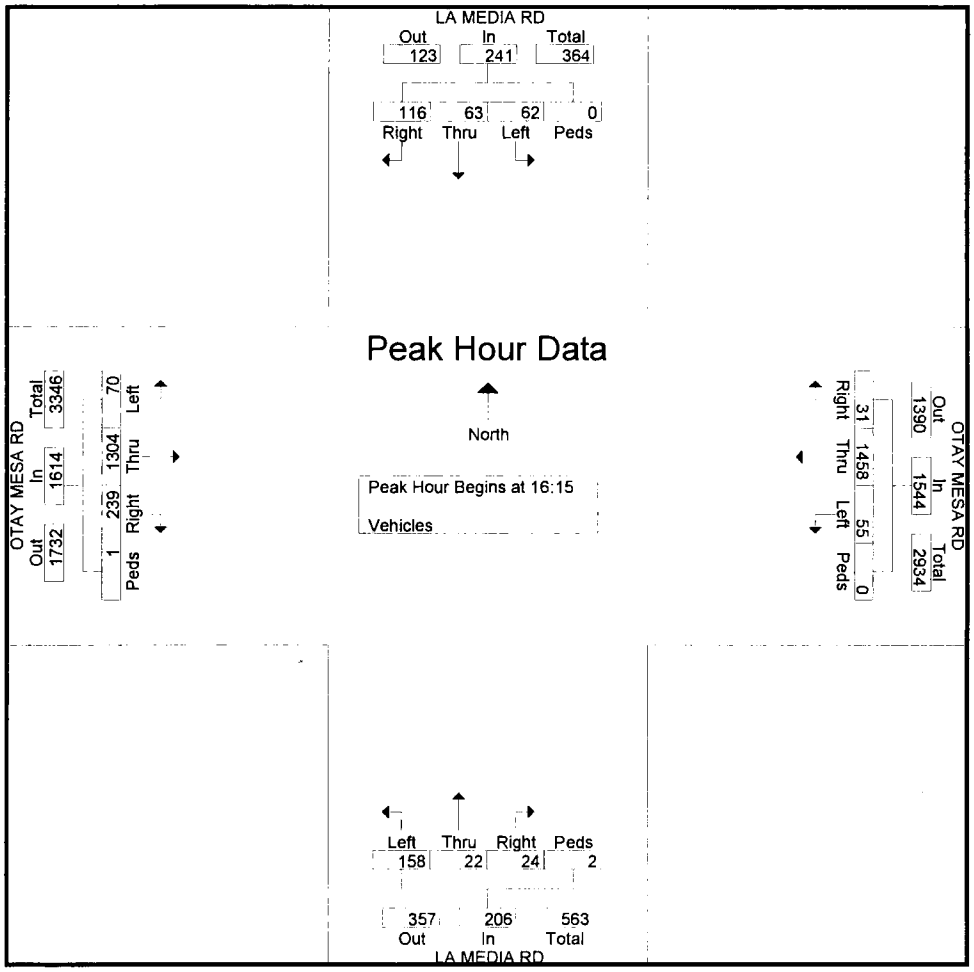


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.04.LA MEDIA RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 3

Start Time	LA MEDIA RD Southbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Westbound Left	Thru	Right	Peds	App. Total	LA MEDIA RD Northbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Eastbound Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	18	15	27	0	60	12	378	5	0	395	**43**	7	**9**	0	**59**	**23**	314	55	**1**	393	907
16:30	11	10	31	0	52	10	365	**10**	0	385	38	6	5	0	49	13	**346**	51	0	**410**	896
16:45	11	**21**	22	0	54	15	328	8	0	351	34	5	8	0	47	12	332	65	0	409	861
17:00	**22**	17	**36**	0	**75**	**18**	**387**	8	0	**413**	43	4	2	**2**	51	22	312	**68**	0	402	**941**
Total Volume	62	63	116	0	241	55	1458	31	0	1544	158	22	24	2	206	70	1304	239	1	1614	3605
% App. Total	25.7	26.1	48.1	0		3.6	94.4	2	0		76.7	10.7	11.7	1		4.3	80.8	14.8	0.1		
PHF	.705	.750	.806	.000	.803	.764	.942	.775	.000	.935	.919	.786	.667	.250	.873	.761	.942	.879	.250	.984	.958

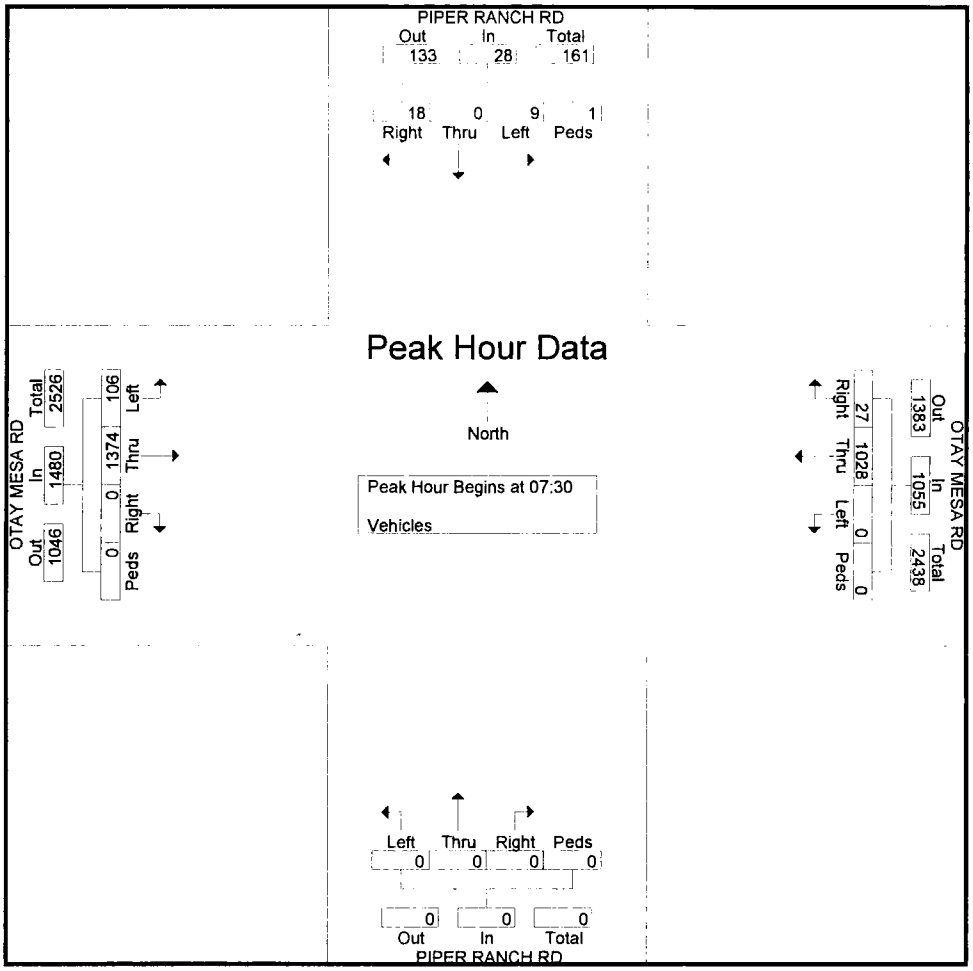


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.05.PIPER RANCH RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 2

	PIPER RANCH RD Southbound					OTAY MESA RD Westbound					PIPER RANCH RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	4	**1**	5	0	**273**	6	0	**279**	0	0	0	0	0	19	358	0	0	377	661
07:45	2	0	4	0	6	0	267	**8**	0	275	0	0	0	0	0	**45**	**393**	0	0	**438**	**719**
08:00	**7**	0	**8**	0	**15**	0	234	6	0	240	0	0	0	0	0	22	311	0	0	333	588
08:15	0	0	2	0	2	0	254	7	0	261	0	0	0	0	0	20	312	0	0	332	595
Total Volume	9	0	18	1	28	0	1028	27	0	1055	0	0	0	0	0	106	1374	0	0	1480	2563
% App. Total	32.1	0	64.3	3.6		0	97.4	2.6	0		0	0	0	0		7.2	92.8	0	0		
PHF	.321	.000	.563	.250	.467	.000	.941	.844	.000	.945	.000	.000	.000	.000	.000	.589	.874	.000	.000	.845	.891

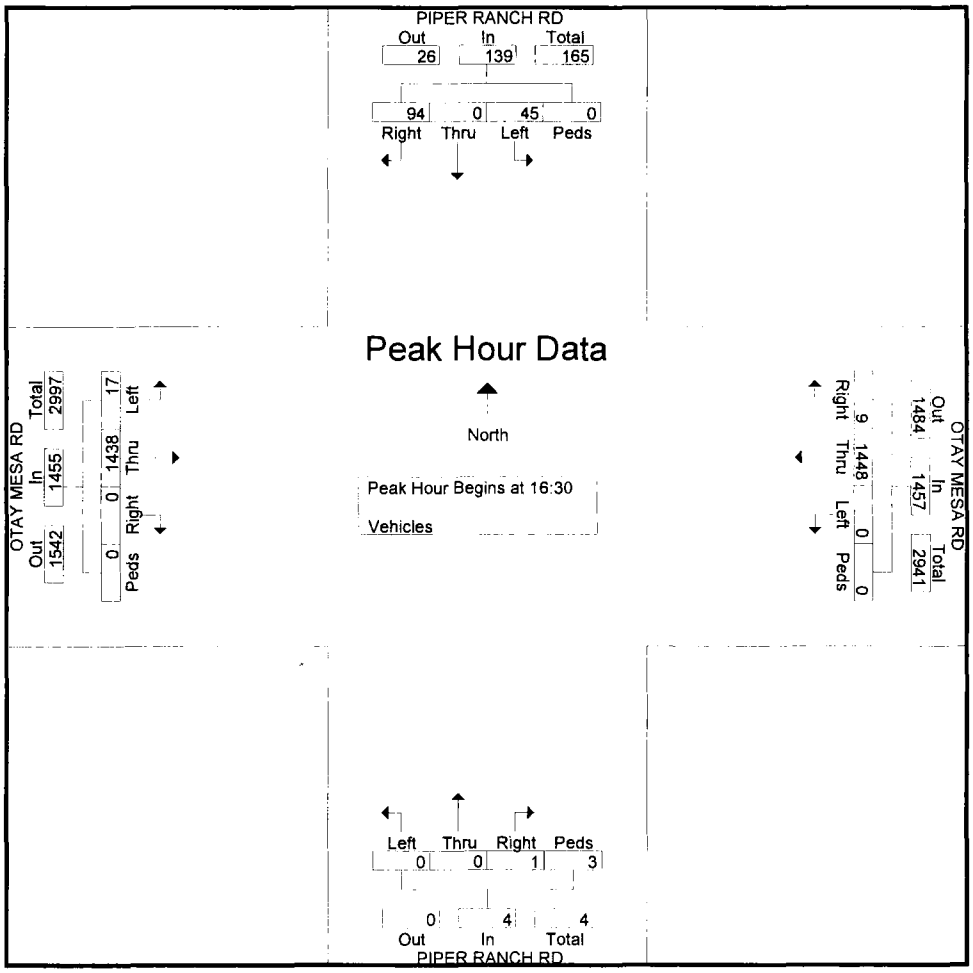


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.05.PIPER RANCH RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 3

	PIPER RANCH RD Southbound					OTAY MESA RD Westbound					PIPER RANCH RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	**13**	0	22	0	35	0	381	1	0	382	0	0	0	0	0	**8**	357	0	0	365	782
16:45	9	0	16	0	25	0	325	2	0	327	0	0	**1**	0	1	3	358	0	0	361	714
17:00	13	0	**39**	0	**52**	0	**407**	2	0	**409**	0	0	0	1	1	4	**365**	0	0	**369**	**831**
17:15	10	0	17	0	27	0	335	**4**	0	339	0	0	0	**2**	**2**	2	358	0	0	360	728
Total Volume	45	0	94	0	139	0	1448	9	0	1457	0	0	1	3	4	17	1438	0	0	1455	3055
% App. Total	32.4	0	67.6	0		0	99.4	0.6	0		0	0	25	75		1.2	98.8	0	0		
PHF	.865	.000	.603	.000	.668	.000	.889	.563	.000	.891	.000	.000	.250	.375	.500	.531	.985	.000	.000	.986	.919

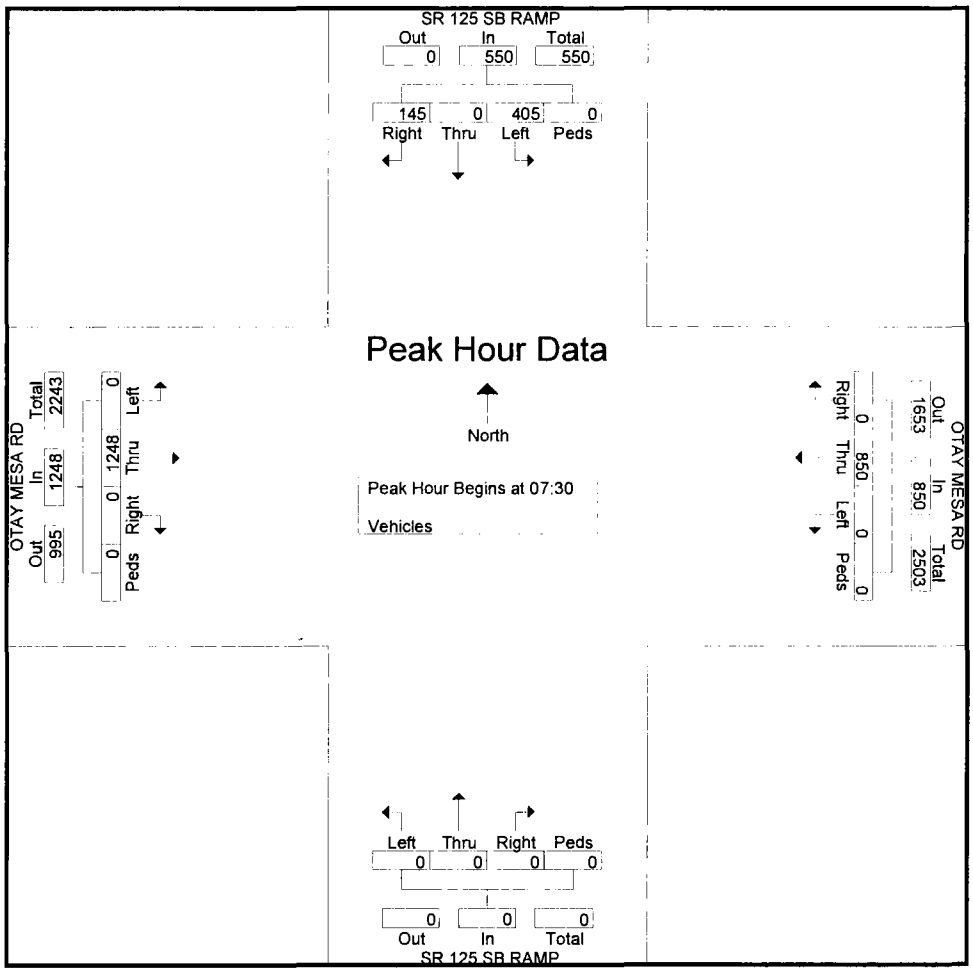


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.07.SR 125 SB RAMP.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 2

	SR 125 SB RAMP Southbound					OTAY MESA RD Westbound					SR 125 SB RAMP Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	116	0	28	0	144	0	221	0	0	221	0	0	0	0	0	0	332	0	0	332	697
07:45	**118**	0	**45**	0	**163**	0	212	0	0	212	0	0	0	0	0	0	**399**	0	0	**399**	**774**
08:00	87	0	30	0	117	0	190	0	0	190	0	0	0	0	0	0	280	0	0	280	587
08:15	84	0	42	0	126	0	**227**	0	0	**227**	0	0	0	0	0	0	237	0	0	237	590
Total Volume	405	0	145	0	550	0	850	0	0	850	0	0	0	0	0	0	1248	0	0	1248	2648
% App. Total	73.6	0	26.4	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.858	.000	.806	.000	.844	.000	.936	.000	.000	.936	.000	.000	.000	.000	.000	.000	.782	.000	.000	.782	.855

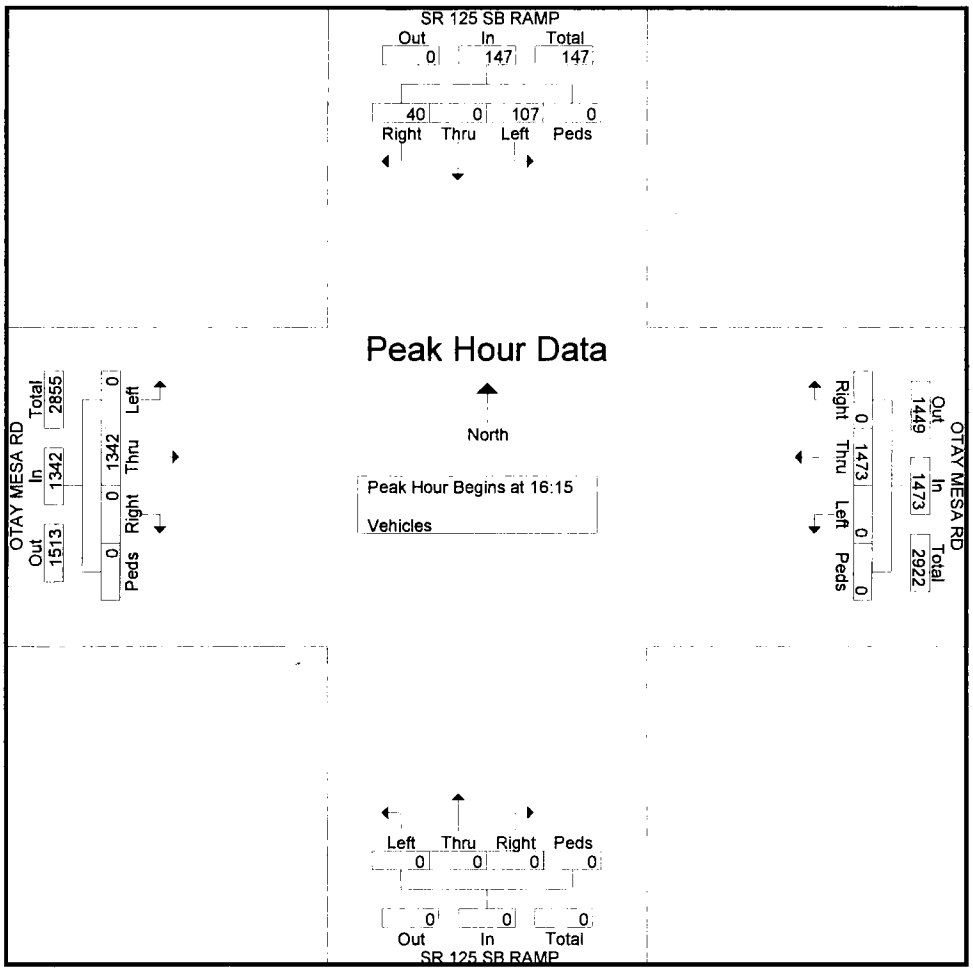


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.07.SR 125 SB RAMP.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 3

	SR 125 SB RAMP Southbound					OTAY MESA RD Westbound					SR 125 SB RAMP Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	27	0	10	0	37	0	343	0	0	343	0	0	0	0	0	0	328	0	0	328	708
16:30	24	0	**13**	0	37	0	400	0	0	400	0	0	0	0	0	0	330	0	0	330	767
16:45	**34**	0	9	0	**43**	0	326	0	0	326	0	0	0	0	0	0	312	0	0	312	681
17:00	22	0	8	0	30	0	**404**	0	0	**404**	0	0	0	0	0	0	**372**	0	0	**372**	**806**
Total Volume	107	0	40	0	147	0	1473	0	0	1473	0	0	0	0	0	0	1342	0	0	1342	2962
% App. Total	72.8	0	27.2	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.787	.000	.769	.000	.855	.000	.912	.000	.000	.912	.000	.000	.000	.000	.000	.000	.902	.000	.000	.902	.919

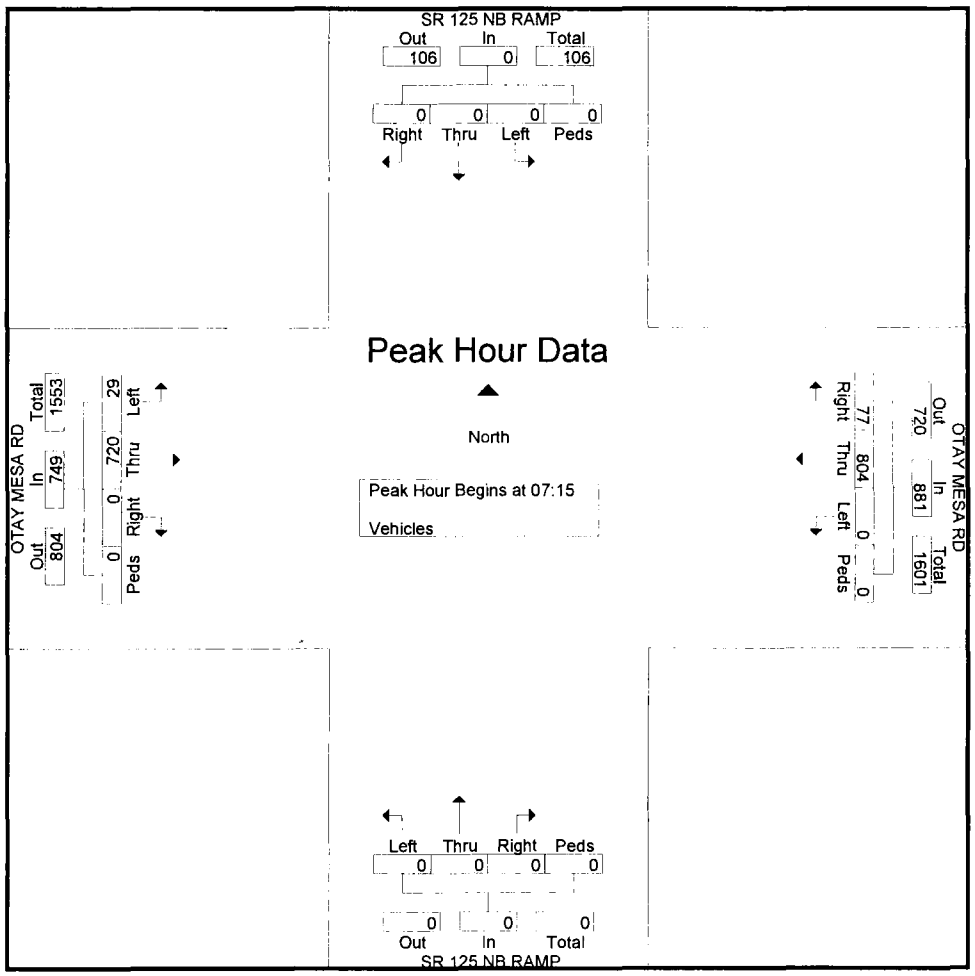


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.08.SR 125 NB RAMP.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 2

	SR 125 NB RAMP Southbound					OTAY MESA RD Westbound					SR 125 NB RAMP Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	205	8	0	213	0	0	0	0	0	**10**	185	0	0	195	408
07:30	0	0	0	0	0	0	**228**	28	0	**256**	0	0	0	0	0	5	**209**	0	0	**214**	**470**
07:45	0	0	0	0	0	0	183	**32**	0	215	0	0	0	0	0	8	189	0	0	197	412
08:00	0	0	0	0	0	0	188	9	0	197	0	0	0	0	0	6	137	0	0	143	340
Total Volume	0	0	0	0	0	0	804	77	0	881	0	0	0	0	0	29	720	0	0	749	1630
% App. Total	0	0	0	0		0	91.3	8.7	0		0	0	0	0		3.9	96.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.882	.602	.000	.860	.000	.000	.000	.000	.000	.725	.861	.000	.000	.875	.867

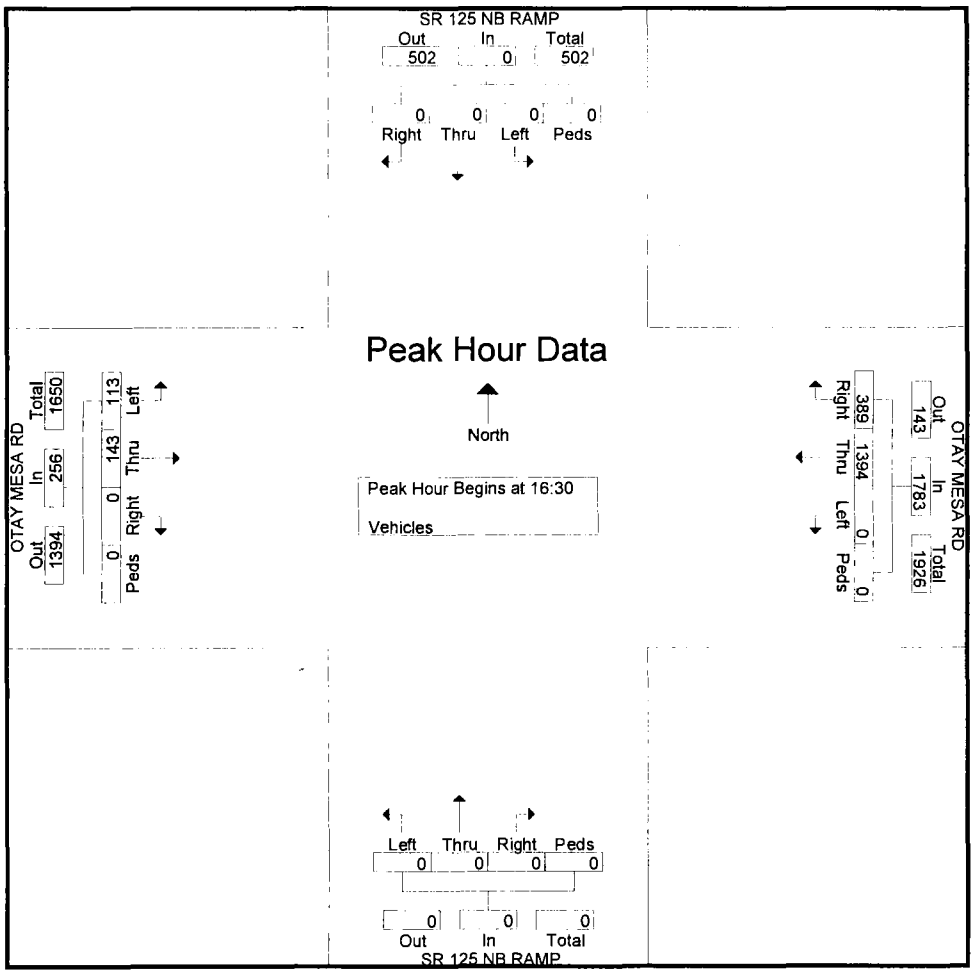


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.08.SR 125 NB RAMP.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 3

	SR 125 NB RAMP Southbound					OTAY MESA RD Westbound					SR 125 NB RAMP Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	0	374	**119**	0	493	0	0	0	0	0	29	19	0	0	48	541
16:45	0	0	0	0	0	0	323	78	0	401	0	0	0	0	0	28	40	0	0	68	469
17:00	0	0	0	0	0	0	**397**	100	0	**497**	0	0	0	0	0	22	**43**	0	0	65	**562**
17:15	0	0	0	0	0	0	300	92	0	392	0	0	0	0	0	**34**	41	0	0	**75**	467
Total Volume	0	0	0	0	0	0	1394	389	0	1783	0	0	0	0	0	113	143	0	0	256	2039
% App. Total	0	0	0	0		0	78.2	21.8	0		0	0	0	0		44.1	55.9	0	0		
PHF	.000	.000	.000	.000	.000	.000	.878	.817	.000	.897	.000	.000	.000	.000	.000	.831	.831	.000	.000	.853	.907

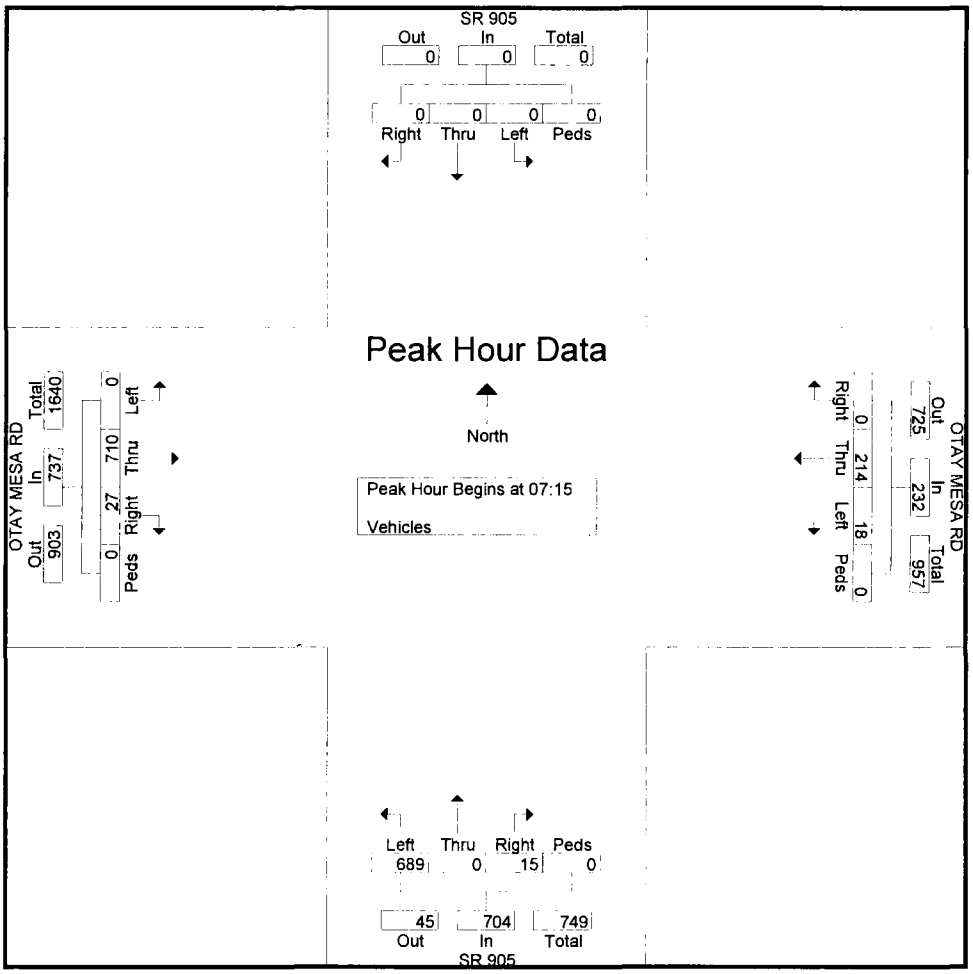


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.13.SR 905.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 2

Start Time	SR 905 Southbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Westbound Left	Thru	Right	Peds	App. Total	SR 905 Northbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Eastbound Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	3	25	0	0	28	189	0	**6**	0	**195**	0	173	6	0	179	402
07:30	0	0	0	0	0	**6**	**64**	0	0	**70**	**192**	0	2	0	194	0	**215**	7	0	**222**	**486**
07:45	0	0	0	0	0	4	61	0	0	65	163	0	4	0	167	0	189	**10**	0	199	431
08:00	0	0	0	0	0	5	64	0	0	69	145	0	3	0	148	0	133	4	0	137	354
Total Volume	0	0	0	0	0	18	214	0	0	232	689	0	15	0	704	0	710	27	0	737	1673
% App. Total	0	0	0	0		7.8	92.2	0	0		97.9	0	2.1	0		0	96.3	3.7	0		
PHF	.000	.000	.000	.000	.000	.750	.836	.000	.000	.829	.897	.000	.625	.000	.903	.000	.826	.675	.000	.830	.861

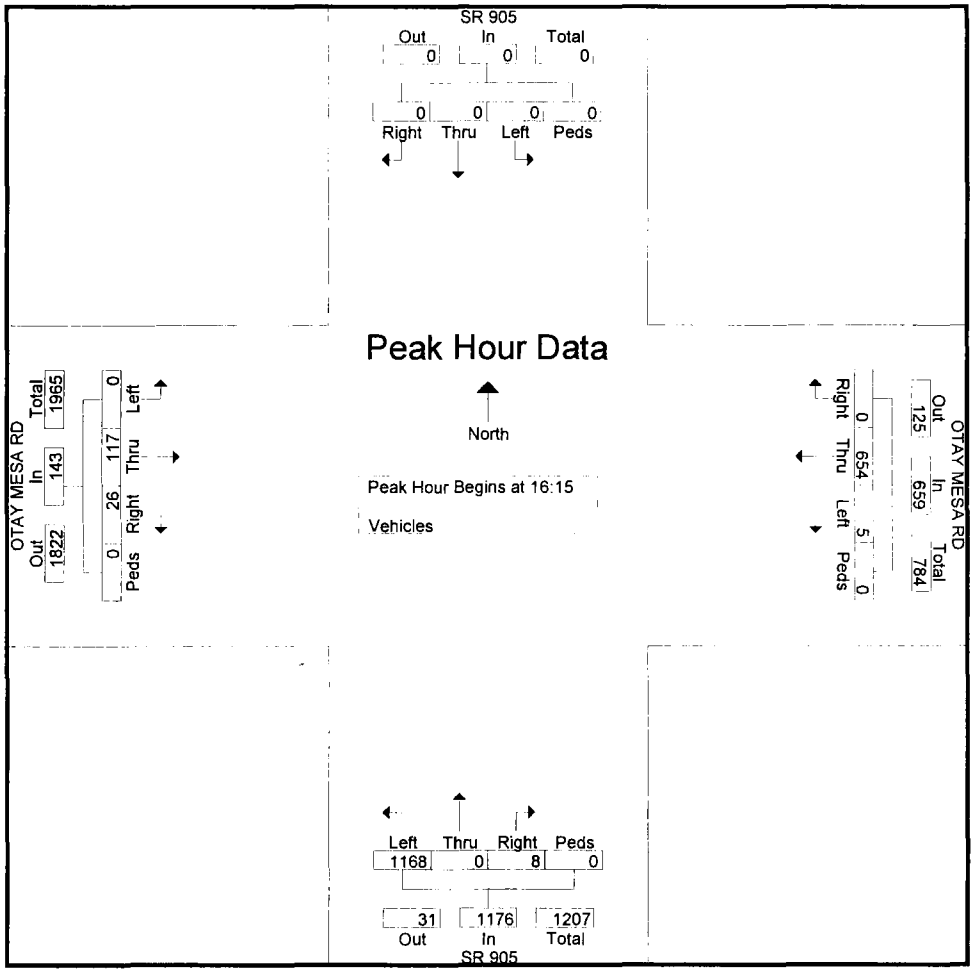


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8017.13.SR 905.OTAY MESA RD
Site Code : 00000000
Start Date : 3/20/2008
Page No : 3

	SR 905 Southbound					OTAY MESA RD Westbound					SR 905 Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	**2**	160	0	0	162	274	0	1	0	275	0	**32**	3	0	35	472
16:30	0	0	0	0	0	0	**216**	0	0	**216**	295	0	1	0	296	0	26	4	0	30	**542**
16:45	0	0	0	0	0	1	153	0	0	154	254	0	2	0	256	0	28	7	0	35	445
17:00	0	0	0	0	0	2	125	0	0	127	**345**	0	**4**	0	**349**	0	31	**12**	0	**43**	519
Total Volume	0	0	0	0	0	5	654	0	0	659	1168	0	8	0	1176	0	117	26	0	143	1978
% App. Total	0	0	0	0		0.8	99.2	0	0		99.3	0	0.7	0		0	81.8	18.2	0		
PHF	.000	.000	.000	.000	.000	.625	.757	.000	.000	.763	.846	.000	.500	.000	.842	.000	.914	.542	.000	.831	.912



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Harvest Rd DATE: 06/11/2008 LOCATION: City of San Diego

E-W STREET: Otay Mesa Rd DAY: WEDNESDAY PROJECT# 08-4154-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0			0		0	3	120	1	0	27	1	152
7:15 AM	2			0		1	3	170	0	0	34	0	210
7:30 AM	0			0		1	1	244	0	0	46	0	292
7:45 AM	0			0		2	7	258	0	1	60	1	329
8:00 AM	0			1		2	1	262	0	1	55	0	322
8:15 AM	0			0		3	3	197	0	0	39	0	242
8:30 AM	0			0		1	3	116	0	0	38	0	158
8:45 AM	0			0		2	4	86	1	0	19	0	112
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	2	0	0	1	0	12	25	1453	2	2	318	2	1817

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	0	0	0	1	0	8	12	961	0	2	200	1	1185
PEAK HR. FACTOR:		0.000			0.750			0.918			0.819		0.900

CONTROL: 2-Way Stop Sign (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Harvest Rd | DATE: 06/11/2008 | LOCATION: City of San Diego

E-W STREET: Otay Mesa Rd | DAY: WEDNESDAY | PROJECT# 08-4154-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0			0		1	1	35	0	0	157	0	194
4:15 PM	0			0		2	1	28	8	1	167	2	209
4:30 PM	1			0		1	2	42	0	0	192	2	240
4:45 PM	0			1		2	1	35	0	0	230	0	269
5:00 PM	0			0		4	2	40	0	0	211	1	258
5:15 PM	0			0		4	3	35	0	0	143	0	185
5:30 PM	0			0		1	5	37	0	0	100	0	143
5:45 PM	0			0		3	0	20	0	0	88	2	113
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	1	0	0	1	0	18	15	272	8	1	1288	7	1611

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	1	0	0	1	0	9	6	145	8	1	800	5	976
PEAK HR. FACTOR:		0.250			0.625			0.903			0.876		0.907

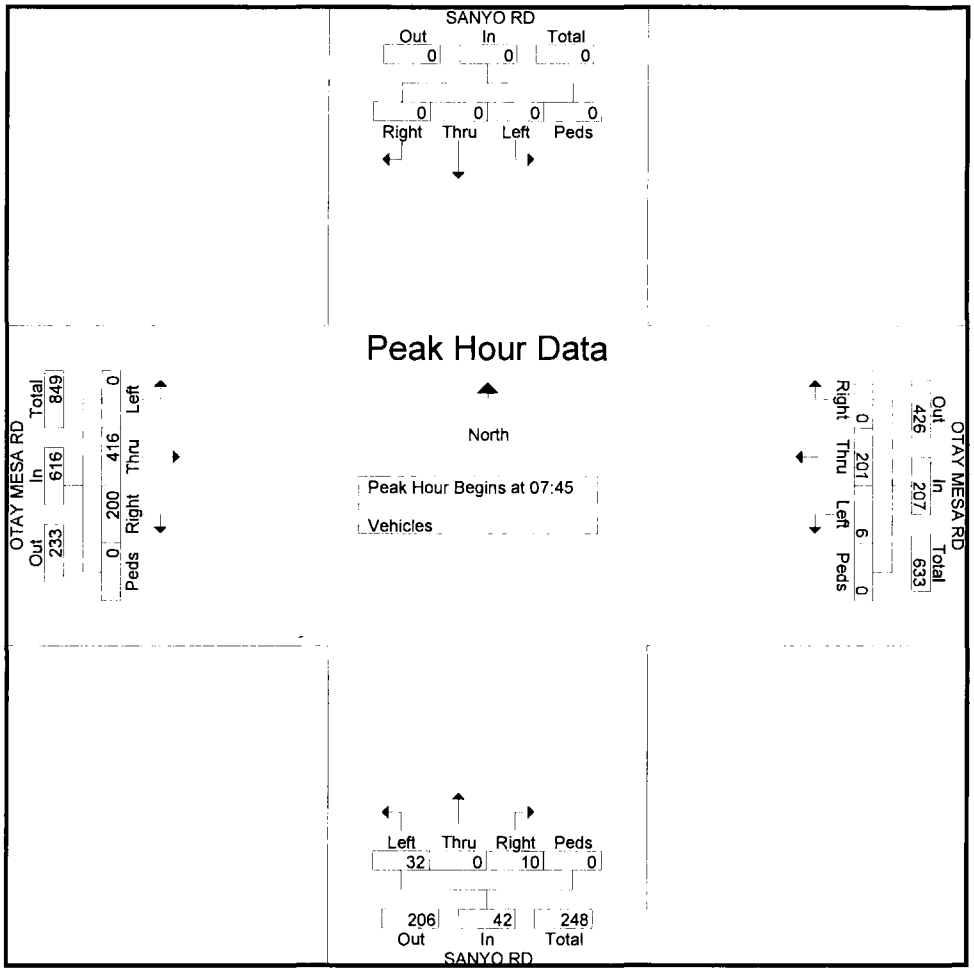
CONTROL: 2-Way Stop Sign (NS)

True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.14.SANYO RD.OTAY MESA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 2

	SANYO RD Southbound					OTAY MESA RD Westbound					SANYO RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	**3**	51	0	0	**54**	7	0	**4**	0	11	0	**148**	57	0	**205**	**270**
08:00	0	0	0	0	0	0	49	0	0	49	**9**	0	4	0	**13**	0	86	50	0	136	198
08:15	0	0	0	0	0	1	49	0	0	50	8	0	1	0	9	0	100	**34**	0	134	193
08:30	0	0	0	0	0	2	**52**	0	0	54	8	0	1	0	9	0	82	**59**	0	141	204
Total Volume	0	0	0	0	0	6	201	0	0	207	32	0	10	0	42	0	416	200	0	616	865
% App. Total	0	0	0	0		2.9	97.1	0	0		76.2	0	23.8	0		0	67.5	32.5	0		
PHF	.000	.000	.000	.000	.000	.500	.966	.000	.000	.958	.889	.000	.625	.000	.808	.000	.703	.847	.000	.751	.801

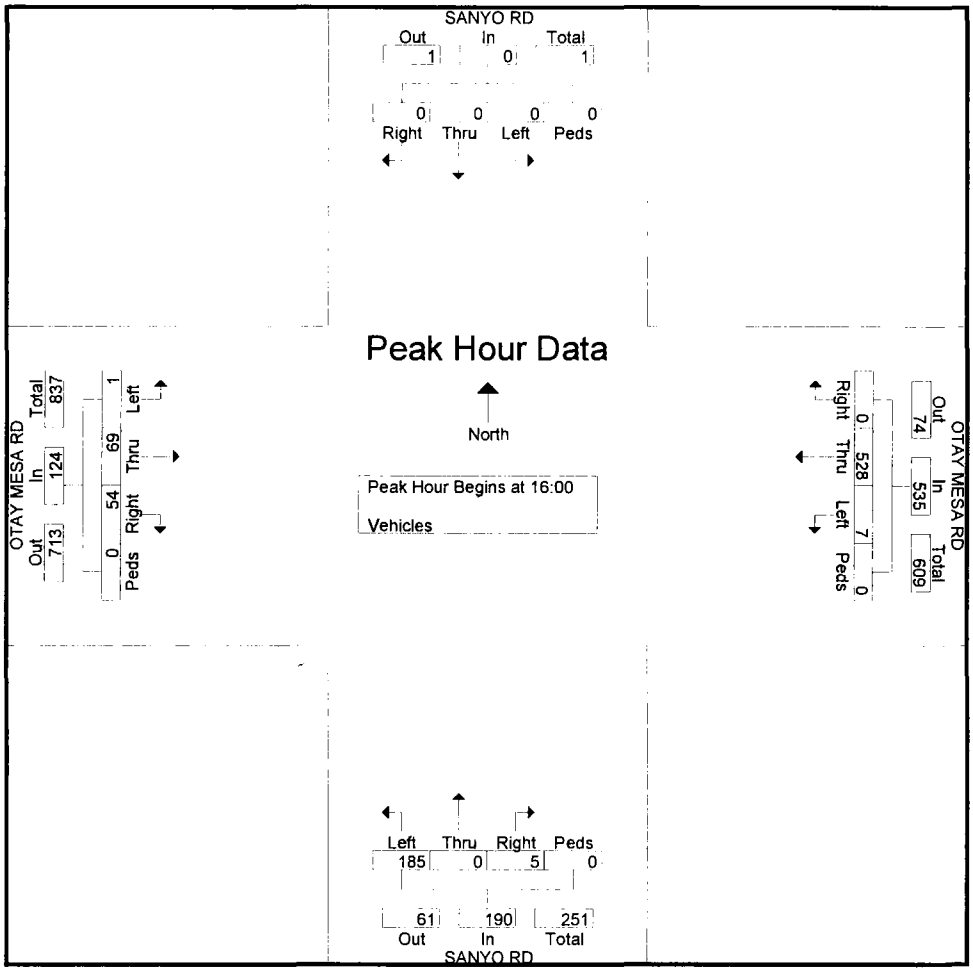


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.14.SANYO RD.OTAY MESA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 3

Start Time	SANYO RD Southbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Westbound Left	Thru	Right	Peds	App. Total	SANYO RD Northbound Left	Thru	Right	Peds	App. Total	OTAY MESA RD Eastbound Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	3	165	0	0	168	51	0	1	0	52	**1**	14	**17**	0	32	252
16:15	0	0	0	0	0	0	128	0	0	128	32	0	1	0	33	0	13	13	0	26	187
16:30	0	0	0	0	0	**4**	**167**	0	0	**171**	**58**	0	**2**	0	**60**	0	**22**	10	0	32	**263**
16:45	0	0	0	0	0	0	68	0	0	68	44	0	1	0	45	0	20	14	0	**34**	147
Total Volume	0	0	0	0	0	7	528	0	0	535	185	0	5	0	190	1	69	54	0	124	849
% App. Total	0	0	0	0		1.3	98.7	0	0		97.4	0	2.6	0		0.8	55.6	43.5	0		
PHF	.000	.000	.000	.000	.000	.438	.790	.000	.000	.782	.797	.000	.625	.000	.792	.250	.784	.794	.000	.912	.807

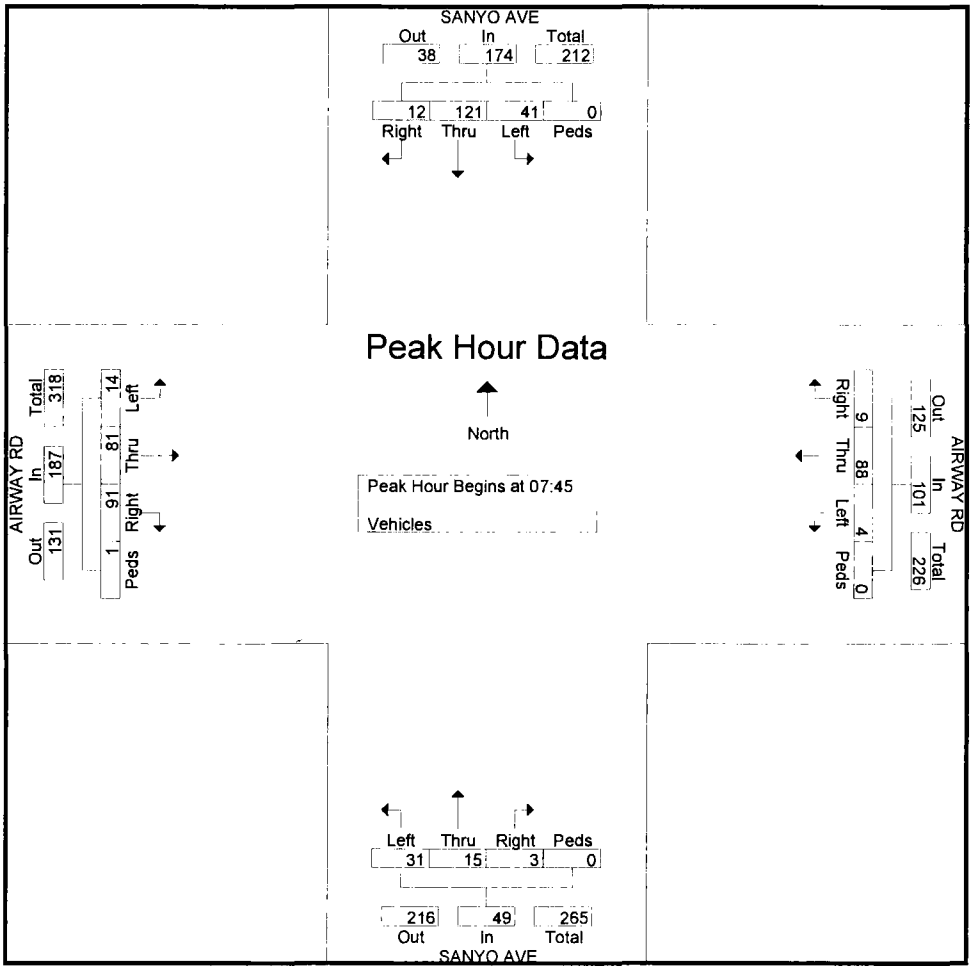


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.12.SANYO AVE.AIRWAY RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 2

	SANYO AVE Southbound					AIRWAY RD Westbound					SANYO AVE Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	**15**	**40**	2	0	**57**	1	19	1	0	21	5	4	**1**	0	10	3	**24**	21	**1**	**49**	**137**
08:00	8	31	**4**	0	43	1	**31**	**4**	0	**36**	3	3	1	0	7	3	18	**28**	0	49	135
08:15	13	26	3	0	42	0	18	2	0	20	9	**5**	0	0	14	**4**	22	20	0	46	122
08:30	5	24	3	0	32	**2**	20	2	0	24	**14**	3	1	0	**18**	4	17	22	0	43	117
Total Volume	41	121	12	0	174	4	88	9	0	101	31	15	3	0	49	14	81	91	1	187	511
% App. Total	23.6	69.5	6.9	0		4	87.1	8.9	0		63.3	30.6	6.1	0		7.5	43.3	48.7	0.5		
PHF	.683	.756	.750	.000	.763	.500	.710	.563	.000	.701	.554	.750	.750	.000	.681	.875	.844	.813	.250	.954	.932

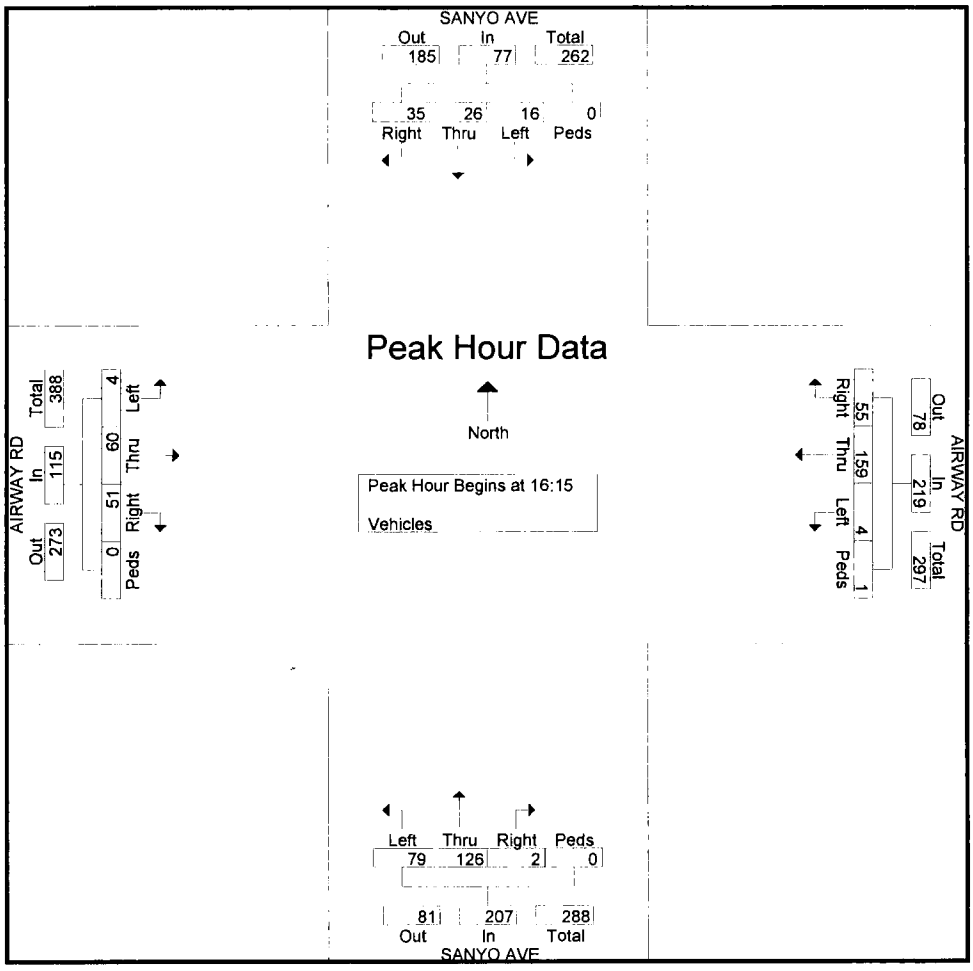


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.12.SANYO AVE.AIRWAY RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 3

	SANYO AVE Southbound					AIRWAY RD Westbound					SANYO AVE Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	**6**	2	**13**	0	21	0	**44**	11	0	**55**	11	16	**2**	0	29	1	17	**16**	0	**34**	139
16:30	2	**13**	11	0	**26**	**2**	37	15	**1**	55	23	37	0	0	60	1	16	15	0	32	173
16:45	3	7	3	0	13	1	40	13	0	54	18	25	0	0	43	**2**	5	12	0	19	129
17:00	5	4	8	0	17	1	38	**16**	0	55	**27**	**48**	0	0	**75**	0	**22**	8	0	30	**177**
Total Volume	16	26	35	0	77	4	159	55	1	219	79	126	2	0	207	4	60	51	0	115	618
% App. Total	20.8	33.8	45.5	0		1.8	72.6	25.1	0.5		38.2	60.9	1	0		3.5	52.2	44.3	0		
PHF	.667	.500	.673	.000	.740	.500	.903	.859	.250	.995	.731	.656	.250	.000	.690	.500	.682	.797	.000	.846	.873

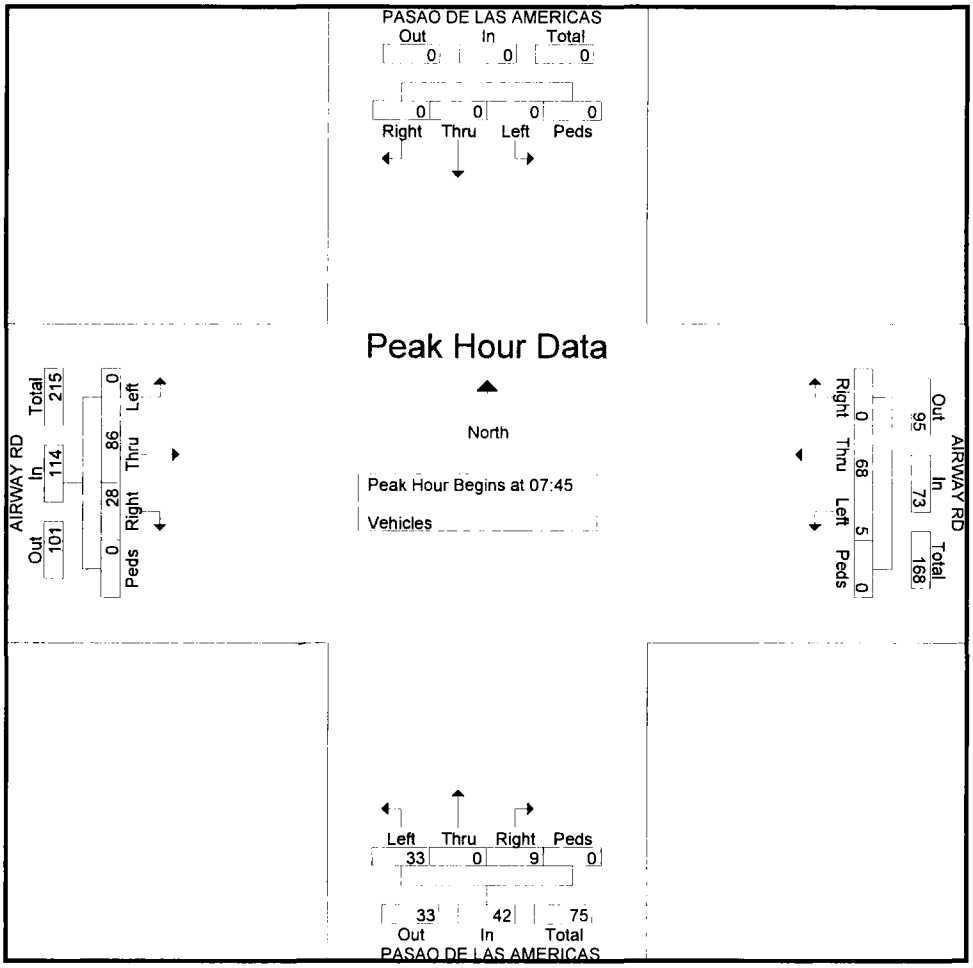


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.11.PASAO DE LAS AMERICAS.AIRWAY RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 2

Start Time	PASAO DE LAS AMERICAS Southbound Left	Thru	Right	Peds	App. Total	AIRWAY RD Westbound Left	Thru	Right	Peds	App. Total	PASAO DE LAS AMERICAS Northbound Left	Thru	Right	Peds	App. Total	AIRWAY RD Eastbound Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	1	**22**	0	0	**23**	5	0	1	0	6	0	23	**12**	0	**35**	**64**
08:00	0	0	0	0	0	1	16	0	0	17	**16**	0	**3**	0	**19**	0	20	6	0	26	62
08:15	0	0	0	0	0	1	11	0	0	12	6	0	3	0	9	0	**24**	8	0	32	53
08:30	0	0	0	0	0	**2**	19	0	0	21	6	0	2	0	8	0	19	2	0	21	50
Total Volume	0	0	0	0	0	5	68	0	0	73	33	0	9	0	42	0	86	28	0	114	229
% App. Total	0	0	0	0		6.8	93.2	0	0		78.6	0	21.4	0		0	75.4	24.6	0		
PHF	.000	.000	.000	.000	.000	.625	.773	.000	.000	.793	.516	.000	.750	.000	.553	.000	.896	.583	.000	.814	.895

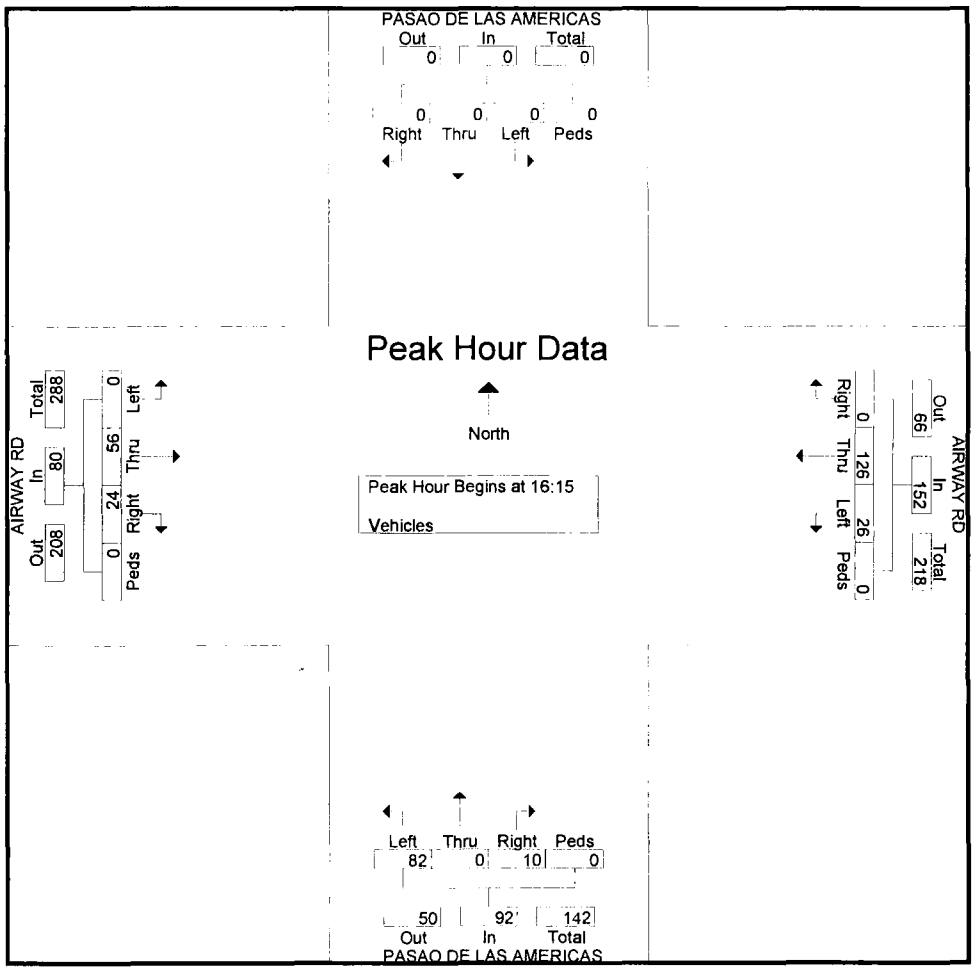


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.11.PASAO DE LAS AMERICAS.AIRWAY RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 3

	PASAO DE LAS AMERICAS Southbound					AIRWAY RD Westbound					PASAO DE LAS AMERICAS Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	6	31	0	0	37	18	0	2	0	20	0	**19**	5	0	24	81
16:30	0	0	0	0	0	6	29	0	0	35	**23**	0	**4**	0	**27**	0	13	5	0	18	80
16:45	0	0	0	0	0	**7**	30	0	0	37	18	0	3	0	21	0	7	5	0	12	70
17:00	0	0	0	0	0	7	**36**	0	0	**43**	23	0	1	0	24	0	17	**9**	0	**26**	**93**
Total Volume	0	0	0	0	0	26	126	0	0	152	82	0	10	0	92	0	56	24	0	80	324
% App. Total	0	0	0	0		17.1	82.9	0	0		89.1	0	10.9	0		0	70	30	0		
PHF	.000	.000	.000	.000	.000	.929	.875	.000	.000	.884	.891	.000	.625	.000	.852	.000	.737	.667	.000	.769	.871

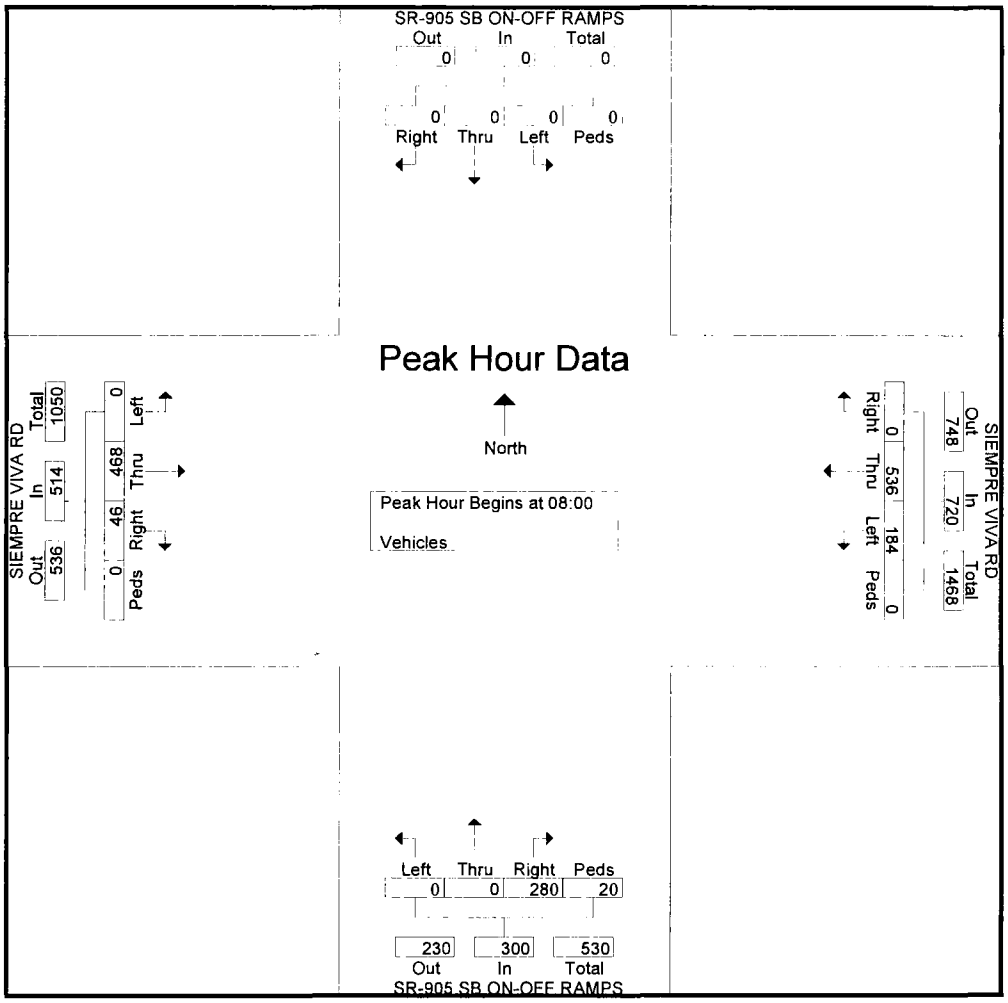


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.03.SR-905 SB ON-OFF RAMPS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 2

	SR-905 SB ON-OFF RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 SB ON-OFF RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	20	132	0	0	152	0	0	76	**8**	**84**	0	111	10	0	121	357
08:15	0	0	0	0	0	31	**141**	0	0	172	0	0	**79**	4	83	0	**127**	11	0	**138**	393
08:30	0	0	0	0	0	48	129	0	0	177	0	0	57	3	60	0	115	9	0	124	361
08:45	0	0	0	0	0	**85**	134	0	0	**219**	0	0	68	5	73	0	115	**16**	0	131	**423**
Total Volume	0	0	0	0	0	184	536	0	0	720	0	0	280	20	300	0	468	46	0	514	1534
% App. Total	0	0	0	0		25.6	74.4	0	0		0	0	93.3	6.7		0	91.1	8.9	0		
PHF	.000	.000	.000	.000	.000	.541	.950	.000	.000	.822	.000	.000	.886	.625	.893	.000	.921	.719	.000	.931	.907

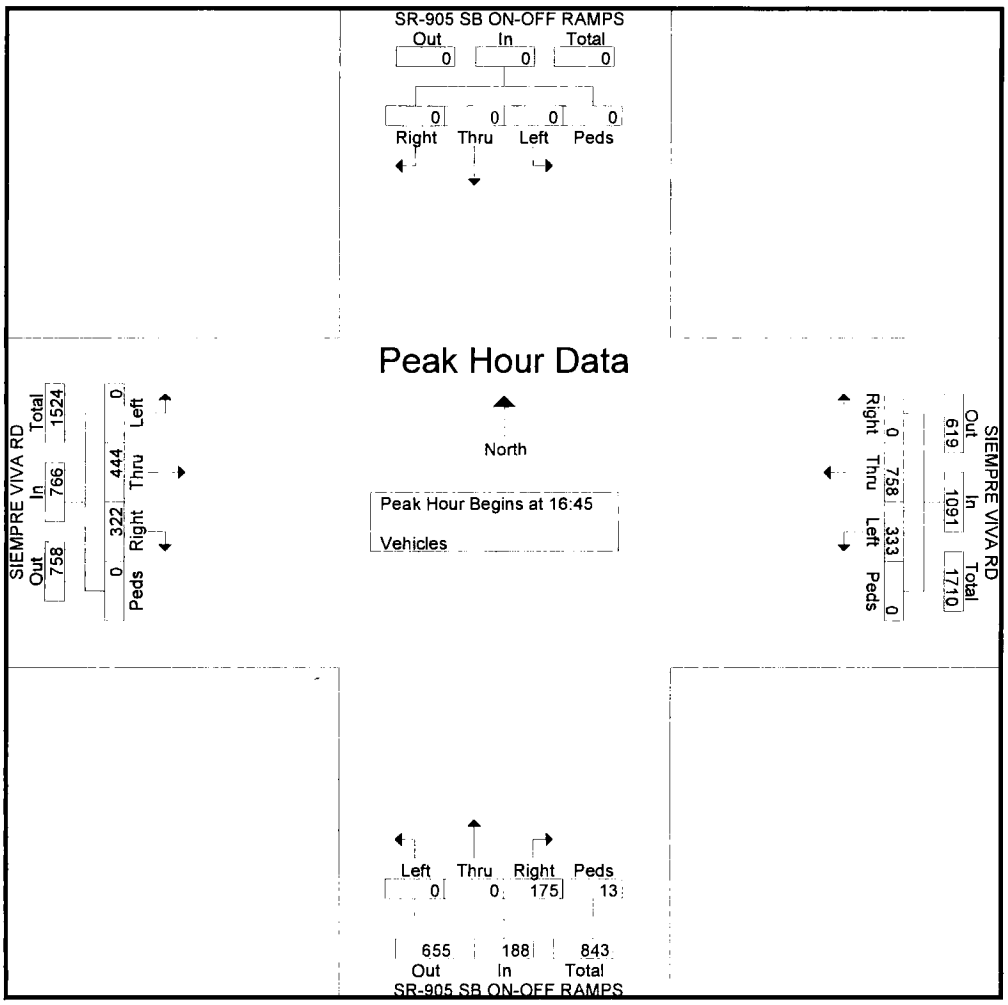


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.03.SR-905 SB ON-OFF RAMPS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 3

	SR-905 SB ON-OFF RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 SB ON-OFF RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	48	168	0	0	216	0	0	43	3	46	0	98	62	0	160	422
17:00	0	0	0	0	0	**104**	**207**	0	0	**311**	0	0	41	4	45	0	**145**	**102**	0	**247**	**603**
17:15	0	0	0	0	0	90	188	0	0	278	0	0	**50**	**5**	**55**	0	103	84	0	187	520
17:30	0	0	0	0	0	91	195	0	0	286	0	0	41	1	42	0	98	74	0	172	500
Total Volume	0	0	0	0	0	333	758	0	0	1091	0	0	175	13	188	0	444	322	0	766	2045
% App. Total	0	0	0	0		30.5	69.5	0	0		0	0	93.1	6.9		0	58	42	0		
PHF	.000	.000	.000	.000	.000	.800	.915	.000	.000	.877	.000	.000	.875	.650	.855	.000	.766	.789	.000	.775	.848

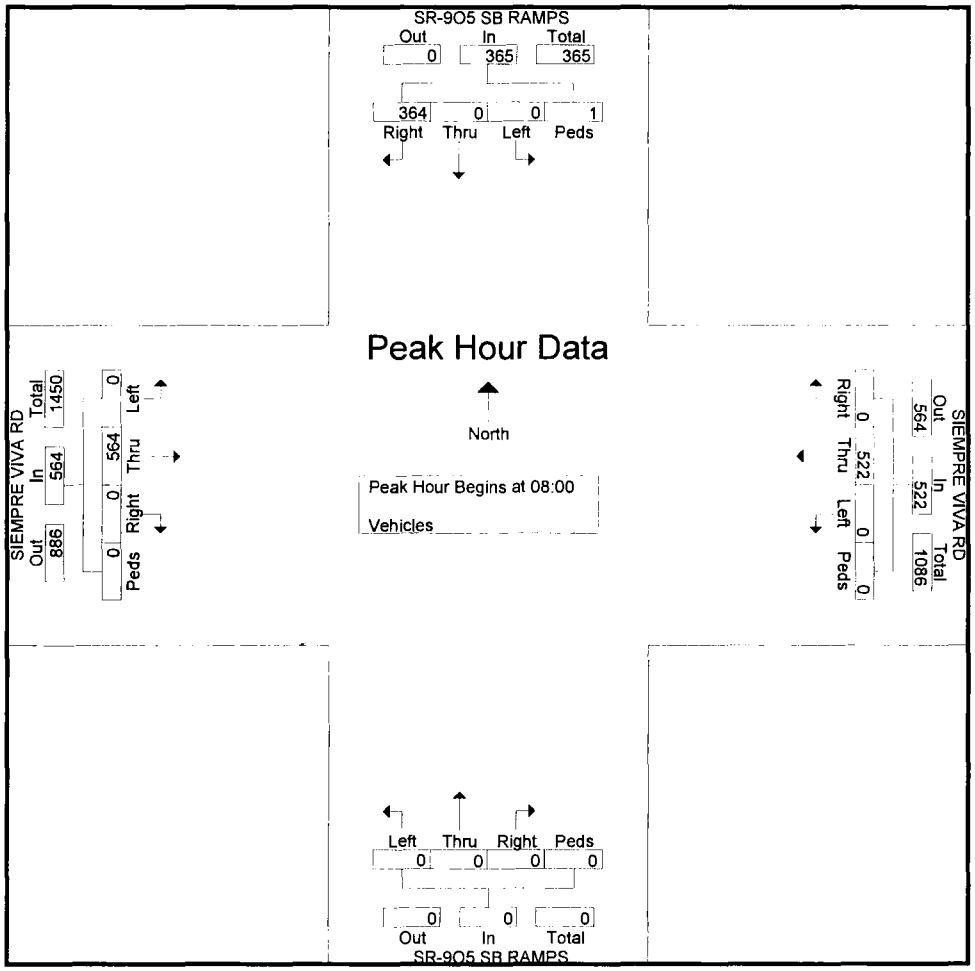


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.04.SR-905 SB OFF RAMP.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/18/2008
Page No : 2

	SR-9O5 SB RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-9O5 SB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	80	0	80	0	95	0	0	95	0	0	0	0	0	0	**162**	0	0	**162**	337
08:15	0	0	106	0	106	0	98	0	0	98	0	0	0	0	0	0	126	0	0	126	330
08:30	0	0	71	**1**	72	0	152	0	0	152	0	0	0	0	0	0	143	0	0	143	367
08:45	0	0	**107**	0	**107**	0	**177**	0	0	**177**	0	0	0	0	0	0	133	0	0	133	**417**
Total Volume	0	0	364	1	365	0	522	0	0	522	0	0	0	0	0	0	564	0	0	564	1451
% App. Total	0	0	99.7	0.3		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.850	.250	.853	.000	.737	.000	.000	.737	.000	.000	.000	.000	.000	.000	.870	.000	.000	.870	.870

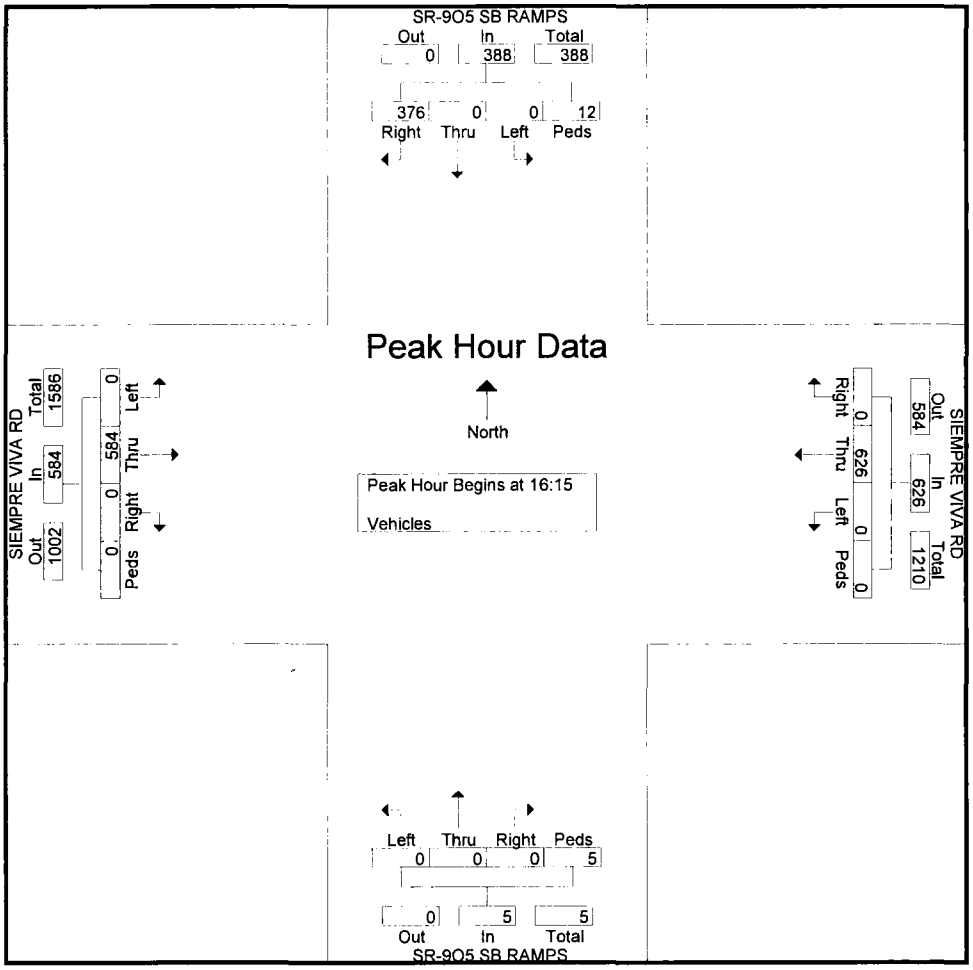


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.04.SR-905 SB OFF RAMP.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/18/2008
Page No : 3

	SR-905 SB RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 SB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	92	3	95	0	147	0	0	147	0	0	0	**4**	**4**	0	149	0	0	149	395
16:30	0	0	**100**	**4**	**104**	0	149	0	0	149	0	0	0	0	0	0	134	0	0	134	387
16:45	0	0	88	2	90	0	153	0	0	153	0	0	0	0	0	0	149	0	0	149	392
17:00	0	0	96	3	99	0	**177**	0	0	**177**	0	0	0	1	1	0	**152**	0	0	**152**	**429**
Total Volume	0	0	376	12	388	0	626	0	0	626	0	0	0	5	5	0	584	0	0	584	1603
% App. Total	0	0	96.9	3.1		0	100	0	0		0	0	0	100		0	100	0	0		
PHF	.000	.000	.940	.750	.933	.000	.884	.000	.000	.884	.000	.000	.000	.313	.313	.000	.961	.000	.000	.961	.934

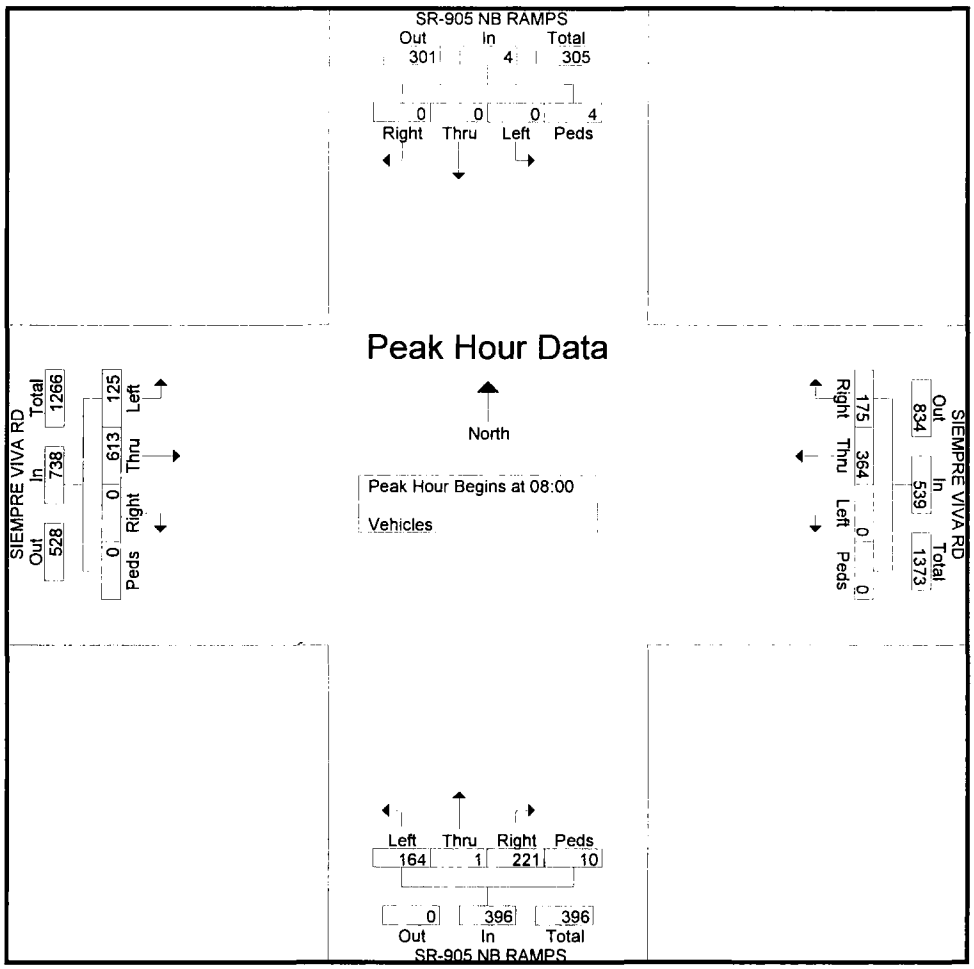


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.05.SR-905 NB RAMPS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 2

	SR-905 NB RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 NB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	90	46	0	136	**49**	**1**	**66**	1	**117**	**34**	149	0	0	183	436
08:15	0	0	0	**2**	**2**	0	82	**48**	0	130	47	0	57	3	107	28	**171**	0	0	**199**	**438**
08:30	0	0	0	1	1	0	**103**	42	0	**145**	33	0	41	1	75	31	140	0	0	171	392
08:45	0	0	0	1	1	0	89	39	0	128	35	0	57	**5**	97	32	153	0	0	185	411
Total Volume	0	0	0	4	**4**	0	364	175	0	539	164	1	221	10	396	125	613	0	0	738	1677
% App. Total	0	0	0	100		0	67.5	32.5	0		41.4	0.3	55.8	2.5		16.9	83.1	0	0		
PHF	.000	.000	.000	.500	.500	.000	.883	.911	.000	.929	.837	.250	.837	.500	.846	.919	.896	.000	.000	.927	.957

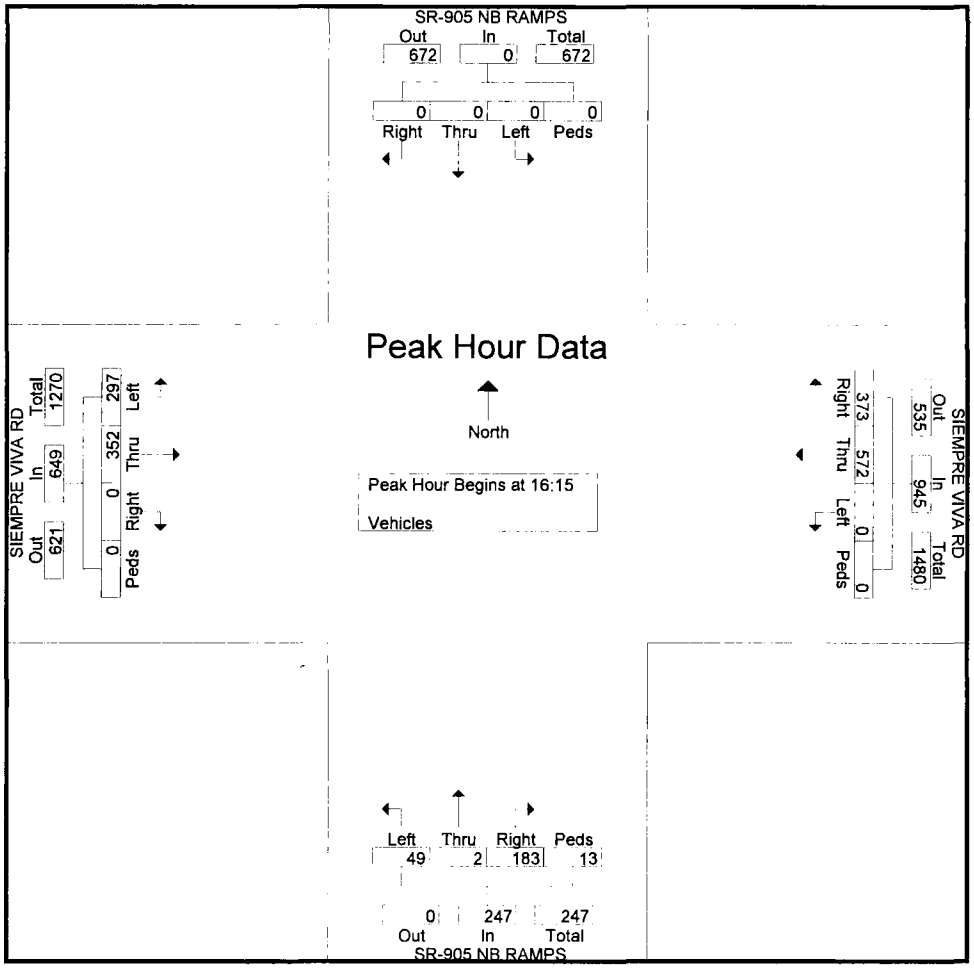


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.05.SR-905 NB RAMPS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/13/2008
Page No : 3

	SR-905 NB RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 NB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	138	86	0	224	13	2	41	0	56	59	**100**	0	0	159	439
16:30	0	0	0	0	0	0	133	89	0	222	8	0	**58**	2	**68**	72	99	0	0	171	461
16:45	0	0	0	0	0	0	149	**99**	0	248	**15**	0	47	4	66	62	74	0	0	136	450
17:00	0	0	0	0	0	0	**152**	99	0	**251**	13	0	37	**7**	57	**104**	79	0	0	**183**	**491**
Total Volume	0	0	0	0	0	0	572	373	0	945	49	2	183	13	247	297	352	0	0	649	1841
% App. Total	0	0	0	0		0	60.5	39.5	0		19.8	0.8	74.1	5.3		45.8	54.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.941	.942	.000	.941	.817	.250	.789	.464	.908	.714	.880	.000	.000	.887	.937

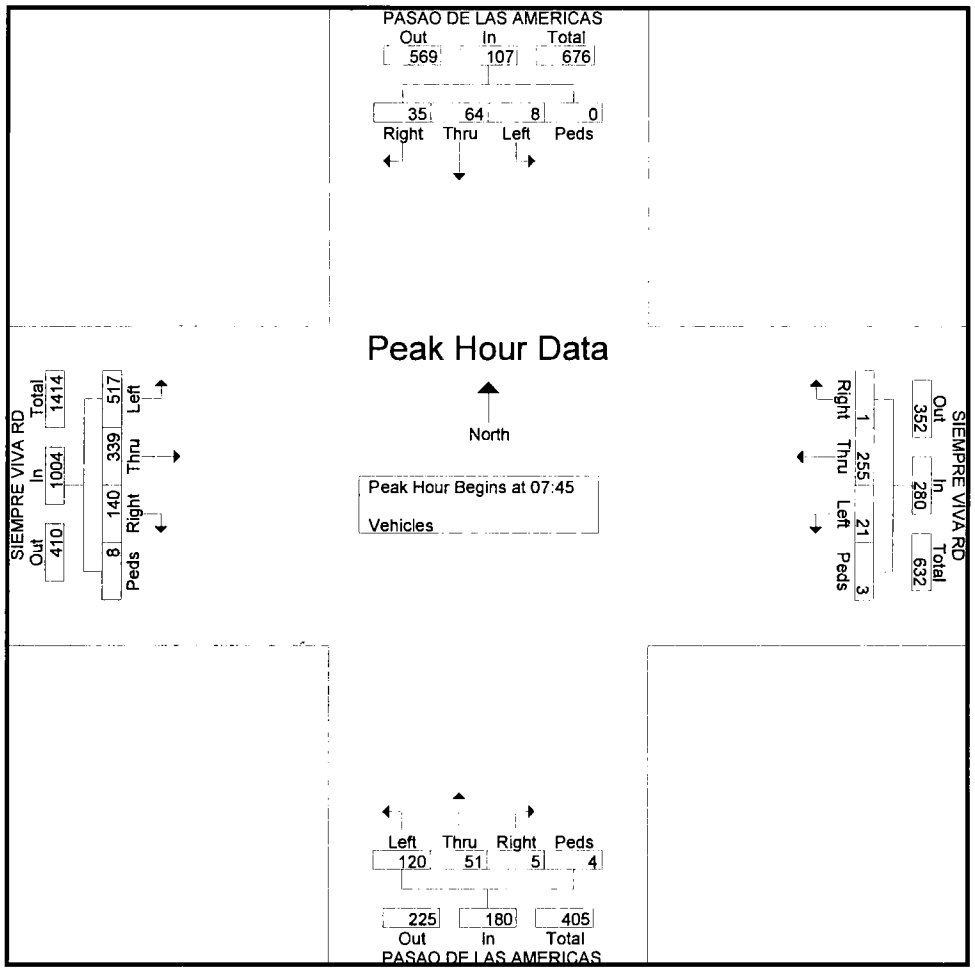


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.06.PASAO DE LAS AMERICAS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/5/2008
Page No : 2

	PASAO DE LAS AMERICAS Southbound					SIEMPRE VIVA RD Westbound					PASAO DE LAS AMERICAS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	1	11	10	0	22	4	**80**	0	0	**84**	14	15	0	0	29	134	**101**	33	**4**	**272**	407
08:00	1	**19**	**14**	0	**34**	4	59	0	**3**	66	26	10	1	1	38	128	86	**39**	0	253	391
08:15	**3**	16	**7**	0	26	**8**	41	**1**	0	50	29	8	**3**	**2**	42	109	75	35	4	223	341
08:30	3	18	4	0	25	5	75	0	0	80	**51**	**18**	1	1	**71**	**146**	77	33	0	256	**432**
Total Volume	8	64	35	0	107	21	255	1	3	280	120	51	5	4	180	517	339	140	8	1004	1571
% App. Total	7.5	59.8	32.7	0		7.5	91.1	0.4	1.1		66.7	28.3	2.8	2.2		51.5	33.8	13.9	0.8		
PHF	.667	.842	.625	.000	.787	.656	.797	.250	.250	.833	.588	.708	.417	.500	.634	.885	.839	.897	.500	.923	.909

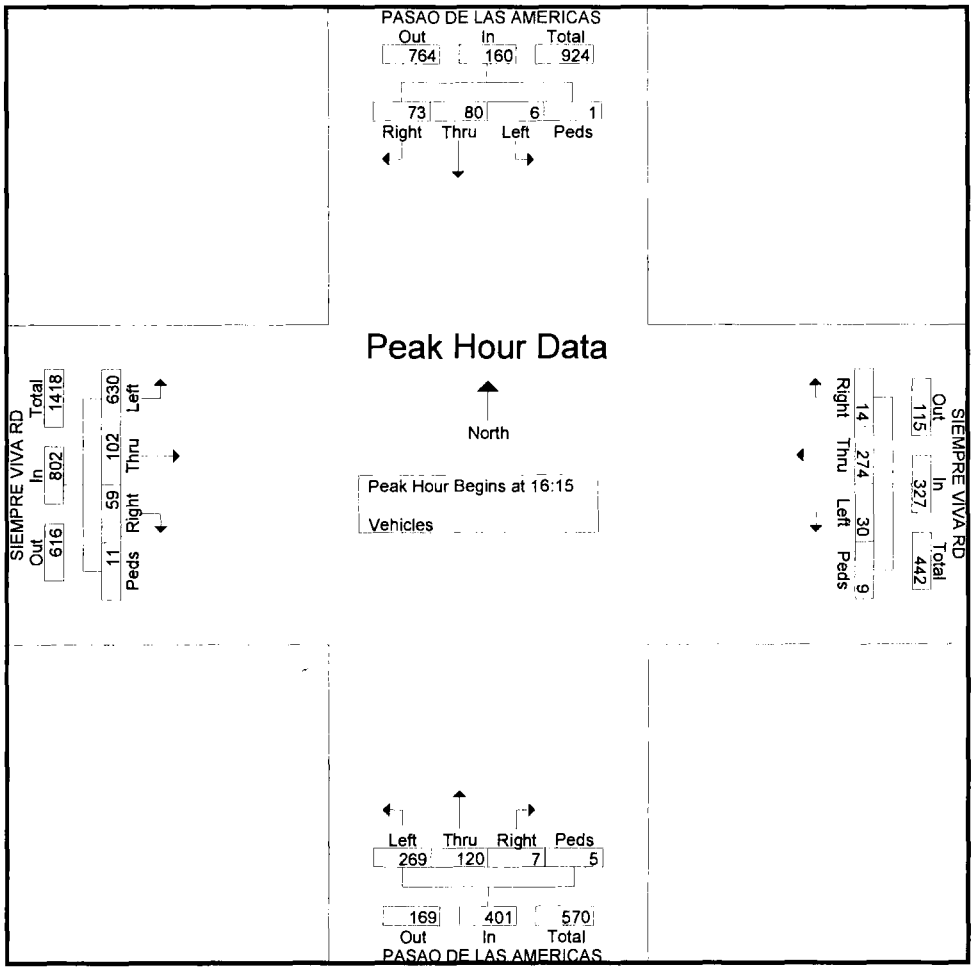


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.06.PASAO DE LAS AMERICAS.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/5/2008
Page No : 3

	PASAO DE LAS AMERICAS Southbound					SIEMPRE VIVA RD Westbound					PASAO DE LAS AMERICAS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	23	8	0	31	5	62	5	1	73	66	23	2	0	91	**180**	27	13	**4**	**224**	419
16:30	**3**	20	23	0	46	8	71	**6**	1	86	63	**42**	1	0	106	153	**30**	**21**	3	207	445
16:45	2	9	17	**1**	29	4	56	2	2	64	54	16	1	**4**	75	137	28	15	0	180	348
17:00	1	**28**	**25**	0	**54**	**13**	**85**	1	**5**	**104**	**86**	39	**3**	1	**129**	160	17	10	4	191	**478**
Total Volume	6	80	73	1	160	30	274	14	9	327	269	120	7	5	401	630	102	59	11	802	1690
% App. Total	3.8	50	45.6	0.6		9.2	83.8	4.3	2.8		67.1	29.9	1.7	1.2		78.6	12.7	7.4	1.4		
PHF	.500	.714	.730	.250	.741	.577	.806	.583	.450	.786	.782	.714	.583	.313	.777	.875	.850	.702	.688	.895	.884



City of San Diego Level of Service Thresholds

TRAFFIC IMPACT STUDY MANUAL

JULY
1998

TABLE 2
Roadway Classifications, Levels of Service (LOS)
and Average Daily Traffic (ADT)

STREET CLASSIFICATION	LANES	CROSS SECTIONS	LEVEL OF SERVICE A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

LEGEND:

XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design. Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.

2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

Excerpts from the County of San Diego Public Facility Element

Part XII
Public Facility Element
San Diego County General Plan

Adopted
March 13, 1991
Amended
January 12, 2005
GPA 04-010

Section 1 – Introduction XII-1-1
Section 2 – Coordination Among Facility Planning, Financing Programs and Land Use Planning XII-2-1
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This Element was partially funded through the Community Development Block Grant program

SECTION 4. TRANSPORTATION

OVERVIEW

An efficient integrated transportation system promotes the movement of people and goods in a timely and orderly fashion. Transportation facilities located within the County include freeways and highways, streets and roads, public transit, bikeways and aviation facilities.

While San Diego County's transportation system offers commuters a range of choices, the automobile is by far the most popular and most frequently chosen method of transportation in the County. During the 10 year period from 1978 to 1988, when population increased by 22%, licensed drivers in the region increased by 40% (to 1,612,000 drivers), auto registrations increased by 64% (to 1,348,000 registrations) and weekday vehicle miles of travel increased by 63%. During this same period, increases in freeway facilities (11%) and local street and road mileage (16%) did not keep up with the increasing demand.[4]

Transit service also plays an important role in the transportation system within the County. Public transit provides a relatively inexpensive and efficient method of transportation, and is the predominant form of transportation for many people, especially students, low income persons and the elderly. The remaining modes of transportation such as air, rail, bicycle and walking represent a small but important amount of total trips within the County.

The San Diego Association of Governments (SANDAG) is designated by both the state and federal governments as the agency responsible for regional transportation planning. In this role, SANDAG prepares a Regional Transportation Plan (RTP) for the San Diego region. The RTP is updated approximately every two years and includes goals and objectives for all forms of transportation facilities in the County. The road network in the County Circulation Element is coordinated with the freeway and highway system presented in the RTP. By working cooperatively and using common information and projections, the County and SANDAG coordinate their plans to provide a regional transportation system that is efficient, safe and convenient.

This section is intended to supplement the Circulation Element of the General Plan. The Circulation Element is a schematic representation of the transportation corridors and widths required at ultimate development of the County General Plan. It also delineates a bikeway system intended to link bicycle traffic within and between communities.

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[4] San Diego Association of Governments, 1989 Regional Transportation Plan, p. 55-56.

EXISTING CONDITIONS

The County of San Diego is responsible for ensuring the planning, development and maintenance of transportation facilities located in the unincorporated area. In addition, the County works closely with other agencies, including SANDAG, the Metropolitan Transit Development Board (MTDB), the North San Diego County Transit Development Board, and the California Department of Transportation (CALTRANS) to aid in the planning of transportation facilities and services throughout the region.

ROAD AND BRIDGE FACILITIES

Travel by bicycle, car or public transit utilizes roads and bridges. With the increasing population and automobile usage in San Diego County, the amount of traffic on the roads has increased. Expanding the County road and bridge network is a continual process. In 1990, there were approximately 1,864 miles of County-maintained roadways in the unincorporated area, including both Circulation Element and non-Circulation Element roads. Additional roads in the unincorporated area that are not constructed or maintained by the County include freeways, highways and private roads.

The County Circulation Element is divided into two parts: maps and a written text. The nine Circulation Element maps covering the entire County depict the major roads and bicycle routes in the County, both existing and proposed. This is the County's plan for the location and size of roads that will be required in the future to serve proposed land uses in the unincorporated area. The size of each road varies from 2 to 6 lanes based on the forecasted number of trips to be made on the road.

The vehicular capacity of a roadway is measured by a Level of Service scale. With six tiers (A thru F), the level of service for a particular road is a measure of speed and travel time, traffic interruptions or restrictions, freedom to maneuver, safety, driver comfort and convenience, and economy. Level of Service "A" is identified as free vehicular flow with few conflicts or interruptions, while "F" is identified as highly congested stop-and-go with many vehicular conflicts and interruptions. Level of Service "C" is considered to be the desired service level on County roads.

The Circulation Element maps are important tools for preserving road rights-of-way and planning for needed road construction. As development occurs and creates the demand for additional roadways, the roads are constructed. The County Board of Supervisors approves updates to the Circulation Element maps as land use changes are approved. County transportation planning is coordinated with the cities in the region to ensure that region-serving roads common to multiple agencies are planned to meet the expected demand in all areas, and that widths and alignments are compatible.

Roads in the unincorporated area are constructed by both the County and by private property owners. The County builds needed roads to the extent that funds are available; however, the majority of the roads in the unincorporated area are constructed by private property owners as a condition of development. This includes roads within development projects, peripheral roads and off-site roads, if warranted by the demand generated by the development.

To support County road construction and maintenance, the County Department of Public Works operates 17 road maintenance stations. These stations serve as staging areas for road maintenance crews. Twelve borrow pits, 8 County owned and 4 leased, provide the paving and gravel materials needed to maintain the roadways. Figure 4-A shows the locations of the County road maintenance stations and borrow pits.

In addition to roads, the County also builds and maintains bridges in the unincorporated area. In October 1989 there were a total of 650 bridge or dip structures in the unincorporated area of the County, including 120 bridges with a span of 20 feet or more, 67 bridges with a span of less than 20 feet, 385 culverts, and 78 dip structures. These structures are located on both Circulation Element and non-Circulation Element roads.

Responsibility for the construction of bridge structures is borne by both developers and the County. The majority of the bridge structures are provided by the County; however, in some cases developers are required to build a bridge structure as a condition of development. The County contracts for the construction of bridges to private firms and assumes maintenance responsibility for them upon completion.

BICYCLE FACILITIES

The mild year-round climate in the San Diego region makes the area ideal for the use of bicycles for transportation. Currently, there are over 230,000 bicycle trips made daily within the San Diego region on more than 450 miles of designated bikeways and other roadways. Increased costs for motorized travel, congested roads and highways and a greater emphasis on physical fitness have all contributed to greater bicycle ridership. Because of the growing demand for transportation by bicycle, increased attention is being focused on this mode of travel.

Bicycle use, however, has not increased at the rate projected in the 1985 SANDAG Regional Transportation Plan. SANDAG projected a 10% increase between 1985 and 1987, while actual ridership during this period increased by only 5%. Major reasons for the slower increase in ridership include inadequate funding for bikeway projects, which has resulted in a 50% completion rate of planned bikeway projects, and a lack of incentives to encourage bicycle ridership.

FIGURE 4-A GOES HERE

X11-4-4

In the unincorporated area of San Diego County, there were a total of 70 miles of Bikeways in 1990. Of the 70 miles of Bikeways in the unincorporated area, Bike Lanes account for 68.5 miles, Bike Paths for 1.0 mile and Bike Routes for .5 miles. Definitions of Bikeways, Bike Lanes, Bike Paths and Bike Routes are contained in the Circulation Element. The Bicycle Network Map of the Circulation Element, in addition to showing existing Bikeways, maps over 300 miles of planned Bikeways that are not yet constructed.

Bicycle facilities in the unincorporated area are constructed by both developers and the County. Beginning in 1989, the County embarked on an aggressive program to expand the existing Bicycle Network. When improving property along roadways with planned Bikeways, the County requires the provision of Bikeways as part of the road improvements. State and Federal funding is being actively pursued to complete the remaining Bikeway segments.

In an effort to encourage bicycle ridership by both its employees and the general public, the County of San Diego has placed bicycle lockers at 14 County buildings and at regional transit centers. Currently, there are 59 lockers (holding 118 bicycles) at County buildings and a total of 20 additional lockers (holding 40 bicycles) in place at the Chula Vista and Oceanside Transit Centers. Bicycle racks and posts are also available.

TRANSIT FACILITIES

The San Diego County Transit System provides public transportation services to the unincorporated area and to 14 of the region's 18 cities. Public transit planning is done on a regional basis by the Metropolitan Transit Development Board, the North County Transit District and SANDAG, with input from the County. The County Department of Public Works completes short-range transit plans and transportation improvement programs for the systems it operates.

The County Transit System utilizes six types of transit services in its effort to provide a functional and responsive transit system. These are Suburban Fixed Route, Commuter Express Bus, Rural Lifeline service, Airporter service, Elderly and Disabled Dial-A-Ride service and General Public Dial-A-Ride services. Through these programs, the County Transit System serves almost two million passengers annually. Table 4-1 describes the different types of transit service and lists ridership levels for FY 89-90. All transit services offered by the County Transit System are provided by private contractors. In 1990, there were 10 contracted transit service providers. Seven contractors use their own vehicles, while the remaining three operate County-owned vehicles. In all cases, County Transit Service contractors provide vehicle maintenance and storage facilities.

As a means of integrating different transportation systems and types, increasing ridership and increasing accessibility, the County provides transit centers. Transit

centers generally serve a number of routes and have over 500 boardings per day. The Transportation Development Act allows the County to build transit centers anywhere in the County. Once the center is built, the

TABLE 4-1
SAN DIEGO COUNTY TRANSIT SERVICE FY 1989-1990

SERVICE TYPE	DESCRIPTION OF SERVICE	NO. OF FIXED ROUTES	ESTIMATED ANNUAL PASSENGERS
SUBURBAN FIXED ROUTE SERVICE	Fixed bus routes serving the cities and communities of La Mesa, Lemon Grove, El Cajon, Santee, Spring Valley, Rancho San Diego, Lakeside and Alpine. All of the routes offer connections to the San Diego Trolley and to San Diego Transit routes.	8	1,397,000
COMMUTER EXPRESS BUS	Fixed bus routes providing round trip service from Poway to downtown San Diego, Escondido to downtown San Diego and Oceanside to downtown San Diego. Connections to other transit services are also available along these routes.	3	170,000
POWAY TRANSIT SERVICES	There are three different services provided in the Poway area. The first service consists of fixed bus routes serving Poway with connections to San Diego Transit routes. Second is the Poway Dial-A-Ride, which provides demand responsive service to the general public. Third is the Poway Airporter, which is a demand-responsive service operating between Poway and the San Diego International Airport-Lindbergh Field.	3, N/A, N/A	254,700
RURAL BUS SERVICE	Fixed bus routes providing service from the rural eastern areas of the County to the cities of El Cajon and La Mesa with connections to San Diego Transit, the San Diego Trolley and other County Transit System routes.	7	16,800
ELDERLY and DISABLED DIAL-A-RIDE	Demand-responsive dial-a-ride providing service to elderly and disabled clientele in the cities and communities of El Cajon, La Mesa, Lemon Grove, Spring Valley, Lakeside and Alpine.	N/A	46,000
SPRING VALLEY DIAL-A-RIDE	Demand-responsive dial-a-ride for the general public serving the community of Spring Valley.	N/A	41,000

transit operator serving the center generally is responsible for facility maintenance and upkeep. In 1990, the County-owned, either solely or in partnership with other jurisdictions, the following four transit centers:

- Oceanside -- County owned
- Escondido -- Joint ownership between the County and North County Transit
- San Diego State University -- County-owned
- Chula Vista Bayfront Trolley Station -- Joint ownership between the County and the City of Chula Vista.

Figure 4-B shows the locations of both existing and proposed County-owned transit centers. Other existing transit centers constructed by the County but owned by other jurisdictions are:

- University Towne Center
- Vista

AVIATION FACILITIES

Aviation facilities in San Diego County include 40 airports and 39 heliports. Of these facilities, 8 of the airports and 3 of the heliports (located at county airports) are owned by the County. One of the airports, Fallbrook, is leased and operated by a private group. Lindbergh Field, San Diego's major airport serving approximately 11 million passengers per year, is owned and operated by the San Diego Unified Port District and is not discussed in this Element. Figure 4-C shows the locations of all County-owned aviation facilities.

Public airports typically prepare an Airport Master Plan for the ultimate development of the airport's facilities. Additionally, State law requires each public airport to adopt a Comprehensive Land Use Plan (Public Utilities Code Section 21670 et seq.). These plans are prepared for the area surrounding each facility to ensure compatibility between adjacent land uses and the operation and/or expansion of the airport. The Comprehensive Land Use Plan also addresses noise levels, maximum building heights in surrounding areas and other public safety issues.

The 8 airports and 3 heliports that are owned by the County cover a combined total of 2,254 acres. Currently, there are approximately 1,562 private aircraft based at these facilities that, when combined with visiting aircraft, conduct approximately 534,921 operations per year (an operation is defined as one takeoff or one landing). Table 4-2 identifies the County-owned aviation facilities and lists the size and usage levels for each facility.

FIGURE 4-C GOES HERE

MAP TO GO HERE

TABLE 4-2
COUNTY OWNED AVIATION
FACILITIES IN 1989

NAME	NO. OF BASED AIRCRAFT[1]	TOTAL ACRES	ANNUAL NO. OF OPERATIONS
Agua Caliente Springs Airport	1	20	300[2]
Borrego Valley Airport	31	198	41,620[3]
Fallbrook Community Airport	77	290	1,995[3]
Gillespie Field Airport and Heliport	635	743	174,599[4]
Jacumba Airport	7	131	2,500[2]
McClellan Palomar Airport and Heliport	422	486	206,692[4]
Ocotillo Airport	0	344	200[2]
Ramona Airport and Heliport	220	342	113,184[2]
TOTAL(S)	**1,393**	**2,554**	**541,090**

1 Based Aircraft: All figures are for 1989 except Fallbrook (1987).
2 1989 estimated number.
3 1987 number.
4 1988 number.

EXISTING FACILITY LEVELS

STREETS AND ROADS FACILITY LEVEL

The existing street and road system in the unincorporated County is generally operating at an acceptable level of service; a majority of the streets and roads experience little or no congestion. Most of the congestion that does exist in the unincorporated area takes place on major arterials during peak-hour traffic periods. Commuters approaching freeways to go to work cause congestion on the main arterials and also add to the congestion on the region's freeways in the more urbanized areas. As urban land uses have been extended outward to the more rural areas, and commuters drive greater distances to their workplaces, the amount of congestion on the region's freeways and highways has increased.

BICYCLE FACILITY LEVEL

While the Bicycle Network Map of the Circulation Element shows almost 400 miles of proposed bikeways in the unincorporated area, by 1990 only 70 miles of bikeways had been constructed. This level is not considered adequate to meet the needs of the unincorporated area.

TRANSIT FACILITY LEVEL

As the population of the San Diego region has grown, the use of transit services has increased. In addition to the completed transit centers, the following centers are planned for development by the County:

- o County Administration Center
- o Carlsbad Transit Center
- o Grossmont College Transit Center
- o Spring Valley Transit Center
- o Southwestern College Transit Center
- o Santee Transit Center
- o Oceanside Transit Center Phase II
- o Bayfront Trolley Station Phase II

In addition, a transit center is planned for Rancho San Diego. This center is being built by a private developer. Analysis of potential additional transit center sites will occur prior to completion of those currently planned.

AVIATION FACILITY LEVEL

Currently, the County's general aviation demands are being met by existing facilities. In 1989, there were 1,352 aircraft based at the County airports, and a combined total of 561,511 take-offs and landings conducted at the airports.

FUNDING METHODS

Funding transportation improvements in the County is becoming increasingly difficult. Previously used funding sources have in large part either been abolished or severely curtailed. Hardest hit have been funds available for routine operation and maintenance of existing facilities. As a result, funds that were previously available for construction of new facilities are now being channeled towards the operation and maintenance of existing facilities. In order to meet the needs of a growing County, new and alternate funding sources have been developed. These new sources, combined with the traditional funding mechanisms, still do not meet the entire transportation funding needs in the County. Some funding sources are exclusive to one type of transportation, while others are available for several modes.

STREETS AND ROADS FUNDING

State Subventions

The State provides transportation funding to the County through several programs. A State tax on gasoline provides funds which can be used for operation and maintenance costs or for the construction of roads, bridges and bikeways. The County also receives funds from the Streets and Highway Code, Section 2104(d) based on the ratio of registered vehicles throughout the County to the total vehicle registration throughout the State. These funds can be used for road construction.

Fines and Forfeitures

A portion of the revenues collected by the municipal courts for Vehicle Code violations (Vehicle Code Sections 42201 and 42210.5) are received by the County Road Fund for use in road maintenance and construction.

Development Exactions

Within the County, developers are generally required to construct all roads within their projects. In some cases developers may also be required to make off-site improvements to roads to mitigate the traffic impacts of the development.

Transportation Sales Tax (TransNet)

The passage of Proposition A (TransNet) in November of 1987, which raised the sales tax by one-half cent, is expected to provide the region with approximately $2.25 billion over the 20 year lifespan of the tax. Approximately $750 million will be generated for improvements to the each of the following: the region's highways, local streets and roads, and transit. From 1990 to 1995, the County will receive approximately $56.7 million dollars in TransNet funds for local streets and roads, to expand and improve the existing road system in the unincorporated area. Additionally, $1 million per year will be provided for the construction of bikeways throughout the region. The amount of TransNet funding received by the County and other jurisdictions each year is determined by SANDAG. SANDAG reviews TransNet funding requests in the region and determines the projects to be funded and the timing of funding.

Bridge and Thoroughfare Fee

A fee for bridges and thoroughfares is authorized by Government Code Section 66484 et seq. This statute authorizes the County to institute a fee to be applied to all new development in an identified area of benefit to offset the construction or expansion costs of planned Circulation Element roads, bridges and bikeways needed to serve the development.

Federal and State Grants

In FY90-91 the County received funding through three grant programs for use on transportation facilities: $500,000 from the Community Development Block Grant, and $2.5 million from the Federal Highway Administration. The County is also eligible to receive funds under the Combined Road Plan Program, which was created with the consolidation of the Federal Aid-Urban, Federal Aid-Secondary and Bridge Replacement Programs.

Assessment Districts

The Improvement Act of 1911 and the Municipal Improvement Act of 1913 enable the County to establish assessment districts to finance the construction or acquisition of public improvements, including roads and bridges, through the sale of bonds. The County can issue bonds to finance public improvements using the Improvement Act of 1911 or the Improvement Bond Act of 1915. Bonds are retired through assessments levied on properties receiving benefit from the improvement.

Prior to 1977 assessment districts were used extensively for both large and small scale projects. However, with the passage of Proposition 13, the use of assessment districts in the County to finance transportation projects decreased dramatically. Between 1977 and 1989, there were no assessment districts formed for the purpose of funding

transportation projects. However, in 1989, the formation of 4 assessment districts for transportation improvements in large-scale projects were being processed by the County.

AIRPORT FUNDING

Federal and State Funding

Federal and State grants for public airports are available for the design and construction of aviation related projects that have been recommended in an airport master plan or approved on an airport layout plan. Grant funds can also be obtained for the preparation of planning documents, such as airport master plans. Grant funds typically cover 80 to 90 percent of the total project cost. Grant funding is generated from fuel taxes, ticket surcharges and aircraft registration fees levied upon users of aviation facilities.

Lease Revenues

Another source of revenue for aviation facilities is the income earned from leased properties at County Airports. These revenues are used for capital improvements and maintenance at the eight County airports.

TRANSIT FUNDING

Federal and State Funds

Transit center funding is available from the Transportation Development Act, and through grants from Combined Road Plan[5], State Transit Capital Improvement Program (TCI) and State Inter-modal sources. Grant funding is sought and utilized whenever available to supplement other sources.

Development Exactions

The County may require developers to construct transit facilities if their projects cause a need for additional or expanded transit service.

Transportation Sales Tax

The County Transit System is receiving approximately $130,000 per year from TransNet to subsidize elderly and disabled services and senior fares.

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[5] Combined Road Plan funds used for transit center development are received from local jurisdictions that will benefit from the transit center.

BICYCLE FUNDING

Developer Exactions and Contributions

Many of the bikeways that are constructed in the unincorporated area are built by property owners as a condition of development. When a project is located on a roadway designated as a bikeway in the Circulation Element, the developer is required to construct the bikeway that abuts his property.

Transportation Sales Tax

The collection of the transportation sales tax (TransNet) is providing the San Diego region with $1 million per year (for 20 years) for the improvement and expansion of bicycle facilities. In FY89-90, the County received $210,000 from TransNet to fund the development of additional bikeways and related facilities in the unincorporated area.

Federal and State Funds

State Transportation Development Act Funds provide approximately $1 million per year to the region for bicycle facility improvements within road rights-of-way. In FY89-90 the County share of this money was $460,000. SANDAG reviews all of the projects requesting funding from this source and determines which will be funded. Funds from the State Bike Lane Account are available on a competitive basis for bicycle facility improvements serving commuter cyclists. The maximum amount that an agency can be granted in one year from this source is $90,000.

ISSUES

1. **Increases in the amount of automobile use have resulted in increased congestion on the region's roadways.**

   Discussion: The dramatic rise in automobile use has far surpassed the ability of the County and other jurisdictions to upgrade and maintain the highway and road system. As the number of vehicles on the roadways has increased, the expansion of existing roadways and the construction of new roadways has not kept pace. Between 1978 and 1988, automobile registrations increased by 64% while increases in local street and road mileage only rose by 16%. As a result, certain roadways are functioning at a Level of Service "E" or "F" on a routine basis.

   A LOS "C", which allows for stable traffic flow with room to maneuver, is a generally accepted level to strive for in new development. At this level, traffic generally flows smoothly, although freedom to maneuver within the roadway is somewhat restricted and lane changes require additional care.

However, there are some cases where development cannot achieve a LOS "C" on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS "C". Additionally, there are existing roadways in the County that are currently operating below a LOS "C". Such cases are currently exceptions and generally occur when there is insufficient right-of-way to expand or modify a roadway or when the existing development in the area has generated more traffic than anticipated. In these cases a Level of Service "D" is acceptable on off-site roadways. At this level, small increases in flow cause substantial deterioration in service. Freedom to maneuver is limited and minor incidents can cause substantial interruption in the traffic flow.

When the roadway system reaches a LOS "E" or "F", or new development would push it to LOS "E" or "F", new development should not be approved unless the project can mitigate the LOS "E" or contribute a fair share to a program to mitigate the project's impacts, unless a statement of overriding findings can be made.

In order to control the amount of traffic on the roadways, and subsequently the amount of congestion, it is necessary to apply the LOS measurement to all roads that are impacted by a proposed project. The effect of a project on the road system varies from project to project. Due to the size and type of project, the type and capacity of roads serving the project, the amount of traffic generated by the development and the existing development pattern, the impact will vary from one project to another. To apply a LOS standard to only major or larger capacity roads or to within a specified geographic distance of a project could result in an inadequate review of the impacts of a project and create the potential for increased congestion. Therefore, project impacts should be assessed on a case-by-case basis.

2. **New development has a regionwide impact on transportation facilities extending beyond jurisdictional boundaries.**

Discussion: New development, regardless of the type, results in additional trips being taken on the region's transportation facilities. When development occurs, the automobile trips generated by the development are not restricted to the area immediately surrounding the development. Rather, the trips are made throughout the region. These trips not only increase the level of congestion on the transportation facilities in the community where the development is located, but also on the facilities in surrounding jurisdictions, and throughout the entire region.

3. **The increased reliance on personal vehicles has resulted in increased congestion on the region's roadways and highways.**

Discussion: A majority of the trips taken throughout the region is made in personal vehicles occupied by one person. This reliance on personal vehicles has contributed greatly to increased congestion and longer delays on the region's roads and highways.

Efforts to reduce the congestion on the roadways have traditionally focused on the construction of new roads or the expansion of existing roads. Recently, agencies have been developing Transportation Demand Management (TDM) programs to better manage travel demand during the busiest travel times and to improve the efficiency and effectiveness of the region's transportation systems. To achieve these goals, TDM includes the development and implementation of programs designed to influence traveler behavior by modifications in travel mode, frequency, time, route, vehicle occupancy, direction, trip length or facility assignment[6].

Additionally, legislation adopted in 1990 (Propositions 108 and 111) addressed the traffic congestion problem. The measures provide additional funding for transportation improvements, but also place additional requirements on the receipt of these funds. The legislation requires the preparation and adoption of a Congestion Management Program (CMP) for the San Diego region. One of the requirements of the CMP is that Level of Service standards be adopted for all state highways and for principal arterials. The LOS can be set at "E" or the current level, whichever is lower. Failure to meet this standard could result in the withholding of transportation improvement funds.

4. **The need for transportation improvements has increased faster than funds have been made available to finance the improvements.**

Discussion: The large-scale rapid growth experienced throughout the region in the 1980s resulted in an increased burden on the region's transportation facilities. Funding needed to expand the facilities has not kept pace with the improvements needed to accommodate the increased use. Even with the funding provided by passage of Proposition A (TransNet), construction and maintenance of much of the region's transportation system remains underfunded. In the unincorporated area in 1989, there was a $46 million backlog in construction of needed roadway facilities and a $76 million backlog in maintenance of existing roadways.

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[6] San Diego Association of Governments, 1989 Regional Transportation Plan, p. 161.

5. **Poorly planned or unregulated development in the vicinity of existing aviation facilities can result in future conflicts between incompatible land uses.**

Discussion: When new development occurs in the vicinity of existing aviation facilities without sufficient consideration of the potential impacts, incompatibility of land uses may occur. Impacts such as noise and the potential hazard from crashes must be considered during land use planning reviews to ensure the health and safety of the public and to eliminate opposition to airport operations by surrounding residents. An airport's comprehensive land use plan identifies and recommends land use types that would be compatible with the airport use. The plan is intended to prevent the development of incompatible land uses and creation of hazards. Development projects are reviewed to ensure compatibility with both the current and future plans for the airport. For airports that do not yet have an adopted comprehensive land use plan, SANDAG's Airport Land Use Commission reviews all actions, regulations, and permits within the vicinity of the airport.[7]

6. **Bicycle facilities in the unincorporated area have traditionally been developed at a slow rate.**

Discussion: Over the past 10 years, an average of 4 miles of bikeways have been built annually in the unincorporated area. This level is below the rate of bikeway development that would be needed for the County to contribute its fair share toward meeting SANDAG's goal of increasing regional bikeway mileage by 30 miles per year. This is due in large part to a lack of funding sources, a lack of education programs to encourage cycling as an alternate mode of transportation, and a lack of emphasis on the development of bicycle facilities. In recent years, an increased emphasis has been placed on the development of bicycle facilities, and in FY 89-90, approximately 15 miles of bikeways were projected to be constructed in the unincorporated area. Publicity and educational programs directed at potential cyclists as well as motorists would encourage use of the bicycle as an alternative to the car.

[7] As used in this section, "vicinity" means land that will be included or reasonably could be included within an airport's comprehensive land use plan. If a designated study area for the plan has not been identified, then "vicinity" means land within two miles of the boundary of a public airport.

GOALS, OBJECTIVES, POLICIES AND IMPLEMENTATION MEASURES

GOAL

A SAFE, CONVENIENT, AND ECONOMICAL INTEGRATED TRANSPORTATION SYSTEM INCLUDING A WIDE RANGE OF TRANSPORTATION MODES.

OBJECTIVE 1:

A Level of Service "C" or better on County Circulation Element roads.

Policy 1.1: New development shall provide needed roadway expansion and improvements on-site to meet the demand created by the development, and to maintain a Level of Service "C" on Circulation Element Roads during peak traffic hours. New development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service "D" on Circulation Element Roads.

Implementation Measure 1.1.1: Review all development proposals to determine both their short-term and long-term impacts on the roadway system. The area of impact will be determined based on the size, type and location of the project; the traffic generated by the project; and the existing circulation and development pattern in the area. [DPW, DPLU]

Implementation Measure 1.1.2: Require, as a condition of approval of discretionary projects, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "C" on on-site Circulation Element roads except within the Otay Ranch project as defined in the Otay Subregional Plan Text, Volume 2. [DPLU, DPW]

Implementation Measure 1.1.3: Require, as a condition of approval of discretionary projects which have a significant impact on roadways, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "D" on off-site and on-site abutting Circulation Element roads. New development that would significantly impact congestion on roads at LOS "E" or "F", either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to "D" or better or appropriate mitigation is provided . Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines. [DPLU, DPW]

Implementation Measure 1.1.4: Whenever possible on development proposals, require that access to parcels adjacent to roads shown on the Circulation Element be limited to side streets in order to maintain through traffic flow. [DPW, DPLU]

Policy 1.2: General Plan Amendments and Rezones shall be reviewed to ensure that any proposed increases in density or intensity of use will not prevent the planned Circulation Element road system from operating at its planned Level of Service at buildout.

OBJECTIVE 2:

Equitable sharing of funding for transportation facilities.

Policy 2.1: New development shall be required to contribute its fair share toward financing transportation facilities.

Implementation Measure 2.1.1: Apply the Bridge and Thoroughfare Fee to all areas of the County and/or establish an unincorporated area traffic impact fee to support construction of the Circulation Element roadway and bikeway system in the unincorporated area to the extent necessitated by new development. [DPW]

Implementation Measure 2.1.2: Assist and support the development of a regional transportation impact fee to finance regional transportation improvements necessitated by new development. [DPLU, DPW]

Policy 2.2: The County will actively work to reduce existing transportation facilities deficiencies.

Implementation Measure 2.2.1: Seek new and additional sources of funding to help finance improvements and maintenance of County transportation facilities. [DPW]

Implementation Measure 2.2.2: Seek the County's fair share of state transportation bond issues, Proposition A sales tax funds, and other state and federal funding programs. [DPW]

OBJECTIVE 3:

A transportation system that is coordinated and integrated with the transportation facilities and plans of surrounding jurisdictions.

POLICY 3.1: The expansion of County transportation facilities will be coordinated with transportation plans of adjacent jurisdictions.

Implementation Measure 3.1.1: Coordinate with other jurisdictions in the review of planned transportation routes and facilities of regional or subregional importance to ensure compatibility between County, city and state plans. [DPLU, DPW]

Implementation Measure 3.1.2: Refer all discretionary development projects within city spheres of influence, within 1 mile of a city boundary, or within a city's designated planning review area to the appropriate city for a determination of the impact on city transportation facilities. [DPLU]

Implementation Measure 3.1.3: Establish a cooperative mechanism to reconcile differences between the County Circulation Element and that of neighboring cities. [DPLU]

Implementation Measure 3.1.4: Provide input to SANDAG during the development of regional transportation plans. [DPW, DPLU]

Implementation Measure 3.1.5: Coordinate with CalTrans in the review of planned improvements to State highways to ensure conformance to State requirements. [DPW, DPLU]

OBJECTIVE 4:

Reduction in the demand on the road system through increased public use of alternate forms of transportation or other means.

Policy 4.1: The use of alternate forms of transportation such as public transit and car/van pools will be supported and encouraged to reduce both roadway congestion and pollution.

Implementation Measure 4.1.1: In areas where there are likely to be a large number of prospective users, coordinate the planning of all new transit routes or route changes with established development patterns and land use plans to efficiently serve existing and future transit generators. [DPW, DPLU]

Implementation Measure 4.1.2: Work cooperatively with other jurisdictions and public transportation agencies, including the Metropolitan Transit Development Board and the North County Transit District, to provide a coordinated and integrated transit service network, including completion of the regional transit centers program. [DPW]

Implementation Measure 4.1.3: Consider the inclusion of public restrooms in the construction of new transit centers. [DPW]

Implementation Measure 4.1.4: Seek to increase transit service funds consistent with population growth and passenger demand. [DPW]

Implementation Measure 4.1.5: Site County facilities in close proximity to transit corridors, when feasible. [DGS, CAO, DPLU, DPW]

Implementation Measure 4.1.6: Establish incentive programs for employers to encourage their employees to utilize alternate forms of transportation. [DPW, DPLU, CAO]

Implementation Measure 4.1.7: Encourage employers to:

a) provide employees with subsidized transit passes;
b) establish carpool programs;
c) provide vehicles for employee van-pools;
d) provide preferential carpool parking;
e) provide secure storage facilities, showers and lockers to encourage employees to use bicycles;
f) use flex-time and staggered work hours;
g) allow employees to telecommute from home or satellite offices; and
h) participate in the commuter computer program.

[DPW, DPLU, CAO]

Implementation Measure 4.1.8: Develop fiscal and other incentives to promote the use of multi-modal means of transportation (e.g., bicycling to park-and-ride facilities). [DPW, DPLU, CAO]

Implementation Measure 4.1.9: Encourage pedestrian movement through urban design techniques, creating pedestrian-friendly environments and proper land use mix. [DPLU]

Policy 4.2: The County will ensure the development of its bikeway system and encourage its use.

Implementation Measure 4.2.1: Condition the approval of new development on dedication and construction of bikeways as indicated in the Circulation Element's Bicycle Network Plan. [DPLU, DPW]

Implementation Measure 4.2.2: Construct bikeways in areas where there are potentially large numbers of prospective users. [DPW]

Implementation Measure 4.2.3: Acquire cost-effective rights-of-way and/or negotiate for the use of existing rights-of-way or easements for bikeways (e.g., abandoned railroad rights-of-way, pipeline/ powerline easements, flood control channels). [DPW, DPLU]

Implementation Measure 4.2.4: Provide bicycle-carrying racks on public transportation vehicles when a need is demonstrated. [DPW]

Implementation Measure 4.2.5: Require secure bicycle storage facilities at new commercial centers, public centers, industrial centers, transit centers, airports and multi-family developments. [DPLU, DPW]

Policy 4.3: Consider the need for transit improvements in Large Scale Projects.

Implementation Measure 4.3.1: Refer applications for Large Scale Projects to the County Transit System for recommendations on transit facility needs. [DPLU, DPW]

Implementation Measure 4.3.2: Condition the approval of Large Scale Projects on the provision of accessible transit stops and other transit related improvements, as appropriate. [DPLU, DPW]

Policy 4.4: Ensure the provision of bicycle facilities and other needed bikeway related improvements in new development.

Implementation Measure 4.4.1: Refer applications for Large Scale Projects to the County Bikeway Coordinator for recommendations on requirements for the provision of bikeway facilities to serve the project. [DPLU, DPW]

OBJECTIVE 5:

Assurance of compatible land uses around County airports.

Policy 5.1: The County will ensure that land uses surrounding County airports are compatible with the operation of the airport.

Implementation Measure 5.1.1: Complete the development of Comprehensive Land Use Plans for each County airport. [DPW]

Implementation Measure 5.1.2: Review all applications for discretionary projects, building permit applications, general plan amendments and rezones located within the boundaries of an airport's Comprehensive Land Use Plan (CLUP) for compatibility with the plan as a basis for project approval. [DPW, DPLU]

Excerpts from County of San Diego Public Road Standards

ATTACHMENT B

PUBLIC ROAD STANDARDS

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS

February 9, 2010

TABLE 1
AVERAGE DAILY VEHICLE TRIPS*

CIRCULATION ELEMENT ROADS		# of Travel Lanes	LEVELS OF SERVICE				
Road Classification			**A**	**B**	**C**	**D**	**E**
Expressway (6.1)		6	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial (6.2)		6	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	(4.1A)	4	<14,800	<24,700	<29,600	<33,400	<37,000
	w/ Intermittent Turn Lanes (4.1B)	4	<13,700	<22,800	<27,400	<30,800	<34,200
Collector		4	<13,700	<22,800	<27,400	<30,800	<34,200
Boulevard	w/ Raised Median (4.2A)	4	<18,000	<21,000	<24,000	<27,000	<30,000
	w/ Intermittent Turn Lanes (4.2B)	4	<16,800	<19,600	<22,500	<25,000	<28,000
Town Collector		2	<3,000	<6,000	<9,500	<13,500	<19,000
Community Collector	w/ Raised Median (2.1A)	2	<10,000	<11,700	<13,400	<15,000	<19,000
	w/ Continuous Left Turn Lane (2.1B)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	w/ Intermittent Turn Lane (2.1C)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	w/ Passing Lane (2.1D)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	No Median (2.1E)	2	<1,900	<4,100	<7,100	<10,900	<16,200
Light Collector	w/ Raised Median (2.2A)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	w/ Continuous Left Turn Lane (2.2B)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	w/ Intermittent Turn Lane (2.2C)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	w/ Passing Lane (2.2D)	2	<3,000	<6,000	<9,500	<13,500	<19,000
	No Median (2.2E)	2	<1,900	<4,100	<7,100	<10,900	<16,200
		2	<1,900	<4,100	<7,100	<10,900	<16,200
	w/ Reduced Shoulder (2.2F)	2	<5,800	<6,800	<7,800	<8,700	<9,700
Rural Collector		2	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Light Collector		2	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain		2	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway		2	<1,900	<4,100	<7,100	<10,900	<16,200
Minor Collector	w/ Raised Median (2.3A)	2	<3,000	<6,000	<7,000	<8,000	<9,000
	w/ Intermittent Turn Lane (2.3B)	2	<3,000	<6,000	<7,000	<8,000	<9,000
	No Median (2.3C)	2	<1,900	<4,100	<6,000	<7,000	<8,000
NON-CIRCULATION ELEMENT ROADS**			LEVELS OF SERVICE				
Residential Collector		2	-	-	<4,500	-	-
Rural Residential Collector***		2	-	-	<4,500	-	-
Residential Road		2	-	-	<1,500	-	-
Rural Residential Road***		2	-	-	<1,500	-	-
Residential Cul-de-Sac or Loop Road		2	-	-	<200	-	-

* The values shown are subject to adjustment based on the geometry of the roadway, side frictions, and other relevant factors as determined by the Director, Department of Public Works.

** Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

*** Rural Residential Collectors and Rural Residential Roads are intended to serve areas with lot sizes of 2 acres or more which do not have a demand for on-street parking. On-street parking is not assured for these cross sections. Additional right-of-way is needed if on-street parking is in paved area.

**** See Tables 2A and 2B for roadway surfacing and right-of-way widths.

TABLE 2A: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

ROAD CLASSIFICATION	# LANES / LANE WIDTH	MEDIAN WIDTH	ROAD SURFACING WIDTH	R.O.W. WIDTH	PAVED SHOULDERS (# / WIDTH)	PARKWAY WIDTH	MIN. CURVE RADIUS	MAX. DESIRABLE GRADE	MIN. DESIGN SPEED (MPH)
CLASSIC CIRCULATION ELEMENT ROAD CLASSIFICATIONS									
Expressway (6.1)	6 / 12'	34'	126'	146'	2 / 10'	10'	1,700'	6%	65
Prime Arterial (6.2)	6 / 12'	14'	102'	122'	2 / 8'	10'	1,700'	6%	65
Major Road (4.1A)	4 / 12'	14'	78'	98'	2 / 8'	10'	1,200'	7%	55
Collector	4 / 12'	-	64'	84'	2 / 8'	10'	1,200'	7%	55
Town Collector	2 / 12'	12'	54'	74'	2 / 8'	10'	500'	9%	40
Light Collector	2 / 12'	-	40'	60'	2 / 8'	10'	700'	9%	45
Rural Collector	2 / 12'	-	40'	84'	2 / 8'	22'	500'	12%	40
Rural Light Collector	2 / 12'	-	40'	60'	2 / 8'	10'	500'	12%	40
Rural Mountain	2 / 12'	-	40'	100'	2 / 8'	30'	500'	12%	40
Recreational Parkway	2 / 12'	-	40'	100'	2 / 8'	30'	400'	12%	25
MODERN CIRCULATION ELEMENT ROAD CLASSIFICATIONS									
Major Road									
* With Intermittent Turn Lanes (4.1B)	4 / 12'	-	64' - 78'	84' - 98'	2 / 8'	10'	1,200'	7%	55
Boulevard									
+++ With Raised Median (4.2A)	4 / 12'	14'	78'	106'	2 / 8'	14'	500'	9%	40
+++ With Intermittent Turn Lanes (4.2B)	4 / 12'	-	64' - 78'	92' - 106'	2 / 8'	14'	500'	9%	40
Community Collector									
** With Raised Median (2.1A)	2 / 12'	14'	54'	74'	2 / 8'	10'	700'	9%	45
** With Continuous Left Turn Lane (2.1B)	2 / 12'	14'	54'	74'	2 / 8'	10'	700'	9%	45
+++ With Intermittent Turn Lanes (2.1C)	2 / 12'	-	40' - 54'	60' - 74'	2 / 8'	10'	700'	9%	45
*** With Passing Lane (2.1D)	2 / 12'	-	40'	84'	2 / 8'	10'	700'	9%	45
+ No Median (2.1E)	2 / 12'	-	40'	60'	2 / 8'	10'	700'	9%	45
Light Collector									
** With Raised Median (2.2A)	2 / 12'	14'	54'	78'	2 / 8'	10'	500'	9%	40
** With Continuous Left Turn Lane (2.2B)	2 / 12'	14'	54'	78'	2 / 8'	10'	500'	9%	40
+++ With Intermittent Turn Lanes (2.2C)	2 / 12'	-	40' - 54'	64' - 78'	2 / 8'	10'	500'	9%	40
*** With Passing Lane (2.2D)	2 / 12'	-	40'	88'	2 / 8'	10'	500'	9%	40
++ No Median (2.2E)	2 / 12'	-	40'	64'	2 / 8'	10'	500'	9%	40
+++ With Reduced Shoulder (2.2F)	2 / 12'	-	40'	52'	2 / 2'	10'	500'	9%	40
Minor Collector									
+++ With Raised Median (2.3A)	2 / 12'	14'	54'	82'	2 / 8'	10'	350'	12%	35
+++ With Intermittent Turn Lanes (2.3B)	2 / 12'	-	40' - 54'	68' - 82'	2 / 8'	10'	350'	12%	35
+++ No Median (2.3C)	2 / 12'	-	40'	68'	2 / 8'	10'	350'	12%	35

NOTES:

1 Minimum longitudinal gradient shall be 1.0 percent for all road classificationis shown above.

2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.

3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.

4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.

5 Additional pavement and ROW may be required for CE Collectors (4 feet) and Light Collectors (12 feet) in Industrial/Commercial Zones.

6 CE roads needing additional turn lanes will require an additional 12 to 14 feet of pavement and ROW for each lane.

7 The maximum superelevation allowed on CE roads is 6%. Superelevation is not normally required on Non-CE roads.

8 CE roads designated with Bike Lanes will require an additional 10 feet of pavement and ROW. This may be increased to 12' for Collector Roads and above based upon the provisions in Section 7.3 of these standards.

9 The minimum curve radii, shown in the table above, are based on the design speed with 6% superelevation.

10 Interim roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.

LEGEND:

* Similar to existing Collector Road

** Similar to existing Town Collector

*** Similar to existing Rural Collector

\+ Same as existing Light Collector

++ Similar to existing Rural Light Collector

+++ New Classification Standard

TABLE 2B: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

NON-CIRCULATION ELEMENT ROAD CLASSIFICATIONS

ROAD CLASSIFICATION	# LANES / LANE WIDTH	MEDIAN WIDTH	R.O.W. WIDTH	ROAD SURFACING WIDTH	PAVED SHOULDERS (# / WIDTH)	PARKWAY WIDTH	MINIMUM CURVE RADIUS	MAXIMUM DESIRABLE GRADE	MINIMUM DESIGN SPEED (MPH)
Residential Collector	2 / 12'	-	60'	40'	2 / 8'	10'	300'	12%	30
Residential	2 / 12'	-	56'	36'	2 / 6'	10'	200'	15%	30
Residential Cul-de-sac	2 / 12'	-	52'	32'	2 / 4'	10'	200'	15%	30
Residential Loop	2 / 12'	-	52'	32'	2 / 4'	10'	200'	15%	30
Industrial/Commerical Collector	4 / 12'	-	88'	68'	2 / 10'	10'	300'	8%	30
Industrial/Commerical	2 / 16'	-	72'	52'	2 / 10'	10'	200'	8%	30
Industrial/Commercial Cul-de-sac	2 / 16'	-	72'	52'	2 / 10'	10'	200	8%	30
Frontage	2 / 12'	-	52' min	32' min	1 / 8'	10'	See above	See above	-
Alley	2 / 10'	-	20-30'	20-30'	None	None	50'	12%	n/a
Hillside Residential	See NOTE 4	-	-	-	-	-	-	-	-
Rural Collector *	2 / 12'	-	48'	28'	2 / 2'	10'	300'	12%	30
Rural Residential	2 / 12'	-	48'	28'	2 / 2'	10'	200'	15%	30

NOTES:

1 Minimum longitudinal gradient shall be 1.0 percent for all road classificationis shown above.

2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.

3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.

4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.

5 The minimum curve radii, shown in the table above, are based on the design speed with 6% superelevation.

6 Interim roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.

LEGEND: * Serves lots > 2 acres in size w/ no demand for on-street parking

SANDAG's Trip Generation Rates

(NOT SO)

BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES FOR THE SAN DIEGO REGION

APRIL 2002

SANDAG
401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a ***guide*** of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. ***Always check with local jurisdictions for their preferred or applicable rates.***

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY][P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.		Between 3:00-6:30 P.M.		TRIP LENGTH (Miles)[L]
AGRICULTURE (Open Space)	[80:18:2]	2/acre**					10.8
AIRPORT	[78:20:2]						12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft.* **	5%	(6:4)	6%	(5:5)	
General Aviation		6/acre, 2/flight, 6/based aircraft* **	9%	(7:3)	15%	(5:5)	
Heliports		100/acre**					
AUTOMOBILE[S]							
Car Wash							
Automatic		900/site, 600/acre**	4%	(5:5)	9%	(5:5)	
Self-serve		100/wash stall**	4%	(5:5)	6%	(5:5)	
Gasoline	[21:51:28]						2.8
with/Food Mart		160/vehicle fueling space**	7%	(5:5)	8%	(5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8%	(5:5)	9%	(5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7%	(5:5)	9%	(5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall* **	5%	(7:3)	8%	(4:6)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall*	8%	(7:3)	11%	(4:6)	
Auto Parts Sales		60/1000 sq. ft. **	4%		10%		
Quick Lube		40/service stall**	7%	(6:4)	10%	(5:5)	
Tire Store		25/1000 sq. ft., 30/service stall**	7%	(6:4)	11%	(5:5)	
CEMETERY		5/acre*					
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5%	(6:4)	8%	(5:5)	5.1
COMMERCIAL/RETAIL[S]							
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3 + major stores)		35/1000 sq. ft.,[C] 400/acre*	4%	(7:3)	10%	(5:5)	
Regional Shopping Center (40-80acres, 400,000-800,000 sq. ft., w/usually 2 + major stores)	[54:35:11]	50/1000 sq. ft.,[C] 500/acre*	4%	(7:3)	9%	(5:5)	5.2
Community Shopping Center (15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)	[47:31:22]	80/1000 sq. ft., 700/acre* **	4%	(6:4)	10%	(5:5)	3.6
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre* **	4%	(6:4)	10%	(5:5)	
Commercial Shops	[45:40:15]						
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3%	(6:4)	9%	(5:5)	4.3
Electronics Superstore		50/1000 sq. ft**			10%	(5:5)	
Factory Outlet		40/1000 sq. ft.**	3%	(7:3)	9%	(5:5)	
Supermarket		150/1000 sq. ft., 2000/acre* **	4%	(7:3)	10%	(5:5)	
Drugstore		90/1000 sq. ft.**	4%	(6:4)	10%	(5:5)	
Convenience Market (15-16 hours)		500/1000 sq. ft.**	8%	(5:5)	8%	(5:5)	
Convenience Market (24 hours)		700/1000 sq. ft.**	9%	(5:5)	7%	(5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	6%	(5:5)	7%	(5:5)	
Discount Club		60/1000 sq. ft., 600/acre* **	1%	(7:3)	9%	(5.5)	
Discount Store		60/1000 sq. ft., 600/acre**	3%	(6:4)	8%	(5:5)	
Furniture Store		6/1000 sq. ft., 100/acre**	4%	(7:3)	9%	(5:5)	
Lumber Store		30/1000 sq. ft., 150/acre**	7%	(6:4)	9%	(5:5)	
Home Improvement Superstore		40/1000 sq. ft.**	5%	(6:4)	8%	(5:5)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre**	2%	(6:4)	9%	(5:5)	
Garden Nursery		40/1000 sq. ft., 90/acre**	3%	(6:4)	10%	(5:5)	
Mixed Use: Commercial (w/supermarket)/Residential		110/1000 sq. ft., 2000/acre* (commercial only) 5/dwelling unit, 200/acre* (residential only)	3% 5%	(6:4) (3:7)	9% 13%	(5:5) (6:4)	
EDUCATION							
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10%	(8:2)	9%	(3:7)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12%	(8:2)	9%	(6:4)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20%	(7:3)	10%	(4:6)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre**	30%	(6:4)	9%	(4:6)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32%	(6:4)	9%	(4:6)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17%	(5:5)	18%	(5:5)	3.7
FINANCIAL[S]	[35:42:23]						3.4
Bank (Walk-In only)		150/1000 sq. ft., 1000/acre* **	4%	(7:3)	8%	(4:6)	
with Drive-Through		200/1000 sq. ft., 1500/acre*	5%	(6:4)	10%	(5:5)	
Drive-Through only		250 (125 one-way)/lane*	3%	(5:5)	13%	(5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2%		9%		
Drive-Through only		100 (50 one-way)/lane**	4%		15%		
HOSPITAL	[73:25:2]						8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8%	(7:3)	10%	(4:6)	
Convalescent/Nursing		3/bed**	7%	(6:4)	7%	(4:6)	
INDUSTRIAL							
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12%	(8:2)	12%	(2:8)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11%	(9:1)	12%	(2:8)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14%	(8:2)	15%	(3:7)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19%	(9:1)	20%	(2:8)	
Warehousing		5/1000 sq. ft., 60/acre**	13%	(7:3)	15%	(4:6)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6%	(5:5)	9%	(5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16%	(9:1)	14%	(1:9)	
Landfill & Recycling Center		6/acre	11%	(5:5)	10%	(4:6)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.
ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY)[P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.		Between 3:00-6:30 P.M.		TRIP LENGTH (Miles)[L]
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre* **	2%	(7:3)	10%	(5:5)	3.9
LODGING	[58:38:4]						7.6
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	6%	(6:4)	8%	(6:4)	
Motel		9/occupied room, 200/acre*	8%	(4:6)	9%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	5%	(6:4)	7%	(4:6)	
Business Hotel		7/occupied room* *	8%	(4:6)	9%	(6:4)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	10%	(2:8)	11.2
OFFICE							
Standard Commercial Office (less than 100,000 sq. ft.)	[77:19:4]	20/1000 sq. ft.,[O] 300/acre*	14%	(9:1)	13%	(2:8)	8.8
Large (High-Rise) Commercial Office (more than 100,000 sq. ft., 6 + stories)	[82:15:3]	17/1000 sq. ft.,[O] 600/acre*	13%	(9:1)	14%	(2:8)	10.0
Office Park (400,000 + sq. ft.)		12/1000 sq.ft., 200/acre* **	13%	(9:1)	13%	(2:8)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	15%	(2:8)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	16%	(1:9)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.* *	9%	(9:1)	12%	(3:7)	6.0
Post Office							
Central/Walk-In Only		90/1000 sq. ft.* *	5%		7%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	6%	(6:4)	9%	(5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7%	(5:5)	10%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	12%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre* *	6%	(6:4)	10%	(4:6)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	6%	(8:2)	11%	(3:7)	6.4
PARKS	[66:28:6]		4%		8%		5.4
City (developed w/meeting rooms and sports facilities)		50/acre*	13%	(5:5)	9%	(5:5)	
Regional (developed)		20/acre*					
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **					
State (everage 1000 acres)		1/acre, 10/picnic site* *					
Amusement (Theme)		80/acre, 130/acre (summer only)* *			6%	(6:4)	
San Diego Zoo		115/acre*					
Sea World		80/acre*					
RECREATION							
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*					6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*					
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane * *	7%	(7:3)	11%	(4:6)	
Campground		4/campsite* *	4%		8%		
Golf Course		7/acre, 40/hole, 700/course* *	7%	(8:2)	9%	(3:7)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	9%	(5:5)	
Marinas		4/berth, 20/acre* *	3%	(3:7)	7%	(6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		6%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	9%	(6:4)	
Tennis Courts		16/acre, 30/court* *	5%		11%	(5:5)	
Sports Facilities							
Outdoor Stadium		50/acre, 0.2/seat*					
Indoor Arena		30/acre, 0.1/seat*					
Racetrack		40/acre, 0.6 seat*					
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	1/3%		8%	(6:4)	6.1
RESIDENTIAL	[86:11:3]						7.9
Estate, Urban or Rural (average 1-2 DU/acre)		12/dwelling unit *[R]	8%	(3:7)	10%	(7:3)	
Single Family Detached (average 3-6 DU/acre)		10/dwelling unit *[R]	8%	(3:7)	10%	(7:3)	
Condominium (or any multi-family 6-20 DU/acre)		8/dwelling unit *[R]	8%	(2:8)	10%	(7:3)	
Apartment (or any multi-family units more than 20 DU/acre)		6/dwelling unit *[R]	8%	(2:8)	9%	(7:3)	
Military Housing (off-base, multi-family)							
(less then 6 DU/acre)		8/dwelling unit	7%	(3:7)	9%	(6:4)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	9%	(6:4)	
Mobile Home							
Family		5/dwelling unit, 40/acre*	8%	(3:7)	11%	(6:4)	
Adults Only		3/dwelling unit, 20/acre*	9%	(3:7)	10%	(6:4)	
Retirement Community		4/dwelling unit* *	5%	(4:6)	7%	(6:4)	
Congregate Care Facility		2.5/dwelling unit* *	4%	(6:4)	8%	(5:5)	
RESTAURANT[S]	[51:37:12]						4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	1%	(6:4)	8%	(7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8%	(5:5)	8%	(6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7%	(5:5)	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.* *	5%	(6:4)	7%	(5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	3%	(3:7)	
TRANSPORTATION							
Bus Depot		25/1000 sq. ft.* *					
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre* *	9%	(4:6)	8%	(5:5)	
Waterport/Marine Terminal		170/berth, 12/acre* *					
Transit Station (Light Rail w/parking)		300/acre, 2[1/2]/parking space (4/occupied) * *	14%	(7:3)	15%	(3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	15%	(3:7)	

* Primary source: *San Diego Traffic Generators.*

* Other sources: *ITE Trip Generation Report (6th Edition)*, Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

[P] Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG *Analysis of Trip Diversion*, revised November, 1990):
PRIMARY - one trip directly between origin and primary destination.
DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.
PASS-BY - undiverted or diverted < 1 mile.

[L] Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

[C] Fitted curve equation: $Ln(T) = 0.502\ Ln(x) + 6.945$

[O] Fitted curve equation: $Ln(T) = 0.756\ Ln(x) + 3.950$

T = total trips, x = 1,000 sq. ft.

[R] Fitted curve equation: $t = -2.169\ Ln(d) + 12.85$ t = trips/DU, d = density (DU/acre), DU = dwelling unit

[S] Suggested PASS-BY (undiverted or diverted < 1 mile) percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and Other sources* *):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community " "	30%
Neighborhood " "	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

[T] Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

City of San Diego Trip Generation Rate Summary

San Diego Municipal Code

Land Development Code

Trip Generation Manual

Revised May 2003

Printed on recycled paper

This information, document, or portions thereof, will be made available in alternative formats upon request.

TABLE 1

May 2003

TRIP GENERATION RATE SUMMARY
(WEEKDAY)

LAND USE	DRIVEWAY [1] [2] VEHICLE TRIP RATE	CUMULATIVE [8] VEHICLE TRIP RATE	PEAK HOUR AND IN/OUT RATIO AM (IN:OUT)	PM IN:OUT)
AGRICULTURE (OPEN SPACE) [3]	2 trips/acre	2 trips/acre	--	--
AIRPORT [3]				
Commercial	100 trips/flight; 60 trips/acre	100 trips/flight; 60 trips/acre	6% (6:4)	7% (5:5)
General Aviation	2 trips/flight; 6 trips/acre	2 trips/flight; 6 trips/acre	--	--
CEMETERY	5 trips/acre	5 trips/acre	--	--
COMMERCIAL-RETAIL [4] [5]				
Automobile Services:				
Car Dealer	50 trips/1,000 sq. ft.; 300 trips/acre	45 trips/1,000 sq. ft.; 297 trips/acre	5% (7:3)	8% (4:6)
Carwash:				
Full service	900 trips/site; 600 trips/acre	450 trips/site; 300 trips/acre	4% (5:5)	9% (5:5)
Self service	100 trips/wash stall	50 trips/wash stall	4% (5:5)	8% (5:5)
Gasoline Stations:	130 trips/vehicle fueling space; 750 trips/station	26 trips/vehicle fueling space; 150 trips/station	7% (5:5)	11% (5:5)
With food mart	150 trips/vehicle fueling space	30 trips/vehicle fueling space	8% (5:5)	8% (5:5)
With fully automated carwash	135 trips/vehicle fueling space	27 trips/vehicle fueling space	--	--
With food mart & fully automated carwash	155 trips/vehicle fueling space	31 trips/vehicle fueling space	8% (5:5)	9% (5:5)
Parts Sale	62 trips/1,000 sq. ft.	56 trips/1,000 sq. ft.	4% (5:5)	10% (5:5)
Repair Shop	20 trips/1,000 sq. ft.; 20 trips/service stall; 400 trips acre	18 trips/1,000 sq. ft.; 19 trips/service stall	8% (7:3)	11% (4:6)
Tire Store	25 trips/1,000 sq. ft.; 30 trips/service stall	23 trips/1,000 sq. ft.; 27 trips/service stall	7% (6:4)	11% (5:5)
Convenience Market Chain:				
Open Up to 16 Hours Per Day	500 trips/1,000 sq. ft.	250 trips/1,000 sq. ft.	8% (5:5)	8% (5:5)
Open 24 Hours	700 trips/1,000 sq. ft.	350 trips/1,000 sq. ft.	9% (5:5)	7% (5:5)
Discount Store/Discount Club	70 trips/1,000 sq. ft.	49 trips/1,000 sq. ft.	2% (6:4)	10% (5:5)
Drugstore	90 trips/1,000 sq. ft.	40 trips/1,000 sq. ft.	4% (6:4)	10% (5:5)
Furniture Store	6 trips/1,000 sq. ft.; 100 trips/acre	5.4 trips/1,000 sq. ft.	4% (7:3)	9% (5:5)
Lumber/Home Improvement Store	30 trips/1,000 sq. ft.; 150 trips/acre	27 trips/1,000 sq. ft.; 135 trips/acre	7% (6:4)	9% (5:5)
Nursery	40 trips/1,000 sq. ft.; 90 trips/acre	36 trips/1,000 sq. ft.; 81 trips/acre	3% (6:4)	10% (5:5)
Restaurant:				
Quality	100 trips/1,000 sq. ft.; 3 trips/seat; 500 trips/acre	90 trips/1,000 sq. ft.; 2.7 trips/seat; 450 trips/acre	1% (6:4)	8% (7:3)
High Turnover (sit-down)	130 trips/1,000 sq. ft.; 7 trips/seat; 1,200 trips/acre	104 trips/1,000 sq. ft.; 5.6 trips/seat; 460 trips/acre	8% (5:5)	8% (6:4)
Fast Food (with or without drive-through)	700 trips/1,000 sq. ft.; 22 trips/seat; 3,000 trips/acre	420 trips/1,000 sq. ft.; 13.2 trips/seat; 1,800 trips/acre	4% (6:4)	8% (5:5)
Shopping Center:				
Neighborhood (30,000 sq. ft. or more GLA on 4 or more acres)	120 trips/1,000 sq. ft. GLA; 1,200 trips/acre	72 trips/1,000 sq. ft.; 720 trips/acre	4% (6:4)	11% (5:5)
Community (100,000 sq. ft. or more GLA on 10 or more acres)	70 trips/1,000 sq. ft. GLA; 700 trips/acre	49 trips/1,000 sq. ft.; 490 trips/acre	3% (6:4)	10% (5:5)
Regional (300,000 sq. ft. or more GLA) [6]	Ln(T) = 0.756 Ln(X) + 5.25 *	0.8 [Ln (T) = 0.756 Ln (X) + 5.25] *	2% (7:3)	9% (5:5)
Specialty Retail Center/Strip Commercial	40 trips/1,000 sq. ft.; 400 trips/acre	36 trips/1,000 sq. ft.; 360 trips/acre	3% (6:4)	9% (5:5)
Supermarket	150 trips/1,000 sq. ft.; 2,000 trips/acre	90 trips/1,000 sq. ft.; 2,000 trips/acre	4% (7:3)	10% (5:5)

* See Table 2

TABLE 1 (Continued)

May 2003

TRIP GENERATION RATE SUMMARY
(WEEKDAY)

LAND USE	DRIVEWAY [1] [2] VEHICLE TRIP RATE	CUMULATIVE [8] VEHICLE TRIP RATE	PEAK HOUR AND IN/OUT RATIO AM (IN:OUT)	PM (IN:OUT)
EDUCATION [3]				
University (4 years or higher)	2.5 trips/student; 100 trips/acre	2.5 trips/student; 100 trips/acre	10% (9:1)	9% (3:7)
Community College (2 years)	1.6 trips/student; 18 trips/1,000 sq. ft.; 80 trips/acre	1.6 trips/student; 18 trips/1,000 sq. ft.; 80 trips/acre	12% (9:1)	8% (3:7)
High School	1.8 trips/student; 50 trips/acre; 11 trips/1,000 sq. ft.	1.8 trips/student; 50 trips/acre; 11 trips/1,000 sq. ft.	20% (8:2)	14% (3:7)
Junior High/Middle School	1.4 trip/student; 12 trips/1,000 sq. ft.; 40 trips/acre	1.4 trips/student; 12 trips/1,000 sq. ft.; 40 trips/acre	24% (7:3)	7% (3:7)
Elementary School	2.9 trips/student; 39 trips/1,000 sq. ft.; 136 trips/acre	2.9 trips/student; 39 trips/1,000 sq ft.; 136 trips/acre	31% (6:4)	19% (4:6)
Day Care Center	5 trips/child; 80 trips/1,000 sq. ft.	5 trips/child; 80 trips/1,000 sq. ft.	19% (5:5)	18% (5:5)
FINANCIAL INSTITUTION (Bank or Credit Union) [5]				
Excluding drive-through	150 trips/1,000 sq. ft.; 1,000 trips/acre	112.5 trips/1,000 sq. ft.; 750 trips/acre	4% (7:3)	8% (4:6)
With drive-through	200 trips/1,000 sq. ft.; 1,500 trips/acre	150 trips/1,000 sq. ft.; 1,125 trips/acre	5% (6:4)	10% (5:5)
Drive-through only	250 trips/lane	187.5 trips/lane	3% (5:5)	13% (5:5)
HOSPITAL [3]				
Convalescent/Nursing	3 trips/bed	3 trips/bed	7% (6:4)	7% (4:6)
General	20 trips/bed; 20 trips/1,000 sq. ft.; 300 trips/acre	20 trips/bed; 20 trips/1,000 sq. ft.; 300 trips/acre	9% (7:3)	10% (3:7)
HOUSE OF WORSHIP [4]				
General	15 trips/1,000 sq. ft.; quadruple rates for days of	9 trips/1,000 sq. ft.; quadruple rate for days of	4% (8:2)	8% (5:5)
Without School or Day Care	5 trips/1,000 sq. ft.; quadruple rates for days of assembly	5 trips/1,000 sq. ft.; quadruple rate for days of	4% (8:2)	8% (5:5)
INDUSTRIAL				
Industrial/Business Park (some commercial included) [3]	16 trips/1,000 sq. ft.; 200 trips/acre	16 trips/1,000 sq. ft.; 200 trips/acre	12% (8:2)	12% (2:8)
Small Industrial Park [7] *	15 trips/1,000 sq. ft.; 120 trips/acre	15 trips/1,000 sq. ft.; 120 trips/acre	11% (9:1)	12% (2:8)
Large Industrial Park *	8 trips/1,000 sq. ft.; 100 trips/acre	8 trips/1,000 sq. ft.; 100 trips/acre	11% (9:1)	12% (2:8)
Manufacturing/Assembly	4 trips/1,000 sq. ft.; 50 trips/acre	4 trips/1,000 sq. ft.; 50 trips/acre	20% (9:1)	20% (2:8)
Rental Storage	2 trips/1,000 sq. ft.; 30 trips/acre	2 trips/1,000 sq. ft.; 30 trips/acre	6% (5:5)	9% (5:5)
Scientific Research and Development	8 trips/1,000 sq. ft.; 80 trips/acre	8 trips/1,000 sq. ft.; 80 trips/acre	16% (9:1)	14% (1:9)
Truck Terminal	10 trips/1,000 sq. ft.; 7 trips/bay; 80 trips/acre	10 trips/1,000 sq. ft.; 7 trips/bay; 80 trips/acre	9% (4:6)	8% (5:5)
Warehousing	5 trips/1,000 sq. ft.; 60 trips/acre	5 trips/1,000 sq. ft.; 60 trips/acre	15% (7:3)	16% (4:6)
LIBRARY [3]	50 trips/1,000 sq. ft.; 400 trips/acre		2% (7:3)	10% (5:5)
Less than 100,000 sq. ft.		20 trips/1,000 sq. ft.	2% (7:3)	10% (5:5)
100,000 sq. ft. or more		16 trips/1,000 sq. ft.	2% (7:3)	10% (5:5)

* Small amount of local serving commercial included. May have multiple shifts.

TRIP GENERATION RATE SUMMARY
(WEEKDAY)

LAND USE	DRIVEWAY [1] [2] VEHICLE TRIP RATE	CUMULATIVE [8] VEHICLE TRIP RATE	PEAK HOUR AND IN/OUT RATIO AM (IN:OUT)	PM (IN:OUT)
LODGING [3]				
Hotel (w/convention facilities/restaurant)	10 trips/room; 300 trips/acre	10 trips/room; 300 trips/acre	6% (6:4)	8% (6:4)
Motel	9 trips/room; 200 trips/acre	9 trips/room; 200 trips/acre	8% (4:6)	9% (4:6)
Resort Hotel	8 trips/room; 100 trips/acre	8 trips/room; 100 trips/acre	5% (6:4)	7% (6:4)
MILITARY BASE [3]	2.5 trips/employee (military or civilian)	2.5 trips/employee (military or civilian)	9% (9:1)	10% (6:4)
OFFICE				
Commercial Office [6]	Ln(T) = 0.756 Ln(x) + 3.95; 450 trips/acre	Ln(T) = 0.756 Ln(x) + 3.95; 450 trips/acre	13% (9:1)	14% (2:8)
Corporate Headquarters/Single Tenant Office	10 trips/1,000 sq. ft.	10 trips/1,000 sq. ft.	15% (9:1)	15% (1:9)
Department of Motor Vehicles	180 trips/1,000 sq. ft.; 900 trips/acre	18 trips/1,000 sq. ft.	6% (6:4)	11% (4:6)
Government Office (Civic Center):	30 trips/1,000 sq. ft.		9% (9:1)	12% (3:7)
Less than 100,000 sq. ft.		20 trips/1,000 sq. ft.	9% (9:1)	12% (3:7)
100,000 sq. ft. or more		16 trips/1,000 sq. ft.	9% (9:1)	12% (3:7)
Medical Office:	50 trips/1,000 sq. ft.; 500 trips/acre		6% (8:2)	10% (3:7)
Less than 100,000 sq. ft.		20 trips/1,000 sq. ft.	6% (8:2)	10% (3:7)
100,000 sq. ft. or more		16 trips/1,000 sq. ft.	6% (8:2)	10% (3:7)
Post Office:				
Distribution (central/walk-in only)	90 trips/1,000 sq. ft.	76 trips/1,000 sq. ft.	5%	7%
Community (without mail drop lane)	200 trips/1,000 sq. ft.; 1,300 trips/acre	168 trips/1,000 sq. ft.; 1,092 trips/acre	6% (6:4)	9% (5:5)
Community (with mail drop lane)	300 trips/1,000 sq. ft.; 2,000 trips/acre		7% (5:5)	9% (3:7)
Less than 100,000 sq. ft.		168 trips/1,000 sq. ft.; 1,092 trips/acre	7% (5:5)	7% (6:4)
100,000 sq. ft. or more		252 trips/1,000 sq. ft.; 1,680 trips/acre	7% (5:5)	8% (7:3)
RECREATION				
Bowling Center	30 trips/lane; 300 trips/acre	30 trips/lane; 300 trips/acre	7% (7:3)	10% (4:6)
Golf Course	600 trips/course; 40 trips/hole; 8 trips/acre	600 trips/course; 40 trips/hole; 8 trips/acre	6% (8:2)	9% (3:7)
Marina	4 trips/berth; 20 trips/acre	4 trips/berth; 20 trips/acre	3% (3:7)	7% (6:4)
Movie Theater	80 trips/1,000 sq. ft.; 1.8 trips/seat	80 trips/1,000 sq. ft.; 1.8 trips/seat	0.3%	8% (7:3)
Park:				
Beach, Ocean or Bay	600 trips/1,000 ft. shoreline; 60 trips/acre	600 trips/1,000 ft. shoreline; 60 trips/acre	- -	11% (4:6)
Developed	50 trips/acre	50 trips/acre	4%	8%
Undeveloped	5 trips/acre	5 trips/acre	4%	8%
Racquetball/Tennis/Health Club	40 trips/1,000 sq. ft.; 40 trips/court; 300 trips/acre	40 trips/1,000 sq. ft.; 40 trips/court; 300 trips/acre	4% (6:4)	9% (6:4)
San Diego Zoo	115 trips/acre	115 trips/acre	- -	- -
Sea World	80 trips/acre	80 trips/acre	- -	- -
Sport Facility:				
Indoor	30 trips/acre	30 trips/acre	- -	- -
Outdoor	50 trips/acre	50 trips/acre	- -	- -

TRIP GENERATION RATE SUMMARY
(WEEKDAY)

LAND USE	DRIVEWAY [1] [2] VEHICLE TRIP RATE	CUMULATIVE [8] VEHICLE TRIP RATE	PEAK HOUR AND IN/OUT RATIO AM (IN:OUT)	PM (IN:OUT)
RESIDENTIAL [3]				
Congregate Care Facility	2 trips/dwelling unit	2 trips/dwelling unit	3% (6:4)	8% (5:5)
Estate Housing	12 trips/dwelling unit	12 trips/dwelling unit	--	--
Mobile Home	5 trips/dwelling unit; 40 trips/acre	5 trips/dwelling unit; 40 trips/acre	9% (3:7)	12% (6:4)
Multiple Dwelling Unit:				
Under 20 dwelling units/acre	8 trips/dwelling unit	8 trips/dwelling unit	8% (2:8)	10% (7:3)
Over 20 dwelling units/acre	6 trips/dwelling unit	6 trips/dwelling unit	8% (2:8)	9% (7:3)
Retirement/Senior Citizen Housing	4 trips/dwelling unit	4 trips/dwelling unit	--	--
Single Family Detached:				
Urbanized Area [1]	9 trips/dwelling unit	9 trips/dwelling unit	8% (2:8)	10% (7:3)
Urbanizing Area [1]	10 trips/dwelling unit	10 trips/dwelling unit	8% (2:8)	10% (7:3)
TRANSPORTATION FACILITIES [3]				
Bus Depot	25 trips/1,000 sq. ft.	25 trips/1,000 sq. ft.		
Park & Ride Lots	400 trips/acre; 600 trips/paved acre	400 trips/acre; 600 trips/paved acre	14% (7:3)	15% (3:7)
Transit Station (rail)	300 trips/acre	300 trips/acre	14% (7:3)	15% (3:7)

A-99-95

Notes:

(1) From the 1990 Trip Generation Manual. Driveway rates reflect trips that are generated by a site. These rates are used to calculate the total number of trips that impact the project and its immediate vicinity.

(2) Does not include trip rates for Centre City area. See Table 5.

(3) San Diego Association of Governments (SANDAG), "Traffic Generators," San Diego, California, December 1996, and July 1998.

(4) City of San Diego memo, "Trip Generation Rate for Churches," December 9, 1992.

(5) Refer to Cumulative Vehicle Trip Rate column for reduced trip rates.

(6) Ln = Natural logarithm; fitted curve logarithmic equation is used for Commercial Office and Regional Shopping Center. For example, the trip generation of an Office Building with 100,000 sq. ft. of GLA is: Ln(T) = 0.756 Ln(100) + 3.95, or Ln(T) = 0.756 (4.60517) + 3.95, or Ln(T) = 3.481509 + 3.95, or Ln(T) = 7.431509, which is 1,688 trips. The trip generation of a Regional Shopping Center with 1,000,000 sq. ft. of GLA is: Ln(T) = 0.756 Ln(1,000) + 5.25, or Ln(T) = 0.756 (6.907755) + 5.25, or Ln(T) = 5.222263 + 5.25, or Ln(T) = 10.47226, which is 35,322 trips. See Table 2 for calculated trip generation for selected sizes of Regional Shopping Centers, and Table 3 for calculated trip generation for selected sizes of Commercial Offices. GLA = Gross Leasable Area; T = trips; x = GLA in 1,000 square feet.

(7) Institute of Transportation Engineers, "Trip Generation," 5th and 6th Editions, Washington, District of Columbia, 1991 and 1998.

(8) Trips made to a site are Pass-By and Cumulative trips. See Appendix A for definitions of these trips. Cumulative rates are used to determine the community-wide impact of a new project.

Excerpts from County's Guidelines for Determining Significance

COUNTY OF SAN DIEGO

GUIDELINES FOR DETERMINING SIGNIFICANCE

TRANSPORTATION AND TRAFFIC

LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

Second Revision
June 30, 2009

First Modification
February 19, 2010

EXPLANATION

These Guidelines for Determining Significance for Transportation and Traffic and information presented herein shall be used by County staff in their review of discretionary projects and environmental documents pursuant to the California Environmental Quality Act (CEQA). These Guidelines present a range of quantitative, qualitative, and performance levels for particular environmental effects. Normally, (in the absence of substantial evidence to the contrary), non-compliance with a particular standard stated in these Guidelines will usually mean the project will result in a significant effect, whereas compliance will normally mean the effect will be determined to be "less than significant." Section 15064(b) of the State CEQA Guidelines states:

> "The determination whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on factual and scientific data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

These Guidelines assist in providing a consistent, objective and predictable evaluation of significant effects. These Guidelines are not binding on any decision-maker and should not be substituted for the use of independent judgment to determine significance or the evaluation of evidence in the record. The County reserves the right to request further, project specific, information in its evaluation of a project's environmental effects and to modify these Guidelines in the event a scientific discovery or factual data alters the common application of a Guideline. In addition, evaluations to verify the applicability of the significance guidelines for individual project conditions may be necessary. Additional evaluations may include analysis of vehicle headways, speeds, average gaps, queues, delay, or other factors.

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4.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

The following significance guidelines should guide the evaluation of whether a significant impact to transportation and traffic will occur as a result of project implementation. A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on transportation and traffic, absent specific evidence of such an effect.

This section provides guidance for evaluating adverse environmental effects a project may have in relation to traffic and transportation. The guidelines for determining significance are organized into eight categories: road segments, intersections, two-lane highways, ramps, congestion management plan, hazards due to an existing transportation design feature, hazards to pedestrians or bicyclists, and public transportation.

Land Development Projects

Land Development projects are projects that may result in an increase in the density or intensity or use on a parcel or parcels of land. These projects include, but are not limited to subdivisions, use permits, rezones and general plan amendments. Land development projects, typically, require discretionary approval. Due to the increased intensity of uses, land development projects generate additional traffic onto the County's road network and can contribute towards traffic congestion. A traffic impact study is often required to fully assess potential traffic impacts that may result from implementation of the proposed project.

Road Improvement Projects

Road improvement projects are projects that can affect transportation system operations; including level of service and other performance measures. Projects may consist of increasing road capacity or improving the traffic operations on the County's road network. This section refers to stand alone road improvement projects that are not improvements associated with a proposed development. These projects are typically publicly initiated. Road improvement projects do not generate additional trips but, in some cases, may cause a redistribution of trips on the County's road network. Road improvement projects are typically one or more of the following; road widening, construction of new road, intersection improvements and operational improvements/road maintenance. Additional guidance on how to evaluate Publicly Initiated Road Improvement Projects is included as Attachment B of the Report Format and Content Requirements.

4.1 Road Segments

Pursuant to the County's General Plan Public Facilities Element (PFE Pg. XII-4-18), new development must provide improvements or other measures to mitigate traffic impacts to avoid:

(a) Reduction in Level of Service (LOS) below "C" for on-site Circulation Element roads;

(b) Reduction in LOS below "D" for off-site and on-site abutting Circulation Element roads; and

(c) "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 PFE, 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 motor vehicle 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 1. The levels in Table 1 are based upon average operating conditions on County roadways. It should be noted that these levels 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 Circulation Element Roads

PFE, Transportation, Policy 1.1 states that "new development shall provide needed roadway expansion and improvements on-site to meet demand created by the development, and to maintain a Level of Service C on Circulation 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 Circulation 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 PFE, Implementation Measure 1.1.2.***

Off-site Circulation Element Roads

PFE, Transportation, Policy 1.1 also addresses offsite Circulation Element roads. It states, "new development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service D on Circulation Element Roads". Implementation Measure 1.1.3 addresses projects that would significantly impact

congestion on roads at LOS E or F. It states that 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. 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 level of service traffic impact on a road segment:

- ***The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation 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 1, or***

- ***The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.***

Table 1
Measures of Significant Project Impacts to Congestion on Circulation 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

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.**

LOS E

The first significance criterion listed in Table 1 addresses roadways presently operating at LOS E. Based on these criteria, an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes.

Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a

significant impact on the roadway. Significance criteria were also established for 4-lane and 6-lane roads operating at LOS E and are based upon the above 24 hour ADT significance criterion established for two-lane roads. The two-lane road criterion was doubled to determine impacts to four-lane roads and tripled to determine impacts to six-lane roads. This was considered to be conservative since the 24 hour per lane road capacity for a 4-lane road is more than double that of a two-lane road and the per lane capacity of a six-lane road is more than triple that of the two-lane road. For LOS E roads, the additional significance criteria are 400 ADT for a 4-lane road and 600 ADT for a 6-lane road.

Similar to the criteria for two-lane roads, 400 ADT for a 4-lane road and 600 ADT for a 6-lane road criteria would generate less than 25 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 2.4 minutes. The addition of 200 ADT per lane (400 ADT for a 4 lane road or 600 ADT for a 6 lane road), in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Road capacities based upon level of service for County roads can be found in the County's Public Road Standards, available online at http://www.sdcounty.ca.gov/dpw/land/rtelocs.html.

LOS F

The second significance criteria listed in Table 1 addresses roadways presently operating at LOS F. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Roads can have a greater effect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F roads more stringent significance criteria was established when compared to that for LOS E. Based on this guidance, an impact from new development on an LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 100. Again, using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 12.5 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 4.8 minutes.

The addition of 100 ADT, in most cases, would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. The same approach used to determine significance criteria for 4-lane and 6-lane roads operating at LOS E was used to determine appropriate significance criteria for four-lane and six-lane roads operating at LOS F. Based on this approach, the significance criteria for a four-lane road (200 ADT) and for a six-lane road (300 ADT) would generate less than 12.5 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 4.8 minutes. The addition of 100 per lane ADT (200 ADT for a 4-lane road and 300 ADT for a 6-lane road) would, in most cases, not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway.

In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS E criterion) to provide a higher level of assurance that the traffic allowed under the criterion would not significantly impact traffic operation on the road segment.

Non-Circulation Element Residential Streets

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots and not to carry through traffic, however, for projects that will substantially increase traffic volumes on residential streets, a comparison of the traffic volumes on the residential streets with the recommended design capacity must be provided. Recommended design capacities for residential non-Circulation Element streets are provided in the San Diego County Public and Private Road Standards. Traffic volume that exceeds the design capacity on residential streets may impact residences and should be analyzed on a case-by-case basis.

4.2 Intersections

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and unsignalized intersections. Table 2 summarizes significant project impacts for signalized and unsignalized intersections.

Table 2
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

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. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
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 direct 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.

4.2.1 Signalized

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 level of service 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.***

- ***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.***

LOS E
The significance criterion for signalized intersections identified in Table 2 allows an increase in the overall delay at an intersection operating at LOS E of two seconds. This is consistent with the capacity limit contained in the SANDAG's CMP and guidelines established by the City of San Diego. A delay of two seconds is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low. Therefore, an increased wait time of two seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS E is 2 seconds.

LOS F
The primary significance criterion for signalized intersections operating at LOS F conditions was based upon increased delay at the intersection. Under LOS F congested conditions, small changes and disruptions to the traffic flow to signalized intersections can have a greater effect on overall intersection operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic at signalized intersections operating at LOS F, a more stringent guideline was established when compared to signalized intersection operating at LOS E. A significance guideline of an increased delay of 1 second was established for signalized intersections operating at LOS F. An increase in the overall delay at an intersection of one second, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS F is 1 second.

Signalized intersections operating at LOS F also have the potential for substantial queuing at specific turning movements that may detrimentally effect overall intersection and/or road segment operations. Thus, an increase of peak hour trips to a critical move was also established as a secondary significance criterion for signalized intersections. A critical movement would be a movement or a lane at an intersection that is experiencing queuing or substantial delay and is affecting the overall operation of the

intersection. The increase in peak hour trips to a critical move is a measurement of how many cars can be added to an existing queue. The addition of more than five trips (peak hour) per critical movement will normally be considered a significant impact. This significance criterion was selected because the five or less additional trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver (5 peak hour trips equals one trip every 12 minutes or 720 seconds).

For LOS F intersections, the 5 peak hour trips to a critical movement would not be noticeable to the average driver since the one additional trip during the 12 minute interval on average would clear the traffic signal cycles well within the 12 minute period. It should also be noted that if the 5 additional peak hour trips arrived at the same time these trips would also clear the traffic cycle and existing queue lengths would be re-established.

4.2.2 Unsignalized

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant impact to an unsignalized intersection as listed in Table 2 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 6 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 6 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.***

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. As noted in Table 2 on page 15, significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

LOS E

The significance guidelines for unsignalized intersections identify a minimum number of trips added to a critical movement at an unsignalized intersection. Since the operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves, the significance guidelines for unsignalized intersections were based upon the number of trips added to a critical movement. This guideline directly relates to the number of vehicles that can be added to an existing queue that forms at the intersection. A significance criteria of (21) twenty-one or more trips (peak hour) per critical movement was used for LOS E conditions. Although delays drivers experience under LOS E condition may be noticeable, they are not yet considered unacceptable. Twenty trips spread out over the peak hour would not likely cause the intersection delay or existing queue lengths to become unacceptable. The twenty trips (peak hour) would not be noticeable to the average driver.

The operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves. Therefore, the significance guidelines for unsignalized intersections are based upon the number of peak hour trips added to a critical movement at that intersection. This guideline examines the number of vehicles that may be added to an existing queue that forms at the intersection by the additional traffic generated by a project. In LOS E situations, the delays that drivers experience are noticeable, but are not considered excessive. A peak hour increase of twenty trips to the critical movement of an unsignalized intersection would be, on average, one additional car every 3.0 minutes or 180 seconds. Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E condition, this would not be noticeable to the average driver and would not be considered a significant impact.

LOS F

For LOS F conditions, a significance level of 6 or more trips (peak hour) per critical movement was used. Five trips or less spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver. For example, 5 trips spread out over an hour would be one car every 12 minutes. This typically exceeds the average wait time in the queue and would not be noticeable to the average driver.

4.3 Two-Lane Highways

This section provides level of service impact guidelines for State highways and County arterials operating as two-lane highways.

Several designated County Circulation Element Roads are State highways that are managed and maintained by Caltrans. These highways include State Route 67, State Route 76, State Route 78, State Route 79 and State Route 94 and within the unincorporated area of the County most of these routes operate as two-lane highways. Caltrans has prepared a "Guide for the Preparation of Traffic Impact Studies" that should also be referenced when evaluating traffic impacts to the above Circulation Element Roads that are under the jurisdiction of Caltrans. Also, Caltrans District 11 local office should be consulted early to adequately scope the traffic study and ensure potential local district issues in the traffic impact study are addressed. While the "Guide for the Preparation of Traffic Impact Studies" provides guidance for scoping a traffic study to assess impacts on Caltrans facilities, it does not provide specific guidelines for determining when a significant traffic impact occurs; hence, the development of the following significance guidelines for two-lane highways.

In addition to the State Routes identified above, several County Circulation Element Roads, although designated as arterials, operate as two-lane highways. These include roadways that have passing opportunities for 40% or more along the length of the roadway and/or have few/limited access points and intersections along the length of the roadway. Examples would include sections of Old Highway 80, Old Highway 395 and Del Dios Highway. The Highway Capacity Manual (HCM) includes analysis criteria for assessment of LOS for two-lane highways. Section 2.2 of the County of San Diego's "Transportation and Traffic Report Format and Content Requirements" states that "The Director of Public Works may, based upon a review of the operational characteristics of the roadway, designate that a HCM analysis be used to determine the LOS for a two-lane County arterial in lieu of the LOS table provided in the County of San Diego Public Road Standards." Level of service tables for two-lane highways have also been established by the County of Riverside and the County of Sacramento.

4.3.1 Signalized Intersection Spacing Over One Mile

This section provides LOS impact significance levels for State highways and County arterials operating as two-lane highways with signalized intersection spacing over one mile. County arterials were addressed in section 4.1 and Table 1, however, those that operate as two-lane highways would have higher project contribution amounts and different LOS E and LOS F levels and are treated in this section.

Table 3
Measures of Significant Project Impacts to Congestion: Allowable Increases on Two-lane Highways with Signalized Intersection Spacing Over One Mile

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

Note:
Where detailed data are available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual.

Two-lane highways with intersection spacing over one mile have minimal side friction and conform to the HCM assumptions for two-lane highways. Level of service criteria for LOS E and LOS F are provided in Table 3 based upon criteria established with the Counties of Riverside and Sacramento and concurred upon by Caltrans-District 11. These criteria are appropriate for use for most projects with the potential to affect two-lane highways, as road conditions for two-lane highways in these Counties are similar to those in the County of San Diego. The ADT based guidelines should be the first applied method of analysis, however, County staff may allow the use of HCM Chapter 20 methodology (average travel speed and/or percent time spent following) to provide a more detailed evaluation and to determine the overall level of service in certain cases, with the approval of the Director of Public Works. Where impacts to State Highways are involved, consultation with Caltrans is recommended.

LOS E

Impact significance levels are provided in Table 3 for two-lane highways with signalized intersection spacing over one mile. The first impact significance level addresses impacts from new development (both direct and cumulative impacts) on an LOS E road. In this scenario a significant impact would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 325. For most discretionary projects, the 325 ADT level would generate less than 35 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 1.7 minutes. The addition of 325 ADT would, in most cases, not be noticeable to the average driver on a two-lane highway which has higher speeds and reduced side friction compared to a typical arterial. The additional 325 ADT, therefore, would not constitute a significant impact on a two-lane highway operating at LOS E; however, the addition of more than 325 ADT would generally result in a significant impact.

LOS F

The second impact significance guideline concerns roadways presently operating at LOS F (for a 2-lane highway LOS F would not occur until ADT exceeds 22,900 trips per day. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Roads can have a greater affect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F roads, a more stringent guideline was established when compared to that for LOS E. The guideline for determining significance from new development (both direct and cumulative impacts) on a LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 225. For most discretionary projects, the 225 ADT level would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes. The addition of 225 ADT would, in most cases, not be noticeable to the average driver on a two-lane highway which has higher speeds and reduced side friction compared to a typical arterial. The addition 225 ADT or less would therefore not constitute a significant impact on a two-lane highway operating at LOS F. However, the addition of more than 225 ADT would be considered a significant impact.

4.3.2 Signalized Intersection Spacing Under One Mile

This section provides level of service impact guidelines for State highway segments and County arterials operating as two-lane highways with signalized intersection spacing under one mile. Typical examples of this type of roadway are those segments of two lane highways that traverse town centers. Similar to the experience of drivers in urban areas with closely spaced intersections, the functionality of two-lane highway conditions with signalized intersections spacing under one mile becomes constrained not due to the segment capacity but the intersection operations. Therefore the assessment of operations of intersections on two-lane highways shall be guided by a Level of Service standard. Level of Service for purposes of this significance guideline is based upon the overall intersection operations – similar to Urban Street analysis in Chapter 15 Highway Capacity Manual. For determining impact significance at the signalized intersection, Table 4 "Measures of Significant Project Impacts to Congestion on Intersections Allowable Increases on Congested Intersections" may be used as summarized below:

Table 4
Measures of Significant Project Impacts to Congestion: Allowable Increases on Two-lane Highways with Signalized Intersection Spacing Under One Mile

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

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.

The second impact significance guideline (Table 4) concerns two-lane highways with signalized intersection spacing less than 1 mile. Two-lane highways with intersection spacing less than 1 mile operate similar to urban streets as identified in the HCM. Per the HCM, level Urban Streets have lower speeds with levels of service most characterized by the operation of the intersections along the highway/street. For two-lane highways with intersection spacing less than 1 mile, the level of service will be determined to be that of the intersections along the highway. Impacts to the highway will be determined by evaluating the intersection impact criteria identified in Table 4.

Impacts related to operational features on two-lane highways will be evaluated on a case-by-case basis based upon traffic flow patterns, geometrics, available sight distance, accident histories, and other factors. Coordination with County staff and Caltrans is recommended regarding any additional operational analysis that may be necessary.

4.4 Ramps

Additional or redistributed ADT generated by the proposed project may significantly increase congestion at a freeway ramp. Caltrans' "Guide for the Preparation of Traffic Impact Studies" states that an operational analysis based upon Caltrans' Highway Design Manual should be used in the evaluation of ramps and that Caltrans' Ramp Metering Guidelines should be used in the preparation of the operational analysis. However, specific criteria for the determination of an impact at a ramp are not provided in the above documents.

The CMP includes guidelines for the determination of traffic impacts at a ramp. These guidelines are summarized in Table 5. Table 5 may be used as a guide in determining significant increases in congestion on ramps and for identifying conflicts with the congestion management program. Other factors that may be considered include ramp metering, location (rural vs. urban), ramp design, and the proximity of adjacent intersections. Coordination with Caltrans and the local jurisdiction should be conducted to determine appropriate impact criteria for the specific ramps being assessed.

4.5 Congestion Management Program

Projects that generate over 2,400 ADT or 200 peak hour trips, must comply with the traffic study requirements of SANDAG's Congestion Management Program. Trip distributions for these projects must also use the current regional computer traffic model. Projects that must prepare a CMP analysis should also follow the CMP traffic impact analysis guidelines. These guidelines are summarized in Table 5.

Table 5
Measure of Significant Project Traffic Impacts for
Circulation Element Roads, Signalized Intersections, and Ramps

Level of Service With Project	Allowable Change Due to Project Impact						
	Freeways		Roadway Segments*		Intersections**	Ramps**	Ramps with >15 min. delay
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)	Delay (min.)
E & F	0.01	1	0.02	1	2	-	2

* For County arterials, which are not identified in SANDAG's Regional Transportation Plan and Congestion Management Program as regionally significant arterials, significance may be measured based upon an increase in average daily trips. The allowable change in ADT due to project impacts in this instance would be identified in Table 1.

** Signalized Intersections

*** See the Report Format and Content Requirements for guidance on ramp metering analysis.

KEY

V/C	=	Volume to Capacity ratio
Speed	=	Speed measured in miles per hour
Delay	=	Average stopped delay per vehicle measured in seconds, or minutes
LOS	=	Level of Service
ADT	=	Average Daily Trips

4.6 Hazards Due to an Existing Transportation Design Feature

Many roadways and intersections in the County were designed and constructed prior to the adoption of current road design standards. The design of the roadways and intersections that were able to handle lower traffic volumes, may pose an increased risk if traffic volumes substantially increase along the road segment or at the intersection as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to an existing transportation design feature. Therefore, it is necessary to evaluate potential hazards to an existing transportation design feature.

The determination of significant hazards to an existing transportation design feature shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations of access roads may adversely affect the safe movement of all users along the roadway.

- The percentage or magnitude of increased traffic on the road due to the proposed project may affect the safety of the roadway.

- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, may result in conflicts with other users or stationary objects.

- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable.

4.7 Hazards to Pedestrians or Bicyclists

Many roadways and intersections in the County do not currently have pedestrian or bicycle facilities. The roadways and intersections designed prior to adoption of current road standards may have conditions that may pose an increased risk if traffic volumes, pedestrian volumes, or bicycle volumes substantially increase along the road segment or at the intersection, as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to pedestrians or bicyclists. Therefore, it is necessary to evaluate potential hazards to pedestrians or bicyclists.

The determination of significant hazards to pedestrians or bicyclists shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations on a road segment or at an intersection that may adversely affect the visibility of pedestrians or bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.

- The amount of pedestrian activity at the project access points that may adversely affect pedestrian safety.

- The preclusion or substantial hindrance of the provision of a planned bike lane or pedestrian facility on a roadway adjacent to the project site.

- The percentage or magnitude of increased traffic on the road due to the proposed project that may adversely affect pedestrian and bicycle safety.

- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers that may result in vehicle/pedestrian, vehicle/bicycle conflicts.

- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable.

- The potential for a substantial increase in pedestrian or bicycle activity without the presence of adequate facilities.

4.8 Alternative Transportation

Alternative transportation (cycling, walking, and transit use) is addressed in the County's General Plan Public Facilities Element (PFE). The County's stated objective for alternative transportation is addressed by the PFE, Objective 4. Objective 4 asks for a "Reduction in the demand on the road system through increased public use of alternate forms of transportation and other means." Pursuant to Objective 4, Policies 4.1 – 4.4 establish a means for the County to meet the objective. As such, if a proposed project is not in conformance with the applicable alternative transportation policies in the PFE, a significant conflict with the County's alternative transportation policies may occur.

City of San Diego's Significance Determination Thresholds

California Environmental Quality Act

Significance Determination Thresholds

Development Services Department

JANUARY 2007*

*Note: Development Services Department staff periodically revises sections of the thresholds in response to CEQA case law, and changes in federal, state, and local regulations. Staff also periodically provides updated information and clarification and direction for environmental analysts.

City of San Diego
Development Services
Land Development
Review Division
(619) 446-5460

REVISION HISTORY	
Date	**Comments**
January 1991	Prior revision
January 1994	Prior revision
May 1999	Prior revision
April 2001	Prior revision
~~February~~ ~~April~~ 2004 ~~June,~~July 2004	Updated
August 2006	Strikeout/Underline removed; minor edits
January 2007	New Traffic Threshold implemented; minor edits

O. TRANSPORTATION / CIRCULATION and PARKING

Note: This section is to be applied for projects deemed complete on or after January 1, 2007. For projects deemed complete prior to January 1, 2007, the following Section O.1. on Page 73 is to be applied.

Project-related traffic impacts are one of the most commonly identified environmental impacts under the CEQA. Traffic operations and safety impacts are addressed in this section. Other environmental impacts associated with project- related traffic and transportation infrastructure improvements (e.g., air quality, noise, biology) are addressed in the applicable sections of this manual which pertain to such issues.

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

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

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

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

INITIAL STUDY CHECKLIST QUESTIONS

The following are taken from the City's Initial Study Checklist. They provide guidance on determining the potential significance of impacts to transportation, circulation systems, and parking:

Would the proposal result in:

1. Traffic generation in excess of specific community plan allocation?
2. An increase in projected traffic which is substantial (see table on following page) in relation to the existing traffic load and capacity of the street system?
3. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in the table on the next page?
4. An increased demand for off-site parking?
5. Effects on existing parking?
6. Substantial impact upon existing or planned transportation systems?

7. Substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?
8. Increase in traffic hazards for motor vehicles, bicyclists or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway)?
9. A conflict with adopted policies, plans or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks)?

SIGNIFICANCE THRESHOLDS

The following thresholds have been established to determine significant traffic impacts:

1. If any intersection, roadway segment, or freeway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, the impact would be significant if the project exceeds the thresholds shown in the table below.

2. At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds shown in the table below.

3. If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.

4. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in the table below?

5. If a project would increase traffic hazards to motor vehicles, bicyclists or pedestrians due to proposed non-standard design features (e.g., poor sight distance, proposed driveway onto an access-restricted roadway), the impact would be significant. Note: analysts should refer readers to a discussion of this issue in the Health and Safety section of the environmental document.

5. If a project would result in the construction of a roadway which is inconsistent with the General Plan and/or a community plan, the impact would be significant if the proposed roadway would not properly align with other existing or planned roadways.

6. If a project would result in a substantial restriction in access to publicly or privately owned land, the impact would be significant.

Level of Service with Project *	Allowable Change Due To Project Impact **					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	*Speed (mph)*	*V/C*	*Speed (mph)*	*Delay (sec.)*	*Delay (min.)*
E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

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

* 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.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

KEY: Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters
LOS = Level of Service
Speed = Speed measured in miles per hour
V/C = Volume to Capacity ratio

PARKING

Parking requirements vary by land use and location and are dictated by the City of San Diego Municipal Code and adopted by the City Council policies.

SIGNIFICANCE THRESHOLDS

Non-compliance with the City's parking ordinance does not necessarily constitute a significant environmental impact. However, it can lead to a decrease in the availability of existing public parking in the vicinity of the project. Generally, if a project is deficient by more than ten percent of the required amount of parking and at least one of the following criteria applies, then a significant impact may result:

1. The project's parking shortfall or displacement of existing parking would substantially affect the availability of parking in an adjacent residential area, including the availability of public parking.

2. The parking deficiency would severely impede the accessibility of a public facility, such as a park or beach.

O.1. TRAFFIC/PARKING

Note: This section is to be applied to projects deemed complete prior to January 1, 2007.

Traffic:

Direct traffic impacts are those projected to occur at the time a proposed development becomes operational. The calculations include other operating projects and those not yet operational but which are anticipated to be operational when the proposed project goes into effect.

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 or when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan areas reach full planned buildout (long-term cumulative).

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. However, for undeveloped locations, the goal is to achieve LOS C.

Significance Thresholds

1. If any intersection or roadway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, the impact would be significant if the project exceeds the following allowable increases in delay or intersection capacity utilization for affected intersections or volume-to-capacity ratio or speed for affected roadway segments:

Allowable Increase Due to Project Impacts*

Level of Service with Project	Intersections		Roadway Segments	
	Delay (sec.)	*ICU (V/C)*	*V/C*	*Speed (mph)*
E**	2	0.02	0.02	1
F**	2	0.02	0.02	1

Notes:

* If a proposed project's traffic impacts exceed the values shown in the table, then the impacts are deemed "significant." The project applicant shall identify "feasible mitigations" to achieve LOS D or better.

** The acceptable level of service standard for roadways and intersections in San Diego is LOS D. However, for undeveloped locations, the goal is to achieve LOS C.

Key:

Delay = Average stopped delay per vehicle measured in seconds
ICU = Intersection Capacity Utilization
V/C = Volume-to-Capacity Ration (capacity at level of service E should be used, as specified in Table 1 of the City of San Diego Traffic Impact Study Manual)
Speed = Arterial speed measured in miles per hour

Caltrans Guidelines for the Preparation of TIS

GUIDE FOR THE PREPARATION

OF

TRAFFIC IMPACT STUDIES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

December 2002

A - 123

PREFACE

The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).

In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.

Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinator) to coordinate any changes with the development team.

ACKNOWLEDGEMENTS

The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.

A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.

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I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, State, and local agency development projects[1], and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- guidance in determining if and when a traffic impact study (TIS) is needed,
- consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- lead agency[2] officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A, Minimum Contents of a TIS)
- TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS, and
- early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service[3] (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix "C-2") describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

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[1] "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

[2] "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

[3] "Level of service" as defined in the latest edition of the Highway Capacity Manual, Transportation Research Board, National Research Council.

A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis[4]:
   a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
   b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
   c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project's traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

[4] A "lesser analysis" may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only with Select Zone[5] Analysis - Trip generation and assignment for build-out of general plan.
   c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
   d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.
2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
   c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.
3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

[5] "Select zone" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.

IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination (R^2) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips[6] – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips[7] – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

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[6] "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).

[7] "Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis (please note however, the micro-simulation model must be calibrated and validated for reliable results). Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM)
C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Highways – HCM*, operational analysis
E. Two-lane Highways – HCM*, operational analysis
F. Signalized Intersections[8] – HCM*, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit – HCM*, operational analysis
I. Pedestrians – HCM*
J. Bicycles – HCM*
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

****NOTE**: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987, 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. However, the authority vested in the lead agency under CEQA does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

APPENDIX "A"

MINIMUM CONTENTS

OF A

TRAFFIC IMPACT STUDY

MINIMUM CONTENTS OF TRAFFIC IMPACT STUDY REPORT

I. EXECUTIVE SUMMARY

II. TABLE OF CONTENTS

A. List of Figures (Maps)
B. List of Tables

III. INTRODUCTION

A. Description of the proposed project
B. Location of project
C. Site plan including all access to State highways (site plan, map)
D. Circulation network including all access to State highways (vicinity map)
E. Land use and zoning
F. Phasing plan including proposed dates of project (phase) completion
G. Project sponsor and contact person(s)
H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

A. Clearly stated assumptions
B. Existing and projected traffic volumes (including turning movements), facility geometry (including storage lengths), and traffic controls (including signal phasing and multi-signal progression where appropriate) (figure)
C. Project trip generation including references (table)
D. Project generated trip distribution and assignment (figure)
E. LOS and warrant analyses - existing conditions, cumulative conditions, and full build of general plan conditions with and without project

V. CONCLUSIONS AND RECOMMENDATIONS

A. LOS and appropriate MOE quantities of impacted facilities with and without mitigation measures
B. Mitigation phasing plan including dates of proposed mitigation measures
C. Define responsibilities for implementing mitigation measures
D. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

A. Description of traffic data and how data was collected
B. Description of methodologies and assumptions used in analyses
C. Worksheets used in analyses (i.e., signal warrant, LOS, traffic count information, etc.)

APPENDIX "B"

METHODOLOGY FOR

CALCULATING EQUITABLE

MITIGATION MEASURES

METHOD FOR CALCULATING EQUITABLE MITIGATION MEASURES

The methodology below is neither intended as, nor does it establish, a legal standard for determining equitable responsibility and cost of a project's traffic impact, the intent is to provide:

1. A starting point for early discussions to address traffic mitigation equitably.
2. A means for calculating the equitable share for mitigating traffic impacts.
3. A means for establishing rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)].

The formulas should be used when:

- A project has impacts that do not immediately warrant mitigation, but their cumulative effects are significant and will require mitigating in the future.
- A project has an immediate impact and the lead agency has assumed responsibility for addressing operational improvements

NOTE: This formula is not intended for circumstances where a project proponent will be receiving a substantial benefit from the identified mitigation measures. In these cases, (e.g., mid-block access and signalization to a shopping center) the project should take full responsibility to toward providing the necessary infrastructure.

EQUITABLE SHARE RESPONSIBILITY: **Equation C-1**

NOTE: $T_E < T_B$, see explanation for T_B below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

EQUITABLE COST: **Equation C-2**

$$C = P\ (C_T)$$

Where:

C = The equitable cost of traffic mitigation for the proposed project, ($). (Rounded to nearest one thousand dollars)

P = The equitable share for the project being considered.

C_T = The total cost estimate for improvements necessary to mitigate the forecasted traffic demand on the impacted State highway facility in question at general plan build-out, ($).

NOTES

1. Once the equitable share responsibility and equitable cost has been established on a per trip basis, these values can be utilized for all projects on that State highway facility until the forecasted general plan build-out model is revised.
2. Truck traffic should be converted to passenger car equivalents before utilizing these equations (see the Highway Capacity Manual for converting to passenger car equivalents).

3. If the per trip cost is not used for all subsequent projects, then the equation below will be necessary to determine the costs for individual project impact and will require some additional accounting.

Equation C-2.A

$$C = P\,(C_T - C_C)$$

Where:

C = Same as equation C-2.

P = Same as equation C-2.

C_T = Same as equation C-2.

C_C = The combined dollar contributions paid and committed prior to current project's contribution. This is necessary to provide the appropriate cost proportionality. Example: For the first project to impact the State highway facility in question since the total cost (C_T) estimate for improvements necessary to mitigate the forecasted traffic demand, C_C would be equal to zero. For the second project however, C would equal $P_2(C_T - C_1)$ and for the third project to come along C would equal $P_3[C_T - (C_1 + C_2)]$ and so on until build-out or the general plan build-out was recalculated.

APPENDIX "C"

MEASURES OF EFFECTIVENESS

BY

FACILITY TYPE

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS (MOE)
Basic Freeway Segments	Density (pc/mi/ln)
Ramps	Density (pc/mi/ln)
Ramp Terminals	Delay (sec/veh)
Multi-Lane Highways	Density (pc/mi/ln)
Two-Lane Highways	Percent-Time-Following Average Travel Speed (mi/hr)
Signalized Intersections	Control Delay per Vehicle (sec/veh)
Unsignalized Intersections	Average Control Delay per Vehicle (sec/veh)
Urban Streets	Average Travel Speed (mi/hr)

Measures of effectiveness for level of service definitions located in the most recent version of the Highway Capacity Manual, Transportation Research Board, National Research Council.

Transition between LOS "C" and LOS "D" Criteria

(Reference Highway Capacity Manual)

BASIC FREEWAY SEGMENTS @ 65 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	65.0	0.30	710
B	18	65.0	0.50	1170
C	26	64.6	0.71	1680
D	35	59.7	0.89	2090
E	45	52.2	1.00	2350

SIGNALIZED INTERSECTIONS and RAMP TERMINALS

LOS	Control Delay per Vehicle (sec/veh)
A	≤ 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

MULTI-LANE HIGHWAYS @ 55 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	55.0	0.29	600
B	18	55.0	0.47	990
C	26	54.9	0.68	1430
D	35	52.9	0.88	1850
E	41	51.2	1.00	2100

..... Dotted line represents the transition between LOS "C" and LOS "D"

TWO-LANE HIGHWAYS

LOS	Percent Time-Spent-Following	Average Travel Speed (mi/hr)
A	≤ 35	> 55
B	> 35 - 50	> 50 - 55
C	> 50 - 65	> 45 - 50
D	> 65 - 80	> 40 - 45
E	> 80	≤ 40

URBAN STREETS

Urban Street Class	I	II	III	IV
Range of FFS	55 to 45 mi/hr	45 to 35 mi/hr	35 to 30 mi/hr	35 to 25 mi/hr
Typical FFS	50 mi/hr	40 mi/hr	35 mi/hr	30 mi/hr
LOS	Average Travel Speed (mi/hr)			
A	> 42	> 35	> 30	> 25
B	> 34 - 42	> 28 - 35	> 24 - 30	> 19 - 25
C	> 27 - 34	> 22 - 28	> 18 - 24	> 13 - 19
D	> 21 - 27	> 17 - 22	> 14 - 18	> 9 - 13
E	> 16 - 21	> 13 - 17	> 10 - 14	> 7 - 9
F	≤ 16	≤ 13	≤ 10	≤ 7

▪▪▪▪▪ Dotted line represents the transition between LOS "C" and LOS "D"

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Additional copies of these guidelines can be copied from the internet at,
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/

Excerpt from County of San Diego Parking Schedule

PARKING REGULATIONS

6750 TITLE AND PURPOSE.
Section 6750 through 6799, inclusive, shall be known as the Parking Regulations. The purpose of these regulations is to provide functionally adequate, safe and aesthetically pleasing off-street parking and loading facilities for motor vehicles and bicycles. The spaces provided are required for use by the employees, tenants, customers and guests of the establishment providing the parking facilities.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3200.)

6753 GENERAL PARKING REQUIREMENT.

a. New Uses and Structures

All uses and/or structures established or constructed after May 10, 1985, shall be provided with not less than the number of parking and bicycle spaces specified in the Parking Schedules in Sections 6758 through 6780.

b. Existing Uses and Structures

All uses and/or structures lawfully established or erected prior to May 10, 1985, shall not be altered so as to reduce the number of parking or bicycle spaces to less than that required by these Regulations.

c. Conversion, Alterations or Expansion of an Existing Use or Structure

All uses and/or structures lawfully established or erected prior to May 10, 1985, that are converted, altered or expanded shall be required to provide only additional parking to accommodate the increase in capacity and/or intensity. This additional parking shall be provided unless the existing parking is sufficient to meet the parking requirements of this ordinance for the entire use and/or structure.

d. Exceptions

Notwithstanding the general parking requirements set forth in subsections a. and c. above, parking requirements for uses conducted pursuant to a use permit, Historic District Site Plan, or community design review Site Plan in a Special Parking District, shall be determined in accordance with Sections 6782 and/or 6783. In the Fallbrook Special Parking District, parking requirements shall be determined in accordance with the Parking Regulations for each Fallbrook Village Zone.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3203.)
(Amended by Ord. No. 8407 (N.S.) adopted 5-18-94.)
(Amended by Ord. No. 9620 (N.S.) adopted 12-10-03)

6756 COMPUTATION OF PARKING AND BICYCLE SPACE REQUIREMENTS.

a. Separate Uses. The off-street parking requirements for 2 or more uses on the same lot or parcel shall be the sum of the requirements for each use computed separately.

b. Bedrooms. For the purpose of computing residential parking requirements, the following shall be considered as bedrooms if they contain at least 70 square feet of floor area: dens, studies, studios, libraries, recreation rooms, sewing rooms, hobby rooms, work rooms or similar rooms.

c. Rounding. In computing the required number of parking spaces or bicycle spaces, fractions of .5 or larger shall be rounded up to the next whole number. Fractions less than .5 shall be disregarded, except that when the total requirement for a use or structure is 4 or fewer spaces, any fraction shall be rounded up to the next whole number.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3206.)

PARKING SCHEDULES

6762 PARKING REQUIREMENTS: COMMERCIAL *1

Type of Occupancy, Use or Structure	Required Parking and Bicycle Spaces
Offices*2 Retail Sales and Services*3 Personal Services Eating and Drinking Establishments*6 Repair Services*4 Participant Sports and Recreation*5 (a) Indoor Spectator Sports and Entertainment*5 (b) Limited Located on one legal parcel with a gross floor area (GFA) of:	
Less than 25,000 square feet	5 Parking spaces per 1,000 sq. ft. of GFA. (200 sq. ft. of GFA per parking space.) I.5 Bicycle spaces for every 10 parking spaces but not less than 3.
25,000 to 250,000 square feet	4.5 Parking spaces per 1,000 sq. ft. of GFA. (225 sq. ft. of GFA per parking space.) 1.5 Bicycle spaces for every 10 parking spaces but not less than 3.
Over 250,000 square feet	4 Parking spaces per 1,000 sq. ft. GFA. (250 sq. ft. of GFA per parking space). 1 Bicycle space for every 10 parking spaces but not less than 3.
Automotive and Equipment Sales, Rental and Repair (all types) Business Equipment Sales and Service	3.3 Parking spaces for every 1,000 sq. ft. of GFA. (300 sq. ft. of GFA per parking space.) 1.5 Bicycle spaces for every 10 parking spaces.
Swap Meet	6.5 Parking spaces for every 1,000 sq. ft. of selling area.

*1 Parking requirements are based on gross floor area (GFA) plus any open area used for display or business operations.

*2 Excludes Medical and Clinical Facilities providing overnight or in-patient care.

*3 Except Automotive and Equipment (all types)/Business Equipment (sales and service).

*4 Except Automotive and Equipment (all types).

*5 When this use occupies more than 33% of the GFA, this section does not apply (See Section 6766 Public Assembly).

*6 When more than 10% of the GFA is devoted to this use the parking requirements are as follows: More than 10% but less than 25% - 10 spaces per 1000 square feet of GFA. Over 25% - 12 spaces per 1000 square feet of GFA.

(Added by Ord. No. 6940 (N.S.) adopted 4-10-85.)
(Amended by Ord. No. 8166 (N.S.) adopted 10-21-92)

PARKING SCHEDULES

6766 PARKING REQUIREMENTS: **PUBLIC ASSEMBLY**

Type of Occupancy, Use or Structure	Required Parking and Bicycle Spaces
Public Assembly (including, but not limited to, dance halls, mortuaries, auditoriums and such not named elsewhere)	1 Parking space for every 4 persons based on the total occupancy permitted by the Uniform Building Code. 1 Bicycle space for every 10 parking spaces.
Participant Sports and Recreation (all types), See Section 6762 Spectator Sports and Entertainment*1 (limited use type) See Section 6762	1 Parking space for every 3 persons based on the total occupancy permitted by the Uniform Building Code.
Spectator Sports and Entertainment*1 (general use type)	1 Parking space for every 3 persons permitted to occupy the premises.
Religious Assembly	1 Parking space for every 4 persons based on the total occupancy of the largest assembly room permitted by the Uniform Building Code.

*1 Excluding theatres and dance halls.

(Added by Ord. No. 6940 (N.S.) adopted 4-10-85.)

6784 REDUCTION OF PARKING SPACES: PARKING ASSESSMENT DISTRICT. The number of required parking spaces for uses and structures located within an assessment district formed to provide off-street parking shall be reduced by the number of parking spaces provided by the assessment district which are attributable to the subject property. For purposes of this Section, the parking spaces shall be attributed to each lot or parcel in the same ratio that the assessed value of the subject parcel bears to the total assessed value of the assessment district, unless the Board of Supervisors determines that the parking spaces should be attributed to individual parcels in another manner.

(Renumbered without substantive amendment by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3260.)

6785 RELATIONSHIP OF REQUIRED PARKING TO BUILDING SITE. All required parking and bicycle spaces shall be located on the same legal parcel with the use or structure they are intended to serve, unless the site on which they are located is within the Fallbrook Village Zones and meets the Fallbrook Village Parking Regulations or meets all of the following conditions:

a. There is a traversable pedestrian route, not more than 600 feet in length over and along public streets or walkways or permanently established easements between the parking or bicycle spaces and the uses or structures to be served; and

b. The site is already zoned S86 Parking Use Regulations or, all persons owning an interest in the site shall execute and record an agreement not to oppose a reclassification to the S86 Parking Use Regulations and then shall make application and pay the fees for this reclassification.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3272.)

6787 LOCATION OF PARKING ON BUILDING SITE.

a. Bicycle Spaces. Bicycle spaces shall be located:

   1. At least as close and accessible to the use or building served as is the most convenient motor vehicle parking (other than handicapped parking).

   2. As close to building entrances as is practical without interfering with pedestrian traffic.

   3. At ground level.

b. Covered Parking. Covered or enclosed parking spaces may be located anywhere on a building site where a structure may be located. In the Fallbrook Village Zones 1 through 4, covered or enclosed parking spaces shall be outside the ultimate right-of-way of any street and shall be located in the rear half of the lot.

6787

c. Open Parking. Except as provided in Paragraph "d", open parking spaces shall be outside the ultimate right-of-way of any street and shall be located as follows:

ZONE/USE REGULATION	PERMITTED LOCATION
Residential & Agricultural Zones S80, S87, S88, S90, S92 Use Regulations *Fallbrook Village 5 Zone*	Anywhere except in a required front or exterior side yard. May be in interior side yard only when separated from abutting property by a 6-foot high solid fence or wall.
C30, C31, C46 Use Regulations	Anywhere except in a required front yard.
Other Commercial Zones, Industrial Zones, S82, S86, and S94 Use Regulations.	Anywhere except in a required landscaped area.
Fallbrook Village Zones 1 through 4	Anywhere in the rear half of the lot.

d. Exceptions. A use permit, Variance, Administrative Permit, or historic district site plan may specify the location of parking areas and bicycle spaces in locations other than as required by Paragraphs "a" and "c".

(Amended by Ord. No. 5976 (N.S.) adopted 1-28-81. Formerly Sec. 6756.)
(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3275.)
(Amended by Ord. No. 9620 (N.S.) adopted 12-10-03)

6788 COLLECTIVE PROVISION OF OFF-STREET PARKING.
A major use permit may be granted to authorize collective off-street parking facilities serving two or more uses, structures in locations subject to commercial, industrial, or S86 Use Regulations subject to the following requirements:

a. The total parking spaces in such collective off-street parking facilities shall not be less than the sum of the requirements for the individual buildings or uses computed separately in accordance with these Regulations, unless a major use permit approved pursuant to this section specifies another amount.

b. The major use permit may be conditioned upon the reclassification of the parking area to the S86 Parking Use Regulations, the provision of landscaping, and other appropriate requirements.

(Renumbered without substantive amendment by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3278.)

6790 PARKING SPACE DIMENSIONS.

a. Design Manual to Specify. The design manual adopted pursuant to Section 6793C shall establish the minimum dimensions for parking spaces. The Director may require larger dimensions if he determines that larger dimensions are needed to provide safe and adequate parking in specific situations.

b. Handicapped Parking. At least one space of the required parking spaces in any parking area shall be designed for handicapped parking as specified in the design manual. Such spaces shall be located as close as possible to the entrance of the use or structure, and shall be reserved and designated for handicapped persons. The total number of required handicapped spaces shall be that specified in the design manual.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3281.)

6792 DESIGN OF BICYCLE STORAGE SPACE FACILITIES.

a. Enclosed Bicycle Spaces. Structures or lockers containing enclosed bicycle spaces shall be designed and constructed so that such structures or bicycles within them cannot be easily removed. In enclosed bicycle spaces which are not divided into individual lockers or racks, one space shall consist of a floor area at least 2 feet wide and 6 feet long, served by an aisle at least 5 feet wide. Enclosed bicycle spaces may be used in lieu of open bicycle spaces.

b. Bicycle Spaces. Bicycle racks shall be so designed and constructed that a bicycle can be securely locked with a user-supplied padlock. Racks shall provide a space at least 2 feet in width for each bicycle.

c. General Criteria. Bicycle spaces shall be:

1. Clearly designated as being for bicycle parking.

2. Separated from motor vehicle parking areas and driveways by a barrier, or shall be located in a manner which will minimize the possibility of vehicles striking parked bicycles.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3284.)

6793 DESIGN STANDARDS FOR OFF-STREET PARKING.
Parking spaces and areas shall meet the following design and improvement standards:

a. Surfacing. All parking spaces or areas, loading spaces and driveways serving them shall be hard surfaced in accordance with the specifications set forth in the design manual. The type of surfacing for proposed parking spaces and driveways shall be indicated on all plot plans which accompany building construction plans.

b. Landscaping. Except in zones subject to the C37, C38, C40, M54, M58, S80, S82, S87, S88, S90, S92, and S94 Use Regulations, an area at least equal to 5 percent of the area of any parking area shall be landscaped in conformance to the requirements of Paragraph "c" of this Section and Section 6712.

c. Design Manual. The design, dimensions, construction, landscaping, and surfacing of parking and bicycle spaces, driveways and other areas shall conform to the requirements of the Offstreet Parking Design Manual. The Director may administratively waive or modify one or more such requirements when practical difficulties make their strict application infeasible, and upon a finding that the waiver or modification is consistent with the purpose and intent of the Offstreet Parking Design Manual and this section. The Director shall submit any amendments to the design manual to the Planning Commission for its review and comment prior to transmitting them to the Board of Supervisors.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3287.)
(Amended by Ord. No. 7220 (N.S.) adopted 10-22-86)

6794 LOADING SPACES.
All buildings containing commercial or industrial use types, hospitals, or institutions hereafter constructed, converted, established, or enlarged to increase their floor area shall be provided with loading spaces as follows and as specified in the design manual:

a. Number of Loading Spaces.

Total Floor Area on Parcel (Other than floor area devoted to office uses.)	Number of Loading Spaces
Less than 5,000 square feet	0
5,000 to 19,999 " "	1
20,000 to 39,999 " "	2

40,000 to 79,999 " "	3
80,000 square feet and over	4 plus 1 space for each additional 50,000 square feet

b. Access. Loading spaces shall have safe and adequate means of ingress and egress for trucks to and from a public street or alley.

c. Exemptions. Notwithstanding the provisions of this section, mini-warehouses shall be exempted from the loading space requirements.

d. Exceptions. Notwithstanding the requirements set forth in subsections a. and b. above, loading spaces for uses conducted pursuant to a use permit, Historic District Site Plan, or community design review Site Plan in a Special Parking District, shall be determined in accordance with Sections 6782 and/or 6783.

(Amended by Ord. No. 6940 (N.S.) adopted 4-10-85. Formerly Sec. 3290.)
(Amended by Ord. No. 8407 (N.S.) adopted 5-18-94.)

6795 VARIANCES FROM PARKING REGULATIONS.
Any waiver or modification of these Parking Regulations shall be allowed only in accordance with the Variance Procedure commencing at Section 7100.

(Renumbered without substantive amendment by Ord. No. 6940 adopted 4-10-85. Formerly Sec. 3292.)

6799 PARKING OF COMMERCIAL VEHICLES IN RESIDENTIAL, AGRICULTURAL AND CERTAIN SPECIAL PURPOSE ZONES.
No person shall park any "commercial vehicle" as defined by the California Vehicle Code in excess of one ton capacity on private property in Residential, Agricultural and the S87, S90 and S92 Special Purpose Zones except as follows:

a. When loading or unloading property, or

b. When such vehicle is parked in connection with, and in aid of, the performance of a service to or on property in the block in which such vehicle is parked.

Notwithstanding the above provisions, no vehicle shall remain parked in excess of five consecutive hours. Section 6799 does not apply to recreational vehicles or farm vehicles or equipment, including maintenance equipment, necessary for agricultural production on the property where the vehicles and equipment are parked. In Agricultural Zones and the S87, S90 and S92 Special

Purpose Zones, a maximum of two vehicles of up to two tons capacity may be parked by a person owning said vehicles and the property where they are parked and who is conducting an agriculturally-related service or activity located elsewhere.

(Renumbered without substantive amendment by Ord. No. 6940 adopted 4-10-85. Formerly Sec. 3295.)
(Amended by Ord. No. 7935 (N.S.) adopted 6-19-91)
(Amended by Ord. No. 8166 (N.S.) adopted 10-21-92)

APPENDIX B

- Board Resolution, GPA 02-CE1, June 12, 2002
- Board Resolution, SPA 00-005, June 12, 2002
- Board Resolution, GPA 06-013, August 1, 2007
- Board Resolution, SPA 06-003, August 1, 2007
- Excerpts from East Otay Mesa Business Park Specific Plan Sub Area 1
- 5 year Capital Improvement Program (CIP) 2008/09 – 2012/13
- Caltrans' Fact Sheets for SR905 & SR-11
- SANDAG Series 11 Model for Otay Mesa 2020

Board Resolution, GPA 02-CE1, June 12, 2002

June 12, 2002

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS ADOPTING)
GENERAL PLAN AMENDMENT (GPA) 02-CE1)

WHEREAS, pursuant to Government Code Sections 65350 et seq. and Board of Supervisors Policy I-63 "General Plan Amendment and Zoning Implementation Guidelines", General Plan Amendment 02-CE1 has been prepared, being the first amendment to the Circulation Element in the calendar year 2002; and

WHEREAS, General Plan Amendment 02-CE1 consists of an amendment to sheet 6 of the County of San Diego General Plan, Circulation Element which includes the following:

1. Deletion of Alta Road (SA 1112) from Lonestar Road (SC 2340) to the Chula Vista City limits.

2. Deletion of Harvest Road (SA 1104) from Otay Mesa Road (SA 1120) to Lonestar Road (SC 2340).

3. Deletion of Alta Road (SA 1112) from Siempre Viva Road (SC 2360) to Via de la Amistad (a non-Circulation Element Road).

4. Reclassification of Otay Mesa Road (SA 1120) from Enrico Fermi Drive (SC 1105) to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.

5. Reclassification of Lonestar Road (SA 2340) from Ellis Road to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.

6. Reclassification of Alta Road (SA 1112) from Lonestar Road (SC 2340) to Otay Mesa Road (SA 1120) from a Major Road without bike lanes to a Major Road with bike lanes.

WHEREAS, the Department of Planning and Land Use, in the Planning Report to the Planning Commission under the cover letter dated May 3, 2002 has made its detailed recommendations concerning the above item; and

WHEREAS, the Department of Planning and Land Use recommends that a finding that the proposed project including GPA 02-CE1 and the alternatives was adequately reviewed in the previous Environmental Impact Report (EIR) for the East Otay Mesa Specific Plan dated May 11, 1994 and the Addendum No. 6 dated March 28, 2002; and

6. Reclassification of Alta Road (SA 1112) from Lonestar Road (SC 2340) to Otay Mesa Road (SA 1120) from a Major Road without bike lanes to a Major Road with bike lanes.

BE IT FURTHER RESOLVED that the adoption of GPA 02-CE1 is consistent with the goals and policies of San Diego County as expressed in the General Plan and other adopted documents.

BE IT FURTHER RESOLVED that if any section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid or unconstitutional, such invalidity or constitutionality of the remaining portions of the Resolution, it being hereby expressly declared that this Resolution and each section, subsection, sentence, clause or phrase hereof would have been prepared, proposed, adopted, approved and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

BE IT FURTHER RESOLVED that the amended documents shall be endorsed in the manner provided by the Board of Supervisors.

IT IS FURTHER ORDERED that the Clerk of the Board make available to the general public for inspection, within one working day, copies of the documents amending the General Plan, including diagrams and text, and copies thereof provided upon request and payment of a reasonable cost for copying within two working days after receipt of the request.

BE IT FURTHER RESOLVED that this Resolution and all plan amendments and other actions effective hereby shall take effect on June 12, 2002

BOARD02\06-12\EOMGPA02CE1-RES;jcr

Board Resolution, SPA 00-005, June 12, 2002

June 12, 2002

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS)
ADOPTING AMENDMENT OF THE EAST OTAY)
MESA SPECIFIC PLAN (SPA 00-005))

WHEREAS, on July 14, 1994, the Board of Supervisors adopted the "East Otay Mesa Specific Plan" for the East Otay Mesa area; and

WHEREAS, the Board of Supervisors has recommended that said Specific Plan be amended to:

- Facilitate development of East Otay Mesa as a major employment area for southern San Diego County;
- Encourage and protect an area of critical size for regional technology manufacturing uses in a campus-like setting;
- Provide adequate land use area for warehousing and other light industrial uses;
- Provide an area for heavy industrial uses such as auto salvage and recycling that will not interfere with development and operation of more sensitive industrial park developments;
- Provide commercial uses in the Specific Plan to serve employees and visitors;
- Identify and address environmental resources; and
- Plan for public facilities concurrent with need.

WHEREAS, on May 3, 2002, the Planning Commission of the County of San Diego, pursuant to Government Code Sections 65453 and 65353, held a duly advertised public hearing; and

WHEREAS, the Planning Commission recommends that the Board of Supervisors amend the East Otay Mesa Specific Plan as shown in Attachment E incorporating the changes shown on the Errata Sheets in Attachment L; and

WHEREAS, the Board of Supervisors on June 12, 2002, conducted a duly advertised public hearing on the proposed East Otay Mesa Specific Plan amendment (SPA 00-005) and considered the recommendations of the Planning Commission with respect thereto.

NOW THEREFORE, BE IT RESOLVED AND FOUND in accordance with the California Environmental Quality Act (CEQA) Guidelines, as follows:

Find that the Board of Supervisors has reviewed and considered the information contained in the Environmental Impact Report (EIR) dated July 27, 1994 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-6 and Addendum thereto dated

March 28, 2002 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-06A prior to making a decision on the project;

The "California Environmental Quality Act Guidelines Section 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation for Use on a Subsequent Project with a Previously Adopted EIR" dated March 28, 2002 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-06A; is hereby adopted.

The "California Environmental Quality Act Guidelines Section 15091 Findings Regarding Significant Effects of the Project" dated July 27, 1994 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-6; is hereby adopted.

BE IT FURTHER RESOLVED that the Board of Supervisors finds that the East Otay Mesa Specific Plan Amendment (SPA 00-005), is consistent with the San Diego County General Plan and the Otay Subregional Plan in that the goals, objectives, and policies of all the elements of the plans have been or will be met.

BE IT FURTHER RESOLVED that the Board of Supervisors hereby adopts the Specific Plan Amendment (SPA 00-005), consisting of this Resolution, the text and map entitled East Otay Mesa Specific Plan Amendment SubArea 1, as shown in Attachment E incorporating the changes shown on the Errata Sheets in Attachment L.

BE IT FURTHER RESOLVED that the following evidence is incorporated herein by this reference and serves as further evidence to support the findings, requirements, and conclusions included herein: The maps, exhibits, written documents, and material contained in the files regarding SPA 00-005 on record at the County of San Diego and the written documents referred to and the oral presentation(s) made at public hearings.

BE IT FURTHER RESOLVED that if any section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid or unconstitutional, such invalidity or constitutionality of the remaining portions of the Resolution, it being hereby expressly declared that this Resolution and each section, subsection, sentence, clause or phrase hereof would have been prepared, proposed, adopted, approved and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

BE IT FURTHER RESOLVED that the amended document shall be endorsed in the manner provided by the Board of Supervisors.

IT IS FURTHER ORDERED that the Clerk of the Board make available to the general public for inspection, within one working day, copies of the documents

amending the Specific Plan, including diagrams and text, and copies thereof provided upon request and payment of a reasonable cost for copying within two working days after receipt of the request.

BE IT FURTHER RESOLVED that this Resolution and all plan amendments and other actions effective hereby shall take effect on June 12, 2002.

BOARD02\06-12\EOMSPA00005-RES;jcr

Board Resolution, GPA 06-013, August 1, 2007

Hearing Date: August 1, 2007

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS ADOPTING)
GENERAL PLAN AMENDMENT (GPA) 06-013)

WHEREAS, pursuant to Government Code Sections 65350 et seq., and Board of Supervisors' Policy I-63, General Plan Amendment and Zoning Implementation Guidelines, GPA 06-013 has been prepared, being the third amendment to the Circulation Element, in the Calendar Year 2007; and

WHEREAS, GPA 06-013 has been initiated by the County of San Diego consisting of an amendment to the Circulation Element; and

WHEREAS, pursuant to Government Code Sections 65860 et seq., associated Specific Plan Amendments have been prepared together with GPA 06-013; and

WHEREAS, the Planning Commission has made its detailed recommendations concerning the above item; and

WHEREAS, the Planning Commission recommends that the Board of Supervisors review and consider the information contained in the "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and in the Addendum to the previously certified Environmental Impact Report (EIR) dated June 15, 2007, on file with the Department of Planning and Land Use (DPLU) as Environmental Review Number 93-19-006Y prior to making its decision on the project; and

WHEREAS, the Planning Commission recommends that the proposed project, GPA 06-013, will have no new significant impact on the environment; and

WHEREAS, on July 13, 2007, the Planning Commission, pursuant to Government Code Sections 65351 and 65353 held a duly advertised public hearing on GPA 06-013; and

WHEREAS, the Planning Commission has reviewed and considered the information contained in the "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and in the Addendum to the previously certified EIR dated June 15, 2007, on file with DPLU as Environmental Review Number 93-19-006Y prior to making its recommendation on the project; and

WHEREAS, on August 1, 2007, the Board of Supervisors, pursuant to Government Code Section 65355 held a duly advertised public hearing on GPA 06-013; and

NOW THEREFORE BE IT RESOLVED that the Board of Supervisors takes the following actions:

1. Find that the Board of Supervisors has reviewed and considered the information contained in the Final EIR dated February 17, 1994 on file with DPLU as Environmental Review Number 93-19-006 and Addenda thereto dated January 13, 1999; July 1, 1999; June 21, 2000; March 12, 2001; February 23, 2001; March 28, 2002; March 4, 2003, May 20, 2005, January 31, 2006, March 27, 2006, August 7, 2006, and November 17, 2006 on file with DPLU as Environmental Review Number 93-19-016; 93-19-006; 93-19-006A; 98-19-013; 98-19-013A; 93-19-006C; 93-19-006P; 93-19-006A; 93-19-006S; and 93-19-006T prior to making its decision on the project;

2. The "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and the EIR Addendum dated June 15, 2007 on file with DPLU as Environmental Review Number 93-19-006Y including California Environmental Quality Act Guidelines Sections 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation to be completed when there is a previously certified EIR; is hereby adopted.

3. The Board reaffirms the findings made relative to said EIR in accordance with Public Resources Code 21081.

4. Approve GPA 06-013, which consists of an amendment to the Circulation Element Portion Sheet 6 as shown on Exhibit #B-1, B-2 and B-3.

BE IT FURTHER RESOLVED that the amended documents shall be endorsed in the manner provided by the Board of Supervisors.

BE IT FURTHER RESOLVED that this Resolution shall take effect and be in force from and after 30 days after its adoption.

BOARD07\08-01\GPA06013-RES;jcr

Board Resolution, SPA 06-003, August 1, 2007

Hearing Date: August 1, 2007

RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS)
APPROVING SPECIFIC PLAN AMENDMENT)
SPA 06-003, EAST OTAY MESA)

ON MOTION of Supervisor _____, seconded by Supervisor_____ _____, the following Resolution is adopted:

WHEREAS, a Specific Plan known as the East Otay Mesa Specific Plan (SP 93-004), having been prepared by the San Diego County Department of Planning and Land Use for an area comprising 3,300 acres (Subareas 1 and 2), generally located south of the Otay River Valley, north of the international border with Mexico, west of the San Ysidro Mountains and east of the City of San Diego and State Route 905 in the community of Otay Mesa, was adopted by Resolution of this Board on July 27, 1994; and

WHEREAS, the County of San Diego initiated an amendment to the East Otay Mesa Specific Plan (SPA 06-003) for an area comprising a total of 3,300 acres; and

WHEREAS, the County of San Diego has stated the intent of said Amendment to change the East Otay Mesa Specific Plan as follows:

1. East Otay Mesa Specific Plan Subarea 1 to update the circulation element, bicycle network, sidewalk design standards, fencing requirements, and other minor items;

2. East Otay Mesa Specific Plan Subarea 2 to update the circulation element, bicycle network, sidewalk design standards, and revise the noise standards to conform to the standards currently in place for Subarea 1 and other minor items; and

WHEREAS, pursuant to Section 65450 et seq. of the Government Code, the Planning Commission on July 13, 2007 conducted a duly advertised public hearing and recommended that the Board of Supervisors approve the East Otay Mesa Specific Plan Amendment (SPA 06-003) because it is consistent with the General Plan and the Otay Subregional Plan; and

WHEREAS, the Board of Supervisors on August 1, 2007, conducted a duly advertised public hearing on the proposed East Otay Mesa Specific Plan Amendment (SPA 06-003) and considered the recommendations of the Planning Commission with respect thereto, and determined that the requirements hereinafter enumerated are necessary to ensure that the Specific Plan Amendment, and the implementation thereof, will conform to all ordinances, policies, rules, standards, and improvement and design requirements of the County of San Diego.

NOW THEREFORE, BE IT RESOLVED AND FOUND in accordance with the California Environmental Quality Act (CEQA) Guidelines, as follows:

1. It is hereby found that the Board of Supervisors has reviewed and considered the information contained in the Final EIR dated February 17, 1994 on file with DPLU as Environmental Review Number 93-19-006 and Addenda thereto dated January 13, 1999; July 1, 1999; June 21, 2000; March 12, 2001; February 23, 2001; March 28, 2002; March 4, 2003, May 20, 2005, January 31, 2006, March 27, 2006, August 7, 2006, and November 17, 2006 on file with DPLU as Environmental Review Number 93-19-016; 93-19-006; 93-19-006A; 98-19-013; 98-19-013A; 93-19-006C; 93-19-006P; 93-19-006A; 93-19-006S; and 93-19-006T prior to making its decision on the project;

2. The "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and the EIR Addendum dated June 15, 2007 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-006Y including California Environmental Quality Act Guidelines Sections 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation to be completed when there is a previously certified Environmental Impact Report (EIR); is hereby adopted.

3. The Board reaffirms the findings made relative to said EIR in accordance with Public Resources Code 21081.

BE IT FURTHER Resolved that the Board of Supervisors finds that the East Otay Mesa Specific Plan Amendment (SPA 06-003) is consistent with the San Diego County General Plan and the Otay Subregional Plan in that the goals, objectives, and policies of all the elements of the plans have been or will be met.

BE IT FURTHER RESOLVED that the Board of Supervisors hereby adopts the East Otay Mesa Specific Plan Amendment (SPA 06-003), consisting of this Resolution and the text entitled East Otay Mesa Business Park Subarea 1 and Subarea 2 as shown on Exhibits #C-1 and C-2.

BE IT FURTHER RESOLVED that the following conditions and requirements are imposed upon the Specific Plan Amendment (SPA 06-003) and all development applications filed in order to implement said Specific Plan Amendment:

1. Unless specifically waived, the requirements of the San Diego County Subdivision Ordinance, the Zoning Ordinance, and the San Diego County road standards shall apply irrespective of what is stated in the Specific Plan Amendment text and none of the requirements included within this Resolution shall be deemed as exempting any permit filed pursuant to this Specific Plan

Amendment from that review process and those conditions and requirements normally applied to such permit applications.

BE IT FURTHER RESOLVED that this Specific Plan Amendment (SPA 06-003) shall be of no force and effect on August 1, 2014 unless use and reliance has been established.

BE IT FURTHER RESOLVED that all references within this Resolution to "applicant", "developer" or "subdivider" shall be equally applicable to the current property owner and to any successors-in-interest or assigns, whether such successors or assigns own, control, or otherwise have development authority for all, a portion, or portions of that property included within the Specific Plan.

BE IT FURTHER RESOLVED, that the following evidence is incorporated herein by this reference and serves as further evidence to support the findings, requirements, and conclusions included herein: The maps, exhibits, written documents, and material contained in the files regarding SPA 06-003 on record at the County of San Diego and the written documents referred to and the oral presentation(s) made at public hearings.

NOTICE - The subject property is known to contain Coastal sage scrub plant community. Such plant community is habitat for the coastal California gnatcatcher. The Federal government recently listed the gnatcatcher as a threatened species under the Federal Endangered Species Act of 1973 (16 U.S.C. Section 1531 et seq.). THE LISTING MAY RESULT IN AN APPLICANT'S INABILITY TO PROCEED WITH HIS/HER PROJECT WITHOUT A PERMIT FROM THE FEDERAL GOVERNMENT IF THE SPECIES OR ITS HABITAT ARE PRESENT ON THE PROJECT SITE. It is advisable to contact the United States Fish and Wildlife Service to determine the applicability of the prohibitions under the Act to each applicant's property.

THE ISSUANCE OF THIS PERMIT BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO.

NOTICE: Fish and Game Fees have been paid in the amount of $875 for the review of the EIR, Receipt number 88522, date paid June 2, 2000.

PC07\07-13\SPA06003-RES;jcr

Excerpts from East Otay Mesa Business Park Specific Plan Sub Area 1

COUNTY
OF
SAN DIEGO

EAST OTAY MESA BUSINESS PARK SPECIFIC PLAN

SUBAREA 1

As Amended by
SPA 06-005
April 8, 2009

1.0 Introduction

The East Otay Mesa Specific Plan is a regulatory document that establishes standards for development, environmental conservation, and public facilities to implement the objectives of the County of San Diego General Plan and Otay Mesa Subregional Plan.

To facilitate development and respond to evolving real estate market trends, the County Board of Supervisors initiated a Specific Plan Amendment (SPA 00-005) process on June 21, 2000 (14). The objectives of this Specific Plan Amendment are to:

- Facilitate development of East Otay Mesa as a major employment area for southern San Diego County;
- Encourage and protect an area of critical size for regional technology manufacturing uses in a campus-like setting;
- Provide adequate land use area for warehousing and other light industrial uses;
- Provide an area for heavy industrial uses such as auto salvage and recycling that will not interfere with development and operation of more sensitive industrial park developments;
- Provide commercial uses in the Specific Plan to serve employees and visitors;
- Identify and address environmental resources; and
- Plan for public facilities concurrent with need.

By means of this Amendment, the Specific Plan is divided into two SubAreas as shown in Figure 1.1-1. Due to the time required to evaluate environmental constraints and the uncertainty of the alignment of State Route 11 and the proposed third Port-of-Entry, property located in SubArea 2 remains governed by the East Otay Mesa Specific Plan, including Site Planning and Design Guidelines, approved in July 1994. This Specific Plan Amendment will govern property located within SubArea 1. Other information that applies to both SubArea 1 and Subarea 2 is contained in the East Otay Mesa Specific Plan, which contains General Provisions and the SubArea 2 Plan. Unless otherwise defined herein, all terms are as defined in the County of San Diego Zoning Ordinance.

2.2 Circulation Element

Goal:

Provide a multi-modal transportation system consisting of highways, streets, and transit networks adequate to serve subregional transportation needs at an acceptable level of service.

2.2.1 Introduction

The Circulation Element sets the planning framework and provides a safe, convenient and efficient circulation system.

The Circulation Element of the Specific Plan and the General Plan set the planning framework to provide a safe, convenient and efficient circulation system. The East Otay Mesa Specific Plan identifies transportation facilities capable of supporting the anticipated growth in this area, consistent with policies presented in the Land Use Element of the Specific Plan and the County's General Plan.

Figure 2.2-1, Circulation Plan, shows the roadway classifications for the East Otay Mesa Specific Plan. Roadway classifications by roadway segments are shown in Table 2.2-1, East Otay Mesa Roadway Network.

In preparation of this element, coordination occurred with the City of Chula Vista, the City of San Diego, the California Department of Transportation (CalTrans), the San Diego Association of Governments (SANDAG), and the City of Tijuana, Mexico.

Figure 2.2-1 Circulation Plan

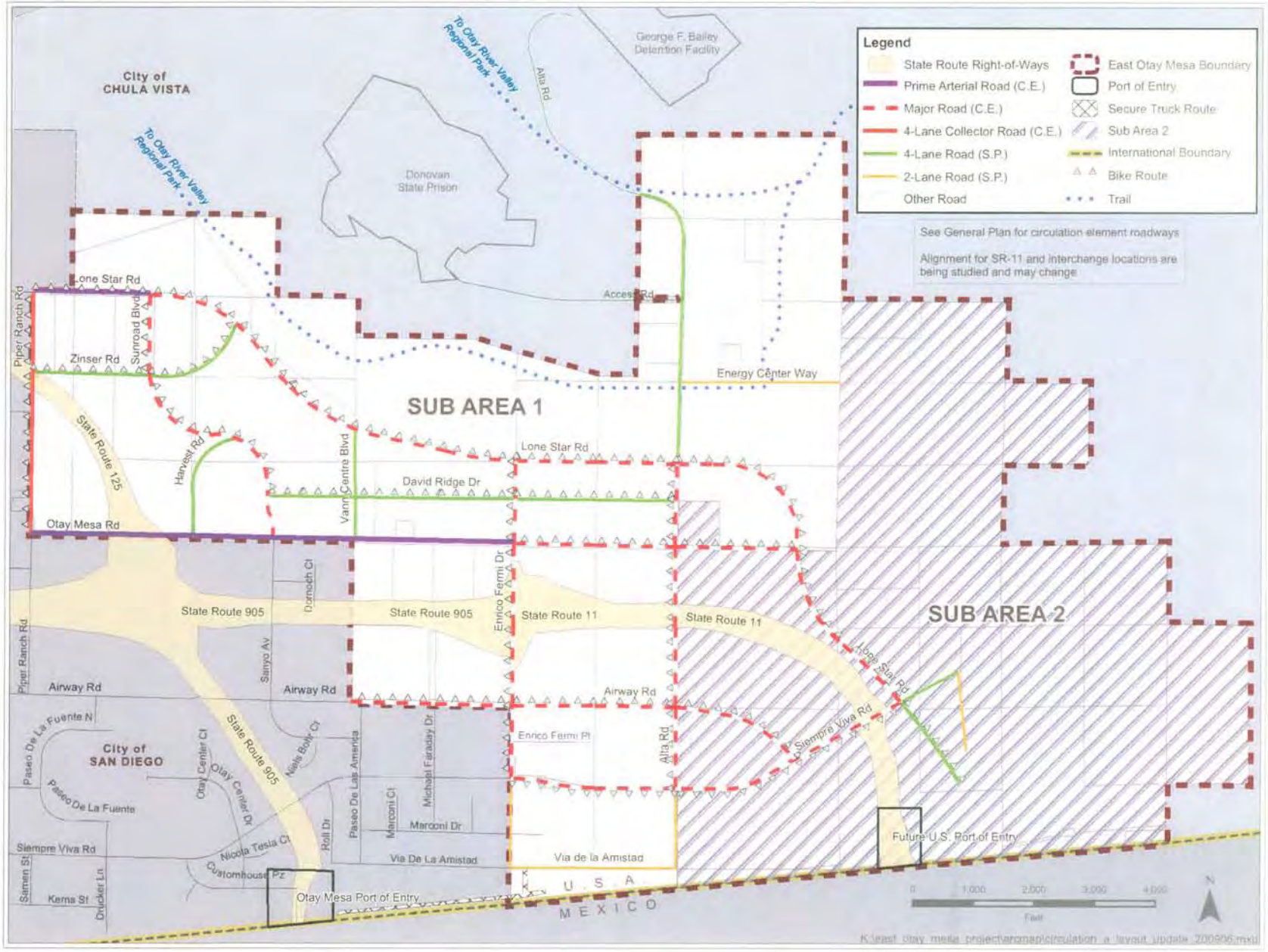

Table 2.2-1
East Otay Mesa Roadway Network (Subareas 1 and 2)

ROAD NAME	FROM	TO	CLASSIFICATION	Road Type	Bicycle Network ?
Airway Road	City of San Diego	Siempre Viva Road	4L-Major	Circulation Element (CE)	Yes
Alta Road	Specific Plan Boundary	Lone Star Road	4L-I/C Collector	Specific Plan (SP)	No
	Lone Star Road	Otay Mesa Road	4L-Major	Circulation Element (CE)	Yes
	Otay Mesa Road	Siempre Viva Road	4L-Major	Circulation Element (CE)	Yes
	Siempre Viva Road	Via de la Amistad	2L-I/C Collector	Specific Plan (SP)	No
David Ridge Drive	Sunroad Boulevard	Alta Road	4L I/C Collector	Specific Plan (SP)	Yes
Energy Center Way	Alta Road	East end of E.C. Way	2L-I/C Collector	Specific Plan (SP)	No
Enrico Fermi Drive	Lone Star Road	Otay Mesa Road	4L-Major	Circulation Element (CE)	Yes
	Otay Mesa Road	Airway Road	4L-Enhanced Major[2]	Circulation Element (CE)	Yes
	Airway Road	Siempre Viva Road	4L-Major	Circulation Element (CE)	Yes
	Siempre Viva Road	Via de la Amistad	2L-I/C Collector	Specific Plan (SP)	No
Harvest Road	Sunroad Boulevard	Otay Mesa Road	4L-I/C Collector	Specific Plan (SP)	No
Lone Star Road	City of San Diego	Sunroad Boulevard	6L-Prime Arterial	Circulation Element (CE)	Yes
	Sunroad Boulevard	Siempre Viva Road	4L-Major	Circulation Element (CE)	Yes
	Siempre Viva Road	End Of Road	4L I/C Collector	Specific Plan (SP)	Yes
Otay Mesa Road[1]	City of San Diego	Enrico Fermi Drive	6L-Prime Arterial	Circulation Element (CE)	No
	Enrico Fermi Drive	Alta Road	4L-Major	Circulation Element (CE)	Yes
	Alta Road	Lone Star Road	4L-Major	Circulation Element (CE)	Yes
Piper Ranch Road	Lone Star Road	Otay Mesa Road	4L-Collector	Circulation Element (CE)	Yes
Siempre Viva Road	City of San Diego	Lone Star Road	4L-Major	Circulation Element (CE)	Yes
	Lone Star Road	End of Road	4L I/C Collector	Specific Plan (SP)	Yes
Sunroad Boulevard	Lone Star Road	David Ridge Drive	4L-Major	Circulation Element (CE)	Yes
	David Ridge Drive	Otay Mesa Road	4L-Major	Circulation Element (CE)	No
Vann Centre Blvd.	Otay Mesa Road	Lone Star Road	4L-I/C Collector	Specific Plan (SP)	No
Via de la Amistad	City of San Diego	Alta Road	2L-I/C Collector	Specific Plan (SP)	No
Zinser Road	Piper Ranch Road	Lone Star Road	4L- I/C Collector	Specific Plan (SP)	Yes
State Route 11	City of San Diego	Port of Entry	Freeway	Circulation Element (CE)	No
State Route 125	City of San Diego	City of San Diego	Freeway	Circulation Element (CE)	No

[1] If existing utility poles on Otay Mesa Road from the City of San Diego to Enrico Fermi Drive are placed under ground, a Bicycle Network Route will be required.
[2] Enhanced Major Road (CE) requires additional Right-Of-Way to accommodate turn movements and freeway access from Otay Mesa Road to SR-11.

2.2.2 Regional Access

Future regional thoroughfares play an important role in the development of East Otay Mesa. Planned State Routes (SR-125 and SR-11), along with the extension of SR-905 to the Otay Mesa Border crossing, are critical to accommodating the future development of the entire Otay Mesa area. In addition to freeways, planned local roads within East Otay Mesa will play an important role in the area's future. Planned improvements to regional highway system in the area include:

- **State Route 905 (SR-905):** The ultimate plan for the extension of SR-905 is to provide six single occupancy vehicle (SOV) lanes and two high occupancy vehicle (HOV) lanes between Interstate 805 (I-805) and SR-125/Harvest Road. The planned extension would travel east to SR-125 and then curve south to the border. Within Otay Mesa, interchanges are planned at Caliente Boulevard, Heritage Road, Britannia Boulevard, Le Media Road, and SR-125. The southern terminus of SR-905 would be the Otay Mesa Border crossing and would include a local access road to Enrico Fermi Road. As part of this project the SR-905/Siempre Viva Road grade separated interchange was completed and opened to traffic in 2005. Currently, Caltrans has funding available only for Phase 1A of the SR-905 facility. As currently scheduled the construction of Phase 1A will begin in January 2008 and be completed by summer of 2010. Other phases of the SR-905 facility have not been programmed or scheduled since there is no funding available.

A new freeway, SR-11, is planned to extend easterly of the SR-905 and SR-125 interchange to connect with the future border crossing east of Alta Road.

- **State Route 125 (SR-125):** SR-125 is planned for construction as an eight-lane facility, or six lanes with provisions for two High Occupancy Vehicle (HOV) lanes, south from its present terminus at SR-94 to the future extension of the SR-905 Freeway. For the portion from San Miguel Road to the future extension of the SR-905 freeway, California Transportation Ventures (CTV), a private entity, has entered into an agreement with CalTrans to construct SR-125 as a private toll way. The Federal Highway Administration (FHA), in an act known as issuing a Record of Decision, gave final approval for the SR-125 Environmental Impact Report (EIR) on June 9, 2000. The current schedule for SR-125 shows an estimated completion date of September 2007.

- **Future Border Crossing and State Route 11 (SR-11):** State Route 11 is planned as a new freeway to extend easterly of SR-905 and Enrico Fermi Drive

to connect with the future third border crossing east of Alta Road. The extension would revise the SR-905/125 interchange and provide two new interchanges at Enrico Fermi Drive and Siempre Viva Road. The State Route 11 project is currently in the environmental phase. The Environmental Document (ED) for SR 11 is expected to be a two-phase document. Phase 1 document will be programmatic-level document for SR 11 and the new Otay Mesa East Port. Phase 2 is expected to be a project-level document for SR 11 only. The project schedule goal is an approved Programmatic EIR/EIS by end of 2007 which contains corridor preservation, right of way acquisition for common features and Presidential Permit support. Actual funding for the remaining project has not yet been identified.

2.2.3 Local Access Road Network

To plan for future travel demand to and from as well as within East Otay Mesa, traffic forecasts were generated for build-out of the Specific Plan. The traffic forecasts incorporate the type and density of future land uses, the location and potential interaction of various land use types, as well as specific characteristics and the capacity of each of the area's future roads. The East Otay Mesa Specific Plan's roadways are forecasted to operate at an acceptable Level of Service (LOS) at buildout (EIR Addendum No. 6).

Major Roads and Local Industrial Commercial Collector Roads provide through access into the center of development areas and the Activity Nodes.

The East Otay Mesa Specific Plan is based on a hierarchy of circulation roads as designated on the County's General Plan Circulation Element, and non-Circulation Element Local Industrial/Commercial Collectors designated on the Specific Plan as indicated in Table 2.2-1. Prime Arterial, Major and Industrial/Commercial Collector Roads provide the regional connections through the Specific Plan and beyond. Major Roads and Industrial/Commercial Collector Roads provide through access into the center of the development areas and the Activity Nodes. Figure 2.2-1, Circulation Plan, shows the road classifications and Appendix 4 shows cross-sections from the General Plan Circulation Element for portions of Otay Mesa Road, Enrico Fermi Drive and Alta Road. These classifications have been designated to serve Specific Plan build-out traffic needs. These classifications (Circulation Element and/or Specific Plan Roads) have been designated to accommodate build-out traffic volumes assessed through the preparation of traffic forecasts for the land use development pattern and circulation network identified in this plan. Implementation of this circulation network shall be

through the incremental approval and eventual development of individual public and/or private projects.

It is the intent of this Specific Plan that all private discretionary projects shall be required to:

- Dedicate and improve all adjacent rights-of-way necessary to provide access to the project and to complete the Specific Plan circulation system,

- Dedicate and agree to construct, through means acceptable to the Director of Public Works, all adjacent rights-of-way necessary to further implement the Specific Plan circulation system, including where the rights-of-way do not provide direct access to the site. The purpose of this requirement is to implement the circulation system of the Specific Plan, and

- Acquire and construct (or agree to construct if acceptable to the Director of Public Works) all off-site circulation element roads necessary to provide access to the site and to ensure off-site road access will meet County standards.

The Board of Supervisors may adopt a Development Impact Fee (DIF) to replace or supplement these requirements.

Principal County arterials in the circulation network are described below:

- **Otay Mesa Road:** Otay Mesa Road is shown in the City of San Diego's most recent Circulation Element for the Otay Mesa Community as a four-lane Major between the terminus of SR-905 and SR-125/Harvest Road. The County General Plan includes the road as a six-lane Prime Arterial between Piper Ranch Road and Enrico Fermi Drive. The road continues east to Lone Star Road as a four-lane Major. A cross-section of a portion of Otay Mesa Road from the General Plan Circulation Element is included in Appendix 4.

- **Lone Star Road:** In the City of San Diego Lone Star Road is classified as a four-lane Major. In the County it becomes a six-lane Prime Arterial to Sunroad Boulevard. East of Sunroad Boulevard it transitions into a four-lane Major. This roadway will carry traffic from SR-125 east into the northern portions of the

Specific Plan. As Lone Star Road travels east past Alta Road, it heads south to Siempre Viva Road in SubArea 2 of the Specific Plan.

- **Airway Road, Siempre Viva Road and Via de la Amistad:** The City of San Diego's Circulation Element shows Airway Road as four-lane Major Road, Siempre Viva Road as a six-lane Prime Arterial Road and Via de la Amistad as a four-lane Collector Road. These roads continue east from Enrico Fermi Drive, a north/south Major located on the border between the City of San Diego and the County to Alta Road as four-lane Major Roads to serve SubArea 1. Airway Road and Siempre Viva Road are planned to extend east into SubArea 2 terminating at Roque Road. Via de la Amistad will continue east from Enrico Fermi Drive to Alta Road as a two-lane Industrial/Commercial Collector Road.
- **Piper Ranch and Harvest Roads:** Piper Ranch Road and Harvest Road are both north-south four-lane Collector Roads in the County of San Diego that provide access into the Specific Plan Area. Within the County of San Diego's Specific Plan Area, Piper Ranch Road is planned as a four-lane Collector Road. Harvest Road will terminate at Sunroad Boulevard as a four-lane Industrial/Commercial Collector Road.
- **Enrico Fermi Drive:** In the City of San Diego, Enrico Fermi Drive is classified as a four-lane Major Road. In the County of San Diego's East Otay Mesa Specific Plan Area, it is also planned as a north-south four-lane Major Road between Lone Star Road and Siempre Viva Road. It continues south to Via de la Amistad as a two-lane Industrial/Commercial Collector Road. A cross-section of a portion of Enrico Fermi Drive from the General Plan Circulation Element is included in Appendix 4.
- **Alta Road:** Alta Road is planned as a north/south four-lane Industrial/Commercial Collector Road extending north from Lone Star Road. North of Lone Star Road, its main function is to provide access for planned adjacent development and to the detention facilities to the north. It is not proposed to be extended over the Otay Valley. South of Lone Star Road it is planned as a four-lane Major Road to Siempre Viva Road. Alta Road will continue south as a two-lane Industrial/Commercial Collector Road to Via de la

Amistad. A cross-section of a portion of Alta Road from the General Plan Circulation Element is included in Appendix 4.

- **Sunroad Boulevard/Sanyo Avenue:** Sunroad Boulevard is classified as a Major Road between Lone Star Road and Otay Mesa Road in the County of San Diego. South of Otay Mesa Road the road is referred to as Sanyo Avenue, a four-lane collector road.

- **Energy Center Way:** This road will be located entirely within the Specific Plan Area and is planned as an Industrial/Commercial Collector Road.

- **Zinser Road, Vann Centre Boulevard and David Ridge Drive:** These roads are planned as Industrial/Commercial Collector Roads between Lone Star and Otay Mesa Roads within the Specific Plan Area.

2.2.4 Road Operation

Truck Routes

Through trucks are expected to follow the Prime Arterial, Major, Collector and (non-Circulation Element) selected Local Industrial/Commercial Road street system. Due to the industrial character of the Specific Plan Area, all streets shall be designed to accommodate truck traffic.

In order to minimize impediments for truck operation and allow access for each of the land uses in East Otay Mesa SubArea 1, the circulation network shall be designed according to the County Public Road Standards. The needs of truck traffic, access, and loading activities shall be incorporated in the design of the roadways. In addition, on-street parking shall be prohibited on all Prime Arterial, Major and four-lane Industrial/Commercial Collector public roads within the Specific Plan Area.

It should be noted that CalTrans may also designate truck only routes to accommodate the future Port of Entry.

2.2.5 Alternative Modes of Transportation

Public Transit

Public transit represents an opportunity to provide a convenient and inexpensive transportation choice for employees.

Public transit represents an opportunity to provide a convenient and inexpensive transportation choice for employees, help achieve air quality enhancement goals and reduce vehicular traffic. The development of public transportation facilities, while considered highly desirable for East Otay Mesa, will take place over a period of time. The County of San Diego will continue to work with the SANDAG to extend public transit facilities into East Otay Mesa.

The SANDAG is currently refining the transit network for the South Bay and once this study is complete, they expect to have a reasonably well-defined network for this area. The SANDAG Plan will include a bus rapid transit (BRT) line to serve the Otay Mesa. A 29-mile loop line would connect the existing light rail station at 24th Street in National City with the Otay Ranch area, the Otay Mesa International Border Crossing, and the

Iris Street station in San Ysidro. Future developments will be required to coordinate with SANDAG and the County to ensure that transit is a consideration when planning their development. When the County Board of Supervisors adopts a Transit Plan, including development standards and route locations, all development within East Otay Mesa shall be required to comply with that plan and its implementation including the dedication of right-of-way for light rail and/or bus facilities.

The north-south line would generally follow the SR-125 alignment to provide access between Chula Vista, Otay Ranch, and the International Border. The east-west BRT line may follow Otay Mesa Road or Airway Road and potentially continue along this road into the Specific Plan Area to the proposed third border crossing. If this should occur, then a transit station at SR-125/Otay Mesa Road interchange, a station at the border, and possibly one intervening station would be feasible.

Bicycle Routes

Use of the bicycle as a commuting mode of transportation is focused to safely direct bicycle traffic to and from key locations. It is the intent of the plan to link all transit, commercial, and employment locations via certain Circulation Element roads and Specific Plan roads that would allow bicycling commuters the ability to access East Otay Mesa in a direct manner (Table 2.2-1). The General Plan bike routes are shown on Sheet 6 of the General Plan Circulation Element. Additional bike routes are provided in the Specific Plan (Table 2.2-1 and Figure 2.2-1).

It is likely that the vast majority of workers within East Otay Mesa will be traveling from areas outside of the Mesa, such as Otay Ranch, portions of the City of San Diego, and Chula Vista, and possibly from the International Border Crossing. However, to encourage use of the bicycle within the Specific Plan Area, a connected system of roads suitable for bicycle traffic has been designated for the Mesa. This system of bike routes is detailed on Figure 2.2-1. The Class III Bikeway (Bike Routes) provides a restricted right-of-way designated by signs or permanent markings and shared with pedestrians or motorists. The State of California, Department of Transportation publication, Planning and Design Criteria for Bikeways in California, is the bikeway standard of San Diego County. These regulations shall also apply to the East Otay Mesa Specific Plan.

The amount of projected employees in the Specific Plan Area that would take mid-day lunches and shopping trips necessitates the establishment of a pedestrian circulation and trails system that will support and encourage walking as a mode of transportation.

Pedestrian Circulation

The amount of projected employees in the Specific Plan Area that would take mid-day lunches and shopping trips necessitates the establishment of a pedestrian circulation and trails system that will support and encourage walking as a mode of transportation. To create safe and attractive pedestrian travel, it is necessary to keep sidewalk areas free of obstructions and allow for the flow of pedestrians. Crosswalks and signal timing help reduce pedestrian/auto conflicts and improve safety conditions. Sidewalks are required on both sides of all public streets. Sidewalks shall meet the guidelines of the County of San Diego Public Road Standards except that sidewalks shall be 4-feet wide and shall be separated from the traveled way by a 3-foot landscaped parkway (Section 2.3.5). Sidewalks shall meet the Americans with Disabilities Act (ADA) standards. The Director of Public Works may allow sidewalks to meander around existing utility poles (69kv or greater) that will not be placed underground. In limited circumstances, the Director of Public Works may waive sidewalk requirements where existing utility poles (69kv or greater) will not be placed underground if the applicant can demonstrate that no loss of pedestrian movement or connectivity would result.

All development adjacent to the Otay Valley Regional Park shall improve a 10-foot wide trail for passive viewing and as a potential connection to the regional park trail system (Figure 2.2-1). The trail shall be open to the public and shall connect to a public sidewalk or an alternative location acceptable to the County.

3.2.1 Site Planning

All permanent development in the Specific Plan Area shall comply with the Site Planning Standards.

Table 3.2-1 sets forth specific standards and requirements for Site Plan design and for development. Many of the standards apply to all of the land uses allowed in the Specific Plan Area, and others apply only to a specific type of land use. All permanent development projects in the Specific Plan Area shall comply with the Site Planning Standards. Interim uses shall also comply with the Site Planning Standards with the exception of type of structure, which is limited by The Zoning Ordinance. The Site Plan requirement does not apply to the development or improvement of new or existing County Parks.

The Site Planning Standards (Table 3.2-1) addresses the following:

- Use, Intensity and Bulk Requirements
- Site Access
- Parking
- Grading
- Building Orientation
- Usable Open Spaces
- Service Areas
- Fencing, Walls and Hedges
- Lighting

Table 3.2-1
Site Planning Standards

Regulations	Technology Business Park	Light Industrial	Heavy Industrial	Activity Node	Commercial Center	Conservation/ Limited Use Area
USE, INTENSITY AND BULK REGULATIONS						
Use Regulations	S88	S88	S88	S88	S88	S88
Minimum Lot Size	30,000SF	30,000SF	30,000SF	4,000SF	10,000SF	1ac
Building Type	W	W	W	W	W	W
Floor Area Ratio	.5 / 1.0 [1]	.5	.5	1.0	1.0	.35
Max. Building Height	150'	100'	60'	150'	35'	25'
Max. Building Coverage	.40	.50	.50	.50	.50	.25
Min. Building Setbacks *Streets: (measured from edge of right-of-way)*						
Prime Arterial Road	25'	25'	25'		20'	25'
Major Road	20'	20'	20'		20'	25'
Industrial/Commercial Collector Road (4-Lane)	20'	20'	20'	5'	20'	25'
Industrial/Commercial Collector Road (2-Lane)	10'	10'	10'	5'	15'	15'
Yards: (measured from property line)						
Interior Side Yard	0' to 30' (sum of interior yards shall equal at least 30'); 50' from top of slope if adjacent to the Otay Valley Regional Park			0'	20' for buildings and 15' for parking and driveway. Shared driveways will not require an interior yard setback.	20'
Rear Yard	5'	5'	5'	5'	5'	5'
Enclosures	Outdoor storage with screening per Development Standards (Fencing, Walls and Hedges)			Outdoor storage prohibited except weekend sidewalk sales	Outdoor storage prohibited except for display and sale of landscape items and seasonal items.	Outdoor storage with screening per Development Standards.
Animal Regulations	D	D	D	D	D	D

Symbol Key

W: Non-residential, attached or detached, same lot or separate lot.

D: See Designator "D" of the Animal Schedule of the County Zoning Ordinance, Section 3100.

Site Planning Matrix Footnote

1 1.0 FAR when within 1,250 feet of Activity Node; 0.5 FAR when located more than 1,250 feet from Activity Node

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TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
SITE ACCESS	
Prime Arterials	▪ Direct property access via private driveways is limited (per County Road Standards)
Major Roads	▪ Driveway cuts permitted wherever street intersections would otherwise be allowed and shall be right-in and right-out only.
Collector	▪ Driveway cuts permitted wherever street intersections would otherwise be allowed.
Local Streets	▪ <150' frontage: 1 curb cut ▪ >150'–200' frontage: 2 curb cuts ▪ > 200' frontage: 1 cut / 100' (round up at 250', etc.)
Transit Planning	▪ Bus pullouts at transit stops needs shall be reviewed by MTDB and may be required on all Prime Arterials and Major Roads. ▪ The Commercial Center shall accommodate transit facilities to the satisfaction of the County and in coordination with MTDB. ▪ When the County Board of Supervisors adopts a Transit Plan, including development standards and route locations, all development within East Otay Mesa shall be required to comply with that plan.
Driveway Width	▪ 40' maximum; 30' maximum in Activity Nodes; 60' maximum for tandem driveways.
Curb Radius	▪ Refer to County Road Standards ▪ Driveways may be increased to 30' radius for truck traffic
Driveway Spacing	▪ >60' between driveways per lot, but number of driveways limited by street frontage allowance. ▪ >15' from interior property line except for shared driveways where it will not require an interior yard setback. ▪ >30' from the end of curb radius. ▪ Driveway spacing less than 200 feet shall require a design modification approved by the Director of Public Works

TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
PARKING	
Number Required	**Storage and Warehouse Uses:** ▪ 1 space per 1,000 square feet of gross floor area (SF/GFA) ▪ 1 bicycle space for every 10 parking spaces, but not less than 3 spaces

	Industrial Uses:
	▪ 50,000 gross square feet or less:
	  ▪ 3 spaces per 1,000 SF/GFA
	▪ 50,000 to 100,000 gross square feet
	  ▪ 2.5 spaces per 1,000 SF/GFA
	▪ 100,000 gross square feet or more
	  ▪ 2 spaces per 1,000 SF/GFA
	▪ 1 bicycle space for every 10 parking spaces

	Support Commercial:
	▪ 25,000 gross square feet or less:
	  ▪ 4 spaces per 1,000 SF/GFA
	▪ Greater than 25,000 gross square feet:
	  ▪ 3.3 spaces per 1,000 SF/GFA
	▪ 1 bicycle space for every 10 parking spaces
	▪ When more than 10 percent of the gross floor area of a support commercial use is devoted to eating and drinking establishments, the parking requirements are as follows:
	  ▪ 10-25 percent: 10 spaces per 1,000 SF/GFA
	  ▪ Over 25 percent: 12 spaces per 1,000 SF/GFA
	
	All Other Uses:
	▪ Refer to County Parking Requirements, Section 6750 of County Zoning Ordinance and Off Street Design Manual except as noted below.
	▪ Detention and correction institutions 100,000 gross square feet or more (San Diego County Zoning Ordinance 1350) located in the Heavy Industrial land use designation:
	  • 1 space per 1,000 SF/GFA, with approval of Director of Planning and Land Use

Location	▪ On-street parking prohibited on Prime Arterials, Major Roads or four-lane Collector Roads. ▪ On-street parking (parallel only) permitted on local streets.

TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
	▪ Off street parking prohibited in landscape setback areas. ▪ In Activity Nodes, off street parking prohibited between building and street right-of-way. ▪ In Activity Nodes, off street parking permitted on non-street side of building.
Screening	▪ Commercial truck parking lots shall be screened to minimize public view. ▪ Chain-link fencing is prohibited except for detention and correction institutions (San Diego County Zoning Ordinance 1350) located in the Heavy Industrial land use designation. The Director of Planning and Land Use may allow chain-link fencing for such institutions when landscaped berms or setbacks are used to minimize visual impacts from adjacent properties and the public right-of-way. A maximum four-foot tall berm may be used in combination with the fence or wall.
GRADING	
Retaining Walls	▪ Minimum horizontal separation between walls 4'. ▪ Minimum distance to street right of way 10', landscaped to include minimum five-gallon shrubs to achieve a 3-foot tall height at maturity. Shrubs shall be located between street right-of-way and wall at a ratio of 4 per 20 linear feet. ▪ Permitted materials: stone, stucco, cast stone, split-face CMU, brick, poured-in-place concrete, brick block, keystone. ▪ Timber retaining walls are prohibited. ▪ Walls of buildings are permitted to act as retaining walls, subject to all applicable building codes.
Adjacent to Otay Valley Regional Park	▪ Grading or temporary stockpiling of excess fill in canyons is prohibited. ▪ Daylight cut conditions are required on the edge of Johnson and O'Neal canyons. ▪ Fill slopes shall be planted with non-invasive native plant material similar/compatible with the adjacent areas. ▪ Retaining walls and terrace building pads at the canyon edge are prohibited.
Drainage Control	▪ Stormwater management and drainage shall be designed to meet County ordinances and State and National Pollutant Discharge Elimination System (NPDES) permit requirements. ▪ Volume for all storage facilities shall be designed according to maximum anticipated buildout.
BUILDING ORIENTATION	
Accessibility	▪ Primary and ground floor building entrances shall orient to plazas or pedestrian sidewalks. ▪ Walkways to transit stops shall be landscaped with canopy trees, minimum one 24" box tree / 30 lineal feet of walkway. ▪ Buildings in Activity Nodes shall be oriented toward the street that they front.
Adjacent to Otay Valley Regional	▪ Buildings shall be sited so as to maximize views to the Otay Valley Regional Park while maintaining 50-foot setback from top of slope. ▪ All development adjacent to the Otay Valley Regional Park shall improve a 10-foot wide trail for passive

TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
Park	viewing and as a potential connection to the regional park trail system. The trail shall be open to the public and shall connect to a public sidewalk or an alternative location acceptable to the County. ▪ Window walls shall be oriented to the park.
USABLE OPEN SPACE	
Location	**Industrial:** ▪ All plans shall designate a location(s) on-site for employee passive or recreational activity. This area shall be screened from parking and traffic and shall be improved with benches and shade structures. ▪ For purposes of satisfying this requirement, outdoor passive or recreational areas of not less than 2,000 square feet in area shall be provided for each 10 acres of development area. The outdoor areas may occur as one large area serving several lots as identified on the site plan or subdivision map. Within an Activity Node, a plaza may satisfy this requirement. ▪ Where more than one building is located on a site, buildings shall be organized around or designed to create courtyards or outdoor spaces, unless this is precluded by the primary use of the facility, such as truck loading docks. ▪ Spaces between buildings shall include entry courts, defined plazas, lunchtime retreats, or formal and informal gardens, unless this is precluded by the primary use of the facility, such as truck loading docks. ▪ Planting, low walls and fences shall enclose one or more sides of an outdoor space. ▪ Off-street parking and loading areas, driveways, and service areas shall not be counted as usable open space.
	Activity Node: ▪ The required 5-foot setback between building and street right-of-way shall apply towards usable open space. The setbacks may be increased to 10' to create outdoor dining areas and to avoid buildings with straight unbroken facades. ▪ The usable open space may be a central plaza, park or "public square or green" located central to the Activity Node and easily accessible from buildings in the Node.
Screening	▪ Ground level open space shall include minimum 4' tall (at maturity) screening from abutting parking by dense landscaping, or masonry fence or wall, either solid or semi-opaque. Chain link fencing is prohibited except for detention and correction institutions (San Diego County Zoning Ordinance 1350) located in the Heavy Industrial land use designation. The Director of Planning and Land Use may allow chain-link fencing for such institutions when landscaped berms or setbacks are used to minimize visual impacts from adjacent properties and the public right-of-way. ▪ When adjacent to plazas and courtyards, views to trash dumpster areas, equipment or storage areas, and loading docks shall be screened utilizing material compatible with the adjacent building and

TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
	integrated into building architecture.
SERVICE AREAS	
Loading Areas, Docks and Service Areas	▪ Shall not encroach into landscape setback areas. ▪ Shall be minimum 30 feet from the street front property line and adequately screened. ▪ Shall be screened from the Otay Valley Regional Park ▪ Shall be adequately screened from any public right-of-way by a wall, hedge, row of evergreen trees space 12-feet on center, or other visual barrier (Figure 3.2-1).
Mechanical Equipment	▪ Satellite dishes, back flow preventors, stand pipes, etc. that cannot be located indoors, shall be screened from view by fences, walls or landscape materials that blend with the landscape palette.
Public Utility Structures	▪ Traffic signal boxes, transformers, telephone switching boxes and other public utility structures shall be located underground or appropriately screened, with landscaping or architectural treatment.
FENCING, WALLS & HEDGES	
Required Fences and Walls	▪ All open sales, display and storage areas shall be enclosed by a view-obscuring fence or wall not less than six feet high. This requirement does not apply to the following commercial use types: ▪ Agricultural Sales (Retail nursery only); ▪ Outdoor dining areas of Eating and Drinking Establishments; and ▪ Gasoline Sales (No open storage of goods or materials; all repair and lubrication services shall take place in an enclosed building.)
Maximum Height	▪ Within the setback area, fences, walls and hedges shall have a maximum height of 6' above grade. ▪ Beyond the setback area, or within the building envelope, fences, walls and hedges are permitted up to the maximum height applicable to the main building. Although this interpretation allows fencing greater that 6', the County does not want to create fortresses that do not meet the following goals of the Development Standards: • Creation of industrial and business parks with strong identities and a place of distinction and quality; • Establishment of criteria to create cohesive, visually unified industrial and business centers.
Materials	▪ Any durable material, except wood, corrugated metal and chain link. Chain-link fencing may be used for detention and correction institutions (San Diego County Zoning Ordinance 1350) located in the Heavy Industrial land use designation if properly screened (see Screening sections). ▪ The Specific Plan allows any durable material, except wood, corrugated metal and chain link. The

TABLE 3.2-1
Site Planning Standards

	All Land Use Designations
	wrought-iron type tube material is favored. This type of fencing can also have the angled top that limits someone climbing over. ▪ Barbed wire, razor wire or vinyl-covered chain link are not allowed except for detention and correction institutions (San Diego County Zoning Ordinance 1350) located in the Heavy Industrial land use designation (see Screening sections). ▪ All open sales, display and storage areas, including those for trucks, must be enclosed by a view-obscuring fence or wall. A hedge or other dense landscaping can satisfy a requirement for a view-obscuring fence and shall be maintained in accordance with landscape provisions of The Zoning Ordinance (refer to Landscaping Standards, Table 3.2-2).
LIGHTING	
General	▪ All lighting shall comply with the County Light Pollution Code (County Code § 59.101 et seq.).
Vehicular Areas	▪ In Activity Node parking areas, lighting shall be on 15'-poles and complementary to building architecture. Illumination levels shall meet guidelines for vehicular areas (see County Light Pollution Code - County Code § 59.101 et seq.).
Service and Loading Areas	▪ Lighting shall include directional shields and shall not overflow from the service areas into adjoining parcels. ▪ No floodlights shall be permitted on buildings except for wall packs with cut-off luminaries.
Buildings	▪ Building illumination and architectural lighting shall be indirect in character (no light source visible). ▪ Architectural lighting shall articulate and animate entrances and other prominent architectural elements as well as provide the required functional lighting for safety and clarity of pedestrian movement.
Pedestrian Areas	▪ Lighting for pedestrian walks shall be designed for point-to-point illumination, but no specific illumination levels are required. The main emphasis shall be to clearly identify the pedestrian walkway and direction of travel.
Adjacent to Natural Open Space and/or the OVRP	▪ Lighting shall be directed away from areas designated as Conservation/Limited Use Area or permanent open space area and away from the Otay Valley Regional Park.

EAST OTAY MESA SPECIFIC PLAN GENERAL PLAN CONSISTENCY ANALYSIS		
Circulation Element		
	The Specific Plan will include a Transportation Facilities Financing Plan, which will identify on-site, off-site, and connecting circulation systems improvements necessary to support the traffic generated by the East Otay Mesa SPA at specified development threshold levels. The SPA shall establish financing mechanisms for construction of the system and adequate transportation facilities performance standards. Individual guidelines for the circulation system for East Otay SPA are addressed below.	Projects shall be reviewed for exactions based on this Specific Plan Amendment and the County General Plan requirements in accordance with County ordinances and policies.
Guideline a:	Establish transportation facilities performance standards in conjunction with a Regional Transportation Facility Financing Plan to address all circulation improvement needs generated by the East Otay Mesa project.	Projects shall be reviewed for exactions based on this Specific Plan Amendment and the County General Plan requirements in accordance with County ordinances and policies.
Guidelines b & c:	An equitable financing mechanism shall be utilized to provide for initial construction of an adequate circulation system and to mitigate the offsite impacts of the East Otay Mesa development on the existing and planned regional and subregional circulation system.	Projects shall be reviewed for exactions based on this Specific Plan Amendment and the County General Plan requirements in accordance with County ordinances and policies.
Guideline d:	A plan and routing system light, rail and other modes of mass transit links should be coordinated with the Cities of Chula Vista and San Diego, the Otay Ranch project and other unincorporated areas of the County.	The East Otay Mesa development is cooperating with all regional and subregional transportation planning agencies and departments to plan for adequate mass transit and light rail facilities. The Specific Plan provides for bikeways and pedestrian links both within and among the industrial developments.
Guideline e:	A Transportation Management Plan will be developed to reduce congestion.	This Specific Plan Amendment reduces congestion by its redundant circulation system.
Guideline f:	Where feasible, roads shall be designed to utilize alternative routes where significant environmental impacts would result from development adjacent to environmentally sensitive areas.	Development within the East Otay Mesa Specific Plan will comply with prescribed mitigation measures for traffic circulation.
Guideline g:	Utilize landscaping, berming, increased building setbacks and other measures as necessary to minimize the noise and visual impacts of roads.	The East Otay Mesa Specific Plan includes detailed design guidelines to ensure that the impacts of noise and aesthetics of the roads are minimized.

EAST OTAY MESA SPECIFIC PLAN GENERAL PLAN CONSISTENCY ANALYSIS		
Guideline h:	Bicycle paths should be separated from vehicular traffic on high volume roadways and be provided along existing and proposed routes adjacent to the project.	An interconnected system of pedestrian paths has been included within the East Otay Mesa Specific Plan
Open Space Element		
Guideline a:	Areas of riparian and higher-quality mesic habitat in the Otay Valley shall be protected and placed in open space and wildlife corridors shall be preserved.	Environmentally sensitive areas have been preserved in the East Otay Mesa Specific Plan and wildlife corridors have been incorporated into the design of the plans through the use of dedicated usable open space, buffers and open space corridors.
Guideline b & c:	The vernal pool habitat within the Specific Plan area shall be preserved by implementation of the Vernal Pool Preservation Plan. Incorporating these areas into a comprehensive open space network shall protect the low to moderate quality vernal pools, where feasible.	Biological open space areas will be preserved on- and off-site and will include valuable environmental resources such as vernal pools, sensitive habitat areas and steep slopes
Guideline d:	The open space network shall function as a wildlife corridor and buffer areas between the different industrial centers.	The East Otay Mesa Specific Plan maintains sensitive resources in significant open space. Buffers and linkages around, within and among industrial centers will also contribute to resource preservation for the ongoing viability of the area and to the maintenance of viable wildlife corridors.
Guideline e:	A park acquisition plan shall be developed to ensure adequate open space and recreational activities for the users of the proposed industrial centers.	Usable open space will be provided in the Activity Nodes. In addition, the Conservation/Limited Use land use designation may provide activities such as outdoor participation sports, campgrounds and resorts with a Major Use Permit.
		The East Otay Mesa Specific Plan will be served water by the Otay Water District and may also be provided reclaimed water through the South Bay Wastewater Treatment Plant. Storm water drainage facilities in East Otay Mesa will be designed to mitigate flood and water quality impacts as required by County and State requirements. Landscape requirements in the Design Guidelines section of the Specific Plan emphasize the use of native and/or drought-resistant plant species.

APPENDIX 4

GENERAL PLAN
CIRCULATION ELEMENT ROAD CROSS SECTIONS

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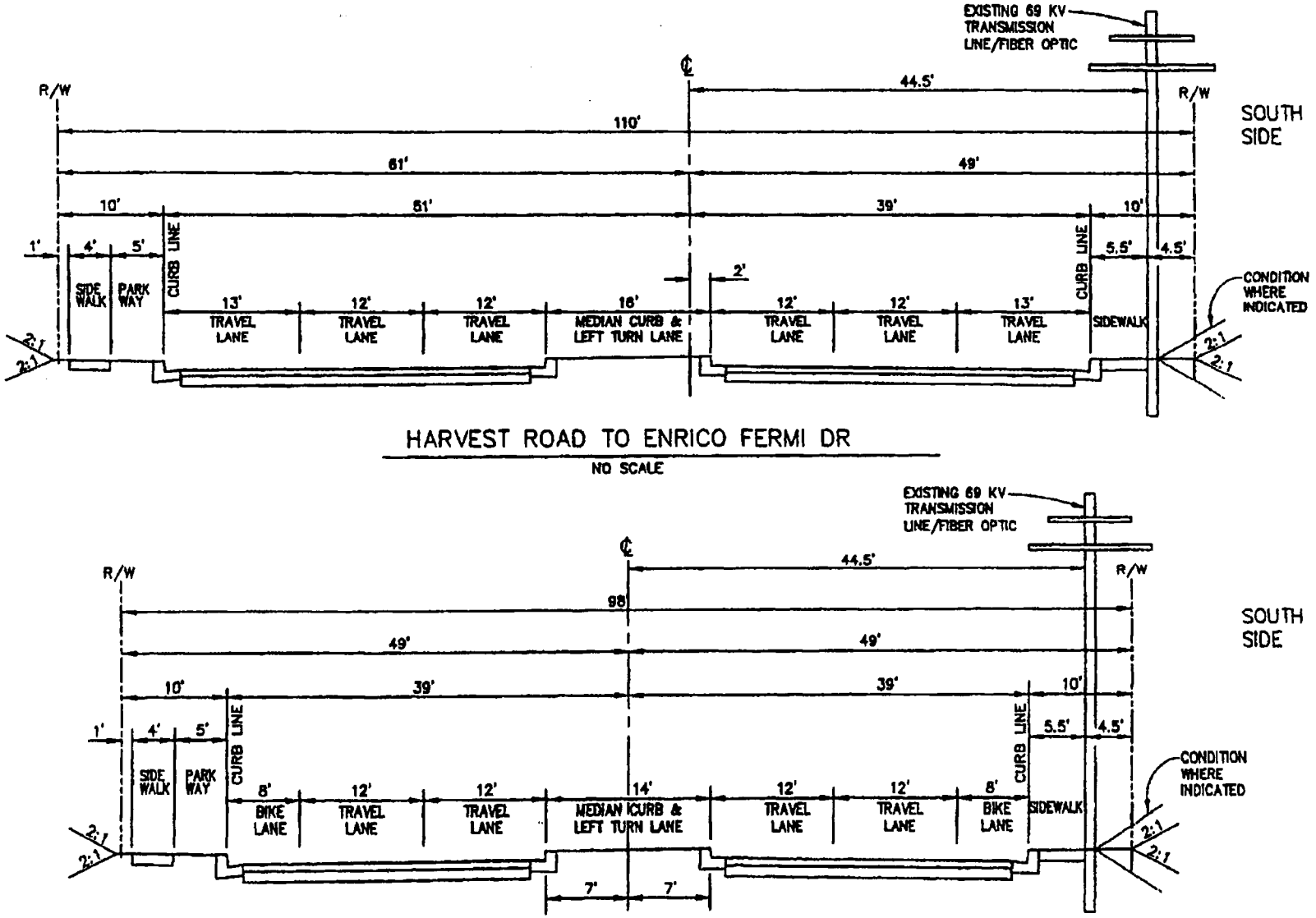
PLEASE NOTE: The following road cross-sections do not contain the correct dimensions for parkways (the area outside the curb line). For correct dimensions and requirements for parkway design (and the adjacent landscape easement), see Section 3.2.2 Landscaping Standards and Table 3.2-2 Landscaping Standards.

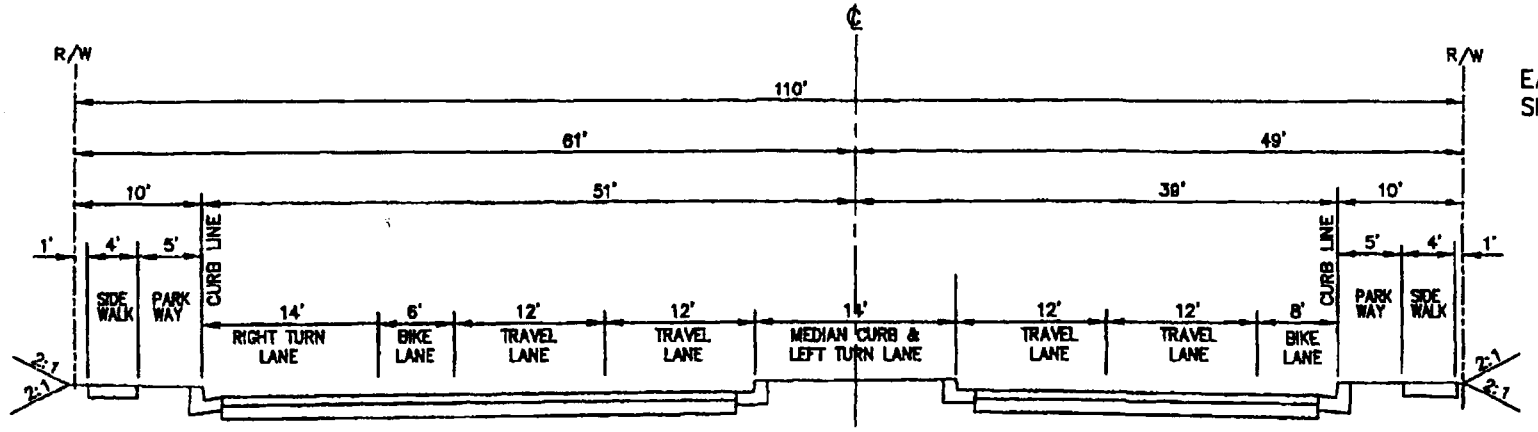


NOTE: THE CROSS-SECTIONS ARE CONCEPTUAL PLANS AND THE FINAL ROAD DESIGN WILL BE SUBJECT TO APPROVAL OF THE DIRECTOR OF DPW.

GPA 06-013 EXHIBIT B-3

CROSS-SECTION FOR OTAY MESA ROAD

SOURCE: Darnell & ASSOCIATES, INC. 060411CC.dwg 6-18-07 SN



ENRICO FERMI DR

OTAY MESA ROAD TO SR-11

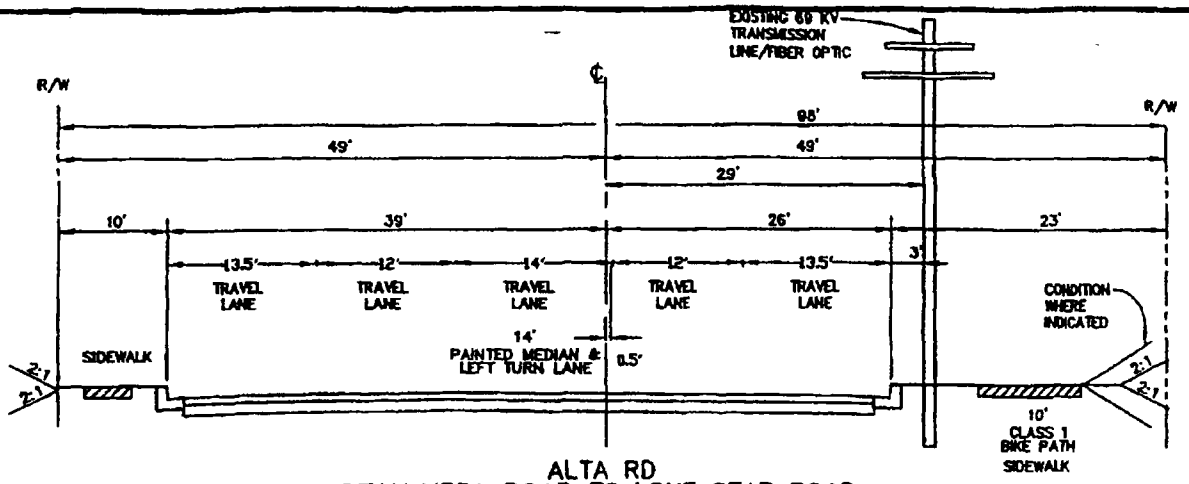
NO SCALE

NOTE: THE CROSS-SECTIONS ARE CONCEPTUAL PLANS AND THE FINAL ROAD DESIGN WILL BE SUBJECT TO APPROVAL OF THE DIRECTOR OF DPW.

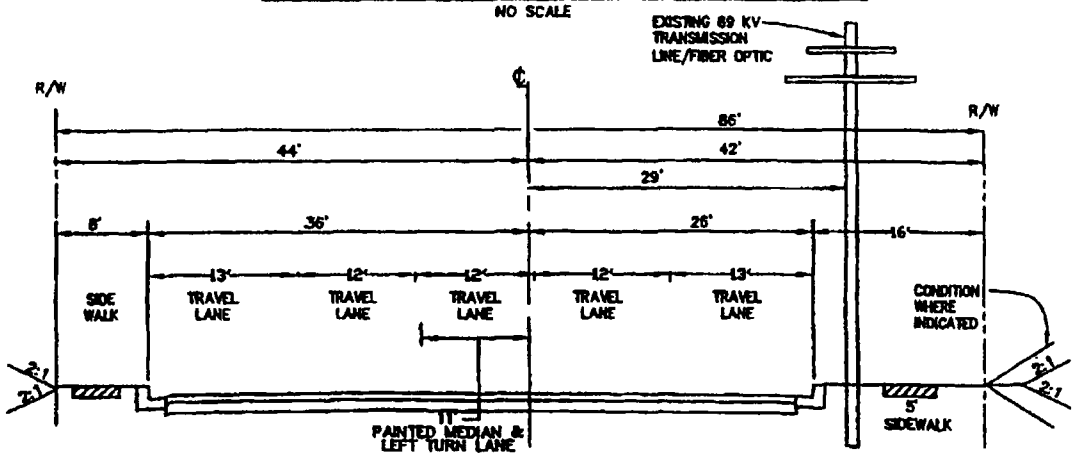
GPA 06-013 Exhibit B-3

CROSS-SECTION FOR ENRICO FERMI DRIVE

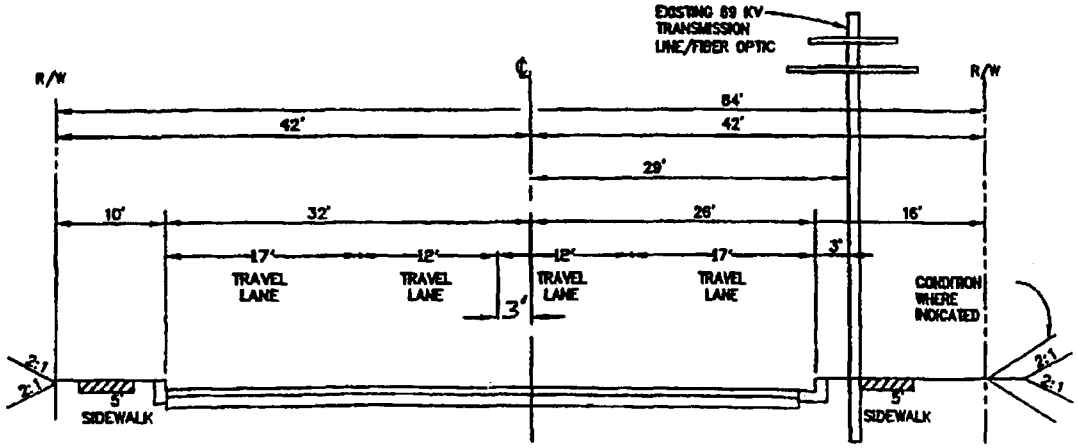
SOURCE: Darnell & ASSOCIATES, INC. 060411CC.dwg 7-12-07 SN



ALTA RD
OTAY MESA ROAD TO LONE STAR ROAD
NO SCALE



ALTA RD
LONE STAR ROAD TO DONOVAN STATE PRISON ROAD
NO SCALE



ALTA RD
N/O DONOVAN STATE PRISON ROAD
NO SCALE

NOTE: THE CROSS-SECTIONS ARE CONCEPTUAL PLANS AND THE FINAL ROAD DESIGN WILL BE SUBJECT TO APPROVAL OF THE DIRECTOR OF DPW.

GPA 06-013 EXHIBIT B-3 CROSS-SECTION FOR ALTA ROAD

SOURCE: Darnell & ASSOCIATES, INC. 060411CC.dwg 6-18-07 SN

5 year Capital Improvement Program (CIP) 2008/09 – 2012/13

County of San Diego
Department of Public Works

Five Year Capital Improvement Plan

FY 2008-09 thru FY 2012-13

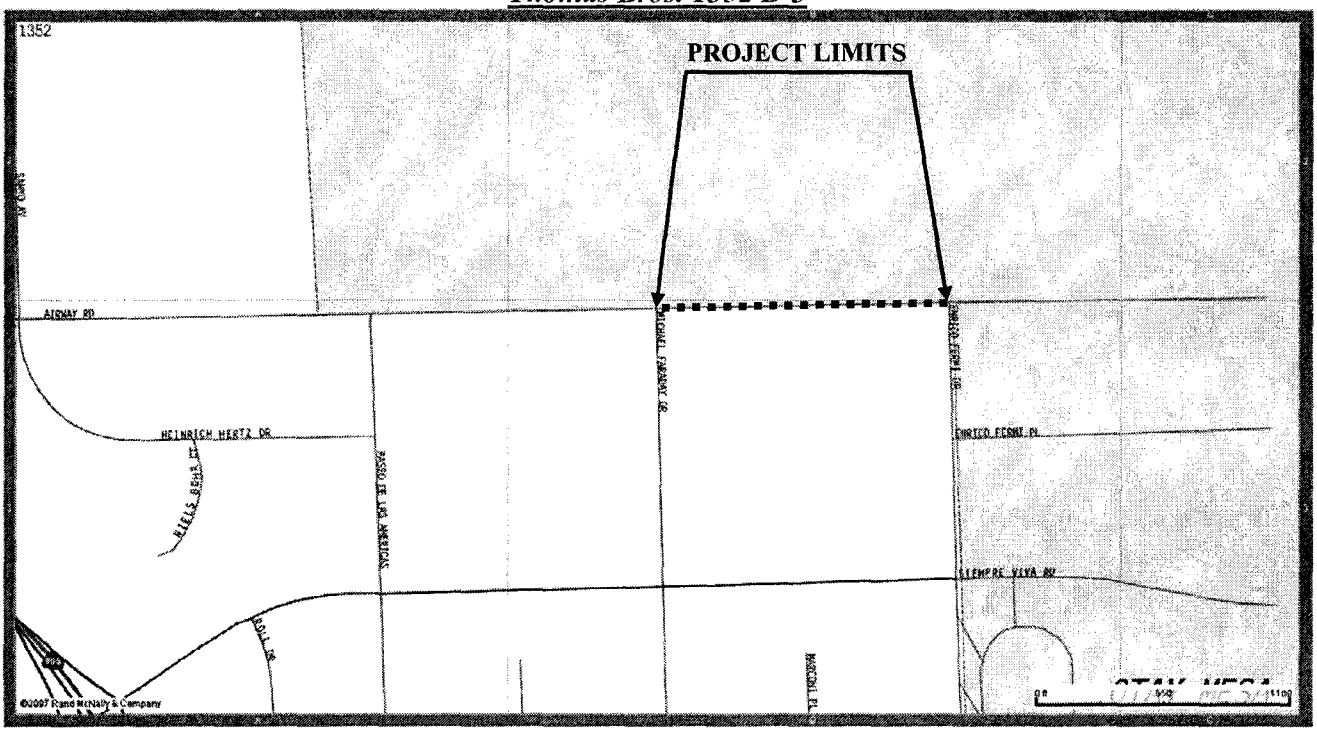
AIRWAY ROAD – OTAY

This project involves the construction of additional lanes on Airway Road between Michael Faraday Drive and Enrico Fermi Drive.

Total Length	1400 feet
Estimated Completion	TBD
Planning Group	None
Project Manager	Michael Long
District	1
Estimated Project Cost	TBD
Funding	Transportation Impact fees/TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Preliminary Engineering	$0	$50,000	$0	$0	$0
Project Development	$0	$0	TBD	$0	$0
Right-of-Way	$0	$0	$0	TBD	$0
Construction	$0	$0	$0	TBD	TBD
Totals	**$0**	**$50,000**	**TBD**	**TBD**	**TBD**

Thomas Bros. 1352 B-3



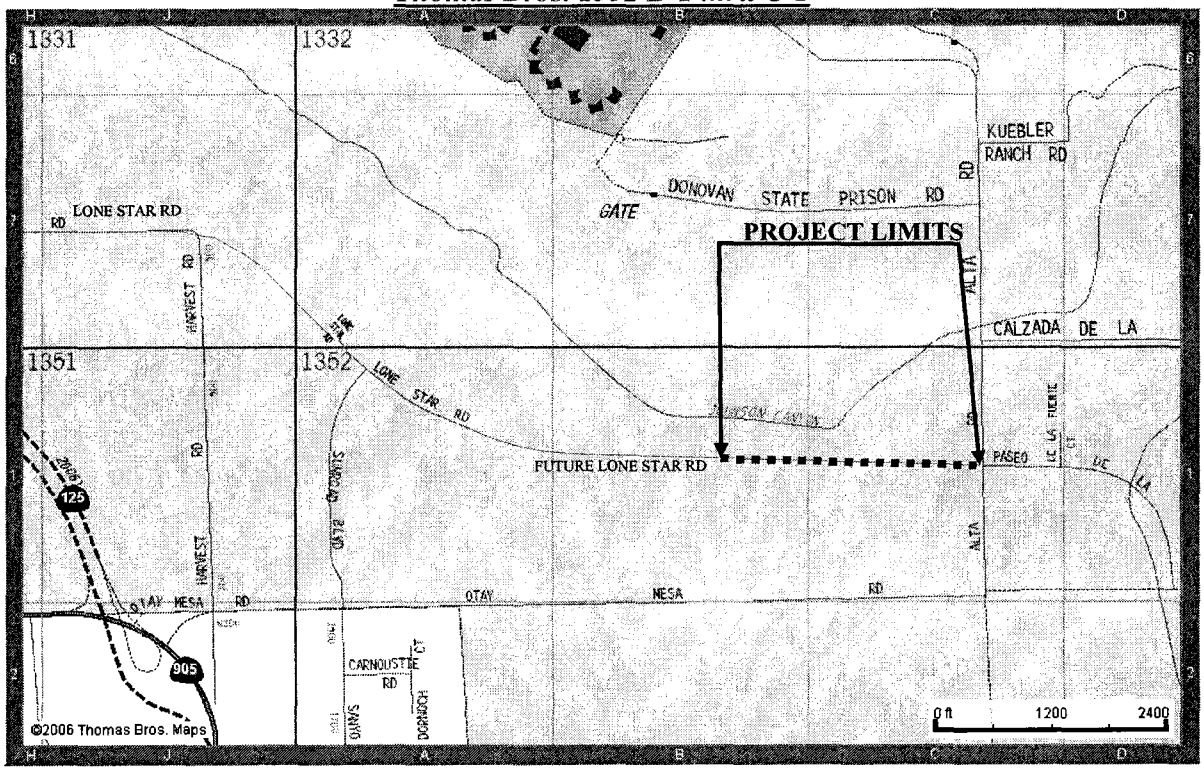
LONE STAR ROAD – OTAY

This project involves the construction of a new road, Lone Star Road, from Alta Road to the west for 0.5 mile.

Total Length	0.5 mile
Estimated Completion	Spring 2014
Planning Group	None
Project Manager	Steve Ron
District	1
Estimated Project Cost	$6,500,000
Funding	Federal - TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Project Development	$82,000	$100,000	$50,000	$0	$0
Right-of-Way	$0	$0	$1,000,000	$10,000	$10,000
Construction	$0	$0	$1,400,000	$3,000,000	$0
Totals	**$82,000**	**$100,000**	**$2,450,000**	**$3,010,000**	**$10,000**

Thomas Bros. 1352 B-1 thru C-1



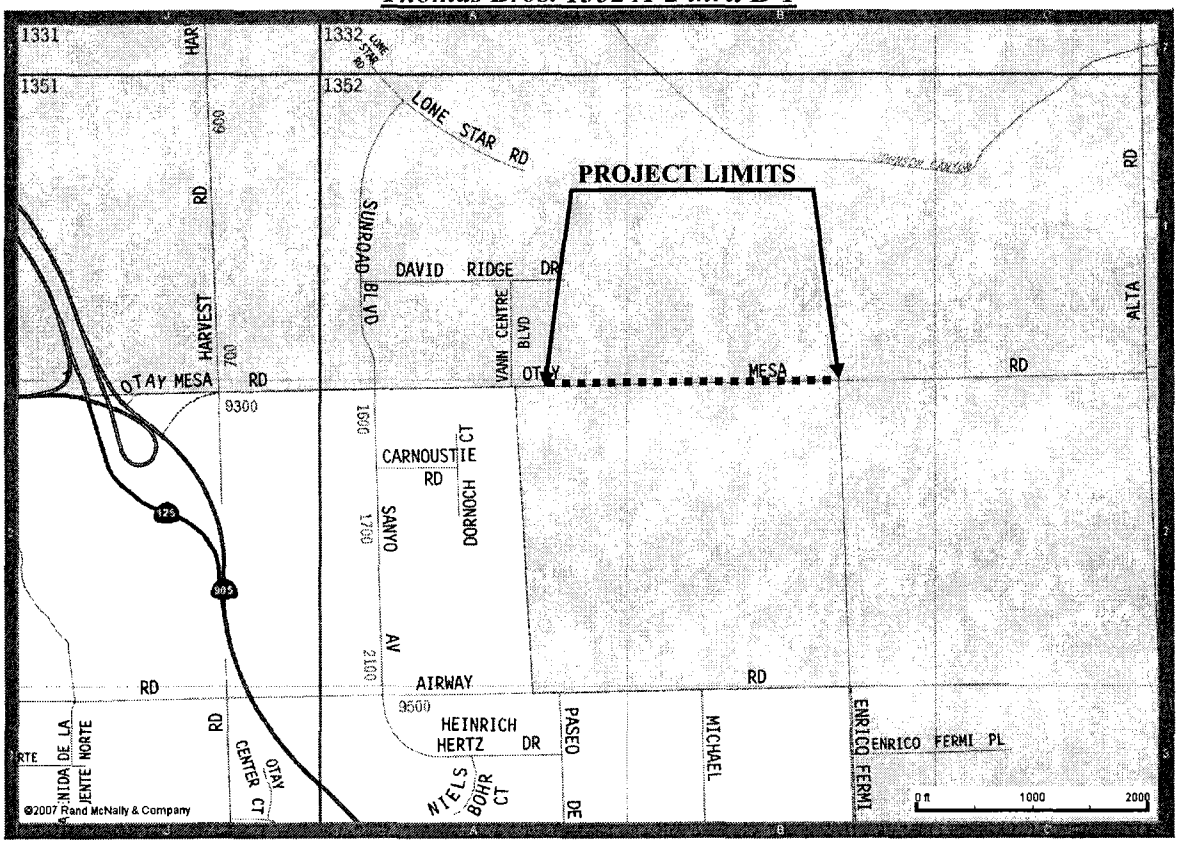
OTAY MESA ROAD WIDENING – OTAY

This project involves the widening of Otay Mesa Road from vicinity of Vann Center Blvd. to Enrico Fermi Drive.

Total Length	2300 feet
Estimated Completion	Spring 2014
Planning Group	None
Project Manager	Steve Ron
District	1
Estimated Project Cost	$14,566,000
Funding	TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Preliminary Engineering	$50,000	$0	$0	$0	$0
Project Development	$0	$500,000	$0	$0	$0
Right-of-Way	$5,000	$11,000	$1,000,000	$0	$0
Construction	$0	$0	$0	$6,500,000	$6,500,000
Totals	**$55,000**	**$511,000**	**$1,000,000**	**$6,500,000**	**$6,500,000**

Thomas Bros. 1352 A-2 thru B-1



Caltrans' Fact Sheets for SR905 & SR-11

February 2010

State Route 905

From I-805 to the Otay Mesa Port of Entry

FACT SHEET

GOALS

Provide for efficient transportation of goods

Improve motorist safety and mobility for local, regional and international traffic

Create jobs for the San Diego region and California

SCHEDULE

Construction of Phase 1A began in April 2008. Completion of this portion is expected by late 2010. Phase 1B began construction in July and is expected to be completed by summer 2012.

CONTACT

Project Manager
Ismael Salazar at
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4050 Taylor Street
San Diego, CA 92110
Ph: (619) 688-6670
Fax: (619) 688-3695
www.dot.ca.gov/dist11

Caltrans

THE PROJECT

A six-lane freeway will be built from Interstate 805 to the Otay Mesa Port of Entry (POE) at the U.S.-Mexico Border to serve the POE and businesses in the Otay Mesa area. It connects with other vital state routes such as I-5 and will include grade-separated local access interchanges and a freeway-to-freeway interchange with the South Bay Expressway (State Route 125 South).

TRAFFIC

The project is critical to the flow of goods and services between California and Baja California, as well as to the nation. In 1995, total imports and exports between California and Baja California were nearly $15 billion, and in 2005 were nearly $36 billion. Ninety-eight percent of the imports and exports are transported by truck. The California/Baja California POEs processed more than two million trucks in 2005, and this figure is projected to double by 2020. Continued growth in trade through the Otay Mesa POE has brought increased congestion that will be reduced with the completion of this project.

STATUS

Caltrans has purchased most of the right-of-way for Phase 1 from Siempre Viva Road to just east of I-805, and is in the process of acquiring the last parcels. Due to escalated costs, Phase 1 was split into two parts: Phase 1A, the eastern segment from Siempre Viva Road to Britannia Boulevard; and Phase 1B, the western segment from Britannia Boulevard to just east of I-805.

FUNDING

The estimated cost for the project is about $610.5 million. A total of $432.8 million has been programmed for Phases 1A & 1B. Federal funds of $236.8 million include $74 million from the American Recovery and Reinvestment Act. The State is providing $184.5 million. Local contributions of $11.5 million include $8.4 million from the TransNet one-half cent sales tax approved by San Diego County voters. The remaining phases are interchanges and not yet funded or programmed.

State Route 905

LEGEND - CONSTRUCTION PHASES

- PHASE 1A - 6 LANE FREEWAY BRITANNIA TO SIEMPRA VIVA
- PHASE 1B - 6 LANE FREEWAY 805 TO BRITANNIA
- PHASE 2 IMPROVEMENTS TO 805/905 INTERCHANGE
- PHASE 3 CONSTRUCT 125/905 INTERCHANGE
- PHASE 4 CONSTRUCT HERITAGE RD INTERCHANGE
- PHASE 1A - FULL INTERCHANGE
- PHASE 1A - BRIDGE STRUCTURES
- PHASE 1A INTERCHANGE WITH WB OFF RAMP AND EB ON RAMP
- PHASE 1B EB OFF RAMP AND WB ON RAMP
- PHASE 1B INTERCHANGE

February 2010

State Route 11/Otay Mesa East Port of Entry Project

FACT SHEET

GOALS

It's been 23 years since the last border crossing opened between California and Baja California, Mexico, and during that time both trade partners benefited from strong economic growth.

The new border crossing and connecting freeway will do even more to promote the transportation of vital goods and services across the border, and help the two nations remain competitive in the world market.

CONTACT

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San Diego, CA 92110
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Fax: (619) 688-3695
www.dot.ca.gov/dist11

THE PROJECT

Details include the proposed construction of State Route 11 (a four-lane freeway) and a new U.S. Customs and Border Protection Port of Entry in the community of East Otay Mesa, San Diego. SR-11 will extend about two miles from SR-905 south to the new Otay Mesa East Port. The new freeway and port will curb traffic congestion and reduce frequent border wait times of more than six hours for commercial trucks at the nearby Otay Mesa Port and up to three hours for cars at Otay Mesa and San Ysidro ports. It will provide a seamless connection south of the border to the Tijuana-Rosarito Corridor, with links to the Tijuana-Tecate and the Tijuana-Ensenada toll roads in Baja California, Mexico.

The passage of Senate Bill 1486 and the subsequent issuing of a federal Presidential Permit in 2008 opened the door for the San Diego Association of Governments (SANDAG) to seek private investment dollars to cover the shortfall in construction dollars and provide a premium crossing option for a fee. This premium option may reduce wait times from three hours down to less than a half hour. The Permit is a component of the state's intent to finance the project through tolls or user fees and is required by the financial investment industry for moving forward with public toll financing.

TRAFFIC

The project will reduce traffic congestion at the other three land ports in San Diego County (San Ysidro, Otay Mesa and Tecate). The biggest impact will be felt at the Otay Mesa Port, which serves more than 90 percent of commercial truck traffic entering the county. More than 1.4 million trucks carrying an estimated $28.6 billion in goods crossed at the Otay Mesa Port in 2006. The number of trucks is expected to double by 2025.

CONSTRUCTION COSTS

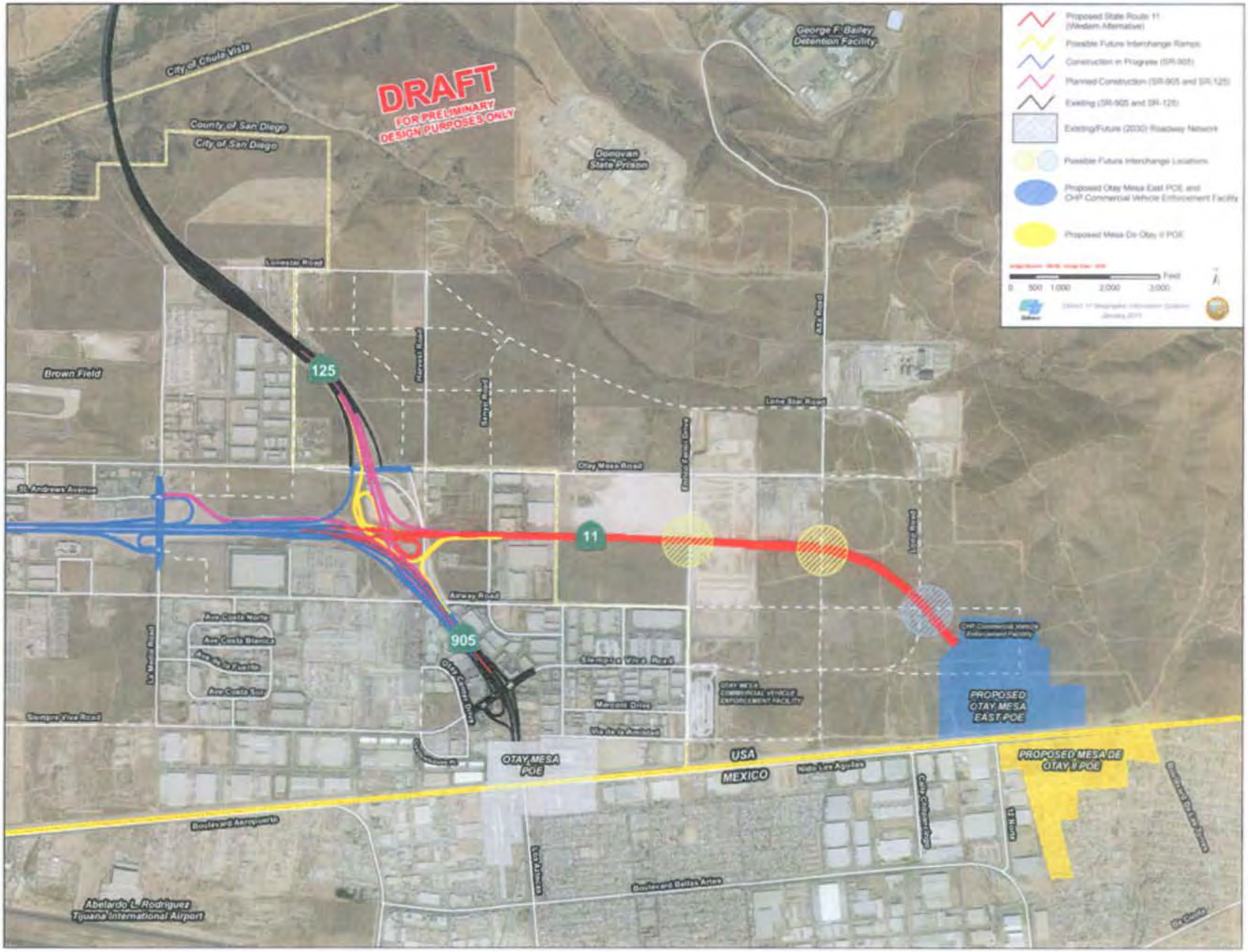
SR-11 ranges from $300 million-$360 million, while the new Otay Mesa East Port has a price tag of between $300 million-$350 million. The Proposition 1B Trade Corridor Improvement Fund is contributing $75 million for the project. The State Transportation Improvement Program has contributed $13 million and $800,000 has come from the federal government.

Construction would create approximately 8,134 new jobs, generating an estimated $463,850 for the local economy. Operation of the facility, combined with the extension of SR-905, would create an additional 33,900 jobs and generate about $1.2 million.

STATUS

An environmental study for the program has been completed and a second study for the project itself is underway, with completion expected in 2010. The schedule calls for the project breaking ground in 2012 and opening in 2014, contingent on full funding.

State Route 11/Otay Mesa East Port of Entry



SANDAG Series 11 Model for Otay Mesa 2020

SANDAG Series 11
2015 Mobility Emphasis
Highway Network
Functional Class Network

Otay Mesa Area

Network Build 2/25/10
2020 Otay Mesa Alt 3 - 2015 Network, 2020 trip generation

Functional Classifications:

- Freeway
- Prime
- Major
- Collector
- Local Collector
- Rural Collector
- Local
- Freeway Connector
- Ramp
- Zone Connector
- Light & Commuter Rail
- Zone Boundary

Intersection Controls:

- Signal
- All-Way Stop
- One-Way Stop
- Ramp Meter
- Rail Crossing

Speeds and Lanes:

- Adjusted Speed
- Modeled Speed
- Lanes
- Lane Imbalance
- Traffic Analysis Zone

Feet 0 1,100 2,200
Meters 132 396 660

SANDAG
San Diego's Regional Planning Agency

March 2, 2010

SANDAG Series 11
2030 Mobility Emphasis
Highway Network
Daily Traffic Volumes

SR-11/Otay Mesa East

Model Run 03/05/2010
2020 Otay Mesa Alt 3 - 2015 Network, 2020 trip generation

Functional Classifications:

- Freeway
- Prime
- Major
- Collector
- Local Collector
- Rural Collector
- Local
- Freeway Connector
- Ramp
- Zone Connector
- Light & Commuter Rail
- Zone Boundary

Forecasted Volumes:

- Adjusted Volume
- Unadjusted Volume
- Traffic Analysis Zone

Feet 0 1,090 2,180
Meters 131 392 654

SANDAG
San Diego's Regional Planning Agency

March 4, 2010

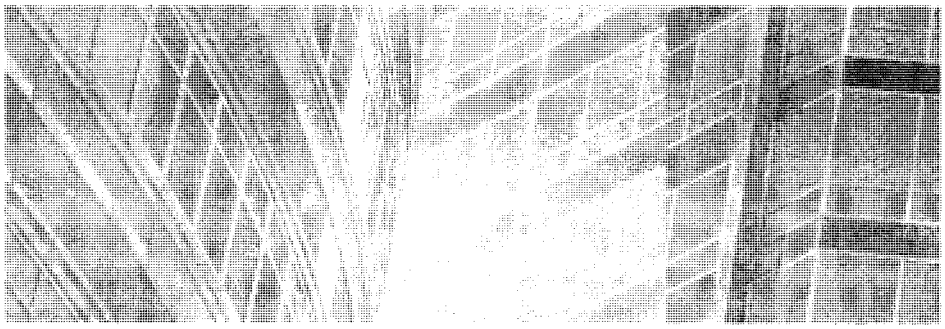
APPENDIX C

- Retail Site Selection Analysis and Market Study, CBRE
- *Addendum to Real Estate Market Analysis* for Otay Mesa Community Plan, ERA

Retail Site Selection Analysis and Market Study, CBRE

CBRE
CB RICHARD ELLIS

CBRE | Research



Retail Site Selection Analysis

Prepared for

California Crossings
Highway 125 and Otay Mesa Road
San Diego, CA
Market Study

August 27, 2007

The trade area for the California Crossings project is influenced by the population in the surrounding area, both in the United States and south of the border in Mexico, as well as by the availability of transportation infrastructure providing access to the proposed development. Based on the marketing study completed by DDS Marketing in February 2006, 156,586 residents live in the five-mile radius trade area, north of the border. According to the 2005 figures from the Instituto Nacional de Estadistica Geografia e Informatica, the population of Tijuana is 1,417,730. In 2005, the Otay Mesa Port of Entry had 15,275,785 people and 6,872,886 passenger vehicles crossing the border northbound according to US Customs and Border Protection.

The trade area for the project is expected to vary in the short-term and long-term, based on the timing of construction of new freeways serving Otay Mesa and the surrounding region, and the timing of additional development in Otay Mesa. In both the short and long term, the proposed commercial center with a Super Target as an anchor tenant is expected to attract a large percentage of its customer base from Mexico. Based on sales data from similar large format retail centers located near Ports of Entry along the international border in California, a majority of the customer base is from cross-border traffic. In addition, major general merchandise stores strategically located near Ports of Entry are typically some of the highest grossing stores based on the sales from cross-border customers. The high volume of cross-border customers is typically based on the large population living just south of the border, easy access to shopping north of the border, the availability and large selection of merchandise, and the cost savings from purchasing merchandise in the United States, thereby avoiding the surcharge tax on U.S. goods sold in Mexico.

At this time, the north/south trending SR-125 freeway is planned to open in the fall of 2007 while the construction of the east/west oriented SR-905 freeway is not anticipated before 2011. The completion of the SR-125 freeway will make the trade area very linear in the short-term, focusing on the SR-125 corridor from Olympic Parkway to the north in the City of Chula Vista and extending southerly to the Mexico border with a significant customer base for the California Crossings development coming from south of the border, as discussed above. The lack of the SR-905 freeway extension through Otay Mesa will, in the short-term, keep most of the trade area to the west focusing on the I-805 corridor which is a very successful retail corridor. Figure 1 illustrates the trade area and

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anticipated distribution in the short-term. In the short-term, prior to completion of the SR-905 freeway, approximately 70% of the customer base is expected from cross border traffic from Mexico using the completed segment of SR-905 north of the border, with approximately 20 % from the north traveling on SR-125, and approximately 10% from development to the west.

The completion of SR-905 through Otay Mesa is planned to provide a direct freeway connection from the Otay Mesa Port of Entry to the existing terminus of SR-905 currently located east of I-805 at the westerly edge of Otay Mesa. Traffic circulation in Otay Mesa will significantly improve with the completion of SR-905. In addition, the City of San Diego is currently working on updating the Otay Mesa Community Plan. The Otay Mesa Community Plan Update proposes to add a significant amount of residential development in the western portion of the Otay Mesa within the limits of the City of San Diego (west of SR-125). A residential population of approximately 60,000 to 90,000 is anticipated in the City's portion of Otay Mesa, depending on the land use plan ultimately adopted by the City Council.

After SR-905 is constructed across Otay Mesa and additional residential development occurs in Otay Mesa, the trade area for the project is expected to expand and capture additional customers to the west of SR-125, as illustrated in Figure 2. With the completion of SR-905, customers from the western portion of Tijuana could be attracted to the proposed project with direct access provided by I-805 and SR-905. In the long-term, the anticipated customer base is approximately 50% from cross border traffic from Mexico, approximately 20 % from the north traveling on SR-125, and approximately 30% from development to the west. According to the Consejo Nacional de Poblacion (CANAPO), the population of Tijuana is expected to grow by approximately one million people.

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Area Overview - Short Term

Figure 1

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Area Overview - Long Term

Figure 2

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EXECUTIVE SUMMARY

CBRE
CB RICHARD ELLIS

EXECUTIVE SUMMARY

Summary of Analysis

A *Retail Market Power* report is used in this study to determine an opportunity gap for retail stores by category. By comparing Consumer Demand and Retail Sales within the trade area as a whole, we find that this trade area overall is importing Retail Sales to the trade area since the total retail sales are greater than the total consumer expenditures in the defined market. Please note that the information contained herein is specific to only the US portion of the trade area.

2006 Consumer Expenditures	2006 Retail Sales	Opportunity / Surplus
$231,076,524	$322,950,464	$(91,873,940)

In 2007, Consumer Expenditures are reported to be an estimated $231 million while Total Retail Sales for the trade area is reported as $322 million. Thus the trade area is importing over $91.8 million to retail stores within the trade area boundaries. It is important to note however, that there may be stores that are servicing these households but are not included in our report if the establishment falls outside of the trade area boundaries. Refer to the report in the Retail Market Power section for further details.

The *Rank Order Correlation* report compares specific lifestyle behaviors to retailers and restaurants. In this case, with the Rank Order Correlation (ROC) to the "Shop at Target, 3 Months" profile, we can look at other retailers and restaurants and compare what stores and eating establishments the Target shopper is likely to frequent. A syndicated profile for households that Shop at Target is compared to a list of other retail and restaurant syndicated profiles which results in a list of stores and how they correlate to households that Shop at Target. They are then listed in order of significance to show what stores Target shoppers frequent. With the ROC to the "Shop at Target, 3 Months" profile, the data indicate **strong positive correlations** for shopping at:

Department stores such as Kohl's, Nordstrom, Macy's, Lord & Taylor, Saks Fifth Avenue, Sears, Bloomingdale's, JC Penney and Neiman Marcus are preferred. In addition to shopping at Target, other **Discount Department stores** like Kmart are frequented.

Apparel stores that have strong positive correlations to households that shop at Target include Eddie Bauer, Gap, Old Navy, Ann Taylor, Banana Republic, The Limited, Express, Lerner, Talbots, and Lane Bryant.

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Additionally, stores like TJ Maxx, Disney Store, Bed Bath & Beyond, Marshalls and Victoria's Secret and Sherwin Williams, as well as Warehouse stores like Costco, BJ Wholesale Club and Sam's Club are preferred by Target shoppers.

Electronics and Office stores that have strong positive correlations to households that shop at Target include Best Buy, Office Max, Circuit City, Office Depot, CompUSA, and Staples, while Target shoppers are also likely to visit Kinko's and Radio Shack.

Home Improvement stores that have strong positive correlations to households that shop at Target include Home Depot, Sears Hardware, Lowe's and Ace Hardware.

Furniture and Home Furnishing stores such as The Bombay Company, Ethan Allen Galleries and Thomasville are preferred by Target shoppers.

Health and Beauty stores such as CVS Pharmacy, Walgreens, Rite-Aid and Longs Drug are preferred by Target shoppers.

Family style restaurants like TGI Friday's, Chili's Grill & Bar, Fuddrucker's, Bennigan's, Chevy's, IHOP, Cheesecake Factory, Olive Garden, Outback Steakhouse, Chi-Chi's, California Pizza Kitchen, Applebee's, Red Lobster, Lone Star Steakhouse, Houlihan's, Bertucci's, Friendly's, Benihana, Hooters, Ruby Tuesday's, Bob's Big Boy, Papa John's, Round Table Pizza, Steak N Ale, Denny's, Chuck E Cheese, Pizza Hut and Godfather's Pizza are preferred by Target shoppers.

Fast food places such as Dunkin' Donuts, Boston Market, Quiznos, Subway, Wendy's, Burger King, Taco Bell, Del Taco, Carl's Jr., KFC, Domino's Pizza, Chick-Fil-A, Blimpie Subs & Salads, Jack-in-the-Box, Arby's, A&W, White Castle, Dairy Queen, Popeye's and Roy Rogers are frequented by Target shoppers.

Moreover, those stores and restaurants that are **moderately correlated** to households that shop at Target include: **discount department stores** like Wal-Mart; Home Improvement stores such as True Value; **family-style restaurants** like Cracker Barrel, Bob Evan's Farm, Bob's Big Boy, and Sizzler; and **fast food places** such as Little Caesar's, Whataburger, Taco Bueno, Checker's and Sonic Drive-In.

Further review of any retailer or restaurant listed in the Rank Order Correlation report with a ROC of .30 or greater should be considered potential tenants for this trade area.

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Note that all of the retailers and restaurants used in our study may not exist in every market, or profiles may not exist for every retailer in your specific market. It is not as important to target them specifically as it is to target their class of retail. For example, if the profile shows a strong correlation for Bed, Bath & Beyond, Linens N Things would be equally appropriate.

In addition to the above analysis, a list of retail businesses within a five-mile radius of the subject property is included in the Appendix to this report is included and can be used to determine what retailers and restaurants are currently in the area.

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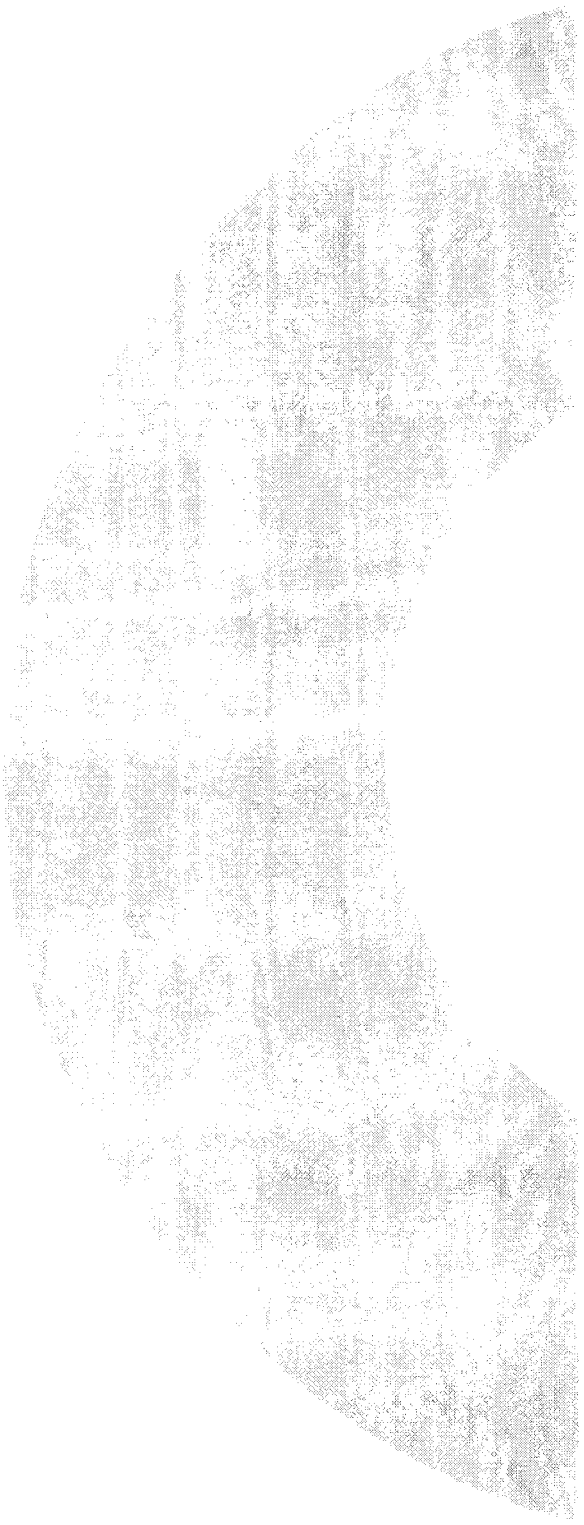
RETAIL MARKET POWER



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The **Retail Opportunity Gap Report** compares consumer spending to retail sales in an area to determine what retail categories have opportunity for growth or conversely a surplus of product. This comparative retail supply and demand data can reveal in a market the potential for expansion or consolidation of product.

An **opportunity gap (positive amount)** appears when household expenditures levels for a specific geography are higher than the corresponding retail sales estimates. This difference signifies that resident households are meeting the available supply and supplementing their additional demand potential by going outside of their own geography. The opposite is true in the event of an opportunity surplus (negative amount). That is, when the levels of household expenditures are lower than the retail sales estimates. In this case, local retailers are attracting residents of other areas in to their stores.

The California Crossings defined trade area is attracting consumers from outside the trade area boundaries since the retail sales are higher than the consumer expenditures in the defined market. In 2007, Consumer Expenditures are reported to be an estimated $231 million, while Total Retail Sales are estimated to be $322 million. Thus this trade area is importing over $91.8 million from consumers residing outside of the trade area boundaries.

Note that any retailer which may be serving the trade area residents is not included in our report if the establishment falls outside of the trade area boundaries. Please note that the information contained herein is specific to only the US portion of the trade area.

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Data Sources for Potential **Expenditures**	Data Sources for Potential **Sales**
• Consumer Expenditure Survey (CEX) • Global Insights • Claritas Current Year demographics • Trade Associations	• Census of Retail Trade (CRT) • Annual Survey of Retail Trade • Claritas Business-Facts • Census of Employment and Wages • State Sales Tax reports • Trade Associations

The base for the **demand side** or **potential expenditures** estimates is the Consumer Expenditures Survey (CEX) from the Bureau of Labor Statistics. Estimates are produced by developing regression models of household expenditures for a wide range of goods and services. These household level models are combined with Claritas current year demographic estimates to create geographic estimates of potential household demand for products and services. Using CRT information, those estimates are assigned to NAICS categories and used to estimate potential demand by NAICS code

The base for the **supply side or potential sales estimates** for Retail Market Power is the 1997 Census of Retail Trade (CRT), a component of the Economic Census fielded by the U.S. Census Bureau. The county level data from CRT is updated to 2006 by accounting for changes in business sales activity each year using wage & employment data from the BLS (the ES-202 file) and local sales tax data. The county level values are allocated to block groups based on employment counts from Business Facts. This results in block group level potential retail sales estimates by NAICS (North American Industrial Classification System). The NAICS categories are further break out by Merchandise Lines and adjusted to reflect current year totals of retail sales.

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RMP Opportunity Gap - Retail Stores

CA Crossings

Polygon 1: OTAY MESA AT 125, Total

Retail Stores	Demand (Consumer Expenditures)	Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	231,076,524	322,950,464	(91,873,940)
Motor Vehicle and Parts Dealers-441	44,788,395	172,767,946	(127,979,551)
Automotive Dealers-4411	38,595,611	163,366,685	(124,771,074)
Other Motor Vehicle Dealers-4412	2,724,813	6,299,934	(3,575,121)
Automotive Parts/Accsrs, Tire Stores-4413	3,467,971	3,101,327	366,644
Furniture and Home Furnishings Stores-442	6,874,482	4,911,414	1,963,068
Furniture Stores-4421	3,590,845	2,079,158	1,511,687
Home Furnishing Stores-4422	3,283,637	2,832,255	451,382
Electronics and Appliance Stores-443	5,849,132	2,554,632	3,294,500
Appliances, TVs, Electronics Stores-44311	4,496,433	1,728,859	2,767,574
Household Appliances Stores-443111	984,261	102,327	881,934
Radio, Television, Electronics Stores-443112	3,512,172	1,626,533	1,885,639
Computer and Software Stores-44312	1,121,197	825,772	295,425
Camera and Photographic Equipment Stores-44313	231,502	0	231,502
Building Material, Garden Equip Stores -444	29,003,614	39,219,160	(10,215,546)
Building Material and Supply Dealers-4441	26,484,629	39,219,160	(12,734,531)
Home Centers-44411	10,008,370	32,169,872	(22,161,502)
Paint and Wallpaper Stores-44412	689,835	0	689,835
Hardware Stores-44413	2,021,064	0	2,021,064
Other Building Materials Dealers-44419	13,765,359	7,049,287	6,716,072
Building Materials, Lumberyards-444191	4,782,395	2,403,885	2,378,510
Lawn, Garden Equipment, Supplies Stores-4442	2,518,985	0	2,518,985
Outdoor Power Equipment Stores-44421	363,906	0	363,906
Nursery and Garden Centers-44422	2,155,080	0	2,155,080
Food and Beverage Stores-445	25,724,737	26,056,119	(331,382)
Grocery Stores-4451	23,346,679	24,757,937	(1,411,258)
Supermarkets, Grocery (Ex Conv) Stores-44511	22,320,124	23,968,721	(1,648,597)
Convenience Stores-44512	1,026,556	789,217	237,339
Specialty Food Stores-4452	856,111	1,023,415	(167,304)
Beer, Wine and Liquor Stores-4453	1,521,946	274,766	1,247,180
Health and Personal Care Stores-446	8,906,582	1,589,404	7,317,178
Pharmancies and Drug Stores-44611	7,607,135	1,174,075	6,433,060
Cosmetics, Beauty Supplies, Perfume Stores-44612	301,328	2,291	299,037
Optical Goods Stores-44613	436,527	410,333	26,194
Other Health and Personal Care Stores-44619	561,592	2,705	558,887

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RMP Opportunity Gap - Retail Stores

CA Crossings

Polygon 1: OTAY MESA AT 125, Total

Retail Stores	Demand (Consumer Expenditures)	Supply (Retail Sales)	Opportunity Gap/Surplus
Gasoline Stations-447	22,748,167	3,962,604	18,785,563
Gasoline Stations With Conv Stores-44711	16,781,131	280,403	16,500,728
Other Gasoline Stations-44719	5,967,036	3,682,201	2,284,835
Clothing and Clothing Accessories Stores-448	12,620,927	10,531,710	2,089,217
Clothing Stores-4481	8,975,328	8,374,610	600,718
Men's Clothing Stores-44811	533,630	14,533	519,097
Women's Clothing Stores-44812	2,361,816	2,104,960	256,856
Childrens, Infants Clothing Stores-44813	548,317	1,121,169	(572,852)
Family Clothing Stores-44814	4,711,394	4,371,299	340,095
Clothing Accessories Stores-44815	215,700	2,355	213,345
Other Clothing Stores-44819	604,471	760,294	(155,823)
Shoe Stores-4482	1,785,990	1,565,608	220,382
Jewelry, Luggage, Leather Goods Stores-4483	1,859,610	591,492	1,268,118
Jewelry Stores-44831	1,719,185	591,492	1,127,693
Luggage and Leather Goods Stores-44832	140,425	0	140,425
Sporting Goods, Hobby, Book, Music Stores-451	4,825,022	993,299	3,831,723
Sportng Goods, Hobby, Musical Inst Stores-4511	3,418,575	575,982	2,842,593
Sporting Goods Stores-45111	1,757,046	247,471	1,509,575
Hobby, Toys and Games Stores-45112	1,068,727	327,427	741,300
Sew/Needlework/Piece Goods Stores-45113	264,118	1,084	263,034
Musical Instrument and Supplies Stores-45114	328,684	0	328,684
Book, Periodical and Music Stores-4512	1,406,447	417,317	989,130
Book Stores and News Dealers-45121	926,159	399,790	526,369
Book Stores-451211	883,138	399,790	483,348
News Dealers and Newsstands-451212	43,020	0	43,020
Prerecorded Tapes, CDs, Record Stores-45122	480,288	17,527	462,761
General Merchandise Stores-452	28,413,777	41,157,438	(12,743,661)
Department Stores Excl Leased Depts-4521	13,963,139	39,419,058	(25,455,919)
Other General Merchandise Stores-4529	14,450,637	1,738,379	12,712,258
Warehouse Clubs and Super Stores-45291	12,294,195	0	12,294,195
All Other General Merchandise Stores-45299	2,156,442	1,738,379	418,063
Miscellaneous Store Retailers-453	5,968,368	2,998,407	2,969,961
Florists-4531	454,018	0	454,018
Office Supplies, Stationery, Gift Stores-4532	2,377,694	2,079,900	297,794
Office Supplies and Stationery Stores-45321	1,331,600	1,506,685	(175,085)
Gift, Novelty and Souvenir Stores-45322	1,046,094	573,215	472,879
Used Merchandise Stores-4533	561,358	128,406	432,952
Other Miscellaneous Store Retailers-4539	2,575,298	790,102	1,785,196

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RMP Opportunity Gap - Retail Stores

CA Crossings

Polygon 1: OTAY MESA AT 125, Total

Retail Stores	Demand (Consumer Expenditures)	Supply (Retail Sales)	Opportunity Gap/Surplus
Non-Store Retailers-454	13,857,285	8,151,437	5,705,848
Electronic Shopping, Mail-Order Houses-4541	10,295,772	5,629,561	4,666,211
Vending Machine Operators-4542	594,121	0	594,121
Direct Selling Establishments-4543	2,967,391	2,521,876	445,515
Foodservice and Drinking Places-722	21,496,036	8,056,894	13,439,142
Full-Service Restaurants-7221	9,706,038	2,541,561	7,164,477
Limited-Service Eating Places-7222	9,199,054	5,188,637	4,010,417
Special Foodservices-7223	1,764,892	326,696	1,438,196
Drinking Places -Alcoholic Beverages-7224	826,052	0	826,052
GAFO *	60,961,035	62,228,392	(1,267,357)
General Merchandise Stores-452	28,413,777	41,157,438	(12,743,661)
Clothing and Clothing Accessories Stores-448	12,620,927	10,531,710	2,089,217
Furniture and Home Furnishings Stores-442	6,874,482	4,911,414	1,963,068
Electronics and Appliance Stores-443	5,849,132	2,554,632	3,294,500
Sporting Goods, Hobby, Book, Music Stores-451	4,825,022	993,299	3,831,723
Office Supplies, Stationery, Gift Stores-4532	2,377,694	2,079,900	297,794

* GAFO (General merchandise, Apparel, Furniture and Other) represents sales at stores that sell merchandise normally sold in department stores. This category is not included in Total Retail Sales Including Eating and Drinking Places.

Claritas' RMP data is derived from two major sources of information. The demand data is derived from the Consumer Expenditure Survey (CE Survey), which is fielded by the U.S. Bureau of Labor Statistics (BLS). The supply data is derived from the Census of Retail Trade (CRT), which is made available by the U.S. Census.

The difference between demand and supply represents the opportunity gap or surplus available for each retail outlet in the specified reporting geography. When the demand is greater than (less than) the supply, there is an opportunity gap (surplus) for that retail outlet. For example, a positive value signifies an opportunity gap, while a negative value signifies a surplus.

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RANK ORDER CORRELATION

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RANK ORDER CORRELATION

For Rank Order Correlation, we typically look at all households and analyze the lifestyle tendencies for all of the household segments that are represented. This form of analysis will ensure that all of customers are represented by including any of the 66 segments that have a household count in this geography. In this case, a Rank Order Correlation (ROC) specifically to the **"Shop at Target, 3 Months"** profile was undertaken. In doing so we can look at other retailers and restaurants and compare what stores and eating establishments the typical Target shopper is likely to frequent. A syndicated profile for households that Shop at Target is compared to a list of other retail and restaurant syndicated profiles which results in a list of stores/restaurants and how they correlate to households that Shop at Target. These retailers and restaurants are then listed in order of significance to show what stores and restaurants Target shoppers frequent. The resulting report is presented on the following page.

Rank Order Correlation	For this report, we take an attribute list of Retailers and Restaurants and interpret the strength of the correlation between the attribute and each segment. Significance levels shown for a Rank Order Correlation ("ROC"). A double asterisk (**) indicates that the correlation is significant at the 99 percent level. This means that only one of every 100 correlations this strong or stronger is likely to be due simply to chance. This is the most extreme correlation, positive or negative. A single asterisk (*) indicates that the correlation is significant at the 95 percent level. This means that 5 of every 100 correlations this strong or stronger are due simply to chance. This is a strong correlation, positive or negative, but not the highest. A correlation of o +.50 and above = positive strong correlation o +.50 and +.30 = positive moderate to weak correlation, treat with caution o +.30 and -.30 = no relationship o -.50 and -.30 = negative moderate to weak correlation o -.50 and below = negative strong correlation Two Attribute lists have been run combining: o **Restaurants** (specific restaurants and eating out preferences) o **Retailers** (specific retail stores and shopping preferences) Count and Users/100 HHs columns indicate the number of adults/households in the survey engaging in the profile and what percentage of adults/households they represent compared to the total survey base.

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LifeStyler Report - Rank Order Correlation
Attribute List: 2005 MRI Retailers and Restaurants
Comparison Profile: Shop at Target vs. US
California Crossings, San Diego, CA

* Significant at 95% level
** Significant at 99% level

LifeStyler Attribute Title	Count	Users/ 100 HHs	Sig. Level	ROC ↓
Shop at Target,3mo (A)	37,011	72.16	**	1
Shop at Best Buy,1yr (A)	24,774	48.3	**	0.96
Shop at Office Max,1yr (A)	16,678	32.52	**	0.94
Shop at Circuit City,1yr (A)	15,080	29.4	**	0.94
Shop at Home Depot,1yr (A)	46,354	90.37	**	0.94
Shop at Office Depot,1yr (A)	20,109	39.2	**	0.93
Shop at Comp USA,1yr (A)	6,117	11.93	**	0.92
Buy from T.G.I. Friday's,6mo (A)	10,576	20.62	**	0.91
Shop at Staples,1yr (A)	22,019	42.93	**	0.91
Buy from Chili's Grill & Bar,6mo (A)	10,706	20.87	**	0.9
Buy from Dunkin Donuts,6mo (A)	10,609	20.68	**	0.9
Buy from Chili's Grill & Bar,1mo (A) *	6,776	13.21	**	0.9
Shop at Eddie Bauer,3mo (A)	4,177	8.14	**	0.9
Buy from Boston Market,6mo (A)	6,393	12.46	**	0.89
Buy from Fuddrucker's,6mo (A)	3,129	6.1	**	0.89
Shop at Kinko's,1yr (A)	8,209	16	**	0.89
Buy from Any Fast Food Restaurant,1mo (A) *	78,797	153.62	**	0.89
Buy from Any Fast Food Restaurants,6mo (A)	87,911	171.39	**	0.89
Buy from Bennigan's,6mo (A)	3,667	7.15	**	0.89
Buy from Quiznos,6mo (A)	6,494	12.66	**	0.88
Buy from Family Restaurant/Steakhouse,6mo (A)	72,014	140.4	**	0.88
Shop at Radio Shack,1yr (A)	18,642	36.34	**	0.88
Shop at The Gap,3mo (A)	11,842	23.09	**	0.88
Buy from Dunkin Donuts,1mo (A) *	7,697	15.01	**	0.88
Shop at TJ Maxx,3mo (A)	9,457	18.44	**	0.88
Buy from Chevy's,6mo (A)	2,226	4.34	**	0.87
Buy from T.G.I. Friday's,1mo (A) *	6,306	12.29	**	0.87
Buy from Family Restaurant/Steakhouse,1mo (A) *	59,634	116.26	**	0.87
Buy from IHOP,6mo (A)	11,885	23.17	**	0.87
Buy from Chevy's,1mo (A) *	1,304	2.54	**	0.87
Shop at Disney Store,3mo (A)	5,176	10.09	**	0.86
Shop at Bed Bath & Beyond,3mo (A)	14,236	27.75	**	0.86
Buy from Cheesecake Factory,6mo (A)	3,491	6.81	**	0.86
Buy from Fast Food Burger Restaurant,6mo (A)	77,327	150.76	**	0.86
Buy from Olive Garden,6mo (A)	15,356	29.94	**	0.86
Buy from Outback Steakhouse,6mo (A)	12,831	25.02	**	0.86
Shop at Kohl's,3mo (A)	14,879	29.01	**	0.86
Buy from Fuddrucker's,1mo (A) *	1,794	3.5	**	0.86
Buy from Chi-Chi's,6mo (A)	2,604	5.08	**	0.86
Buy from Boston Market,1mo (A) *	3,716	7.24	**	0.86
Buy from Quiznos,1mo (A) *	4,125	8.04	**	0.86
Shop at Old Navy,3mo (A)	17,744	34.59	**	0.85
Shop at The Bombay Company,1yr (A)	3,659	7.13	**	0.85
Dine Out,1yr (A)	50,521	98.49	**	0.85
Shop at Costco,6mo (A)	13,705	26.72	**	0.84
Shop at Marshall's,3mo (A)	8,601	16.77	**	0.84
Buy from McDonald's,6mo (A)	55,244	107.7	**	0.84
Buy from McDonald's,1mo (A) *	45,196	88.11	**	0.84

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CB Richard Ellis
LifeStyler Report - Rank Order Correlation
Attribute List: 2005 MRI Retailers and Restaurants
Comparison Profile: Shop at Target vs. US
California Crossings, San Diego, CA

* Significant at 95% level
** Significant at 99% level

LifeStyler Attribute Title	Count	Users/ 100 HHs	Sig. Level	ROC ↓
Shop at CVS Pharmacy,6mo (A)	24,969	48.68	**	0.84
Dine Out,1-3 Times/mo,1yr (A)	17,364	33.85	**	0.84
Buy from Subway,1mo (A) *	18,790	36.63	**	0.83
Buy from California Pizza Kitchen,6mo (A)	2,121	4.14	**	0.83
Shop at Nordstrom,3mo (A)	5,054	9.85	**	0.83
Buy from Wendy's,6mo (A)	32,508	63.38	**	0.83
Buy from Subway,6mo (A)	25,901	50.5	**	0.83
Buy from Bennigan's,1mo (A) *	2,045	3.99	**	0.83
Buy from Wendy's,1mo (A) *	24,055	46.9	**	0.83
Buy from Outback Steakhouse,1mo (A) *	7,487	14.6	**	0.82
Buy from Applebee's,6mo (A)	24,523	47.81	**	0.82
Buy from Pancake/Doughnut/Ice Cream Restaurant,6mo (A)	25,498	49.71	**	0.82
Buy from Red Lobster,6mo (A)	15,602	30.42	**	0.81
Shop at Sears Hardware,1yr (A)	12,740	24.84	**	0.81
Buy from California Pizza Kitchen,1mo (A) *	1,233	2.4	**	0.81
Buy from Cheesecake Factory,1mo (A) *	1,987	3.87	**	0.81
Buy from IHOP,1mo (A) *	7,184	14.01	**	0.81
Dine Out,1+ Times/wk,1yr (A)	22,682	44.22	**	0.8
Shop at Walgreens,6mo (A)	28,740	56.03	**	0.8
Buy from Burger King,6mo (A)	41,050	80.03	**	0.8
Buy from Olive Garden,1mo (A) *	9,228	17.99	**	0.8
Shop at Ethan Allen Galleries,1yr (A)	1,532	2.99	**	0.8
Shop at Ann Taylor,3mo (A)	3,148	6.14	**	0.79
Buy from Burger King,1mo (A) *	30,235	58.95	**	0.79
Buy from Applebee's,1mo (A) *	15,487	30.19	**	0.79
Buy from Lone Star Steakhouse,6mo (A)	3,839	7.48	**	0.78
Shop at BJ's Wholesale Club,6mo (A)	5,455	10.63	**	0.78
Shop at Sam's Club,6mo (A)	23,765	46.33	**	0.78
Buy from Houlihan's,6mo (A)	1,085	2.12	**	0.78
Buy from Bertucci's,6mo (A)	1,218	2.37	**	0.78
Buy from Friendly's,6mo (A)	3,811	7.43	**	0.78
Shop at Victoria's Secret,3mo (A)	8,611	16.79	**	0.78
Shop at Banana Republic,3mo (A)	3,892	7.59	**	0.78
Buy from Mexican Fast Food Restaurant,6mo (A)	35,152	68.53	**	0.77
Buy from Benihana,6mo (A)	845	1.65	**	0.77
Buy from Houlihan's,1mo (A) *	624	1.22	**	0.77
Buy from Taco Bell,1mo (A) *	24,831	48.41	**	0.76
Dine Out,<1 Times/mo,1yr (A)	4,223	8.23	**	0.76
Buy from Taco Bell,6mo (A)	33,384	65.08	**	0.76
Buy from Fast Food Pizza Restaurant,6mo (A)	40,435	78.83	**	0.75
Buy from Hooters,6mo (A)	3,618	7.05	**	0.75
Buy from Ruby Tuesdays,6mo (A)	8,042	15.68	**	0.75
Shop at The Limited,3mo (A)	2,585	5.04	**	0.74
Buy from Ruby Tuesdays,1mo (A) *	4,723	9.21	**	0.74
Buy from Bob's Big Boy,1mo (A) *	710	1.38	**	0.74
Buy from Bertucci's,1mo (A) *	710	1.38	**	0.74
Buy from Del Taco,6mo (A)	2,894	5.64	**	0.74
Shop at Express,3mo (A)	4,314	8.41	**	0.74

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CB Richard Ellis
LifeStyler Report - Rank Order Correlation
Attribute List: 2005 MRI Retailers and Restaurants
Comparison Profile: Shop at Target vs. US
California Crossings, San Diego, CA

* Significant at 95% level
** Significant at 99% level

LifeStyler Attribute Title	Count	Users/ 100 HHs	Sig. Level	ROC ↓
Shop at Macy's,3mo (A)	10,323	20.13	**	0.73
Buy from Papa John's,6mo (A)	9,319	18.17	**	0.73
Shop at Lord & Taylor,3mo (A)	2,603	5.07	**	0.73
Buy from Friendly's,1mo (A) *	2,281	4.45	**	0.73
Buy from Carl's Jr.,6mo (A)	5,412	10.55	**	0.72
Buy from Round Table Pizza,6mo (A)	1,604	3.13	**	0.72
Buy from KFC,6mo (A)	29,434	57.38	**	0.72
Shop at Saks Fifth Ave,3mo (A)	1,400	2.73	**	0.72
Buy from Red Lobster,1mo (A) *	9,528	18.58	**	0.72
Buy from Del Taco,1mo (A) *	2,008	3.91	**	0.72
Buy from Family Restaurant,Child Decides,6mo (A)	4,845	9.45	**	0.71
Buy from Papa John's,1mo (A) *	5,890	11.48	**	0.71
Buy from Domino's Pizza,6mo (A)	14,058	27.41	**	0.71
Buy from Chick-Fil-A,6mo (A)	9,686	18.88	**	0.71
Shop at Lowe's,1yr (A)	29,245	57.02	**	0.71
Buy from Chick-Fil-A,1mo (A) *	6,598	12.86	**	0.71
Buy from Carl's Jr.,1mo (A) *	3,671	7.16	**	0.71
Buy from Hooters,1mo (A) *	2,135	4.16	**	0.71
Buy from Round Table Pizza,1mo (A) *	1,035	2.02	**	0.71
Buy from Blimpie Subs & Salads,6mo (A)	3,007	5.86	**	0.7
Buy from Jack-in-the-Box,1mo (A) *	5,987	11.67	**	0.7
Shop at Thomasville,1yr (A)	1,084	2.11	**	0.7
Buy from Jack-in-the-Box,6mo (A)	8,259	16.1	**	0.69
Shop at Sears,3mo (A)	24,125	47.03	**	0.69
Buy from Lone Star Steakhouse,1mo (A) *	2,282	4.45	**	0.69
Buy from Steak N Ale,6mo (A)	1,032	2.01	**	0.68
Buy from KFC,1mo (A) *	20,671	40.3	**	0.68
Buy from Fast Food Restaurant,Child Decides,6mo (A)	12,867	25.09	**	0.68
Shop at Bloomingdales,3mo (A)	2,003	3.91	**	0.68
Buy from Domino's Pizza,1mo (A) *	9,568	18.65	**	0.67
Buy from Chi-Chi's,1mo (A) *	1,252	2.44	**	0.67
Shop at JCPenney,3mo (A)	28,536	55.63	**	0.66
Buy from Denny's,6mo (A)	10,382	20.24	**	0.66
Shop at Rite-Aid,6mo (A)	17,051	33.24	**	0.66
Shop at Neiman Marcus,3mo (A)	1,065	2.08	**	0.66
Buy from Chuck E Cheese,6mo (A)	3,692	7.2	**	0.66
Buy from Arby's,6mo (A)	19,497	38.01	**	0.66
Shop at Lerner,3mo (A)	1,982	3.86	**	0.65
Shop at Sherwin Williams,1yr (A)	2,640	5.15	**	0.64
Buy from Chuck E Cheese,1mo (A) *	1,946	3.79	**	0.63
Buy from Pizza Hut,6mo (A)	24,602	47.96	**	0.62
Shop at Talbots,3mo (A)	1,864	3.63	**	0.62
Shop at Longs Drug Store,6mo (A)	4,049	7.89	**	0.61
Buy from A&W,6mo (A)	4,484	8.74	**	0.61
Buy from Arby's,1mo (A) *	12,791	24.94	**	0.61
Buy from Blimpie Subs & Salads,1mo (A) *	1,581	3.08	**	0.59
Buy from Pizza Hut,1mo (A) *	16,627	32.42	**	0.59
Buy from Denny's,1mo (A) *	6,363	12.41	**	0.57

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CB Richard Ellis
LifeStyler Report - Rank Order Correlation
Attribute List: 2005 MRI Retailers and Restaurants
Comparison Profile: Shop at Target vs. US
California Crossings, San Diego, CA

* Significant at 95% level
** Significant at 99% level

LifeStyler Attribute Title	Count	Users/ 100 HHs	Sig. Level	ROC ↓	
Buy from White Castle,6mo (A)	4,044	7.88	**	0.57	STRONG POSITIVE CORRELATION
Shop at Lane Bryant,3mo (A)	2,897	5.65	**	0.56	
Buy from Dairy Queen,6mo (A)	16,553	32.27	**	0.55	
Buy from Godfather's Pizza,6mo (A)	1,514	2.95	**	0.54	
Buy from White Castle,1mo (A) *	2,764	5.39	**	0.54	
Buy from Popeyes,1mo (A) *	4,493	8.76	**	0.52	
Shop at Ace Hardware,1yr (A)	17,900	34.9	**	0.52	
Buy from Popeyes,6mo (A)	6,888	13.43	**	0.51	
Buy from Roy Rogers,6mo (A)	547	1.07	**	0.51	
Buy from Dairy Queen,1mo (A) *	11,176	21.79	**	0.51	
Buy from A&W,1mo (A) *	2,592	5.05	**	0.5	
Shop at Kmart,3mo (A)	34,490	67.24	**	0.5	
Buy from Little Caesar's,6mo (A)	3,690	7.19	**	0.49	MODERATELY POSITIVE CORRELATION
Shop at Wal-Mart,3mo (A)	64,829	126.39	**	0.48	
Buy from Cracker Barrel,6mo (A)	11,176	21.79	**	0.48	
Buy from Little Caesar's,1mo (A) *	2,350	4.58	**	0.45	
Buy from Whataburger,6mo (A)	3,461	6.75	**	0.45	
Buy from Whataburger,1mo (A) *	2,456	4.79	*	0.41	
Buy from Taco Bueno,6mo (A)	788	1.54	*	0.39	
Buy from Cracker Barrel,1mo (A) *	6,908	13.47	*	0.39	
Buy from Bob Evan's Farm,6mo (A)	4,548	8.87	*	0.39	
Buy from Bob's Big Boy,6mo (A)	2,189	4.27	*	0.34	
Buy from Taco Bueno,1mo (A) *	515	1	*	0.34	
Buy from Bob Evan's Farm,1mo (A) *	2,821	5.5	*	0.34	
Buy from Checkers,1mo (A) *	1,809	3.53	*	0.33	
Shop at True Value,1yr (A)	9,939	19.38	*	0.32	
Buy from Sonic Drive-in,6mo (A)	10,573	20.61		0.31	
Buy from Sizzler Family Steakhouse,6mo (A)	2,858	5.57		0.31	
Buy from Checkers,6mo (A)	2,931	5.71		0.3	
Buy from Sizzler Family Steakhouse,1mo (A) *	1,703	3.32		0.3	
Buy from Sonic Drive-in,1mo (A) *	7,591	14.8		0.29	NO RELATIONSHIP
Shop at ShopKo,3mo (A)	2,781	5.42		0.25	
Buy from Rally's,1mo (A) *	986	1.92		0.2	
Buy from Pizza Inn,6mo (A)	1,306	2.55		0.19	
Buy from Rally's,6mo (A)	1,567	3.05		0.19	
Buy from Pizza Inn,1mo (A) *	842	1.64		0.17	
Buy from Long John Silver,6mo (A)	6,821	13.3		0.07	
Buy from Krystal's Hamburgers,6mo (A)	2,904	5.66		0.05	
Buy from Long John Silver,1mo (A) *	4,446	8.67		0.04	
Buy from Krystal's Hamburgers,1mo (A) *	1,922	3.75		0.03	
Buy from Fast Food Fish Restaurant,6mo (A)	10,183	19.85		0.01	
Buy from Golden Corral,6mo (A)	7,117	13.88		-0.04	
Buy from Captain D's,1mo (A) *	2,826	5.51		-0.05	
Buy from Hardee's,6mo (A)	8,368	16.31		-0.05	
Buy from Captain D's,6mo (A)	4,253	8.29		-0.06	
Buy from Hardee's,1mo (A) *	6,111	11.91		-0.07	
Buy from Golden Corral,1mo (A) *	4,932	9.62		-0.09	
Buy from Church's Fried Chicken,1mo (A) *	2,691	5.25		-0.13	

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CB Richard Ellis Retail Site Selection Group:

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APPENDIX

Business Points
California Crossings
5-mile Radius from Otay Mesa Rd CA 125
Sorted by Selected SIC Codes (53, 54, 55, 56, 57, 58, 59)

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Business Name	Address	Distance	Employees	Sales (in millions)	SIC Code	SIC Code Description	NAICS Code	NAICS Code Description
KOHL'S DEPARTMENT STORES	1870 MAIN CT	4.47	61	$6.8	531100	DEPARTMENT STORES	45211101	DEPARTMENT STORES, EXCEPT DISCOUNT
MACY'S	2015 BIRCH RD	3.84	67	$7.4	531100	DEPARTMENT STORES	45211201	DISCOUNT DEPARTMENT STORES
WAL-MART DISCOUNT CITIES	1360 EASTLAKE PKWY	4.71	301	$33.4	531101	DEPT STORES DISCOUNT	45211101	DEPARTMENT STORES, EXCEPT DISCOUNT
AKUA PRODUCTS LLC	1605 PACIFIC RIM CT	2.60	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
COLWELL MERCHANDISING	2350 MARCONI PL	1.32	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
JAIMITO'S AUTO SALES	1566 HERITAGE RD	2.87	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
JAVIERS AUTO SALES	1540 HERITAGE RD	2.88	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
PIER 1 IMPORTS	1830 MAIN CT	4.47	4	$.9	539900	MISC GEN MDSE STRS	44211012	FURNITURE STORES
RESPIRATORY SUPPORT PRODS INC	9255 CUSTOMHOUSE PLZ N	1.03	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
TOKYO AUTO SALES	1530 HERITAGE RD	2.88	3	$.2	539900	MISC GEN MDSE STRS	45299006	ALL OTHER GENERAL MERCHANDISE STORES
CALIFORNIA FOOD & BEVERAGE INC	9375 CUSTOMHOUSE PLZ	1.10	12	$2.1	541100	GROCERY STORES	44511002	SUPERMARKETS & OTHER GROCERY STORES
DORUSA USA	2199 BRITANNIA BLVD	1.94	2	$.4	541100	GROCERY STORES	44511003	SUPERMARKETS & OTHER GROCERY STORES
HITACHI TRANSPORT SYSTEMS LTD	2222 ENRICO FERMI DR	1.31	60	$10.7	541100	GROCERY STORES	44511003	SUPERMARKETS & OTHER GROCERY STORES
L & C FOOD DISTRIBUTION	8724 APPROACH RD	0.46	12	$2.1	541100	GROCERY STORES	44511002	SUPERMARKETS & OTHER GROCERY STORES
RAINBOW MART INC	8735 DEAD STICK RD	0.58	12	$2.1	541100	GROCERY STORES	44511003	SUPERMARKETS & OTHER GROCERY STORES
TRES AMIGOS SUPERMARKET	2445 OTAY CENTER DR 105	0.88	4	$.7	541100	GROCERY STORES	44511003	SUPERMARKETS & OTHER GROCERY STORES
UGCO	7880 AIRWAY RD B1	1.48	13	$2.3	541100	GROCERY STORES	44511003	SUPERMARKETS & OTHER GROCERY STORES
SEVEN-ELEVEN FOOD STORES	2495 ROLL DR	1.14	5	$.7	541103	CONVEN STORES CHAIN	44512001	CONVENIENCE STORES
SEVEN-ELEVEN FOOD STORES	8395 OTAY MESA RD	0.87	18	$2.5	541103	CONVEN STORES CHAIN	44512001	CONVENIENCE STORES
AGRO MEX PRODUCE INC	8735 DEAD STICK RD	0.58	4	$.8	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
BSC PRODUCE CO	7808 SAINT ANDREWS AVE	1.46	4	$.8	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
COAST CITRUS DISTRIBUTORS INC	7597 BRISTOW CT	2.05	150	$30	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
GONE BANANAZ FRUIT BAR	5155 EMERALD CV	4.39	1	$.2	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
NIRVANA PRODUCE DIST	1872 NIRVANA AVE	4.40	12	$2.4	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
R S INTL PRODUCE INC	8578 AVENIDA COSTA BLANCA	0.91	4	$.8	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
WILSON BATIZ LLC	9925 AIRWAY RD	1.01	4	$.8	543100	FRUIT & VEG MARKETS	44523003	FRUIT & VEGETABLE MARKETS
COMERCIALIZADORA ALDAMA DE	9950 MARCONI DR	1.27	4	$.2	544100	CANDY, NUT, CNF STR	44529202	CONFECTIONERY & NUT STORES
PICK A POUND CANDY INC	6020 PROGRESSIVE AVE	3.33	4	$.2	544100	CANDY, NUT, CNF STR	44529202	CONFECTIONERY & NUT STORES
SUPER TRADING	744 DESIGN CT	4.65	4	$.2	544100	CANDY, NUT, CNF STR	44529202	CONFECTIONERY & NUT STORES
EDUARD A TASTE OF EUROPE	1392 E PALOMAR ST	4.80	6	$.2	546100	RETAIL BAKERIES	31181102	RETAIL BAKERIES
INTERNATIONAL GRAIN & SPICE	9543 HEINRICH HERTZ DR	0.71	8	$1.4	549900	MISC FOOD STORES	44529927	ALL OTHER SPECIALTY FOOD STORES
UNIVERSAL NATURAL LABORATORIES	9163 SIEMPRE VIVA RD	0.98	2	$.4	549901	HEALTH & DIET FD STRS	44619106	FOOD, HEALTH, SUPPLEMENT STORES
BEBO'S AUTO SALES	1460 HERITAGE RD	2.89	1	$.4	551100	NEW & USED CAR DLRS	44111001	NEW CAR DEALERS
CHULA VISTA TOYOTA	650 MAIN ST	4.92	45	$18.2	551100	NEW & USED CAR DLRS	44111001	NEW CAR DEALERS
FYN AUTO WHOLESELLER	1564 HERITAGE RD	2.87	1	$.4	551100	NEW & USED CAR DLRS	44111001	NEW CAR DEALERS
OTAY AUTO WORLD	8365 1/2 SAINT ANDREWS AVE	1.06	45	$18.2	551100	NEW & USED CAR DLRS	44111001	NEW CAR DEALERS

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Business Points
California Crossings
5-mile Radius from Otay Mesa Rd CA 125
Sorted by Selected SIC Codes (53, 54, 55, 56, 57, 58, 59)

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Business Name	Address	Distance	Employees	Sales (in millions)	SIC Code	SIC Code Description	NAICS Code	NAICS Code Description
GARCIA'S TRUCKING	2310 MARCONI CT	1.11	10	$4	551101	TRUCK DEALERS	44111008	NEW CAR DEALERS
ICT TRUCK SALES	2322 AVENIDA COSTA DEL SOL	1.05	30	$12.1	551101	TRUCK DEALERS	44111008	NEW CAR DEALERS
OTAY TRUCK STOP	8490 AVENIDA DE LA FUENTE	1.02	30	$12.1	551101	TRUCK DEALERS	44111008	NEW CAR DEALERS
AUTO PROS INC	6801 SIKORSKY ST	2.66	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
AUTO-IMPORTACIONES ALDACO	2455 OTAY CENTER DR 123A	0.89	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
AUTOS SINALOA	1562 HERITAGE RD	2.87	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
BIBIANAS AUTO WRECKING	1522 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
BIG BEAR AUTO	8225 SAINT ANDREWS AVE	0.92	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
BRISVAC ENTERPRISE	1555 LA MEDIA RD	0.85	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
CAREYES AUTO SALES	8375 SAINT ANDREWS AVE	1.07	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
CATUS AUTO SALES	6801 SIKORSKY ST	2.66	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
CITY AUTO SALES	1540 HERITAGE RD	2.88	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
COUGAR AUTO SALES	6801 SIKORSKY ST	2.66	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
D & J AUTO SALES	6801 SIKORSKY ST	2.66	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
DESERT VIEW AUTO AUCTIONS INC	7277 OTAY MESA RD	1.60	30	$7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
EL COWBOY AUTO SALES	1460 HERITAGE RD	2.89	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
EL PATOS AUTO SALES	1580 HERITAGE RD B	2.87	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
EL PLAYERO AUTO SALES	8358 OTAY MESA RD	0.91	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
EL VAQUERO AUTO SALES	1592 HERITAGE RD	2.87	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
ELITE AUTO SALES	8348 SAINT ANDREWS AVE	1.04	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
FINEST AUTO SALES	1520 HERITAGE RD	2.88	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
G T MORROW CAR	8395 SAINT ANDREWS AVE	1.09	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GALVANY AUTO SALES	1580 HERITAGE RD	2.87	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GARCIA'S BUS SALES	8215 SAINT ANDREWS AVE	0.90	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GOGAS AUTO SALES	1532 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GREEN KARS AUTO WRECKING	1510 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GRUPO CALIFORNIA INC	1480 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
GUADALARA AUTO SALES	1480 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
IMPERIAL MOTORS	6801 SIKORSKY ST B	2.66	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
J Y AUTO SALES	8345 SAINT ANDREWS AVE	1.04	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
JMD AUTO SALES	1590 CONTINENTAL ST	2.32	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
LA COSTA AUTO SALES	1480 HERITAGE RD	2.88	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
M K AUTO SALES	6801 SIKORSKY ST	2.66	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
MELGOZA AUTO SALES	1590 CONTINENTAL ST 203	2.32	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
MERCADO DE AUTOS	1510 HERITAGE RD	2.88	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
MICHELLE'S AUTO SALES	8355 SAINT ANDREWS AVE	1.05	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS

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Business Points
California Crossings
5-mile Radius from Otay Mesa Rd CA 125
Sorted by Selected SIC Codes (53, 54, 55, 56, 57, 58, 59)

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Business Name	Address	Distance	Employees	Sales (in millions)	SIC Code	SIC Code Description	NAICS Code	NAICS Code Description
MTS AUTO SALES	1568 HERITAGE RD	2.87	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
NTC AUTO SALES	1460 HERITAGE RD	2.89	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
NTC AUTO SALES	1590 HERITAGE RD	2.87	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
OLYMPIC AUTO TRADE	1524 HERITAGE RD	2.88	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
POLO AUTO SALES	1665 OTAY MESA CENTER RD	1.09	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
PRIETO'S AUTO SALES	8225 SAINT ANDREWS AVE	0.92	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
RESINDIZ AUTO SALES	1590 CONTINANTIN 209	2.32	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
ROATE 905 AUTO SALES	1605 OTAY MESA CENTER RD	1.09	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
SAN DIEGO AUTO SALES	6560 DATSUN ST	2.92	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
SAN JUAN AUTO SALES	1370 HERITAGE RD	2.90	1	$.2	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
SOUTH 125 DEALER	2330 ENRICO FERMI DR	1.38	3	$.7	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
STORAGE EXPO AUTOTRANSPORT	1635 OTAY MESA CENTER RD	1.09	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
SUPE CARS AUTO SALES	1615 OTAY MESA CENTER RD	1.09	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
ULLOA'S AUTO SALES	1645 OTAY MESA CENTER RD	1.09	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
ZEPPELIN MOTORS	8385 SAINT ANDREWS AVE	1.08	2	$.5	552100	USED CAR DEALERS	44112005	USED CAR DEALERS
CORNEJO'S TRUCK SALES	8560 SIEMPRE VIVA RD	1.16	4	$.9	552101	USED TRUCK DEALERS	44112004	USED CAR DEALERS
AUTO ZONE	2445 OTAY CENTER DR 101	0.88	8	$1.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
BAJA 1000 BODY PARTS	6467 DATSUN ST	3.02	1	$.2	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
BODY PARTS LA BODEGA	937 HERITAGE RD B	2.97	2	$.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
ECOLOGY AUTO PARTS	1180 HERITAGE RD	2.94	5	$.9	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
ENZIS AUTOPARTS	1530 HERITAGE RD	2.88	2	$.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
FONSECA'S AUTO WREKCING	1080 HERITAGE RD	2.95	4	$.7	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
HONDA & ACURA PARTS-HA PARTS	895 ENERGY WAY	4.03	3	$.5	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
IMPORT AUTO WRECKING	793 ENERGY WAY	4.38	2	$.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
INNERGY POWER CORP	9375 CUSTOMHOUSE PLZ	1.10	8	$1.4	553100	AUTO, HOME SUPS STR	44131018	AUTOMOTIVE PARTS & ACCESSORIES STORES
KRAGEN AUTO SUPPLY	2472 ROLL DR	1.11	5	$.9	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
MONTOYA'S AUTO WRECKING	781 ENERGY WAY	4.39	2	$.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
MORENO'S BUMPER CONTROL 1	979A HERITAGE RD	2.95	5	$.9	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
NAP SAN DIEGO LLC	7702 SAINT ANDREWS AVE	1.63	5	$.9	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
NAPA AUTO & TRUCK PARTS	8353 OTAY MESA RD	0.92	3	$.5	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
PALOMO'S AUTO DISMANTLERS	1102 HERITAGE RD	2.95	3	$.5	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
REF BUENA VISTA	6960 CAMINO MAQUILADORA E	2.41	1	$.2	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
SCUADRA FORTIZ	9668 HEINRICH HERTZ DR	0.86	5	$.9	553100	AUTO, HOME SUPS STR	44131012	AUTOMOTIVE PARTS & ACCESSORIES STORES
STONE AUTO GLASS	1102 HERITAGE RD	2.95	2	$.4	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
URIPAS USED AUTO PARTS	977 HERITAGE RD	2.95	1	$.2	553100	AUTO, HOME SUPS STR	44131011	AUTOMOTIVE PARTS & ACCESSORIES STORES
MENDEZ TIRES	1283 LA MEDIA RD	0.95	7	$1.3	553199	AUTOMOTIVE TIRES	44132001	TIRE DEALERS

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Business Points
California Crossings
5-mile Radius from Otay Mesa Rd CA 125
Sorted by Selected SIC Codes (53, 54, 55, 56, 57, 58, 59)

CBRE
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Business Name	Address	Distance	Employees	Sales (in millions)	SIC Code	SIC Code Description	NAICS Code	NAICS Code Description
NORM'S USED TIRES & REPAIR	1580 HERITAGE RD A	2.87	2	$.4	553199	AUTOMOTIVE TIRES	44132001	TIRE DEALERS
CHEVRON STATIONS	2115 OLYMPIC PKWY	4.45	5	$.9	554100	GASOLINE SV STATION	44719005	OTHER GASOLINE STATIONS
CHEVRON STATIONS	2325 ROLL DR	0.97	8	$1.4	554100	GASOLINE SV STATION	44719005	OTHER GASOLINE STATIONS
OTAY CENTER SHELL	2435 OTAY CENTER DR	0.87	5	$.9	554100	GASOLINE SV STATION	44719005	OTHER GASOLINE STATIONS
OTAY MESA 76	8289 OTAY MESA RD	0.99	5	$.9	554100	GASOLINE SV STATION	44719005	OTHER GASOLINE STATIONS
OTAY SHELL	2310 ROLL DR	0.95	6	$1.1	554100	GASOLINE SV STATION	44719005	OTHER GASOLINE STATIONS
76 TRUCK STOP	2535 OTAY CENTER DR	1.01	33	$5.9	554101	TRUCK STOPS	44719007	OTHER GASOLINE STATIONS
TRUCK NET LLC	8490 AVENIDA DE LA FUENTE	1.02	33	$5.9	554101	TRUCK STOPS	44719007	OTHER GASOLINE STATIONS
L CHRISTOPHER YACHTS	8662 AVENIDA DE LA FUENTE	0.90	4	$1.2	555100	BOAT DEALERS	44122226	BOAT DEALERS
STEAMBOAT CORP	2455 OTAY CENTER DR	0.89	3	$.9	555100	BOAT DEALERS	44122205	BOAT DEALERS
ECONOMY AUTO WRECKING	1170 OTAY VALLEY RD	3.02	1	$.3	559900	AUTO DEALERS NEC	44122919	ALL OTHER MOTOR VEHICLE DEALERS
PARTS CONNECTION AUTO WRECKING	975 HERITAGE RD	2.95	1	$.3	559900	AUTO DEALERS NEC	44122919	ALL OTHER MOTOR VEHICLE DEALERS
TAPATIO AUTO WRECKING INC	6551 DATSUN ST	2.93	9	$2.3	559900	AUTO DEALERS NEC	44122919	ALL OTHER MOTOR VEHICLE DEALERS
AEROVISION INTERNATIONAL	8737 AVE COSTA NORTE	0.76	8	$2	559902	AIRCRAFT DEALERS	44122905	ALL OTHER MOTOR VEHICLE DEALERS
OTAY BAZAR	2493 ROLL DR	1.14	7	$1	561100	MEN'S, BOYS' CL STR	44811006	MEN'S CLOTHING STORES
INDUSTRIAL KNITTED GLOVES	9750 VIA DE LA AMISTAD	1.16	8	$1.1	561101	CLOTHNG ACC MENS,BOYS	44815022	CLOTHING ACCESSORIES STORES
ANN TAYLOR	2015 BIRCH RD	3.84	7	$.4	562100	WOMEN'S CL STORES	44812010	WOMEN'S CLOTHING STORES
CHICO'S	2015 BIRCH RD	3.84	7	$.4	562100	WOMEN'S CL STORES	44812010	WOMEN'S CLOTHING STORES
DEALS 4U	2493 ROLL DR	1.14	7	$.4	562100	WOMEN'S CL STORES	44812010	WOMEN'S CLOTHING STORES
MORAN & ASSOC	795 E SAN YSIDRO BLVD	5.00	7	$.4	562100	WOMEN'S CL STORES	44812010	WOMEN'S CLOTHING STORES
THE LIMITED	OTAY RANCH TOWN CTR	4.92	4	$.2	562100	WOMEN'S CL STORES	44813003	CHILDREN'S & INFANTS' CLOTHING STORES
CHIQUITA LINGERIE	2493 ROLL DR	1.14	7	$.4	563202	WOMEN'S HOSIERY,LING	44819019	OTHER CLOTHING STORES
JOANA'S LINGERIE	795 E SAN YSIDRO BLVD	5.00	7	$.4	563202	WOMEN'S HOSIERY,LING	44819019	OTHER CLOTHING STORES
VICTORIA'S SECRET	OTAY RANCH TOWN CTR	4.92	7	$.4	563202	WOMEN'S HOSIERY,LING	44819019	OTHER CLOTHING STORES
BABIES R US	1860 MAIN CT	4.47	4	$.2	564100	CHLD,INFANTS' WEAR	44813003	CHILDREN'S & INFANTS' CLOTHING STORES
CHILDRENS PLACE	2015 BIRCH RD	3.84	12	$.6	564100	CHLD,INFANTS' WEAR	44813003	CHILDREN'S & INFANTS' CLOTHING STORES
KID'S EMPORIUM	2493 ROLL DR	1.14	2	$.1	564100	CHLD,INFANTS' WEAR	44813003	CHILDREN'S & INFANTS' CLOTHING STORES
KIDS' OUTLET	2323 AVENIDA COSTA ESTE 500	0.88	25	$1.3	564100	CHLD,INFANTS' WEAR	44813003	CHILDREN'S & INFANTS' CLOTHING STORES
BANANA REPUBLIC	2015 BIRCH RD	3.84	7	$.4	565100	FAMILY CLOTHING STR	44811006	MEN'S CLOTHING STORES
PAC SUN	2015 BIRCH RD	3.84	7	$.4	565100	FAMILY CLOTHING STR	44812010	WOMEN'S CLOTHING STORES
AEROSOLES	2015 BIRCH RD 1203	3.84	8	$1	566100	SHOE STORES	44821007	SHOE STORES
PAYLESS SHOE SOURCE	1450 EASTLAKE PKWY	4.43	5	$.6	566100	SHOE STORES	44821007	SHOE STORES
PAYLESS SHOE SOURCE	795 E SAN YSIDRO BLVD	5.00	7	$.9	566100	SHOE STORES	44821007	SHOE STORES
RICK MAR SHOES INC	2493 ROLL DR	1.14	4	$.5	566100	SHOE STORES	44821007	SHOE STORES
SHOE-B-DUBY	2493 ROLL DR	1.14	4	$.5	566100	SHOE STORES	44821007	SHOE STORES
RUDEL BOOT CO	9830 SIEMPRE VIVA RD	1.06	3	$.4	566105	BOOTS	44821001	SHOE STORES

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Business Points
California Crossings
5-mile Radius from Otay Mesa Rd CA 125
Sorted by Selected SIC Codes (53, 54, 55, 56, 57, 58, 59)

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Business Name	Address	Distance	Employees	Sales (in millions)	SIC Code	SIC Code Description	NAICS Code	NAICS Code Description
AMERICAN EAGLE OUTFITTERS	2015 BIRCH RD	3.84	7	$.4	569903	SPORTS APPAREL	44812010	WOMEN'S CLOTHING STORES
MISSION IMPRINTABLES	6060 BUSINESS CENTER CT 200	3.31	25	$1.3	569908	T-SHIRTS,CUST PRINTED	44819029	OTHER CLOTHING STORES
RUDEL BOOT CO	9668 HEINRICH HERTZ DR F	0.86	5	$.3	569909	WESTERN APPAREL	44819032	OTHER CLOTHING STORES
ALLEGRO FURNITURE	2201 BRITANNIA BLVD	1.94	7	$1.1	571200	FURNITURE STORES	44211012	FURNITURE STORES
NLP FURNITURE INDUSTRIES	1425 CORPORATE CENTER DR 200	3.23	11	$1.8	571200	FURNITURE STORES	44211012	FURNITURE STORES
OAK FURNITURE WEST	9950 MARCONI DR	1.27	20	$3.2	571200	FURNITURE STORES	44211012	FURNITURE STORES
OAKLAND FURNITURE	1510 CORPORATE CENTER DR	3.37	7	$1.1	571200	FURNITURE STORES	44211012	FURNITURE STORES
PRO DESIGN FURNITURE	6935 CAMINO MAQUILADORA	2.44	6	$1	571200	FURNITURE STORES	44211012	FURNITURE STORES
EFA	2520 CACTUS RD	2.58	1	$.2	571202	CUST FURN,CABINETS	33712205	NONUPHOLSTERED WOOD HOUSEHOLD FURNITURE
WOODCRAFT CO	1520 CORPORATE CENTER DR	3.37	15	$2.4	571203	CABINETS EX CUST MADE	33711006	WOOD KITCHEN CABINET & COUNTERTOP MFG
AMERICA'S FINEST CARPET	730 DESIGN CT 401	4.66	4	$.8	571301	CARPETS	44221001	FLOOR COVERING STORES
AMERICA'S FINEST CLEANING CO	730 DESIGN CT	4.66	20	$4	571301	CARPETS	44221001	FLOOR COVERING STORES
OTAY CARPET OUTLET INC	6930 CAMINO MAQUILADORA 1	2.45	3	$.6	571301	CARPETS	44221001	FLOOR COVERING STORES
ORTHO MATTRESS	1480 EASTLAKE PKWY 095	4.36	7	$.5	571905	BEDDINGS AND LINENS	44211024	FURNITURE STORES
H B BLINDS & SHUTTERS CO	1339 S HILLS DR	4.63	1	$.1	571909	BLINDS & SHADES STRS	44229109	WINDOW TREATMENT STORES
QUALFIN INC	9731 SIEMPRE VIVA RD	1.02	3	$.2	571909	BLINDS & SHADES STRS	44229111	WINDOW TREATMENT STORES
FIREPLACES & BAR B QUES	6811 CURRAN ST	2.66	4	$.3	571910	STOVES-WOOD,COAL,ETC	44229930	ALL OTHER HOME FURNISHINGS STORES
J R'S WHOLESALE	9668 HEINRICH HERTZ DR H	0.86	2	$.4	572200	HOUSEHOLD APPL STRS	44311104	HOUSEHOLD APPLIANCE STORES
SANYO E & E CORP	2001 SANYO AVE	0.43	70	$12.3	572200	HOUSEHOLD APPL STRS	44311122	HOUSEHOLD APPLIANCE STORES
M I TECHNOLOGIES	2215 PASEO DE LAS AMERICAS30	0.94	4	$.6	573100	RADIO,TV & ELCR STR	44311207	RADIO, TV & OTHER ELECTRONICS STORES
MR AUDIO	6940 CAMINO MAQUILADORA	2.44	4	$.6	573100	RADIO,TV & ELCR STR	44311203	RADIO, TV & OTHER ELECTRONICS STORES
ORIENT PRECISION AMERICA INC	9335 AIRWAY RD 106	0.53	10	$1.5	573100	RADIO,TV & ELCR STR	44311207	RADIO, TV & OTHER ELECTRONICS STORES
PANASONIC MATSUSHITA IND CORP	7625 PANASONIC WAY	1.70	3	$.5	573100	RADIO,TV & ELCR STR	44311207	RADIO, TV & OTHER ELECTRONICS STORES
PRESTIGE ELECTRONICS INTL INC	2655 MELKSEE	1.21	4	$.6	573100	RADIO,TV & ELCR STR	44311207	RADIO, TV & OTHER ELECTRONICS STORES
SANYO NORTH AMERICA CORP	2055 SANYO AVE	0.52	110	$16.5	573100	RADIO,TV & ELCR STR	44311207	RADIO, TV & OTHER ELECTRONICS STORES
CAR AUDIO 4 LESS	1532 APPLEGATE ST	4.66	1	$.2	573103	AUTO SOUND EQUIP	44131013	AUTOMOTIVE PARTS & ACCESSORIES STORES
CORONADO ELECTRONICS	8710 DEAD STICK RD	0.61	4	$.6	573103	AUTO SOUND EQUIP	44131013	AUTOMOTIVE PARTS & ACCESSORIES STORES
MT SINGLE SATELLITE INC	2375 PASEO DE LAS AMERICAS	1.08	3	$.5	573104	CONSUMER ELECT EQ NEC	44311218	RADIO, TV & OTHER ELECTRONICS STORES
BOSE	9051 SIEMPRE VIVA RD	0.98	5	$.8	573105	HIGH-FI STEREO EQUIP	44311221	RADIO, TV & OTHER ELECTRONICS STORES
TRIQUEST AUDIO	744 DESIGN CT	4.65	5	$.8	573105	HIGH-FI STEREO EQUIP	44311219	RADIO, TV & OTHER ELECTRONICS STORES
A OFFICE 2000	6955 CAMINO MAQUILADORA A	2.42	7	$2	573400	COMPUTER,SOFTWR STR	44312005	COMPUTER & SOFTWARE STORES
APRO GROUP LLC	2295 PASEO DE LAS AMERICAS2	0.98	3	$.8	573400	COMPUTER,SOFTWR STR	44312001	COMPUTER & SOFTWARE STORES
CNTS INC	8662 PASEO DE LA FUENTE 6	0.90	2	$.6	573400	COMPUTER,SOFTWR STR	44312008	COMPUTER & SOFTWARE STORES
INTERNATIONAL DATA MACHINES	9375 CUSTOMHOUSE PLZ F1	1.10	8	$2.2	573400	COMPUTER,SOFTWR STR	44312005	COMPUTER & SOFTWARE STORES
MACSA TECHNOLGY INC	9830 SIEMPRE VIVA RD 18	1.06	6	$1.7	573400	COMPUTER,SOFTWR STR	44312001	COMPUTER & SOFTWARE STORES
NO FRONTIER COMPUTERS	2520 CACTUS RD	2.58	8	$2.2	573400	COMPUTER,SOFTWR STR	44312001	COMPUTER & SOFTWARE STORES

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SUPER WAREHOUSE	739 DESIGN CT	4.66	8	$2.2	573400	COMPUTER,SOFTWR STR	44312001	COMPUTER & SOFTWARE STORES
SICCNESS NET	8662 AVENIDA DE LA FUENTE 4B	0.90	12	$1.8	573500	REC,PREREC TAPE STR	45122001	PRERECORDED TAPE, CD, & RECORD STORES
ALTA LATIN GRILLE	511 ALTA RD	1.84	17	$.9	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
COTIXAN MEXICAN & SEAFOOD	1392 E PALOMAR ST	4.80	17	$.9	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
IHOP RESTAURANT	2390 ROLL DR	1.03	33	$1.7	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
LANDING STRIP	1424 CONTINENTAL ST	2.19	3	$.2	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
PICK UP STIX	2127 OLYMPIC PKWY 1001	4.42	17	$.9	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
RESTAURANT VALLARTE	2335 ROLL DR 11	0.98	6	$.3	581200	EATING PLACES	72221105	LIMITED-SERVICE RESTAURANTS
CARL'S JR RESTAURANT	2097 OLYMPIC PKWY	4.48	39	$1.3	581240	QUICK SERV BURGER	72221105	LIMITED-SERVICE RESTAURANTS
CARL'S JR RESTAURANT	2365 ROLL DR	1.01	26	$.9	581240	QUICK SERV BURGER	72221105	LIMITED-SERVICE RESTAURANTS
JACK IN THE BOX	2525 OTAY CENTER DR	1.00	25	$1.3	581240	QUICK SERV BURGER	72221105	LIMITED-SERVICE RESTAURANTS
MC DONALD'S HAMBURGERS	1590 CONTINENTAL ST 206	2.32	3	$.2	581240	QUICK SERV BURGER	72221105	LIMITED-SERVICE RESTAURANTS
MC DONALD'S HAMBURGERS	2320 ROLL DR	0.96	22	$1.1	581240	QUICK SERV BURGER	72221105	LIMITED-SERVICE RESTAURANTS
CHICK-FIL-A	2089 OLYMPIC PKWY	4.50	18	$.6	581242	QUICK SERV CHICKEN	72221105	LIMITED-SERVICE RESTAURANTS
CALIFORNIA PIZZA KITCHEN	2015 BIRCH RD	3.84	13	$.4	581243	QUICK SERV PIZZA PARLOR	72211016	FULL-SERVICE RESTAURANTS
OTAY GIANT PIZZA	2496 ROLL DR G	1.13	4	$.2	581243	QUICK SERV PIZZA PARLOR	72221105	LIMITED-SERVICE RESTAURANTS
PIZZA HUT	1480 EASTLAKE PKWY	4.36	45	$1.5	581243	QUICK SERV PIZZA PARLOR	72211016	FULL-SERVICE RESTAURANTS
SEACOAST PIZZA	6051 BUSINESS CENTER CT	3.31	17	$.9	581243	QUICK SERV PIZZA PARLOR	72221105	LIMITED-SERVICE RESTAURANTS
BLIMPIE'S RESTAURANT	1360 EASTLAKE PKWY	4.71	5	$.2	581244	QUICK SERV SANDWICH/DELI	72221105	LIMITED-SERVICE RESTAURANTS
ERIK'S DELI & GRILL	2470 ROLL DR A	1.11	4	$.2	581244	QUICK SERV SANDWICH/DELI	72221105	LIMITED-SERVICE RESTAURANTS
QUIZNOS SUB	8299 OTAY MESA RD	0.98	5	$.2	581244	QUICK SERV SANDWICH/DELI	72221105	LIMITED-SERVICE RESTAURANTS
SUBMARINA SUBS & SANDWICHES	1480 EASTLAKE PKWY 903	4.36	10	$.3	581244	QUICK SERV SANDWICH/DELI	72211020	FULL-SERVICE RESTAURANTS
SUBWAY SANDWICH SHOP	1605 CACTUS RD	2.35	14	$.7	581244	QUICK SERV SANDWICH/DELI	72221105	LIMITED-SERVICE RESTAURANTS
SUBWAY SANDWICH SHOP	2335 ROLL DR 1	0.98	9	$.5	581244	QUICK SERV SANDWICH/DELI	72221105	LIMITED-SERVICE RESTAURANTS
RUBIO'S FRESH MEXICAN GRILL	1480 EASTLAKE PKWY 901	4.36	30	$1	581246	QUICK SERV MEXICAN	72221105	LIMITED-SERVICE RESTAURANTS
STAR DONUTS & YOGURT	2445 OTAY CENTER DR	0.88	7	$.2	581248	QUICK SERV DONUT	72221310	SNACK & NONALCOHOLIC BEVERAGE BARS
STARDUST DONUT SHOP	2445 OTAY CENTER DR	0.88	7	$.2	581248	QUICK SERV DONUT	72221310	SNACK & NONALCOHOLIC BEVERAGE BARS
DON LUCIO'S TACO SHOP	2470 ROLL DR B	1.11	2	$.1	581251	MEXICAN MENU	72221105	LIMITED-SERVICE RESTAURANTS
LOS PRIMOS MEXICAN FOOD	1605 CACTUS RD	2.35	5	$.3	581251	MEXICAN MENU	72221105	LIMITED-SERVICE RESTAURANTS
SU CASA	480 ALTA RD	1.87	3	$.2	581251	MEXICAN MENU	72221105	LIMITED-SERVICE RESTAURANTS
SUPER BRONCO TACO SHOP	2455 OTAY CENTER DR 112	0.89	3	$.2	581251	MEXICAN MENU	72221105	LIMITED-SERVICE RESTAURANTS
TASTE OF ITALY	1730 E PALOMAR ST	4.95	17	$.9	581252	ITALIAN MENU	72221105	LIMITED-SERVICE RESTAURANTS
GOLDEN GATE CHINESE FOOD TO GO	2335 ROLL DR 2	0.98	2	$.1	581253	ORIENTAL MENU	72221105	LIMITED-SERVICE RESTAURANTS
PANDA EXPRESS	1820 MAIN CT	4.47	34	$1.7	581253	ORIENTAL MENU	72221105	LIMITED-SERVICE RESTAURANTS
QUIK WOK	1392 E PALOMAR ST	4.80	8	$.4	581253	ORIENTAL MENU	72221105	LIMITED-SERVICE RESTAURANTS
ADY'S CAFE	2455 OTAY CENTER DR	0.89	17	$.9	581260	CAFE/DINER/FAMILY REST	72221105	LIMITED-SERVICE RESTAURANTS

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DONOVAN'S CAFE	480 ALTA RD	1.87	3	$.2	581260	CAFE/DINER/FAMILY REST	72221202	CAFETERIAS
PARK CAFE	1392 E PALOMAR ST	4.80	5	$.3	581260	CAFE/DINER/FAMILY REST	72221105	LIMITED-SERVICE RESTAURANTS
POINTE CAFE & GRILL	9335 AIRWAY RD	0.53	17	$.9	581260	CAFE/DINER/FAMILY REST	72221105	LIMITED-SERVICE RESTAURANTS
VEGA CAFE	2335 ROLL DR	0.98	2	$.1	581260	CAFE/DINER/FAMILY REST	72221105	LIMITED-SERVICE RESTAURANTS
SOUPLANTATION	1810 MAIN CT	4.47	17	$.9	581261	CAFETERIA/SOUP & SALAD	72221105	LIMITED-SERVICE RESTAURANTS
PUMP IT UP	751 DESIGN CT A	4.65	10	$.5	581266	CATERER/CONTRACT SERVICE	72231001	FOOD SVC CONTRS
EXPRESSO CALIFORNIA	1725 SIERRA VERDE RD	4.73	1	$.1	581267	COFFEE SHOP	72221305	SNACK & NONALCOHOLIC BEVERAGE BARS
STARBUCKS	2015 BIRCH RD	3.84	5	$.2	581267	COFFEE SHOP	72221305	SNACK & NONALCOHOLIC BEVERAGE BARS
STARBUCKS	2127 OLYMPIC PKWY 1010	4.42	15	$.6	581267	COFFEE SHOP	72221305	SNACK & NONALCOHOLIC BEVERAGE BARS
STARBUCKS	8299 OTAY MESA RD	0.98	5	$.2	581267	COFFEE SHOP	72221305	SNACK & NONALCOHOLIC BEVERAGE BARS
WABASH COFFEE HOUSE	2493 ROLL DR	1.14	5	$.2	581267	COFFEE SHOP	72221305	SNACK & NONALCOHOLIC BEVERAGE BARS
OTAY BREWING CO	2493 ROLL DR	1.14	15	$.6	581300	DRINKING PLACES	72241003	DRINKING PLACES, ALCOHOLIC BEVERAGES
WALGREEN DRUG STORES	1430 EASTLAKE PKWY	4.48	15	$1.9	591200	DRUG,PROPRIETARY STR	44611009	PHARMACIES & DRUG STORES
GASTELUM ENTERPRISES	9051 SIEMPRE VIVA RD J	0.98	1	$.1	593200	USED MERCHANDISE	45331014	USED MERCHANDISE STORES
METRO AUTO & TRUCK RECYCLING	1030 OTAY VALLEY RD	3.09	3	$.2	593200	USED MERCHANDISE	45331021	USED MERCHANDISE STORES
MONTE DE PIEDAD	2498 ROLL DR	1.14	2	$.1	593200	USED MERCHANDISE	52229813	ALL OTHER NONDEPOSITORY CREDIT
ST VINCENT DE PAUL SOCIETY	1595 RADAR RD	0.72	60	$4.5	593200	USED MERCHANDISE	62419012	OTHER INDIVIDUAL & FAMILY SVCS
ANTIQUE CASTINGS	2215 PASEO DE LAS AMERICAS	0.94	1	$.1	593202	ANTIQUES	45331001	USED MERCHANDISE STORES
AMFM	1392 E PALOMAR ST	4.80	4	$.2	594100	SPORTING GDS & BCY	45111044	SPORTING GOODS STORES
OCEANICA INDUSTRIAL	10055 MARCONI DR	1.39	1	$.1	594100	SPORTING GDS & BCY	45111014	SPORTING GOODS STORES
REI	2015 BIRCH RD	3.84	4	$.2	594100	SPORTING GDS & BCY	45111055	SPORTING GOODS STORES
BARNES & NOBLE BOOKSELLERS	2015 BIRCH RD	3.84	4	$.2	594200	BOOK STORES	45121105	BOOK STORES
SPANQUEST BOOK GROUP INC	6960 CAMINO MAQUILADORA K	2.41	1	$.1	594200	BOOK STORES	45121105	BOOK STORES
A OFFICE 2000	6965 CAMINO MAQUILADORA	2.41	10	$1.8	594301	OFFICE FORMS,SUPPS	45321007	OFFICE SUPPLIES & STATIONERY STORES
ALL PRODUCTS	744 DESIGN CT	4.65	1	$.2	594301	OFFICE FORMS,SUPPS	45321007	OFFICE SUPPLIES & STATIONERY STORES
BETTER OFFICE SUPPLIES SVC	750 DESIGN CT 104	4.64	2	$.4	594301	OFFICE FORMS,SUPPS	45321007	OFFICE SUPPLIES & STATIONERY STORES
RELIABLE OFFICE SUPPLIES	8580 AVENIDA DE LA FUENTE	0.95	42	$7.1	594301	OFFICE FORMS,SUPPS	42413006	INDUSTRIAL PAPER MERCHANT WHOLS
GINZA INTERNATIONAL	9835 MARCONI DR A	1.18	6	$.3	594401	CLOCK,WATCH STORES	44831020	JEWELRY STORES
IMPORT WATCHES INC	1422 RADAR RD	0.77	6	$.3	594401	CLOCK,WATCH STORES	44831020	JEWELRY STORES
GAMESTOP	2127 OLYMPIC PKWY	4.42	8	$.5	594500	HOBBY,TOY, GAME STR	44311235	RADIO, TV & OTHER ELECTRONICS STORES
MATTEL TOYS	8851 KERNS ST	1.15	4	$.3	594500	HOBBY,TOY, GAME STR	45112035	HOBBY, TOY, & GAME STORES
BUILD-A-BEAR WORKSHOP	2015 BIRCH RD	3.84	3	$.2	594700	GIFT & NOV SHOPS	45112035	HOBBY, TOY, & GAME STORES
CREATIVE CO	1255 SEA REEF DR	4.48	1	$.1	594700	GIFT & NOV SHOPS	45322018	GIFT, NOVELTY, & SOUVENIR STORES
HIPHOPWAX.COM	1401 CAMINITO CAPISTRANO 2	4.72	1	$.1	594700	GIFT & NOV SHOPS	45322005	GIFT, NOVELTY, & SOUVENIR STORES
T & S GIFT STORE	2493 ROLL DR	1.14	3	$.2	594702	GIFT SHOP	45322013	GIFT, NOVELTY, & SOUVENIR STORES
THANK YOU PLANTS	9465 CUSTOMHOUSE PLZ G	1.15	5	$.3	594702	GIFT SHOP	45322013	GIFT, NOVELTY, & SOUVENIR STORES

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JOLLY JUMPERS	1325 CAMINITO CAPISTRANO	4.86	5	$.3	594704	PARTY SUPPLIES	45322026	GIFT, NOVELTY, & SOUVENIR STORES
JUMP PLACE	1870 MAIN CT	4.47	5	$.3	594704	PARTY SUPPLIES	45322026	GIFT, NOVELTY, & SOUVENIR STORES
K & J PARTY	4885 SEA CORAL DR	4.64	5	$.3	594704	PARTY SUPPLIES	45322026	GIFT, NOVELTY, & SOUVENIR STORES
JULIAN'S TEXTILES	8580 AVENIDA DE LA FUENTE	0.95	1	$.1	594901	FAB STORES PIECE GDS	45113007	SEWING, NEEDLEWORK, & PIECE GOODS STORES
NET 2 AUCTION	1510 CORPORATE CENTER DR	3.37	11	$2.2	596100	CATALOG,MAIL-ORDER	45411101	ELECTRONIC SHOPPING
AFFORDABLE EVENTS & PARTY	1402 WEAVERVILLE ST	4.71	11	$1.7	596300	DIRECT SELLING ESTB	45439017	OTHER DIRECT SELLING ESTABLISHMENTS
CANTEEN CORRECTIONAL FOOD SVC	446 ALTA RD 5400	1.81	10	$1.5	596300	DIRECT SELLING ESTB	45439007	OTHER DIRECT SELLING ESTABLISHMENTS
FLEET FOOD SVC EQUIPMENT	750 DESIGN CT	4.64	11	$1.7	596300	DIRECT SELLING ESTB	45439007	OTHER DIRECT SELLING ESTABLISHMENTS
PIANCONE GROUP INTL INC	2355 PASEO DE LAS AMERICAS	1.06	1	$.2	596300	DIRECT SELLING ESTB	45439007	OTHER DIRECT SELLING ESTABLISHMENTS
NATIONAL VISION	1360 EASTLAKE PKWY	4.71	1	$.1	599500	OPTICAL GOODS STRS	44613003	OPTICAL GOODS STORES
SOLSTICE SUNGLASSS BOUTIQUE	2015 BIRCH RD	3.84	4	$.2	599500	OPTICAL GOODS STRS	44613005	OPTICAL GOODS STORES
WAL-MART VISION CTR	1360 EASTLAKE PKWY	4.71	4	$.2	599500	OPTICAL GOODS STRS	44613003	OPTICAL GOODS STORES
BMP DISTRIBUTING	10055 MARCONI DR	1.39	4	$.7	599900	MISC RETAIL STORES	44311204	RADIO, TV & OTHER ELECTRONICS STORES
CELL & PAGE INC	8299 OTAY MESA RD	0.98	4	$.7	599900	MISC RETAIL STORES	44311204	RADIO, TV & OTHER ELECTRONICS STORES
H & C DISTRIBUTING	2215 PASEO DE LAS AMERICAS	0.94	4	$.7	599900	MISC RETAIL STORES	45399847	STORE RETAILERS NOT SPECIFIED ELSEWHERE
ITW SPACE BAG	7520 AIRWAY RD	1.88	100	$17.5	599900	MISC RETAIL STORES	45399856	STORE RETAILERS NOT SPECIFIED ELSEWHERE
LA PULGA INC OTAY MEZA	2495 ROLL DR	1.14	4	$.7	599900	MISC RETAIL STORES	44311204	RADIO, TV & OTHER ELECTRONICS STORES
PLASTIC BAGS INDUSTRY	8580 AVENIDA DE LA FUENTE	0.95	7	$1.2	599900	MISC RETAIL STORES	45399856	STORE RETAILERS NOT SPECIFIED ELSEWHERE
UETA INC	2470 ROLL DR G	1.11	9	$1.6	599900	MISC RETAIL STORES	45399878	STORE RETAILERS NOT SPECIFIED ELSEWHERE
UETA-WAREHOUSE	730 DESIGN CT 403	4.66	10	$1.8	599900	MISC RETAIL STORES	45399878	STORE RETAILERS NOT SPECIFIED ELSEWHERE
AMERICAN FRAME MFG	7560 BRISTOW CT	2.07	3	$.5	599902	ART,ARCHITECT SUPPS	45399852	STORE RETAILERS NOT SPECIFIED ELSEWHERE
AUTOPIA AUTO SALES	1625 OTAY MESA CENTER RD	1.09	3	$.5	599909	MED APPARATUS,SUPPS	45399807	STORE RETAILERS NOT SPECIFIED ELSEWHERE
CASCO GROUP INC	9993 MARCONI DR	1.35	6	$1.1	599911	PETS,PET SUPPS	45391001	PET & PET SUPPLIES STORES
PETSMART	1840 MAIN CT	4.47	4	$.7	599911	PETS,PET SUPPS	45391004	PET & PET SUPPLIES STORES
AGROLAND INDUSTRIAL	9865B MARCONI DR	1.21	4	$.7	599921	WATER PURIFICATION EQ	56149907	ALL OTHER BUSINESS SUPPORT SVCS
ARCE PRODUCTION DJ SVC	780 BRIARPOINT PL	4.52	1	$.2	599925	WEDDING SUPP/SERV	45399870	STORE RETAILERS NOT SPECIFIED ELSEWHERE

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Addendum to Real Estate Market Analysis for Otay Mesa Community Plan, ERA

ERA

Economics Research Associates

Addendum Analysis

Addendum to Real Estate Market Analysis
Otay Mesa Community Plan Area
Otay Mesa, CA

Submitted to

City of San Diego

Submitted by

Economics Research Associates

December 15, 2006

ERA Project No. 15640

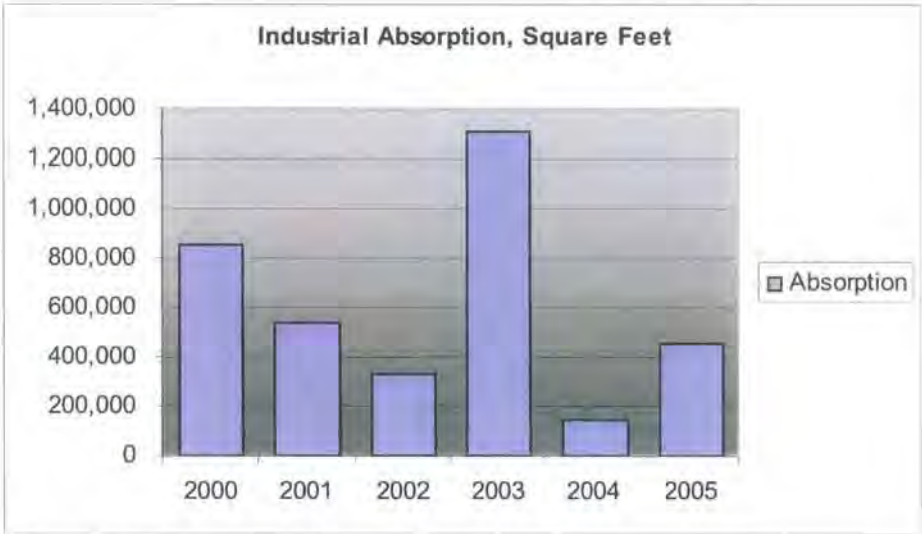
ERA
Economics Research Associates

Addendum

In the initial Otay Mesa Market Analysis (dated Nov. 7, 2005), ERA estimated the demand for additional developed gross acres between 2000 and 2030. ERA was requested to update these projections to reflect demand between 2006 and 2030.

While office and retail space absorption has been minimal in the Otay Mesa CPA, there has been approximately 3.6 million square feet of industrial absorption in Otay Mesa between 2000 and 2006. ERA has revised the industrial demand forecasts to reflect an update in projected countywide employment growth, as well as to reflect the industrial absorption between 2000 and 2006. With little new absorption since 2000, the office and retail demand projections have not been revised.

The table below displays the absorption of industrial space in the Otay Mesa area between 2000 and 2006.



Source: CoStar, Economics Research Associates

A total of more than 3.6 million square feet were absorbed between 2000 and 2006. Assuming a FAR of 0.4 and net-to-gross acreage ratio of 85% this equates to 245 gross industrial acres. Approximately 41 acres were absorbed between 2004 and 2006.

Industrial Space

Since the time of ERA's initial study, SANDAG has published updated employment growth forecasts for 2004 through 2030. Similar to the initial Market Analysis, ERA utilizes the new SANDAG employment growth forecasts to estimate the increase in supportable industrial space supply between 2004 and 2030. These figures are then adjusted by the actual industrial space absorption between 2004 and 2006 to calculate the expected industrial space demand between 2006 and 2030.

It should be noted that the total industrial employment figures using the updated forecasts are not comparable to the previous total industrial figures. SANDAG's 2006 employment forecasts were developed using the more precise NAICS industry classifications, as opposed to the SIC industry classifications used in the previous 2003 forecasts. The NAICS categories have a lower employment base in the relevant industry categories, but higher growth.

Table A-1 presents projected growth for industrial space (including industrial, distribution, and R&D space) over time countywide, based on projected growth in those sectors that utilize industrial space and applying an average employment density factor per worker. With the revised employment projections, the San Diego region is projected to support an increase of 58 million square feet of industrial space between 2004 to 2030, compared to a base supply of approximately 178 million in 2004. At an average floor-area ratio of 0.40 and an 85% net-to-gross acreage factor, the 58 million square feet translates into demand for approximately 4,200 acres countywide from 2004 to 2030.

Table A-2 presents projected demand for industrial space in the Otay Mesa Community Plan area under the following three scenarios:

Low Scenario – Assumes that industrial growth rates in Mexico rebound from recent declines (though not necessarily at historical rates) and that Otay Mesa's market position diversifies and appeals to general industrial users that are priced out of the region's central industrial areas, such as Kearny Mesa. While it assumed that Otay Mesa's recent regional market share is not maintained as other industrial sectors in the region recover and generate demand in the more central competitive areas, Otay Mesa's market share overall during the period is still above historical levels.

Moderate Scenario – Assumes that industrial growth rates in Mexico rebound more strongly, that Otay Mesa's market position diversifies and strongly appeals to general industrial users (especially as improvements to SR-125 and SR-905 improve accessibility), and that Otay Mesa begins to attract a share of the region's growing technology sectors. Again, while it assumed that Otay Mesa's recent regionally market share is not maintained as other industrial sectors that generate demand elsewhere in the region recover, Otay Mesa's market share overall during the period is still above historical levels and growing at a more aggressive rate than under the Low Scenario. Otay Mesa's market share, however, is still below its share of regional land inventory due to market preferences for other sub-markets that still have significant supply and the intensification of industrial land use in the highly preferred central regional sub-markets.

High Scenario – This addresses a scenario whereby the high regional market share that Otay Mesa experienced during the last few years will be sustained and that Otay Mesa will aggressively capture more than its share of regional land supply due to: continued strong demand in warehousing/distribution; relocated manufacturing; infrastructure improvements and additional funding sources for infrastructure improvements; competitive land and occupancy costs; loss of industrial land in central locations to other uses; and limitations in industrial land intensification in the region.

The Otay Mesa capture rate of countywide demand and distribution of local demand between East Otay Mesa and the Otay Mesa Community Plan Area (CPA) for each scenario are expected

to remain the same as originally forecasted. The same floor-area ratio, vacancy, and net-to-gross acre factors are also utilized. With the updated countywide demand, demand for new Otay Mesa CPA industrial space between 2004 and 2030 ranges from 802 acres in the Low Scenario to 1,310 acres in the High Scenario. After deducting the 40.5 acres of industrial space absorbed between 2004 and 2006, demand for industrial land in Otay Mesa between 2006 and 2030 is forecasted at 762 in the Low Scenario, 958 in the Moderate Scenario and 1,269 in the High Scenario.

Conclusions

Estimated demand for additional developed gross acres has been revised to reflect recent absorption and updated employment growth projections. Between 2006 and 2030, it is estimated that Otay Mesa can support the following increases in the amount of developed and occupied commercial and industrial land by 2030, beyond what was built in 2005:

Estimated Demand for Additional Developed Gross Acres Within the Otay Mesa CPA 2006-2030

	Low	Moderate	High
Industrial	762	958	1269
Office	20	25	29
Retail	87-109	87-109	87-109

Source: Economics Research Associates

ERA

Economics Research Associates

Table A-1

REVISED SAN DIEGO COUNTY INDUSTRIAL SPACE DEMAND PROJECTIONS - 2004-2030

Employment (NAICS Categories)	Assumed % Using Industrial	2004	2010	CAGR 2004 -2010	2020	CAGR 2010 -2020	2030	CAGR 2020 -2030
Manufacturing	97%	100,977	101,839	0.1%	105,341	0.6%	103,130	-0.4%
Construction	20%	17,480	18,709	1.1%	20,823	1.8%	23,038	1.7%
Transportation and Warehousing (1)	48%	13,584	15,929	2.7%	18,631	2.6%	20,332	1.5%
Wholesale Trade	100%	41,900	46,245	1.7%	52,350	2.1%	56,765	1.4%
Professional and Business Services (2)	18.5%	37,944	41,892	1.7%	48,896	2.6%	57,159	2.6%
Total		211,884	224,614		246,041		260,424	
Increase in Industrial Employment by Period			12,730		21,427		14,383	
Estimated Occupied Industrial Space/Employee (3)			1,314		1,192		1,091	
Total Increase in Industrial Space Demand by Period from Employment Growth			16,731,935		25,551,446		15,697,755	
Total Supportable Space Allowing for a Structural Vacancy of	7%		17,991,328		27,474,673		16,879,307	
Cumulative Increase in Supportable Industrial Space supply 2004-2030			17,991,328		45,466,001		62,345,308	

(1) Based on 2004 60% transportation and warehousing employment and 35% utilities employment.
(2) Estimate of scientific research and development percentage of industry category.
(3) Changing weighted-average factors based on projected changes in the employment growth by sector and each sectors assumed space/employment ratio.

Source: SANDAG, Economics Research Associates

ERA
Economics Research Associates

Table A-2
REVISED PROJECTED DEMAND FOR INDUSTRIAL SPACE IN OTAY MESA 2004-2030

	2004	2010	2020	2030
Countywide				
Estimated Increase in Industrial Space During Previous Period		17,991,328	27,474,673	16,879,307
Otay Mesa Capture Rate Scenarios				
Low Scenario		40.0%	20.0%	22.5%
Moderate Scenario		50.0%	25.0%	27.5%
High Scenario		50.0%	40.0%	45.0%
Otay Mesa New Space Demand for Period at 7% Structural Vacancy				
Low Scenario		7,196,531	5,494,935	3,797,844
Moderate Scenario		8,995,664	6,868,668	4,641,809
High Scenario		8,995,664	10,989,869	7,595,688
Otay Mesa Cumulative New Space Demand at 7% Structural Vacancy				
Low Scenario		7,196,531	12,691,466	16,489,310
Moderate Scenario		8,995,664	15,864,332	20,506,142
High Scenario		8,995,664	19,985,533	27,581,221
Estimated Otay Mesa Demand Within City of San Diego				
Assumed % Within City of San Diego		95%	85%	65%
Low Scenario		6,836,705	4,670,694	2,468,599
Moderate Scenario		8,545,881	5,838,368	3,017,176
High Scenario		8,545,881	9,341,389	4,937,197
Otay Mesa Community Plan Cumulative New Space at 7% Structural Vacancy				
Low Scenario		6,836,705	11,507,399	13,975,998
Moderate Scenario		8,545,881	14,384,249	17,401,425
High Scenario		8,545,881	17,887,270	22,824,467
Cumulative Net New Acreage Demanded Based on Average FAR				
Assumed Average FAR		0.40	0.45	0.50
Low Scenario		392	587	642
Moderate Scenario		490	734	799
High Scenario		490	913	1,048
Annual Gross New Acreage (net to gross ratio of 80%)				
Low Scenario		490	734	802
Moderate Scenario		613	917	999
High Scenario		613	1,141	1,310
Cumulative Gross New Acreage Less 2004-2006 Developed Acreage				
Low Scenario		**450**	**693**	**762**
Moderate Scenario		**573**	**877**	**958**
High Scenario		**573**	**1,100**	**1,269**

Source: Economics Research Associates

ERA

Economics Research Associates

GENERAL LIMITING CONDITIONS

This study is based on estimates, general knowledge of the industry and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives or any other data source used in preparing or presenting this study. Data research for this Addendum was conducted in October of 2006 with only review of industrial land supply data and employment growth projections. Economics Research Associates has not undertaken any other update of its research effort. No warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved. This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client without first obtaining the prior written consent of Economics Research Associates. This study may not be used for purposes other than that for which it is prepared. This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions, and considerations.

This report was prepared at the request of the City of San Diego as part of the Otay Mesa Community Plan Update. It was prepared by Economics Research Associates and funded by the Otay Mesa Planning Coalition. The information, along with public and City staff comments, may be used by the Planning Department to develop land use plan alternatives.

Projected Demand for Industrial Space in Otay Mesa

High Scenario Only (1)

Based on Table A-2 in ERA study, using High Scenario

Square Feet of Industrial Space					
	2004 - 2010		2020		TOTAL
Total	100%	**8,995,664**	100%	**10,989,869**	**19,985,533**
FAR Assumption:		*0.4*		*0.45*	

Net Acreage of Industrial Land					
	2004 - 2010		2011 - 2020		TOTAL
Total	100%	**516**	100%	**561**	**1,077**
City	95%	490	85%	477	967
County	5%	26	15%	84	110
Gross Acreage of Industrial Land					
	2004 - 2010		2020		TOTAL
Total	100%	**645**	100%	**701**	**1,346**
City	95%	613	85%	596	1,209
County	5%	32	15%	105	137

Adjusted Gross Acreage of Industrial Land (2)					
	2006 - 2010		2020		TOTAL
ERA MARKETING STUDY ASSUMPTIONS					
Total	100%	**604**		**701**	**1,305**
City	95%	574	85%	596	1,170
County	5%	**30**	15%	**105**	**135**
GEOGRAPHIC SPLIT ASSUMPTION (3)					
Total	100%	**604**	100%	**701**	**1,305**
City	70%	423	70%	491	914
County	30%	181	30%	210	392

Notes:

1: ERA Real Estate Market Analysis included three scenarios: Low, Medium and High forecast levels of industrial development in Otay Mesa.

2: Actual development, 2004 - 2006, was subtracted from previous 2010 forecast in an Addendum dated 12/15/2006

3: Not part of ERA analysis; these numbers represent an alternative method for development split between City and County.

EAST OTAY MESA:
Cumulative Traffic Analysis

	Project Name	Project Number	Acres	Explanation for Traffic Grouping	Traffic Counts	
	PROJECTS /W NO TRAFFIC COUNT				**ADT**	**0%**
1	**Otay Hills Mining** (510 total acres, /w 210 acres developed)	P 04-004 RP 04-001 (04-0032714)	210	Specialized use with Site Plan. However, use is speculative. Return to list iwhen they submit a revised project.	2,189	0
2	**RTX Truck Parking and Storage**	S08-022 (previously S07-002) (08-0099087)	18	Project no longer active (idle status)	459	0
		Subtotal (Acreage)	**228**	**Subtotal (ADT)**	**2,648**	**0**
	PROJECTS /W REDUCED TRAFFIC COUNT (1)				**ADT**	**13.00%**
1	**International Industrial Park** (David Wick)	TM 5549 (07-0074561)	170.6	Industrial subdivision	13,326	1,732
2	**OMC Properties 4-Lot Split**	TPM 21140 (08-0102894)	49.8	Industrial subdivision	9,380	1,219
3	**Otay Business Park** aka Paragon	TM 5505 (06-0064186)	161.6	Industrial subdivision	33,486	4,353
4	**Otay Crossings Commerce Park** (Judd/Bragg)	TM 5405 SPA 04-006 (05-0060344)	311.4	Industrial subdivision	21,279	2,766
5	**Sunroad / Otay Tech Center** (Story)	SPA 07-003 TM 5538 (07-0079920)	253.1	Industrial subdivision (Note - Commercial overlay irrelevant; would require subsequent subdivision map)	30,566	3,974
6	**Piper Otay Park**	TM 5527 (06-0073639)	25.0	Industrial subdivision	1,612	210
7	**South County Commerce Center** (Dillard)	REVISED TM 5394R (08-0091020)	80.0	APPROVED - Industrial subdivision	7,159	931
8	**Saeed Revised Map**	REVISED TM 5304R (07-0090054)	16.1	APPROVED - Industrial subdivision. Fedex occupies 20 acres of this site.	2,602	338
		Subtotal (Acreage)	**1067.6**	**Subtotal (ADT)**	**119,410**	**15,523**

EAST OTAY MESA:
Cumulative Traffic Analysis

	Project Name	Project Number	Acres	Explanation for Traffic Grouping	Traffic Counts	
	PROJECTS /w 100% TRAFFIC COUNT				ADT	100%
1	**California Crossings**	P06-102 TPM 21046 (06-0073729)	29.6	Commercial use with Site Plan	22,785	22,785
2	**CCA San Diego Correctional Facility** (Budea Johns et al)	SPA 06-005 P 06-074 (06-0065889)	40	Specialized use with Site Plan	2,323	2,323
	CCA San Diego Correctional Facility	REVISED	37	Specialized use with Site Plan	See above	See above
3	**COPART County Sales Yard Time Extension** (Road One-Leasee)	P 88-020W1 (06-0058981)	38.2	Existing interim use	846	846
4	**FEDEX** Site Plan	S08-018	18.9	Industrial use with Site Plan; processing building permits	1,598	1,598
5	**Insurance Auto Auctions** (Fong-Owner)	P00-012TE (08-0097555)	38.2	Existing interim use	354	354
6	**Salvage Yards/ National Enterprises Recycling** (Wick)	P 98-001 (05-0053690)	162	APPROVED - Industrial use with Site Plan	2,408	2,408
	Salvage Yards/ National Enterprises Recycling (Wick)	REVISED	TBD	Industrial use with Site Plan	See above	See above
7	**Sunroad Interim Uses** Sunroad Centre I Harvest Ranch Nursery	P09-009 P09-005	138	Interim use with Site Plan	14	14
8	**Travel Plaza** (David Wick)	P 98-024W1 TPM 20414 (04-15749) Associated: L14632	83.6	Industrial use with Site Plan	5,116	5,116
9	**Vulcan**	S 07-038 (07-0084498)	12.7	Industrial use with Site Plan	1,078	1,078
		Subtotal (Acreage)	**598.2**	**Subtotal (ADT)**	**36,522**	**36,522**
	TOTALS:	*Acreage:*	**1,894**	*Traffic (ADT):*	**158,580**	**52,045**

(1) Reduced count is percentage of total industrial acreage forecast for East Otay Mesa between 2006 and 2020, or 135 gross acres, divided by total acreage in group of industrial subdivisions. See attached table for ERA market forecast.

APPENDIX D

- TIF Calculation Based on the April 2008 TIF Ordinance Update
- Excerpts from the County of San Diego TIF Program Update (January 2008)
- Correspondences with County Staff (re: Additional TIF Facilities)
- Current TIF Fees

TIF Calculation Based on the April 2008 TIF Ordinance Update

LAND DEVELOPMENT

SUBJECT: TRANSPORTATION IMPACT FEE (TIF) CALCULATION BASED ON THE APRIL 2008 TIF ORDINANCE UPDATE

PURPOSE:

To define procedures for estimating the TIF for a proposed project in accordance with the TIF ordinance update approved by the Board of Supervisors on February 27, 2008 and effective on April 28, 2008.

INSTRUCTIONS:

1. Calculating TIF for Residential Projects

a. Single Family Detached Units: Refer to the attached TIF rate table "COST PER SINGLE FAMILY DETACHED (SFD) RESIDENTIAL UNIT". Locate the appropriate TIF AREA. Select the total-per-unit cost, and multiply the unit cost by the number of units being constructed.

b. Multi-Family Attached Units: For multi-family homes including duplexes, condominiums, apartments, hotel rooms, timeshare units, and accessory apartments (granny flats); refer to the attached TIF rate table "COST PER MULTI-FAMILY ATTACHED HOME, CONDOMINIUM, APARTMENT, LODGING INCLUDING HOTEL ROOMS AND TIMESHARE UNITS, AND ACCESSORY APARTMENT (GRANNY FLATS)". Locate the appropriate TIF AREA. Select the total-per-Unit cost and multiply the unit cost by the number of units considered. For hotel rooms, each hotel room or suite is an individual unit.

c. Mobile Homes Agriculture Labor Residential and Retirement Communities: Refer to the attached TIF rate table "COST PER MOBILE HOME, AGRICULTURE LABOR RESIDENTIAL (NON-PRIMARY RESIDENCE), AND RETIREMENT COMMUNITY". Locate the appropriate TIF AREA. Select the total-per-unit cost and multiply the unit cost by the number of units considered.

d. Congregate Care Facilities (Nursing Homes): Refer to the attached TIF rate table "COST PER CONGREGATE CARE FACILITY". Locate the appropriate TIF AREA. Select the total-per-unit cost and multiply the unit cost by the number of units considered. Each individual room or suite is considered an individual unit.

e. Subtract allowable credits and reductions as shown in paragraph 3 below.

f. The total TIF for all units minus allowable credits and reductions is the TIF amount for the residential project.

2. Calculating TIF for Commercial and Industrial Projects

To assist staff with identifying the correct category for the wide variety of commercial, industrial, and office projects, attachment (A) will serve as a guide. To determine which TIF category will apply to a building, the TIF will be determined based on the building's predominate use. Revisions to attachment (A) may be made with approval of the Assistant Director of Public Works.

a. General Commercial Projects: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR GENERAL COMMERCIAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

b. Furniture Stores: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR FURNITURE STORE". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

c. General Industrial: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR GENERAL INDUSTRIAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

d. Storage, Warehousing, Wineries and Non-Residential Agriculture: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR STORAGE, WAREHOUSING, WINERIES, NON-RESIDENTIAL AGRICULTURE". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

e. Offices: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR OFFICES". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

f. Schools and Government Institutional: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR SCHOOLS AND GOVERNMENT/INSTITUTIONAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

g. Select Industrial Uses: The Select Industrial Uses category is unique and is unlike the categories above. The TIF for this category must be calculated by the DPW Land Development Project Manager. For select industrial uses such as quarries, landfills, concrete and asphalt batch plants, or mining operations (this list is not all-inclusive; other select uses may need to use this TIF category), the applicant must perform a traffic study to determine their Average Daily Trips (ADT). Refer to the attached trip rate table "COST PER TRIP FOR SELECT INDUSTRIAL USES". Locate the appropriate TIF AREA and select the total-cost-per-trip. Multiply the total ADT from the traffic study by the applicable total-cost-per-trip to determine the TIF.

h. There are typically no credits available for commercial, industrial, and office projects. The only exceptions are:

   i. If existing structures are demolished as part of a project, then credit for the demolished structures may be granted. For example, if a single family detached home is demolished to

construct a commercial facility, compute the applicable TIF rate for the demolished home, and then subtract the single family home TIF from the commercial TIF. The remaining amount is the TIF due for the commercial project.

ii. If a project has previously mitigated cumulative impacts as shown in paragraph 3 below, then credit can be allowed for previously mitigated impacts.

i. In the event a commercial, industrial, or office project is eligible for credits, then the total TIF for the project minus allowable credits and reductions is the TIF amount for the project.

3. Credits and Reductions

a. Direct Impact Mitigation

i. Direct Impact Mitigation credits are only available for residential projects. To determine the credit, identify if the project has direct impact mitigation on a TIF facility (i.e. see if the project must construct road improvements on a road identified as a TIF facility in the TIF reports). See http://www.sdcounty.ca.gov/dpw/land/tif.html for a link to maps of the TIF facilities.

ii. Due to the complexity involved in determining direct impact mitigation credits, these credits must be verified by a DPW Land Development Project Manager.

iii. If a project makes traffic-enhancing improvements to a TIF facility, determine the estimated allowable costs for the direct impact traffic-enhancing roadway improvements. The list of allowable costs is provided in Section 77.208 of the TIF ordinance in the paragraph dealing with Direct Impact Mitigation. Once the allowable costs are determined, these costs may be used as a credit to reduce the project's TIF. If the credits exceed the project's total TIF obligation, then the applicant is entitled to enter into a reimbursement agreement for the remaining credit amount. If the applicant chooses to enter into a reimbursement agreement, then he must follow the requirements of Section 77.210.

iv. If a project does not have direct impact improvements on a TIF facility, in some rare circumstances, they may be entitled to TIF credit for direct impact improvements on alternative TIF facilities as shown below.

b. Alternative TIF Facility

i. For residential developments that do not have direct improvements on a TIF facility, if the applicant can demonstrate in a traffic study approved by the County that their direct impact improvements on a non-TIF facility will reduce trips and increase capacity on TIF facilities, then the applicant may receive a TIF credit for these allowable direct improvements on a non-TIF facility.

ii. Due to the complexity involved in determining alternative TIF facility credits, these credits must be verified by a DPW Land Development Project Manager.

iii. If the DPW Land Development Project Manager determines a project has allowable costs on an alternative TIF facility, then the credits are computed using the same procedures used for direct impact mitigation credits as shown in paragraph 2a above.

c. Previously Mitigated Cumulative Impacts

i. Credit for previously mitigated cumulative impact credit may be applied to any project type such as residential, commercial, industrial, or office projects. To be eligible for credit, the project must have completed a cumulative traffic study, must have already clearly identified the cumulative traffic impacts, and must have fully mitigated the identified impacts.

ii. Due to the complexity involved in determining previously mitigated cumulative impact credits, these credits must be verified by a DPW Land Development Project Manager.

d. Opt Out

i. In lieu of paying the TIF, an applicant may choose to prepare a cumulative traffic study in accordance with CEQA guidelines, which no longer recognize "de minimus" findings, identify the necessary mitigation for the project's cumulative traffic impacts, and construct appropriate mitigation.

ii. Due to the complexity involved in the opt out process, this procedure must be managed by a DPW Land Development Project Manager.

e. Credit for Demolished Facilities

i. When a project demolishes facilities as part of a new construction project, the demolished facilities will be handled the same way tenant improvements and minor expansions are handled in the TIF ordinance Section 77.215 Applicability. The demolished facilities square footage will be considered the same as space for a change of occupancy. Additionally, the first 1,000 square feet of expansion above the demolished square footage will be exempt from TIF.

ii. As an example of the above, if a new 25,000 square foot (SF) General Industrial Facility demolishes 10,000 square feet of General Commercial space, then the TIF for the General Industrial facility will be based on 25,000 SF minus the demolished space of 10,000 SF. This calculation would then be further reduced for the minor expansion exemption of 1,000 square feet. TIF for this facility would be based on 14,000 SF at the General Industrial rate.

iii. If the demolished facilities are residential and the new construction is non-residential, then the TIF credit for the demolished facility will be computed on a cost basis. For instance, if two Single Family Detached homes are demolished as part of a new 20,000 square foot shopping center, then the General Commercial TIF for the shopping center will be reduced by the applicable TIF cost for the two residential units.

iv. If the demolished facilities are non-residential and the new construction is residential, then the TIF credit for the demolished facility will be computed on a cost basis. For instance, if 5,000 square feet of Warehouse-Storage space is demolished for construction of six Multi-Family residential units, then the TIF for the six residential units will be reduced based on the TIF cost for the 5,000 SF of Warehouse-Storage space calculated using the Warehouse-Storage TIF rate.

f. Credit and Reduction Examples

i. TIF Amount: A 10,000 square foot drugstore on Alpine Blvd in Alpine. As shown in the General Commercial table, the Alpine TIF Area total-cost-per-1,000-square-feet is $9,235. Divide this number by 1,000 to determine the cost per square foot of $92.35. Multiply $92.35 per square foot by the drug stores floor area of 10,000 square feet to determine the project's TIF amount of $92,350.

Credit: Alpine Blvd is a TIF facility. The estimated direct impact mitigation on Alpine Blvd for this project is $76,750; however, credits or reductions are not available for the General Commercial TIF. This project does not qualify for credit, and the TIF remains $92,350.

ii. TIF Amount: 100 unit single family detached (SFD) development in Fallbrook with direct impact frontage improvements including adding a $1 million traffic lane and bridge on Old 395 from Dulin to West Lilac. The unit cost for a SFD in Fallbrook is $12,067, so the total TIF obligation is $12,067 per unit times 100 units which equals a TIF due of $1,206,700.

Credit: Old 395 is a TIF facility. Estimated direct impact mitigation for this project is $1 million. Upon verification by the Project Manager, the $1 million can be applied as a TIF Credit or Reduction to the fee. The actual TIF cost for the project including the reduction will be $206,700.

iii. TIF Amount: A warehouse in Ramona is being converted into an auto repair facility. The General Commercial TIF rate in Ramona is $16,035 per 1,000 square feet. As shown in Section 77.215(e) of the TIF ordinance, tenant improvements to an existing non-residential facility including changes of occupancy or use are exempt from the TIF. The TIF for this project is $0.

For questions or assistance determining a project's TIF amount, please contact the Department of Public Works Land Development section at (858) 694-2055.

REFERENCES:

Title 7, Division 7 County Regulatory Code – Transportation Impact Fees

ATTACHMENTS:

Assignment of Land Uses to TIF Categories (Attachment A)
TIF Calculation Tables (Attachment B)

APPROVED BY: _____
JOHN L. SNYDER, DIRECTOR

EFFECTIVE DATE: December 8, 2005
REVISION DATE: April 28, 2008
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Excerpts from the County of San Diego TIF Program Update (January 2008)

COUNTY OF SAN DIEGO

TRANSPORTATION IMPACT FEE

TIF PROGRAM UPDATE

JANUARY 2008

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EXECUTIVE SUMMARY

BACKGROUND

Working with stakeholder groups, the County of San Diego (County) identified the need to develop a County transportation impact fee (TIF) program to mitigate the cumulative traffic impacts of development throughout the unincorporated areas of the County. The TIF program, approved by the Board of Supervisors in 2005 pursuant to the provisions of Government Code §§ 66000 et seq. (Mitigation Fee Act or the "Act"), funds the improvement and/or construction of identified transportation facilities and allocates the associated costs equitably among future developing properties. The TIF program does not collect funding to address existing roadway deficiencies.

The 2008 TIF Update utilizes the same core methodology and land use assumptions as the 2005 TIF program as outlined in prior reports titled "County of San Diego Transportation Impact Fee Report" dated January 2005, "Fallbrook and Ramona Transportation Impact Fee Report" dated January 2005 and the addendums to the reports dated March 2005 and September 2005 (collectively referred to as "Prior Reports").

PURPOSE

The purpose of this report is to document recommendations for updating the 2005 TIF program pursuant to the provisions of the Act. The current update focused on the following:

- Evaluating the non-residential rates
- Evaluating potential cost savings and/or other revenue sources
- Adding freeway interchanges/ramps and at-grade highway intersections to the TIF program
- Identifying program changes to facilitate easier administration
- Providing additional detail regarding TIF roadway segment limits

The overall objectives of the update included 1) preserving the integrity of the TIF program, and 2) maintaining CEQA compliance regarding cumulative impacts.

RECOMMENDED TIF RATES

The TIF program differentiates between "local" transportation facilities (collectors and minor streets) that benefit primarily the community in which they are located, and "regional" facilities (state routes, prime arterials, major roads, and other regionally significant roadways) that benefit both the community and surrounding area – in this case identified as the North, South or East regions. A different TIF rate is applied to each community based upon growth and related transportation needs. The rates are comprised of a local component and a regional component. The interchange/ramp and highway intersection improvements are identified as "regional" facilities within each of the three regions.

Based on recommended program adjustments, cost reductions and additional revenues, $826 million of revenue will need to be generated by the TIF program. The recommended update and resulting changes result in residential rates increasing by no more than three and one-half percent (3.5%) measured by cost per single family dwelling unit with the non-residential rates (measured by cost per trip) decreasing by 40% or more.

The update resulted in the following facility costs and recommended TIF rates:

- Local facilities totaling $370 million were identified, including streets of collector classification and below. This resulted in local TIF rates varying by community plan area (CPA) from $0 to $5,940 per single family dwelling unit.

- Regional facilities totaling $645 million were identified, including state routes, prime arterials, and major roads. This resulted in regional TIF rates per single family home of $5,942 for the North region, $3,294 for the South region, and $2,195 for the East region.

- Regional freeway interchange/ramp facilities costing a total of $303 million of which $105 million are related to growth were identified. Ten percent, typical of a local match, (or $10.5 million) in costs were identified to be included in the TIF program. This resulted in an additional component to the regional TIF rate of $41 for the North region, $150 for the South region, and $3 for the East region per single family home.

- Combining the local and regional components, total TIF rates vary from $2,199 to $12,295 per single family home.

As stated in the 2005 Report, further studies, including required environmental review, may result in the identification of different project alternatives with different costs. An update to the TIF program will likely be needed upon completion of the General Plan Update currently in progress. In addition, the TIF rates are indexed to adjust annually each January to keep up with future changes in the costs of construction.

INTRODUCTION

OVERVIEW

The County of San Diego (County) identified the need for additional transportation improvements to address the projected cumulative traffic impacts of future development within the unincorporated area (see **Figure 1**). In 2005, the Board of Supervisors approved a transportation impact fee (TIF) program. The purpose of the TIF program is to fund construction of identified transportation facilities, and allocate the costs equitably among future developing properties.

TRANSPORTATION IMPACT FEES

An impact fee is a commonly used and well-accepted means of mitigating the impacts to public facilities and infrastructure created by future growth. As part of the TIF program process, the transportation infrastructure needs were characterized as either existing deficiencies, direct impacts of future development, or indirect (cumulative) impacts of future development. Existing roadway deficiencies are the responsibility of existing developed land uses and government agencies and can not be financed with impact fees. The proposed TIF program is not intended to mitigate direct impacts which will continue to be the responsibility of individual development projects. The TIF program therefore is designed to address the cumulative impacts associated with new growth.

The rationale supporting development of the County TIF program is future development in the unincorporated area being required by law to mitigate cumulative traffic impacts on the County's road network. Without a TIF, future development would cause a continued decrease in roadway level-of-service with overall network capacity falling behind the needs of future growth. A TIF program is a suitable mechanism for identifying needed transportation facilities to mitigate these cumulative traffic impacts and allocating the associated costs in an equitable manner.

This report is an update to the Prior Reports. The County TIF program assesses the fee on all new development that results in new/added traffic. The primary purpose of the TIF is twofold: (1) to fund the construction of identified facilities needed to reduce, or mitigate, projected cumulative traffic impacts resulting from future development within the County; and (2) to allocate the costs of these facilities proportionally among future developing properties based upon traffic contribution.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts. To that end, local agencies generally require that a project's potential direct and cumulative impacts and corresponding mitigation measures, be identified as part of the required environmental review process.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts caused collectively by all development within the community. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time (CEQA Guidelines §15355). The CEQA Guidelines recognize that mitigation for cumulative impacts may involve the adoption of ordinances or regulations (CEQA Guidelines §15130).

Recognizing that an individual development project is not wholly responsible for cumulative traffic impacts, each development project is required to contribute to mitigation in proportion to the project's estimated traffic generation. This report proposes the continued use of the TIF to fund improvements to identified transportation facilities in response to the total projected cumulative traffic impacts associated with future development within the County. Transportation facilities and other infrastructure necessary to either address existing deficiencies or mitigate the direct impacts of a given development project are not within the scope of the TIF.

ENVIRONMENTAL STUDIES & REVIEW

The facilities identified in this report are intended to provide increased road capacity to mitigate the cumulative traffic impacts of future development. No facilities will actually be constructed until all necessary environmental reviews have been conducted. Further studies, including environmental review, may show superior alternative projects that also satisfy the increased capacity need.

EXEMPTION FROM CEQA REQUIREMENTS

The fees collected through the TIF will be used for capital projects for transportation infrastructure projects necessary to maintain service within the unincorporated County. The County has determined that the act of adopting the proposed County TIF program and establishing the proposed TIF rates is statutorily exempt from the requirements of CEQA under §15273(a)(4) of the CEQA Guidelines.

STATUTORY FRAMEWORK

Development and implementation of impact fees must conform to the statutory requirements of California Government Code §§66000 et seq. (commonly referred to as the "Mitigation Fee Act"). Prior to establishing, increasing or imposing an impact fee, the Mitigation Fee Act requires the local agency to make the following findings:

- Identify the purpose of the fee (§66001(a) (1)).
- Identify the use for the fee and the facilities to be built (§66001(a) (2)).
- Determine a reasonable relationship between the fee's use and the type of development project on which the fee is imposed (§66001(a) (3)).
- Determine a reasonable relationship between the need for the public facility and the type of development project (§66001(a) (4)).
- Determine a reasonable relationship between the amount of the fee and the cost of the facility attributable to development (§66001(b)).

For purposes of the County TIF program, a statement of requisite findings is presented in the "Program Implementation" section of this report.

FEE DEVELOPMENT PROCESS

The remainder of this report summarizes the basis for the TIF program and the recommended changes resulting in updated fee rates:

- Development Forecast
- Facilities and Costs
- Fee Methodology
- Funding Requirements
- Proposed Fee Schedule
- Program Implementation

TIF ANALYSIS

This report documents recommendation for updating to the 2005 TIF program. Unless otherwise outlined in the report, growth and facility needs are the same as identified in the Prior Reports. This section reiterates the trip growth forecast and required roadway facilities to suitably address cumulative traffic impacts. The 2008 TIF Update report also describes the changes to the program including:

- Identified program cost reductions due to changing roadway standards.
- Costed Direct Project mitigations by non-residential projects.
- Identified additional revenue available to the County to offset the costs to non-residential projects.
- Clarified TIF roadway segment limits.
- Revised TIF rate tables.

GROWTH FORECAST

Analysis of land use changes between 2004 and build-out, as outlined in the Prior Reports, provided the basis for determining both the amount of expected future development and the types of transportation improvements needed to address cumulative traffic impacts consistent with the SANDAG Transportation Model. For fee calculation purposes, uniform trip generation rates per land use category were applied to the various land uses to estimate growth related trips and equitably allocate the fee between the various land uses. Based on typical trip generation rates, shown in **Table 1**, and the identified forecast growth, both identified in the Prior Reports, the trips attributable to future development are shown in **Table 2**.

TABLE 1
TRIP GENERATION RATES

LAND USE	Trip Rate (1)
Single Family Residential	12 trips/unit
Multi-Family Residential	5 – 8 trips/unit
Commercial/Services	360 trips/acre
Industrial	150 trips/acre
Office	300 trips/acre
Parks	5 trips/acre
Roads & Freeways	0 trips/acre
Schools	50 trips/acre

(1) Based on adopted County TIF program.

TABLE 2
FORECAST TRIPS ATTRIBUTABLE TO FUTURE DEVELOPMENT

Community Planning Area	Forecast Trips by TIF Region (1)		
	North	South	East
Alpine		76,176	
Bonsall	33,852		
Central Mountain			7,992
County Islands		4,884	
Crest-Dehesa		6,468	
Desert			322,860
Fallbrook (2)(3)	166,140		
Jamul-Dulzura		74,676	
Julian			11,220
Lakeside		153,492	
Mountain Empire			112,092
North County Metro	184,992		
North Mountain			18,480
Otay		232,752	
Pala-Pauma	48,504		
Pendleton-De Luz	5,100		
Rainbow	27,912		
Ramona(2)			138,144
San Dieguito	117120		
Spring Valley		50,892	
Sweetwater		15,072	
Valle De Oro		21,348	
Valley Center	130,344		
TOTAL FUTURE TRIPS	**713,964**	**635,760**	**610,788**

(1) Forecast trips based on build-out projections per the 2005 TIF program.

(2) Fallbrook local rate based on 160,992 trips for 2004 to 2030 and Ramona local rate based on 118,824 trips for 2004 to 2030.

(3) An additional 5,076 trips is reflected for North Region (Fallbrook) based on the September 2005 Addendum (423 EDUs x 12 trips/EDU).

Trip generation rates are commonly used to apportion the benefits associated with transportation infrastructure improvements. Note that the Prior Reports made reference to Equivalent Dwelling Units (1 equivalent dwelling unit equaling 12 trips), but for simplicity this report references trips instead.

FACILITIES AND COSTS

The SANDAG Regional Transportation Model was utilized to analyze base year (Year 2000) and projected build-out development conditions on the roadway network throughout the unincorporated area of the County. The TIF modeling assumptions for the road network and projected land uses are summarized in the Prior Reports.

A list of County TIF program facilities (deficient Base Year road segments) is contained in **Appendix A**. The facilities identified in this report are intended to address future deficiencies in road capacity caused by the cumulative traffic impacts of future development. Further studies, including required environmental reviews, may result in the identification of other alternatives for dealing with cumulative traffic impacts. The County TIF program may be periodically reviewed and/or amended to permit funding the construction of these alternatives. The Appendix identifies the roadway segments and provides additional detail as to TIF roadway segment limits.

FREEWAY INTERCHANGES/RAMPS & AT-GRADE HIGHWAY INTERSECTIONS

As part of this update, the County identified specific Freeway ramp interchanges and at-grade highway intersections to be funded in part by the TIF program. These facilities were not included in the Prior Reports. Based on currently available traffic data, a number of freeway ramp interchanges and at-grade highway intersections were identified as necessary to accommodate growth. **Table 3** identifies the facility location, the percent of total 2030 traffic related to growth, and the resulting amount to be funded via the TIF program. Addition of these improvements will enable projects to meet its obligations regarding cumulative impacts via the TIF program. It should be noted that the overall cost is estimated on a per Region basis, recognizing that some of the costs will likely exceed the estimate while others may be lower than shown in the table.

Only 10% of future growth's costs for freeway interchanges/ramps are recommended to be included in the program. This percentage is representative of the typical local match required when competing for funds for these State highway improvements. Addition of these improvements will enable projects to meet their obligations regarding cumulative impacts via the TIF program. It should be noted that the overall cost is estimated on a per Region basis, recognizing that some of the costs will likely exceed the estimate while others may be lower than shown in the table.

TABLE 3
INTERCHANGES AND COSTS

Location	County Growth (%)	Proportional Cost	Region
I-8 EB/Lake Jennings Park Rd	45%	$516,000	South
I-8 WB/Lake Jenning Park Rd	49%	561,000	South
I-8 EB/Dunbar Ln	54%	618,000	South
I-8 WB/Dunbar Ln	57%	654,000	South
I-8 EB/Tavern Rd	40%	459,000	South
I-8 WB/Tavern Rd	58%	667,000	South
I-8 EB/W. Willows Rd	60%	686,000	South

Location	County Growth (%)	Proportional Cost	Region
I-8 WB/W. Willows Rd	65%	751,000	South
I-8 EB/Greenfield Dr. (El Cajon)	1%	7,000	South
I-8 WB/Greenfield Dr. (El Cajon)	3%	29,000	South
I-15 NB/E. Mission Rd	36%	418,000	North
I-15 SB/E. Mission Rd	36%	411,000	North
I-15 NB/Gopher Canyon Rd	39%	451,000	North
I-15 SB/Gopher Canyon Rd	6%	65,000	North
I-15 NB/Deer Springs Rd	54%	627,000	North
I-15 SB/Deer Springs Rd	41%	470,000	North
SR-67 NB/Bradley Ave	11%	130,000	South
SR-67 SB/Bradley Ave	14%	164,000	South
SR-67 NB/Winter Gardens Blvd	12%	135,000	South
SR—67 SB Winter Gardens Blvd	25%	291,000	South
SR-67 NB/Riverford Rd	31%	352,000	South
SR-67 SB/Riverford Rd	43%	499,000	South
SR-67 NB/Mapleview St	33%	378,000	South
SR-67 SB/Mapleview St	34%	396,000	South
SR-67/Archie Moore Rd (Ramona) (2)	31%	40,000	East
SR-67/Montecito Rd (Ramona) (2)	39%	51,000	East
SR-67/SR-78 (Ramona) (2)	38%	49,000	East
SR-94 EB/Sweetwater Springs Blvd	26%	299,000	South
SR-94 WB/Sweetwater Springs Blvd	29%	335,000	South
TOTAL COST OF GROWTH		**$10,509,000**	

(1) Cost based on $11,500,000 per interchange intersection except as outlined in note (2) below.

(2) Costs for SR-67 at Archie Moore, Montecito, SR 78 in Ramona based on $130,000 perat-grade highway intersection.

(3) South Region totals $7,927,000, North Region total $2,442,000 and the East Region totals $140,000.

REGIONAL AND LOCAL COSTS

Table 4 outlines the planning level costs associated with the TIF program based on the cost assumptions outlined in the Prior Reports and then increased by ENR-CCI. These planning-level costs were based in part on estimates made in SANDAG's Regional Transportation Plan and include all planning, design, right-of-way, environmental, construction and program administration (2%) costs. Based on available information, these planning level costs are sufficient to include intersections along the facilities and at the endpoints of the TIF facilities, including signalization.

TABLE 4
COST OF FACILITIES ATTRIBUTABLE TO FUTURE DEVELOPMENT

Community Planning Area	Estimated Cost (In millions)				
	Regional (1)			Local	TOTAL
	State Route	Prime Arterial	Major Road(2)	Collector & Below	
Alpine		$0.63	$1.13	$11.50	$13.26
Bonsall	77.61		30.67	17.81	126.10
Central Mountain	0.89				0.89
County Islands					0
Crest-Dehesa			24.82	.54	25.36
Desert				8.31	8.31
Fallbrook	27.82		67.91	81.69	177.42
Jamul-Dulzura	90.10			13.56	103.66
Julian					
Lakeside		.87	1.78	51.51	54.16
Mountain Empire	24.62				24.62
North County Metro	35.64	18.96		26.54	81.14
North Mountain	22.74				22.74
Otay		56.64		12.79	69.43
Pala-Pauma	20.97			4.76	25.73
Pendleton-De Luz		5.95		0	5.95
Rainbow				10.38	10.38
Ramona (3)	30.79		33.65	58.80	123.23
San Dieguito		7.28	.28	31.64	39.20
Spring Valley		.01		2.81	2.82
Sweetwater				1.64	1.64
Valle De Oro	.03			8.20	8.24
Valley Center		29.52	1.07	27.95	58.55
Misc. North Region	32.83				32.83
TOTAL COSTS	**$364.04**	**$119.86**	**$161.32**	**$370.44**	**$1015.65**

(1) Refer to Prior Reports regarding Regional facility costs reduction of 7% to account for future traffic volumes not attributable to development within the unincorporated area.

(2) Major and other regionally significant roadways.

The table reflects a reduction to the costs for the East region based upon review of the SANDAG Transportation Model output and roadway needs resulting in a reduction of the estimated cost of Regional lane-miles to $0.89 million for the Central Mountain CPA.

Of the costs identified in the table, it is estimated that approximately $75.0 million is associated with the direct impacts of non-residential properties within the County. As part of the 2008 TIF update, it is recommended that the $75.0 million be credited to the non-residential properties in lieu of those projects requesting reimbursements for direct impact improvements on TIF roadways. This credit is reflected in the non-residential Regional rates.

Based on the continuing efforts to update the County's General Plan, including the Circulation Element, cost savings related to anticipated roadway design standards that eliminate parking on certain roadways have also been quantified. Note that such a change would not affect the capacity of the roadway. The savings is estimated to be $5.05 million in the Regional costs and is reflected in the rates.

FEE METHODOLOGY

The TIF program apportions the costs of the proposed transportation improvements equitably to future development projects based on typical trip generation rates. The program recognizes certain "local" transportation facilities (collectors and minor streets) benefit primarily the community in which they are located, while "regional" facilities (state routes, prime arterials, major roads and interchanges/ramps) benefit both the community and surrounding areas. Therefore, a portion of the total TIF fee was calculated based on the cost of local facilities and apportioned to development only within the boundary of each community (**Figure 1**), while the remainder of the fee was calculated based on the need for regional facilities and apportioned to development within three TIF Regions covering the unincorporated areas of the County. Those three regions are shown in **Figure 2** and are labeled North, South and East.

LOCAL FACILITIES

Each community's TIF rate includes a Local TIF Rate and a Regional TIF Rate. The purpose of the Local TIF Rate is to apportion eligible costs of local TIF facilities (i.e., collectors and other minor roads) to future growth within the community. Total estimated local facility costs, projected local growth within the community, and calculated Local TIF Rates are summarized in **Table 5**.

TABLE 5
LOCAL FACILITY COSTS & TIF RATES

Community Plan Area	Local Cost (1) ($ millions)	Local Growth (trips)	Local TIF Rate (per trip)(2)(3)
Alpine	$11.50	76,176	$151
Bonsall	17.81	33,852	526
Central Mountain	0	7,992	0
County Islands	0	4,884	0
Crest-Dehesa	0.54	6,468	84
Desert	8.31	322,860	26
Fallbrook	81.69	160,992	507
Jamul-Dulzura	13.56	74,676	182
Julian	0	11,220	0
Lakeside (including Pepper Dr-Bostonia)	51.51	153,492	336

Community Plan Area	Local Cost (1) ($ millions)	Local Growth (trips)	Local TIF Rate (per trip)(2)(3)
Mountain Empire	0	112,092	0
North County Metro	26.54	184,992	143
North Mountain	0	18,480	0
Otay	12.79	232,752	55
Pala-Pauma	4.76	48,504	98
Pendleton-De Luz (4)	0	5,100	1
Rainbow	10.38	27,912	372
Ramona	58.80	118,824	495
San Dieguito	31.64	117,120	270
Spring Valley	2.81	50,892	55
Sweetwater	1.64	15,072	109
Valle De Oro	8.20	21,348	384
Valley Center	27.95	130,344	214

(1) Local facility costs eligible for TIF funding.
(2) TIF rates may vary from calculated table values due to rounding and display of significant digits.
(3) Cost reductions are not reflected.
(4) Pendleton-De Luz local cost equals 427 x $7 per the 2005 TIF report.

REGIONAL FACILITIES

The purpose of the Regional TIF Rate is to apportion eligible costs of regional TIF facilities (i.e., freeway interchanges/ramps, state routes, prime arterials, major roads, and other regionally significant roadways) to future growth within the applicable region. Total estimated regional facility costs, projected regional growth, and calculated Regional TIF Rates are summarized in **Tables 6 and 7**. Table 6 displays the portion of the Regional TIF rate apportioned to state routes, primes, and majors and Table 7 displays the portion of the Regional TIF rate apportioned to Freeway interchanges/ramps.

TABLE 6
REGIONAL FACILITY COSTS & TIF RATES (SRS/PRIME ARTERIALS/MAJOR ROADS)

TIF Region (1)	Regional Cost (2) ($ millions)	Regional Growth (trips)	Regional TIF Rate ($/trip) (3)
North	$356.27	713,964	$499
South	$176.14	635,760	$277
East	$112.40	610,788	$184

*(1) Refer to **Figure 2** for location of TIF Regions.*
(2) Portion of Regional facility costs related to SRs/prime arterials and major roads identified for TIF funding.
(3) Cost reduction for lane-miles in East region is reflected. Other cost reductions are not reflected.

TABLE 7
INTERCHANGE/RAMP COSTS & TIF RATES - REGIONAL

TIF Region (1)	Regional Cost (2)	Regional Growth (trips)	Regional TIF Rate ($/trip)
North	$2,442,000	713,964	$ 3.42
South	$7,927,000	635,760	$12.47
East	$ 140,000	610,788	$ 0.23

*(1) Refer to **Figure 2** for location of TIF Regions.*

(2) Interchange/ramp facility costs identified for TIF funding – Includes 10% Local Match.

FUNDING REQUIREMENTS

In the typical County CIP road improvement project that is constructed for the purpose of addressing existing capacity deficiencies, excess capacity results due to the impracticality of constructing only partial lanes. It is estimated that the value of this capacity for future development averages $5.5 million annually. This value functions as a revenue to be included in the TIF program and as a policy decision, will be allocated to offset non-residential fee rates.

The overall financial requirements of the updated TIF program are identified in **Table 8.**

TABLE 8
TIF PROGRAM FINANCIAL REQUIREMENTS

Program Description	Cost (in millions)	Applicable Project Type
2008 Program	$1,053	Residential & Non-residential in each Region
Adjusted East Region lane-miles	-38.0	Residential & Non-residential in East Region
Freeway Included interchanges/ramps (10% local match)	10.5	Non-residential in each Region
Excluded non-residential direct impact costs	-74.5	Non-residential in each Region
Included cost savings for modified GP2020 roadway design standards	-5.05	Residential & Non-residential in each Region
Apply available CIP revenues	-121	Non-residential in each Region
TOTAL	**$826**	**TIF Funding Requirements**

Based on allocating the costs for local and regional facilities and reflecting the recommended program reductions, the cost per single family home and the cost per non-residential trip are identified in **Table 9** and **Table 10**, respectively.

TABLE 9
COST OF FACILITIES ATTRIBUTABLE TO FUTURE DEVELOPMENT - RESIDENTIAL

Community Planning Area By Region	Cost Per Single Family Home				Total
	Local	Regional	Interchange	Program Reduction(1)	
South Region					
Alpine	$1,812	$3,322	$150	(27)	$5,257
County Islands	0	3,322	150	(27)	3,445
Crest-Dehesa	1,008	3,322	150	(27)	4,453
Jamul-Dulzura	2,184	3,322	150	(27)	5,629
Lakeside	4,032	3,322	150	(27)	7,477
Otay	660	3,322	150	(27)	4,105
Spring Valley	660	3,322	150	(27)	4,105
Sweetwater	1,308	3,322	150	(27)	4,753

Community Planning Area By Region	Cost Per Single Family Home				Total
	Local	Regional	Interchange	Program Reduction(1)	
Valle de Oro	4,608	3,322	150	(27)	8,053
North Region					
Bonsall	6,312	5,990	41	(48)	12,295
Fallbrook	6,084	5,990	41	(48)	12,067
North County Metro	1,716	5,990	41	(48)	7,699
Pala-Pauma	1,176	5,990	41	(48)	7,159
Pendleton-De Luz	8	5,990	41	(48)	5,991
Rainbow	4,464	5,990	41	(48)	10,447
San Dieguito	3,240	5,990	41	(48)	9,223
Valley Center	2,568	5,990	41	(48)	8,551
East Region					
Central Mountain	0	2,214	3	(18)	2,199
Desert	312	2,214	3	(18)	2,511
Julian	0	2,214	3	(18)	2,199
Mountain Empire	0	2,214	3	(18)	2,199
North Mountain	0	2,214	3	(18)	2,199
Ramona	5,940	2,214	3	(18)	8,139

(1) Reflects program reductions for anticipated changes in roadway design standards..

TABLE 10
COST OF FACILITIES ATTRIBUTABLE TO FUTURE DEVELOPMENT – NON RESIDENTIAL

Community Planning Area By Region	Cost Per Trip				Total
	Local	Regional	Interchange	Program Reduction	
South Region					
Alpine	151	277	12	(184)	256
County Islands	0	277	12	(122)	167
Crest-Dehesa	84	277	12	(157)	216
Jamul-Dulzura	182	277	12	(196)	275
Lakeside	336	277	12	(259)	366
Otay	55	277	12	(145)	199
Spring Valley	55	277	12	(145)	199
Sweetwater	109	277	12	(167)	231
Valle de Oro	384	277	12	(278)	395

Community Planning Area By Region	Cost Per Trip				Total
	Local	Regional	Interchange	Program Reduction	
North Region					
Bonsall	526	499	3	(418)	610
Fallbrook	507	499	3	(410)	599
North County Metro	143	499	3	(263)	382
Pala-Pauma	98	499	3	(245)	355
Pendleton-De Luz	.66	499	3	(205)	298
Rainbow	372	499	3	(356)	518
San Dieguito	270	499	3	(314)	458
Valley Center	214	499	3	(291)	425
East Region					
Central Mountain	0	184	.23	(43)	141
Desert	26	184	.23	(44)	166
Julian	0	184	.23	(43)	141
Mountain Empire	0	184	.23	(43)	141
North Mountain	0	184	.23	(43)	141
Ramona	495	184	.23	(234)	445

(1) Reflects program reductions for anticipated changes in roadway design standards, cost reductions for Direct Impacts and County CIIP revenues of $121 million.

As already mentioned, the TIF program differentiates between local and regional facilities. The following facility costs and residential TIF rates were determined:

- Local facilities costing a total of $370 million were identified, including streets of collector classification and below. This resulted in local TIF rates varying by community from $0 to $5,940 per single family home (see Table 11).

- Regional facilities costing a total of $645 million were identified, including state routes, prime arterials, and major roads. This resulted in a component of the regional residential TIF rates of $5,942 for the North region, $3,294 for the South region, and $2,195 for the East region (see Table 11) per single family home.

- Regional facilities costing a total of $10.5 million were identified, including interchange intersections and ramps. This resulted in a component of the regional residential TIF rates of $41 for the North region, $150 for the South region, and $3 for the East region (see Table 11) per single family home

- Combining the local and regional components, total residential TIF rates vary from $2,198 to $12,295 in Bonsall (see Table 8).

PROPOSED FEE SCHEDULE

The TIF applicable to a given project will be based on estimated vehicular trip generation rates generally pursuant to Table 1. For residential projects, the fee is based on number and type of dwelling units. For non-residential projects, the fee is reflected as a cost per square foot. The current TIF program bases the project's TIF obligation on an average cost per trip multiplied by the number of trips. This update proposes to modify that approach by assigning a single trip generation rate per land use category (with several exceptions) and converting that to a cost per square foot basis for non-residential projects. There are two advantages to making this change. First, the approach more closely reflects the trip generation assumption in the 2005 TIF program and the SANDAG Transportation Model, and secondly, it should significantly simplify fee calculations for project applicants.

Table 11 summarizes the proposed total TIF rates for each community within the County based on the local and regional TIF rates identified in Tables 5, 6 and 7. The rates reflect the aforementioned program reductions and county funding.

TABLE 11
PROPOSED TOTAL TIF RATES PER SINGLE FAMILY DWELLING (SFD)

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate (1)
Alpine	$1,812	$3,294	$150	$5,256
Bonsall	6,312	5,942	41	12,295
Central Mountain	0	2,195	3	2,198
County Islands	0	3,294	150	3,444
Crest-Dehesa	1,008	3,294	150	4,452
Desert	312	2,196	3	2,511
Fallbrook	6,084	5,942	41	12,067
Jamul-Dulzura	2,184	3,294	150	5,628
Julian	0	2,195	3	2,198
Lakeside	4,032	3,294	150	7,476
Mountain Empire	0	2,195	3	2,198
North County Metro	1,716	5,942	41	7,699
North Mountain	0	2,195	3	2,198
Otay	660	3,294	150	4,104
Pala-Pauma	1,176	5,,942	41	7,159
Pendleton-De Luz	8	5,942	41	5,991
Rainbow	4,464	5,942	41	10,447
Ramona	5,940	2,196	3	8,139
San Dieguito	3,240	5,942	41	9,223
Spring Valley	660	3,294	150	4,104

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate (1)
Sweetwater	1,308	3,294	150	4,752
Valle De Oro	4,608	3,294	150	8,052
Valley Center	2,568	5,942	41	8,551

(1) The rate for a multi-family home is 67% of the single-family rate, senior housing is 33% of the single-family rate and congregate care is 20% of the single-family rate based on relative trip generation rates.

The General Commercial rates are summarized in **Table 12** for each community within the County based on the local and regional TIF rates identified in Tables 5, 6 and 7. The rates reflect the aforementioned program reductions and County funding.

TABLE 12
PROPOSED TOTAL GENERAL COMMERCIAL TIF RATE PER 1,000 SF

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate (1)
Alpine	5,426	3,342	467	9,235
Bonsall	18,901	2,946	108	21,955
Central Mountain	0	5,066	9	5,075
County Islands	0	5,534	467	6,001
Crest-Dehesa	3,018	4,312	467	7,797
Desert	934	5,067	9	6,010
Fallbrook	18,217	3,234	108	21,559
Jamul-Dulzura	6,539	2,874	467	9,880
Julian	0	5,066	9	5,075
Lakeside	12,073	647	467	13,187
Mountain Empire	0	5,066	9	5,075
North County Metro	5,138	8,516	108	13,762
North Mountain	0	5,066	9	5,075
Otay	1,976	4,743	467	7,186
Pala-Pauma	3,521	9,163	108	12,792
Pendleton-De Luz	36	10,564	108	10,708
Rainbow	13,367	5,174	108	18,649
Ramona	16,026	0	9	16,035
San Dieguito	9,702	6,647	108	16,457
Spring Valley	1,976	4,743	467	7,186
Sweetwater	3,916	3,916	467	8,299

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate (1)
Valle De Oro	13,762	0	467	14,229
Valley Center	7,689	7,474	108	15,271

(1) The rate for Furniture is .143 multiplied by General Commercial Rate, General Industrial is .369 multiplied by General Commercial Rate, Warehouse/Storage is .137 multiplied by the General Commercial Rate, Office is .564 multiplied by the General Commercial Rate, and School is .319 multiplied by the General Commercial Rate.

The TIF is assessed on all new development associated with the generation of traffic. For purposes of assigning the fee, the following land use category explanations are provided:

Furniture Store means a commercial facility for the sale of moveable articles such as tables, chairs, sofas, desks, or cabinets required for use or ornament in a residence, office, or the like.

General Commercial includes but is not limited to shopping centers, strip development and commercial clusters, retail sales facilities including grocery stores and department stores, convenience stores, auto sales and repair facilities, hardware and lumber stores, gardening and nursery stores, eating and drinking establishments, and any other retail uses other than furniture stores that are not specifically included in other TIF category definitions.

General Industrial means facilities for manufacturing, processing, assembling, distribution services, and for construction equipment sales and repair and any industrial use other than warehouse and storage that are not specifically included in other Transportation Impact Fee categories.

Office means facilities for administrative or professional services and includes but is not limited to hospitals, medical clinics, insurance sales, banks, savings and loans, and real estate services.

Schools mean institutions for instruction in a particular skill or field.

Warehousing and Storage means all types of warehouses or facilities with the primary purpose being to provide storage space.

Winery means an establishment for producing wine and may include wine tasting rooms.

OTHER FUNDING SOURCES

The TIF is intended to fund identified transportation facilities, or portions thereof, needed to mitigate the cumulative traffic impacts of future development. Other revenue sources will be required to fund existing network deficiencies or portions of capacity not attributable to new growth. Sources of additional revenue may include funding of ramp and interchange improvements by the state. With the passage and extension of TransNet, additional Gas Tax revenues will be freed up from maintenance activities that can be applied to the County's CIP program.

The TIF funds will be used for the specific improvements identified in this report to accommodate future growth, and non-TIF funds will be used to address existing deficiencies. Gas Tax and TranNet revenues will be the most reliable source of non-TIF funds. However, having TIF funds available can help the County leverage other funding sources, including state and federal grants. Grant programs often require a high level of difficult-to-find matching funds. Having a TIF

program demonstrates a committed plan of action for road network improvements and TIF revenue can provide a ready source of matching funds. Both of these factors can provide a competitive edge when vying for grants.

PROGRAM IMPLEMENTATION

STATEMENT OF FINDINGS

The following information is provided to assist the County with satisfaction of the requisite statutory findings contained in §66001 of the Mitigation Fee Act:

Purpose of the Fee. The purpose of the TIF is to fund program implementation and construction of identified transportation facilities in response to the anticipated cumulative traffic impacts associated with future development within the unincorporated area.

Use of the Fee. The TIF will be used to fund program implementation and construction of certain local transportation facilities within each community in the County. The TIF will also be used to fund program implementation and construction of certain regional facilities within the applicable TIF region.

Reasonable Use (Benefit). Future development will have a significant, not easily mitigated, cumulative traffic impact on each community's local and regional road network. The TIF will be used to fund additional transportation infrastructure to accommodate future development and facilitate better traffic circulation within the individual communities in the County, and the applicable region, and thus mitigate this cumulative impact.

Reasonable Need (Burden). Future development will have a significant, and not easily mitigated, cumulative traffic impact on each community's road network. The TIF will be used to fund additional transportation infrastructure alleviating some of the impacts associated with future development within the unincorporated area.

Reasonable Apportionment. The TIF facilities, or portions thereof, were identified based on an analysis of existing and future deficiencies and roadway requirements. The costs of TIF facilities will be apportioned to future development based on relative vehicular trip generation rates assigned to land use category and converted to a rate per dwelling unit or rate per square foot as identified in this report.

GENERAL PLAN UPDATE

It should be noted that the County is currently in the process of performing a General Plan update. The County has reviewed the TIF facilities identified in this report and concluded that they do not conflict with current GP update efforts. Upon adoption of the updated General Plan (or any other significant modification to the existing General Plan), it is recommended that the development forecast, traffic modeling, and funding requirements to address future roadway demands for the TIF program be reviewed and updated accordingly.

CAPITAL IMPROVEMENT PROGRAM

The following facility information is provided to assist the County with satisfaction of the Capital Improvement Program (CIP) requirements set forth in §66002 of the Mitigation Fee Act:

Approximate location. The approximate location of each identified transportation facility is conceptually depicted and described in the Prior Reports and are incorporated herein by reference. The **Appendix** provides additional detail regarding the limits of the TIF roadway segments.

Size. The size and/or characteristics of each identified transportation facility are provided in the Prior Reports and are incorporated herein by reference.

Time of Availability. The identified transportation facilities will be constructed based on availability of funding, and when necessary to address the cumulative traffic impacts of future development in the County.

Estimated Cost. Additional detail for the estimated cost of the identified transportation facilities (in September 2004 dollars) is provided in the Prior Reports.

INTER-AGENCY COORDINATION

Collection of TIF funds and construction of identified TIF facilities may involve varying degrees of inter-agency coordination. For example, Caltrans has jurisdiction over state routes, portions of which may be improved as part of the County TIF program. The financial aspects and timing of construction activities for such projects will certainly require considerable attention and coordination.

The TransNet sales tax extension (Proposition A), approved by voters in 2004, requires local jurisdictions to collect a fee for each new residential dwelling unit to fund the Regional Arterial System (as defined in SANDAG's most recent and adopted Regional Transportation Plan). Since State Routes and other facilities in the Regional Transportation Plan are included in the improvements for which the County TIF is collected, the County has determined that the obligation to collect the SANDAG fee is already met. In other words, there will be no additional fees collected beyond the County TIF amount in order to satisfy the TransNet requirement.

APPENDIX A – BASE YEAR DEFICIENCIES OF STATE AND COUNTY

Appendix A
Base Year Deficiencies
State Facilities

CPA	Name	FROM	TO	Lanes	Additional Lane Miles Required
Bonsall	MISSION	OLIVE HILL	CPA BOUNDARY	2	6.77
Bonsall	PALA	.045 EAST OF MISSION / PALA	.61 EAST OF MISSION / PALA	2	0.56
Fallbrook	PALA	OLD 395	I15 - NB RAMP	2	0.30
Jamul-Dulzura	CAMPO	CPA BOUNDARY / COUGAR CANYON ROAD	STONEY OAK ROAD	2	4.39
Jamul-Dulzura	SR-94	STONEY OAK ROAD	HONEY SPRING	2	0.83
Lakeside	SR-67	.46 MILES SOUTH OF SCRIPPS POWAY PARKWAY	VIGILANTE ROAD	2	7.35
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.46 MILES SOUTH OF SCRIPPS POWAY PARKWAY	3	0.46
Ramona	MAIN	10 TH	8TH	4	0.22
Ramona	SR-67	MUSSEY GRADE ROAD	MONTECITO	2	5.40
Ramona	JULIAN	CPA BOUNDARY	ARCHIE MOORE ROAD	2	0.89
Spring Valley	SR-54 EB	SOUTH BAY PARKWAY (BEGINNING OF RAMP)	SR-54 EB (END OF RAMP)	4	0.31
Sweetwater	SOUTH BAY PARKWAY	END OF SR-54 / BEGINNING OF SOUTH BAY PARKWAY	SOUTH BAY PARKWAY (BEGINNING OF RAMP)	2	1.70
Valle De Oro	CAMPO	JAMACHA ROAD	CPA BOUNDARY	2	2.75
Valle De Oro	CAMPO	END OF SR-94 / BEGINNING OF CAMPO	VIA MERCADO	4	0.06

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	TAVERN	BOULDERS	Light Collector	Town Collector	0.17
Alpine	ALPINE	WEST VICTORIA	ELTINGE / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	ELTINGE / MARSHALL	WHEELER ST.	Light Collector	Collector	0.56
Alpine	ALPINE	WHEELER ST.	BAY MDOWS/MARINO	Light Collector	Town Collector	0.11
Alpine	ALPINE	BAY MDOWS/MARINO	.04 AFTER ROCK	Light Collector	Town Collector	0.31
Alpine	TAVERN	RAMP I-8 WB	RAMP I-8 EB	Light Collector	Collector	0.33
Alpine	WILLOWS	WILLOWS	RAMP I-8 EB	Light Collector	Collector	0.22
Alpine	WILLOWS	WILLOWSIDE	VIEJAS GRADE	Light Collector	Collector	0.44
Alpine	WILLOWS	HILLCREST	WILLOWSIDE	Light Collector	Town Collector	0.12
Alpine	WILLOWS	VIA LA MANCHA	HILLCREST	Light Collector	Town Collector	0.45
Barona	WILDCAT CANYON	BARONA CASINO	PATA RANCH	Light Collector	Collector	5.75
Bonsall	EAST VISTA	OSBORNE	CPA BOUNDARY	Light Collector	Collector	0.28
Bonsall	EAST VISTA	OLD RIVER	EVERGREEN	Town Collector	Collector	0.50
Bonsall	EAST VISTA	EVERGREEN	HUTCHISON	Town Collector	Collector	0.67
Bonsall	EAST VISTA	HUTCHISON	ORMSBY/GOPHER CA	Town Collector	Collector	0.59
Bonsall	EAST VISTA	ORMSBY/GOPHER CA	OSBORNE	Town Collector	Collector	1.32
Bonsall	MISSION	CPA BOUNDARY	PALA	Light Collector	Collector	0.50
Bonsall	CAMINO DEL REY	WEST LILAC	OLD RIVER	Light Collector	Town Collector	0.06
Bonsall	SANTA FE	BIRDFARM	OSBORNE	Light Collector	Collector	0.51
County Islands	POMERADO	WILLOW CREEK	RAMP I-15 NB	Light Collector	Major	0.13
Crest-Dehesa	DEHESA	HARBISON CANYON	SYCUAN	Light Collector	Town Collector	0.73
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Town Collector	0.32
Crest-Dehesa	DEHESA	WILLOW GLEN	SINGING HILLS GC	Light Collector	Town Collector	0.42
Crest-Dehesa	GREENFIELD	CANDLE	SYCAMORE	Light Collector	Collector	0.15
Crest-Dehesa	GREENFIELD	SYCAMORE	LA CRESTA	Light Collector	Collector	0.30
Crest-Dehesa	SYCUAN ROAD	DEHESA	CASINO WAY	Light Collector	Town Collector	0.35
Fallbrook	AVIATION	WISCONSIN	MISSION	Light Collector	Town Collector	0.09
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Town Collector	0.12
Fallbrook	FALLBROOK	OLD STAGE	MANDARIN	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Town Collector	0.27
Fallbrook	MAIN	MISSION	IVY	Light Collector	Town Collector	0.09
Fallbrook	MAIN	IVY	ALVARADO	Light Collector	Collector	0.18
Fallbrook	MAIN	ALVARADO	FIG	Light Collector	Town Collector	0.06
Fallbrook	MAIN	FIG	COLLEGE	Light Collector	Collector	0.28

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	MAIN	COLLEGE	ASH	Light Collector	Collector	0.18
Fallbrook	MAIN	ASH	FALLBROOK	Light Collector	Collector	0.16
Fallbrook	MAIN	FALLBROOK	AVIATION	Light Collector	Collector	0.38
Fallbrook	MAIN	AVIATION	AMMUNITION	Light Collector	Collector	0.38
Fallbrook	MAIN	AMMUNITION	CLEMMENS	Light Collector	Collector	0.25
Fallbrook	MISSION	EL PAISANO	WILLOW GLEN	Light Collector	Collector	0.69
Fallbrook	MISSION	EL PAISANO	HAMILTON	Light Collector	Collector	1.13
Fallbrook	MISSION	WILLOW GLEN	LIVE OAK PARK	Light Collector	Collector	1.77
Fallbrook	MISSION	LIVE OAK PARK	OLD 395	Light Collector	Collector	1.42
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Collector	0.11
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Town Collector	0.15
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Town Collector	0.70
Fallbrook	MISSION	DAVIS	STAGE COACH	Light Collector	Town Collector	0.18
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Town Collector	0.13
Fallbrook	MISSION	INDUSTRIAL	SANTA MARGARITA	Light Collector	Collector	0.36
Fallbrook	MISSION	GUM TREE	INDUSTRIAL	Light Collector	Collector	0.91
Fallbrook	MISSION	SANTA MARGARITA	BRANDON	Light Collector	Collector	0.51
Fallbrook	MISSION	BRANDON	IOWA	Light Collector	Collector	0.56
Fallbrook	MISSION	STAGE COACH	OLIVE HILL	Light Collector	Collector	0.17
Fallbrook	MISSION	OLIVE HILL	WINTER HAVEN	Light Collector	Collector	0.29
Fallbrook	MISSION	WINTER HAVEN	OVERLAND	Light Collector	Collector	0.59
Fallbrook	MISSION	OVERLAND	BIG OAK RANCH	Light Collector	Collector	0.52
Fallbrook	MISSION	BIG OAK RANCH	GREEN CANYON	Light Collector	Collector	0.89
Fallbrook	MISSION	GREEN CANYON	VIA ENCINOS	Light Collector	Collector	0.62
Fallbrook	MISSION	VIA ENCINOS	HELLERS BEND	Light Collector	Collector	0.71
Fallbrook	MISSION	HELLERS BEND	VIA MONSERATE	Light Collector	Collector	1.48
Fallbrook	MISSION	VIA MONSERATE	BAJA MISSION	Light Collector	Collector	0.22
Fallbrook	MISSION	BAJA MISSION	LA CANADA	Light Collector	Collector	0.63
Fallbrook	MISSION	LA CANADA	CPA BOUNDARY	Light Collector	Collector	1.60
Fallbrook	MISSION	ORANGE	MAIN	Town Collector	Collector	0.09
Fallbrook	MISSION	IOWA	ORANGE	Town Collector	Collector	0.10
Fallbrook	OLD STAGE	PALOMINO	MISSION	Light Collector	Town Collector	0.13
Fallbrook	RECHE	STAGE COACH	RECHE WAY	Light Collector	Town Collector	0.20
Fallbrook	RECHE	RECHE WAY	FALLBROOK	Light Collector	Town Collector	0.31

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Town Collector	0.08
Fallbrook	STAGE COACH	FALLBROOK	MARITA	Light Collector	Collector	0.51
Fallbrook	STAGE COACH	MARITA	RECHE	Light Collector	Collector	0.50
Lakeside	CHANNEL	LAKESIDE	MAPLEVIEW	Light Collector	Town Collector	0.13
Lakeside	I-8 BUSINESS / MAIN	.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK ENTRANCE	LOS COCHES	Light Collector	Town Collector	0.41
Lakeside	I-8 BUSINESS / MAIN	.45 MILES SOUTH OF LOS COCHES	LAVALA	Light Collector	Town Collector	0.50
Lakeside	LAKE JENNINGS PA	EL MONTE	PINKARD	Light Collector	Town Collector	1.37
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Town Collector	0.10
Lakeside	LAKE JENNINGS PA	HARRITT	HWY 8/BLOSSOM VA	Light Collector	Collector	0.23
Lakeside	LAKE JENNINGS PA	HWY 8/BLOSSOM VA	RAMP I-8 WB	Light Collector	Collector	0.10
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Town Collector	0.03
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	I8-EB OFF RAMP	Light Collector	Collector	0.14
Lakeside	LOS COCHES	BOWER	LAKEVIEW	Town Collector	Collector	0.40
Lakeside	LOS COCHES	LAKEVIEW	I-8 BUSINESS / MAIN	Town Collector	Collector	0.58
Lakeside	MAPLEVIEW	SR-67	MAINE	Light Collector	Collector	0.07
Lakeside	MAPLEVIEW	SR-67 SB	SR-67 NB	Light Collector	Town Collector	0.02
Lakeside	OLDE 80	SIERRA ALTA	PECAN PARK	Light Collector	Town Collector	0.03
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Town Collector	0.04
Lakeside	WILDCAT CANYON	PATA RANCH	WILLOW	Light Collector	Collector	5.56
Lakeside	WOODSIDE	RIVERVIEW	857 FT WEST OF WINTER GARDEN	Light Collector	Town Collector	0.18
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Town Collector	0.21
Lakeside	WOODSIDE	RAMP SR-67 NB - ON RAMP	MARILLA	Light Collector	Collector	0.59
Lakeside	WOODSIDE	RIVERFORD	RAMP SR-67 NB - ON RAMP	Light Collector	Collector	0.12
Lakeside	WOODSIDE	RAMP SR-67 NB - OFF RAMP	RIVERFORD	Light Collector	Town Collector	0.06
North County Metro	BEAR VALLEY	BIRCH	IDAHO	Light Collector	Collector	0.31
North County Metro	BEAR VALLEY	IDAHO	LANDAVO / CAIN	Light Collector	Collector	0.22

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	BEAR VALLEY	LANDAVO / CAIN	SUBURBAN HILLS	Light Collector	Collector	0.28
North County Metro	BEAR VALLEY	ELDORADO	ENCINO	Light Collector	Collector	1.15
North County Metro	BEAR VALLEY	SAN PASQUAL VALL	ELDORADO	Town Collector	Collector	0.42
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Town Collector	0.61
North County Metro	BUENA CREEK	HARTWRIGHT	HIDDEN OAK	Light Collector	Town Collector	0.70
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT	Light Collector	Town Collector	0.03
North County Metro	BUENA CREEK	SOUTH SANTA FE	SYCAMORE	Light Collector	Town Collector	0.02
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Collector	0.11
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Collector	2.89
North County Metro	DEER SPRINGS	MARILYN	SARVER	Light Collector	Collector	0.74
North County Metro	DEL DIOS	VIA RANCHO PKWY	DATE	Light Collector	Collector	0.20
North County Metro	DEL DIOS	DATE	ELM	Light Collector	Collector	0.74
North County Metro	OLIVE	GRAPEVINE	GRANADA	Light Collector	Collector	0.39
North County Metro	RANCHO SANTA FE	LAKE SAN MARCOS	CAMINO DEL ARROYO	Major	Prime Arterial	0.83
North County Metro	ROBELINI	SOUTH SANTA FE	EL VALLE OPULENT	Light Collector	Collector	0.15
North County Metro	ROBELINI	EL VALLE OPULENT	SYCAMORE	Light Collector	Collector	0.32
North County Metro	SAN PASQUAL	ZERMATT	VIA RANCHO	Light Collector	Collector	0.99
North County Metro	SOUTH SANTA FE	MONTGOMERY	YORK	Light Collector	Collector	1.00
North County Metro	SOUTH SANTA FE	YORK	WOODLAND	Light Collector	Collector	0.12
North County Metro	SOUTH SANTA FE	WOODLAND	TIBER	Light Collector	Prime Arterial	0.37
North County Metro	SOUTH SANTA FE	TIBER	ROBELINI	Light Collector	Major	0.37
North County Metro	SOUTH SANTA FE	ROBELINI	SYCAMORE	Light Collector	Collector	0.16
North County Metro	SOUTH SANTA FE	SYCAMORE	ABELIA	Light Collector	Collector	0.14
North County Metro	SOUTH SANTA FE	ABELIA	PALMYRA	Light Collector	Collector	0.22
North County Metro	SOUTH SANTA FE	PALMYRA	AZALEA	Light Collector	Collector	0.40
North County Metro	SOUTH SANTA FE	AZALEA	POINSETTIA	Light Collector	Collector	0.28
North County Metro	SOUTH SANTA FE	POINSETTIA	SMILAX	Light Collector	Collector	0.61
North County Metro	SOUTH SANTA FE	SMILAX	BOSSTICK	Light Collector	Collector	0.38
North County Metro	SYCAMORE	SHADOW RIDGE	WATSON / HIBISCUS	Major	Prime Arterial	0.29
North County Metro	VALLEY CENTER	ESCONDIDO CPA BOUNDARY	VALLEY CENTER CPA BOUNDARY	Light Collector	Collector	0.38
North County Metro	VIA RANCHO	VALLEY	LAKE	Light Collector	Town Collector	0.06
North County Metro	VIA RANCHO	LAKE	HIGHLANDS WEST	Light Collector	Town Collector	0.20
North County Metro	VIA RANCHO	FELICITA	MONTESANO	Light Collector	Collector	0.26

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Town Collector	0.74
North County Metro	VIA RANCHO	HIGHLANDS WEST	EUCALYPTUS	Light Collector	Town Collector	0.50
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	SAN PASQUAL VALLEY	Light Collector	Town Collector	1.08
Pendleton-De Luz	HARBOR	SAN DIEGO / I5 RAMP	SAN LUIS REY	Light Collector	Town Collector	0.05
Pendleton-De Luz	HARBOR	SAN LUIS REY	SANTA FE	Light Collector	Town Collector	0.12
Pendleton-De Luz	SAN DIEGO / HARBOR	I5 - NB OFF TO HARBOR WEST	I5 - NB OFF TO HARBOR EAST	Light Collector	Collector	0.07
Pendleton-De Luz	SAN DIEGO / HARBOR	RAMP I-5 NB	COAST	Light Collector	Collector	0.33
Pendleton-De Luz	SAN DIEGO / HARBOR	VANDEGRIFT	I5 - NB OFF TO HARBOR WEST	Major	Prime Arterial	0.18
Pepper Drive-Bosto	BRADLEY	MAGNOLIA	RAMP SR-67 SB	Light Collector	Collector	0.12
Pepper Drive-Bosto	BRADLEY	RAMP SR-67 SB	RAMP SR-67 NB	Light Collector	Collector	0.16
Pepper Drive-Bosto	BRADLEY	RAMP SR-67 NB	GRAVES	Light Collector	Collector	0.11
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIR	Light Collector	Town Collector	0.11
Pepper Drive-Bosto	BRADLEY	STONE EDGE CIR	150 FT AFTER STONE EDGE EAST	Light Collector	Town Collector	0.09
Pepper Drive-Bosto	GRAVES	GRAVES CT	BRADLEY	Light Collector	Town Collector	0.29
Pepper Drive-Bosto	GREENFIELD	BRADLEY ACCESS / GREENFIELD ACCESS	BALLANTYNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	MAGNOLIA	AIRPORT	DENNY	Light Collector	Collector	0.24
Pepper Drive-Bosto	MAGNOLIA	DENNY	BRADLEY	Light Collector	Collector	0.20
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Town Collector	0.15
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Town Collector	0.31
Pepper Drive-Bosto	PEPPER	VULCAN	ROXANNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	ROXANNE	MARLINDA	Light Collector	Town Collector	0.20
Ramona	SAN VICENTE	WARNOCK	KEYES	Light Collector	Collector	0.67
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Town Collector	0.29
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Town Collector	1.29
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Town Collector	0.21
Ramona	SAN VICENTE	WILDCAT CANYON	VICENTE MEADOW	Light Collector	Collector	0.64
San Dieguito	DEL DIOS	ELM	MT ISRAEL	Light Collector	Collector	2.59
San Dieguito	DEL DIOS	MT ISRAEL	RANCHO	Light Collector	Collector	0.11

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	DEL DIOS	RANCHO	CALLE AMBIENTE	Light Collector	Collector	7.48
San Dieguito	DEL DIOS	CALLE AMBIENTE	VIA CUATRO CAMIN	Light Collector	Collector	1.32
San Dieguito	DEL DIOS	LUNA DE MIEL	EL CAMINO DEL NORTE	Light Collector	Collector	1.34
San Dieguito	LA BAJADA	EL MIRLO	LA NORIA	Light Collector	Town Collector	0.29
San Dieguito	PASEO DELICIAS	EL CAMINO DEL NO	EL MONTEVIDEO	Light Collector	Collector	1.13
San Dieguito	PASEO DELICIAS	EL MONTEVIDEO	LAVALLE PLATEADA	Light Collector	Collector	1.09
San Dieguito	PASEO DELICIAS	LAVALLE PLATEADA	LA FREMONTIA	Light Collector	Collector	0.18
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Collector	0.10
San Dieguito	PASEO DELICIAS	VIA DE LA VALLE	LA GRANADA	Light Collector	Town Collector	0.29
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Town Collector	0.02
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Town Collector	0.56
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	VIA DE SANTA FE	Light Collector	Collector	0.06
San Dieguito	VIA DE LA VALLE	CALZADA DEL BOSQ	LAS PALOMAS	Light Collector	Town Collector	0.87
San Dieguito	VIA DE LA VALLE	LAS PALOMAS	CANCHA DE GOLF	Light Collector	Town Collector	0.16
San Dieguito	VIA DE LA VALLE	CANCHA DE GOLF	LAS PLANIDERAS	Light Collector	Collector	1.22
San Dieguito	VIA DE LA VALLE	LAS PLANIDERAS	CPA BOUNDARY	Light Collector	Collector	0.32
San Dieguito	VIA DE LA VALLE	ARROYO ROSITA	790 FT SOUTH OF CAMINITO PORTA DELGADA	Light Collector	Collector	0.36
Spring Valley	BANCROFT	CPA BOUNDARY	RAMP SR-94 EB	Light Collector	Collector	0.05
Spring Valley	BANCROFT	RAMP SR-94 EB	HELIX	Light Collector	Collector	0.08
Spring Valley	BANCROFT	HELIX	KOONCE	Light Collector	Collector	0.33
Spring Valley	BANCROFT	KOONCE	KENWOOD	Light Collector	Collector	0.37
Spring Valley	BANCROFT	KENWOOD	SWITZER	Light Collector	Collector	0.19
Spring Valley	BANCROFT	SWITZER	OLIVE	Light Collector	Collector	0.12
Spring Valley	BANCROFT	OLIVE	LAMAR	Light Collector	Collector	0.50
Spring Valley	BANCROFT	LAMAR	TROY	Light Collector	Collector	0.35
Spring Valley	CAMPO	RAMP SR-125 NB	KENWOOD	Light Collector	Collector	0.16
Spring Valley	CAMPO	KENWOOD	SR-94 WB	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	SWEETWATER SPRIN	POINTE PARKWAY	Light Collector	Collector	0.98
Spring Valley	JAMACHA BOULEVAR	WHITE STONE	SPRING GLEN	Light Collector	Collector	0.64
Spring Valley	JAMACHA BOULEVAR	JAMACHA ROAD	WHITE STONE	Light Collector	Collector	0.59
Spring Valley	KENWOOD	RAMP SR-94 EB	RAMP SR-94 WB	Light Collector	Collector	0.19
Spring Valley	SWEETWATER	BLOSSOM	HARNESS	Major	Prime Arterial	0.54

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Spring Valley	SWEETWATER	HARNESS	SPRING VISTA	Major	Prime Arterial	0.51
Spring Valley	SWEETWATER	SPRING VISTA	JAMACHA ROAD	Major	Prime Arterial	0.38
Spring Valley	SWEETWATER SPRIN	DEL RIO	DON PICO	Major	Prime Arterial	0.12
Spring Valley	SWEETWATER SPRIN	DON PICO	CRISTOBAL	Major	Prime Arterial	0.16
Spring Valley	WORTHINGTON	PARADISE VALLEY	VERDE RIDGE	Light Collector	Town Collector	0.11
Spring Valley	WORTHINGTON	VERDE RIDGE	SWEETWATER / SOUTHBAY PKWY	Light Collector	Town Collector	0.33
Sweetwater	BONITA	SWEETWATER	SAN MIGUEL	Light Collector	Collector	0.24
Sweetwater	BONITA	SAN MIGUEL	FRISBIE	Light Collector	Collector	1.15
Sweetwater	BONITA	CORDELE / VILLA BONITA	ANDORRA	Major	Prime Arterial	0.79
Sweetwater	BONITA	ANDORRA	PLZA BONITA/LYNNWOOD	Major	Prime Arterial	0.83
Sweetwater	BRIARWOOD	SOUTH BAY PARKWA	RAMP SR-54 EB	Light Collector	Collector	0.03
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Town Collector	0.05
Sweetwater	CENTRAL	AUDUBON	CORRAL CANYON	Light Collector	Town Collector	0.24
Sweetwater	CENTRAL	HAZELHURST	AUDUBON	Light Collector	Town Collector	0.08
Sweetwater	CENTRAL	FRISBIE	HAZELHURST	Light Collector	Town Collector	0.13
Sweetwater	SWEETWATER	WORTHINGTON / SB PARKWAY	QUARRY	Light Collector	Collector	0.66
Sweetwater	SWEETWATER	QUARRY	DEGEN	Light Collector	Collector	1.04
Sweetwater	SWEETWATER	DEGEN	BONITA	Light Collector	Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Town Collector	0.40
Sweetwater	WILLOW	SWEETWATER	BONITA	Light Collector	Collector	0.45
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Collector	0.09
Valle De Oro	BANCROFT	RAMP SR-94 WB	CPA BOUNDARY	Light Collector	Collector	0.07
Valle De Oro	CALLE VERDE	538 FT EAST OF AVOCADO	VIA MERCADO	Light Collector	Town Collector	0.13
Valle De Oro	CAMPO	SR-94 WB	MERRITT BLVD	Light Collector	Collector	0.10
Valle De Oro	CAMPO	MERRITT BLVD	BANCROFT	Light Collector	Collector	0.41
Valle De Oro	CAMPO	BANCROFT	HELIX	Light Collector	Collector	0.38
Valle De Oro	CAMPO	HELIX	ROGERS	Light Collector	Town Collector	0.23
Valle De Oro	CAMPO	ROGERS	KENWOOD	Light Collector	Town Collector	0.14
Valle De Oro	CHASE	GROVE	BERNITA	Light Collector	Collector	0.22

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	CHASE	BERNITA	MONUMENT HILL	Light Collector	Collector	1.19
Valle De Oro	CHASE	MONUMENT HILL	FUERTE	Light Collector	Collector	0.14
Valle De Oro	CHASE	FUERTE	BRAYTON	Light Collector	Collector	0.16
Valle De Oro	CHASE	BRAYTON	SR 54	Light Collector	Collector	0.14
Valle De Oro	CHASE	SR 54	JAMACHA ROAD	Light Collector	Collector	0.23
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Collector	0.40
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Collector	0.62
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Collector	0.63
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Collector	0.21
Valle De Oro	FUERTE	LEMON	HELIX	Light Collector	Collector	0.72
Valle De Oro	FUERTE	HELIX	GRANDVIEW	Light Collector	Collector	0.82
Valle De Oro	FUERTE	GRANDVIEW	CRESTLAND	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	CRESTLAND	ALZEDA	Light Collector	Town Collector	0.13
Valle De Oro	FUERTE	ALZEDA	CALAVO	Light Collector	Town Collector	0.13
Valle De Oro	FUERTE	CALAVO	AVOCADO	Light Collector	Town Collector	0.23
Valle De Oro	HILLSDALE	JAMACHA ROAD	LA VALHALLA	Light Collector	Town Collector	0.29
Valle De Oro	KENWOOD	RAMP SR-94 WB	CAMPO	Light Collector	Collector	0.20
Valle De Oro	NORTH BARCELONA	CAMPO	DOLORES	Light Collector	Town Collector	0.06
Valle De Oro	VIA MERCADO	CALLE VERDE	CAMPO	Light Collector	Collector	0.31
Valley Center	CHAMPAGNE	GOPHER CANYON	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Town Collector	0.15
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Light Collector	Collector	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Light Collector	Collector	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Light Collector	Collector	0.59
Valley Center	VALLEY CENTER	LILAC	CALLE DE VISTA	Light Collector	Collector	0.55
Valley Center	VALLEY CENTER	CALLE DE VISTA	SUNDAY	Light Collector	Collector	0.32
Valley Center	VALLEY CENTER	SUNDAY	MIRAR DE VALLE	Light Collector	Collector	0.94
Valley Center	VALLEY CENTER	MIRAR DE VALLE	WOODS VALLEY	Light Collector	Collector	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Light Collector	Collector	0.29
Valley Center	VALLEY CENTER	BANBURY	CPA BOUNDARY	Light Collector	Collector	5.02

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required

APPENDIX B – BUILDOUT DEFICIENCIES

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	DUNBAR	RAMP I8 EB	Light Collector	Town Collector	0.07
Alpine	ALPINE	TAVERN	WEST VICTORIA	Light Collector	Collector	1.40
Alpine	ALPINE	WEST VICTORIA	Eltinge / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	Eltinge / MARSHALL	BAY MDOWS/MARINO	Light Collector	Collector	0.78
Alpine	ALPINE	BAY MDOWS/MARINO	SO GRADE/E VICTO	Light Collector	Collector	0.91
Alpine	SOUTH GRADE	ELTINGE	OLIVE VIEW	Light Collector	Town Collector	0.08
Alpine	TAVERN	MONTEREY PL	VICTORIA PARK	Light Collector	Collector	1.20
Alpine	TAVERN	VICTORIA PARK	RAMP I-8 WB	Light Collector	Major	0.07
Alpine	TAVERN	RAMP I-8 HOV EB	ALPINE	Major	Prime Arterial	0.20
Alpine	TAVERN	ARNOLD	TAVERN CT	Light Collector	Collector	0.29
Alpine	VICTORIA PARK	TAVERN	GENTIAN	Light Collector	Town Collector	0.40
Alpine	WILLOWS	RAMP I-8 EB	ALPINE	Light Collector	Town Collector	0.02
Alpine	WILLOWS	WILLOWS	RAMP I-8 EB	Light Collector	Collector	0.22
Alpine	WILLOWS	WILLOWS	WILLOWSIDE	Light Collector	Collector	1.15
Alpine	WILLOWS	WILLOWSIDE	VIEJAS GRADE	Light Collector	Collector	0.44
Barona	WILDCAT CANYON	PAINTED ROCK / SAN VINCENTE OAK	FEATHERSTONE CANYON	Light Collector	Town Collector	2.09
Barona	WILDCAT CANYON	FEATHERSTONE CANYON	BARONA ROAD	Light Collector	Town Collector	1.87
Barona	WILDCAT CANYON	BARONA ROAD	PATA RANCH	Light Collector	Collector	5.75
Bonsall	CHAMPAGNE	LAWRENCE WELK	OLD CASTLE	Light Collector	Collector	1.80
Bonsall	EAST VISTA	MISSION	OLD RIVER	Town Collector	Collector	0.13
Bonsall	EAST VISTA	OLD RIVER	EVERGREEN	Town Collector	Collector	0.50
Bonsall	EAST VISTA	EVERGREEN	HUTCHISON	Town Collector	Collector	0.67
Bonsall	EAST VISTA	HUTCHISON	ORMSBY/GOPHER CA	Town Collector	Collector	0.59
Bonsall	EAST VISTA	ORMSBY/GOPHER CA	STRAWBERRY HILL	Town Collector	Collector	0.43
Bonsall	EAST VISTA	STRAWBERRY HILL	OSBORNE	Light Collector	Collector	0.89
Bonsall	GOPHER CANYON	ORMSBY	VISTA VALLEY	Light Collector	Collector	1.98
Bonsall	GOPHER CANYON	VISTA VALLEY	TWIN OAKS VALLEY	Light Collector	Collector	1.57
Bonsall	GOPHER CANYON	TWIN OAKS VALLEY	AVOHILL	Light Collector	Collector	1.65
Bonsall	GOPHER CANYON	AVOHILL	RAMP I-15 SB	Light Collector	Collector	1.63
Bonsall	GOPHER CANYON	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.19
Bonsall	GOPHER CANYON	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.14
Bonsall	MISSION	PALA	CPA BOUNDARY	Light Collector	Collector	0.35

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Bonsall	NORTH RIVER	KARI LANE	VIA PUERTA DEL S	Light Collector	Collector	0.10
Bonsall	NORTH RIVER	VIA PUERTA DEL S	MISSION	Light Collector	Collector	0.85
Bonsall	OLD 395	WEST LILAC	RAMP I-15 SB	Light Collector	Town Collector	0.85
Bonsall	OLD RIVER	CAMINO DEL REY	GOLF CLUB	Light Collector	Town Collector	0.33
Bonsall	OLD RIVER	GOLF CLUB	DENTRO	Light Collector	Town Collector	0.44
Bonsall	OLD RIVER	DENTRO	GOPHER CANYON	Light Collector	Town Collector	1.04
Bonsall	OLD RIVER	GOPHER CANYON	new OLD RIVER	Light Collector	Town Collector	0.53
Bonsall	OLIVEHILL / CAMINO DEL REY	MISSION	OLD RIVER	Light Collector	Town Collector	0.25
Bonsall	VIA PUERTA DEL S	OLIVE HILL	VALLE DEL SOL	Light Collector	Town Collector	0.60
Bonsall	VIA PUERTA DEL S	VALLE DEL SOL	NORTH RIVER	Light Collector	Town Collector	1.52
Bonsall	CAMINO DEL REY	OLD RIVER	WEST LILAC	Light Collector	Collector	0.59
County Islands	POMERADO	WILLOW CREEK	RAMP I-15 NB	Light Collector	Major	0.13
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Collector	0.64
Crest-Dehesa	DEHESA	VISTA GRANDE	SINGING TRAILS	Light Collector	Collector	0.89
Crest-Dehesa	DEHESA	SINGING TRAILS	WILLOW GLEN	Light Collector	Town Collector	0.81
Crest-Dehesa	DEHESA	WILLOW GLEN	HARBISON CANYON	Light Collector	Collector	6.44
Crest-Dehesa	DEHESA	HARBISON CANYON	VISTA DE LA MONTANA	Light Collector	Collector	0.50
Crest-Dehesa	DEHESA	VISTA DE LA MONTANA	SYCUAN	Light Collector	Collector	0.97
Crest-Dehesa	GREENFIELD	SYCAMORE	LA CRESTA	Light Collector	Collector	0.30
Crest-Dehesa	SYCUAN ROAD	DEHESA	SYCUAN CASINO	Light Collector	Collector	0.70
Desert	BORREGO SPRINGS	CHRISTMAS S	STIRRUP	Light Collector	Collector	0.42
Desert	CHRISTMAS N	BORREGO SPRINGS	PALM CANYON	Light Collector	Collector	0.13
Desert	CHRISTMAS S	CHRISTMAS N	BORREGO SPRINGS	Light Collector	Collector	0.14
Desert	PALM CANYON	SUN AND SHADOWS	OCOTILLO	Light Collector	Town Collector	0.22
Desert	PALM CANYON	OCOTILLO	CHRISTMAS N	Light Collector	Collector	0.95
Desert	PALM CANYON	CHRISTMAS N	STIRRUP	Light Collector	Collector	0.49
Desert	PALM CANYON	STIRRUP	DI GIORGIO	Light Collector	Town Collector	0.23
Desert	PALM CANYON	DI GIORGIO	FAIRWAY	Light Collector	Town Collector	0.48
Fallbrook	AVIATION	WISCONSIN	MISSION	Light Collector	Town Collector	0.09
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	OLD STAGE	MANDARIN	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Collector	0.54
Fallbrook	FALLBROOK	GOLDEN	MC DONALD	Light Collector	Town Collector	0.35

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	FALLBROOK	MC DONALD	DEBBY	Light Collector	Town Collector	0.28
Fallbrook	FALLBROOK	DEBBY	STAGE COACH	Light Collector	Town Collector	0.22
Fallbrook	MAIN	MISSION	IVY	Light Collector	Town Collector	0.09
Fallbrook	MAIN	IVY	ALVARADO	Light Collector	Collector	0.18
Fallbrook	MAIN	ALVARADO	FIG	Light Collector	Town Collector	0.06
Fallbrook	MAIN	FIG	COLLEGE	Light Collector	Collector	0.28
Fallbrook	MAIN	COLLEGE	ASH	Light Collector	Collector	0.18
Fallbrook	MAIN	ASH	FALLBROOK	Light Collector	Collector	0.16
Fallbrook	MAIN	FALLBROOK	AVIATION	Light Collector	Collector	0.38
Fallbrook	MAIN	AVIATION	AMMUNITION	Light Collector	Collector	0.38
Fallbrook	MAIN	AMMUNITION	CLEMMENS	Light Collector	Collector	0.25
Fallbrook	MISSION	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.10
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.31
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Prime Arterial	0.22
Fallbrook	MISSION	LIVE OAK PARK	OLD 395	Light Collector	Collector	1.42
Fallbrook	MISSION	WILLOW GLEN	LIVE OAK PARK	Light Collector	Collector	1.77
Fallbrook	MISSION	EL PAISANO	WILLOW GLEN	Light Collector	Collector	0.69
Fallbrook	MISSION	HAMILTON	EL PAISANO	Light Collector	Collector	1.13
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Collector	1.39
Fallbrook	MISSION	DAVIS	STAGE COACH	Light Collector	Collector	0.35
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Collector	0.26
Fallbrook	MISSION	GUM TREE	INDUSTRIAL	Light Collector	Collector	0.91
Fallbrook	MISSION	INDUSTRIAL	SANTA MARGARITA	Light Collector	Collector	0.36
Fallbrook	MISSION	SANTA MARGARITA	BRANDON	Light Collector	Collector	0.51
Fallbrook	MISSION	BRANDON	IOWA	Light Collector	Collector	0.56
Fallbrook	MISSION	IOWA	ORANGE	Town Collector	Collector	0.10
Fallbrook	MISSION	ORANGE	MAIN	Town Collector	Collector	0.09
Fallbrook	MISSION	OLD STAGE	PEPPER TREE	Major	Prime Arterial	0.16
Fallbrook	MISSION	STAGE COACH	OLIVE HILL	Light Collector	Collector	0.17
Fallbrook	MISSION	WINTER HAVEN	OVERLAND	Light Collector	Collector	0.59
Fallbrook	MISSION	OVERLAND	BIG OAK RANCH	Light Collector	Collector	0.52
Fallbrook	MISSION	BIG OAK RANCH	GREEN CANYON	Light Collector	Collector	0.89
Fallbrook	MISSION	GREEN CANYON	VIA ENCINOS	Light Collector	Collector	0.62

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	MISSION	VIA ENCINOS	HELLERS BEND	Light Collector	Collector	0.71
Fallbrook	MISSION	HELLERS BEND	VIA MONSERATE	Light Collector	Collector	1.48
Fallbrook	MISSION	VIA MONSERATE	BAJA MISSION	Light Collector	Collector	0.22
Fallbrook	MISSION	BAJA MISSION	LA CANADA	Light Collector	Collector	0.63
Fallbrook	MISSION	LA CANADA	CPA BOUNDARY	Light Collector	Collector	1.60
Fallbrook	OLD 395	MISSION	MISSION	Light Collector	Collector	0.64
Fallbrook	OLD 395	RECHE	CANONITA	Light Collector	Town Collector	0.72
Fallbrook	OLD 395	CANONITA	TECALOTE	Light Collector	Town Collector	0.57
Fallbrook	OLD 395	TECALOTE	PALA MESA	Light Collector	Collector	2.17
Fallbrook	OLD 395	PALA MESA	VIA BELMONTE	Light Collector	Collector	1.03
Fallbrook	OLD 395	VIA BELMONTE	PALA	Light Collector	Collector	0.83
Fallbrook	OLD 395	PALA	DULIN	Light Collector	Town Collector	0.54
Fallbrook	OLD 395	DULIN	WEST LILAC	Light Collector	Collector	3.15
Fallbrook	OLIVE HILL	MISSION	ELM TREE	Light Collector	Collector	0.92
Fallbrook	OLIVE HILL	ELM TREE	LA TARA	Light Collector	Collector	0.73
Fallbrook	OLIVE HILL	LA TARA	WHITE HORSE	Light Collector	Collector	1.10
Fallbrook	OLIVE HILL	WHITE HORSE	LADERA VISTA	Light Collector	Collector	1.00
Fallbrook	OLIVE HILL	LADERA VISTA	BURMA	Light Collector	Collector	0.47
Fallbrook	OLIVE HILL	BURMA	RANCHO BONITO	Light Collector	Town Collector	0.31
Fallbrook	OLIVE HILL	RANCHO BONITO	RANCHO CAM	Light Collector	Town Collector	0.36
Fallbrook	OLIVE HILL	RANCHO CAM	GATEVIEW	Light Collector	Collector	1.68
Fallbrook	OLIVE HILL	GATEVIEW	VIA PUERTA DEL S	Light Collector	Collector	1.41
Fallbrook	PANKEY	END OF ROADWAY	PALA	Light Collector	8L Prime	0.92
Fallbrook	PANKEY	PALA	SHEARER	Light Collector	Collector	0.17
Fallbrook	PEPPER TREE	MISSION	WOODLARK	Light Collector	Collector	0.23
Fallbrook	RECHE	STAGE COACH	RECHE WY	Light Collector	Collector	0.40
Fallbrook	RECHE	RECHE WY	FALLBROOK	Light Collector	Collector	0.62
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Collector	0.16
Fallbrook	RECHE	LOS AMIGOS	GREEN CANYON	Light Collector	Collector	0.34
Fallbrook	RECHE	GREEN CANYON	LIVE OAK PARK	Light Collector	Town Collector	0.40
Fallbrook	RECHE	LIVE OAK PARK	GIRD	Light Collector	Town Collector	0.51
Fallbrook	RECHE	GIRD	SCOOTER	Light Collector	Town Collector	0.67
Fallbrook	RECHE	SCOOTER	CALLE TECOLOTIAN	Light Collector	Town Collector	0.58

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	RECHE	CALLE TECOLOTIAN	RANGER	Light Collector	Town Collector	0.53
Fallbrook	RECHE	RANGER	OLD 395	Light Collector	Town Collector	0.39
Fallbrook	STAGE COACH	FALLBROOK	MARITA	Light Collector	Collector	0.51
Fallbrook	STAGE COACH	MARITA	RECHE	Light Collector	Collector	0.50
Fallbrook	STAGE COACH	RECHE	RANCHWOOD	Light Collector	Town Collector	0.38
Fallbrook	STAGE COACH	RANCHWOOD	JOY	Light Collector	Collector	0.25
Fallbrook	STAGE COACH	JOY	BROOKE	Light Collector	Collector	0.72
Fallbrook	STAGE COACH	BROOKE	KNOLLWOOD	Light Collector	Town Collector	0.61
Fallbrook	STAGE COACH	KNOLLWOOD	MORRO	Town Collector	Collector	0.48
Fallbrook	STAGE COACH	MORRO	MISSION	Town Collector	Collector	0.48
Jamul-Dulzura	JAMUL	TUK A WILE	YUCCA	Light Collector	Town Collector	1.04
Jamul-Dulzura	JAMUL	YUCCA	LYONS VALLEY	Light Collector	Town Collector	0.08
Jamul-Dulzura	JEFFERSON	OLIVE VISTA	SR-94	Light Collector	Town Collector	0.18
Jamul-Dulzura	LYONS VALLEY	JEFFERSON	RESERVOIR	Light Collector	Collector	0.39
Jamul-Dulzura	LYONS VALLEY	RESERVOIR	JAMUL	Light Collector	Collector	0.36
Jamul-Dulzura	LYONS VALLEY	JAMUL	RIO GRANDE	Light Collector	Collector	0.85
Jamul-Dulzura	LYONS VALLEY	RIO GRANDE	PLEASANT VIEW	Light Collector	Collector	0.70
Jamul-Dulzura	PROCTOR VALLEY	MELODY	CALLE BUENO GANA	Light Collector	Town Collector	0.11
Jamul-Dulzura	PROCTOR VALLEY	CALLE BUENO GANA	SCHLEE CANYON	Light Collector	Town Collector	0.41
Jamul-Dulzura	PROCTOR VALLEY	SCHLEE CANYON	MAXFIELD	Light Collector	Collector	0.52
Jamul-Dulzura	PROCTOR VALLEY	MAXFIELD	JEFFERSON	Light Collector	Collector	0.38
Lakeside	ASHWOOD	WILLOW	MAPLEVIEW	Light Collector	Collector	2.23
Lakeside	EL NOPAL	FUTURE N/S MASS	MARJEAN	Light Collector	Town Collector	0.33
Lakeside	EL NOPAL	MARJEAN	RIVERFORD	Light Collector	Collector	0.22
Lakeside	I-8 BUSINESS / MAIN	JACKSON HILL	LAVALA	Light Collector	Collector	1.01
Lakeside	I-8 BUSINESS / MAIN	LOS COCHES/CM CA	JACKSON HILL	Light Collector	Collector	0.91
Lakeside	I-8 BUSINESS / MAIN	.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK	LOS COCHES/CM CA	Light Collector	Collector	0.81
Lakeside	I-8 BUSINESS / MAIN	PINKARD	LAKEVIEW / EL DORADO	Light Collector	Town Collector	0.23
Lakeside	JULIAN	CACTUS	LOS COCHES/MAINE	Light Collector	Town Collector	0.18
Lakeside	JULIAN	PINO	LAKEVIEW	Light Collector	Town Collector	0.16

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	LAKE JENNINGS PA	EL MONTE	BASS	Light Collector	Collector	1.00
Lakeside	LAKE JENNINGS PA	BASS	PINKARD	Light Collector	Collector	1.74
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Collector	0.20
Lakeside	LAKE JENNINGS PA	HARRITT	HWY 8/BLOSSOM VA	Light Collector	Collector	0.23
Lakeside	LAKE JENNINGS PA	HWY 8/BLOSSOM VA	RAMP I-8 WB	Light Collector	Collector	0.10
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Collector	0.06
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	OLDE 80	Light Collector	Collector	0.14
Lakeside	LAKESIDE	RIVERSIDE	CHANNEL	Town Collector	Collector	0.42
Lakeside	LOS COCHES	JULIAN	DEL SOL	Town Collector	Collector	0.94
Lakeside	LOS COCHES	DEL SOL	LOS COCHES CT	Town Collector	Collector	1.01
Lakeside	LOS COCHES	LOS COCHES CT	BOWER	Town Collector	Collector	0.76
Lakeside	LOS COCHES	BOWER	LAKEVIEW	Town Collector	Collector	0.40
Lakeside	LOS COCHES	LAKEVIEW	I-8 BUSINESS / MAIN	Town Collector	Collector	0.58
Lakeside	MAPLEVIEW	CHANNEL	SR-67	Light Collector	Collector	0.42
Lakeside	MAPLEVIEW	SR-67	MAINE	Light Collector	Prime Arterial	0.17
Lakeside	MAPLEVIEW	MAINE	VINE	Town Collector	Prime Arterial	0.11
Lakeside	OLDE 80	RIDGE HILL	PECAN PARK	Light Collector	Collector	0.07
Lakeside	OLDE 80	PECAN PARK / SIERRA ALTA	PECAN PARK	Light Collector	Collector	0.61
Lakeside	OLDE 80	PECAN PARK	BOND	Light Collector	Collector	0.30
Lakeside	PEPPER	02ND/WINTER GARD	PEERLESS	Light Collector	Town Collector	0.25
Lakeside	RIVERFORD	EL NOPAL	RIVERSIDE/MAST	Light Collector	Collector	0.16
Lakeside	RIVERFORD	RIVERSIDE/MAST	WOODSIDE(N)	Town Collector	Major	0.63
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Collector	0.08
Lakeside	RIVERFORD	RAMP SR-67 SB	WOODSIDE SOUTH	Light Collector	Collector	0.18
Lakeside	RIVERSIDE	RIVERFORD	PALM ROW	Town Collector	Collector	0.56
Lakeside	RIVERSIDE	PALM ROW	VISTA CAMINO	Town Collector	Collector	0.42
Lakeside	RIVERSIDE	VISTA CAMINO	NEW BEDFORD	Town Collector	Collector	0.21
Lakeside	LAKE JENNING PARK	RAMP I-8 EB	OLDE 80	Light Collector	Collector	0.07
Lakeside	LAKE JENNING PARK	LAKE JENNINGS PARK	RAMP I-8 EB	Light Collector	Collector	0.06
Lakeside	VALLE VISTA	VISTA CAMINO	PAGOSA	Light Collector	Town Collector	0.38
Lakeside	VALLE VISTA	PAGOSA	RIVERSIDE	Light Collector	Town Collector	0.41
Lakeside	WILDCAT CANYON	PATA RANCH	WILLOW	Light Collector	Collector	5.56

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	WILLOW	SR-67	MORENO	Light Collector	Town Collector	0.25
Lakeside	WILLOW	MORENO	FILLBROOK	Light Collector	Town Collector	0.29
Lakeside	WILLOW	FILLBROOK	WILDCAT CANYON	Light Collector	Town Collector	0.36
Lakeside	WOODSIDE	NB OFF RAMP	RIVERFORD	Light Collector	Collector	0.13
Lakeside	WOODSIDE	RIVERFORD	RAMP SR-67 NB	Light Collector	Collector	0.12
Lakeside	WOODSIDE	RAMP SR-67 NB	MARILLA	Light Collector	Collector	0.59
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Collector	0.42
Lakeside	WOODSIDE	RIVERVIEW	WINTER GARDENS	Light Collector	Town Collector	0.35
North County Metro	17TH	LENDEE	SAN PASQUAL VALL	Light Collector	Collector	0.44
North County Metro	BEAR VALLEY	BIRCH	IDAHO	Light Collector	Collector	0.31
North County Metro	BEAR VALLEY	IDAHO	LANDAVO / CAIN	Light Collector	Collector	0.22
North County Metro	BEAR VALLEY	LANDAVO	SUBURBAN HILLS	Light Collector	Collector	0.28
North County Metro	BUENA CREEK / SOUTH SANTA FE	SOUTH SANTA FE	SYCAMORE / ROBELINI	Light Collector	Collector	0.04
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT / BUENA CREEK	Light Collector	Collector	0.06
North County Metro	BUENA CREEK	HARTWRIGHT / BUENA CREEK	HIDDEN OAK	Light Collector	Collector	1.40
North County Metro	BUENA CREEK	HIDDEN OAK	LONE OAK	Light Collector	Collector	0.33
North County Metro	BUENA CREEK	LONE OAK	MONTE VISTA	Light Collector	Collector	0.50
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Collector	1.21
North County Metro	BUENA CREEK	SUGARBUSH	HOLLYBERRY	Light Collector	Collector	0.17
North County Metro	BUENA CREEK	HOLLYBERRY	FREDAS HILL	Light Collector	Town Collector	0.28
North County Metro	BUENA CREEK	FREDAS HILL	BLUE BIRD CANYON	Light Collector	Town Collector	0.50
North County Metro	BUENA CREEK	BLUE BIRD CANYON	TAMARA	Light Collector	Town Collector	0.43
North County Metro	CAMINO DEL ARROYO	CAMINO LINDA DRIVE	RANCHO SANTA FE	Light Collector	Town Collector	0.06
North County Metro	CHAMPAGNE	WELK VIEW	LAWRENCE WELK	Light Collector	Collector	0.74
North County Metro	CHAMPAGNE	LAWRENCE	MOUNTAIN MEADOW	Light Collector	Collector	3.62
North County Metro	DEER SPRINGS	MULBERRY / SYCAMORE DRIVE	MARILYN	Light Collector	Collector	0.33
North County Metro	DEER SPRINGS	MARILYN	SARVER	Light Collector	Collector	0.74
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Prime Arterial	5.79
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Prime Arterial	0.21

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	DEL DIOS	COUNTRY CLUB	ELM	Light Collector	Collector	0.74
North County Metro	HARMONY GROVE	WILGEN	CPA BOUNDARY	Light Collector	Town Collector	1.66
North County Metro	HARMONY GROVE	COUNTRY CLUB	WILGEN	Light Collector	Town Collector	0.39
North County Metro	HOLLYBERRY	BUENA CREEK	SALEM	Light Collector	Collector	0.48
North County Metro	N CENTRE CITY	MOUNTAIN MEADOW	JESMOND DENE	Light Collector	Town Collector	0.58
North County Metro	N CENTRE CITY	JESMOND DENE	MESA ROCK	Light Collector	Collector	2.51
North County Metro	N CENTRE CITY	MESA ROCK	IVY DELL	Light Collector	Collector	0.71
North County Metro	N CENTRE CITY	IVY DELL	CENTRE CITY	Light Collector	Collector	0.42
North County Metro	ROCK SPRING	.005 WEST OF BENNETT / ROCK SPRING INTERSECTION	BENNETT	Light Collector	Collector	0.01
North County Metro	ROCK SPRING	MONTIEL	SEVEN OAKES	Light Collector	Town Collector	0.05
North County Metro	SALEM	HOLLYBERRY	EMMA	Light Collector	Collector	1.00
North County Metro	SAN PASQUAL	ZERMATT	VIA RANCHO	Light Collector	Collector	0.99
North County Metro	SOUTH SANTA FE	WOODLAND	ROBELINI	Major	Prime Arterial	0.56
North County Metro	SYCAMORE	ROBELINI	BUENA CREEK	Major	Prime Arterial	0.50
North County Metro	SYCAMORE	RAMP SR-78 WB	RAMP SR-78 EB	Prime Arterial	Prime	0.09
North County Metro	SYCAMORE	SHADOW RIDGE	HIBISCUS	Major	Prime Arterial	0.29
North County Metro	VALLEY CENTER	ESCONDIDO CPA BOUNDARY	VALLEY CENTER CPA BOUNDARY	Major	Prime Arterial	0.09
North County Metro	VIA RANCHO	VALLEY	LAKE	Light Collector	Town Collector	0.06
North County Metro	VIA RANCHO	LAKE	HIGHLANDS WEST	Light Collector	Town Collector	0.20
North County Metro	VIA RANCHO	HIGHLANDS WEST	EUCALYPTUS	Light Collector	Town Collector	0.50
North County Metro	VIA RANCHO	VISTA DE LA CRESTA	VIA LOMA VISTA	Light Collector	Town Collector	0.57
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Collector	1.49
North County Metro	VIA RANCHO	FELICITA	MONTESANO	Light Collector	Collector	0.26
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	VIA SOL	Light Collector	Collector	2.15
Otay	AIRWAY	FARADAY	ENRICO FERMI	Light Collector	Collector	0.48
Otay	ALTA	DONOVAN STATE PRISON	CALZADA DE LA FUENTE	Light Collector	Collector	0.95
Otay	ALTA	PASEO DE LA FUENTE	CALZADA DE LA FUENTE	Light Collector	Prime Arterial	0.93
Otay	ALTA	OTAY MESA	PASEO DE LA FUENTE	Light Collector	Prime Arterial	0.83

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Otay	ENRICO FERMI	OTAY MESA	RAMP SR-11 WB	Major	Prime Arterial	0.40
Otay	ENRICO FERMI	RAMP SR-11 WB	RAMP SR-11 EB	Major	Prime Arterial	0.18
Otay	ENRICO FERMI	RAMP SR-11 EB	AIRWAY	Major	Prime Arterial	0.65
Otay	ENRICO FERMI	AIRWAY	SIEMPRE VIVA	Light Collector	Prime Arterial	0.90
Otay	HARVEST	LONESTAR	OTAY MESA	Light Collector	Prime Arterial	2.93
Otay	LONESTAR	PIPER RANCH	HARVEST	Light Collector	Prime Arterial	2.31
Otay	OTAY LAKES	WUESTE	LOWER OTAY LAKE	Light Collector	Prime Arterial	1.21
Otay	OTAY LAKES	LOWER OTAY LAKE	CAMPO RD	Light Collector	Town Collector	3.29
Otay	OTAY MESA	PASEO DE LAS AMERICA	FARADAY	Major	Prime Arterial	1.58
Otay	OTAY MESA	FARADAY	ENRICO FERMI	Major	Prime Arterial	0.92
Otay	OTAY MESA	ENRICO FERMI	ALTA	Major	Prime Arterial	5.14
Pala-Pauma	VALLEY CENTER	PALA/SR-76	GOLSH	Town Collector	Collector	1.76
Pendleton-De Luz	BASILONE	RAMP I-5 SB	RAMP I-5 NB	Light Collector	Collector	0.19
Pendleton-De Luz	COAST	SAN DIEGO / I5 RAMP	MONTEREY	Light Collector	Collector	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	VANDEGRIFT	RAMP	Major	Prime Arterial	0.36
Pendleton-De Luz	I5 / HARBOR DRIVE	NB OFF RAMP	SB ON RAMP	Light Collector	Prime Arterial	0.78
Pendleton-De Luz	VANDEGRIFT	WIRE MTN/MAIN GA	RAMP I-5 NB	Major	8L Prime	0.93
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIRC	Light Collector	Collector	0.40
Pepper Drive-Bosto	BRADLEY	STONE EDGE	SAM HILL	Light Collector	Collector	0.23
Pepper Drive-Bosto	BRADLEY	SAM HILL	BERRY DALE	Light Collector	Collector	0.21
Pepper Drive-Bosto	BRADLEY	SUMMER PLACE	01ST	Light Collector	Town Collector	0.12
Pepper Drive-Bosto	GRAVES	PEPPER	GRAVES CT	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	GRAVES	GRAVES CT	BRADLEY	Light Collector	Town Collector	0.29
Pepper Drive-Bosto	GREENFIELD	VERNON	GRAVES	Light Collector	Collector	0.86
Pepper Drive-Bosto	GREENFIELD	DENVER	DIAMOND	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	01ST	ORO	Light Collector	Town Collector	0.26
Pepper Drive-Bosto	GREENFIELD	ORO	02ND	Light Collector	Town Collector	0.21
Pepper Drive-Bosto	MAGNOLIA	AIRPORT	DENNY	Light Collector	Collector	0.53
Pepper Drive-Bosto	MAGNOLIA	DENNY	BRADLEY	Light Collector	Collector	0.20
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Collector	0.31
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Collector	0.63

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Pepper Drive-Bosto	PEERLESS	LILY	GREENFIELD	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	PEPPER	TETON	VULCAN	Light Collector	Town Collector	0.05
Pepper Drive-Bosto	PEPPER	VULCAN	ROXANNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	ROXANNE	GARYWOOD/MARLINDA	Light Collector	Town Collector	0.20
Pepper Drive-Bosto	PEPPER	GARYWOOD/MARLINDA	BATES	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	PEPPER	BATES	MOLLISON	Light Collector	Collector	0.30
Pepper Drive-Bosto	PEPPER	MOLLISON	PEPPER VILLA	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	PEPPER VILLA	01ST	Light Collector	Town Collector	0.25
Pepper Drive-Bosto	PEPPER	SOMER LANE	02ND/WINTER GARD	Light Collector	Town Collector	0.24
Rainbow	OLD 395	MISSION	RAINBOW GLEN	Light Collector	Collector	2.35
Rainbow	OLD 395	05TH	RAINBOW GLEN	Light Collector	Collector	1.14
Rainbow	OLD 395	02ND	05TH	Light Collector	Town Collector	0.29
Rainbow	RAINBOW VALLEY W	RAMP	OLD 395	Light Collector	Town Collector	0.04
Ramona	MONTECITO	DAVIS	RAMONA	Light Collector	Town Collector	0.39
Ramona	OLIVE	MAPLE	PINE	Light Collector	Collector	0.50
Ramona	OLIVE	PINE	ELM	Light Collector	Town Collector	0.29
Ramona	RAMONA	RAYMOND	MAIN	Light Collector	Town Collector	0.14
Ramona	RAMONA	ROWLEY	HANSON LANE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	H STREET	BARGER	Town Collector	Collector	0.94
Ramona	SAN VICENTE	HANSON	JAY BIRD	Town Collector	Collector	0.51
Ramona	SAN VICENTE	JAY BIRD	CREELMAN	Town Collector	Collector	0.49
Ramona	SAN VICENTE	WARNOCK	KEYES	Light Collector	Collector	0.67
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Collector	0.14
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Collector	0.58
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Collector	2.57
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Collector	0.41
Ramona	SAN VICENTE	WILDCAT CANYON	VICENTE MEADOW	Light Collector	Collector	0.64
Ramona	WILDCAT CANYON	SAN VICENTE	LITTLE KLONDIKE	Light Collector	Collector	0.75
Ramona	WILDCAT CANYON	LITTLE KLONDIKE	SAN VINCENTE OAK	Light Collector	Town Collector	2.19
San Dieguito	CAMINO DEL NORTE	DOVE CANYON	RAMP	Light Collector	Prime Arterial	1.24
San Dieguito	CAMINO DEL NORTE	4S RANCH PARKWAY	DOVE CANYON	Light Collector	Collector	0.51
San Dieguito	DEL DIOS	ELM	MT ISRAEL	Light Collector	Collector	2.60
San Dieguito	DEL DIOS	MT ISRAEL	RANCHO	Light Collector	Collector	0.11

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	DEL DIOS	RANCHO	LAKE DR	Light Collector	Collector	1.15
San Dieguito	DEL DIOS	LAKE	RANCHO DEL RIO	Light Collector	Collector	6.32
San Dieguito	DEL DIOS	RANCHO DEL RIO	LUNA DE MIEL	Light Collector	Collector	0.92
San Dieguito	DEL DIOS	LUNA DE MIEL	EL CAMINO DEL NORTE	Light Collector	Collector	1.34
San Dieguito	EL APAJO	VIA DE SANTA FE	SAN DIEGUITO	Light Collector	Town Collector	0.57
San Dieguito	ELFIN FOREST	ELFIN OAKS	HARMONY GROVE	Light Collector	Collector	2.74
San Dieguito	HARMONY GROVE	CRESTWIND/WILGEN	QUESTHAVEN	Light Collector	Town Collector	1.16
San Dieguito	LA BAJADA	CPA BOUNDARY	EL MIRLO	Light Collector	Collector	0.33
San Dieguito	LA BAJADA	EL MIRLO	LA NORIA	Light Collector	Collector	0.57
San Dieguito	PASEO DELICIAS	VIA DE LA VALLE	LA GRANADA	Light Collector	Town Collector	0.29
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Major	0.10
San Dieguito	PASEO DELICIAS	LAVALLE PLATEADA	LA FREMONTIA	Light Collector	Collector	0.18
San Dieguito	PASEO DELICIAS	EL MONTEVIDEO	LAVALLE PLATEADA	Light Collector	Collector	1.09
San Dieguito	PASEO DELICIAS	EL CAMINO DEL NO	EL MONTEVIDEO	Light Collector	Collector	1.13
San Dieguito	RANCHO BERNARDO	CAM SAN BERNARDO	ALVA / CPA BOUNDARY	Major	Prime Arterial	0.57
San Dieguito	SAN DIEGUITO	WINLAND HILLS	CAM SANTA FE	Light Collector	Town Collector	0.74
San Dieguito	SAN DIEGUITO	RANCHO DIEGUENO	WINDLAND HILLS	Light Collector	Collector	0.66
San Dieguito	SAN DIEGUITO	CALLE DEL NIDO	RANCHO DIEGUENO	Light Collector	Town Collector	0.53
San Dieguito	SAN DIEGUITO	EL APAJO	CALLE DEL NIDO	Light Collector	Town Collector	0.08
San Dieguito	SAN DIEGUITO	VIA DOS VALLES	EL APAJO	Light Collector	Collector	1.48
San Dieguito	SAN DIEGUITO	SAN DIEGO CL / CPA BOUNDARY	VIA DOS VALLES	Light Collector	Collector	1.70
San Dieguito	SAN ELIJO RD	FALL VIEW	HIDDEN CANYON	Major	Prime Arterial	0.50
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Collector	0.05
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Collector	1.12
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	VIA DE SANTA FE	Light Collector	Collector	0.06
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	LA GRACIA	Light Collector	Collector	0.79
San Dieguito	VIA DE LA VALLE	LA GRACIA	CALZADA DEL BOSQ	Light Collector	Town Collector	0.49
San Dieguito	VIA DE LA VALLE	CALZADA DEL BOSQ	LAS PALOMAS	Light Collector	Town Collector	0.87
San Dieguito	VIA DE LA VALLE	LAS PALOMAS	CANCHA DE GOLF	Light Collector	Town Collector	0.16
San Dieguito	VIA DE LA VALLE	CANCHA DE GOLF	LAS PLANIDERAS	Light Collector	Collector	1.22
San Dieguito	VIA DE LA VALLE	ARROYO ROSITA	CAMINO REAL	Light Collector	Collector	0.62
San Dieguito	VIA DE SANTA FE	VIA DE LA VALLE	CALZADA DEL BOSQ	Light Collector	Town Collector	0.65

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	VIA DE SANTA FE	CALZADA DEL BOSQ	EL APAJO	Light Collector	Collector	0.83
Spring Valley	APPLE	GRAND AVE	RAMONA	Light Collector	Town Collector	0.15
Spring Valley	APPLE	RAMONA	MAYA	Light Collector	Town Collector	0.26
Spring Valley	BANCROFT	CPA BOUNDARY	RAMP SR-94 EB	Light Collector	Collector	0.05
Spring Valley	BANCROFT	RAMP SR-94 EB	HELIX	Light Collector	Collector	0.08
Spring Valley	BANCROFT	HELIX	KOONCE	Light Collector	Collector	0.33
Spring Valley	BANCROFT	KOONCE	KENWOOD	Light Collector	Collector	0.37
Spring Valley	BANCROFT	KENWOOD	SWITZER	Light Collector	Collector	0.19
Spring Valley	BANCROFT	SWITZER	OLIVE	Light Collector	Collector	0.12
Spring Valley	BANCROFT	OLIVE	LAMAR	Light Collector	Collector	0.50
Spring Valley	BANCROFT	LAMAR	TROY	Light Collector	Collector	0.35
Spring Valley	CAMPO	RAMP	KENWOOD	Light Collector	Collector	0.16
Spring Valley	CAMPO	KENWOOD	TERRACE	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	WHITESTONE	JAMACHA ROAD	Light Collector	Collector	0.59
Spring Valley	JAMACHA BOULEVAR	SPRING GLEN	WHITESTONE	Light Collector	Collector	0.64
Spring Valley	JAMACHA BOULEVAR	SPRING GLEN	POINTE PARKWAY	Light Collector	Collector	0.18
Spring Valley	JAMACHA BOULEVAR	JAMACHA	SPRING GLEN	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	SWEETWATER SPRIN	POINTE PARKWAY	Light Collector	Collector	0.52
Spring Valley	JAMACHA ROAD	RAMP SR-125 HOV	RAMP SR-125 NB	Major	Prime Arterial	0.18
Spring Valley	JAMACHA ROAD	RAMP SR-125 NB	SWEETWATER	Major	Prime Arterial	0.15
Spring Valley	KENWOOD	DALE	RAMP SR-94 EB	Light Collector	Town Collector	0.03
Spring Valley	KENWOOD	RAMP SR-94 EB	RAMP SR-94 WB	Light Collector	Collector	0.19
Spring Valley	PARADISE VALLEY	ELKELTON	RAMP SR-125 SB	Major	Prime Arterial	0.15
Spring Valley	PARADISE VALLEY	RAMP SR-125 SB	RAMP SR-125 NB	Major	Prime Arterial	0.29
Spring Valley	PARADISE VALLEY	RAMP SR-125 NB	SWEETWATER-NEW	Major	Prime Arterial	0.07
Spring Valley	SWEETWATER SPRIN	DEL RIO	DON PICO	Major	Prime Arterial	0.12
Spring Valley	SWEETWATER SPRIN	DON PICO	CRISTOBAL	Major	Prime Arterial	0.16
Spring Valley	TROY	SWEET WATER	CENTRAL	Light Collector	Collector	0.49
Spring Valley	TROY	CENTRAL	BANCROFT	Light Collector	Collector	0.43
Spring Valley	WORTHINGTON	PARADISE VALLEY	VERDE RIDGE	Light Collector	Town Collector	0.11
Sweetwater	BONITA	SWEETWATER	SAN MIGUEL	Light Collector	Collector	0.52
Sweetwater	BONITA	SAN MIGUEL	FRISBIE	Light Collector	Collector	0.86
Sweetwater	BONITA	FRISBIE	CENTRAL	Light Collector	Collector	0.28

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Sweetwater	BONITA	RANDY	PLZA BONITA/LYNN	Major	Prime Arterial	0.82
Sweetwater	BRIARWOOD	SOUTH BAY PARKWAY / FREEWAY	RAMP SR-54 EB	Light Collector	Collector	0.03
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Collector	0.10
Sweetwater	SWEETWATER	VALLEY	WILLOW	Light Collector	Town Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Collector	0.81
Sweetwater	SWEETWATER	DEGEN	BONITA	Light Collector	Collector	0.32
Sweetwater	SWEETWATER	QUARRY	DEGEN	Light Collector	Collector	1.04
Sweetwater	SWEETWATER	SOUTHBAY PARKWAY / FREEWAY	QUARRY	Light Collector	Collector	0.66
Sweetwater	WILLOW	SWEETWATER	BONITA	Light Collector	Collector	0.45
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Town Collector	0.04
Valle De Oro	BANCROFT	RAMP SR-94 WB	CPA BOUNDARY	Light Collector	Collector	0.07
Valle De Oro	CAMPO	KENWOOD	TERRACE	Light Collector	Collector	0.10
Valle De Oro	CAMPO	TERRACE	BANCROFT	Light Collector	Collector	0.41
Valle De Oro	CAMPO	BANCROFT	HELIX	Light Collector	Collector	0.38
Valle De Oro	CAMPO	HELIX	ROGERS	Light Collector	Town Collector	0.38
Valle De Oro	CAMPO	ROGERS	KENWOOD	Light Collector	Town Collector	0.27
Valle De Oro	CHASE	GROVE	BERNITA	Light Collector	Collector	0.22
Valle De Oro	CHASE	BERNITA	CHASE LANE	Light Collector	Collector	0.50
Valle De Oro	CHASE	CHASE LANE	MONUMENT HILL	Light Collector	Collector	0.70
Valle De Oro	CHASE	MONUMENT HILL	FUERTE	Light Collector	Collector	0.14
Valle De Oro	CHASE	FUERTE	BRAYTON	Light Collector	Collector	0.16
Valle De Oro	CHASE	BRAYTON	JAMACHA ROAD	Light Collector	Collector	0.37
Valle De Oro	FUERTE	GROSSMONT SUMMIT	GROSSMONT	Light Collector	Town Collector	0.02
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Town Collector	0.10
Valle De Oro	FUERTE	LEMON	HELIX	Light Collector	Collector	0.72
Valle De Oro	FUERTE	HELIX	GRANDVIEW	Light Collector	Collector	0.82
Valle De Oro	HILLSDALE	CHASE	WIND RIVER	Light Collector	Town Collector	0.16
Valle De Oro	JAMUL	STEELE CANYON	IVANHOE RANCH	Light Collector	Collector	0.35

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	JAMUL	IVANHOE RANCH	COTTONWOOD SPRIN	Light Collector	Collector	0.95
Valle De Oro	JAMUL	COTTONWOOD SPRIN	TUK A WILE	Light Collector	Town Collector	1.34
Valle De Oro	KENWOOD	RAMP SR-94 WB	CAMPO	Light Collector	Collector	0.20
Valle De Oro	NORTH BARCELONA	CAMPO	DOLORES	Light Collector	Town Collector	0.06
Valle De Oro	STEELE CANYON	WILLOW GLEN	JAMUL	Light Collector	Collector	1.00
Valle De Oro	STEELE CANYON	JAMUL	OLD CALIFORNIA	Light Collector	Town Collector	0.19
Valle De Oro	VIA MERCADO	CALLE VERDE	CAMPO	Light Collector	Collector	0.31
Valle De Oro	WILLOW GLEN	HILLSDALE	.31 MILES BEFORE STEELE CANYON	Light Collector	Town Collector	0.81
Valley Center	CHAMPAGNE	OLD 395	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	CHAMPAGNE	OLD CASTLE	CPA BOUNDARY	Light Collector	Collector	1.93
Valley Center	COLE GRADE	VIA VALENCIA	FRUITVALE	Town Collector	Collector	1.36
Valley Center	COLE GRADE	FRUITVALE	1003 ft NORTH OF VALLEY CENTER	Town Collector	Collector	0.96
Valley Center	COLE GRADE	1003 ft NORTH OF VALLEY CENTER	VALLEY CENTER	Town Collector	Major	0.38
Valley Center	LILAC	WEST LILAC	LILAC HILL	Light Collector	Town Collector	0.26
Valley Center	LILAC	LILAC HILL	OLD CASTLE	Light Collector	Town Collector	1.27
Valley Center	LILAC	OLD CASTLE	ROBLE VERDE	Light Collector	Collector	1.27
Valley Center	LILAC	ROBLE VERDE	ANTHONY	Light Collector	Collector	2.02
Valley Center	LILAC	ANTHONY	BETSWORTH	Light Collector	Collector	2.80
Valley Center	LILAC	BETSWORTH	VALLEY CENTER	Light Collector	Collector	0.58
Valley Center	MOUNTAIN MEADOW	AERIE	FRACE	Light Collector	Town Collector	0.26
Valley Center	OLD 395	CAM DEL REY	CIRCLE R	Light Collector	Collector	1.65
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Collector	0.30
Valley Center	OLD CASTLE	CHAMPAGNE	PRIVATE ROAD e/o QUEEN ANN	Light Collector	Collector	3.44
Valley Center	OLD CASTLE	PRIVATE ROAD e/o QUEEN ANN	AIRFLIGHT	Light Collector	Town Collector	2.21
Valley Center	VALLEY CENTER	VESPER	COLE GRADE	Light Collector	Collector	0.43
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Major	Prime Arterial	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Major	Prime Arterial	0.59

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valley Center	VALLEY CENTER	SUNDAY	CHARLAN	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHARLAN	WOODS VALLEY	Major	Prime Arterial	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Major	Prime Arterial	0.29
Valley Center	VALLEY CENTER	BANBURY	CPA BOUNDARY	Major	Prime Arterial	3.00

Appendix B
Buildout Deficiencies
State Facilities

CPA	Name	From	To	Lanes	Additional Lane Miles Required
Bonsall	MISSION	CPA BOUNDARY	.045 MILES WEST OF MISSION / PALA	2	13.66
Bonsall	MISSION	.045 WEST OF	.045 EAST OF MISSION / PALA	4	0.36
Bonsall	PALA	.045 EAST OF MISSION /	CPA BOUNDARY	2	2.55
Central Mountain	SR-78	RAMONA CPA - WEST OF	RAMONA CPA - EAST OF CENTRAL	2	0.42
Fallbrook	PALA	CPA BOUNDARY	COUSER CANYON ROAD	2	12.44
Jamul-Dulzura	CAMPO	CPA BOUNDARY / COUGAR	STONEY OAK ROAD	2	15.13
Jamul-Dulzura	SR-94	STONEY OAK ROAD	HONEY SPRING	2	0.83
Lakeside	SR-67	.2 miles South of SCRIPPS	.8 Miles South of FOSTER TRUCK TRAIL	2	2.23
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.2 Miles South of SCRIPPS POWAY	2	0.23
Lakeside	SR-67	CPA BOUNDARY	SCRIPPS POWAY PARKWAY	2	1.26
Lakeside	SR-67	VINE STREET ENTRANCE	MAPLEVIEW	3	0.92
Lakeside	SR-67	MAPLE VIEW	START OF SR. 67	4	0.07
Mountain Empire	TECATE	SR-94	HUMPHRIES ROAD	2	2.93
North County Metro	SAN PASQUAL VALLEY	BEAR VALLEY	.12 AFTER OLD SAN PASQUAL ROAD	2	2.24
North County Metro	SR-78	SYCAMORE (SEGMENT ON	SMILAX / CPA BOUNDARY	2	1.52
North Mountain	JULIAN / SR - 67	CPA BOUNDARY	SR-79	2	7.92
Pala-Pauma	SR-76	RED GATE ROAD (West Side)	CALLE EL POTRERO	2	2.50
Ramona	JULIAN / SR - 67	CPA BOUNDARY	MUSSEY GRADE	2	8.90
Ramona	JULIAN / SR - 67	OLD JULIAN	RAMONA CPA - WEST OF CENTRAL	2	3.43
Ramona	JULIAN / SR - 67 / MAIN	MUSSEY GRADE ROAD	MONTECITO	2	5.40
Ramona	JULIAN / SR - 67 / MAIN	10 TH	8TH	4	0.72
Ramona	SR-78	CPA BOUNDARY	HAVER FORD	2	3.85
Valle De Oro	CAMPO	JAMACHA ROAD	COUGAR CANYON ROAD	2	2.75

APPENDIX C – TIF IMPROVEMENT FACILITIES

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	DUNBAR	RAMP I8 EB	Light Collector	Town Collector	0.07
Alpine	ALPINE	TAVERN	WEST VICTORIA	Light Collector	Collector	1.40
Alpine	ALPINE	WEST VICTORIA	Eltinge / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	Eltinge / MARSHALL	BAY MDOWS/MARINO	Light Collector	Collector	0.78
Alpine	ALPINE	BAY MDOWS/MARINO	SO GRADE/E VICTO	Light Collector	Collector	0.91
Alpine	SOUTH GRADE	Eltinge	OLIVE VIEW	Light Collector	Town Collector	0.08
Alpine	TAVERN	MONTEREY PL	VICTORIA PARK	Light Collector	Collector	1.20
Alpine	TAVERN	VICTORIA PARK	RAMP I-8 WB	Light Collector	Major	0.07
Alpine	TAVERN	RAMP I-8 EB	ALPINE	Major	Prime Arterial	0.20
Alpine	TAVERN	ARNOLD	TAVERN CT	Light Collector	Collector	0.29
Alpine	VICTORIA PARK	TAVERN	GENTIAN	Light Collector	Town Collector	0.40
Alpine	WILLOWS	RAMP I-8 EB	ALPINE	Light Collector	Town Collector	0.02
Barona	WILDCAT CANYON	PAINTED ROCK / SAN VINCENTE OAK	FEATHERSTONE CANYON	Light Collector	Town Collector	2.09
Barona	WILDCAT CANYON	FEATHERSTONE CANYON	BARONA ROAD	Light Collector	Town Collector	1.87
Barona	WILDCAT CANYON	BARONA ROAD	PATA RANCH	Light Collector	Collector	5.75
Bonsall	CHAMPAGNE	LAWRENCE WELK	OLD CASTLE	Light Collector	Collector	1.80
Bonsall	EAST VISTA	MISSION	OLD RIVER	Town Collector	Collector	0.13
Bonsall	GOPHER CANYON	ORMSBY	VISTA VALLEY	Light Collector	Collector	1.98
Bonsall	GOPHER CANYON	VISTA VALLEY	TWIN OAKS VALLEY	Light Collector	Collector	1.57
Bonsall	GOPHER CANYON	TWIN OAKS VALLEY	AVOHILL	Light Collector	Collector	1.65
Bonsall	GOPHER CANYON	AVOHILL	RAMP I-15 SB	Light Collector	Collector	1.63
Bonsall	GOPHER CANYON	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.19
Bonsall	GOPHER CANYON	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.14
Bonsall	NORTH RIVER	KARI LANE	VIA PUERTA DEL S	Light Collector	Collector	0.10
Bonsall	NORTH RIVER	VIA PUERTA DEL S	MISSION	Light Collector	Collector	0.85
Bonsall	OLD 395	WEST LILAC	RAMP I-15 SB	Light Collector	Town Collector	0.85
Bonsall	OLD RIVER	CAMINO DEL REY	GOLF CLUB	Light Collector	Town Collector	0.33
Bonsall	OLD RIVER	GOLF CLUB	DENTRO	Light Collector	Town Collector	0.44
Bonsall	OLD RIVER	DENTRO	GOPHER CANYON	Light Collector	Town Collector	1.04
Bonsall	OLD RIVER	GOPHER CANYON	new OLD RIVER	Light Collector	Town Collector	0.53
Bonsall	OLIVEHILL / CAMINO DEL REY	MISSION	WEST LILAC / CAMINO DEL REY	Light Collector	Town Collector	0.25

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Bonsall	VIA PUERTA DEL S	OLIVE HILL	VALLE DEL SOL	Light Collector	Town Collector	0.60
Bonsall	VIA PUERTA DEL S	VALLE DEL SOL	NORTH RIVER	Light Collector	Town Collector	1.52
Bonsall	WEST LILAC / CAMINO DEL REY	OLD RIVER	CAMINO DEL REY	Light Collector	Collector	0.59
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Collector	0.64
Crest-Dehesa	DEHESA	VISTA GRANDE	SINGING TRAILS	Light Collector	Collector	0.89
Crest-Dehesa	DEHESA	SINGING TRAILS	WILLOW GLEN	Light Collector	Town Collector	0.81
Crest-Dehesa	DEHESA	WILLOW GLEN	HARBISON CANYON	Light Collector	Collector	6.44
Crest-Dehesa	DEHESA	HARBISON CANYON	VISTA DE LA MONTANA	Light Collector	Collector	0.50
Crest-Dehesa	DEHESA	VISTA DE LA MONTANA	SYCUAN	Light Collector	Collector	0.97
Crest-Dehesa	SYCUAN	DEHESA	SYCUAN CASINO	Light Collector	Collector	0.70
Desert	BORREGO SPRINGS	CHRISTMAS S	STIRRUP	Light Collector	Collector	0.42
Desert	CHRISTMAS N	BORREGO SPRINGS	PALM CANYON	Light Collector	Collector	0.13
Desert	CHRISTMAS S	CHRISTMAS N	BORREGO SPRINGS	Light Collector	Collector	0.14
Desert	PALM CANYON	SUN AND SHADOWS	OCOTILLO	Light Collector	Town Collector	0.22
Desert	PALM CANYON	OCOTILLO	CHRISTMAS N	Light Collector	Collector	0.95
Desert	PALM CANYON	CHRISTMAS N	DIAMON BAR ROAD	Light Collector	Collector	0.49
Desert	PALM CANYON	STIRRUP	DI GIORGIO	Light Collector	Town Collector	0.23
Desert	PALM CANYON	DI GIORGIO	FAIRWAY	Light Collector	Town Collector	0.48
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Collector	0.54
Fallbrook	FALLBROOK	GOLDEN	MC DONALD	Light Collector	Town Collector	0.35
Fallbrook	FALLBROOK	MC DONALD	DEBBY	Light Collector	Town Collector	0.28
Fallbrook	FALLBROOK	DEBBY	STAGE COACH	Light Collector	Town Collector	0.22
Fallbrook	MISSION	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.10
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.31
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Prime Arterial	0.22
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Collector	1.39
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Collector	0.26
Fallbrook	MISSION	OLD STAGE	PEPPER TREE	Major	Prime Arterial	0.16
Fallbrook	OLD 395	MISSION	CPA BOUNDARY	Light Collector	Collector	0.64
Fallbrook	OLD 395	RECHE	CANONITA	Light Collector	Town Collector	0.72
Fallbrook	OLD 395	CANONITA	TECALOTE	Light Collector	Town Collector	0.57
Fallbrook	OLD 395	TECALOTE	PALA MESA	Light Collector	Collector	2.17

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	OLD 395	PALA MESA	VIA BELMONTE	Light Collector	Collector	1.03
Fallbrook	OLD 395	VIA BELMONTE	PALA	Light Collector	Collector	0.83
Fallbrook	OLD 395	PALA	DULIN	Light Collector	Town Collector	0.54
Fallbrook	OLD 395	DULIN	DULIN	Light Collector	Collector	0.43
Fallbrook	OLD 395	DULIN	WEST LILAC	Light Collector	Collector	2.72
Fallbrook	OLIVE HILL	MISSION	AIRPARK DRIVEWAY	Light Collector	Collector	0.29
Fallbrook	OLIVE HILL	AIRPARK DRIVEWAY	ELM TREE	Light Collector	Collector	0.63
Fallbrook	OLIVE HILL	ELM TREE	LA TARA	Light Collector	Collector	0.73
Fallbrook	OLIVE HILL	LA TARA	WHITE HORSE	Light Collector	Collector	1.10
Fallbrook	OLIVE HILL	WHITE HORSE	LADERA VISTA	Light Collector	Collector	1.00
Fallbrook	OLIVE HILL	LADERA VISTA	BURMA	Light Collector	Collector	0.47
Fallbrook	OLIVE HILL	BURMA	RANCHO BONITO	Light Collector	Town Collector	0.31
Fallbrook	OLIVE HILL	RANCHO BONITO	RANCHO CAM	Light Collector	Town Collector	0.36
Fallbrook	OLIVE HILL	RANCHO CAM	GATEVIEW	Light Collector	Collector	1.68
Fallbrook	OLIVE HILL	GATEVIEW	VIA PUERTA DEL S	Light Collector	Collector	1.41
Fallbrook	PANKEY	.2 MILE NORTH OF PALA INTERSECTION	PALA	Light Collector	8L Prime	0.92
Fallbrook	PANKEY	PALA	SHEARER	Light Collector	Collector	0.17
Fallbrook	PEPPER TREE	MISSION	WOODLARK	Light Collector	Collector	0.23
Fallbrook	RECHE	STAGE COACH	RECHE WY	Light Collector	Collector	0.40
Fallbrook	RECHE	RECHE WY	FALLBROOK	Light Collector	Collector	0.62
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Collector	0.16
Fallbrook	RECHE	LOS AMIGOS	GREEN CANYON	Light Collector	Collector	0.34
Fallbrook	RECHE	GREEN CANYON	LIVE OAK PARK	Light Collector	Town Collector	0.40
Fallbrook	RECHE	LIVE OAK PARK	GIRD	Light Collector	Town Collector	0.51
Fallbrook	RECHE	GIRD	SCOOTER	Light Collector	Town Collector	0.67
Fallbrook	RECHE	SCOOTER	CALLE TECOLOTIAN	Light Collector	Town Collector	0.58
Fallbrook	RECHE	CALLE TECOLOTIAN	RANGER	Light Collector	Town Collector	0.53
Fallbrook	RECHE	RANGER	OLD 395	Light Collector	Town Collector	0.39
Fallbrook	STAGE COACH	RECHE	RANCHWOOD	Light Collector	Town Collector	0.38
Fallbrook	STAGE COACH	RANCHWOOD	JOY	Light Collector	Collector	0.25
Fallbrook	STAGE COACH	JOY	BROOKE	Light Collector	Collector	0.72
Fallbrook	STAGE COACH	BROOKE	KNOLLWOOD	Light Collector	Town Collector	0.61
Fallbrook	STAGE COACH	KNOLLWOOD	MORRO	Town Collector	Collector	0.48

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	STAGE COACH	MORRO	MISSION	Town Collector	Collector	0.48
Jamul-Dulzura	JAMUL	TUK A WILE	YUCCA	Light Collector	Town Collector	1.04
Jamul-Dulzura	JAMUL	YUCCA	LYONS VALLEY	Light Collector	Town Collector	0.08
Jamul-Dulzura	JEFFERSON	OLIVE VISTA	SR-94	Light Collector	Town Collector	0.18
Jamul-Dulzura	LYONS VALLEY	JEFFERSON	RESERVOIR	Light Collector	Collector	0.39
Jamul-Dulzura	LYONS VALLEY	RESERVOIR	JAMUL	Light Collector	Collector	0.36
Jamul-Dulzura	LYONS VALLEY	JAMUL	RIO GRANDE	Light Collector	Collector	0.85
Jamul-Dulzura	LYONS VALLEY	RIO GRANDE	PLEASANT VIEW	Light Collector	Collector	0.70
Jamul-Dulzura	PROCTOR VALLEY	MELODY	CALLE BUENO GANA	Light Collector	Town Collector	0.11
Jamul-Dulzura	PROCTOR VALLEY	CALLE BUENO GANA	SCHLEE CANYON	Light Collector	Town Collector	0.41
Jamul-Dulzura	PROCTOR VALLEY	SCHLEE CANYON	MAXFIELD	Light Collector	Collector	0.52
Jamul-Dulzura	PROCTOR VALLEY	MAXFIELD	JEFFERSON	Light Collector	Collector	0.38
Lakeside	ASHWOOD	WILLOW	MAPLEVIEW	Light Collector	Collector	2.23
Lakeside	EL NOPAL	FUTURE N/S MASS	MARJEAN	Light Collector	Town Collector	0.33
Lakeside	EL NOPAL	MARJEAN	RIVERFORD	Light Collector	Collector	0.22
Lakeside	I-8 BUSINESS / MAIN	JACKSON HILL	LAVALA	Light Collector	Collector	1.01
Lakeside	I-8 BUSINESS / MAIN	.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK ENTRANCE	LOS COCHES/CM CA	Light Collector	Collector	0.81
Lakeside	JULIAN	CACTUS	LOS COCHES/MAINE	Light Collector	Town Collector	0.18
Lakeside	JULIAN	PINO	LAKEVIEW	Light Collector	Town Collector	0.16
Lakeside	LAKE JENNINGS PA	EL MONTE	BASS	Light Collector	Collector	1.00
Lakeside	LAKE JENNINGS PA	BASS	PINKARD	Light Collector	Collector	1.74
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Collector	0.20
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Collector	0.06
Lakeside	LAKESIDE	RIVERSIDE	CHANNEL	Town Collector	Collector	0.42
Lakeside	LOS COCHES	JULIAN	DEL SOL	Town Collector	Collector	0.94
Lakeside	LOS COCHES	DEL SOL	LOS COCHES CT	Town Collector	Collector	1.01
Lakeside	LOS COCHES	LOS COCHES CT	BOWER	Town Collector	Collector	0.76
Lakeside	MAPLEVIEW	CHANNEL	SR-67	Light Collector	Collector	0.42
Lakeside	MAPLEVIEW	MAINE	VINE	Town Collector	Prime Arterial	0.11
Lakeside	OLDE 80	RIDGE HILL	PECAN PARK	Light Collector		0.07

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	OLDE 80	PECAN PARK / SIERRA ALTA	PECAN PARK	Light Collector	Collector	0.61
Lakeside	OLDE 80	PECAN PARK	BOND	Light Collector	Collector	0.30
Lakeside	PEPPER	02ND/WINTER GARD	PEERLESS	Light Collector	Town Collector	0.25
Lakeside	RIVERFORD	EL NOPAL	RIVERSIDE/MAST	Light Collector	Collector	0.16
Lakeside	RIVERFORD	RIVERSIDE/MAST	WOODSIDE(N)	Town Collector	Major	0.63
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Collector	0.08
Lakeside	RIVERFORD	RAMP SR-67 SB	WOODSIDE SOUTH	Light Collector	Collector	0.18
Lakeside	RIVERSIDE	RIVERFORD	PALM ROW	Town Collector	Collector	0.56
Lakeside	RIVERSIDE	PALM ROW	VISTA CAMINO	Town Collector	Collector	0.42
Lakeside	RIVERSIDE	VISTA CAMINO	NEW BEDFORD	Town Collector	Collector	0.21
Lakeside	SIERRA ALTA	RAMP I-8 EB	OLDE 80	Light Collector	Collector	0.07
Lakeside	SIERRA ALTA	LAKE JENNINGS PA	RAMP I-8 EB	Light Collector	Collector	0.06
Lakeside	VALLE VISTA	VISTA CAMINO	PAGOSA	Light Collector	Town Collector	0.38
Lakeside	VALLE VISTA	PAGOSA	RIVERSIDE	Light Collector	Town Collector	0.41
Lakeside	WILLOW	SR-67	MORENO	Light Collector	Town Collector	0.25
Lakeside	WILLOW	MORENO	FILLBROOK	Light Collector	Town Collector	0.29
Lakeside	WILLOW	FILLBROOK	WILDCAT CANYON	Light Collector	Town Collector	0.36
Lakeside	WOODSIDE	NB OFF RAMP	RIVERFORD	Light Collector	Collector	0.13
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Collector	0.42
Lakeside	WOODSIDE	RIVERVIEW	WINTER GARDENS	Light Collector	Town Collector	0.35
North County Metro	17TH	LENDEE	SAN PASQUAL VALL	Light Collector	Collector	0.44
North County Metro	BUENA CREEK / SOUTH SANTA FE	SOUTH SANTA FE	SYCAMORE	Light Collector	Collector	0.04
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT	Light Collector	Collector	0.06
North County Metro	BUENA CREEK	HARTWRIGHT	HIDDEN OAK	Light Collector	Collector	1.40
North County Metro	BUENA CREEK	HIDDEN OAK	LONE OAK	Light Collector	Collector	0.33
North County Metro	BUENA CREEK	LONE OAK	MONTE VISTA	Light Collector	Collector	0.50
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Collector	1.21
North County Metro	BUENA CREEK	SUGARBUSH	HOLLYBERRY	Light Collector	Collector	0.17
North County Metro	BUENA CREEK	HOLLYBERRY	FREDAS HILL	Light Collector	Town Collector	0.28
North County Metro	BUENA CREEK	FREDAS HILL	BLUE BIRD CANYON	Light Collector	Town Collector	0.50
North County Metro	BUENA CREEK	BLUE BIRD CANYON	TAMARA	Light Collector	Town Collector	0.43
North County Metro	CAMINO DEL ARROYO	CAMINO LINDA DRIVE	RANCHO SANTA FE	Light Collector	Town Collector	0.06

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	CHAMPAGNE	WELK VIEW	LAWRENCE WELK	Light Collector	Collector	0.74
North County Metro	CHAMPAGNE	LAWRENCE	MOUNTAIN MEADOW	Light Collector	Collector	3.62
North County Metro	DEER SPRINGS	MULBERRY	MARILYN	Light Collector	Collector	0.33
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Prime Arterial	5.79
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Prime Arterial	0.21
North County Metro	DEL DIOS	COUNTRY CLUB	ELM	Light Collector	Collector	0.74
North County Metro	HARMONY GROVE	WILGEN	CPA BOUNDARY	Light Collector	Town Collector	1.66
North County Metro	HARMONY GROVE	COUNTRY CLUB	WILGEN	Light Collector	Town Collector	0.39
North County Metro	HOLLYBERRY	BUENA CREEK	SALEM	Light Collector	Collector	0.48
North County Metro	N CENTRE CITY	MOUNTAIN MEADOW	JESMOND DENE	Light Collector	Town Collector	0.58
North County Metro	N CENTRE CITY	JESMOND DENE	MESA ROCK	Light Collector	Collector	2.51
North County Metro	N CENTRE CITY	MESA ROCK	IVY DELL	Light Collector	Collector	0.71
North County Metro	N CENTRE CITY	IVY DELL	CENTRE CITY	Light Collector	Collector	0.58
North County Metro	ROCK SPRING	.005 WEST OF BENNETT / ROCK SPRING INTERSECTION	BENNETT	Light Collector	Collector	0.01
North County Metro	ROCK SPRING	MONTIEL	SEVEN OAKES	Light Collector	Town Collector	0.05
North County Metro	SALEM	HOLLYBERRY	EMMA	Light Collector	Collector	1.00
North County Metro	SOUTH SANTA FE	WOODLAND	ROBELINI	Major	Prime Arterial	0.56
North County Metro	SYCAMORE	BUENA CREEK	ROBELINI	Major	Prime Arterial	0.50
North County Metro	SYCAMORE	RAMP SR-78 WB	RAMP SR-78 EB	Prime Arterial	8L Prime	0.09
North County Metro	VALLEY CENTER	NORTH COUNTY CPA BOUNDARY	VALLEY CENTER CPA BOUNDARY	Major	Prime Arterial	0.09
North County Metro	VIA RANCHO	VISTA DE LA CRESTA	VIA LOMA VISTA	Light Collector	Town Collector	0.57
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Collector	1.49
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	VIA SOL	Light Collector	Collector	2.15
Otay	AIRWAY	FARADAY	ENRICO FERMI	Light Collector	Collector	0.48
Otay	ALTA	DONOVAN STATE PRISON	CALZADA DE LA FUENTE	Light Collector	Collector	0.95
Otay	ALTA	PASEO DE LA FUENTE	CALZADA DE LA FUENTE	Light Collector	Prime Arterial	0.93
Otay	ALTA	OTAY MESA	PASEO DE LA FUENTE	Light Collector	Prime Arterial	0.83
Otay	ENRICO FERMI	OTAY MESA	RAMP SR-11 WB	Major	Prime Arterial	0.40

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Otay	ENRICO FERMI	RAMP SR-11 WB	RAMP SR-11 EB	Major	Prime Arterial	0.18
Otay	ENRICO FERMI	RAMP SR-11 EB	AIRWAY	Major	Prime Arterial	0.65
Otay	ENRICO FERMI	AIRWAY	SIEMPRE VIVA	Light Collector	Prime Arterial	0.90
Otay	HARVEST	LONESTAR	OTAY MESA	Light Collector	Prime Arterial	2.93
Otay	LONESTAR	PIPER RANCH	HARVEST	Light Collector	Prime Arterial	2.31
Otay	OTAY LAKES	WUESTE	LOWER OTAY LAKE	Light Collector	Prime Arterial	1.21
Otay	OTAY LAKES	LOWER OTAY LAKE	CAMPO RD	Light Collector	Town Collector	3.29
Otay	OTAY MESA	PASEO DE LAS AMERICA	FARADAY	Major	Prime Arterial	1.58
Otay	OTAY MESA	FARADAY	ENRICO FERMI	Major	Prime Arterial	0.92
Otay	OTAY MESA	ENRICO FERMI	ALTA	Major	Prime Arterial	5.14
Pala-Pauma	VALLEY CENTER	PALA/SR-76	GOLSH	Town Collector	Collector	1.76
Pendleton-De Luz	BASILONE	RAMP I-5 SB	RAMP I-5 NB	Light Collector	Collector	0.19
Pendleton-De Luz	COAST	SAN DIEGO / I5 RAMP	MONTEREY	Light Collector	Collector	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	RAMP	RAMP	Light Collector	Prime Arterial	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	RAMP	RAMP	Light Collector	Prime Arterial	0.65
Pendleton-De Luz	VANDEGRIFT	WIRE MTN/MAIN GA	RAMP I-5 NB	Major	8L Prime	0.93
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIRC	Light Collector	Collector	0.40
Pepper Drive-Bosto	BRADLEY	STONE EDGE	SAM HILL	Light Collector	Collector	0.23
Pepper Drive-Bosto	BRADLEY	SAM HILL	BERRY DALE	Light Collector	Collector	0.21
Pepper Drive-Bosto	BRADLEY	SUMMER PLACE	01ST	Light Collector	Town Collector	0.12
Pepper Drive-Bosto	GRAVES	PEPPER	GRAVES CT	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	GREENFIELD	VERNON	GRAVES	Light Collector	Collector	0.86
Pepper Drive-Bosto	GREENFIELD	DENVER	DIAMOND	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	01ST	ORO	Light Collector	Town Collector	0.26
Pepper Drive-Bosto	GREENFIELD	ORO	02ND	Light Collector	Town Collector	0.21
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Collector	0.31
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Collector	0.63
Pepper Drive-Bosto	PEERLESS	LILY	GREENFIELD	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	PEPPER	TETON	VULCAN	Light Collector	Town Collector	0.05
Pepper Drive-Bosto	PEPPER	GARYWOOD/MARLIND	BATES	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	PEPPER	BATES	MOLLISON	Light Collector	Collector	0.30
Pepper Drive-Bosto	PEPPER	MOLLISON	PEPPER VILLA	Light Collector	Town Collector	0.07

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Pepper Drive-Bosto	PEPPER	PEPPER VILLA	01ST	Light Collector	Town Collector	0.25
Pepper Drive-Bosto	PEPPER	SOMER LANE	02ND/WINTER GARD	Light Collector	Town Collector	0.24
Rainbow	OLD 395	RAINBOW VALLEY	MISSION	Light Collector	Collector	1.71
Rainbow	OLD 395	RAINBOW GLEN	RAINBOW VALLEY	Light Collector	Collector	0.64
Rainbow	OLD 395	05TH	RAINBOW GLEN	Light Collector	Collector	1.14
Rainbow	OLD 395	02ND	05TH	Light Collector	Town Collector	0.29
Rainbow	RAINBOW VALLEY W	RAMP	OLD 395	Light Collector	Town Collector	0.04
Ramona	MONTECITO	DAVIS	RAMONA	Light Collector	Town Collector	0.39
Ramona	OLIVE	MAPLE	PINE	Light Collector	Collector	0.50
Ramona	OLIVE	PINE	ELM	Light Collector	Town Collector	0.29
Ramona	RAMONA	RAYMOND	MAIN	Light Collector	Town Collector	0.14
Ramona	RAMONA	ROWLEY	HANSON LANE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	H STREET	BARGER	Town Collector	Collector	0.94
Ramona	SAN VICENTE	HANSON	JAY BIRD	Town Collector	Collector	0.51
Ramona	SAN VICENTE	JAY BIRD	CREELMAN	Town Collector	Collector	0.49
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Collector	0.14
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Collector	0.58
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Collector	2.57
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Collector	0.41
Ramona	WILDCAT CANYON	SAN VICENTE	LITTLE KLONDIKE	Light Collector	Collector	0.75
Ramona	WILDCAT CANYON	LITTLE KLONDIKE	SAN VINCENTE OAK	Light Collector	Town Collector	2.19
San Dieguito	CAM DEL NORTE	4S RANCH PARKWAY	RAMP	Light Collector	Prime Arterial	1.24
San Dieguito	DEL DIOS	RANCHO DEL RIO	LUNA DE MIEL	Light Collector	Collector	0.92
San Dieguito	EL APAJO	VIA DE SANTA FE	SAN DIEGUITO	Light Collector	Town Collector	0.57
San Dieguito	ELFIN FOREST	ELFIN OAKS	HARMONY GROVE	Light Collector	Collector	2.74
San Dieguito	HARMONY GROVE	CRESTWIND/WILGEN	QUESTHAVEN	Light Collector	Town Collector	1.16
San Dieguito	BAJADA	EL MIRLO	LA NORIA	Light Collector	Collector	0.57
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Major	0.10
San Dieguito	RANCHO BERNARDO	CAM SAN BERNARDO	ALVA / CPA BOUNDARY	Major	Prime Arterial	0.57
San Dieguito	RANCHO SANTA FE	CPA BOUNDARY	EL MIRLO	Light Collector	Collector	0.33
San Dieguito	CAMINO DEL NORTE	4S RANCH PARKWAY	BLACK MOUNTAIN	Light Collector	Collector	0.51
San Dieguito	SAN DIEGUITO	WINLAND HILLS	CAM SANTA FE	Light Collector	Town Collector	0.74
San Dieguito	SAN DIEGUITO	RANCHO DIEGUENO	WINDLAND HILLS	Light Collector	Collector	0.66
San Dieguito	SAN DIEGUITO	CALLE DEL NIDO	RANCHO DIEGUENO	Light Collector	Town Collector	0.53

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	SAN DIEGUITO	EL APAJO	CALLE DEL NIDO	Light Collector	Town Collector	0.08
San Dieguito	SAN DIEGUITO	VIA DOS VALLES	EL APAJO	Light Collector	Collector	1.48
San Dieguito	SAN DIEGUITO	SAN DIEGO CL / CPA BOUNDARY	VIA DOS VALLES	Light Collector	Collector	1.70
San Dieguito	SAN ELIJO RD	FALL VIEW	HIDDEN CANYON	Major	Prime Arterial	0.50
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Collector	0.05
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Collector	1.12
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	LA GRACIA	Light Collector	Collector	0.79
San Dieguito	VIA DE LA VALLE	LA GRACIA	CALZADA DEL BOSQ	Light Collector	Town Collector	0.49
San Dieguito	VIA DE SANTA FE	VIA DE LA VALLE	CALZADA DEL BOSQ	Light Collector	Town Collector	0.65
San Dieguito	VIA DE SANTA FE	CALZADA DEL BOSQ	EL APAJO	Light Collector	Collector	0.83
Spring Valley	APPLE	GRAND AVE	RAMONA	Light Collector	Town Collector	0.15
Spring Valley	APPLE	RAMONA	MAYA	Light Collector	Town Collector	0.26
Spring Valley	JAMACHA ROAD	RAMP SR-125 HOV	RAMP SR-125 NB	Major	Prime Arterial	0.18
Spring Valley	JAMACHA ROAD	RAMP SR-125 NB	SWEETWATER	Major	Prime Arterial	0.15
Spring Valley	KENWOOD	DALE	RAMP SR-94 EB	Light Collector	Town Collector	0.03
Spring Valley	PARADISE VALLEY	ELKELTON	RAMP SR-125 SB	Major	Prime Arterial	0.15
Spring Valley	PARADISE VALLEY	RAMP SR-125 SB	RAMP SR-125 NB	Major	Prime Arterial	0.29
Spring Valley	PARADISE VALLEY	RAMP SR-125 NB	SWEETWATER-NEW	Major	Prime Arterial	0.07
Spring Valley	TROY	SWEET WATER	CENTRAL	Light Collector	Collector	0.49
Spring Valley	TROY	CENTRAL	BANCROFT	Light Collector	Collector	0.43
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Collector	0.10
Sweetwater	SWEETWATER	VALLEY	WILLOW	Light Collector	Town Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Collector	0.81
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Town Collector	0.04
Valle De Oro	FUERTE	GROSSMONT SUMMIT	GROSSMONT	Light Collector	Town Collector	0.02
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Town Collector	0.10
Valle De Oro	HILLSDALE	CHASE	WIND RIVER	Light Collector	Town Collector	0.16
Valle De Oro	JAMUL	STEELE CANYON	IVANHOE RANCH	Light Collector	Collector	0.35
Valle De Oro	JAMUL	IVANHOE RANCH	COTTONWOOD SPRIN	Light Collector	Collector	0.95
Valle De Oro	JAMUL	COTTONWOOD SPRIN	TUK A WILE	Light Collector	Town Collector	1.34

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	STEELE CANYON	WILLOW GLEN	JAMUL	Light Collector	Collector	1.00
Valle De Oro	STEELE CANYON	JAMUL	OLD CALIFORNIA	Light Collector	Town Collector	0.19
Valle De Oro	WILLOW GLEN	HILLSDALE	STEELE CANYON	Light Collector	Town Collector	0.81
Valley Center	CHAMPAGNE	OLD 395	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	CHAMPAGNE	OLD CASTLE	CPA BOUNDARY	Light Collector	Collector	1.93
Valley Center	COLE GRADE	VIA VALENCIA	FRUITVALE	Town Collector	Collector	1.36
Valley Center	COLE GRADE	FRUITVALE	1003 ft NORTH OF VALLEY CENTER	Town Collector	Collector	0.96
Valley Center	COLE GRADE	1003 ft NORTH OF VALLEY CENTER	VALLEY CENTER	Town Collector	Major	0.38
Valley Center	LILAC	WEST LILAC	LILAC HILL	Light Collector	Town Collector	0.26
Valley Center	LILAC	LILAC HILL	OLD CASTLE	Light Collector	Town Collector	1.27
Valley Center	LILAC	OLD CASTLE	ROBLE VERDE	Light Collector	Collector	1.27
Valley Center	LILAC	ROBLE VERDE	ANTHONY	Light Collector	Collector	2.02
Valley Center	LILAC	ANTHONY	BETSWORTH	Light Collector	Collector	2.80
Valley Center	LILAC	BETSWORTH	VALLEY CENTER	Light Collector	Collector	0.58
Valley Center	MIRAR DE VALLE	RED IRON BARK	RANCHO VISTA	Light Collector	Town Collector	0.26
Valley Center	OLD 395	CAM DEL REY	CIRCLE R	Light Collector	Collector	1.65
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Collector	0.30
Valley Center	OLD CASTLE	CHAMPAGNE	PRIVATE ROAD e/o QUEEN ANN	Light Collector	Collector	3.44
Valley Center	OLD CASTLE	PRIVATE ROAD e/o QUEEN ANN	AIRFLIGHT	Light Collector	Town Collector	2.21
Valley Center	VALLEY CENTER	VESPER	COLE GRADE	Light Collector	Collector	0.43
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Major	Prime Arterial	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Major	Prime Arterial	0.59
Valley Center	VALLEY CENTER	SUNDAY	CHARLAN	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHARLAN	WOODS VALLEY	Major	Prime Arterial	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Major	Prime Arterial	0.29
Valley Center	VALLEY CENTER	CPA BOUNDARY	ESCONDIDO CL	Major	Prime Arterial	2.09

CPA	Name	From	To	Lanes	Additional Lane Miles Required
Bonsall	MISSION	CPA BOUNDARY	.045 MILES WEST OF MISSION / PALA	2	13.66
Bonsall	MISSION	.045 WEST OF MISSION/PALA	.045 EAST OF MISSION / PALA	4	0.36
Bonsall	PALA	.045 EAST OF MISSION / PALA	CPA BOUNDARY	2	2.55
Central Mountain	SR-78	RAMONA CPA - WEST OF CENTRAL MOUNTAIN	RAMONA CPA - EAST OF CENTRAL MOUNTAIN	2	0.42
Fallbrook	PALA	CPA BOUNDARY	COUSER CANYON ROAD	2	12.44
Jamul-Dulzura	CAMPO	.175 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	.29 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	2	0.58
Jamul-Dulzura	CAMPO	2.195 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	STONEY OAK ROAD	2	10.73
Lakeside	SR-67	.2 miles South of SCRIPPS POWAY PARKWAY	.8 Miles South of FOSTER TRUCK TRAIL - Lanes change from 3 to 4	2	2.23
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.2 Miles South of SCRIPPS POWAY PARKWAY	2	0.23
Lakeside	SR-67	CPA BOUNDARY	SCRIPPS POWAY PARKWAY	2	1.26
Lakeside	SR-67	VINE STREET ENTRANCE	MAPLEVIEW	3	0.92
Lakeside	SR-67	MAPLE VIEW	START OF SR. 67	4	0.07
Mountain Empire	TECATE	SR-94	HUMPHRIES ROAD	2	2.93
North County Metro	SAN PASQUAL VALLEY			2	0.16
North County Metro	SAN PASQUAL VALLEY	BEAR VALLEY	.12 AFTER OLD SAN PASQUAL ROAD	2	2.24
North County Metro	SR-78	SYCAMORE (SEGMENT ON MAP)	SMILAX / CPA BOUNDARY	2	1.52
North Mountain	JULIAN / SR - 67	CPA BOUNDARY	SR-79	2	7.92
Pala-Pauma	SR-76	RED GATE ROAD (West Side)	CALLE EL POTRERO	2	2.50
Ramona	JULIAN / SR - 67	CPA BOUNDARY	MUSSEY GRADE	2	8.90
Ramona	JULIAN / SR - 67	OLD JULIAN	RAMONA CPA - WEST OF CENTRAL MOUNTAIN	2	3.43
Ramona	JULIAN / SR - 67 / MAIN	10 TH	8TH	4	0.72
Ramona	SR-78	CPA BOUNDARY	HAVER FORD	2	3.85

APPENDIX E – CONVERSION OF NON-RESIDENTIAL RATES TO COST PER SQUARE FOOT

Conversion of Nonresidential Rates to Cost per Square Foot

The cost per square foot conversion is based on the following methodology. An example is shown in the table below with an estimated cost per trip of $611. This same methodology is applied in all 23 Community Plan Areas for the applicable cost per trip in each area. The trips per acre (as described in the 2008 Update) multiplied by the cost per trip is used to determine the cost for an acre. The floor area ratio (FAR) is then applied to that acre of land to determine the building square feet. The cost per square foot is then equal to the cost for the acre of land divided by the estimated building square feet (as based on the estimated FAR). In general, except for a furniture store and storage/warehouse, each general commercial project pays at the same rate per square foot, each general industrial project pays at the same rate per square foot, each office project pays at the same rate per square foot and each school pays at the same rate per square foot.

SAMPLE CALCULATION using $611 per trip

	FAR[1]	Trips/ac	Cost/trip	Cost/ac	Bldg sf/ac	Cost/sf
Commercial						
General Commercial	0.23	360	$ 611	$ 219,960	10,019	$ 21.95
Furniture Store	0.38	85	$ -	$ 51,935	16,553	$ 3.14
Industrial						
General Industrial	0.26	150	$ 611	$ 91,650	11,326	$ 8.09
Storage/Warehouse - Warehouse	0.28	60	$ 611	$ 36,660	12,197	$ 3.01
Office						
Office	0.34	300	$ 611	$ 183,300	14,810	$ 12.38
Schools	0.1	50	$ 611	$ 30,550	4356	$ 7.01

1 FARs based on SANDAG Trip Generation Table.

General Commercial FAR = 400trips/43560 sf x1000 sf/40trips= .23

Furniture Store FAR = 100 trips/43560 sf x 1000 sf/6 trips = .38

General Industrial FAR = 90 trips/43560 sf x 1000 sf/ 8 trips = .26

Storage/Warehouse FAR = 60 trips/43560 sf x 1000/ 5 trips = .28

Office FAR = 300 tripx/43560 sf x 1000/20 trips = .34

Schools FAR = 50 trips/43560 sf x 1000/12 trips = .10

Correspondences with County Staff (re: Additional TIF Facilities)

Vicki Haskell

From: Ortiz, Francisco "Nick" [Francisco.Ortiz@sdcounty.ca.gov]
Sent: Monday, June 15, 2009 10:08 AM
To: Bill Darnell
Cc: Vicki Haskell; Jessica Bavos
Subject: RE: OTAY MESA ROAD & TIF PROGRAM

Bill,

If the traffic study identifies a cumulative impact to City segment or half segment, then non-TIF mitigation agreed to by the City would be needed. I guess that there could be a case that an EOM project results in a cumulative impact to the County side of Otay Mesa Road based on County criteria, but the same EOM project may not result in a cumulative impact to the City side of Otay Mesa Road based on City criteria and/or City planned road design/improvements.

Please call me if these unique circumstances where we have a road that is partially located within the County and neighboring City jurisdiction causes a dilemma as it relates to identifying impacts and/or resulting in the potential need for two sets of mitigation measures.

Thanks,

F.Nick Ortiz
County of San Diego, Department of Public Works
Transportation Planning section
Phone: 858-694-2410
Fax: 858-694-3373
MS 0336

From: Bill Darnell [mailto:Bdarnell@darnell-assoc.com]
Sent: Monday, June 15, 2009 8:58 AM
To: Ortiz, Francisco "Nick"
Cc: 'Vicki Haskell'; 'Jessica Bavos'
Subject: RE: OTAY MESA ROAD & TIF PROGRAM

Nick

Thanks. Between hazard and e/o sanyo the south side of Otay Mesa in the city is completed to conform to the adopted specific plan geometrics. Therefore we will assume that the TIF will mitigate the northside of Otay mesa as an alternate facility.

It would be helpful if we can work out some language for alternate facilities to include in our reports.

Bill Darnell

From: Ortiz, Francisco "Nick" [mailto:Francisco.Ortiz@sdcounty.ca.gov]
Sent: Monday, June 15, 2009 8:37 AM
To: Bill Darnell; Jessica Bavos
Cc: Vicki Haskell; Hauser, Everett; Rosenberg, Daniella; Sinsay, Edwin M; Lantis, Richard; Bankston, Troy; Vidales, Rene A.; Peeva, Iliana
Subject: RE: OTAY MESA ROAD & TIF PROGRAM

Bill & Jessica,

This is a follow-up to your questions concerning the TIF program and Otay Mesa Road.

Your first question was if the TIF was applicable to segments of Otay Mesa Road that are not specifically identified as TIF Improvement Facilities. Your e-mail message specifically inquired about the segment of Otay Mesa Road from Piper Ranch Road to Vann Centre Boulevard. Our response was that the segment of Otay Mesa Road from Piper Ranch Road to Vann Centre Boulevard could be considered an Alternative TIF facility, which is eligible for TIF funding and cumulative impacts can be mitigated via the TIF program.

Your second question was if the County's TIF program mitigates cumulative impacts to segments of Otay Mesa Road that are shared by the City and County or where one side of the road is located within the County's jurisdiction and the other side is located within the City's jurisdiction. The County TIF mitigates the cumulative impacts to the County side of the road, but alternative non-TIF mitigation would be needed for the City side of the road. The County would condition EOM projects to pay the TIF for their Otay Mesa Road cumulative impacts and to coordinate with the City to identify acceptable cumulative impact mitigation measures which is consistent with our current EOM conditioning approach

If this is a matter that you would like to further discuss, please arrange at meeting with DPW and DPLU staff being that the issues involve the TIF and significant traffic impact and mitigation measures.

Thanks,

F.Nick Ortiz
County of San Diego, Department of Public Works
Transportation Planning section
Phone: 858-694-2410
Fax: 858-694-3373
MS 0336

From: Bill Darnell [mailto:Bdarnell@darnell-assoc.com]
Sent: Friday, June 12, 2009 10:48 AM
To: Ortiz, Francisco "Nick"
Cc: 'Jessica Bavos'; 'Vicki Haskell'
Subject: RE: OTAY MESA ROAD & TIF PROGRAM

Nick

My interpretation to your original response is the following.

Since the south side of Otay Mesa between Harvest and Vann Center road has been constructed to to provide cub gutter and pavement to its ultimate pavement width per the specific Plan the northerly side of Otay Mesa road will need to be constructed by adjacent development in the County. We should be able to identify the TiF as mitigating project cumulative impacts.

1. Between Harvest and the SR 125 Southbound offramp there will need to be improvements constructed in the county and in the City. Therefore using the TIF should be adequate for cumulative impact mitigation.

2. For this area we would recommend using Board Policy J 25. To identify mitigation because the addition of lanes at each intersection will be required and would complete the needed improvements in the City and County.

3. For the area west of SR125 the improvements needed are all in the City and will require identification of improvements.

I hope this heklps in formulating a response.

Bill Darnell

Vicki Haskell

From: Bill Darnell [Bdarnell@darnell-assoc.com]
Sent: Tuesday, June 09, 2009 5:18 PM
To: 'Vicki Haskell'
Subject: FW: OTAY MESA ROAD & TIF PROGRAM

FYI

bill

From: Ortiz, Francisco "Nick" [mailto:Francisco.Ortiz@sdcounty.ca.gov]
Sent: Tuesday, June 09, 2009 3:23 PM
To: Bill Darnell
Cc: Bankston, Troy; Hauser, Everett; Sinsay, Edwin M; Lantis, Richard
Subject: OTAY MESA ROAD & TIF PROGRAM

Bill,

This is in response to your attached e-mail message sent to Rich Crompton regarding Otay Mesa Road and the County's TIF program.

All County portions of Otay Mesa Road can be considered either TIF Facilities or Alternate TIF Facilities. The half-width of Otay Mesa Road located within the City of San Diego's jurisdiction is not an alternate TIF Facility since that portion of Otay Mesa Road is not in the County. This position regarding Otay Mesa Road and its relationship to the TIF program is consistent with the commitment made by County staff to the East Otay Mesa Property Owners in January 2008 as staff was getting ready to take the updated TIF Ordinance to the BOS.

Please call me if you have any questions.

Thanks,

F.Nick Ortiz
County of San Diego, Department of Public Works
Transportation Planning section
Phone: 858-694-2410
Fax: 858-694-3373
MS 0336

From: Bill Darnell [mailto:Bdarnell@darnell-assoc.com]
Sent: Friday, June 05, 2009 1:17 PM
To: Crompton, Richard
Cc: Bankston, Troy; 'Office Email'
Subject: Otay Mesa TIF

Richard

A couple months ago we discussed the need to clarify alternates roads for satisfying TIF roads in Otay Mesa.. specifically we discussed the need to include Otay mesa from w/o enrico Fermi to Sr 125 as being on the TIF.

Please advise the status and is there anything I can do to help.

Bill Darnell

Current TIF Fees

Assignment of Land Uses to TIF Categories
(TIF is based on primary use of facility)

General Commercial (Retail Facilities)

Automotive	Commercial Boxing and Martial Arts Studios	Key Shop
- Body Shop, Upholstry	Commercial Dance Studios	Laundromat/Self-Serve Laundry
- Car Wash	Commercial Plant Nurseries	Lumber Stores
- Electronics,Alarm,Stereo Sales &/or Repair	Commercial Strip Malls	Medical Supply Sales
- Gas Stations	Computer Sales & Service	Metal Supply Sales
- Parts sales	Computer Sales, Leasing, or Repair	Mobile Home Sales
- Rental and/or leasing	Concert Halls	Mororcycle Sales & Repair
- Repair &/or Service	Convenience Stores	Museums
- Sales	Craft Shops	Night Clubs
- Tire Sales &/or Repair	Department Stores	Office Supplies
- Window Tinting	Dry Cleaner Shop	Paint Store
- Windshield and Glass Repair	Eating Establishments	Photography or Photo Processing Store
Appliance Sales, Installation, and/or Repair	Electronics Retail Stores	Postal, Copying, Shipping, &/or Printing Stores
Arcades	Entertainment Facilities	Rental Stores
Art Galleries & Dealers	Fast Food Restaurants	Restaurants
Bakeries (retail)	Feed Stores	Retail Eyeglass Store
Barber Shop, Beauty Salon, Nail Salon, Spa	Florist Shop	Retail Stores
Bars	Gardening Stores/Commercial Nursuries	Shopping Centers
Boat Sales and Repair	Golf Pro Shop	Tatoo Parlors
Bowling Alleys	Grocery Stores	Theaters
Carpet or Flooring Store	Gun Shops	Ticket Agencies
Chemical Sales Store	Gymnasiums & Health and Fitness Clubs	Truck Stop or Travel Center
Coffee Shops	Hardware Stores	Video or Computer Game Stores
Commercial Aviation Facilities/Terminals	Juice Bars	Weight-Loss or Nutrition Stores (retail)

Furniture Store

Antique Store
Estate Liquidators
Furniture Store
Office Furniture Supply & Installation

General Industrial

Animal Shelter/Kennel	Facility Alarm System Installation & Repair	Light Industrial Service Facilities
Armored Car Service	Film Production Studio	- Air Duct Cleaning
Assembling & Fabrication Facilities	Fuel Distribution Facilities	- Appliance Repair
Automotive Salvage	Gun Shooting Range (no on-site sales)	- Carpet Cleaning
Automotive Towing	Hazardous Waste Removal	- Carpet Insallation (no on-site sales)
Bakeries (Manufacturing w/no on-site sales)	Heavy Construction Equipment Leasing	- Computer Cable Installation
Bathroom and Kitchen Renovation (no on-site sales)	Heavy Construction Equipment Repair	- Elevator Maintenance
Bottled gas supply (acetylene, etc.)	Heavy Construction Equipment Sales	- Garage Door Repair,
Campground or Motor Home Park	Home Remodeling	- Glass Repair & Replacement
Cell Phone Towers	Laboratoires for Research & Development	- HVAC, Plumber, Electrician, Welder, etc.
Churchs, Synagogues, Mosques, or Temples	Large Truck Repair	- Industrial Equipment Supply and Repair
Community Centers or Youth Centers	Laundry Processing (no on-site sales)	- Instrumentation Calibration & Repair
Computer Server Facilities (non-commerical)	Manufacturing/Processing Facilities	- Irrigation System Installation & Repair
Construction &/or Demolitoin Companies	Medical Equipment Maintenance	- Janitors or Specialized Cleaning
Distribution Centers (no on-site sales)	Mobile Phone Towers	- Landscaping Maintenance
- Food &/or Beverage	Not-for-Profit Recreation Centers (e.g. YMCA)	- Limousine Service
- Catalogue Sales	Parking Garages (non-residential)	- Machine Shop
- Other Non-Retail Distribution Centers	Photographic Processing Lab (no on-site sales)	- Pest Control
- Florist Distributor	Pool Installation	- Security Guard Service
- Freight, Packages, and Mail	Reprographic Facilities	
- Fuel (gasoline, propane, natural gas)	Sandblasting Facility	
- Chemicals	Telephone Call Centers	
Diving Savlage Facilities (no on-site sales)	Telephone Service Facilities	
Document Destruction	Trucking Companies	
Drilling Companies	Video Production Facilities	
Furniture Repair		

Calendar Year 2010

TIF AREA	COST PER 1,000 SQUARE FOOT FOR GENERAL COMMERCIAL			
	Freeway	Local	Regional	Total
Alpine	$495	$5,756	$3,545	$9,796
Bonsall	$114	$20,050	$3,125	$23,289
Central Mountain	$9	$0	$5,374	$5,383
County Islands	$495	$0	$5,871	$6,366
Crest-Dehesa	$495	$3,201	$4,574	$8,270
Desert	$9	$991	$5,375	$6,375
Fallbrook	$114	$19,324	$3,431	$22,869
Jamul-Dulzura	$495	$6,937	$3,048	$10,480
Julian	$9	$0	$5,374	$5,383
Lakeside (includes Pepper Dr- Bostonia)	$495	$12,807	$686	$13,988
Mountain Empire	$9	$0	$5,374	$5,383
North County Metro	$114	$5,451	$9,033	$14,598
North Mountain	$9	$0	$5,374	$5,383
Otay	$495	$2,097	$5,032	$7,624
Pala-Pauma	$114	$3,735	$9,720	$13,569
Pendleton-De Luz	$114	$38	$11,206	$11,358
Rainbow	$114	$14,179	$5,488	$19,781
Ramona	$9	$17,001	$0	$17,010
San Dieguito	$114	$10,292	$7,051	$17,457
Spring Valley	$495	$2,097	$5,032	$7,624
Sweetwater	$495	$4,154	$4,154	$8,803
Valle De Oro	$495	$14,598	$0	$15,093
Valley Center	$114	$8,157	$7,928	$16,199

* As required in the TIF ordinance, TIF Rates are updated annually on January 1 based on the September-to-September Engineering News Record Construction Cost Inex (ENR CCI) for the Los Angeles Area or 2.0%, whichever is greater. The applicable September 2008-to-September 2009 ENR CCI was 4%, so the TIF must be increased by 4% (the greater amount). The TIF increase applied on January 1, 2010 was an increase of 4%. All TIF Rates are rounded to the nearest dollar.

APPENDIX E

- Existing - Arterial Analysis
- Existing – Intersection Synchro Analysis
- Existing – Intersection ILV Analysis

Existing - Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	18.7	47.1	0.27	20.9	D
Cactus Rd	II	45	44.7	7.0	51.7	0.51	35.3	A
Brittania Blvd	II	45	45.5	12.4	57.9	0.52	32.1	B
La Media	II	45	83.0	4.7	87.7	1.04	42.6	A
Piper Ranch Rd	II	45	44.3	2.8	47.1	0.50	38.5	A
	II	45	29.4	2.1	31.5	0.30	34.0	B
SR125 NB Ramp	II	45	13.4	0.2	13.6	0.12	32.6	B
SR905	II	45	11.1	3.7	14.8	0.10	24.9	C
Sanyo Ave	II	45	27.4	1.5	28.9	0.26	32.9	B
Enrico Fermi Dr	II	45	62.8	11.0	73.8	0.78	38.3	A
Total	II		390.0	64.1	454.1	4.41	35.0	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.9	47.1	0.49	37.5	A
Sanyo Ave	II	45	62.8	1.4	64.2	0.78	44.0	A
SR905	II	45	27.4	7.4	34.8	0.26	27.3	C
SR125 NB Ramp	II	45	11.1	0.4	11.5	0.10	32.0	B
SR125 SB	II	45	13.4	10.3	23.7	0.12	18.7	D
Piper Ranch Rd	II	45	29.4	6.9	36.3	0.30	29.5	B
La Media	II	45	44.3	10.7	55.0	0.50	33.0	B
Brittania Blvd	II	45	83.0	2.8	85.8	1.04	43.6	A
Cactus Rd	II	45	45.5	2.3	47.8	0.52	38.9	A
Heritage Road	II	45	44.7	13.8	58.5	0.51	31.2	B
Total	II		404.8	59.9	464.7	4.63	35.9	A

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.5	47.9	0.27	20.5	D
Cactus Rd	II	45	44.7	17.6	62.3	0.51	29.3	B
Brittania Blvd	II	45	45.5	6.1	51.6	0.52	36.1	A
La Media	II	45	83.0	22.5	105.5	1.04	35.4	A
Piper Ranch Rd	II	45	43.9	3.2	47.1	0.50	38.1	A
	II	45	29.9	0.5	30.4	0.30	35.8	A
SR125 NB Ramp	II	45	13.4	0.0	13.4	0.12	33.1	B
SR-905	II	45	11.1	7.8	18.9	0.10	19.5	D
Sanyo Ave	II	45	27.5	1.1	28.6	0.26	33.3	B
Enrico Fermi Dr	II	45	62.7	6.7	69.4	0.78	40.7	A
Total	II		390.1	85.0	475.1	4.41	33.4	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	9.0	52.2	0.49	33.9	B
Sanyo Ave	II	45	62.7	4.7	67.4	0.78	41.9	A
SR-905	II	45	27.5	20.2	47.7	0.26	19.9	D
SR125 NB Ramp	II	45	11.1	3.5	14.6	0.10	25.2	C
SR125 SB	II	45	13.4	0.9	14.3	0.12	31.0	B
Piper Ranch Rd	II	45	29.9	1.9	31.8	0.30	34.2	B
La Media	II	45	43.9	19.6	63.5	0.50	28.3	B
Brittania Blvd	II	45	83.0	11.9	94.9	1.04	39.4	A
Cactus Rd	II	45	45.5	3.2	48.7	0.52	38.2	A
Heritage Road	II	45	44.7	30.2	74.9	0.51	24.4	C
Total	II		404.9	105.1	510.0	4.63	32.7	B

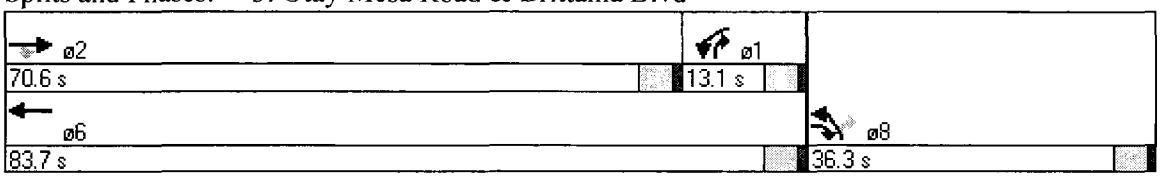
Existing - Intersection Analysis

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		499				3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1991	669	39	988	176	14
Adj. Flow (vph)	2342	787	46	1162	207	16
Lane Group Flow (vph)	2342	787	46	1162	207	16
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	85.7	106.3	8.5	96.1	15.9	27.5
Actuated g/C Ratio	0.71	0.89	0.07	0.80	0.13	0.23
v/c Ratio	0.68	0.54	0.37	0.30	0.46	0.04
Control Delay	12.4	2.1	52.5	2.8	50.3	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	2.1	52.5	2.8	50.3	28.0
LOS	B	A	D	A	D	C
Approach Delay	9.8			4.7	48.7	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 10.3 Intersection LOS: B
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

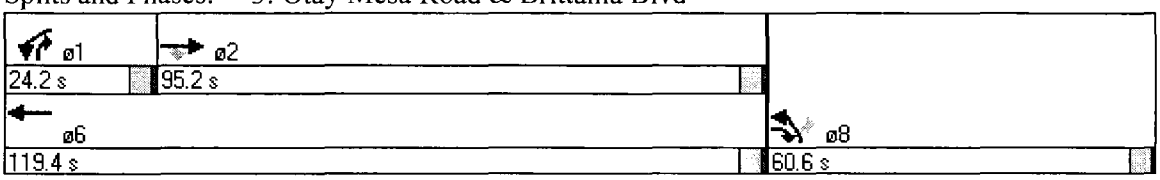


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1547	287	27	1924	587	35
Adj. Flow (vph)	1663	309	29	2069	631	38
Lane Group Flow (vph)	1663	309	29	2069	631	38
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	122.5	166.0	8.8	133.3	38.7	51.5
Actuated g/C Ratio	0.68	0.92	0.05	0.74	0.22	0.29
v/c Ratio	0.51	0.21	0.33	0.58	0.86	0.08
Control Delay	6.1	0.8	92.1	11.9	79.8	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	0.8	92.1	11.9	79.8	32.2
LOS	A	A	F	B	E	C
Approach Delay	5.3			13.0	77.1	
Approach LOS	A			B	E	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 60.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

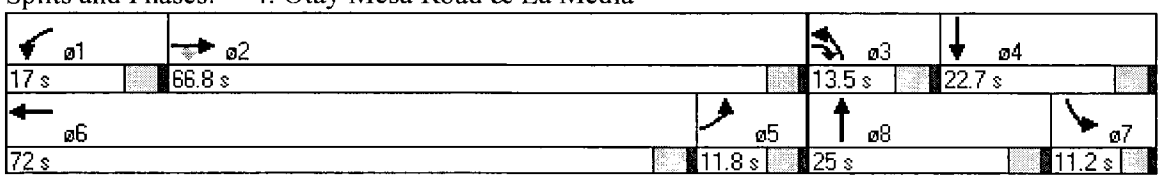


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.994			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			245		9			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	1363	233	87	917	41	75	24	16	59	52	71
Adj. Flow (vph)	75	1435	245	92	965	43	79	25	17	62	55	75
Lane Group Flow (vph)	75	1435	245	92	1008	0	79	42	0	62	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.6	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.10	0.10	
v/c Ratio	0.66	0.50	0.21	0.54	0.32		0.59	0.27		0.17	0.63	
Control Delay	63.4	4.7	1.2	62.9	10.7		72.1	39.9		48.4	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.4	4.7	1.2	62.9	10.7		72.1	39.9		48.4	45.3	
LOS	E	A	A	E	B		E	D		D	D	
Approach Delay		6.7			15.1			60.9			46.3	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 55.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

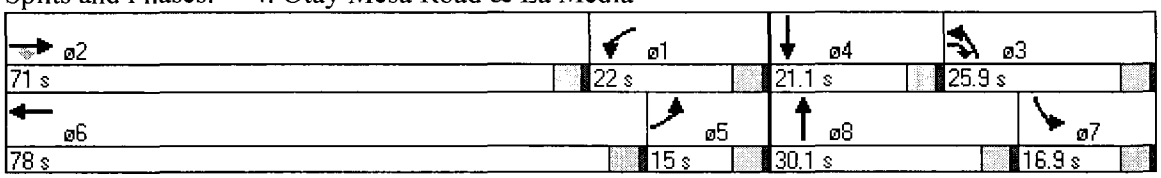


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1304	239	55	1458	31	158	22	24	62	63	116
Adj. Flow (vph)	73	1358	249	57	1519	32	165	23	25	65	66	121
Lane Group Flow (vph)	73	1358	249	57	1551	0	165	48	0	65	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.51	0.21	0.29	0.54		0.73	0.29		0.12	0.82	
Control Delay	81.2	22.5	1.4	59.7	19.6		76.8	39.8		47.4	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	22.5	1.4	59.7	19.6		76.8	39.8		47.4	70.1	
LOS	F	C	A	E	B		E	D		D	E	
Approach Delay		21.9			21.0			68.5			64.3	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 27.0 Intersection LOS: C
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

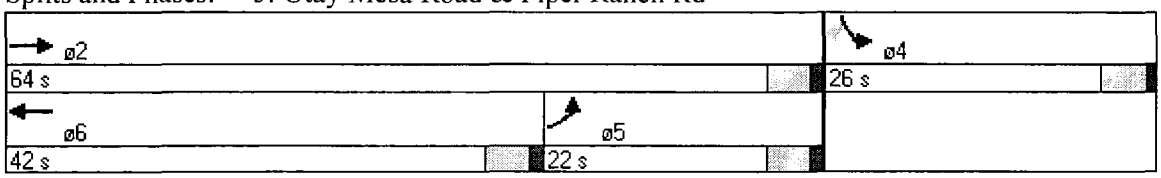


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.996		0.925	0.850
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	3539	5065	0	3262	1441
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1770	3539	5065	0	3262	1441
Satd. Flow (RTOR)			5		10	10
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	1374	1028	27	9	18
Adj. Flow (vph)	119	1544	1155	30	10	20
Lane Group Flow (vph)	119	1544	1185	0	20	10
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.6	58.0		6.4	6.4
Actuated g/C Ratio	0.18	0.84	0.64		0.07	0.07
v/c Ratio	0.38	0.52	0.36		0.08	0.09
Control Delay	35.5	2.8	6.9		27.7	22.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	2.8	6.9		27.7	22.7
LOS	D	A	A		C	C
Approach Delay		5.1	6.9		26.0	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.1 Intersection LOS: A
Intersection Capacity Utilization 48.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

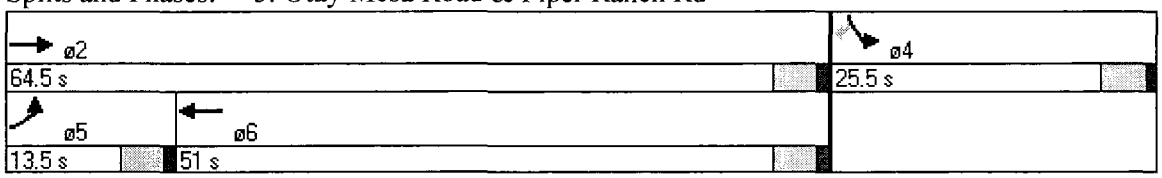


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.999		0.924	0.850
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	3539	5080	0	3259	1441
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1770	3539	5080	0	3259	1441
Satd. Flow (RTOR)			1		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1438	1448	9	45	94
Adj. Flow (vph)	18	1563	1574	10	49	102
Lane Group Flow (vph)	18	1563	1584	0	100	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.6	69.8		7.4	7.4
Actuated g/C Ratio	0.08	0.83	0.78		0.08	0.08
v/c Ratio	0.13	0.53	0.40		0.32	0.31
Control Delay	40.4	3.2	1.9		23.8	16.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	3.2	1.9		23.8	16.7
LOS	D	A	A		C	B
Approach Delay		3.6	1.9		21.4	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 3.6 Intersection LOS: A
Intersection Capacity Utilization 49.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

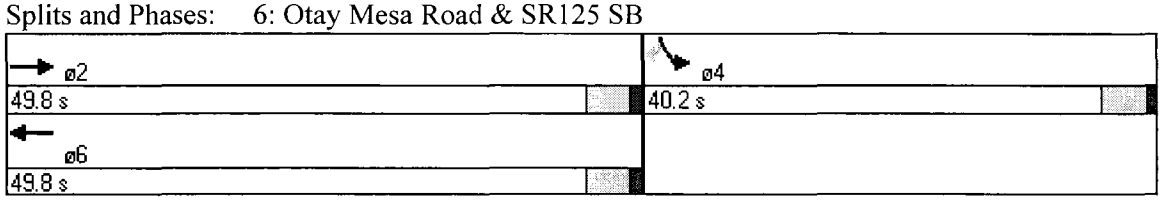


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.911	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4378	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4378	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		541	542									83
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	317	931	0	850	0	0	0	0	405	0	145
Adj. Flow (vph)	0	369	1083	0	988	0	0	0	0	471	0	169
Lane Group Flow (vph)	0	910	542	0	988	0	0	0	0	471	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		64.5	90.0		64.5					17.5		17.5
Actuated g/C Ratio		0.72	1.00		0.72					0.19		0.19
v/c Ratio		0.28	0.40		0.27					0.71		0.45
Control Delay		2.1	0.8		10.3					39.6		19.8
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		2.1	0.8		10.3					39.6		19.8
LOS		A	A		B					D		B
Approach Delay		1.6			10.3							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 34.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

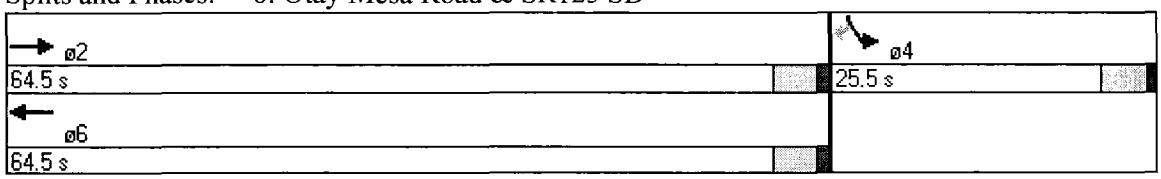


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.875	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4205	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4205	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		662	663									43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	123	1219	0	1473	0	0	0	0	107	0	40
Adj. Flow (vph)	0	134	1325	0	1601	0	0	0	0	116	0	43
Lane Group Flow (vph)	0	796	663	0	1601	0	0	0	0	116	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		76.2	90.0		76.2					8.6		8.6
Actuated g/C Ratio		0.85	1.00		0.85					0.10		0.10
v/c Ratio		0.22	0.49		0.37					0.35		0.23
Control Delay		0.5	1.4		0.9					40.6		14.8
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		0.5	1.4		0.9					40.6		14.8
LOS		A	A		A					D		B
Approach Delay		0.9			0.9							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 2.5 Intersection LOS: A
Intersection Capacity Utilization 48.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

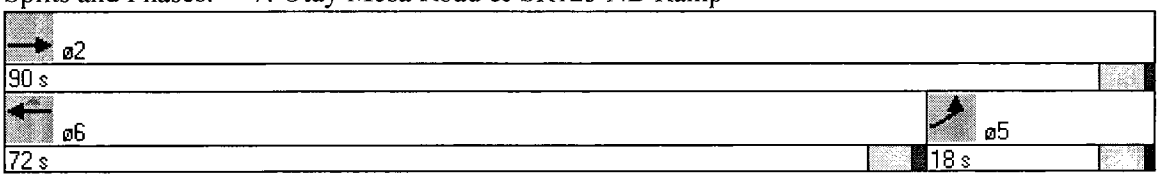


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				89		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	693	804	77	0	0
Adj. Flow (vph)	33	797	924	89	0	0
Lane Group Flow (vph)	33	797	924	89	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	6.9	90.0	80.8	80.8		
Actuated g/C Ratio	0.08	1.00	0.90	0.90		
v/c Ratio	0.13	0.23	0.29	0.04		
Control Delay	34.4	0.2	0.4	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	34.4	0.2	0.4	0.0		
LOS	C	A	A	A		
Approach Delay		1.5	0.3			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 0.9 Intersection LOS: A
Intersection Capacity Utilization 34.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

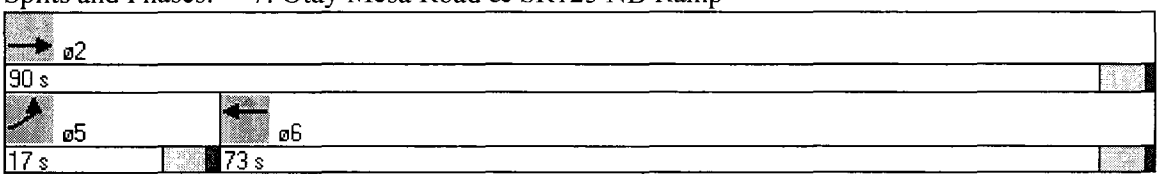


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				427		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	117	1394	389	0	0
Adj. Flow (vph)	124	129	1532	427	0	0
Lane Group Flow (vph)	124	129	1532	427	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.1	90.0	72.9	72.9		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.04	0.53	0.18		
Control Delay	51.3	0.0	3.5	0.7		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	51.3	0.0	3.7	0.7		
LOS	D	A	A	A		
Approach Delay		25.2	3.0			
Approach LOS		C	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 48.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

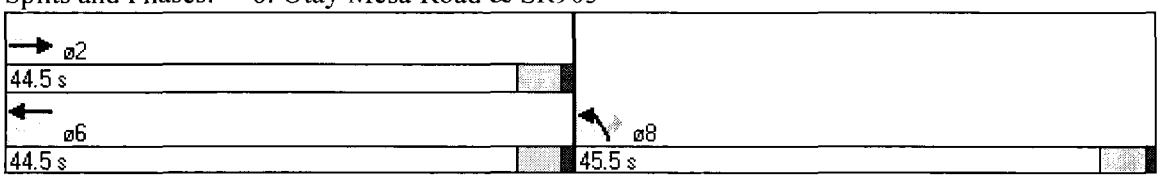


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						17
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	710	0	0	214	689	15
Adj. Flow (vph)	826	0	0	249	801	17
Lane Group Flow (vph)	826	0	0	249	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	56.4			56.4	25.6	25.6
Actuated g/C Ratio	0.63			0.63	0.28	0.28
v/c Ratio	0.37			0.11	0.82	0.04
Control Delay	3.7			7.4	31.8	3.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	3.7			7.4	31.8	3.6
LOS	A			A	C	A
Approach Delay	3.7			7.4	31.2	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 80 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 45.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

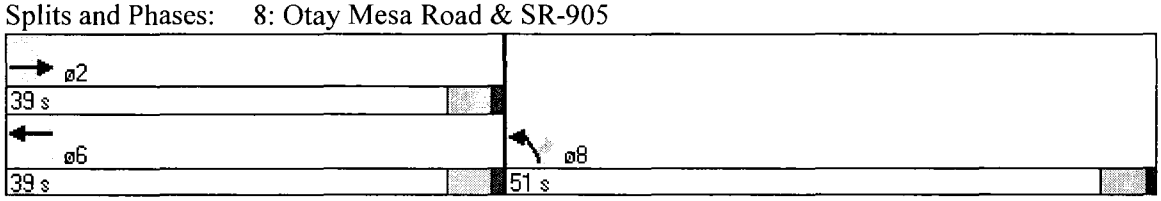


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	117	0	0	654	1168	8
Adj. Flow (vph)	129	0	0	719	1284	9
Lane Group Flow (vph)	129	0	0	719	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	40.9			40.9	41.1	41.1
Actuated g/C Ratio	0.45			0.45	0.46	0.46
v/c Ratio	0.08			0.45	0.82	0.01
Control Delay	7.8			20.2	23.1	5.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	7.8			20.2	23.1	5.0
LOS	A			C	C	A
Approach Delay	7.8			20.2	23.0	
Approach LOS	A			C	C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 31 (34%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 21.1 Intersection LOS: C
Intersection Capacity Utilization 58.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR-905



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	713	0	2	206	1	0	0	0	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	775	0	2	224	1	0	0	0	1	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		310			1083							
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	225			775			926	1030	388	642	1030	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	225			625			795	912	190	476	911	112
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	100	100	99
cM capacity (veh/h)	1341			848			243	240	730	416	240	919

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	401	388	114	113	0	10
Volume Left	13	0	2	0	0	1
Volume Right	0	0	0	1	0	9
cSH	1341	1700	848	1700	1700	810
Volume to Capacity	0.01	0.23	0.00	0.07	0.00	0.01
Queue Length 95th (ft)	1	0	0	0	0	1
Control Delay (s)	0.3	0.0	0.2	0.0	0.0	9.5
Lane LOS	A		A		A	A
Approach Delay (s)	0.2		0.1		0.0	9.5
Approach LOS					A	A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	111	8	1	644	5	1	0	0	1	0	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	121	9	1	700	5	1	0	0	1	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		310			1085							
pX, platoon unblocked				1.00			1.00	1.00	1.00	1.00	1.00	
vC, conflicting volume	705			129			500	846	65	778	847	353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	705			124			496	842	59	775	844	353
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	100	100	98
cM capacity (veh/h)	889			1456			446	296	991	285	295	644

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	67	69	351	355	1	11
Volume Left	7	0	1	0	1	1
Volume Right	0	9	0	5	0	10
cSH	889	1700	1456	1700	446	572
Volume to Capacity	0.01	0.04	0.00	0.21	0.00	0.02
Queue Length 95th (ft)	1	0	0	0	0	1
Control Delay (s)	0.9	0.0	0.0	0.0	13.1	11.4
Lane LOS	A		A		B	B
Approach Delay (s)	0.5		0.0		13.1	11.4
Approach LOS					B	B

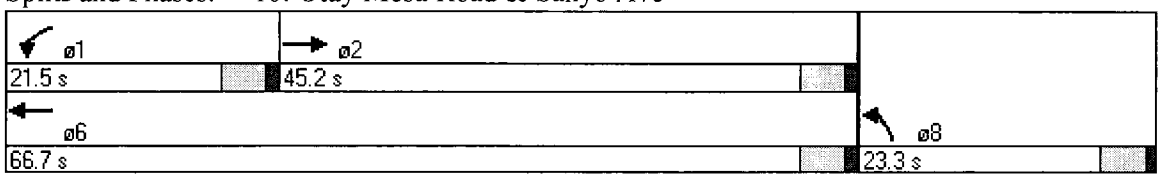
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.951				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3366	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3366	0	1770	1863	3358	0
Satd. Flow (RTOR)	119				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	416	200	24	201	32	10
Adj. Flow (vph)	520	250	30	251	40	12
Lane Group Flow (vph)	770	0	30	251	52	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.27		0.21	0.15	0.19	
Control Delay	1.5		41.4	1.4	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.5		41.4	1.4	33.1	
LOS	A		D	A	C	
Approach Delay	1.5			5.7	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 4.1 Intersection LOS: A
Intersection Capacity Utilization 29.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

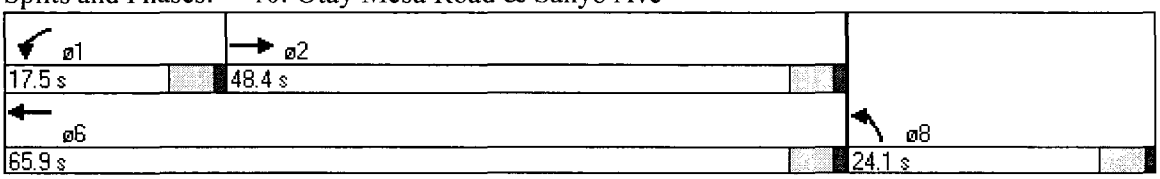


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.934				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3306	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3306	0	1770	1863	3434	0
Satd. Flow (RTOR)	67				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	69	54	12	528	185	5
Adj. Flow (vph)	85	67	15	652	228	6
Lane Group Flow (vph)	152	0	15	652	234	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.06		0.11	0.45	0.53	
Control Delay	1.1		40.4	4.7	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.1		40.4	4.7	40.2	
LOS	A		D	A	D	
Approach Delay	1.1			5.5	40.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 39.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	88	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	95	10	33	16	3	63	130	13

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	200	99	10	33	19	194	13
Volume Left (vph)	15	4	0	33	0	63	0
Volume Right (vph)	98	0	10	0	3	0	13
Hadj (s)	-0.24	0.06	-0.67	0.53	-0.08	0.20	-0.67
Departure Headway (s)	5.1	5.5	4.8	6.1	5.5	5.6	4.7
Degree Utilization, x	0.28	0.15	0.01	0.06	0.03	0.30	0.02
Capacity (veh/h)	668	618	706	551	610	612	719
Control Delay (s)	10.1	8.3	6.6	8.3	7.5	9.8	6.6
Approach Delay (s)	10.1	8.1		8.0		9.6	
Approach LOS	B	A		A		A	

Intersection Summary			
Delay	9.3		
HCM Level of Service	A		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	159	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	183	63	91	145	2	24	30	40

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	132	187	63	91	147	54	40
Volume Left (vph)	5	5	0	91	0	24	0
Volume Right (vph)	59	0	63	0	2	0	40
Hadj (s)	-0.23	0.05	-0.67	0.53	0.02	0.26	-0.67
Departure Headway (s)	5.5	5.6	4.9	6.2	5.7	6.1	5.2
Degree Utilization, x	0.20	0.29	0.09	0.16	0.23	0.09	0.06
Capacity (veh/h)	614	609	692	552	601	545	637
Control Delay (s)	9.9	9.7	7.2	9.1	9.2	8.5	7.3
Approach Delay (s)	9.9	9.1		9.2		8.0	
Approach LOS	A	A		A		A	

Intersection Summary				
Delay	9.1			
HCM Level of Service	A			
Intersection Capacity Utilization	30.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↰	↑↑	↰	↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	68	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	76	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		170	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		170	73
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1433		801	974

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	64	83	6	38	38	37	10
Volume Left	0	0	6	0	0	37	0
Volume Right	0	51	0	0	0	0	10
cSH	1700	1700	1433	1700	1700	801	974
Volume to Capacity	0.04	0.05	0.00	0.02	0.02	0.05	0.01
Queue Length 95th (ft)	0	0	0	0	0	4	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	9.7	8.7
Lane LOS			A			A	A
Approach Delay (s)	0.0		0.5			9.5	
Approach LOS						A	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	126	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	145	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		213	49
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		213	49
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		87	99
cM capacity (veh/h)			1493		741	1009

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	43	55	30	72	72	94	11
Volume Left	0	0	30	0	0	94	0
Volume Right	0	33	0	0	0	0	11
cSH	1700	1700	1493	1700	1700	741	1009
Volume to Capacity	0.03	0.03	0.02	0.04	0.04	0.13	0.01
Queue Length 95th (ft)	0	0	2	0	0	11	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	10.6	8.6
Lane LOS			A			B	A
Approach Delay (s)	0.0		1.3			10.4	
Approach LOS						B	

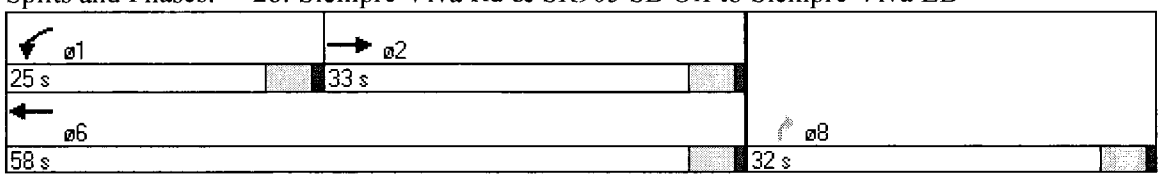
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	202	702	0	280
Adj. Flow (vph)	514	51	222	771	0	308
Lane Group Flow (vph)	565	0	222	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.9		11.1	76.0		6.0
Actuated g/C Ratio	0.68		0.12	0.84		0.07
v/c Ratio	0.17		0.52	0.18		0.29
Control Delay	5.5		40.3	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.5		40.3	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.5			9.9		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 26.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

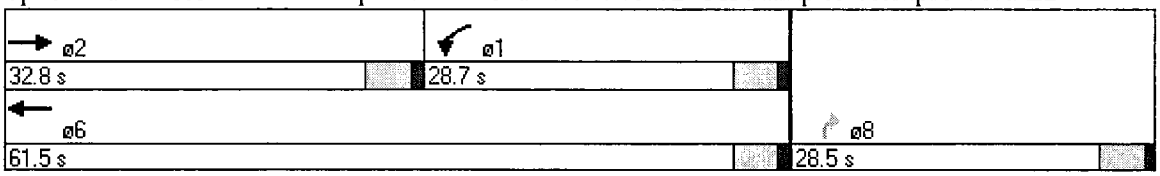


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	338	669	0	175
Adj. Flow (vph)	522	379	398	787	0	206
Lane Group Flow (vph)	901	0	398	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.42	0.18		0.18
Control Delay	9.6		24.5	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		24.5	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			9.1		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 32.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	748	540	0	0	364
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	860	621	0	0	418
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked					0.99	
vC, conflicting volume	621				907	207
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				875	207
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	48
cM capacity (veh/h)	956				284	799

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	207	207	207	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	799
Volume to Capacity	0.17	0.17	0.17	0.12	0.12	0.12	0.52
Queue Length 95th (ft)	0	0	0	0	0	0	77
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.3
Approach LOS							B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	619	631	0	0	376
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	666	678	0	0	404
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		234	402			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	678				900	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	626				853	163
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	52
cM capacity (veh/h)	931				292	834

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	226	226	226	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	834
Volume to Capacity	0.13	0.13	0.13	0.13	0.13	0.13	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	67
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.3
Approach LOS							B

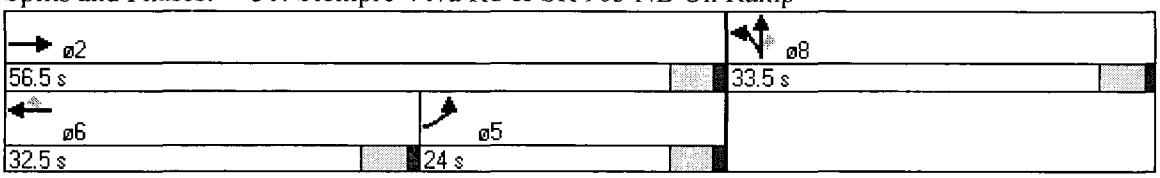
Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.989	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4753	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4753	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					14	150			230			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	382	175	164	1	221	0	0	0
Adj. Flow (vph)	130	639	0	0	398	182	171	1	230	0	0	0
Lane Group Flow (vph)	130	639	0	0	430	150	0	172	230	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.17		0.63	0.37			
Control Delay	37.9	1.4			8.2	2.3		45.1	6.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.9	1.4			8.2	2.3		45.1	6.1			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			22.8				
Approach LOS		A			A			C				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 39.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

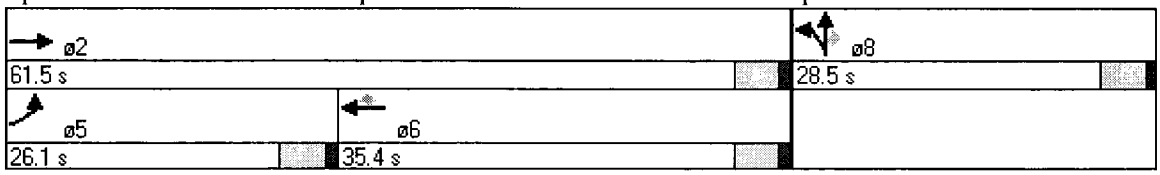


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.977	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4695	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4695	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					41	287			197			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	577	373	49	2	183	0	0	0
Adj. Flow (vph)	319	378	0	0	620	401	53	2	197	0	0	0
Lane Group Flow (vph)	319	378	0	0	734	287	0	55	197	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.25	0.30		0.33	0.45			
Control Delay	32.3	0.9			8.5	2.2		42.7	9.2			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.5	2.2		42.7	9.2			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			6.7			16.5				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 42.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

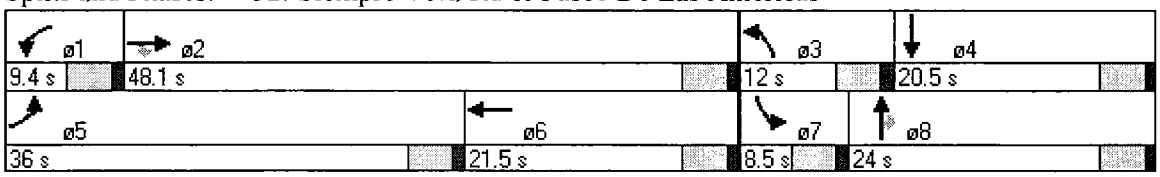


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	339	140	21	255	1	120	51	5	8	64	53
Adj. Flow (vph)	568	373	154	23	280	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	373	154	23	281	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.6	39.7	39.7	5.4	11.4		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.16		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.13	0.16	0.18	0.50		0.65	0.06	0.01	0.09	0.31	
Control Delay	32.0	8.3	2.4	39.1	31.5		50.9	24.4	17.0	39.4	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.0	8.3	2.4	39.1	31.5		50.9	24.4	17.0	39.4	21.3	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.8			32.1			42.3			22.5	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 71.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 59.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

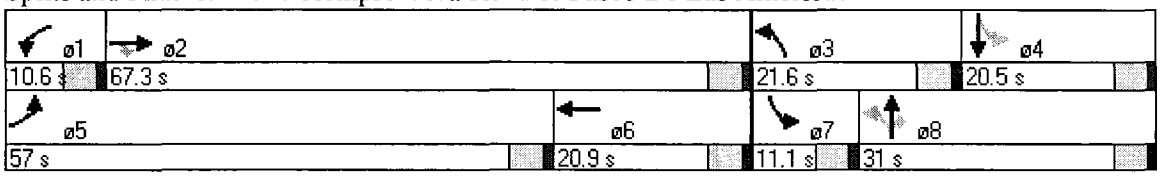


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		4				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	102	59	30	274	14	269	120	7	6	80	78
Adj. Flow (vph)	716	116	67	34	311	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	116	67	34	327	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.1	57.8	57.8	6.6	14.2		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.45	0.57	0.57	0.06	0.14		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.04	0.07	0.31	0.66		0.77	0.14	0.02	0.03	0.48	
Control Delay	43.7	11.0	3.2	59.2	49.7		48.0	32.5	19.1	32.8	29.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.7	11.0	3.2	59.2	49.7		48.0	32.5	19.1	32.8	29.8	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.4			50.6			42.8			29.9	
Approach LOS		D			D			D			C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 101.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 40.0 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas



Existing – Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

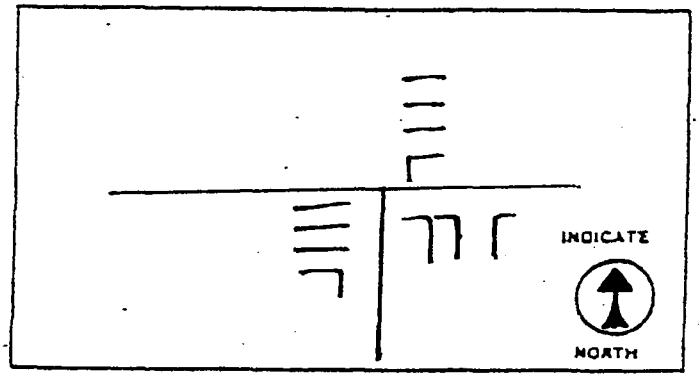
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/9.05

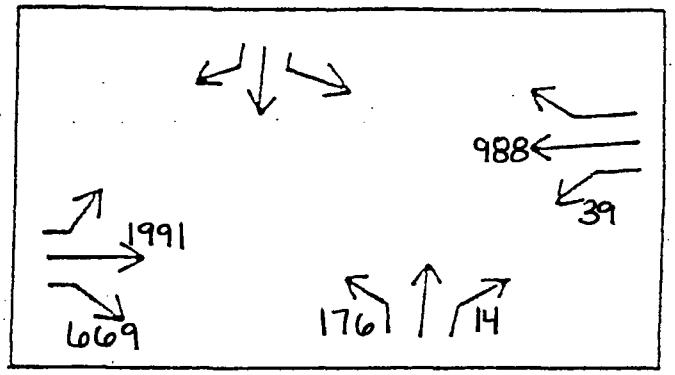
Existing Conditions

BY VB DATE 3-23-10

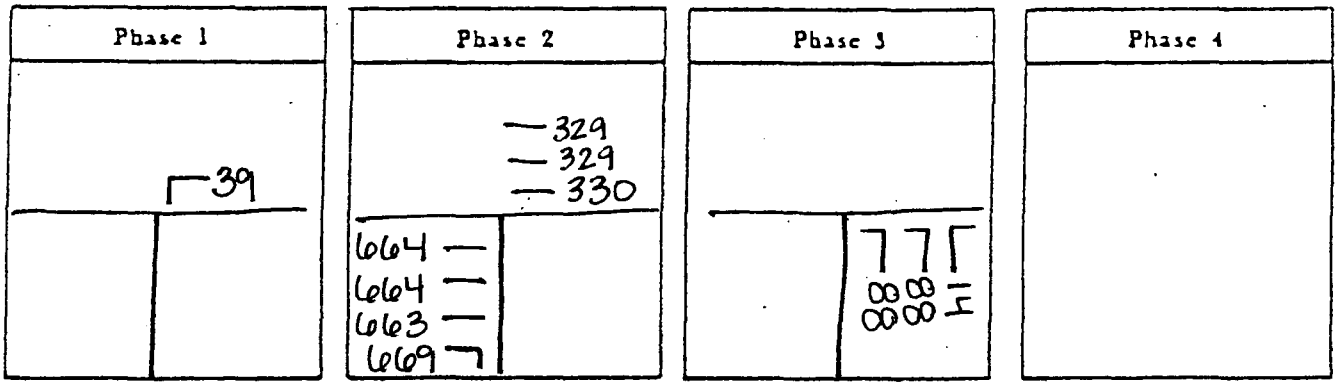
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
39	669	88	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
796

Is . . .

- [x] < 1200 ILV/hr.
- [ ] > 1200 but < 1500 ILV/hr.
- [ ] > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

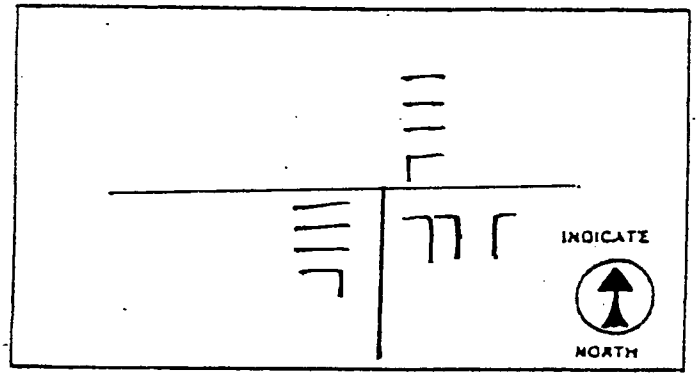
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

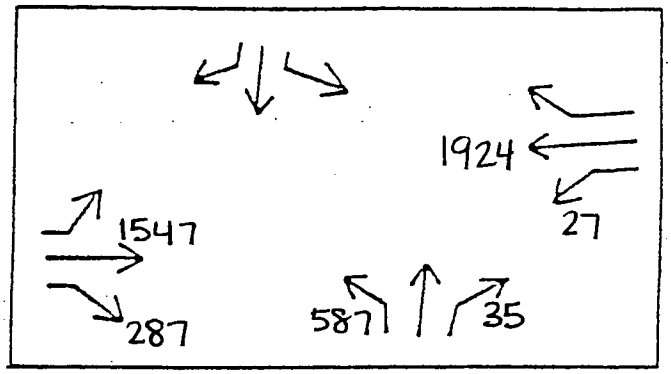
Existing Conditions

BY VB DATE 3-23-10

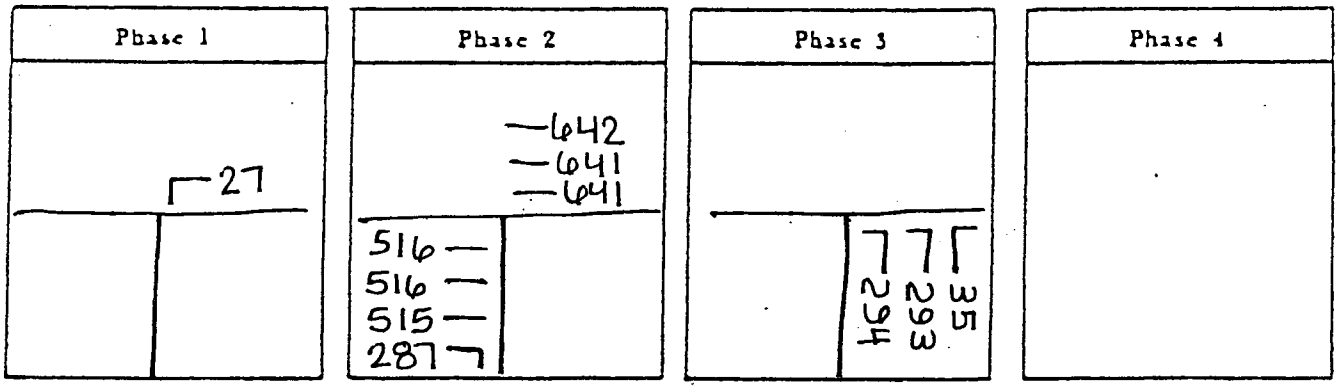
TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
27	642	294	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
963

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

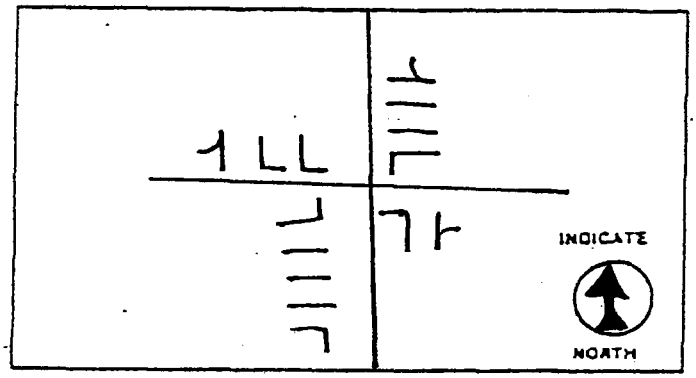
CAPACITY ANALYSIS

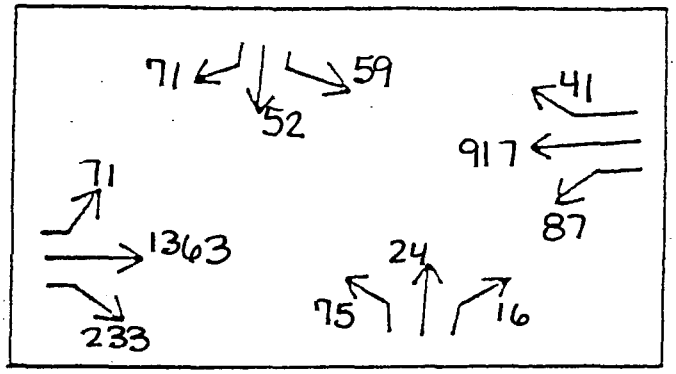
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY JB DATE 3-23-10

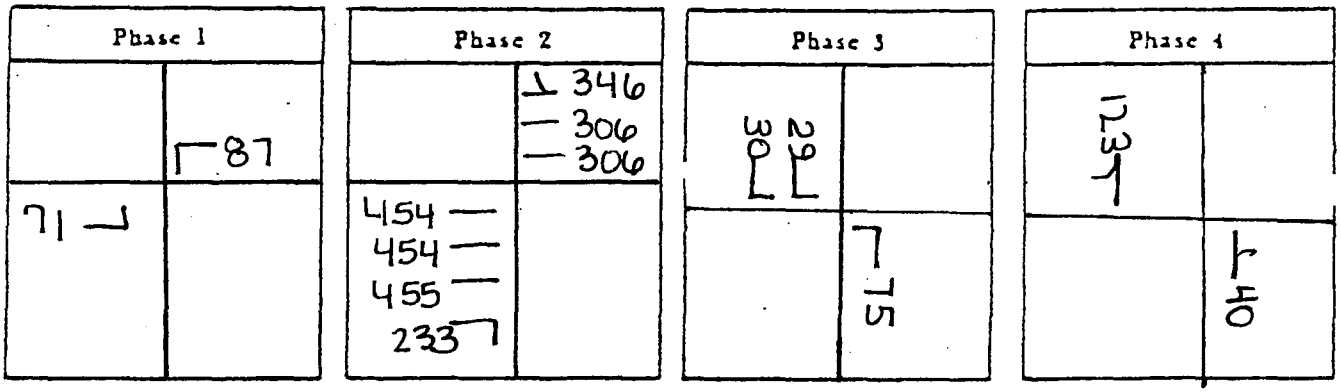
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
87	455	75	123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
740

Is . . .

- [x] < 1200 ILV/hr.
- [ ] > 1200 but < 1500 ILV/hr.
- [ ] > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

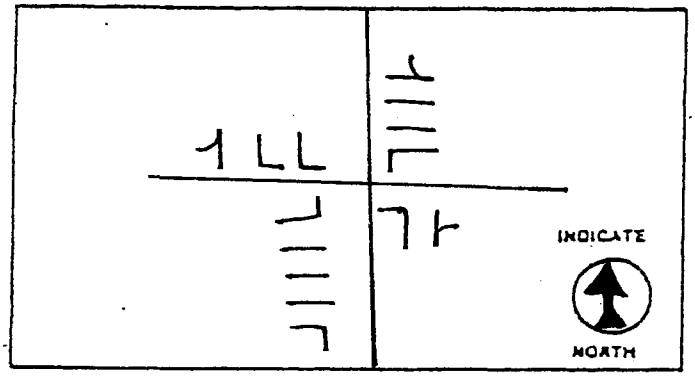
CAPACITY ANALYSIS

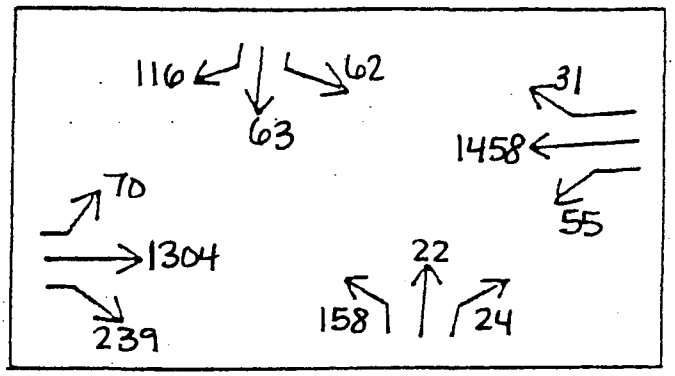
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
	55		517 486 486	W W L L		179 1	
70		435 435 434 2397			158		24

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
70	517	158	179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
924

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

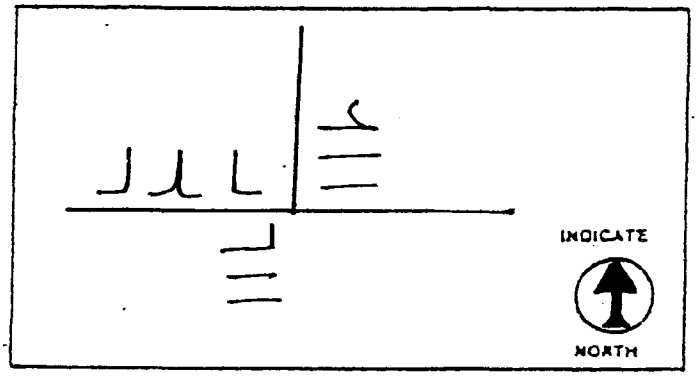
CAPACITY ANALYSIS

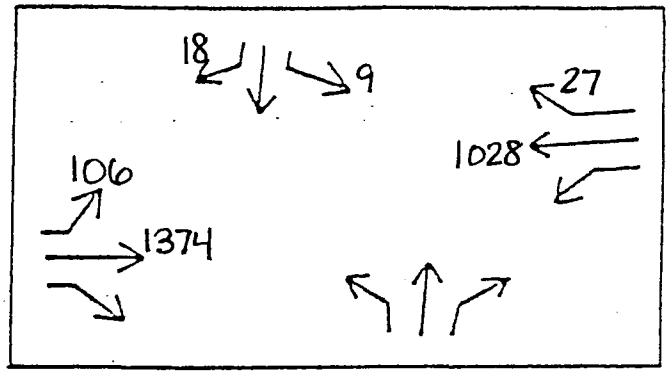
INTERSECTION Otay Mesa/Piper Ranch DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY JB DATE 3-23-10

TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
106	369 343 343 687 687		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
1066	687	9	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
802

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

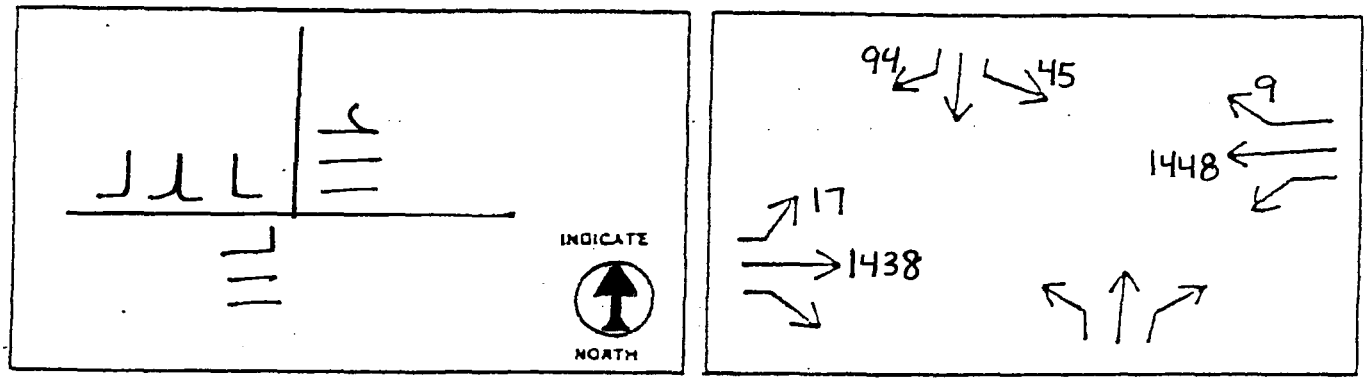
CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY [illegible] DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	491 483 483 719 719	47 47 95	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	719	47	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
783

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

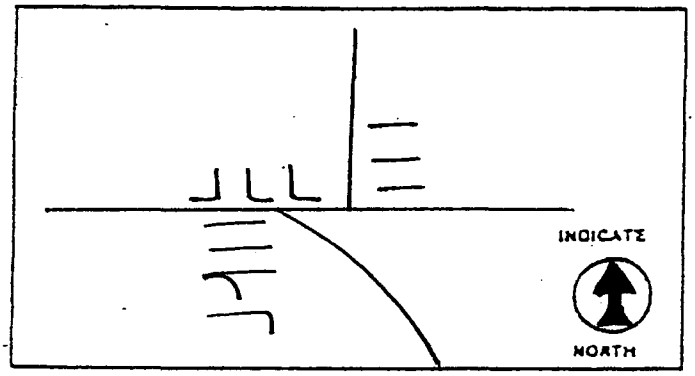
INTERSECTION Otay Mesa/SR-125 SB Ramp DIST. CO. RTE. P.M. 11/SD/905

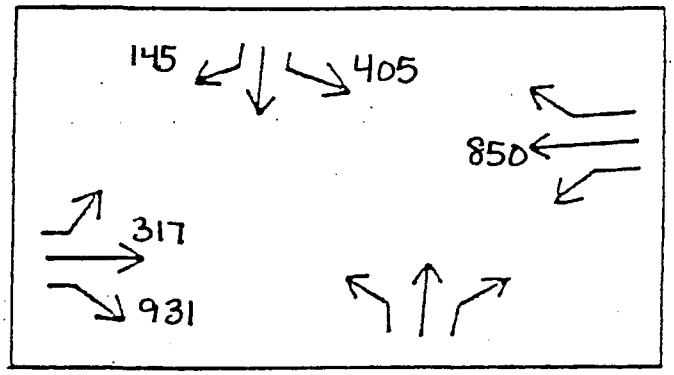
Existing Conditions

BY JB DATE 3-23-10

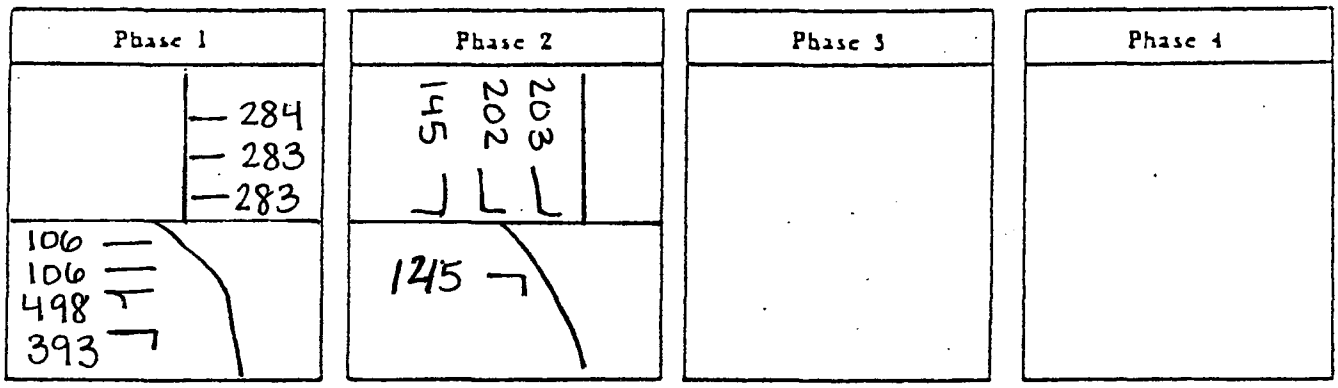
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
498	203		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
701

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

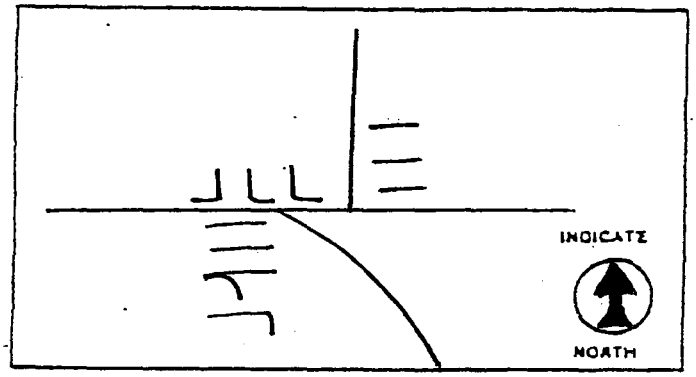
INTERSECTION Otay Mesa / SR-125 SB Ramp DIST. CO. RTE. P.M. 11/SD/905

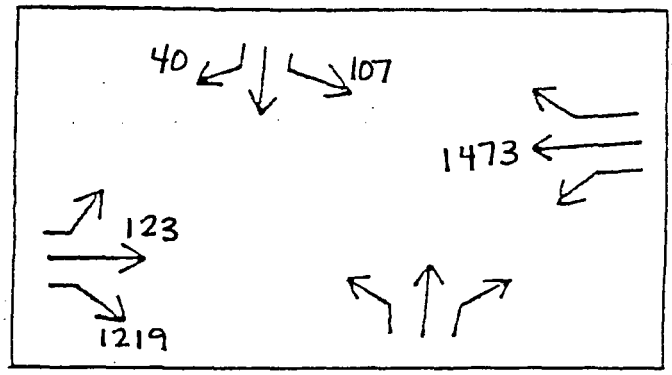
Existing Conditions

BY JB DATE 3-23-10

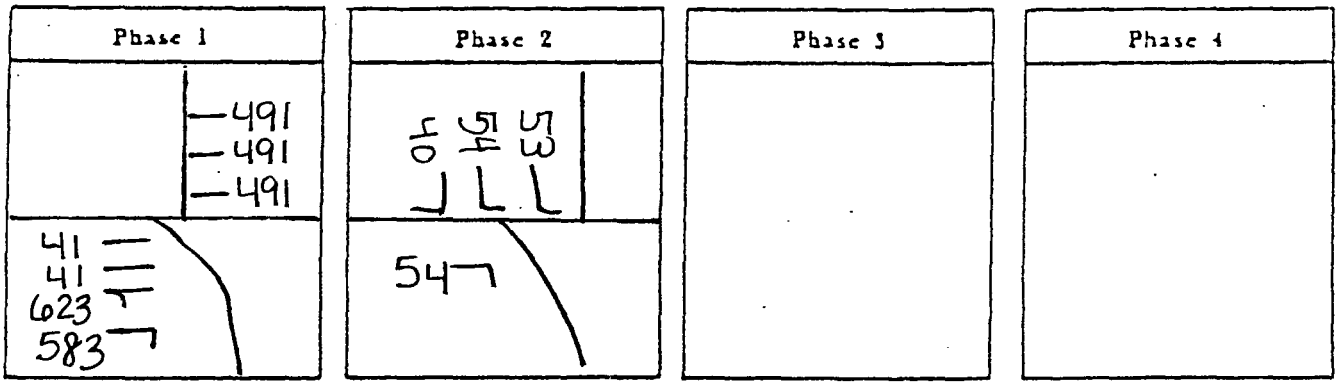
TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
623	54		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
677

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

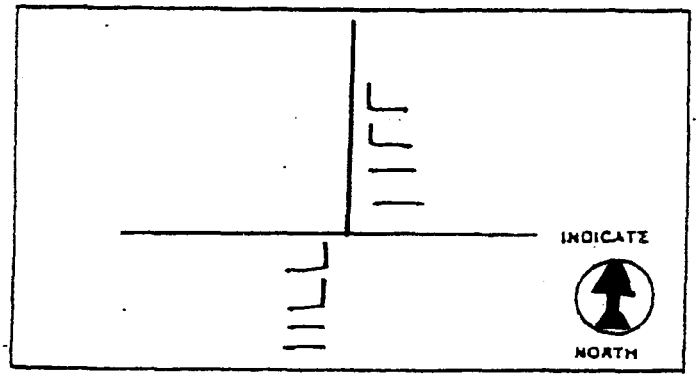
CAPACITY ANALYSIS

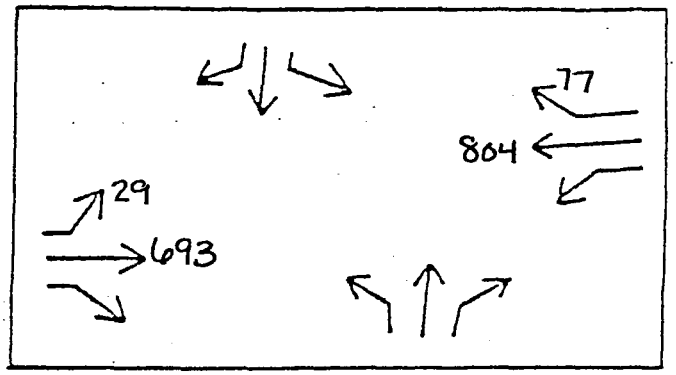
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY JB DATE 3-23-10

TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15 14	39 38 402 402 347 346		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	402		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
417

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

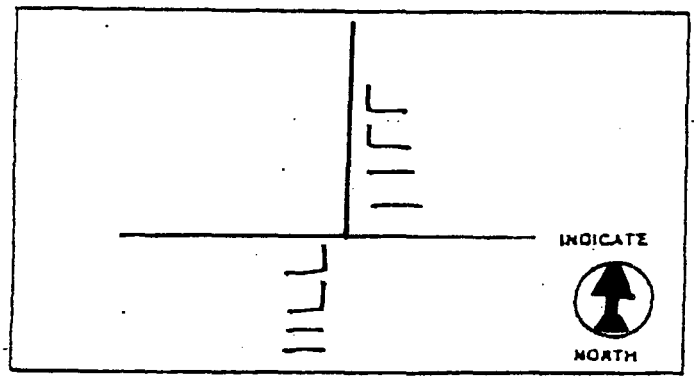
CAPACITY ANALYSIS

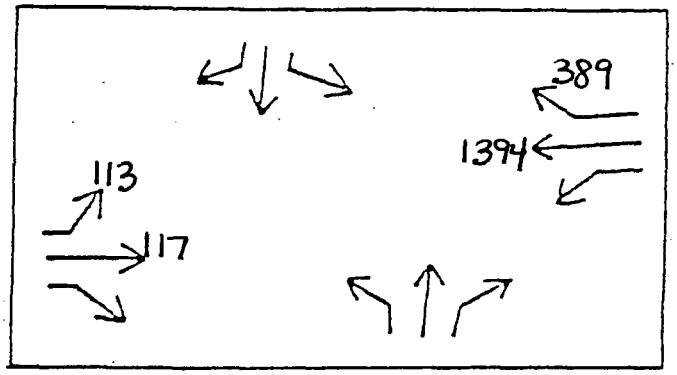
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57 ⌊ 56 ⌊	195 ⌊ 194 ⌊ 697 — 697 —		
	59 — 58 —		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57	697		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
754

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-905NB Connector

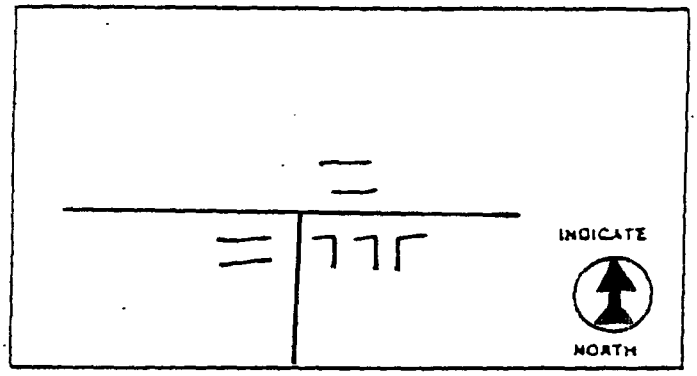
DIST. CO. RTE. P.M. 11/SD/905

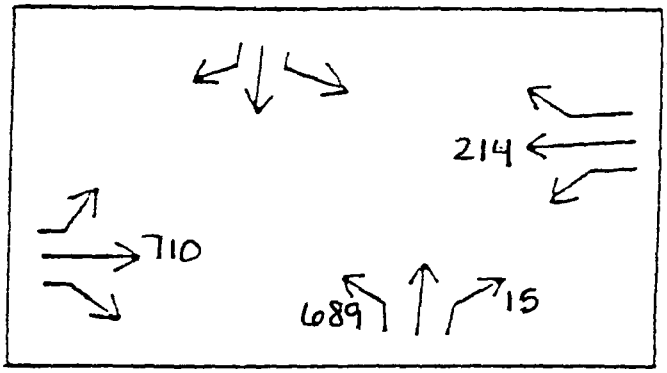
BY JB DATE 3-23-10

TIME ____ (AM) PM

Existing Conditions

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
107 107 355 355	345 345 15		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
355	345		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
700

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-905NB Connector

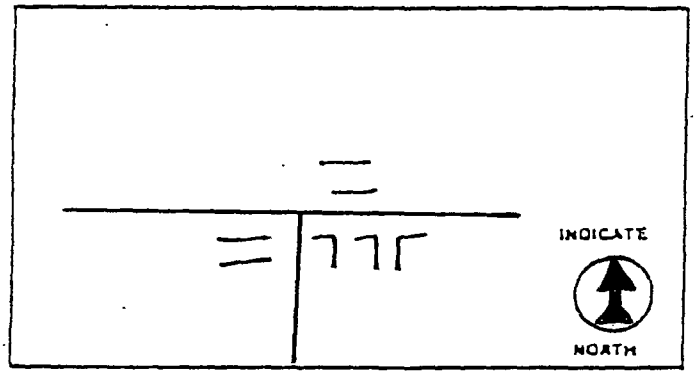
DIST. CO. RTE. P.M. 11/SD/905

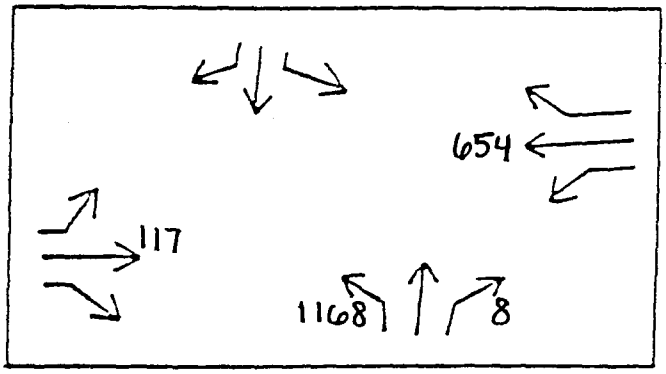
Existing Conditions

BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
327 327 59 58	777 1100 1100		

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
327	584		

TOTAL OPERATING LEVEL (1LV/hr):

Σ
911

Is . . .

- ☒ < 1200 1LV/hr.
- ☐ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

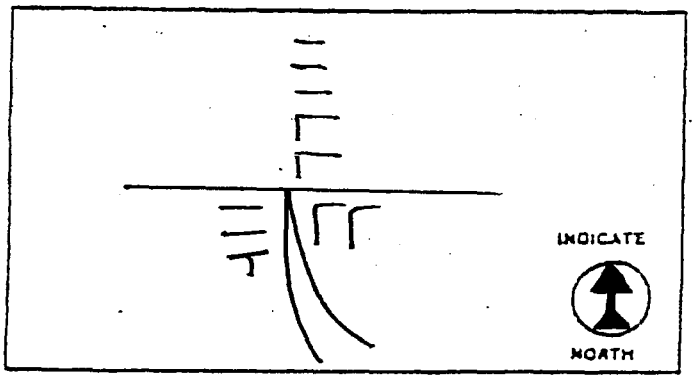
DIST. CO. RTE. P.M. 11 | SD | 905

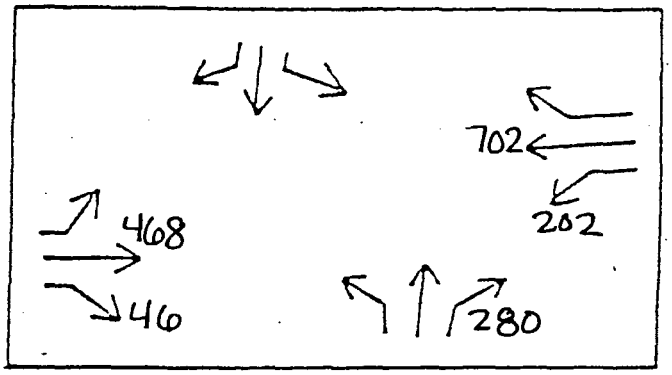
Existing Conditions

BY JB DATE 3-23-10

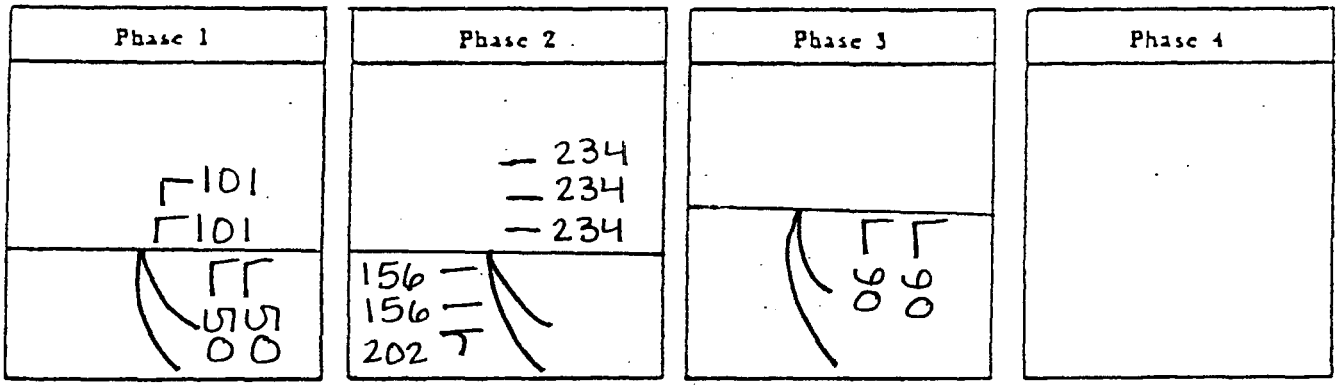
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
101	234	90	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
425

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

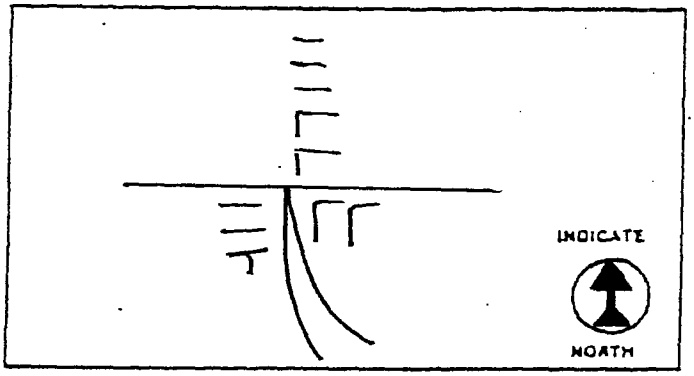
DIST. CO. RTE. P.M. 11 | SD | 905

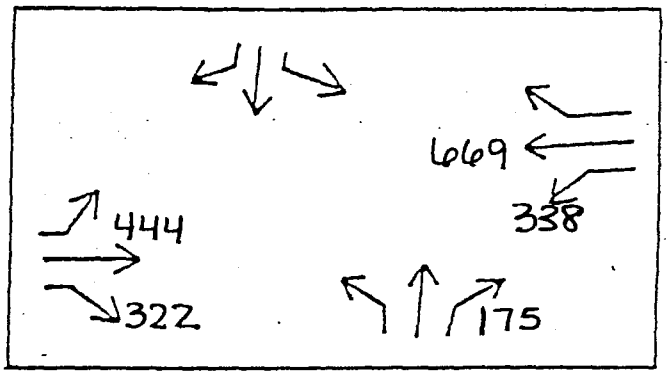
Existing Conditions

BY CB DATE 3-23-10

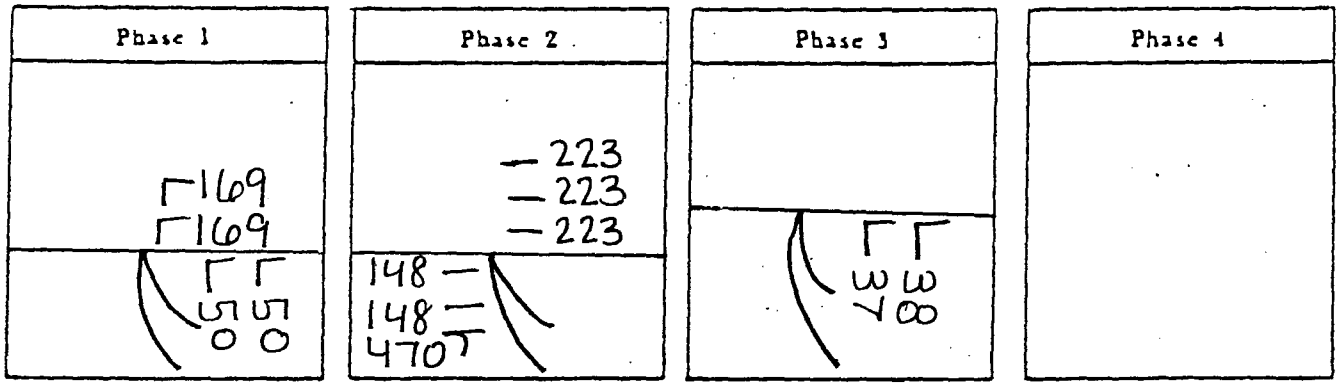
TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
169	470	38	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
677

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection
CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB Ramp

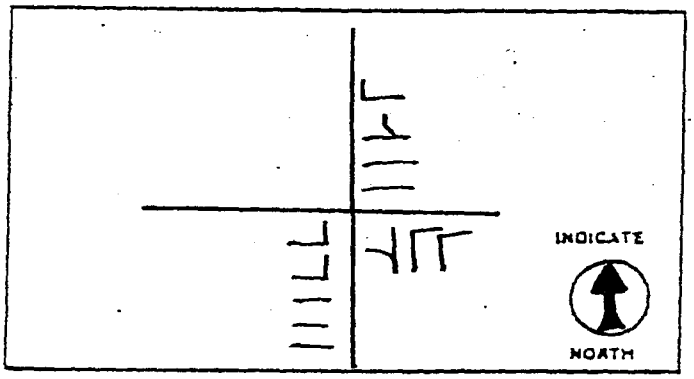
Existing Conditions

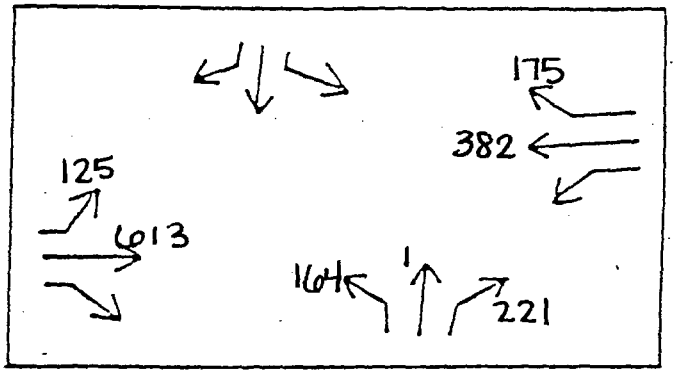
DIST. CO. RTE. P.M. 11/SD/905

BY [illegible] DATE 3-23-10

TIME ____ AM PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
62	88	165	
63	214	80	
30	127	81	
30	128		
	204		
	204		
	205		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
63	214	165	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
442

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva/SR-905 NB Ramp

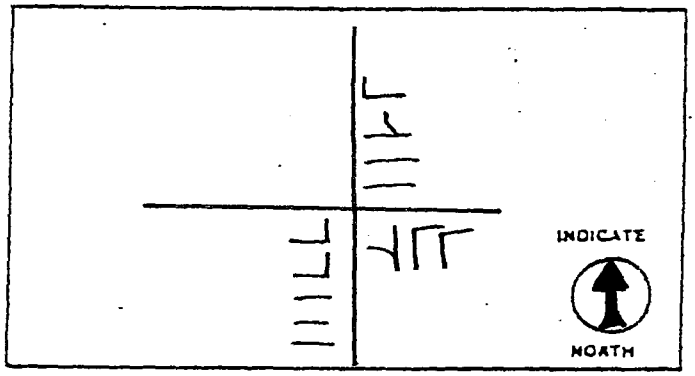
DIST. CO. RTE. P.M. 11/SD/905

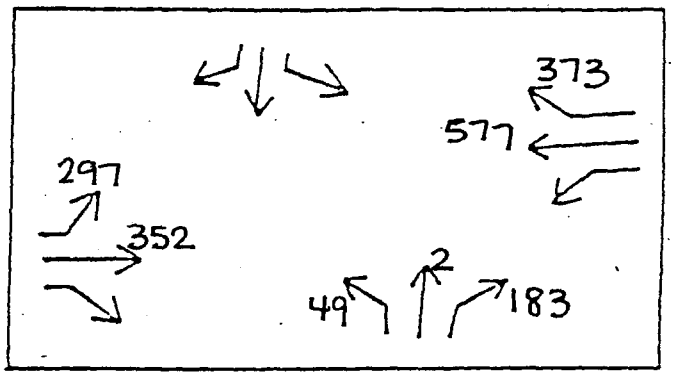
Existing Conditions

BY MS DATE 3-23-10

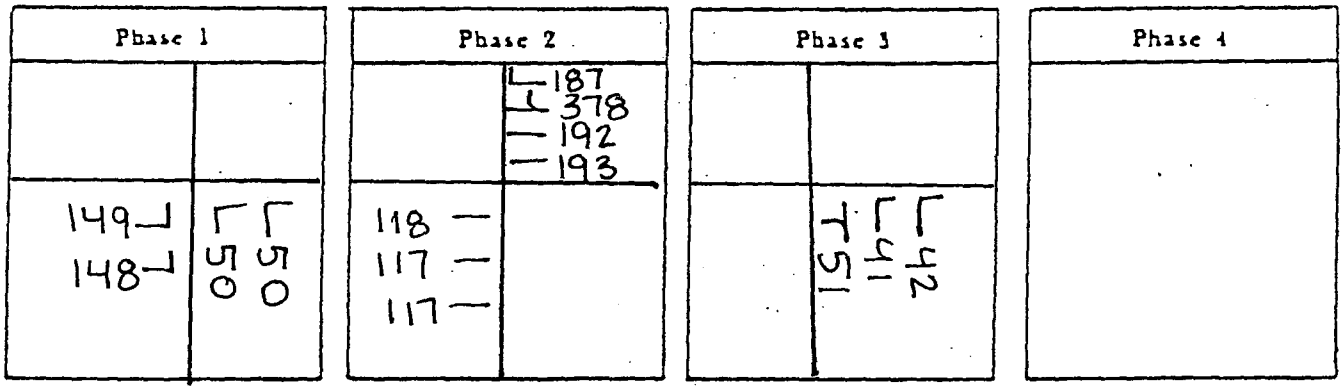
TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149	378	51	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
578

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX F

- Existing + Project Arterial Analysis
- Existing + Project Intersection Synchro Analysis
- Existing + Project Intersection ILV Analysis

Existing + Project Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	18.9	47.3	0.27	20.8	D
Cactus Rd	II	45	44.7	7.1	51.8	0.51	35.3	A
Brittania Blvd	II	45	45.5	13.0	58.5	0.52	31.8	B
La Media	II	45	83.0	4.9	87.9	1.04	42.5	A
Piper Ranch Rd	II	45	44.3	2.9	47.2	0.50	38.4	A
	II	45	29.4	2.5	31.9	0.30	33.5	B
SR125 NB Ramp	II	45	13.4	0.2	13.6	0.12	32.6	B
SR905	II	45	11.1	3.3	14.4	0.10	25.6	C
Harvest Rd	II	45	6.4	3.3	9.7	0.06	21.8	D
Sanyo Ave	II	45	22.4	2.1	24.5	0.21	30.1	B
Enrico Fermi Dr	II	45	62.8	11.0	73.8	0.78	38.3	A
Total	II		391.4	69.2	460.6	4.41	34.5	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.9	47.1	0.49	37.5	A
Sanyo Ave	II	45	62.8	2.0	64.8	0.78	43.6	A
Harvest Rd	II	45	22.4	13.2	35.6	0.21	20.7	D
CA Xing 'C'	II	45	6.4	6.5	12.9	0.06	16.4	E
SR125 NB Ramp	II	45	11.1	0.3	11.4	0.10	32.3	B
SR125 SB	II	45	13.4	10.6	24.0	0.12	18.5	D
Piper Ranch Rd	II	45	29.4	7.0	36.4	0.30	29.4	B
La Media	II	45	44.3	10.8	55.1	0.50	32.9	B
Brittania Blvd	II	45	83.0	2.9	85.9	1.04	43.5	A
Cactus Rd	II	45	45.5	2.3	47.8	0.52	38.9	A
Heritage Road	II	45	44.7	13.8	58.5	0.51	31.2	B
Total	II		406.2	73.3	479.5	4.63	34.7	B

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.4	47.8	0.27	20.6	D
Cactus Rd	II	45	44.7	16.9	61.6	0.51	29.7	B
Brittania Blvd	II	45	45.5	8.2	53.7	0.52	34.7	B
La Media	II	45	83.0	23.9	106.9	1.04	35.0	B
Piper Ranch Rd	II	45	43.9	3.5	47.4	0.50	37.9	A
	II	45	29.9	0.9	30.8	0.30	35.3	A
SR125 NB Ramp	II	45	13.4	0.1	13.5	0.12	32.8	B
SR-905	II	45	11.1	8.7	19.8	0.10	18.6	D
Harvest Rd	II	45	6.4	11.9	18.3	0.06	11.5	F
Sanyo Ave	II	45	22.4	2.2	24.6	0.21	30.1	B
Enrico Fermi Dr	II	45	62.7	6.7	69.4	0.78	40.7	A
Total	II		391.4	102.4	493.8	4.41	32.2	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	9.0	52.2	0.49	33.9	B
Sanyo Ave	II	45	62.7	6.4	69.1	0.78	40.9	A
Harvest Rd	II	45	22.4	83.6	106.0	0.21	7.0	F
Ca Xing 'C'	II	45	6.4	10.5	16.9	0.06	12.5	F
SR125 NB Ramp	II	45	11.1	3.3	14.4	0.10	25.6	C
SR125 SB	II	45	13.4	2.4	15.8	0.12	28.0	B
Piper Ranch Rd	II	45	29.9	0.9	30.8	0.30	35.3	A
La Media	II	45	43.9	20.1	64.0	0.50	28.1	B
Brittania Blvd	II	45	83.0	12.1	95.1	1.04	39.3	A
Cactus Rd	II	45	45.5	3.3	48.8	0.52	38.1	A
Heritage Road	II	45	44.7	30.2	74.9	0.51	24.4	C
Total	II		406.2	181.8	588.0	4.63	28.3	B

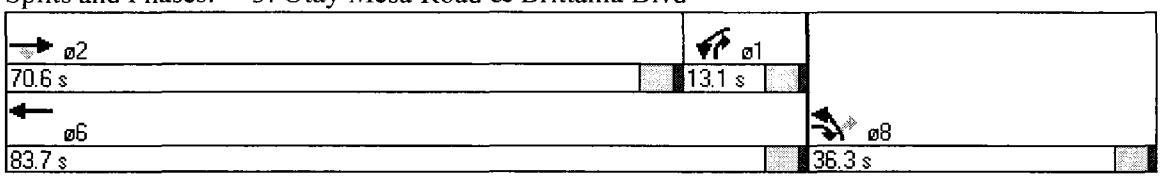
Existing + Project Intersection Analysis

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		458				3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2008	669	43	1000	176	20
Adj. Flow (vph)	2362	787	51	1176	207	24
Lane Group Flow (vph)	2362	787	51	1176	207	24
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	85.1	106.3	8.5	95.6	16.4	28.1
Actuated g/C Ratio	0.71	0.89	0.07	0.80	0.14	0.23
v/c Ratio	0.69	0.54	0.41	0.31	0.44	0.06
Control Delay	13.0	2.2	54.2	2.9	49.4	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	2.2	54.2	2.9	49.4	29.2
LOS	B	A	D	A	D	C
Approach Delay	10.3			5.1	47.3	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

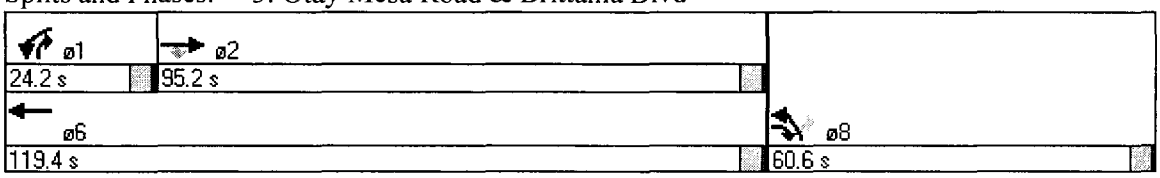


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				10
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1595	287	43	1972	587	51
Adj. Flow (vph)	1715	309	46	2120	631	55
Lane Group Flow (vph)	1715	309	46	2120	631	55
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	118.9	161.6	10.4	133.3	38.7	53.1
Actuated g/C Ratio	0.66	0.90	0.06	0.74	0.22	0.30
v/c Ratio	0.54	0.21	0.45	0.60	0.86	0.12
Control Delay	8.2	1.0	94.7	12.1	79.8	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	1.0	94.7	12.1	79.8	35.8
LOS	A	A	F	B	E	D
Approach Delay	7.1			13.9	76.3	
Approach LOS	A			B	E	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 61.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

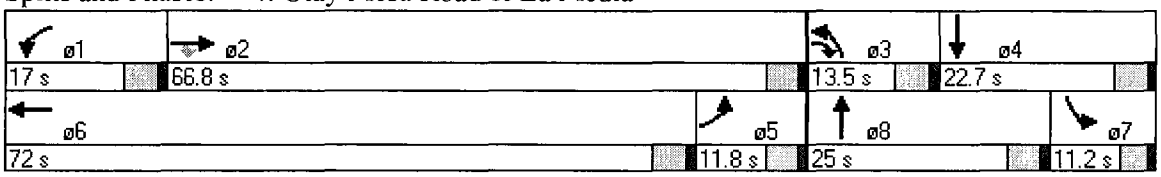


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.994			0.933			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4785	0	1770	1683	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4785	0	1770	1683	0	3433	1659	0
Satd. Flow (RTOR)			245		9			20			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	1386	233	99	932	41	75	24	19	59	52	71
Adj. Flow (vph)	75	1459	245	104	981	43	79	25	20	62	55	75
Lane Group Flow (vph)	75	1459	245	104	1024	0	79	45	0	62	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.1	84.1	12.1	77.7		9.0	10.2		12.6	11.8	
Actuated g/C Ratio	0.06	0.59	0.70	0.10	0.65		0.08	0.08		0.10	0.10	
v/c Ratio	0.66	0.51	0.21	0.58	0.33		0.59	0.28		0.17	0.63	
Control Delay	62.6	4.9	1.1	64.3	10.8		72.1	38.3		48.4	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	62.6	4.9	1.1	64.3	10.8		72.1	38.3		48.4	45.3	
LOS	E	A	A	E	B		E	D		D	D	
Approach Delay		6.8			15.7			59.8			46.3	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.3 Intersection LOS: B
Intersection Capacity Utilization 56.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

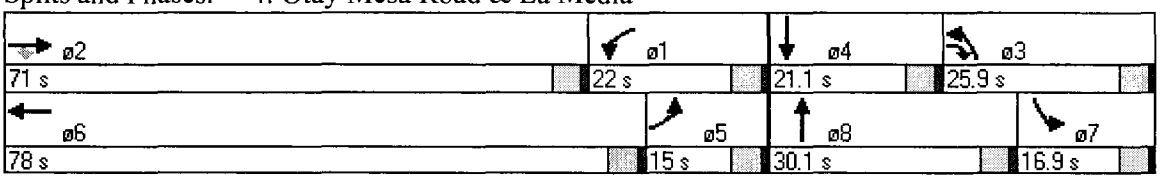


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.997			0.912			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4794	0	1770	1659	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4794	0	1770	1659	0	3433	1648	0
Satd. Flow (RTOR)			249		3			33			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1368	239	103	1522	31	158	22	32	62	63	116
Adj. Flow (vph)	73	1425	249	107	1585	32	165	23	33	65	66	121
Lane Group Flow (vph)	73	1425	249	107	1617	0	165	56	0	65	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	74.9	96.8	15.9	83.1		17.9	12.3		22.9	15.2	
Actuated g/C Ratio	0.07	0.54	0.69	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.55	0.21	0.53	0.57		0.73	0.32		0.12	0.82	
Control Delay	81.2	23.9	1.4	67.7	20.1		76.8	36.0		47.5	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	23.9	1.4	67.7	20.1		76.8	36.0		47.5	70.1	
LOS	F	C	A	E	C		E	D		D	E	
Approach Delay		23.1			23.0			66.5			64.3	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

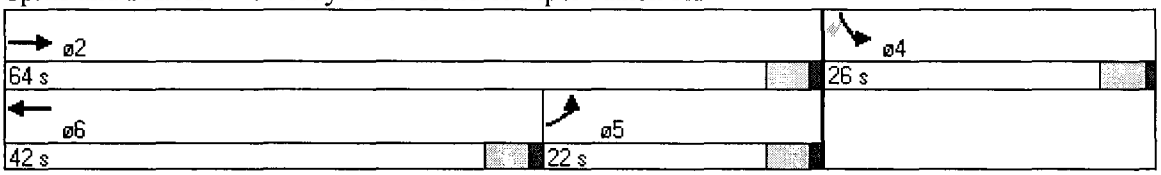


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.996		0.935	0.850
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1770	3539	5065	0	3288	1441
Flt Permitted	0.950				0.973	
Satd. Flow (perm)	1770	3539	5065	0	3288	1441
Satd. Flow (RTOR)			6		10	10
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	1400	1055	29	12	18
Adj. Flow (vph)	119	1573	1185	33	13	20
Lane Group Flow (vph)	119	1573	1218	0	23	10
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.5	57.9		6.5	6.5
Actuated g/C Ratio	0.18	0.84	0.64		0.07	0.07
v/c Ratio	0.38	0.53	0.37		0.09	0.09
Control Delay	35.5	2.9	7.0		28.5	22.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	2.9	7.0		28.5	22.7
LOS	D	A	A		C	C
Approach Delay		5.2	7.0		26.7	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 6.2 Intersection LOS: A
Intersection Capacity Utilization 48.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

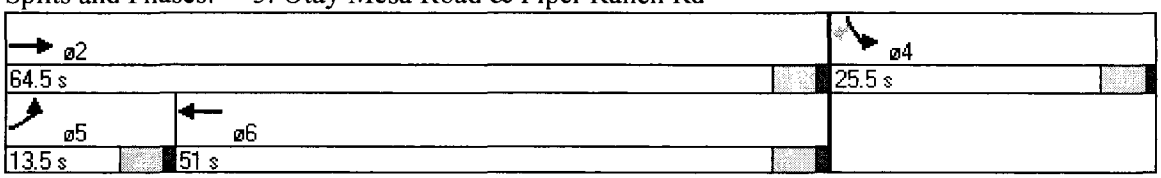


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.998		0.930	0.850
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	3539	5075	0	3273	1441
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	3539	5075	0	3273	1441
Satd. Flow (RTOR)			2		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1510	1560	17	53	94
Adj. Flow (vph)	18	1641	1696	18	58	102
Lane Group Flow (vph)	18	1641	1714	0	109	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.4	69.6		7.6	7.6
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.56	0.44		0.34	0.30
Control Delay	40.4	3.5	0.9		25.0	16.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	3.5	0.9		25.0	16.4
LOS	D	A	A		C	B
Approach Delay		3.9	0.9		22.2	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 51.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

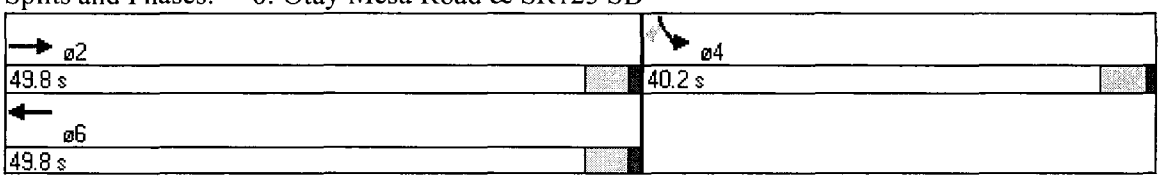


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.914	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4393	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4393	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		541	542									75
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	346	931	0	879	0	0	0	0	462	0	145
Adj. Flow (vph)	0	402	1083	0	1022	0	0	0	0	537	0	169
Lane Group Flow (vph)	0	943	542	0	1022	0	0	0	0	537	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		62.9	90.0		62.9					19.1		19.1
Actuated g/C Ratio		0.70	1.00		0.70					0.21		0.21
v/c Ratio		0.29	0.40		0.29					0.74		0.43
Control Delay		2.5	0.8		10.6					39.2		19.6
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		2.5	0.8		10.6					39.2		19.6
LOS		A	A		B					D		B
Approach Delay		1.8			10.6							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 11.8 Intersection LOS: B
Intersection Capacity Utilization 36.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

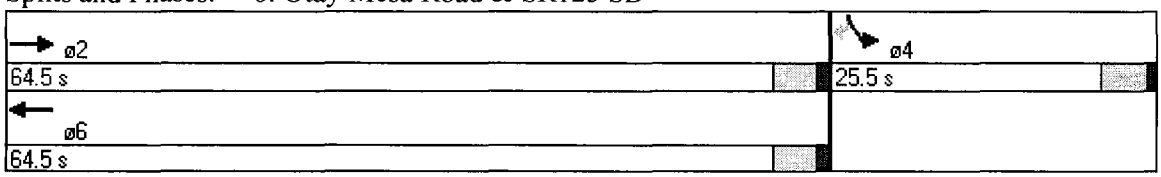


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.888	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4268	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4268	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		662	663									34
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	203	1219	0	1593	0	0	0	0	267	0	40
Adj. Flow (vph)	0	221	1325	0	1732	0	0	0	0	290	0	43
Lane Group Flow (vph)	0	883	663	0	1732	0	0	0	0	290	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		69.0	90.0		69.0					13.0		13.0
Actuated g/C Ratio		0.77	1.00		0.77					0.14		0.14
v/c Ratio		0.26	0.49		0.44					0.59		0.17
Control Delay		0.9	1.3		2.4					40.6		15.8
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		0.9	1.3		2.4					40.6		15.8
LOS		A	A		A					D		B
Approach Delay		1.1			2.4							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 5.0 Intersection LOS: A
Intersection Capacity Utilization 51.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

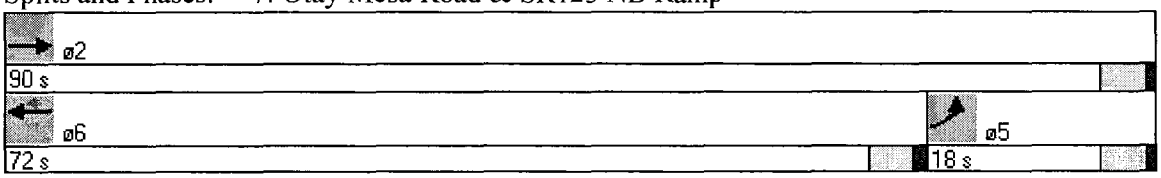


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				132		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	779	833	115	0	0
Adj. Flow (vph)	33	895	957	132	0	0
Lane Group Flow (vph)	33	895	957	132	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	6.9	90.0	80.8	80.8		
Actuated g/C Ratio	0.08	1.00	0.90	0.90		
v/c Ratio	0.13	0.25	0.30	0.05		
Control Delay	34.7	0.2	0.3	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	34.7	0.2	0.3	0.0		
LOS	C	A	A	A		
Approach Delay		1.4	0.3			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 0.8 Intersection LOS: A
Intersection Capacity Utilization 36.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

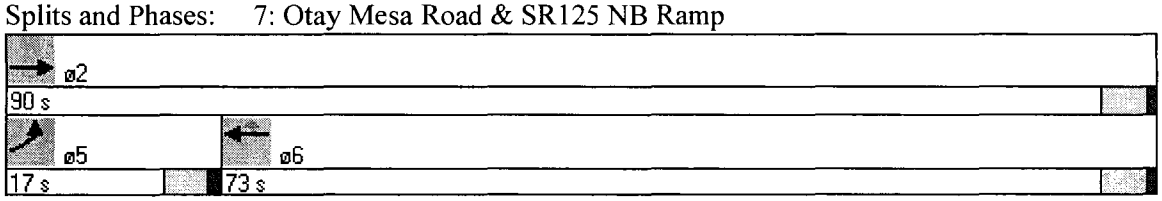


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				602		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	356	1514	548	0	0
Adj. Flow (vph)	124	391	1664	602	0	0
Lane Group Flow (vph)	124	391	1664	602	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.1	90.0	72.9	72.9		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.11	0.58	0.25		
Control Delay	53.2	0.1	3.3	0.5		
Queue Delay	0.0	0.0	0.3	0.0		
Total Delay	53.2	0.1	3.6	0.5		
LOS	D	A	A	A		
Approach Delay		12.8	2.8			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 51.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

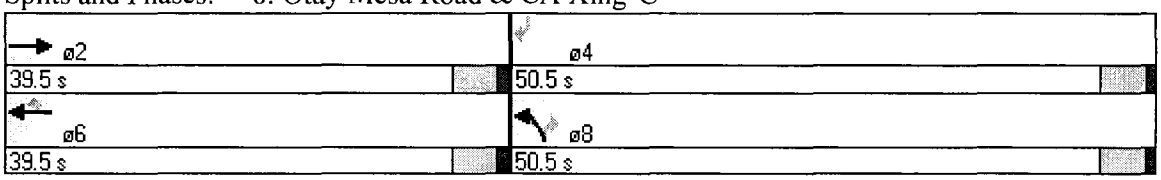


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						45			40			371
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	833	0	0	283	41	689	0	241	0	0	27
Adj. Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Lane Group Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.5	0.0	0.0	39.5	39.5	50.5	0.0	50.5	0.0	0.0	50.5
Act Effct Green (s)		54.9			54.9	54.9	27.1		27.1			27.1
Actuated g/C Ratio		0.61			0.61	0.61	0.30		0.30			0.30
v/c Ratio		0.25			0.15	0.05	0.77		0.55			0.04
Control Delay		3.3			6.5	3.1	28.0		19.8			0.1
Queue Delay		0.0			0.0	0.0	0.0		0.0			0.0
Total Delay		3.3			6.5	3.1	28.0		19.8			0.1
LOS		A			A	A	C		B			A
Approach Delay		3.3			6.1							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.6 Intersection LOS: B
Intersection Capacity Utilization 40.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & CA Xing 'C'

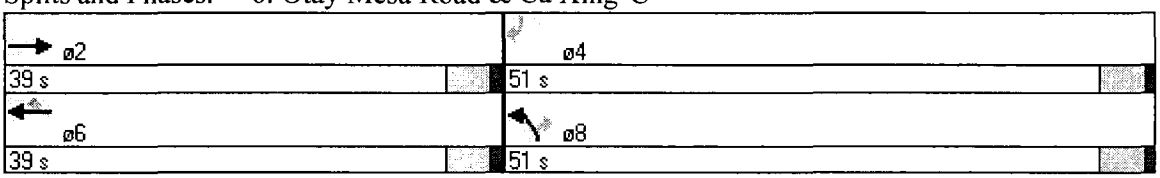


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						124			200			30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	459	0	0	939	114	1168	0	635	0	0	114
Adj. Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Lane Group Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.0	0.0	0.0	39.0	39.0	51.0	0.0	51.0	0.0	0.0	51.0
Act Effct Green (s)		40.7			40.7	40.7	41.3		41.3			41.3
Actuated g/C Ratio		0.45			0.45	0.45	0.46		0.46			0.46
v/c Ratio		0.17			0.65	0.16	0.81		0.84			0.16
Control Delay		8.7			10.5	0.8	24.1		22.9			9.7
Queue Delay		0.0			0.4	0.0	0.0		2.7			0.0
Total Delay		8.7			10.8	0.8	24.1		25.6			9.7
LOS		A			B	A	C		C			A
Approach Delay		8.7			9.8							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 76.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & Ca Xing 'C'

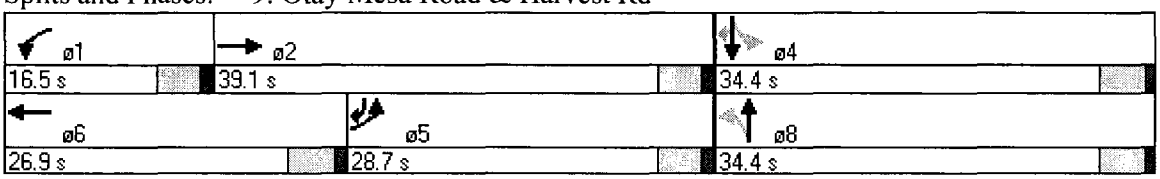


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt					0.988							0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	3433	3539	0	1770	3497	0	0	1863	0	0	1770	2787
Flt Permitted	0.950			0.950							0.757	
Satd. Flow (perm)	3433	3539	0	1770	3497	0	0	1863	0	0	1410	2787
Satd. Flow (RTOR)					10							84
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	361	713	0	2	247	22	0	0	0	179	0	77
Adj. Flow (vph)	392	775	0	2	268	24	0	0	0	195	0	84
Lane Group Flow (vph)	392	775	0	2	292	0	0	0	0	0	195	84
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	28.7	39.1	0.0	16.5	26.9	0.0	34.4	34.4	0.0	34.4	34.4	28.7
Act Effct Green (s)	23.3	63.1		6.1	37.9						16.8	44.1
Actuated g/C Ratio	0.26	0.70		0.07	0.42						0.19	0.49
v/c Ratio	0.44	0.31		0.02	0.20						0.74	0.06
Control Delay	20.2	3.3		44.5	13.2						54.2	4.2
Queue Delay	0.0	0.1		0.0	0.0						0.0	0.0
Total Delay	20.2	3.4		44.5	13.2						54.2	4.2
LOS	C	A		D	B						D	A
Approach Delay		9.0			13.4						39.1	
Approach LOS		A			B						D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 78 (87%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 43.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

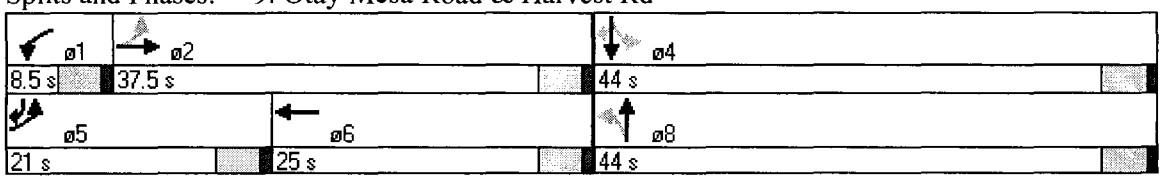


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.990			0.989							0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	3433	3504	0	1770	3500	0	0	1770	0	0	1770	2787
Flt Permitted	0.160			0.950				0.100			0.757	
Satd. Flow (perm)	578	3504	0	1770	3500	0	0	186	0	0	1410	2787
Satd. Flow (RTOR)		9			9							15
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	975	111	8	1	758	62	1	0	0	741	0	294
Adj. Flow (vph)	1060	121	9	1	824	67	1	0	0	805	0	320
Lane Group Flow (vph)	1060	130	0	1	891	0	0	1	0	0	805	320
Turn Type	pm+pt			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases	2						8			4		4
Total Split (s)	21.0	37.5	0.0	8.5	25.0	0.0	44.0	44.0	0.0	44.0	44.0	21.0
Act Effct Green (s)	42.0	40.3		4.5	21.0			40.0			40.0	61.0
Actuated g/C Ratio	0.47	0.45		0.05	0.23			0.44			0.44	0.68
v/c Ratio	1.31	0.08		0.01	1.08			0.01			1.28	0.17
Control Delay	173.8	11.9		43.0	83.6			15.0			165.3	5.3
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	173.8	11.9		43.0	83.6			15.0			165.3	5.3
LOS	F	B		D	F			B			F	A
Approach Delay		156.1			83.5			15.0			119.8	
Approach LOS		F			F			B			F	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 123.1 Intersection LOS: F
Intersection Capacity Utilization 99.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

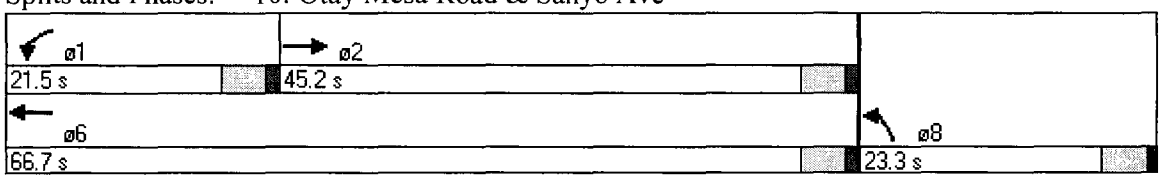


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.934				0.983	
Flt Protected			0.950		0.958	
Satd. Flow (prot)	3306	0	1770	1863	3403	0
Flt Permitted			0.950		0.958	
Satd. Flow (perm)	3306	0	1770	1863	3403	0
Satd. Flow (RTOR)	288				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	416	325	24	201	75	10
Adj. Flow (vph)	520	406	30	251	94	12
Lane Group Flow (vph)	926	0	30	251	106	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	71.5		7.4	76.6	8.2	
Actuated g/C Ratio	0.79		0.08	0.85	0.09	
v/c Ratio	0.34		0.21	0.16	0.33	
Control Delay	2.1		41.4	2.0	36.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.1		41.4	2.0	36.3	
LOS	A		D	A	D	
Approach Delay	2.1			6.2	36.3	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 31.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

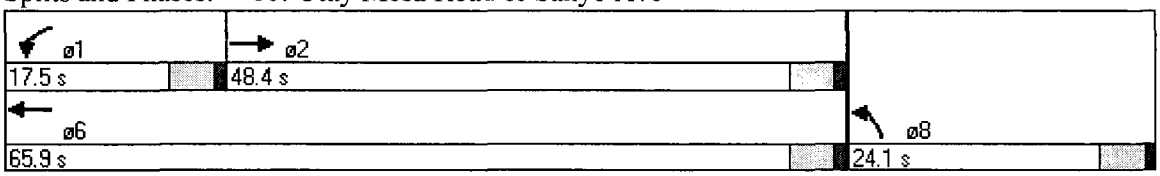


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.866				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3065	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3065	0	1770	1863	3437	0
Satd. Flow (RTOR)	706				2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	69	572	12	528	305	5
Adj. Flow (vph)	85	706	15	652	377	6
Lane Group Flow (vph)	791	0	15	652	383	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	64.2		6.7	66.7	15.3	
Actuated g/C Ratio	0.71		0.07	0.74	0.17	
v/c Ratio	0.33		0.11	0.47	0.65	
Control Delay	2.2		40.4	6.4	39.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.2		40.4	6.4	39.8	
LOS	A		D	A	D	
Approach Delay	2.2			7.2	39.8	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 11.8 Intersection LOS: B
Intersection Capacity Utilization 43.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	88	52	31	15	3	184	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	95	56	33	16	3	198	130	13

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	200	99	56	33	19	328	13
Volume Left (vph)	15	4	0	33	0	198	0
Volume Right (vph)	98	0	56	0	3	0	13
Hadj (s)	-0.24	0.06	-0.67	0.53	-0.08	0.34	-0.67
Departure Headway (s)	5.6	6.0	5.3	6.5	5.9	5.9	4.9
Degree Utilization, x	0.31	0.16	0.08	0.06	0.03	0.54	0.02
Capacity (veh/h)	601	558	629	510	558	587	698
Control Delay (s)	11.2	9.0	7.5	8.8	7.9	14.4	6.8
Approach Delay (s)	11.2	8.5		8.4		14.1	
Approach LOS	B	A		A		B	

Intersection Summary			
Delay	11.8		
HCM Level of Service	B		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	159	175	79	126	2	539	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	183	201	91	145	2	620	30	40

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	132	187	201	91	147	649	40
Volume Left (vph)	5	5	0	91	0	620	0
Volume Right (vph)	59	0	201	0	2	0	40
Hadj (s)	-0.23	0.05	-0.67	0.53	0.02	0.51	-0.67
Departure Headway (s)	7.5	7.3	6.6	7.7	7.2	7.2	6.0
Degree Utilization, x	0.28	0.38	0.37	0.20	0.30	1.30	0.07
Capacity (veh/h)	457	477	529	447	478	494	582
Control Delay (s)	13.4	13.6	12.3	11.4	12.0	169.0	8.2
Approach Delay (s)	13.4	12.9		11.8		159.6	
Approach LOS	B	B		B		F	

Intersection Summary				
Delay	82.6			
HCM Level of Service	F			
Intersection Capacity Utilization	57.9%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	171	5	68	76	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	190	6	76	84	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			286		239	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			286		239	143
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	99
cM capacity (veh/h)			1274		725	879

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	64	222	6	38	38	84	10
Volume Left	0	0	6	0	0	84	0
Volume Right	0	190	0	0	0	0	10
cSH	1700	1700	1274	1700	1700	725	879
Volume to Capacity	0.04	0.13	0.00	0.02	0.02	0.12	0.01
Queue Length 95th (ft)	0	0	0	0	0	10	1
Control Delay (s)	0.0	0.0	7.8	0.0	0.0	10.6	9.1
Lane LOS			A			B	A
Approach Delay (s)	0.0		0.5			10.5	
Approach LOS						B	

Intersection Summary

Average Delay	2.2		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	547	26	126	202	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	629	30	145	232	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			693		511	347
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			693		511	347
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		51	98
cM capacity (veh/h)			898		476	649

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	43	650	30	72	72	232	11
Volume Left	0	0	30	0	0	232	0
Volume Right	0	629	0	0	0	0	11
cSH	1700	1700	898	1700	1700	476	649
Volume to Capacity	0.03	0.38	0.03	0.04	0.04	0.49	0.02
Queue Length 95th (ft)	0	0	3	0	0	66	1
Control Delay (s)	0.0	0.0	9.1	0.0	0.0	19.6	10.6
Lane LOS			A			C	B
Approach Delay (s)	0.0		1.6			19.1	
Approach LOS						C	

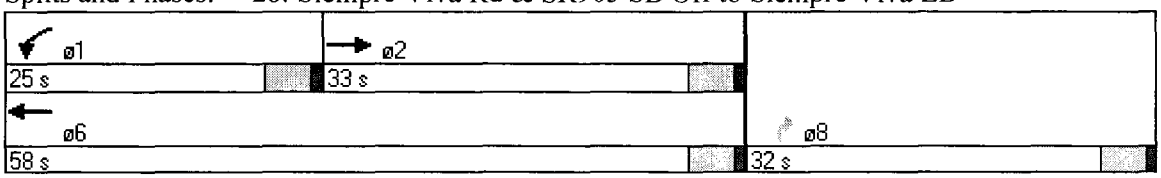
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.984					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5004	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5004	0	3433	5085	0	2787
Satd. Flow (RTOR)	25					939
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	56	327	702	0	280
Adj. Flow (vph)	514	62	359	771	0	308
Lane Group Flow (vph)	576	0	359	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	57.4		14.6	76.0		6.0
Actuated g/C Ratio	0.64		0.16	0.84		0.07
v/c Ratio	0.18		0.64	0.18		0.29
Control Delay	6.9		39.2	1.2		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	6.9		39.2	1.2		0.7
LOS	A		D	A		A
Approach Delay	6.9			13.3		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 26.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

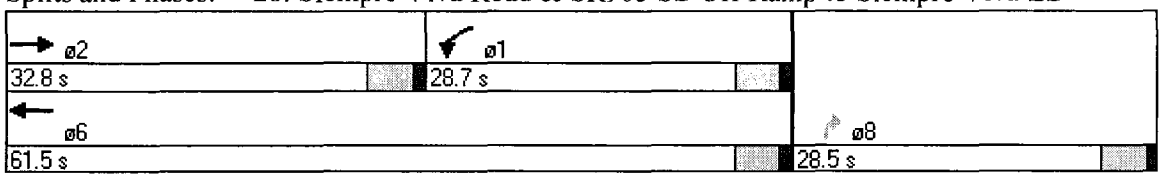


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.933					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4745	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4745	0	3433	5085	0	2787
Satd. Flow (RTOR)	241					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	362	856	669	0	175
Adj. Flow (vph)	522	426	1007	787	0	206
Lane Group Flow (vph)	948	0	1007	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.36		1.07	0.18		0.18
Control Delay	9.5		77.3	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.5		77.3	1.3		0.4
LOS	A		E	A		A
Approach Delay	9.5			44.0		
Approach LOS	A			D		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 47.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	748	665	0	0	364
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	860	764	0	0	418
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked					0.98	
vC, conflicting volume	764				1051	255
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	764				1009	255
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	44
cM capacity (veh/h)	844				232	745

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	255	255	255	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	745
Volume to Capacity	0.17	0.17	0.17	0.15	0.15	0.15	0.56
Queue Length 95th (ft)	0	0	0	0	0	0	89
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	15.9
Lane LOS							C
Approach Delay (s)	0.0			0.0			15.9
Approach LOS							C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	619	1149	0	0	376
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	666	1235	0	0	404
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		234	402			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	1235				1457	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1011				1261	83
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	53
cM capacity (veh/h)	604				144	852

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	412	412	412	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	852
Volume to Capacity	0.13	0.13	0.13	0.24	0.24	0.24	0.47
Queue Length 95th (ft)	0	0	0	0	0	0	65
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.0
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.0
Approach LOS							B

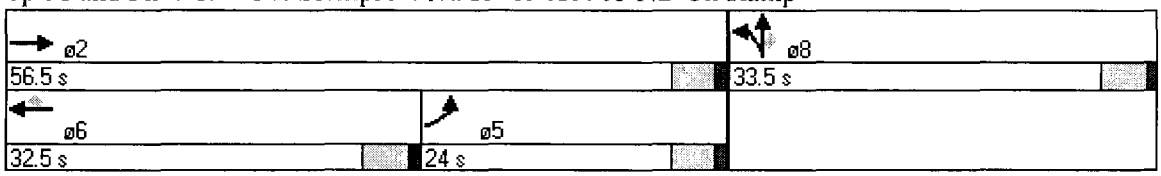
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4806	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4806	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)						182			275			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	507	175	164	1	264	0	0	0
Adj. Flow (vph)	130	639	0	0	528	182	171	1	275	0	0	0
Lane Group Flow (vph)	130	639	0	0	528	182	0	172	275	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.18	0.20		0.63	0.41			
Control Delay	37.0	1.5			8.6	2.3		45.1	6.0			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.0	1.5			8.6	2.3		45.1	6.0			
LOS	D	A			A	A		D	A			
Approach Delay		7.5			7.0			21.0				
Approach LOS		A			A			C				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 42.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

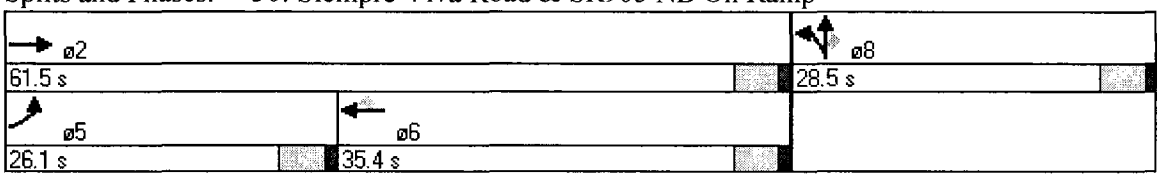


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4806	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4806	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)						401			326			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	1095	373	49	2	303	0	0	0
Adj. Flow (vph)	319	378	0	0	1177	401	53	2	326	0	0	0
Lane Group Flow (vph)	319	378	0	0	1177	401	0	55	326	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.40	0.41		0.33	0.58			
Control Delay	32.3	0.9			10.2	2.5		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			10.2	2.5		42.7	9.1			
LOS	C	A			B	A		D	A			
Approach Delay		15.3			8.3			13.9				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

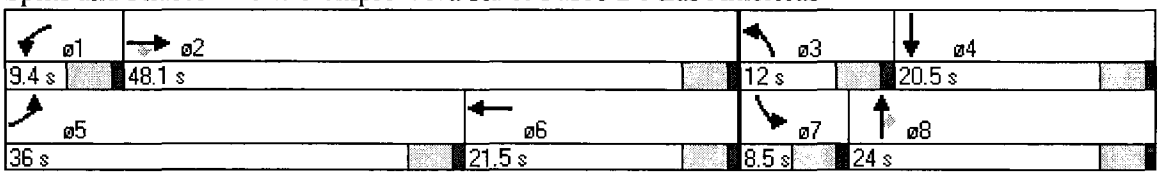


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.999				0.850		0.889	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3146	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3146	0
Satd. Flow (RTOR)			154						5		196	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	560	339	140	21	255	1	120	51	5	8	64	178
Adj. Flow (vph)	615	373	154	23	280	1	132	56	5	9	70	196
Lane Group Flow (vph)	615	373	154	23	281	0	132	56	5	9	266	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	31.0	43.2	43.2	5.4	11.6		8.1	18.6	18.6	4.5	8.1	
Actuated g/C Ratio	0.41	0.58	0.58	0.07	0.15		0.11	0.25	0.25	0.06	0.11	
v/c Ratio	0.84	0.13	0.16	0.19	0.51		0.69	0.06	0.01	0.09	0.52	
Control Delay	33.3	8.4	2.4	40.3	33.0		55.3	24.4	16.8	40.2	14.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.3	8.4	2.4	40.3	33.0		55.3	24.4	16.8	40.2	14.0	
LOS	C	A	A	D	C		E	C	B	D	B	
Approach Delay		21.0			33.5			45.3			14.8	
Approach LOS		C			C			D			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 74.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

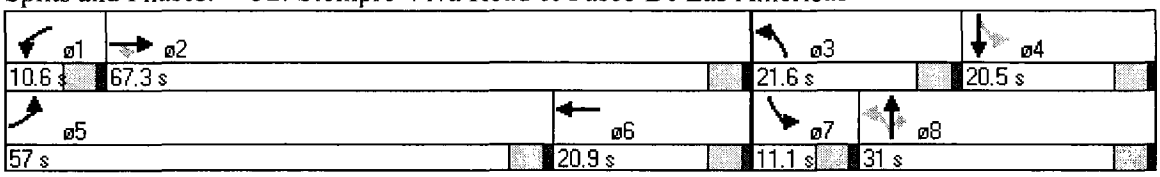


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.868	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3072	0
Flt Permitted	0.950			0.950			0.195			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	363	3539	1583	1241	3072	0
Satd. Flow (RTOR)			67		4				8		677	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	750	102	59	30	274	14	269	120	7	6	80	596
Adj. Flow (vph)	852	116	67	34	311	16	306	136	8	7	91	677
Lane Group Flow (vph)	852	116	67	34	327	0	306	136	8	7	768	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	53.2	66.1	66.1	6.5	15.0		32.9	30.8	30.8	17.7	11.2	
Actuated g/C Ratio	0.47	0.58	0.58	0.06	0.13		0.29	0.27	0.27	0.15	0.10	
v/c Ratio	1.02	0.04	0.07	0.35	0.70		0.94	0.14	0.02	0.03	0.88dr	
Control Delay	68.6	11.9	3.5	64.0	55.3		73.2	32.8	18.4	31.8	16.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	68.6	11.9	3.5	64.0	55.3		73.2	32.8	18.4	31.8	16.4	
LOS	E	B	A	E	E		E	C	B	C	B	
Approach Delay		58.0			56.1			60.0			16.5	
Approach LOS		E			E			E			B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 113.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 45.8 Intersection LOS: D
Intersection Capacity Utilization 99.3% ICU Level of Service F
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas



Existing + Project Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

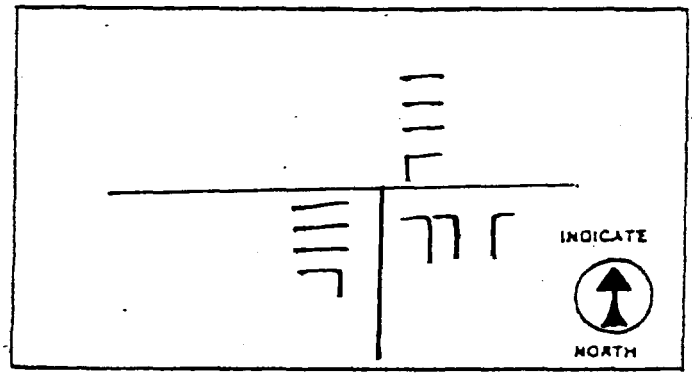
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

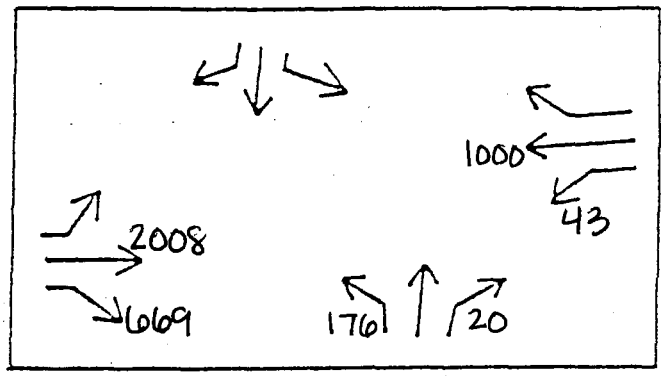
Existing + Project

BY VB DATE 3-23-10

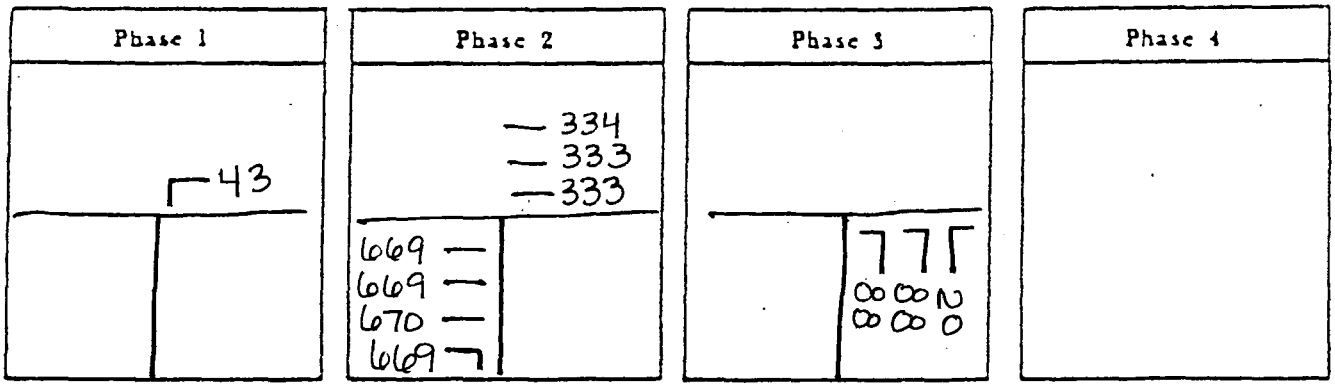
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
43	670	88	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
801

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

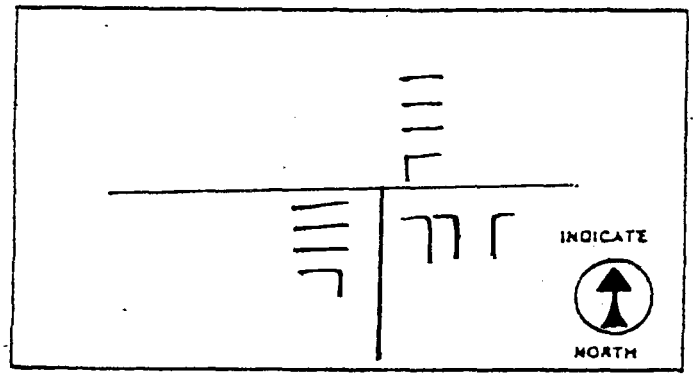
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

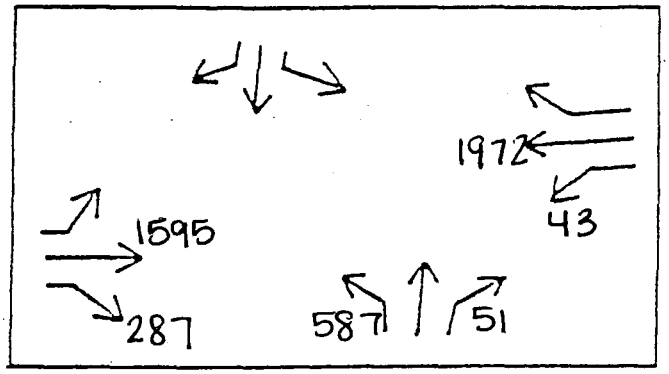
Existing + Project

BY VB DATE 3-23-10

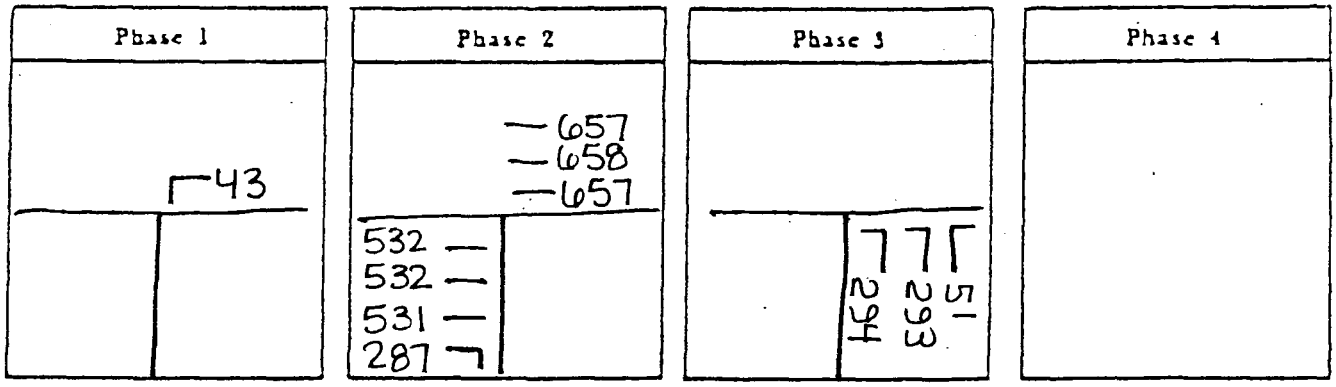
TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
43	658	294	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
995

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

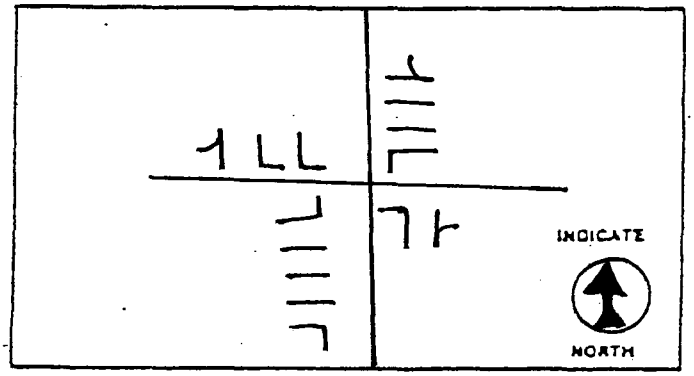
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

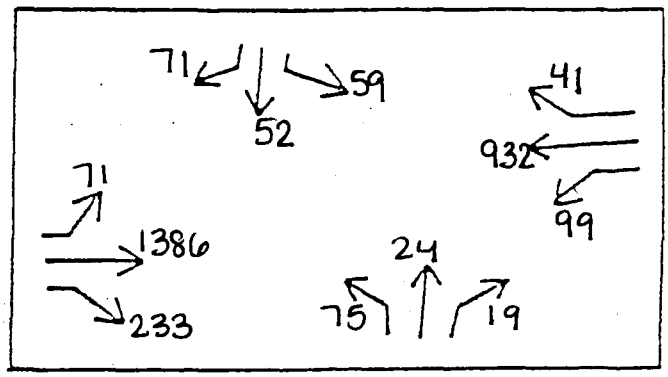
Existing + Project

BY [redacted] DATE 3-23-10

TIME ___ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
99 / 71	351 / 311 / 311 / 462 / 462 / 462 / 233	29 / 30 LL / 75	123 / 43

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
99	462	75	123

TOTAL OPERATING LEVEL (1LV/hr):

Σ
759

Is . . .

- ☒ < 1200 1LV/hr.
- ☐ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

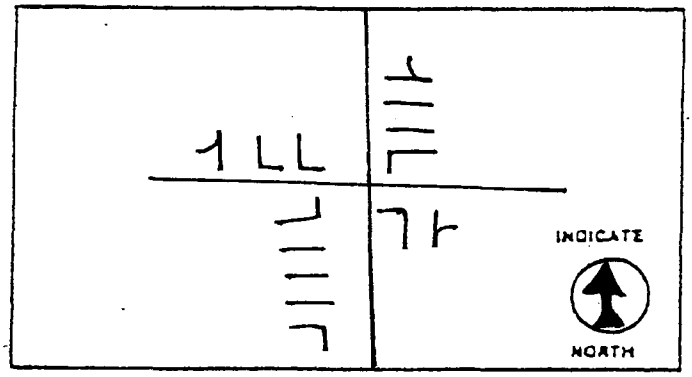
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

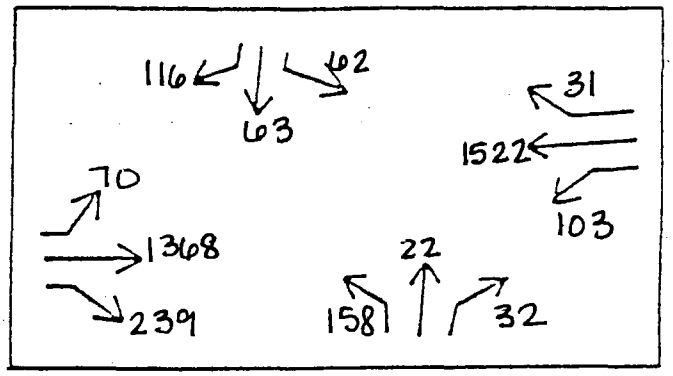
Existing + Project

BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
103	538 507 508	W W L L	179
70	456 456 456 239	158	154

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
103	538	158	179

TOTAL OPERATING LEVEL (1LV/hr):

Σ
978

Is . . .

☒ < 1200 1LV/hr.

☐ > 1200 but < 1500 1LV/hr.

☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

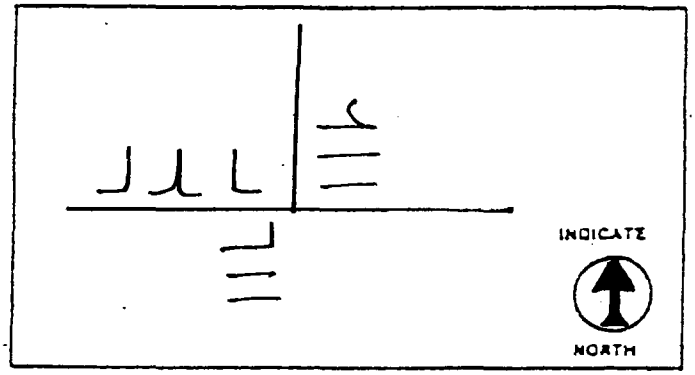
CAPACITY ANALYSIS

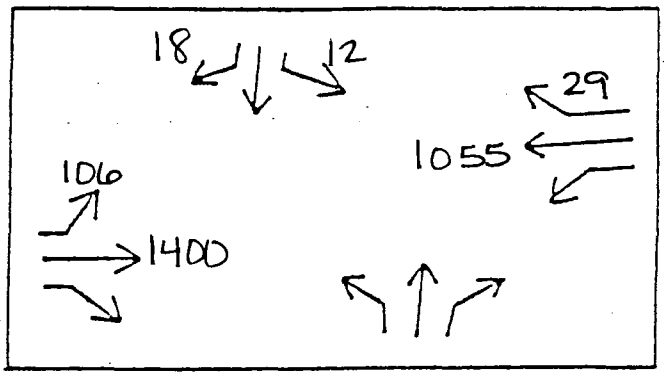
INTERSECTION Otay Mesa/Piper Ranch DIST. CO. RTE. P.M. 11/SD/905

Existing + Project BY JB DATE 3-23-10

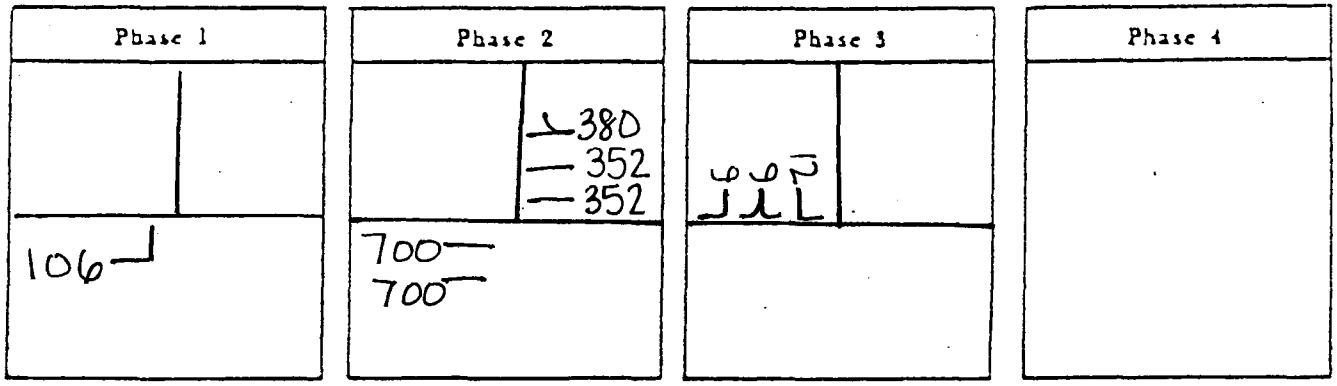
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
106	700	12	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
818

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

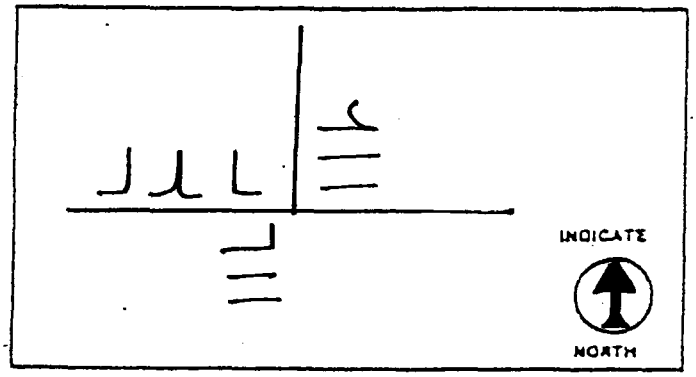
CAPACITY ANALYSIS

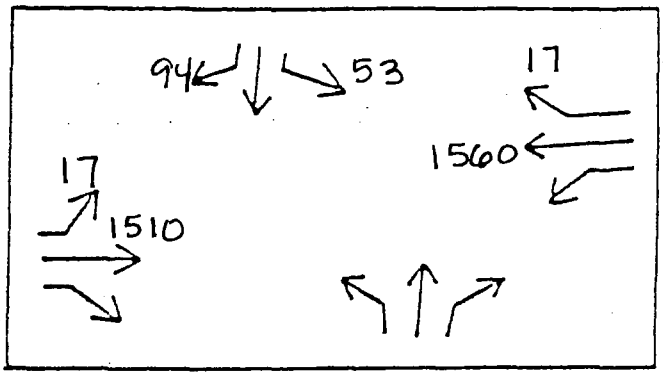
INTERSECTION Otay Mesa/Piper Ranch DIST. CO. RTE. P.M. 11/SD/905

Existing + Project BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	537 520 520 755 755	53	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	755	53	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
825

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

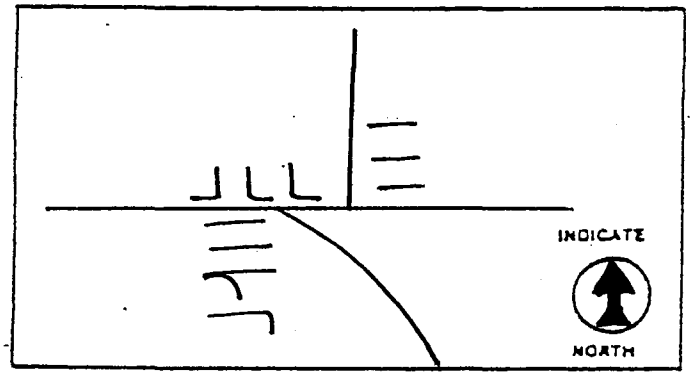
INTERSECTION Otay Mesa / SR-125 SB Ramp DIST. CO. RTE. P.M. 11/SD/905

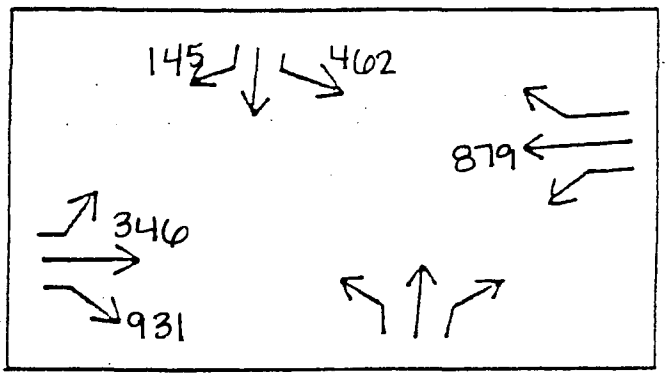
Existing + Project

BY JB DATE 3-23-10

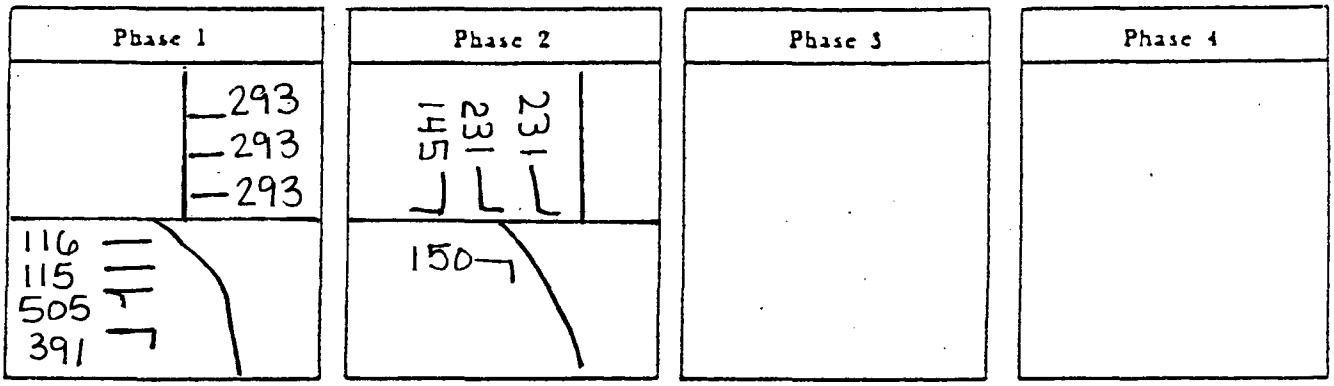
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
505	231		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
736

Is . . .

- [x] < 1200 ILV/hr.
- [ ] > 1200 but < 1500 ILV/hr.
- [ ] > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

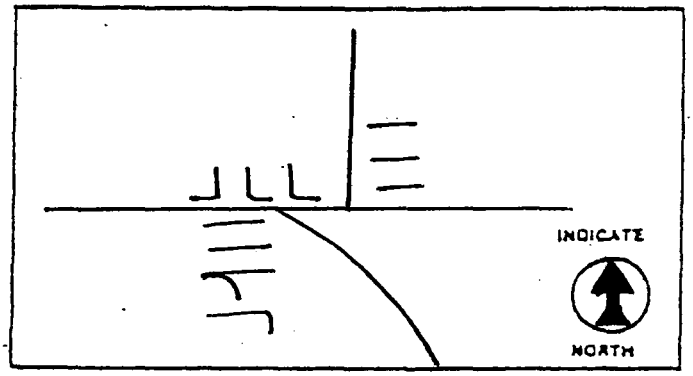
INTERSECTION Otay Mesa / SR-125 SB Ramp DIST. CO. RTE. P.M. 11/SD/905

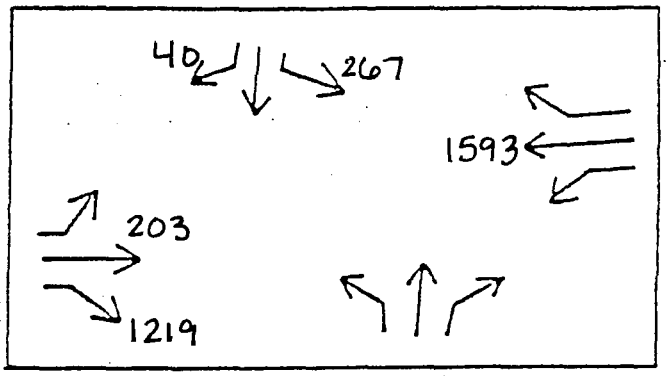
Existing + Project

BY JLR DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
531 531 531 68 67 639 572	40 133 134 75		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
639	134		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
773

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

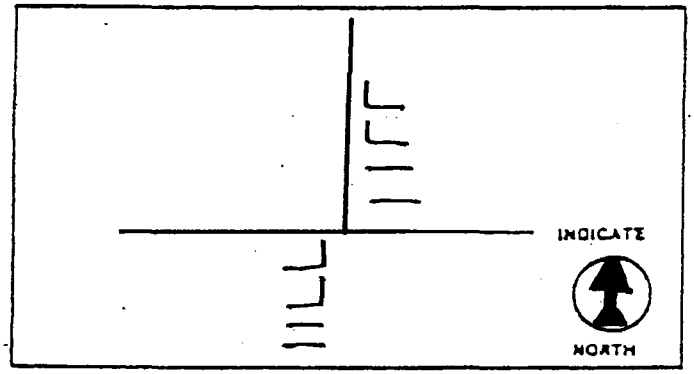
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

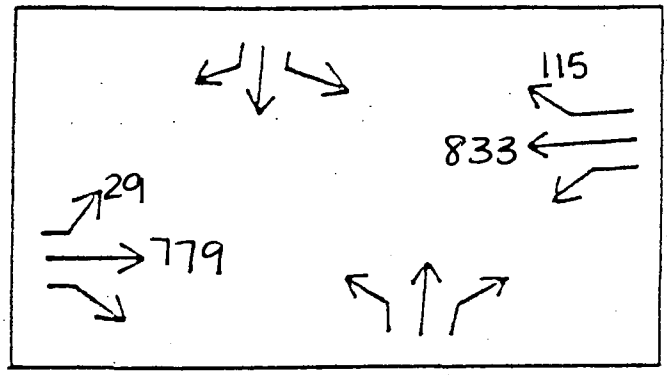
Existing + Project

BY JB DATE 3-23-10

TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15 ⌊ 14 ⌊	⌊ 58 ⌊ 57 416 417		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	416		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
431

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

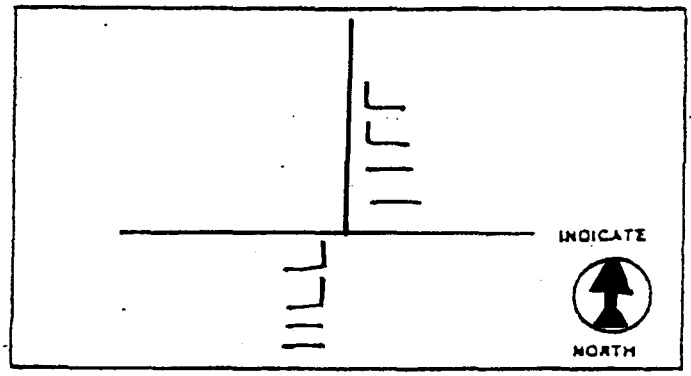
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

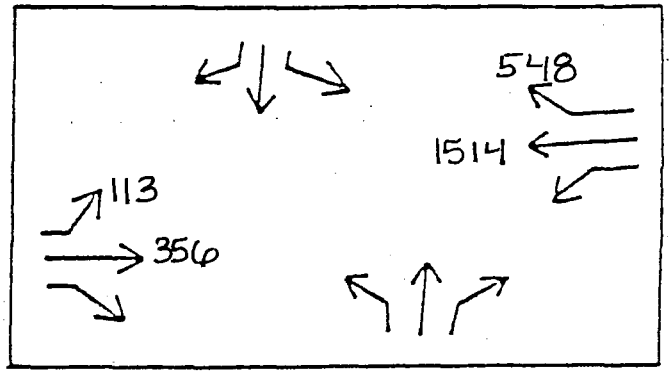
Existing + Project

BY JLB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57 ⌊ 56 ⌊	⌊ 274 ⌊ 274 ⌐ 757 ⌐ 757		

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57	757		

TOTAL OPERATING LEVEL (1LV/hr):

Σ
814

Is . . .

- ☒ < 1200 1LV/hr.
- ☐ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

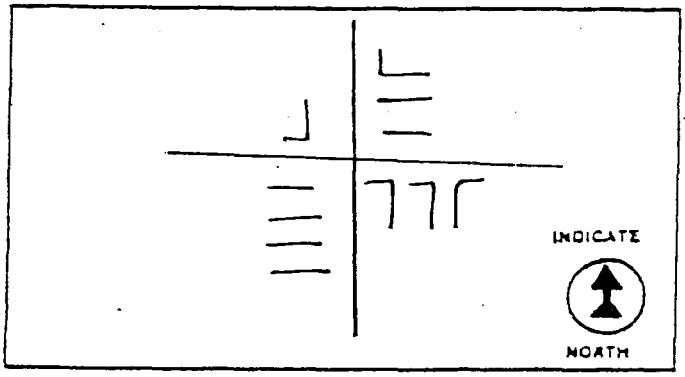
INTERSECTION Otay Mesa/SR-905 Connector DIST. CO. RTE. P.M. 11/SD/905

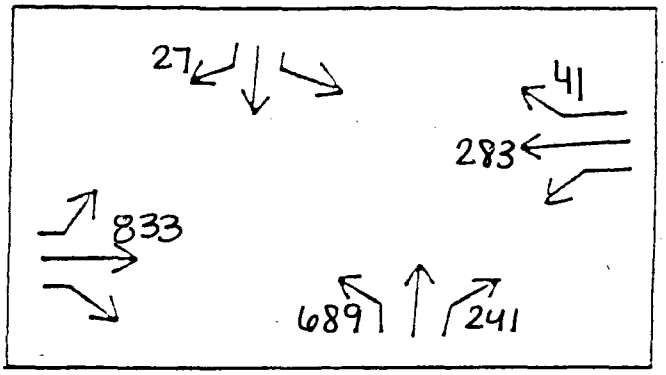
Existing + Project

BY JB DATE 3-23-10

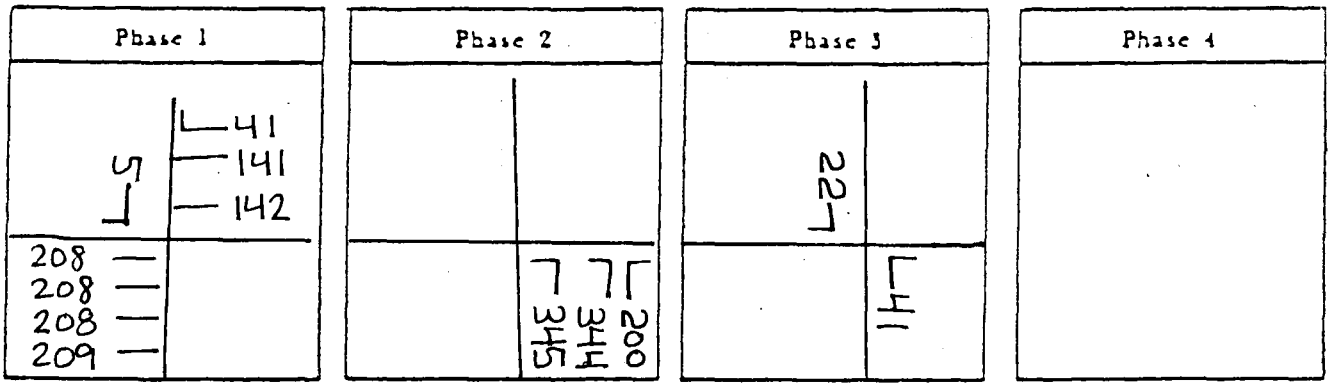
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
209	345	41	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
595

Is . . .

- [x] < 1200 ILV/hr.
- [ ] > 1200 but < 1500 ILV/hr.
- [ ] > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection
CAPACITY ANALYSIS

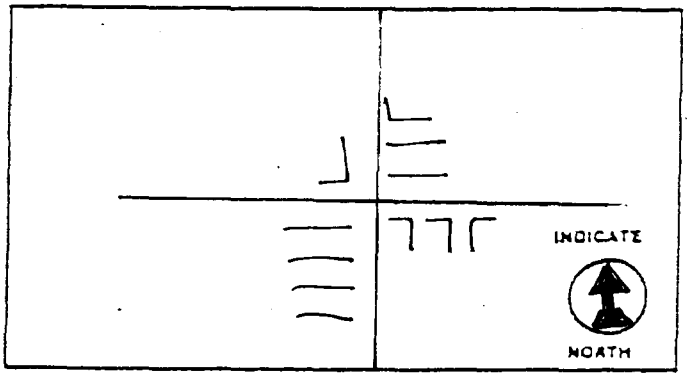
INTERSECTION Otay Mesa / SR-905 Connector DIST. CO. RTE. P.M. 11/SD/905

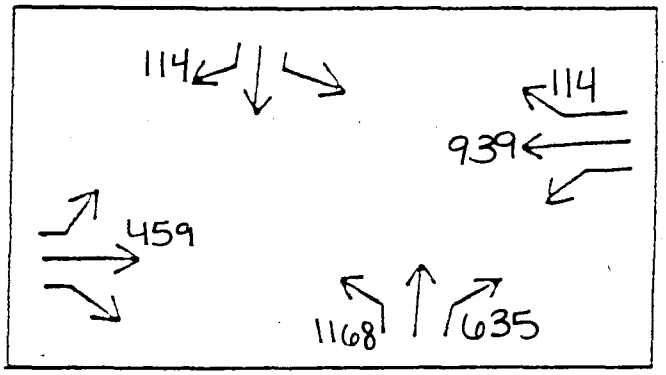
Existing + Project

BY JB DATE 9-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
10 / 114, 470, 469		104	
115, 115, 115, 114	584, 584, 535	100	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
470	584	104	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,158

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

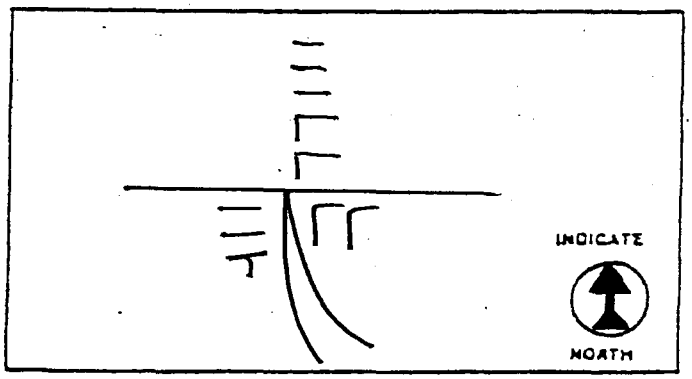
DIST. CO. RTE. P.M. 11 | SD | 905

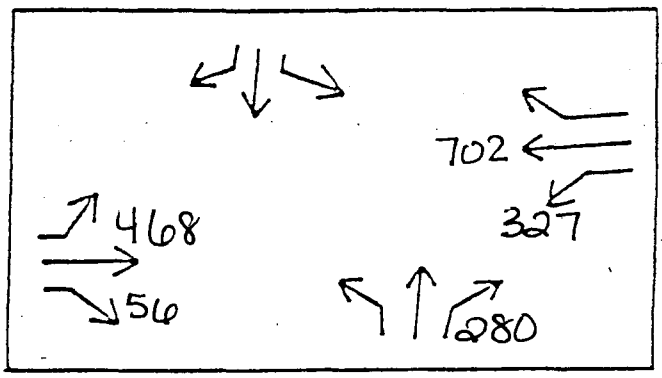
Existing + Project

BY JB DATE 3-23-10

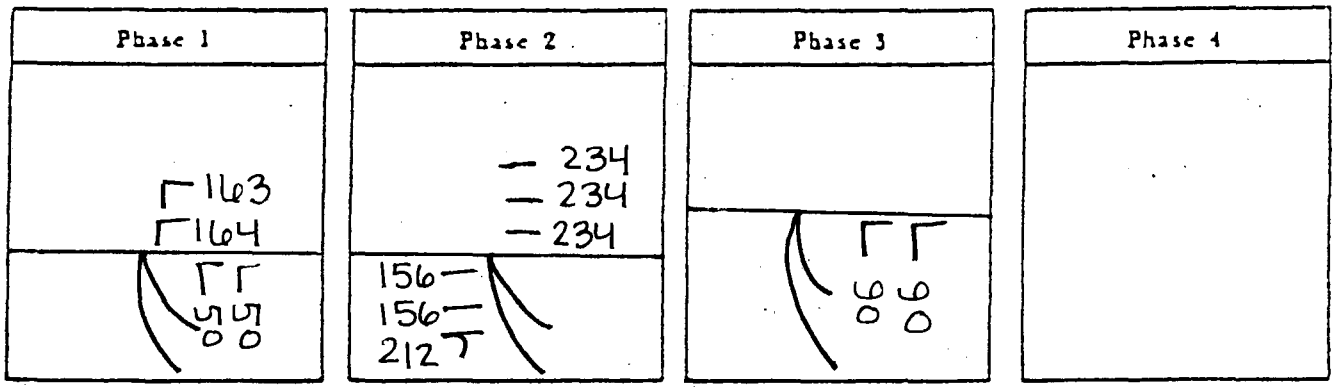
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
164	234	90	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
488

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

Signalized Intersection
CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

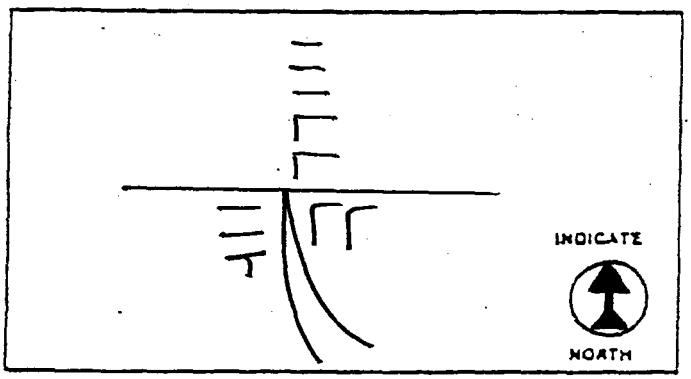
DIST. CO. RTE. P.M. 11 | SD | 905

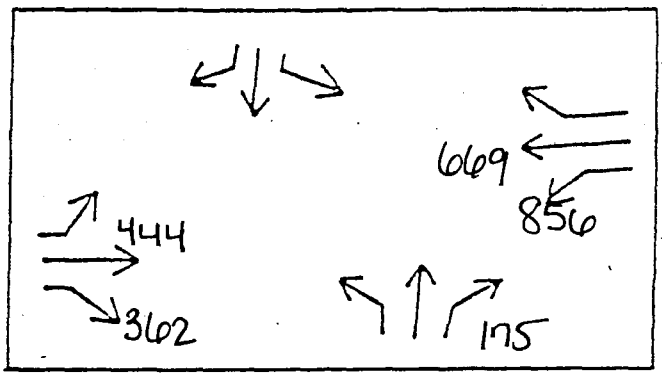
BY QB DATE 3-23-10

TIME ____ AM (PM)

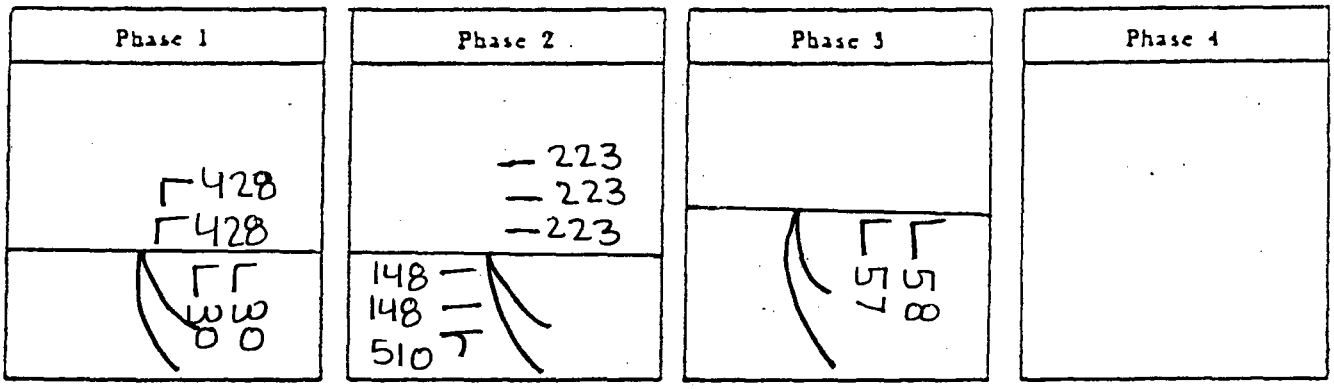
Existing + Project

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):



CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
428	510	58	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
996

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB Ramp

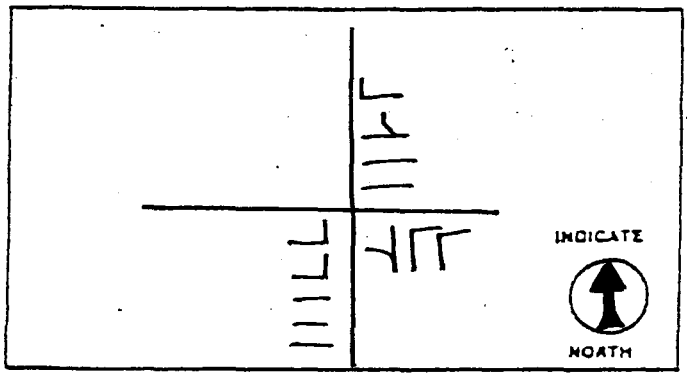
DIST. CO. RTE. P.M. 11/SD/905

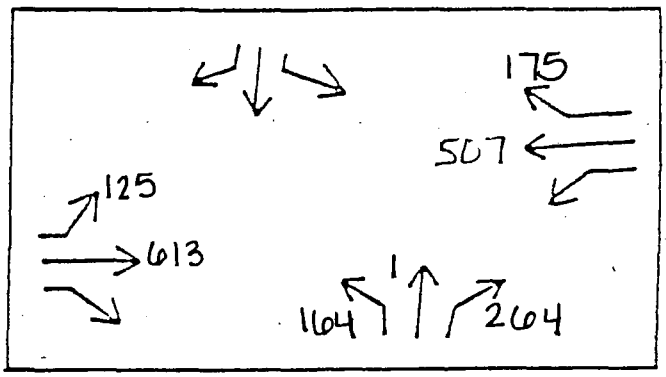
BY [illegible] DATE 3-23-10

TIME ____ AM PM

Existing + Project

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
62 63 / 20 20	88 256 169 169 / 204 205 204	165 112 112	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
63	256	165	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
484

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB Ramp

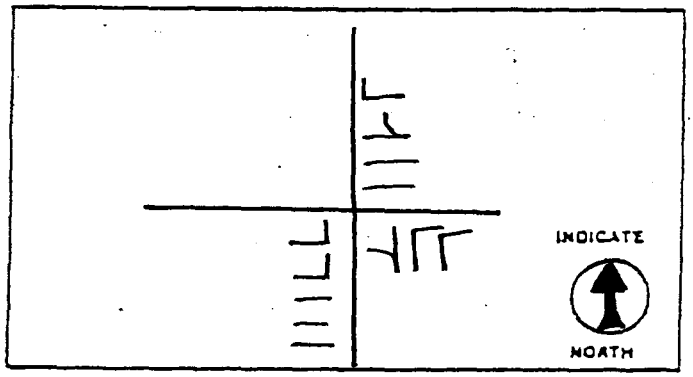
DIST. CO. RTE. P.M. 11/SD/905

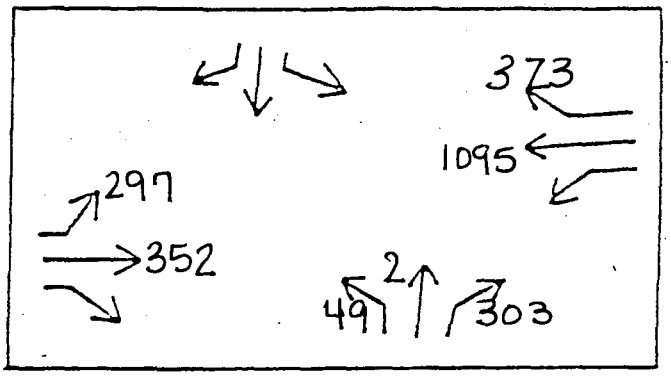
BY [illegible] DATE 3-23-10

TIME _____ AM PM

Existing + Project

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149, 148	187, 551, 365, 365	51, 101, 102	
50, 50	117, 118, 117		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
148	551	102	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
801

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX G

- Cumulative - Intersection Synchro Analysis
- Cumulative - Intersection ILV Analysis

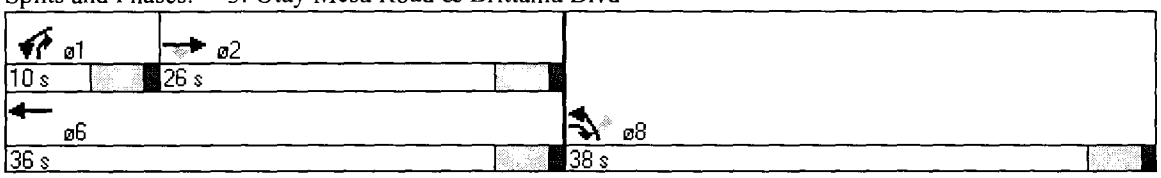
Cumulative - Intersection Synchro Analysis

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		428				12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	830	790	50	420	210	20
Adj. Flow (vph)	976	929	59	494	247	24
Lane Group Flow (vph)	976	929	59	494	247	24
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	26.0	38.0	10.0	36.0	38.0	10.0
Act Effct Green (s)	38.7	61.4	7.4	48.1	17.9	29.3
Actuated g/C Ratio	0.52	0.83	0.10	0.65	0.24	0.40
v/c Ratio	0.39	0.67	0.33	0.16	0.30	0.04
Control Delay	7.6	7.5	42.3	2.2	21.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.5	42.3	2.2	21.8	6.0
LOS	A	A	D	A	C	A
Approach Delay	7.6			6.5	20.4	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 68 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 8.6 — Intersection LOS: A
Intersection Capacity Utilization 58.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

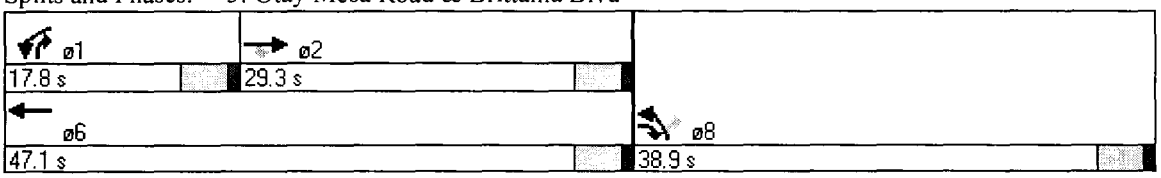


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		366				43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	650	340	30	810	700	40
Adj. Flow (vph)	699	366	32	871	753	43
Lane Group Flow (vph)	699	366	32	871	753	43
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	29.3	38.9	17.8	47.1	38.9	17.8
Act Effct Green (s)	47.2	76.5	7.2	54.3	23.7	34.9
Actuated g/C Ratio	0.55	0.89	0.08	0.63	0.28	0.41
v/c Ratio	0.27	0.25	0.22	0.29	0.80	0.06
Control Delay	3.7	0.8	35.4	4.7	35.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	0.8	35.4	4.7	35.4	4.1
LOS	A	A	D	A	D	A
Approach Delay	2.7			5.8	33.7	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 62 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 45.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

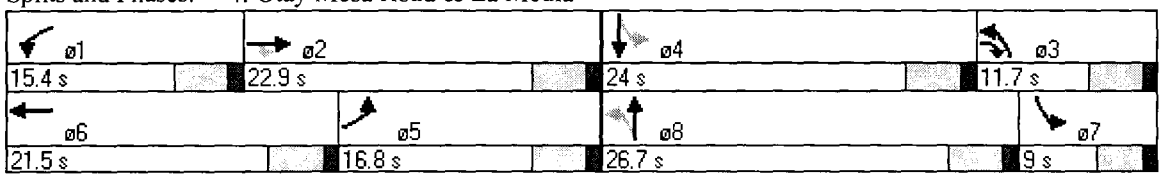


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.977			0.962			0.928	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4733	0	1770	1716	0	3433	1677	0
Flt Permitted	0.950			0.950			0.459			0.702		
Satd. Flow (perm)	1770	4803	1583	1770	4733	0	855	1716	0	2537	1677	0
Satd. Flow (RTOR)			253		47			21			61	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	750	240	110	430	80	80	60	20	110	130	120
Adj. Flow (vph)	126	789	253	116	453	84	84	63	21	116	137	126
Lane Group Flow (vph)	126	789	253	116	537	0	84	84	0	116	263	0
Turn Type	Prot		pm+ov	Prot			pm+pt			pm+pt		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2				8			4		
Total Split (s)	16.8	22.9	11.7	15.4	21.5	0.0	11.7	26.7	0.0	9.0	24.0	0.0
Act Effct Green (s)	11.6	29.7	37.0	9.5	27.7		16.3	11.0		24.0	14.3	
Actuated g/C Ratio	0.16	0.40	0.50	0.13	0.37		0.22	0.15		0.32	0.19	
v/c Ratio	0.45	0.41	0.28	0.51	0.30		0.31	0.31		0.12	0.70	
Control Delay	17.8	6.4	2.2	20.5	4.7		20.7	26.4		16.0	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.8	6.4	2.2	20.5	4.7		20.7	26.4		16.0	31.0	
LOS	B	A	A	C	A		C	C		B	C	
Approach Delay		6.7			7.5			23.5			26.4	
Approach LOS		A			A			C			C	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 6 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 11.3 — Intersection LOS: B
Intersection Capacity Utilization 52.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

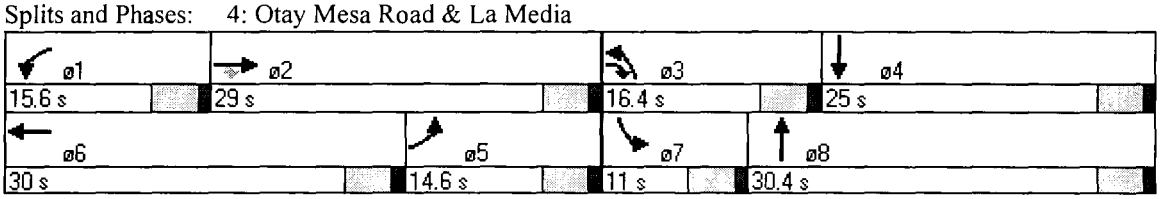


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.993			0.950			0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4782	0	1770	1703	0	3433	1667	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4782	0	1770	1703	0	3433	1667	0
Satd. Flow (RTOR)			260		9			30			66	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	610	250	70	1200	60	170	60	30	120	160	190
Adj. Flow (vph)	125	635	260	73	1250	62	177	62	31	125	167	198
Lane Group Flow (vph)	125	635	260	73	1312	0	177	93	0	125	365	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	14.6	29.0	16.4	15.6	30.0	0.0	16.4	30.4	0.0	11.0	25.0	0.0
Act Effct Green (s)	10.0	32.1	47.9	9.0	31.4		11.8	24.0		6.9	19.1	
Actuated g/C Ratio	0.12	0.37	0.56	0.10	0.37		0.14	0.28		0.08	0.22	
v/c Ratio	0.61	0.35	0.26	0.39	0.75		0.73	0.19		0.45	0.86	
Control Delay	40.6	15.1	1.1	26.6	18.5		54.0	16.7		43.3	47.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.6	15.1	1.1	26.6	18.5		54.0	16.7		43.3	47.5	
LOS	D	B	A	C	B		D	B		D	D	
Approach Delay		14.7			18.9			41.2			46.4	
Approach LOS		B			B			D			D	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 49 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 23.7 — Intersection LOS: C
Intersection Capacity Utilization 74.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

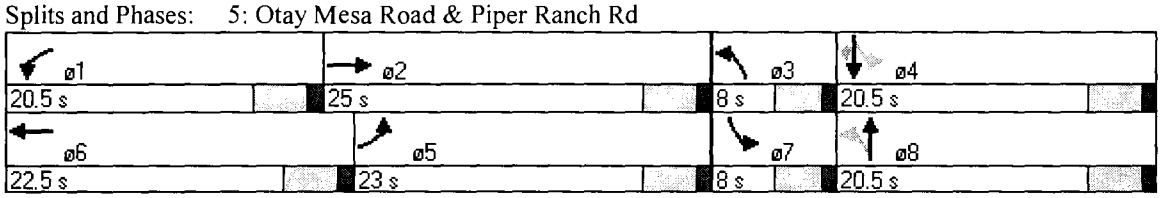


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.969			0.985			0.898			0.945	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3610	0	1770	5273	0	1770	1673	0	1770	1672	1504
Flt Permitted	0.950			0.950			0.734			0.737		
Satd. Flow (perm)	1770	3610	0	1770	5273	0	1367	1673	0	1373	1672	1504
Satd. Flow (RTOR)		43			24			21			12	30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	700	180	100	540	60	30	10	20	20	20	40
Adj. Flow (vph)	260	729	188	104	562	62	31	10	21	21	21	42
Lane Group Flow (vph)	260	917	0	104	624	0	31	31	0	21	33	30
Turn Type	Prot			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		4
Total Split (s)	23.0	25.0	0.0	20.5	22.5	0.0	8.0	20.5	0.0	8.0	20.5	20.5
Act Effct Green (s)	19.0	44.0		9.8	32.7		8.7	7.1		8.7	7.1	7.1
Actuated g/C Ratio	0.26	0.59		0.13	0.44		0.12	0.10		0.12	0.10	0.10
v/c Ratio	0.57	0.42		0.44	0.27		0.17	0.17		0.12	0.19	0.18
Control Delay	19.3	3.0		24.7	10.9		27.3	19.3		26.0	24.8	14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	19.3	3.0		24.7	10.9		27.3	19.3		26.0	24.8	14.4
LOS	B	A		C	B		C	B		C	C	B
Approach Delay		6.6			12.9			23.3			21.4	
Approach LOS		A			B			C			C	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 52 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 10.0 — Intersection LOS: A
Intersection Capacity Utilization 47.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

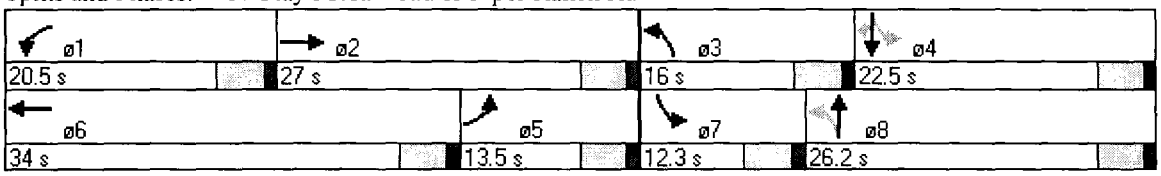


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.990			0.998			0.875			0.862	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3688	0	1770	5342	0	1770	1630	0	1770	1525	1504
Flt Permitted	0.950			0.950			0.522			0.677		
Satd. Flow (perm)	1770	3688	0	1770	5342	0	972	1630	0	1261	1525	1504
Satd. Flow (RTOR)		8			3			104			114	115
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	40	860	60	30	1330	20	180	20	100	110	10	220
Adj. Flow (vph)	42	896	62	31	1385	21	188	21	104	115	10	229
Lane Group Flow (vph)	42	958	0	31	1406	0	188	125	0	115	124	115
Turn Type	Prot			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		4
Total Split (s)	13.5	27.0	0.0	20.5	34.0	0.0	16.0	26.2	0.0	12.3	22.5	22.5
Act Effct Green (s)	8.3	52.5		6.9	46.8		22.7	13.2		15.7	7.8	7.8
Actuated g/C Ratio	0.10	0.61		0.08	0.54		0.26	0.15		0.18	0.09	0.09
v/c Ratio	0.25	0.43		0.22	0.48		0.52	0.37		0.41	0.51	0.48
Control Delay	24.2	3.5		36.5	5.0		30.5	13.0		28.8	16.7	14.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	24.2	3.5		36.5	5.0		30.5	13.0		28.8	16.7	14.2
LOS	C	A		D	A		C	B		C	B	B
Approach Delay		4.3			5.7			23.5			19.8	
Approach LOS		A			A			C			B	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 14 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 8.7 — Intersection LOS: A
Intersection Capacity Utilization 54.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

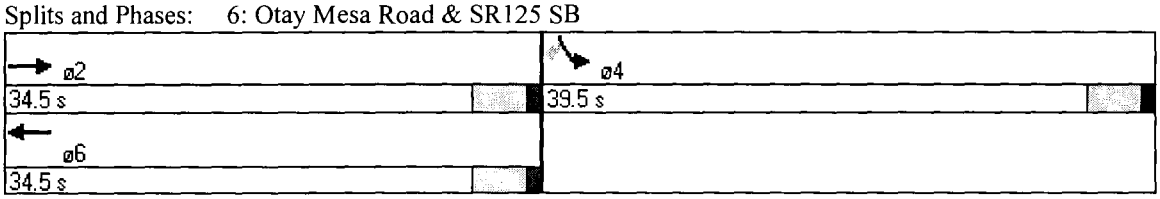


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5353	5353	0	3614	1667
Flt Permitted					0.950	
Satd. Flow (perm)	0	5353	5353	0	3614	1667
Satd. Flow (RTOR)						265
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	740	430	0	520	270
Adj. Flow (vph)	0	771	448	0	542	281
Lane Group Flow (vph)	0	771	448	0	542	281
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	34.5	34.5	0.0	39.5	39.5
Act Effct Green (s)		49.3	49.3		16.7	16.7
Actuated g/C Ratio		0.67	0.67		0.23	0.23
v/c Ratio		0.22	0.13		0.66	0.48
Control Delay		2.2	7.3		29.7	6.7
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		2.2	7.3		29.7	6.7
LOS		A	A		C	A
Approach Delay		2.2	7.3		21.9	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 8 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 11.2 — Intersection LOS: B
Intersection Capacity Utilization 34.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

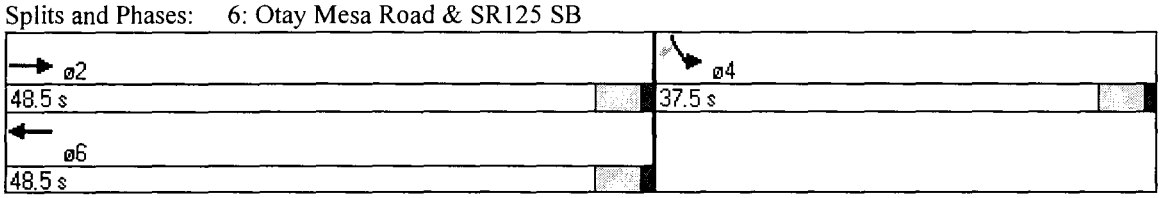


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5353	5353	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5353	5353	0	3433	1583
Satd. Flow (RTOR)						31
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1070	1310	0	140	70
Adj. Flow (vph)	0	1115	1365	0	146	73
Lane Group Flow (vph)	0	1115	1365	0	146	73
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	48.5	48.5	0.0	37.5	37.5
Act Effct Green (s)		69.0	69.0		9.0	9.0
Actuated g/C Ratio		0.80	0.80		0.10	0.10
v/c Ratio		0.26	0.32		0.41	0.38
Control Delay		5.9	3.9		39.0	28.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.9	3.9		39.0	28.6
LOS		A	A		D	C
Approach Delay		5.9	3.9		35.5	
Approach LOS		A	A		D	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 62 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 45.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

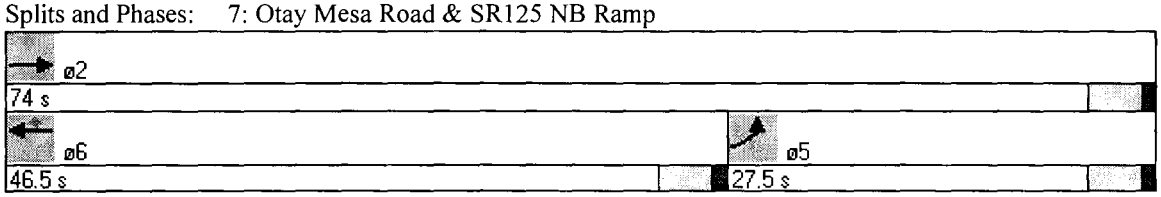


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3704	3819	3819	3007	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3704	3819	3819	3007	0	0
Satd. Flow (RTOR)				125		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	1230	430	120	0	0
Adj. Flow (vph)	31	1281	448	125	0	0
Lane Group Flow (vph)	31	1281	448	125	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	27.5	74.0	46.5	46.5	0.0	0.0
Act Effct Green (s)	15.9	74.0	58.6	58.6		
Actuated g/C Ratio	0.21	1.00	0.79	0.79		
v/c Ratio	0.04	0.34	0.15	0.05		
Control Delay	13.7	0.5	9.0	5.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	13.7	0.5	9.0	5.1		
LOS	B	A	A	A		
Approach Delay		0.8	8.1			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 62 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 3.0 — Intersection LOS: A
Intersection Capacity Utilization 34.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

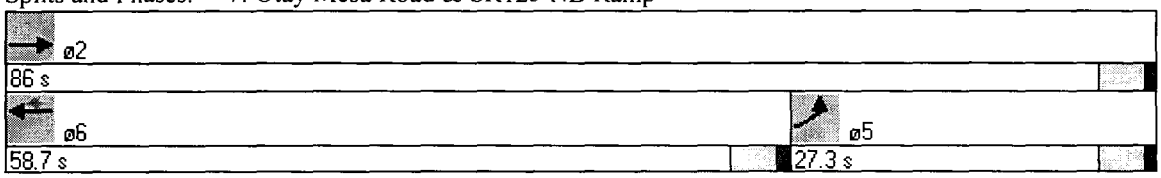


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3725	3725	2933	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3725	3725	2933	0	0
Satd. Flow (RTOR)				594		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	150	1060	1310	570	0	0
Adj. Flow (vph)	156	1104	1365	594	0	0
Lane Group Flow (vph)	156	1104	1365	594	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	27.3	86.0	58.7	58.7	0.0	0.0
Act Effct Green (s)	23.4	86.0	54.6	54.6		
Actuated g/C Ratio	0.27	1.00	0.63	0.63		
v/c Ratio	0.17	0.30	0.58	0.29		
Control Delay	23.8	1.0	4.2	0.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	23.8	1.0	4.2	0.2		
LOS	C	A	A	A		
Approach Delay		3.9	3.0			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 16 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 45.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

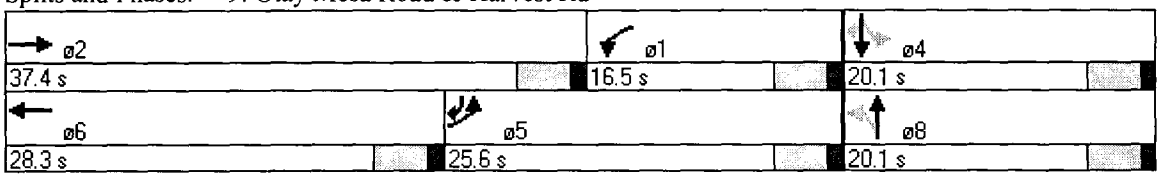


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.998			0.969			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.960	
Satd. Flow (prot)	3433	3718	0	1770	3610	0	0	1750	0	0	1788	2933
Flt Permitted	0.950			0.950				0.926			0.778	
Satd. Flow (perm)	3433	3718	0	1770	3610	0	0	1647	0	0	1449	2933
Satd. Flow (RTOR)		2			48			10				260
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	350	870	10	10	340	90	10	10	10	50	10	250
Adj. Flow (vph)	365	906	10	10	354	94	10	10	10	52	10	260
Lane Group Flow (vph)	365	916	0	10	448	0	0	30	0	0	62	260
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	25.6	37.4	0.0	16.5	28.3	0.0	20.1	20.1	0.0	20.1	20.1	25.6
Act Effct Green (s)	13.0	54.8		6.5	40.2			8.9			8.9	25.8
Actuated g/C Ratio	0.18	0.74		0.09	0.54			0.12			0.12	0.35
v/c Ratio	0.61	0.33		0.06	0.23			0.15			0.36	0.22
Control Delay	42.4	5.4		24.2	12.2			22.6			33.1	1.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	42.4	5.4		24.2	12.2			22.6			33.1	1.9
LOS	D	A		C	B			C			C	A
Approach Delay		16.0			12.4			22.6			7.9	
Approach LOS		B			B			C			A	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 20 (27%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 44.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

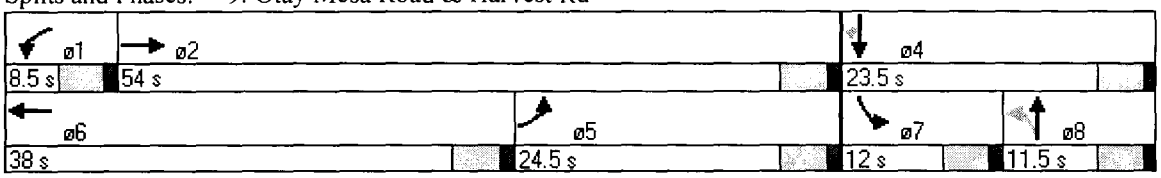


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.990			0.973			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.955	
Satd. Flow (prot)	3614	3688	0	1770	3444	0	0	1750	0	0	1779	2933
Flt Permitted	0.950			0.950				0.835			0.679	
Satd. Flow (perm)	3614	3688	0	1770	3444	0	0	1485	0	0	1265	2933
Satd. Flow (RTOR)		14			37			10				812
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	750	290	20	10	1030	230	10	10	10	180	10	960
Adj. Flow (vph)	781	302	21	10	1073	240	10	10	10	188	10	1000
Lane Group Flow (vph)	781	323	0	10	1313	0	0	30	0	0	198	1000
Turn Type	Prot			Prot			Perm			Prot		Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases							8					4
Total Split (s)	24.5	54.0	0.0	8.5	38.0	0.0	11.5	11.5	0.0	12.0	23.5	23.5
Act Effct Green (s)	20.5	56.8		4.5	34.0			7.5			14.1	19.5
Actuated g/C Ratio	0.24	0.66		0.05	0.40			0.09			0.16	0.23
v/c Ratio	0.91	0.13		0.11	0.95			0.22			0.68	0.77
Control Delay	34.5	3.6		34.6	28.2			30.5			48.4	9.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	34.5	3.6		34.6	28.2			30.5			48.4	9.0
LOS	C	A		C	C			C			D	A
Approach Delay		25.4			28.3			30.5			15.5	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 32 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 23.3 — Intersection LOS: C
Intersection Capacity Utilization 83.3% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

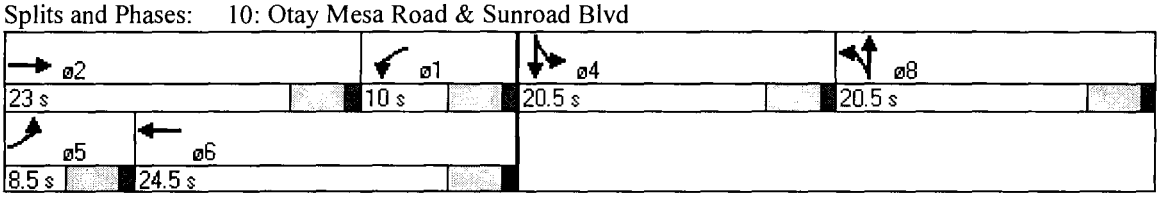


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.965			0.995			0.953			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3595	0	1770	1951	0	1681	1686	0	1770	1833	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3595	0	1770	1951	0	1681	1686	0	1770	1833	0
Satd. Flow (RTOR)		51			2			29			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	700	210	80	280	10	150	130	60	10	80	10
Adj. Flow (vph)	21	729	219	83	292	10	156	135	62	10	83	10
Lane Group Flow (vph)	21	948	0	83	302	0	156	197	0	10	93	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	8.5	23.0	0.0	10.0	24.5	0.0	20.5	20.5	0.0	20.5	20.5	0.0
Act Effct Green (s)	6.5	33.8		6.0	37.4		13.1	13.1		9.1	9.1	
Actuated g/C Ratio	0.09	0.46		0.08	0.51		0.18	0.18		0.12	0.12	
v/c Ratio	0.13	0.57		0.58	0.31		0.52	0.61		0.05	0.40	
Control Delay	52.6	11.3		44.9	13.6		33.1	31.3		27.4	31.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.6	11.3		44.9	13.6		33.1	31.3		27.4	31.7	
LOS	D	B		D	B		C	C		C	C	
Approach Delay		12.2			20.3			32.1			31.3	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 74
Actuated Cycle Length: 74
Offset: 32 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 18.9 — Intersection LOS: B
Intersection Capacity Utilization 55.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd

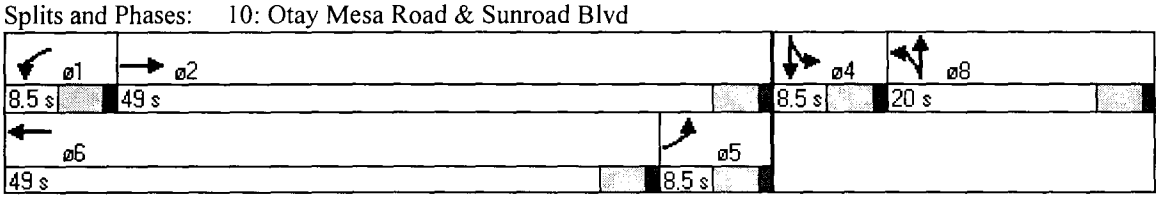


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.965			0.998			0.942			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1863	3595	0	1770	1859	0	1681	1667	0	1770	1827	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1863	3595	0	1770	1859	0	1681	1667	0	1770	1827	0
Satd. Flow (RTOR)		70			1			32			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	10	360	110	40	1000	10	250	160	100	10	140	20
Adj. Flow (vph)	11	379	116	42	1053	11	263	168	105	11	147	21
Lane Group Flow (vph)	11	495	0	42	1064	0	263	273	0	11	168	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	8.5	49.0	0.0	8.5	49.0	0.0	20.0	20.0	0.0	8.5	8.5	0.0
Act Effct Green (s)	4.5	42.1		4.8	45.5		15.5	15.5		11.3	11.3	
Actuated g/C Ratio	0.05	0.49		0.06	0.53		0.18	0.18		0.13	0.13	
v/c Ratio	0.11	0.28		0.42	1.08		0.87	0.83		0.05	0.69	
Control Delay	33.1	6.6		52.4	71.7		62.5	52.9		36.1	53.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.1	6.6		52.4	71.7		62.5	52.9		36.1	53.5	
LOS	C	A		D	E		E	D		D	D	
Approach Delay		7.2			70.9			57.6			52.4	
Approach LOS		A			E			E			D	

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 77 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 52.6 Intersection LOS: D
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	100	80	10	200	510	30	60	70	250	450	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	54	108	86	11	215	548	32	65	75	269	484	43

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	247	226	548	32	140	753	43
Volume Left (vph)	54	11	0	32	0	269	0
Volume Right (vph)	86	0	548	0	75	0	43
Hadj (s)	-0.13	0.06	-0.67	0.53	-0.34	0.21	-0.67
Departure Headway (s)	8.3	7.7	7.0	9.3	8.4	8.0	7.1
Degree Utilization, x	0.57	0.48	1.06	0.08	0.33	1.67	0.09
Capacity (veh/h)	422	461	523	375	415	459	496
Control Delay (s)	21.5	16.5	83.0	11.9	14.2	330.2	9.6
Approach Delay (s)	21.5	63.6		13.8		312.8	
Approach LOS	C	F		B		F	

Intersection Summary				
Delay	153.8			
HCM Level of Service	F			
Intersection Capacity Utilization	82.3%	ICU Level of Service		E
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	90	50	10	230	570	70	450	60	230	90	120
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	23	103	57	11	264	655	80	517	69	264	103	138

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	184	276	655	80	586	368	138
Volume Left (vph)	23	11	0	80	0	264	0
Volume Right (vph)	57	0	655	0	69	0	138
Hadj (s)	-0.13	0.05	-0.67	0.53	-0.05	0.39	-0.67
Departure Headway (s)	9.5	8.5	7.8	9.2	8.6	9.1	8.0
Degree Utilization, x	0.49	0.65	1.43	0.20	1.40	0.93	0.31
Capacity (veh/h)	362	416	471	386	429	389	442
Control Delay (s)	21.2	25.2	224.7	13.3	215.6	58.3	13.4
Approach Delay (s)	21.2	165.5		191.2		46.0	
Approach LOS	C	F		F		E	

Intersection Summary			
Delay	135.0		
HCM Level of Service	F		
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	150	190	10	230	10	570	60	200	10	70	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	67	167	211	11	256	11	633	67	222	11	78	67
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	267			378			661	694	189	756	794	133
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267			378			661	694	189	756	794	133
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			0	81	73	94	74	93
cM capacity (veh/h)	1294			1177			246	342	821	176	300	891

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	67	111	267	11	170	96	700	222	156
Volume Left	67	0	0	11	0	0	633	0	11
Volume Right	0	0	211	0	0	11	0	222	67
cSH	1294	1700	1700	1177	1700	1700	253	821	391
Volume to Capacity	0.05	0.07	0.16	0.01	0.10	0.06	2.77	0.27	0.40
Queue Length 95th (ft)	4	0	0	1	0	0	1507	27	47
Control Delay (s)	7.9	0.0	0.0	8.1	0.0	0.0	837.4	11.0	20.1
Lane LOS	A			A			F	B	C
Approach Delay (s)	1.2			0.3			638.3		20.1
Approach LOS							F		C

Intersection Summary			
Average Delay	329.1		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	70	80	240	50	300	20	580	70	220	10	70	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	80	92	276	57	345	23	667	80	253	11	80	69
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	368			368			787	874	184	971	1000	184
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368			368			787	874	184	971	1000	184
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			95			0	68	69	88	62	92
cM capacity (veh/h)	1187			1187			168	254	827	100	214	827

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	80	61	307	57	230	138	747	253	161
Volume Left	80	0	0	57	0	0	667	0	11
Volume Right	0	0	276	0	0	23	0	253	69
cSH	1187	1700	1700	1187	1700	1700	175	827	280
Volume to Capacity	0.07	0.04	0.18	0.05	0.14	0.08	4.28	0.31	0.57
Queue Length 95th (ft)	5	0	0	4	0	0	Err	32	83
Control Delay (s)	8.3	0.0	0.0	8.2	0.0	0.0	Err	11.3	33.8
Lane LOS	A			A			F	B	D
Approach Delay (s)	1.5			1.1			7473.4		33.8
Approach LOS							F		D

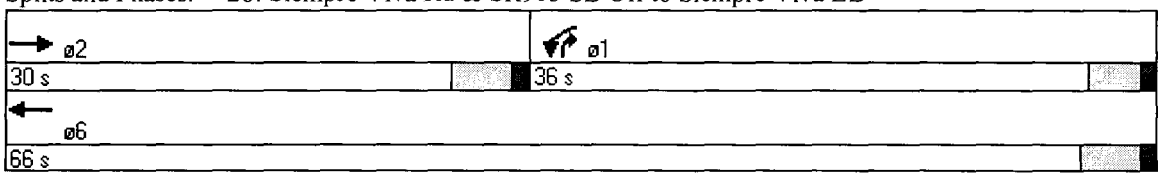
Intersection Summary			
Average Delay	3676.6		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.985					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5273	0	3614	5353	0	2933
Flt Permitted			0.950			
Satd. Flow (perm)	5273	0	3614	5353	0	2933
Satd. Flow (RTOR)	33					75
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	910	100	480	880	0	700
Adj. Flow (vph)	948	104	500	917	0	729
Lane Group Flow (vph)	1052	0	500	917	0	729
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Total Split (s)	30.0	0.0	36.0	66.0	0.0	36.0
Act Effct Green (s)	26.0		32.0	66.0		32.0
Actuated g/C Ratio	0.39		0.48	1.00		0.48
v/c Ratio	0.50		0.29	0.17		0.50
Control Delay	15.6		9.7	0.1		11.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	15.6		9.7	0.1		11.7
LOS	B		A	A		B
Approach Delay	15.6			3.5		
Approach LOS	B			A		

Intersection Summary

Cycle Length: 66
Actuated Cycle Length: 66
Offset: 28 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 48.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

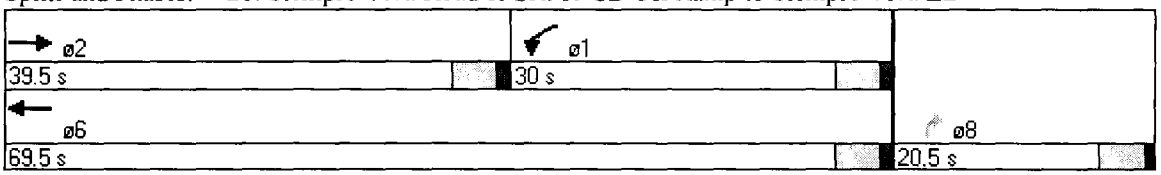


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.936					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4760	0	3523	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4760	0	3523	5085	0	2787
Satd. Flow (RTOR)	243					847
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	950	700	800	310	0	440
Adj. Flow (vph)	990	729	833	323	0	458
Lane Group Flow (vph)	1719	0	833	323	0	458
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	39.5	0.0	30.0	69.5	0.0	20.5
Act Effct Green (s)	45.8		26.0	75.8		6.2
Actuated g/C Ratio	0.51		0.29	0.84		0.07
v/c Ratio	0.68		0.82	0.08		0.47
Control Delay	15.6		32.6	1.0		1.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	15.6		32.6	1.0		1.6
LOS	B		C	A		A
Approach Delay	15.6			23.8		
Approach LOS	B			C		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 63.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1610	880	0	0	480
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	1851	1011	0	0	552
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked					0.87	
vC, conflicting volume	1011				1628	337
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1011				1414	337
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	16
cM capacity (veh/h)	681				111	659

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	617	617	617	337	337	337	552
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	552
cSH	1700	1700	1700	1700	1700	1700	659
Volume to Capacity	0.36	0.36	0.36	0.20	0.20	0.20	0.84
Queue Length 95th (ft)	0	0	0	0	0	0	229
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	32.2
Lane LOS							D
Approach Delay (s)	0.0			0.0			32.2
Approach LOS							D

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1390	610	0	0	500
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1495	656	0	0	538
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		225	412			
pX, platoon unblocked						
vC, conflicting volume	656				1154	219
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	656				1154	219
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	32
cM capacity (veh/h)	927				190	786

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	498	498	498	219	219	219	538
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	538
cSH	1700	1700	1700	1700	1700	1700	786
Volume to Capacity	0.29	0.29	0.29	0.13	0.13	0.13	0.68
Queue Length 95th (ft)	0	0	0	0	0	0	138
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	18.9
Lane LOS							C
Approach Delay (s)	0.0			0.0			18.9
Approach LOS							C

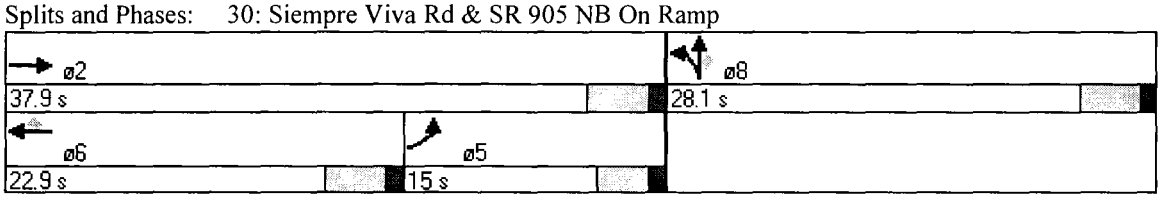
Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.964	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3704	5487	0	0	4999	1469	0	1917	3007	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3704	5487	0	0	4999	1469	0	1917	3007	0	0	0
Satd. Flow (RTOR)					123	284			46			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	1360	0	0	520	440	360	10	530	0	0	0
Adj. Flow (vph)	260	1417	0	0	542	458	375	10	552	0	0	0
Lane Group Flow (vph)	260	1417	0	0	716	284	0	385	552	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	15.0	37.9	0.0	0.0	22.9	22.9	28.1	28.1	28.1	0.0	0.0	0.0
Act Effct Green (s)	9.6	38.9			25.3	25.3		19.1	19.1			
Actuated g/C Ratio	0.15	0.59			0.38	0.38		0.29	0.29			
v/c Ratio	0.48	0.44			0.36	0.38		0.69	0.61			
Control Delay	26.5	7.5			12.1	7.4		27.1	20.8			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	26.5	7.5			12.1	7.4		27.1	20.8			
LOS	C	A			B	A		C	C			
Approach Delay		10.4			10.8			23.4				
Approach LOS		B			B			C				

Intersection Summary

Cycle Length: 66
Actuated Cycle Length: 66
Offset: 42 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 53.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

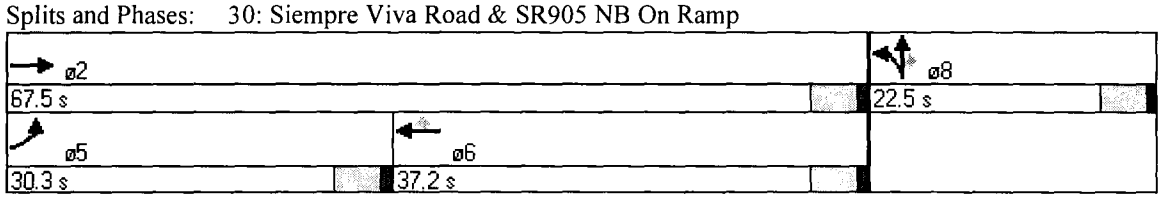


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.932	0.850			0.850			
Flt Protected	0.950							0.956				
Satd. Flow (prot)	3433	5085	0	0	4479	1362	0	1781	2787	0	0	0
Flt Permitted	0.950							0.956				
Satd. Flow (perm)	3433	5085	0	0	4479	1362	0	1781	2787	0	0	0
Satd. Flow (RTOR)					260	432			412			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	600	790	0	0	500	820	110	10	440	0	0	0
Adj. Flow (vph)	632	832	0	0	526	863	116	11	463	0	0	0
Lane Group Flow (vph)	632	832	0	0	957	432	0	127	463	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	30.3	67.5	0.0	0.0	37.2	37.2	22.5	22.5	22.5	0.0	0.0	0.0
Act Effct Green (s)	22.0	69.5			43.5	43.5		12.5	12.5			
Actuated g/C Ratio	0.24	0.77			0.48	0.48		0.14	0.14			
v/c Ratio	0.75	0.21			0.42	0.49		0.51	0.62			
Control Delay	45.8	2.4			9.3	1.9		42.4	9.5			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	45.8	2.4			9.3	1.9		42.4	9.5			
LOS	D	A			A	A		D	A			
Approach Delay		21.1			7.0			16.6				
Approach LOS		C			A			B				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 83 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.7 Intersection LOS: B
Intersection Capacity Utilization 67.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

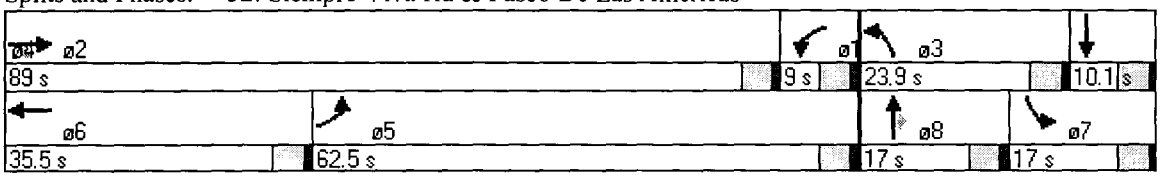


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.954				0.850		0.880	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1863	5487	1583	1770	3643	0	1770	3539	1583	1770	3115	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1863	5487	1583	1770	3643	0	1770	3539	1583	1770	3115	0
Satd. Flow (RTOR)			143		51				66		264	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	800	790	130	30	540	240	180	200	60	100	60	240
Adj. Flow (vph)	879	868	143	33	593	264	198	220	66	110	66	264
Lane Group Flow (vph)	879	868	143	33	857	0	198	220	66	110	330	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	62.5	89.0	89.0	9.0	35.5	0.0	23.9	17.0	17.0	17.0	10.1	0.0
Act Effct Green (s)	58.5	89.9	89.9	5.0	32.8		18.3	12.3	12.3	12.4	6.4	
Actuated g/C Ratio	0.44	0.68	0.68	0.04	0.25		0.14	0.09	0.09	0.09	0.05	
v/c Ratio	1.06	0.23	0.13	0.49	0.91		0.81	0.66	0.32	0.67	0.82	
Control Delay	79.4	7.3	1.3	77.1	53.6		79.3	68.0	16.7	77.1	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	79.4	7.3	1.3	77.1	53.6		79.3	68.0	16.7	77.1	31.0	
LOS	E	A	A	E	D		E	E	B	E	C	
Approach Delay		40.4			54.5			65.6			42.5	
Approach LOS		D			D			E			D	

Intersection Summary

Cycle Length: 132
Actuated Cycle Length: 132
Offset: 59 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 47.3 — Intersection LOS: D
Intersection Capacity Utilization 95.8% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

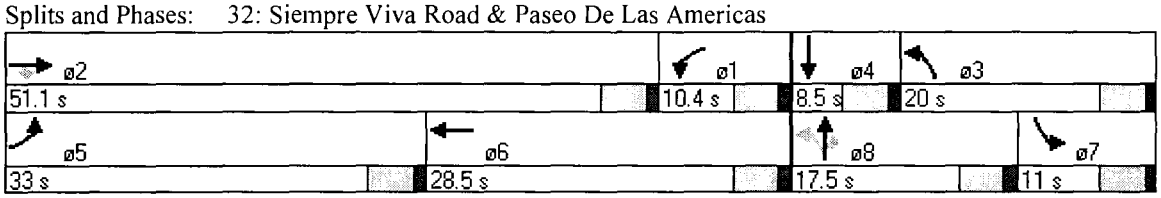


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.950				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3362	0	1770	3539	1583	1770	3107	0
Flt Permitted	0.950			0.950			0.471			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3362	0	877	3539	1583	1770	3107	0
Satd. Flow (RTOR)			74		95				42		368	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	620	490	70	40	640	320	330	310	40	80	80	350
Adj. Flow (vph)	653	516	74	42	674	337	347	326	42	84	84	368
Lane Group Flow (vph)	653	516	74	42	1011	0	347	326	42	84	452	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8			
Total Split (s)	33.0	51.1	51.1	10.4	28.5	0.0	20.0	17.5	17.5	11.0	8.5	0.0
Act Effct Green (s)	29.6	51.9	51.9	6.3	24.5		23.9	14.9	14.9	7.2	4.5	
Actuated g/C Ratio	0.33	0.58	0.58	0.07	0.27		0.27	0.17	0.17	0.08	0.05	
v/c Ratio	1.12	0.18	0.08	0.34	1.03		0.90	0.56	0.14	0.60	0.90	
Control Delay	102.2	8.5	2.6	36.8	57.0		61.7	39.4	12.4	58.7	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	102.2	8.5	2.6	36.8	57.0		61.7	39.4	12.4	58.7	31.0	
LOS	F	A	A	D	E		E	D	B	E	C	
Approach Delay		57.4			56.2			48.6			35.3	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 47 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 51.9 Intersection LOS: D
Intersection Capacity Utilization 107.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas



Cumulative - Intersection ILV Analysis

Signalized Intersection
CAPACITY ANALYSIS

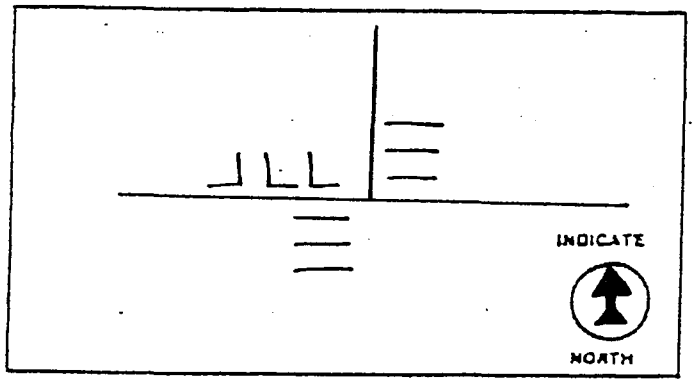
INTERSECTION Otay Mesa/SR-125 SB Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

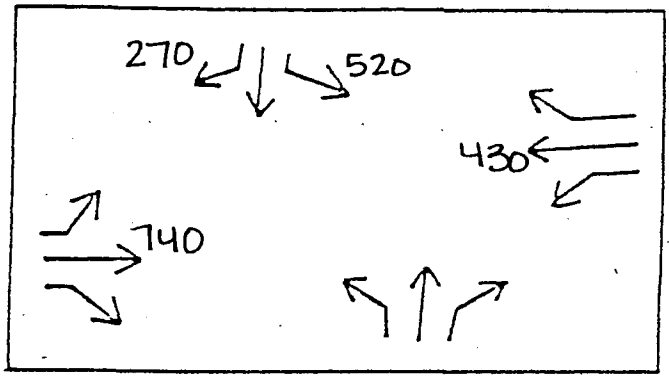
DIST. CO. RTE. P.M. 11/SD/125

BY JB DATE 3-23-10

TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
143 143 144 247 247 246	270 L 260 L 260		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
247	270		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
517

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

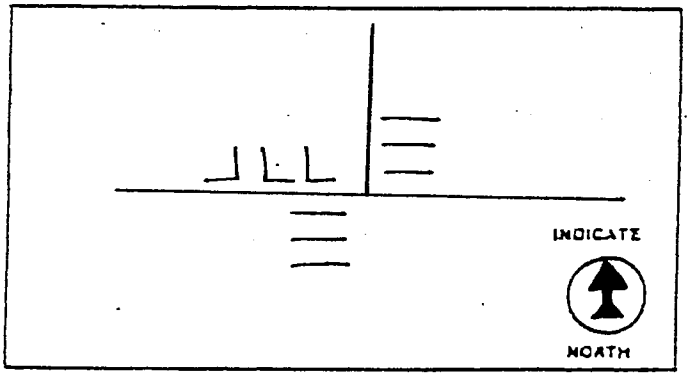
INTERSECTION Otay Mesa / SR-125 SB Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

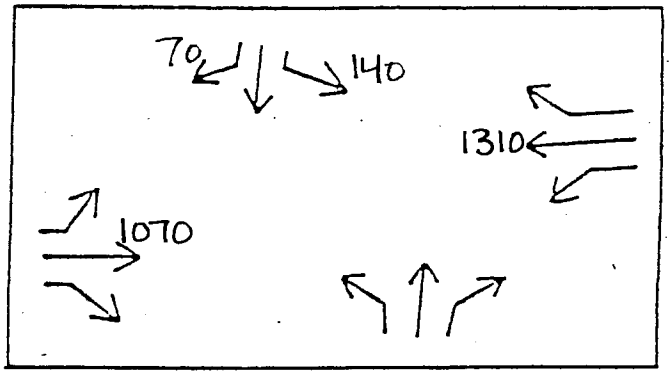
DIST. CO. RTE. P.M. 11 / SD / 125

BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
436 → 437 → 437 ← 357 → 357 → 356 →	70 ↓ 70 ↓ 70 ↓ ↓ ↓ ↓		

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
437	70		

TOTAL OPERATING LEVEL (1LV/hr):

Σ
507

Is . . .

- ☒ < 1200 1LV/hr.
- ☐ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

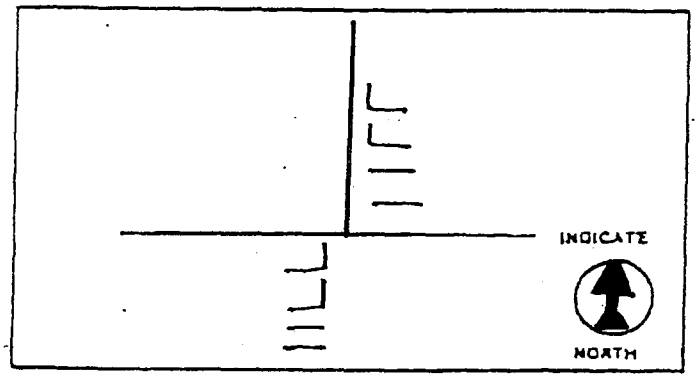
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

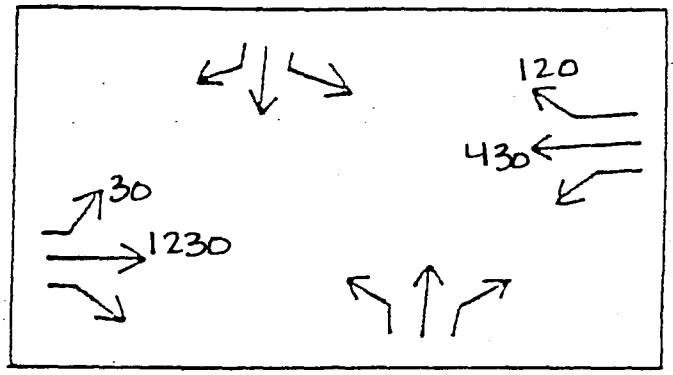
Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

BY JB DATE 3-23-10

TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15 15	60 60 215 215 615 615		

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	615		

TOTAL OPERATING LEVEL (1LV/hr): Is . . .

Σ
630

☒ < 1200 1LV/hr.

☐ > 1200 but < 1500 1LV/hr.

☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

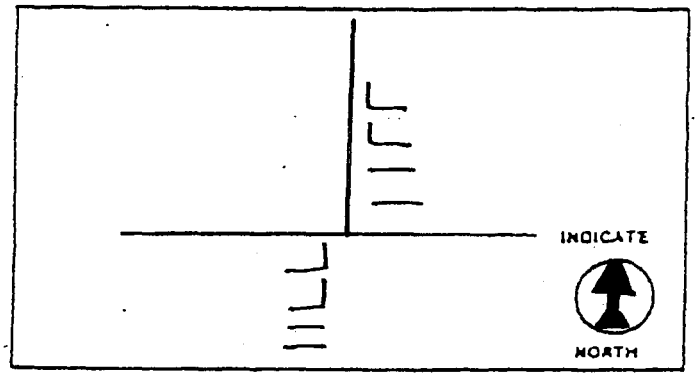
INTERSECTION Otay Mesa/SR-125NB Ramp DIST. CO. RTE. P.M. 11/SD/905

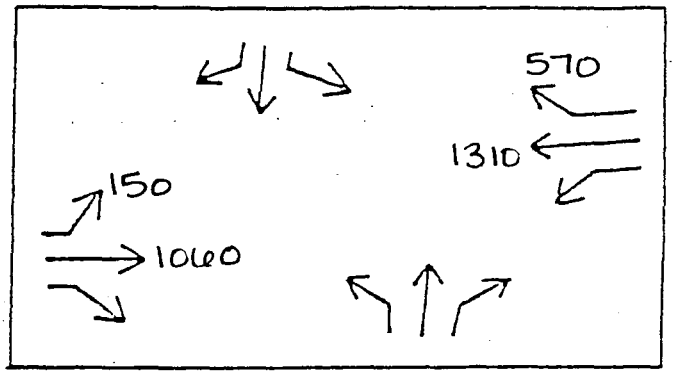
Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

BY JB DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
75 ⌋ 75 ⌋	⌊285 ⌊285 655 655 530 — 530 —		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
75	655		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
730

Is . . .

- ☒ < 1200 ILV/hr.
- ☐ > 1200 but < 1500 ILV/hr.
- ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

Signalized Intersection
CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

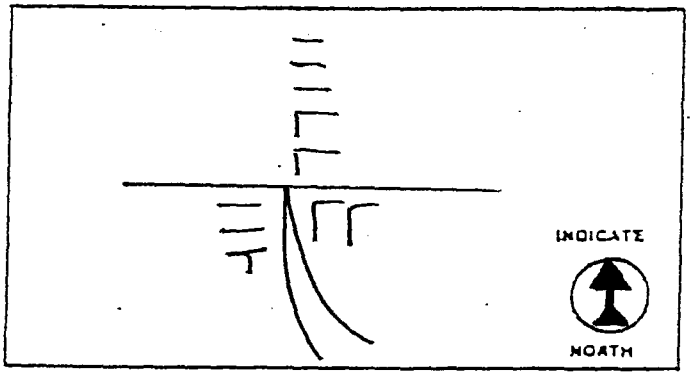
DIST. CO. RTE. P.M. 11 | SD | 905

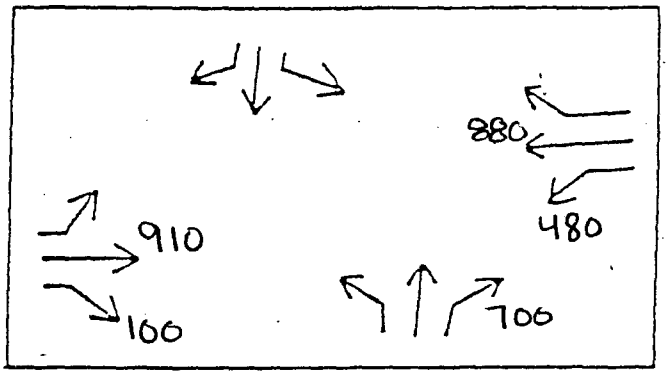
Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

BY KB DATE 3-23-10

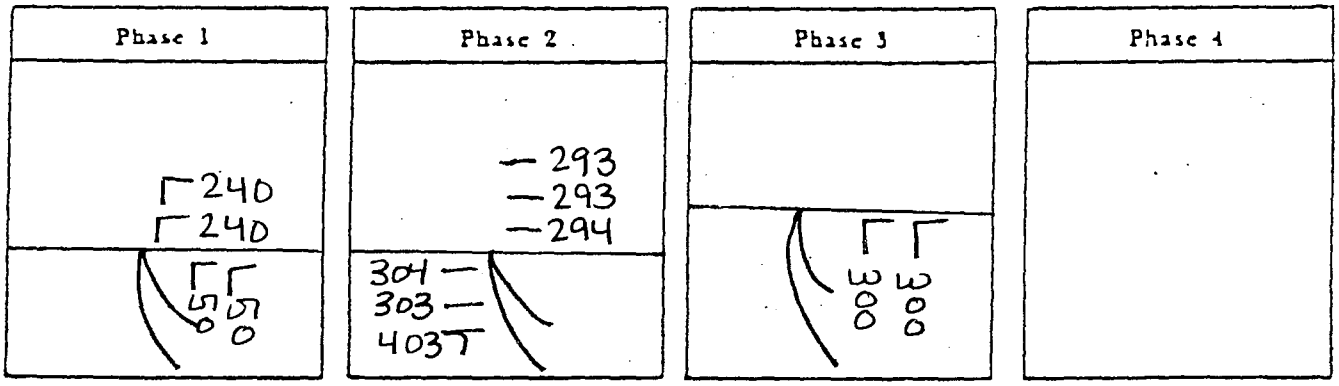
TIME ____ (AM) PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):



CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
240	403	300	

TOTAL OPERATING LEVEL (1LV/hr):

Σ
943

Is . . .

☒ < 1200 1LV/hr.

☐ > 1200 but < 1500 1LV/hr.

☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva | SR-905 SB Ramp

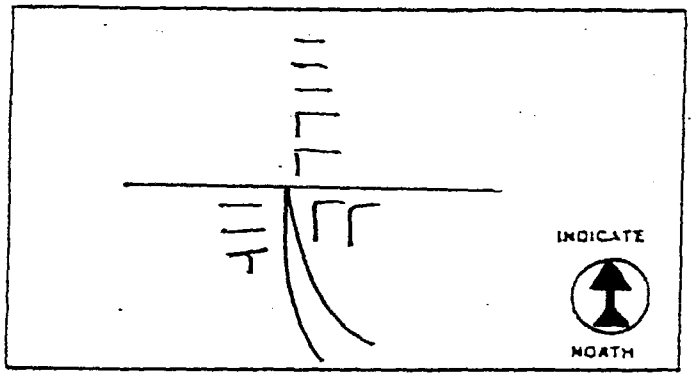
DIST. CO. RTE. P.M. 11 | SD | 905

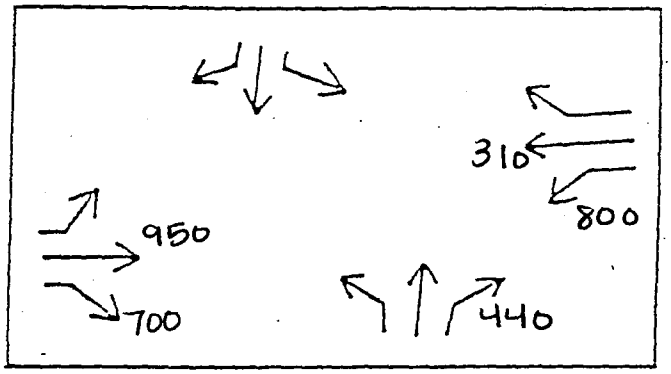
Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

BY JB DATE 3-23-10

TIME ____ AM PM

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
400 400	103 103 104 475 475 700	60 60	

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
400	700	160	

TOTAL OPERATING LEVEL (1LV/hr):

Σ
1,260

Is . . .

- ☐ < 1200 1LV/hr.
- ☒ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB Ramp

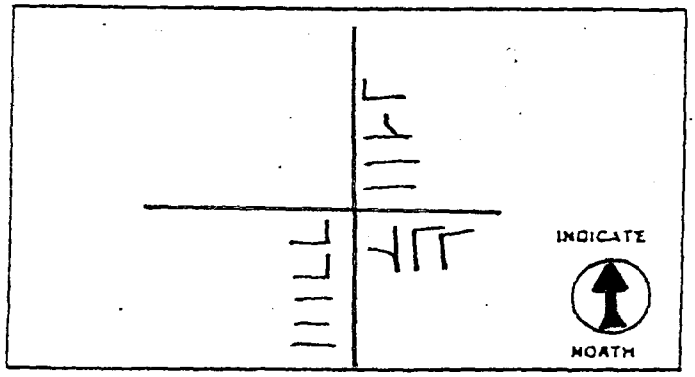
DIST. CO. RTE. P.M. 11/SD/905

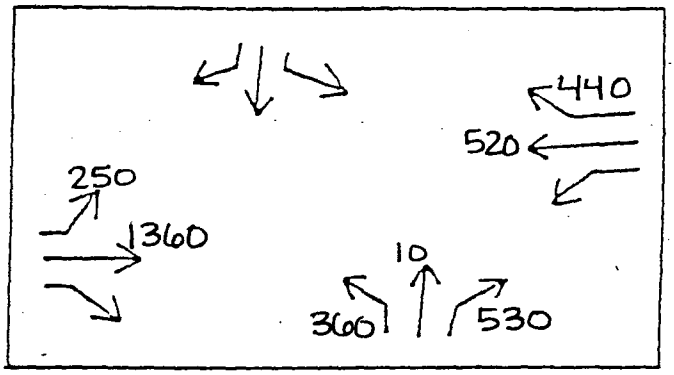
BY [illegible] DATE 3-23-10

TIME ____ (AM) PM

Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4
			220 393 173 174			
125 125	0 0	454 453 453			370 225 225	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
125	454	370	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
949

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB Ramp

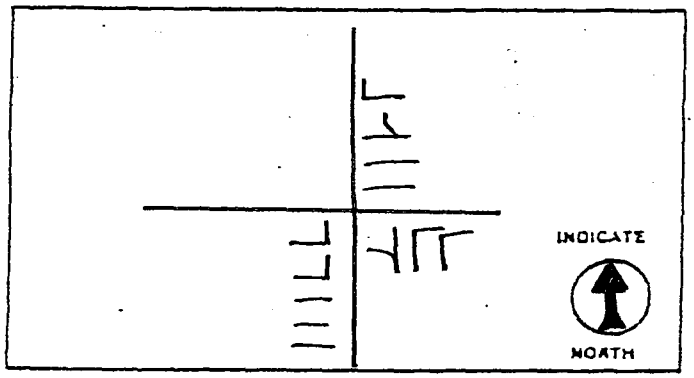
DIST. CO. RTE. P.M. 11/SD/905

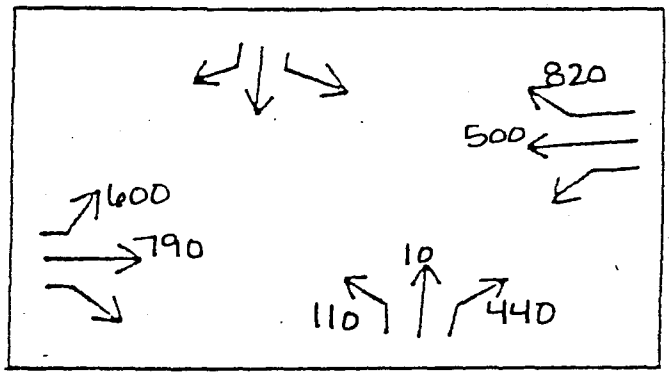
Cumulative (2020) w/ SR-905 (Phases 1A & 1B)

BY JR DATE 3-23-10

TIME ____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:





LANE VOLUMES (1LV/hr):

Phase 1		Phase 2		Phase 3		Phase 4
			410			
			576			
			167			
			167			
300	66	264		120	160	
300	60	263				
		263				

CRITICAL LANE VOLUMES (1LV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
300	576	160	

TOTAL OPERATING LEVEL (1LV/hr):

Σ
1,036

Is . . .

- ☒ < 1200 1LV/hr.
- ☐ > 1200 but < 1500 1LV/hr.
- ☐ > 1500 1LV/hr. (CAPACITY)

REMARKS:

APPENDIX H

- Project Access – Existing + Project
- Project Access – Cumulative

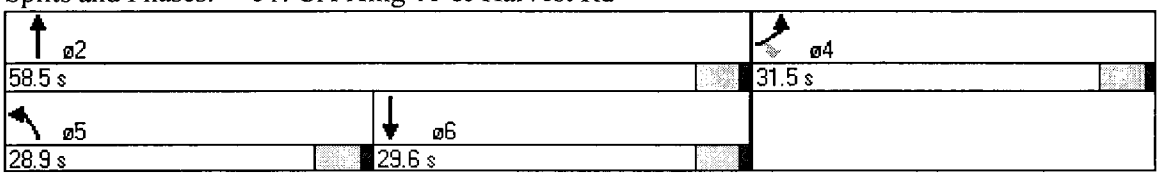
Project Access – Existing + Project

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.97	1.00	0.95	0.95
Frt	0.850	0.850				
Flt Protected			0.950			
Satd. Flow (prot)	1583	1504	3433	1863	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	1583	1504	3433	1863	3539	0
Satd. Flow (RTOR)	961	961				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	192	287	82	55	0
Adj. Flow (vph)	0	209	312	89	60	0
Lane Group Flow (vph)	104	105	312	89	60	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Total Split (s)	31.5	31.5	28.9	58.5	29.6	0.0
Act Effct Green (s)	6.0	6.0	18.2	76.0	53.8	
Actuated g/C Ratio	0.07	0.07	0.20	0.84	0.60	
v/c Ratio	0.10	0.11	0.45	0.06	0.03	
Control Delay	0.2	0.2	7.4	0.3	8.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	0.2	0.2	7.4	0.3	8.4	
LOS	A	A	A	A	A	
Approach Delay	0.2			5.9	8.4	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 4.3 Intersection LOS: A
Intersection Capacity Utilization 25.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 51: CA Xing 'A' & Harvest Rd

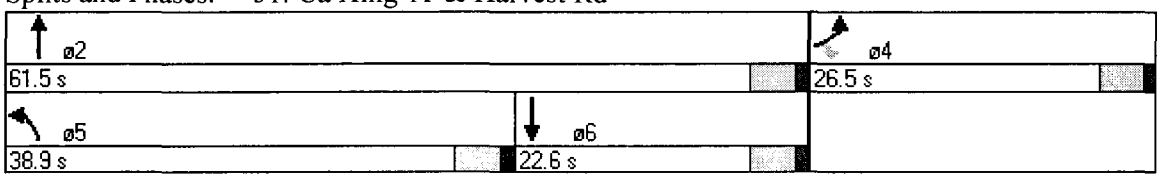


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.97	1.00	0.95	0.95
Frt	0.850	0.850				
Flt Protected			0.950			
Satd. Flow (prot)	1583	1504	3433	1863	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	1583	1504	3433	1863	3539	0
Satd. Flow (RTOR)	796	796				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	797	798	228	228	0
Adj. Flow (vph)	0	866	867	248	248	0
Lane Group Flow (vph)	433	433	867	248	248	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Total Split (s)	26.5	26.5	38.9	61.5	22.6	0.0
Act Effct Green (s)	7.8	7.8	28.2	72.2	40.0	
Actuated g/C Ratio	0.09	0.09	0.32	0.82	0.45	
v/c Ratio	0.50	0.50	0.79	0.16	0.15	
Control Delay	2.1	2.1	32.4	2.0	16.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	2.1	2.1	32.4	2.0	16.1	
LOS	A	A	C	A	B	
Approach Delay	2.1			25.7	16.1	
Approach LOS	A			C	B	

Intersection Summary

Cycle Length: 88
Actuated Cycle Length: 88
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 15.4 Intersection LOS: B
Intersection Capacity Utilization 55.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 51: Ca Xing 'A' & Harvest Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	55	82	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	60	89	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	178	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	178	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	95			
cM capacity (veh/h)	767	1085	1623			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	60	89	0	0
Volume Left	0	0	89	0	0
Volume Right	0	60	0	0	0
cSH	1700	1085	1623	1700	1700
Volume to Capacity	0.00	0.06	0.05	0.00	0.00
Queue Length 95th (ft)	0	4	4	0	0
Control Delay (s)	0.0	8.5	7.3	0.0	0.0
Lane LOS	A	A	A		
Approach Delay (s)	8.5		7.3		0.0
Approach LOS	A				

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	7.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	228	228	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	248	248	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	496	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	85			
cM capacity (veh/h)	452	1085	1623			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	248	248	0	0
Volume Left	0	0	248	0	0
Volume Right	0	248	0	0	0
cSH	1700	1085	1623	1700	1700
Volume to Capacity	0.00	0.23	0.15	0.00	0.00
Queue Length 95th (ft)	0	22	13	0	0
Control Delay (s)	0.0	9.3	7.6	0.0	0.0
Lane LOS	A	A	A		
Approach Delay (s)	9.3		7.6		0.0
Approach LOS	A				

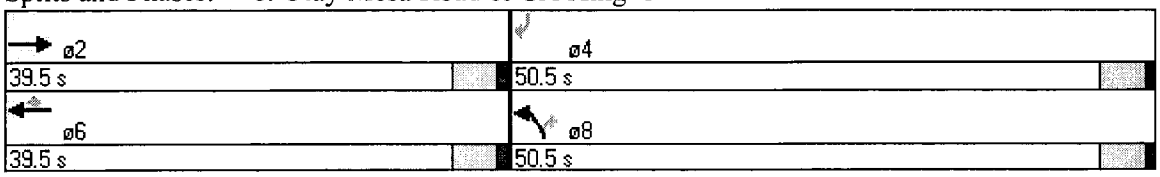
Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						45			40			371
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	833	0	0	283	41	689	0	241	0	0	27
Adj. Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Lane Group Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.5	0.0	0.0	39.5	39.5	50.5	0.0	50.5	0.0	0.0	50.5
Act Effct Green (s)		54.9			54.9	54.9	27.1		27.1			27.1
Actuated g/C Ratio		0.61			0.61	0.61	0.30		0.30			0.30
v/c Ratio		0.25			0.15	0.05	0.77		0.55			0.04
Control Delay		3.3			5.9	2.4	28.0		19.8			0.1
Queue Delay		0.0			0.0	0.0	0.0		0.0			0.0
Total Delay		3.3			5.9	2.4	28.0		19.8			0.1
LOS		A			A	A	C		B			A
Approach Delay		3.3			5.5							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.5 Intersection LOS: B
Intersection Capacity Utilization 40.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & CA Xing 'C'

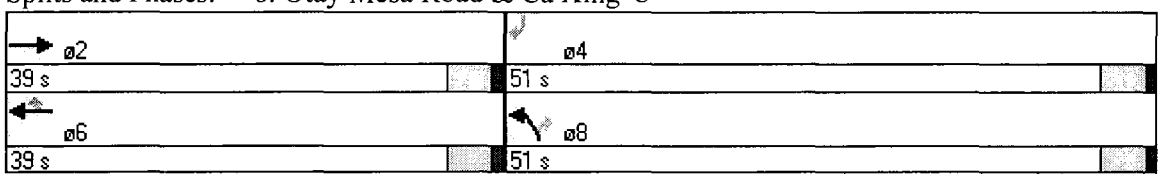


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						124			200			30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	459	0	0	939	114	1168	0	635	0	0	114
Adj. Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Lane Group Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.0	0.0	0.0	39.0	39.0	51.0	0.0	51.0	0.0	0.0	51.0
Act Effct Green (s)		40.7			40.7	40.7	41.3		41.3			41.3
Actuated g/C Ratio		0.45			0.45	0.45	0.46		0.46			0.46
v/c Ratio		0.17			0.65	0.16	0.81		0.84			0.16
Control Delay		8.7			10.5	0.8	24.1		22.9			9.7
Queue Delay		0.0			0.4	0.0	0.0		2.7			0.0
Total Delay		8.7			10.8	0.8	24.1		25.6			9.7
LOS		A			B	A	C		C			A
Approach Delay		8.7			9.8							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 76.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & Ca Xing 'C'

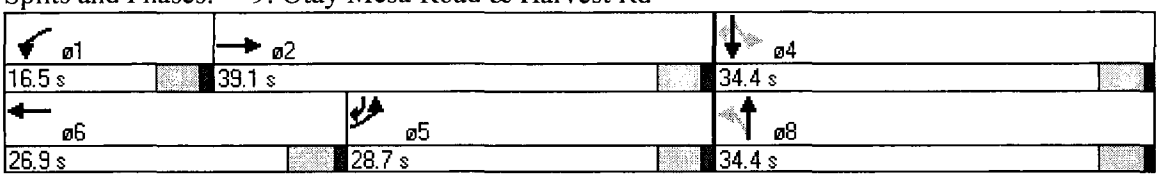


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt					0.988							0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	3433	3539	0	1770	3497	0	0	1863	0	0	1770	2787
Flt Permitted	0.950			0.950							0.757	
Satd. Flow (perm)	3433	3539	0	1770	3497	0	0	1863	0	0	1410	2787
Satd. Flow (RTOR)					10							84
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	361	713	0	2	247	22	0	0	0	179	0	77
Adj. Flow (vph)	392	775	0	2	268	24	0	0	0	195	0	84
Lane Group Flow (vph)	392	775	0	2	292	0	0	0	0	0	195	84
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	28.7	39.1	0.0	16.5	26.9	0.0	34.4	34.4	0.0	34.4	34.4	28.7
Act Effct Green (s)	23.3	62.1		6.1	36.9						17.8	45.1
Actuated g/C Ratio	0.26	0.69		0.07	0.41						0.20	0.50
v/c Ratio	0.44	0.32		0.02	0.20						0.70	0.06
Control Delay	20.2	3.5		37.5	14.0						48.5	3.7
Queue Delay	0.0	0.1		0.0	0.0						0.0	0.0
Total Delay	20.2	3.7		37.5	14.0						48.5	3.7
LOS	C	A		D	B						D	A
Approach Delay		9.2			14.2						35.0	
Approach LOS		A			B						C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 78 (87%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 43.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

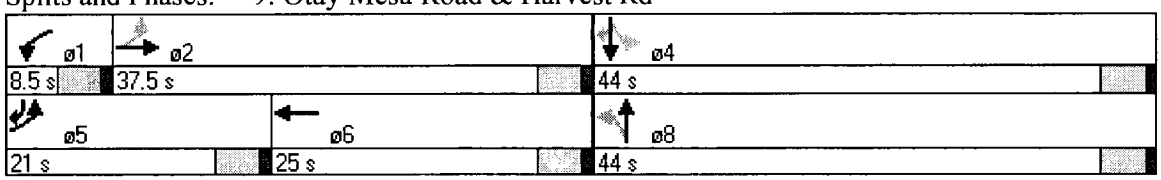


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.990			0.989							0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	3433	3504	0	1770	3500	0	0	1770	0	0	1770	2787
Flt Permitted	0.160			0.950				0.100			0.757	
Satd. Flow (perm)	578	3504	0	1770	3500	0	0	186	0	0	1410	2787
Satd. Flow (RTOR)		9			9							15
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	975	111	8	1	758	62	1	0	0	741	0	294
Adj. Flow (vph)	1060	121	9	1	824	67	1	0	0	805	0	320
Lane Group Flow (vph)	1060	130	0	1	891	0	0	1	0	0	805	320
Turn Type	pm+pt			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases	2						8			4		4
Total Split (s)	21.0	37.5	0.0	8.5	25.0	0.0	44.0	44.0	0.0	44.0	44.0	21.0
Act Effct Green (s)	42.0	40.3		4.5	21.0			40.0			40.0	61.0
Actuated g/C Ratio	0.47	0.45		0.05	0.23			0.44			0.44	0.68
v/c Ratio	1.31	0.08		0.01	1.08			0.01			1.28	0.17
Control Delay	173.8	11.9		43.0	83.6			15.0			165.3	5.3
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	173.8	11.9		43.0	83.6			15.0			165.3	5.3
LOS	F	B		D	F			B			F	A
Approach Delay		156.1			83.5			15.0			119.8	
Approach LOS		F			F			B			F	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 123.1 Intersection LOS: F
Intersection Capacity Utilization 99.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

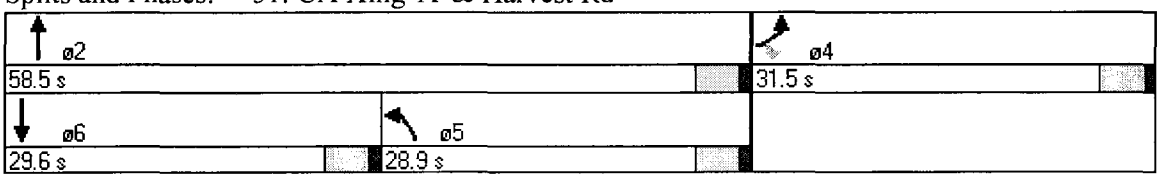


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.97	1.00	0.95	0.95
Frt	0.850	0.850				
Flt Protected			0.950			
Satd. Flow (prot)	1583	1504	3433	1863	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	1583	1504	3433	1863	3539	0
Satd. Flow (RTOR)	961	961				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	192	287	82	55	0
Adj. Flow (vph)	0	209	312	89	60	0
Lane Group Flow (vph)	104	105	312	89	60	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Total Split (s)	31.5	31.5	28.9	58.5	29.6	0.0
Act Effct Green (s)	6.0	6.0	19.9	76.0	52.1	
Actuated g/C Ratio	0.07	0.07	0.22	0.84	0.58	
v/c Ratio	0.10	0.11	0.41	0.06	0.03	
Control Delay	0.2	0.2	7.6	0.7	9.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	0.2	0.2	7.6	0.7	9.6	
LOS	A	A	A	A	A	
Approach Delay	0.2			6.1	9.6	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 25.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 51: CA Xing 'A' & Harvest Rd

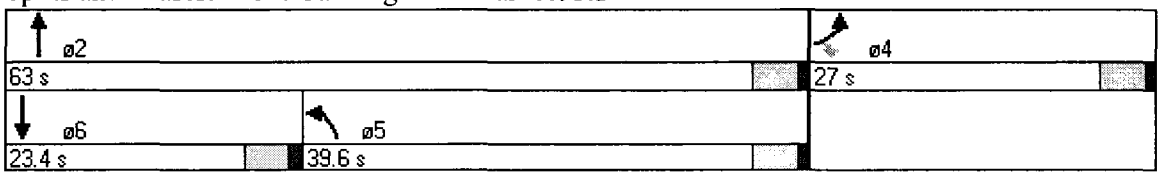


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.97	1.00	0.95	0.95
Frt	0.850	0.850				
Flt Protected			0.950			
Satd. Flow (prot)	1583	1504	3433	1863	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	1583	1504	3433	1863	3539	0
Satd. Flow (RTOR)	794	794				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	797	798	228	228	0
Adj. Flow (vph)	0	866	867	248	248	0
Lane Group Flow (vph)	433	433	867	248	248	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Total Split (s)	27.0	27.0	39.6	63.0	23.4	0.0
Act Effct Green (s)	7.8	7.8	39.8	74.2	30.4	
Actuated g/C Ratio	0.09	0.09	0.44	0.82	0.34	
v/c Ratio	0.50	0.51	0.57	0.16	0.21	
Control Delay	2.1	2.1	2.3	0.1	22.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	2.1	2.1	2.3	0.1	22.9	
LOS	A	A	A	A	C	
Approach Delay	2.1			1.8	22.9	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 49 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 4.3 Intersection LOS: A
Intersection Capacity Utilization 55.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 51: Ca Xing 'A' & Harvest Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	55	82	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	60	89	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	178	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	178	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	95			
cM capacity (veh/h)	767	1085	1623			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	60	89	0	0
Volume Left	0	0	89	0	0
Volume Right	0	60	0	0	0
cSH	1700	1085	1623	1700	1700
Volume to Capacity	0.00	0.06	0.05	0.00	0.00
Queue Length 95th (ft)	0	4	4	0	0
Control Delay (s)	0.0	8.5	7.3	0.0	0.0
Lane LOS	A	A	A		
Approach Delay (s)	8.5		7.3		0.0
Approach LOS	A				

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	7.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	228	228	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	248	248	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	496	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	85			
cM capacity (veh/h)	452	1085	1623			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	248	248	0	0
Volume Left	0	0	248	0	0
Volume Right	0	248	0	0	0
cSH	1700	1085	1623	1700	1700
Volume to Capacity	0.00	0.23	0.15	0.00	0.00
Queue Length 95th (ft)	0	22	13	0	0
Control Delay (s)	0.0	9.3	7.6	0.0	0.0
Lane LOS	A	A	A		
Approach Delay (s)	9.3		7.6		0.0
Approach LOS	A				

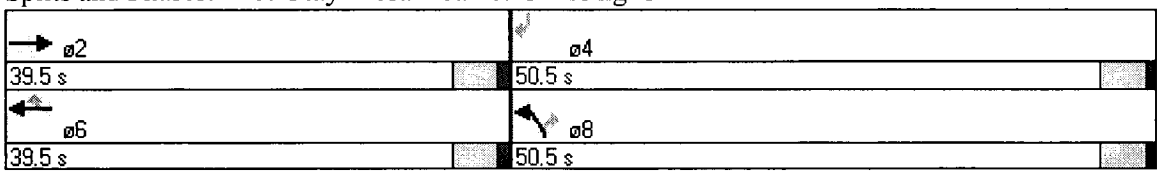
Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						45			40			371
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	833	0	0	283	41	689	0	241	0	0	27
Adj. Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Lane Group Flow (vph)	0	969	0	0	329	45	801	0	280	0	0	29
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.5	0.0	0.0	39.5	39.5	50.5	0.0	50.5	0.0	0.0	50.5
Act Effct Green (s)		54.9			54.9	54.9	27.1		27.1			27.1
Actuated g/C Ratio		0.61			0.61	0.61	0.30		0.30			0.30
v/c Ratio		0.25			0.15	0.05	0.77		0.55			0.04
Control Delay		3.3			8.6	4.8	28.0		19.8			0.1
Queue Delay		0.0			0.0	0.0	0.0		0.0			0.0
Total Delay		3.3			8.6	4.8	28.0		19.8			0.1
LOS		A			A	A	C		B			A
Approach Delay		3.3			8.1							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 40.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & CA Xing 'C'

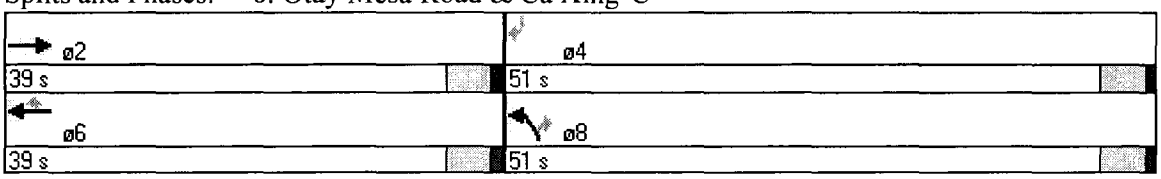


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑			↑↑	↱	↰↰		↱			↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	6408	0	0	3539	1583	3433	0	1583	0	0	1611
Satd. Flow (RTOR)						124			200			30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	459	0	0	939	114	1168	0	635	0	0	114
Adj. Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Lane Group Flow (vph)	0	504	0	0	1032	124	1284	0	698	0	0	124
Turn Type						Perm	Prot		custom			custom
Protected Phases		2			6		8					
Permitted Phases						6			8			4
Total Split (s)	0.0	39.0	0.0	0.0	39.0	39.0	51.0	0.0	51.0	0.0	0.0	51.0
Act Effct Green (s)		40.7			40.7	40.7	41.3		41.3			41.3
Actuated g/C Ratio		0.45			0.45	0.45	0.46		0.46			0.46
v/c Ratio		0.17			0.65	0.16	0.81		0.84			0.16
Control Delay		8.7			11.4	0.9	24.1		22.9			9.7
Queue Delay		0.0			0.3	0.0	0.0		0.1			0.0
Total Delay		8.7			11.6	0.9	24.1		22.9			9.7
LOS		A			B	A	C		C			A
Approach Delay		8.7			10.5							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 76.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & Ca Xing 'C'

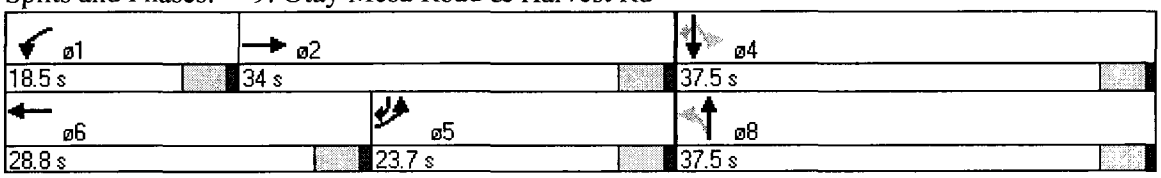


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.91	0.95
Frt					0.988							0.850
Flt Protected	0.950			0.950						0.950	0.950	
Satd. Flow (prot)	3433	3539	0	1770	3497	0	0	1863	0	1681	1610	1504
Flt Permitted	0.950			0.950						0.757	0.757	
Satd. Flow (perm)	3433	3539	0	1770	3497	0	0	1863	0	1340	1283	1504
Satd. Flow (RTOR)					10							84
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	361	713	0	2	247	22	0	0	0	179	0	77
Adj. Flow (vph)	392	775	0	2	268	24	0	0	0	195	0	84
Lane Group Flow (vph)	392	775	0	2	292	0	0	0	0	98	97	84
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	23.7	34.0	0.0	18.5	28.8	0.0	37.5	37.5	0.0	37.5	37.5	23.7
Act Effct Green (s)	26.8	71.4		6.2	41.9					11.4	11.4	40.1
Actuated g/C Ratio	0.30	0.79		0.07	0.47					0.13	0.13	0.45
v/c Ratio	0.38	0.28		0.02	0.18					0.58	0.60	0.12
Control Delay	17.0	2.0		49.0	12.0					52.3	54.0	4.1
Queue Delay	0.0	0.1		0.0	0.0					0.0	0.0	0.0
Total Delay	17.0	2.1		49.0	12.0					52.3	54.0	4.1
LOS	B	A		D	B					D	D	A
Approach Delay		7.1			12.2						38.4	
Approach LOS		A			B						D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 78 (87%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.0 Intersection LOS: B
Intersection Capacity Utilization 38.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

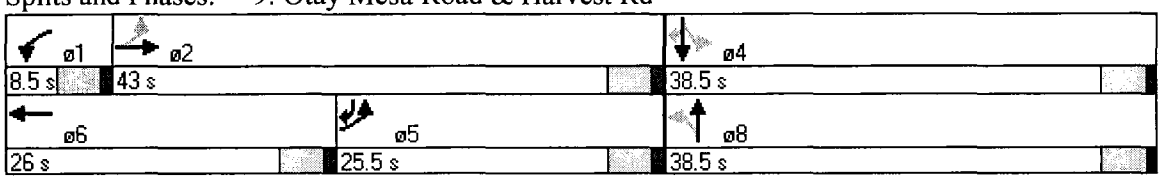


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.990			0.989							0.850
Flt Protected	0.950			0.950				0.950		0.950	0.950	
Satd. Flow (prot)	3433	3504	0	1770	3500	0	0	1770	0	1681	1610	1504
Flt Permitted	0.229			0.950				0.300		0.757	0.757	
Satd. Flow (perm)	828	3504	0	1770	3500	0	0	559	0	1340	1283	1504
Satd. Flow (RTOR)		9			9							11
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	975	111	8	1	758	62	1	0	0	741	0	294
Adj. Flow (vph)	1060	121	9	1	824	67	1	0	0	805	0	320
Lane Group Flow (vph)	1060	130	0	1	891	0	0	1	0	403	402	320
Turn Type	pm+pt			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases	2						8			4		4
Total Split (s)	25.5	43.0	0.0	8.5	26.0	0.0	38.5	38.5	0.0	38.5	38.5	25.5
Act Effct Green (s)	47.2	47.2		4.8	23.4			33.1		33.1	33.1	58.6
Actuated g/C Ratio	0.52	0.52		0.05	0.26			0.37		0.37	0.37	0.65
v/c Ratio	1.00	0.07		0.01	0.97			0.00		0.82	0.85	0.33
Control Delay	55.7	11.5		48.0	51.5			17.0		45.7	49.6	10.8
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	55.7	11.5		48.0	51.5			17.0		45.7	49.6	10.8
LOS	E	B		D	D			B		D	D	B
Approach Delay		50.9			51.5			17.0			37.2	
Approach LOS		D			D			B			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 49 (54%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 46.2 Intersection LOS: D
Intersection Capacity Utilization 82.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd



APPENDIX I

- Queuing – Mit. Existing + Project
- Queuing – Mit. Cumulative

Queuing – Mit. Existing + Project

Intersection: 5: Otay Mesa Road & Piper Ranch Rd

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	TR	L	LR	R
Maximum Queue (ft)	25	72	93	54	32	53	52	31
Average Queue (ft)	5	34	54	27	6	40	34	6
95th Queue (ft)	21	66	110	56	28	58	49	27
Link Distance (ft)	2593	2593	2593	1515	1515	1163	1163	1163
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Otay Mesa Road & SR125 SB

Movement	EB	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	TR	R	T	T	L	L	R
Maximum Queue (ft)	51	70	268	121	68	25	115	93	26
Average Queue (ft)	19	19	104	28	22	5	85	68	5
95th Queue (ft)	58	64	268	106	69	21	113	94	22
Link Distance (ft)	1515	1515	1515	1515	481	481	1228	1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 7: Otay Mesa Road & SR125 NB Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	R
Maximum Queue (ft)	90	91	266	238	101	73	32	54
Average Queue (ft)	50	54	89	66	66	53	22	28
95th Queue (ft)	93	97	275	219	110	80	41	57
Link Distance (ft)	481	481	481	481	459	459	459	459
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Otay Mesa Road & Ca Xing 'C'

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	T	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	464	466	444	14	119	134	25	1025	1059	1133	74
Average Queue (ft)	405	406	166	3	87	98	18	571	648	758	51
95th Queue (ft)	518	510	488	12	132	134	33	1103	1276	1243	78
Link Distance (ft)	459	459	459	459	212	212	212	2637	2637	2637	322
Upstream Blk Time (%)	42	30	0								
Queuing Penalty (veh)	37	27	0								
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 9: Otay Mesa Road & Harvest Rd

Movement	EB	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	L	T	TR	T	TR	L	LR	R
Maximum Queue (ft)	234	285	43	46	417	440	146	526	469
Average Queue (ft)	222	257	25	31	355	398	144	513	179
95th Queue (ft)	236	298	42	50	442	443	145	529	543
Link Distance (ft)	212	212	212	212	1003	1003		493	493
Upstream Blk Time (%)	45	43						41	
Queuing Penalty (veh)	124	117						210	
Storage Bay Dist (ft)							120		
Storage Blk Time (%)					73		14	52	
Queuing Penalty (veh)					1		72	193	

Intersection: 10: Otay Mesa Road & Sanyo Ave

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	L	T	L	LR
Maximum Queue (ft)	29	52	17	163	119	97
Average Queue (ft)	12	28	3	138	101	80
95th Queue (ft)	35	55	15	171	125	103
Link Distance (ft)	1003	1003		1682	2719	2719
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100			
Storage Blk Time (%)				9		
Queuing Penalty (veh)				1		

Intersection: 50: Ca Xing 'B' & Harvest Rd

Movement	EB
Directions Served	R
Maximum Queue (ft)	54
Average Queue (ft)	47
95th Queue (ft)	62
Link Distance (ft)	369
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Ca Xing 'A' & Harvest Rd

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	LR	R	L	L	T	T	TR
Maximum Queue (ft)	396	317	114	160	91	159	53
Average Queue (ft)	381	308	91	134	55	127	42
95th Queue (ft)	393	315	115	161	94	165	58
Link Distance (ft)	362				493	367	367
Upstream Blk Time (%)	73						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		280	250	250			
Storage Blk Time (%)	66	16					
Queuing Penalty (veh)	261	62					

Nework Summary

Network wide Queuing Penalty: 1105

Intersection: 5: Otay Mesa Road & Piper Ranch Rd

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	TR	L	LR	R
Maximum Queue (ft)	50	117	95	96	32	52	53	53	32
Average Queue (ft)	31	49	69	48	24	25	42	29	12
95th Queue (ft)	62	112	128	98	44	53	57	57	36
Link Distance (ft)	2593	2593	2593	1515	1515	1515	1163	1163	1163
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: Otay Mesa Road & SR125 SB

Movement	EB	EB	WB	SB	SB	SB
Directions Served	T	TR	T	L	L	R
Maximum Queue (ft)	31	54	3	202	94	31
Average Queue (ft)	11	17	1	121	61	16
95th Queue (ft)	35	53	3	193	102	38
Link Distance (ft)	1515	1515	481	1228	1228	1228
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Otay Mesa Road & SR125 NB Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	R
Maximum Queue (ft)	97	98	507	441	119	119	30	58
Average Queue (ft)	51	40	246	215	75	69	11	28
95th Queue (ft)	94	100	555	466	122	112	33	59
Link Distance (ft)	481	481	481	481	459	459	459	459
Upstream Blk Time (%)			1					
Queuing Penalty (veh)			1					
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Otay Mesa Road & Ca Xing 'C'

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	T	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	473	462	377	14	70	128	66	750	656	663	71
Average Queue (ft)	462	448	76	5	49	75	17	678	502	489	43
95th Queue (ft)	475	487	324	16	85	135	59	790	749	705	70
Link Distance (ft)	459	459	459	459	212	212	212	2637	2637	2637	322
Upstream Blk Time (%)	75	74									
Queuing Penalty (veh)	67	66									
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 9: Otay Mesa Road & Harvest Rd

Movement	EB	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	L	T	TR	T	TR	L	LR	R
Maximum Queue (ft)	240	285	23	24	310	368	146	506	498
Average Queue (ft)	221	280	9	16	237	295	144	503	212
95th Queue (ft)	241	294	28	32	308	372	150	507	596
Link Distance (ft)	212	212	212	212	1003	1003		493	493
Upstream Blk Time (%)	51	58						33	7
Queuing Penalty (veh)	139	159						170	37
Storage Bay Dist (ft)							120		
Storage Blk Time (%)					65		28	50	
Queuing Penalty (veh)					1		144	184	

Intersection: 10: Otay Mesa Road & Sanyo Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	LR
Maximum Queue (ft)	31	32	113	95	116
Average Queue (ft)	11	12	76	80	81
95th Queue (ft)	34	36	125	103	121
Link Distance (ft)	1003		1682	2719	2719
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

Intersection: 50: Ca Xing 'B' & Harvest Rd

Movement	EB
Directions Served	R
Maximum Queue (ft)	53
Average Queue (ft)	46
95th Queue (ft)	61
Link Distance (ft)	369
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Ca Xing 'A' & Harvest Rd

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	LR	R	L	L	T	T	TR
Maximum Queue (ft)	377	318	127	141	75	222	71
Average Queue (ft)	285	201	85	111	48	162	45
95th Queue (ft)	472	415	124	158	87	243	85
Link Distance (ft)	362				493	367	367
Upstream Blk Time (%)	39						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		280	250	250			
Storage Blk Time (%)	38	15					
Queuing Penalty (veh)	153	60					

Nework Summary

Network wide Queuing Penalty: 1180

Intersection: 5: Otay Mesa Road & Piper Ranch Rd

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	TR	L	LR	R
Maximum Queue (ft)	46	74	54	54	69	32	54	54	30
Average Queue (ft)	27	25	42	37	26	12	27	38	12
95th Queue (ft)	45	70	77	59	68	37	56	54	36
Link Distance (ft)	2593	2593	2593	1515	1515	1515	1163	1163	1163
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: Otay Mesa Road & SR125 SB

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	TR	R	T	T	T	L	L	R
Maximum Queue (ft)	26	134	122	83	4	32	200	96	53
Average Queue (ft)	5	64	24	35	2	6	123	63	22
95th Queue (ft)	22	157	105	86	5	28	194	121	56
Link Distance (ft)	1515	1515	1515	481	481	481	1228	1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 7: Otay Mesa Road & SR125 NB Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	R
Maximum Queue (ft)	51	52	266	204	115	54	30	32
Average Queue (ft)	32	27	84	56	52	16	11	17
95th Queue (ft)	48	54	264	187	130	50	34	40
Link Distance (ft)	481	481	481	481	459	459	459	459
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Otay Mesa Road & Ca Xing 'C'

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	T	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	473	471	450	273	126	132	44	1184	1227	1281	30
Average Queue (ft)	421	380	298	61	76	76	19	896	936	1006	28
95th Queue (ft)	509	530	545	236	120	138	47	1339	1271	1348	34
Link Distance (ft)	459	459	459	459	212	212	212	2637	2637	2637	322
Upstream Blk Time (%)	30	30	0								
Queuing Penalty (veh)	27	26	0								
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 9: Otay Mesa Road & Harvest Rd

Movement	EB	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	L	T	TR	T	TR	L	LR	R
Maximum Queue (ft)	238	285	46	24	445	482	146	535	459
Average Queue (ft)	222	267	14	20	267	341	128	520	98
95th Queue (ft)	243	303	45	29	458	482	165	542	396
Link Distance (ft)	212	212	212	212	1003	1003		493	493
Upstream Blk Time (%)	42	63						36	
Queuing Penalty (veh)	114	172						184	
Storage Bay Dist (ft)							120		
Storage Blk Time (%)					68		18	50	
Queuing Penalty (veh)					1		95	186	

Intersection: 10: Otay Mesa Road & Sanyo Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	LR
Maximum Queue (ft)	31	26	159	113	96
Average Queue (ft)	16	12	84	78	70
95th Queue (ft)	37	29	179	122	112
Link Distance (ft)	1003		1682	2719	2719
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)			2		
Queuing Penalty (veh)			0		

Intersection: 50: Ca Xing 'B' & Harvest Rd

Movement	EB
Directions Served	R
Maximum Queue (ft)	52
Average Queue (ft)	38
95th Queue (ft)	57
Link Distance (ft)	369
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Ca Xing 'A' & Harvest Rd

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	LR	R	L	L	T	T	TR
Maximum Queue (ft)	377	306	139	138	73	117	74
Average Queue (ft)	359	303	109	128	34	92	36
95th Queue (ft)	418	312	136	144	72	121	75
Link Distance (ft)	362				493	367	367
Upstream Blk Time (%)	47						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		280	250	250			
Storage Blk Time (%)	54	23					
Queuing Penalty (veh)	214	93					

Nework Summary

Network wide Queuing Penalty: 1112

Intersection: 5: Otay Mesa Road & Piper Ranch Rd

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	TR	L	LR	R
Maximum Queue (ft)	28	52	118	52	69	99	31	51	32
Average Queue (ft)	23	36	64	44	39	52	22	35	29
95th Queue (ft)	29	56	121	60	79	112	41	48	32
Link Distance (ft)	2593	2593	2593	1515	1515	1515	1163	1163	1163
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: Otay Mesa Road & SR125 SB

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	T	T	L	L	R
Maximum Queue (ft)	29	161	46	44	122	77	31
Average Queue (ft)	6	47	15	10	88	59	12
95th Queue (ft)	25	152	44	38	120	86	36
Link Distance (ft)	1515	1515	481	481	1228	1228	1228
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: Otay Mesa Road & SR125 NB Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	R
Maximum Queue (ft)	75	72	119	121	74	54	53	32
Average Queue (ft)	46	40	30	24	35	34	27	17
95th Queue (ft)	75	72	106	104	89	66	55	41
Link Distance (ft)	481	481	481	481	459	459	459	459
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Otay Mesa Road & Ca Xing 'C'

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	T	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	467	467	382	53	108	152	25	846	832	854	52
Average Queue (ft)	356	316	154	22	81	119	15	561	738	804	35
95th Queue (ft)	527	530	453	59	116	164	35	864	886	862	51
Link Distance (ft)	459	459	459	459	212	212	212	2637	2637	2637	322
Upstream Blk Time (%)	25	17									
Queuing Penalty (veh)	23	15									
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 9: Otay Mesa Road & Harvest Rd

Movement	EB	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	L	T	TR	T	TR	L	LR	R
Maximum Queue (ft)	241	285	45	46	335	439	146	528	540
Average Queue (ft)	226	263	24	36	284	349	143	514	219
95th Queue (ft)	245	289	57	50	357	456	149	531	644
Link Distance (ft)	212	212	212	212	1003	1003		493	493
Upstream Blk Time (%)	44	53						42	4
Queuing Penalty (veh)	120	146						213	22
Storage Bay Dist (ft)							120		
Storage Blk Time (%)					70		25	56	
Queuing Penalty (veh)					1		128	206	

Intersection: 10: Otay Mesa Road & Sanyo Ave

Movement	EB	WB	NB	NB
Directions Served	TR	T	L	LR
Maximum Queue (ft)	54	74	112	116
Average Queue (ft)	15	59	86	78
95th Queue (ft)	51	89	120	120
Link Distance (ft)	1003	1682	2719	2719
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 50: Ca Xing 'B' & Harvest Rd

Movement	EB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	29
95th Queue (ft)	29
Link Distance (ft)	369
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Ca Xing 'A' & Harvest Rd

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	LR	R	L	L	T	T	TR
Maximum Queue (ft)	377	306	161	155	116	95	81
Average Queue (ft)	377	306	118	124	55	73	41
95th Queue (ft)	377	306	168	161	131	96	100
Link Distance (ft)	362				493	367	367
Upstream Blk Time (%)	70						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		280	250	250			
Storage Blk Time (%)	72	13					
Queuing Penalty (veh)	287	53					

Nework Summary

Network wide Queuing Penalty: 1213

Intersection: 5: Otay Mesa Road & Piper Ranch Rd

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	TR	L	LR	R
Maximum Queue (ft)	24	75	94	75	54	72	54	53	32
Average Queue (ft)	16	60	53	44	33	34	37	29	6
95th Queue (ft)	30	90	100	85	65	66	52	57	27
Link Distance (ft)	2593	2593	2593	1515	1515	1515	1163	1163	1163
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: Otay Mesa Road & SR125 SB

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	TR	R	T	T	T	L	L	R
Maximum Queue (ft)	51	218	204	86	28	54	158	144	53
Average Queue (ft)	10	68	41	34	6	11	105	81	23
95th Queue (ft)	44	204	175	87	24	46	167	144	56
Link Distance (ft)	1515	1515	1515	481	481	481	1228	1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 7: Otay Mesa Road & SR125 NB Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	R
Maximum Queue (ft)	53	72	246	240	117	72	45	32
Average Queue (ft)	47	26	91	58	69	42	19	24
95th Queue (ft)	63	70	259	212	114	82	48	44
Link Distance (ft)	481	481	481	481	459	459	459	459
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Otay Mesa Road & Ca Xing 'C'

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	T	T	T	T	T	R	L	L	R	R
Maximum Queue (ft)	471	459	364	35	53	89	25	1034	992	1008	52
Average Queue (ft)	395	361	223	16	37	67	15	796	851	884	39
95th Queue (ft)	550	526	501	34	63	90	34	1117	995	1052	57
Link Distance (ft)	459	459	459	459	212	212	212	2637	2637	2637	322
Upstream Blk Time (%)	41	28									
Queuing Penalty (veh)	37	25									
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 9: Otay Mesa Road & Harvest Rd

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	LR	R
Maximum Queue (ft)	251	285	25	43	25	156	202	146	507	499
Average Queue (ft)	224	262	10	27	5	118	144	144	505	161
95th Queue (ft)	251	307	29	53	21	172	227	150	509	488
Link Distance (ft)	212	212	212	212		1003	1003		493	493
Upstream Blk Time (%)	48	48							40	6
Queuing Penalty (veh)	132	131							206	31
Storage Bay Dist (ft)					50			120		
Storage Blk Time (%)						37		33	54	
Queuing Penalty (veh)						0		172	201	

Intersection: 10: Otay Mesa Road & Sanyo Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	LR
Maximum Queue (ft)	55	29	138	90	97
Average Queue (ft)	32	6	74	66	66
95th Queue (ft)	52	25	132	90	95
Link Distance (ft)	1003		1682	2719	2719
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)			2		
Queuing Penalty (veh)			0		

Intersection: 50: Ca Xing 'B' & Harvest Rd

Movement	EB
Directions Served	R
Maximum Queue (ft)	56
Average Queue (ft)	52
95th Queue (ft)	56
Link Distance (ft)	369
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Ca Xing 'A' & Harvest Rd

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	LR	R	L	L	T	T	TR
Maximum Queue (ft)	396	306	132	138	222	161	54
Average Queue (ft)	383	305	75	102	79	133	26
95th Queue (ft)	396	306	152	151	206	165	62
Link Distance (ft)	362				493	367	367
Upstream Blk Time (%)	73						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		280	250	250			
Storage Blk Time (%)	70	2					
Queuing Penalty (veh)	279	9					

Nework Summary

Network wide Queuing Penalty: 1225

APPENDIX J

- Signal Warrants
- Mitigation – Existing + Project
- Mitigation – Cumulative

Signal Warrants

Signal Warrants-Otay Mesa Road/Harvest Road

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED YES ☒ NO ☐**

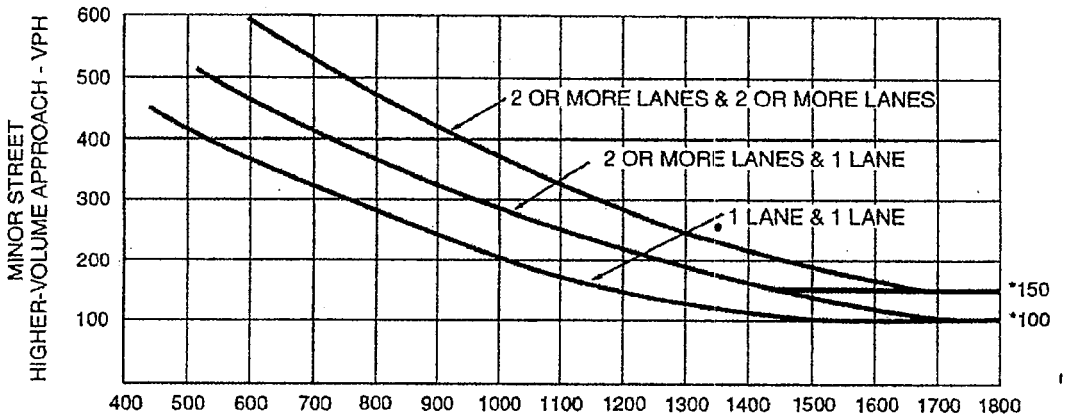
APPROACH LANES	One	2 or More	am	pm Hour
Both Approaches - Major Street		X	1345	1915
Higher Approach - Minor Street		X	256	1035

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

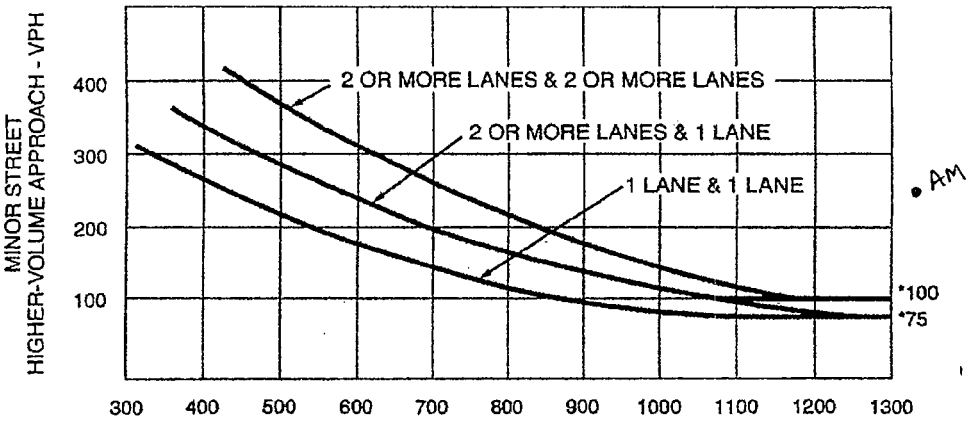
PM



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

COUNT DATE Existing + Project
CALC vsh DATE 03-19-10
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Otay Mesa Rd
Minor St: Harvest Rd

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... x

CONDITION A - Minimum Vehicular Volume

Satisfied x Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....	1.....
2 or More..... X	2 or More..... X
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied x Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....	1.....
2 or More..... X	2 or More..... X
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches): 19,007

Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only): 10,254

Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied n/a Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	361	713	0	2	247	22	0	0	0	179	0	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	392	775	0	2	268	24	0	0	0	195	0	84
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		310			1083							
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	292			775			1782	1857	388	1457	1845	146
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292			679			1765	1845	262	1415	1832	146
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	69			100			100	100	100	0	100	90
cM capacity (veh/h)	1266			843			34	47	684	69	48	874

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2	SB 3
Volume Total	196	196	517	258	2	179	113	0	195	42	42
Volume Left	196	196	0	0	2	0	0	0	195	0	0
Volume Right	0	0	0	0	0	0	24	0	0	42	42
cSH	1266	1266	1700	1700	843	1700	1700	1700	69	874	874
Volume to Capacity	0.31	0.31	0.30	0.15	0.00	0.11	0.07	0.00	2.83	0.05	0.05
Queue Length 95th (ft)	33	33	0	0	0	0	0	0	487	4	4
Control Delay (s)	9.1	9.1	0.0	0.0	9.3	0.0	0.0	0.0	957.3	9.3	9.3
Lane LOS	A	A			A			A	F	A	A
Approach Delay (s)	3.1				0.1			0.0	672.2		
Approach LOS								A	F		

Intersection Summary			
Average Delay	109.5		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	975	111	8	1	758	62	1	0	0	741	0	294
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1060	121	9	1	824	67	1	0	0	805	0	320
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		310			1085							
pX, platoon unblocked												
vC, conflicting volume	891			129			2978	3138	65	3040	3109	446
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	891			129			2978	3138	65	3040	3109	446
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	100	0	0	43
cM capacity (veh/h)	756			1454			0	0	986	0	0	560

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2	SB 3
Volume Total	530	530	80	49	1	549	342	1	805	160	160
Volume Left	530	530	0	0	1	0	0	1	805	0	0
Volume Right	0	0	0	9	0	0	67	0	0	160	160
cSH	756	756	1700	1700	1454	1700	1700	0	0	560	560
Volume to Capacity	1.40	1.40	0.05	0.03	0.00	0.32	0.20	Err	Err	0.29	0.29
Queue Length 95th (ft)	1162	1162	0	0	0	0	0	Err	Err	29	29
Control Delay (s)	205.7	205.7	0.0	0.0	7.5	0.0	0.0	Err	Err	14.0	14.0
Lane LOS	F	F			A			F	F	B	B
Approach Delay (s)	183.3				0.0			Err	Err		
Approach LOS								F	F		

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

Signal Warrants-Harvest Road/Driveway 'A'

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND PM-9.3 veh-hrs	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED YES ☒ NO ☐**

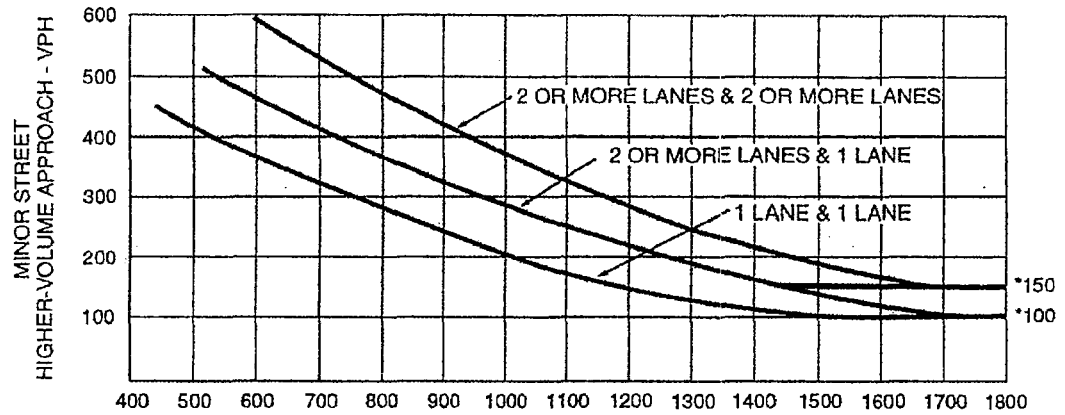
APPROACH LANES	One	2 or More	Hour am	Hour pm
Both Approaches - Major Street		X	424	1254
Higher Approach - Minor Street		X	192	797

Satisfied during PM Peak

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

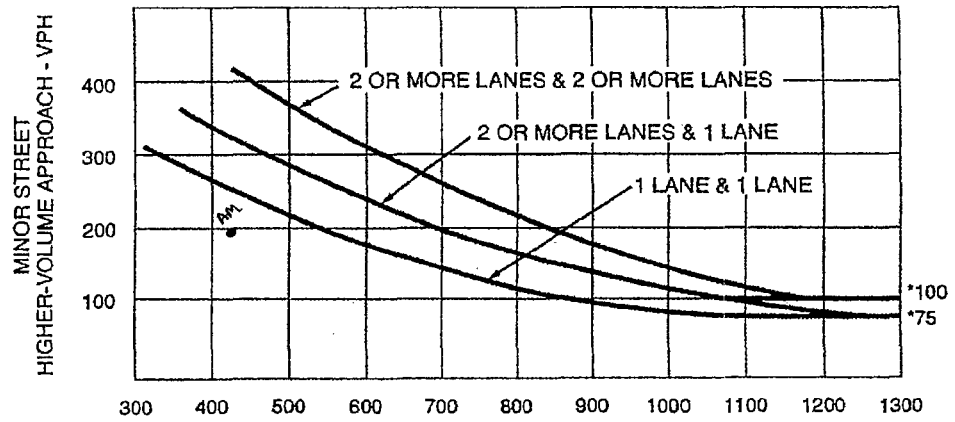
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Project
CALC vsh DATE 03-19-10
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Harvest Rd
Minor St: Driveway 'A'

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... x

CONDITION A - Minimum Vehicular Volume

Satisfied x Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More..... X	1..... X
2 or More..... X	2 or More..... X
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied x Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More..... X	1..... X
2 or More..... X	2 or More..... X
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches): 12,532

Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only): 7,975

Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied n/a Not Satisfied _____

2 CONDITIONS 80%

2 CONDITIONS 80%

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	192	287	82	55	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	209	312	89	60	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				591		
pX, platoon unblocked						
vC, conflicting volume	728	30	60			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	728	30	60			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	80			
cM capacity (veh/h)	286	1038	1542			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	209	156	156	45	45	40	20
Volume Left	0	156	156	0	0	0	0
Volume Right	209	0	0	0	0	0	0
cSH	1038	1542	1542	1700	1700	1700	1700
Volume to Capacity	0.20	0.20	0.20	0.03	0.03	0.02	0.01
Queue Length 95th (ft)	19	19	19	0	0	0	0
Control Delay (s)	9.3	7.9	7.9	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	9.3	6.2				0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	797	798	228	228	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	866	867	248	248	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				591		
pX, platoon unblocked						
vC, conflicting volume	2107	124	248			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2107	124	248			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	4	34			
cM capacity (veh/h)	15	904	1315			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	866	434	434	124	124	165	83
Volume Left	0	434	434	0	0	0	0
Volume Right	866	0	0	0	0	0	0
cSH	904	1315	1315	1700	1700	1700	1700
Volume to Capacity	0.96	0.66	0.66	0.07	0.07	0.10	0.05
Queue Length 95th (ft)	396	133	133	0	0	0	0
Control Delay (s)	42.2	12.9	12.9	0.0	0.0	0.0	0.0
Lane LOS	E	B	B				
Approach Delay (s)	42.2	10.0				0.0	
Approach LOS	E						

Intersection Summary			
Average Delay	21.4		
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

Signal Warrants-Harvest Road/Driveway 'B'

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More					Hour
Both Approaches - Major Street							
Higher Approach - Minor Street							

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND PM-9.3 veh-hrs	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

PART B **SATISFIED YES ☐ NO ☒**

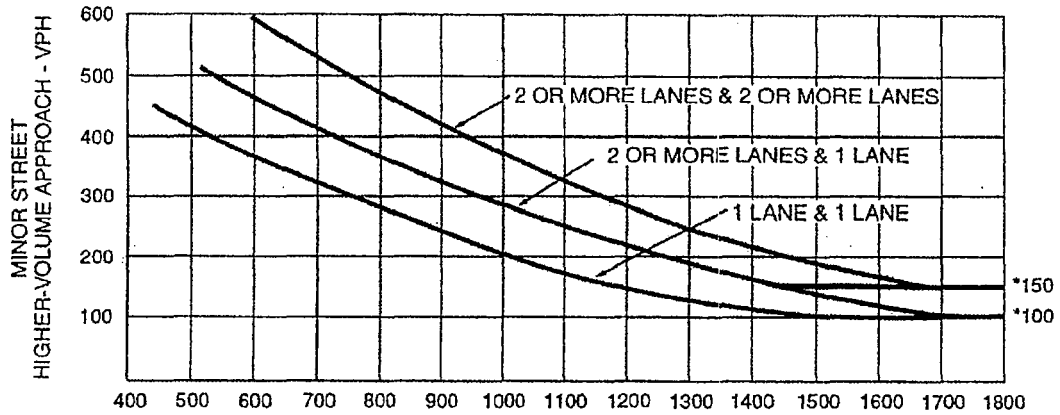
APPROACH LANES	One	2 or More	am	pm Hour
Both Approaches - Major Street		X	82	228
Higher Approach - Minor Street	X		55	228

Satisfied during PM Peak

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

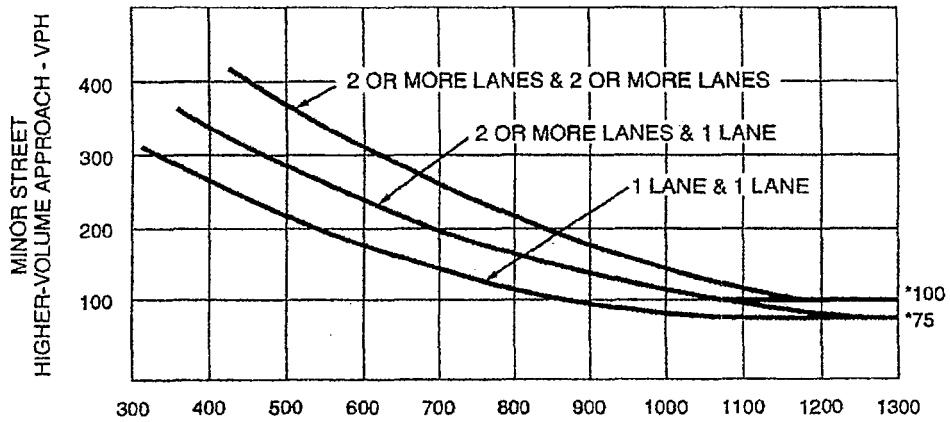
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Project

DIST	CO	RTE	PM

CALC vsh DATE 03-19-10

CHK _____ DATE _____

Major St: Harvest Rd

Minor St: Driveway 'B'

Critical Approach Speed _____ mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... x

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied x

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1..... x	1.....
2 or More.....	1..... x
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied x

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1..... x	1.....
2 or More.....	1..... x
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
2,279		2,279	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied x

No one condition satisfied, but following conditions fulfilled 80% or more..... No (A) No (B)

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	55	82	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	60	89	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	178	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	178	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	95			
cM capacity (veh/h)	751	1084	1622			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	60	89	0	0	0	0
Volume Left	0	0	89	0	0	0	0
Volume Right	0	60	0	0	0	0	0
cSH	1700	1084	1622	1700	1700	1700	1700
Volume to Capacity	0.00	0.06	0.05	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	4	4	0	0	0	0
Control Delay (s)	0.0	8.5	7.3	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	8.5		7.3			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	7.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	228	228	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	248	248	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	496	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	85			
cM capacity (veh/h)	426	1084	1622			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	248	248	0	0	0	0
Volume Left	0	0	248	0	0	0	0
Volume Right	0	248	0	0	0	0	0
cSH	1700	1084	1622	1700	1700	1700	1700
Volume to Capacity	0.00	0.23	0.15	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	22	13	0	0	0	0
Control Delay (s)	0.0	9.3	7.6	0.0	0.0	0.0	0.0
Lane LOS	A	A	A				
Approach Delay (s)	9.3		7.6			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND PM-0.65 veh-hrs	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED YES ☐ NO ☒**

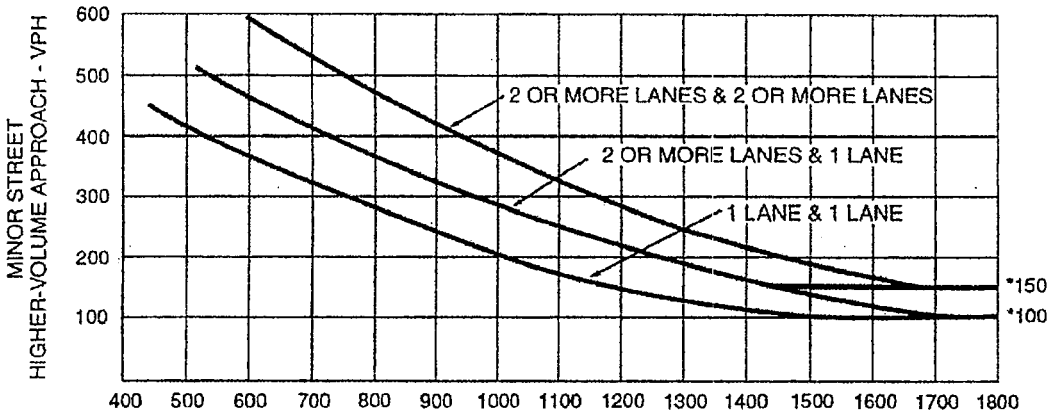
APPROACH LANES	One	2 or More	AM	PM	Hour
Both Approaches - Major Street		X	297	461	
Higher Approach - Minor Street	X		65	238	

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Harvest Road/Driveway 'B' - Cumulative (2020) With SR-905 1A & 1B

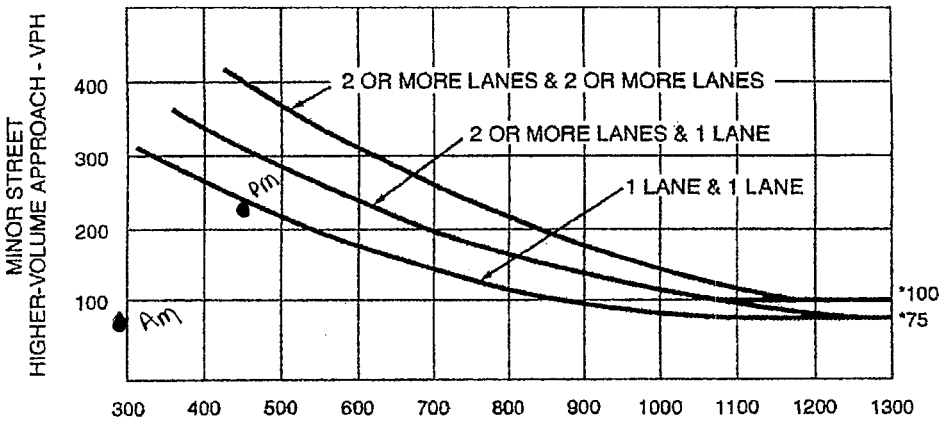
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

COUNT DATE Cumulative (2020) w/SR-905
CALC vsh DATE 3/22/10
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Harvest Road
Minor St: Driveway 'B'

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... x

CONDITION A - Minimum Vehicular Volume

Satisfied x Not Satisfied _____

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	(6,720)	2,400	(1,680)
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More..... X	1..... X
2 or More.....	2 or More.....
1.....	2 or More.....

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied x

Vehicles Per Day on Major Street (Total of Both Approaches): 9,110

Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only): 2,279

Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	(10,080)	1,200	(850)
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More..... X	1..... X
2 or More.....	2 or More.....
1.....	2 or More.....

Combination of CONDITIONS A + B

Satisfied x Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... Yes (A) Yes (B)

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	10	55	82	132	73	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	60	89	143	79	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	335	45	90			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335	45	90			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	94	94			
cM capacity (veh/h)	597	1015	1503			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	11	60	89	72	72	53	37
Volume Left	11	0	89	0	0	0	0
Volume Right	0	60	0	0	0	0	11
cSH	597	1015	1503	1700	1700	1700	1700
Volume to Capacity	0.02	0.06	0.06	0.04	0.04	0.03	0.02
Queue Length 95th (ft)	1	5	5	0	0	0	0
Control Delay (s)	11.1	8.8	7.5	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	9.1		2.9			0.0	
Approach LOS	A						

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	10	228	228	88	135	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	248	248	96	147	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				447		
pX, platoon unblocked						
vC, conflicting volume	696	79	158			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	696	79	158			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	74	83			
cM capacity (veh/h)	310	966	1420			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	11	248	248	48	48	98	60
Volume Left	11	0	248	0	0	0	0
Volume Right	0	248	0	0	0	0	11
cSH	310	966	1420	1700	1700	1700	1700
Volume to Capacity	0.04	0.26	0.17	0.03	0.03	0.06	0.04
Queue Length 95th (ft)	3	26	16	0	0	0	0
Control Delay (s)	17.0	10.0	8.1	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	10.3		5.8			0.0	
Approach LOS	B						

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

Signal Warrants-Airway Road/Sanyo Avenue

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 4)

COUNT DATE Existing Conditions
CALC vsh DATE 03-29-2010
CHK _____ DATE _____

DIST CO RTE PM

Major St: Airway Road
Minor St: Sanyo Avenue

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7:00	8:00	9:00	11:00	12:00	1:00	3:00	5:00	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	458	411	489	506	488	481	435	388	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	97	121	89	82	95	75	81	71	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7:00	8:00	9:00	11:00	12:00	1:00	3:00	5:00	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	458	411	489	506	488	481	435	388	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	97	121	89	82	95	75	81	71	

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6 Hour
Both Approaches - Major Street		X	232	297	326	253
Higher Approach - Minor Street		X	125	162	186	182

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

PART B **SATISFIED YES ☐ NO ☒**

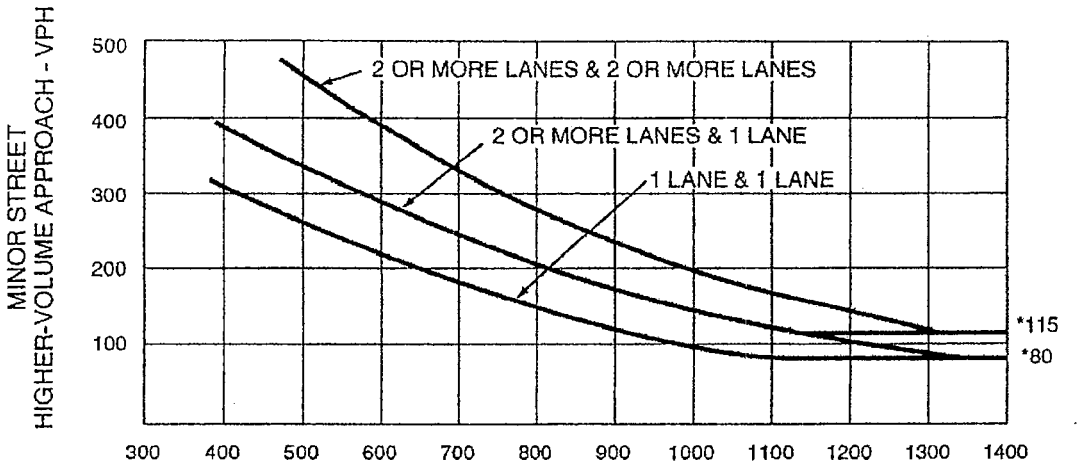
APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	287	333
Higher Approach - Minor Street		X	174	207

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Airway Road/Sanyo Avenue-Existing Conditions

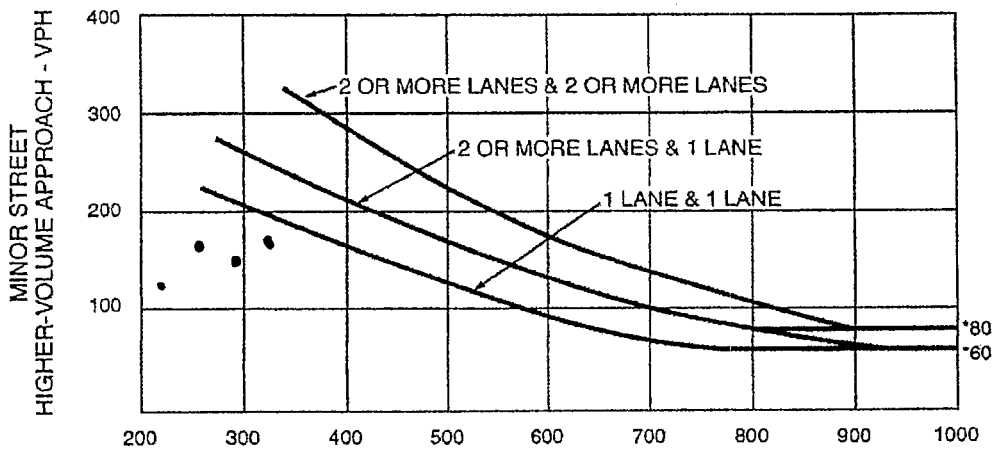
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

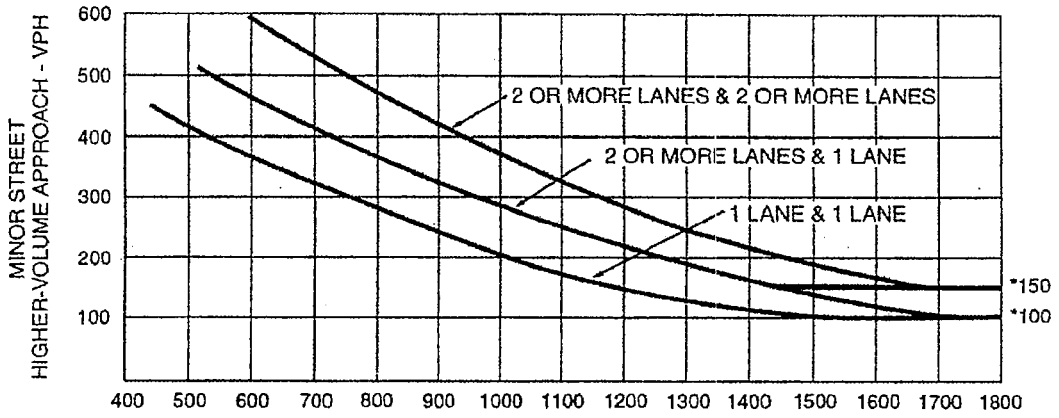
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Sanyo Avenue-Existing Conditions

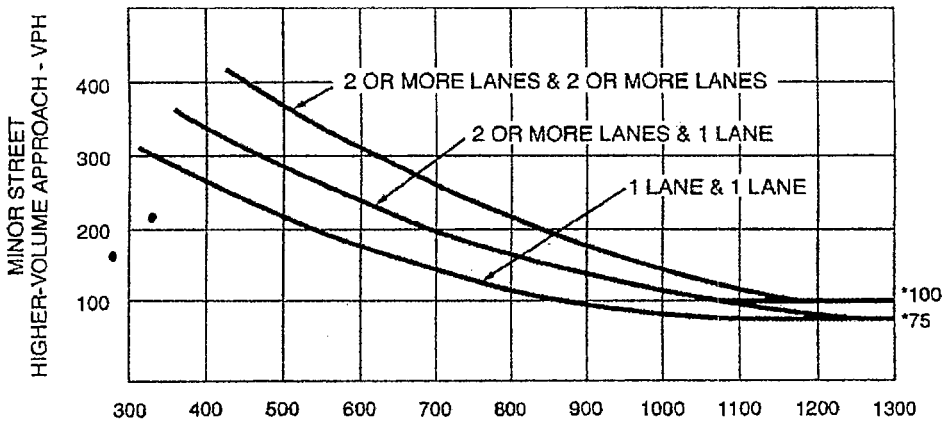
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	88	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	95	10	33	16	3	63	130	13

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	200	99	10	33	19	194	13
Volume Left (vph)	15	4	0	33	0	63	0
Volume Right (vph)	98	0	10	0	3	0	13
Hadj (s)	-0.24	0.06	-0.67	0.53	-0.08	0.20	-0.67
Departure Headway (s)	5.1	5.5	4.8	6.1	5.5	5.6	4.7
Degree Utilization, x	0.28	0.15	0.01	0.06	0.03	0.30	0.02
Capacity (veh/h)	668	618	706	551	610	612	719
Control Delay (s)	10.1	8.3	6.6	8.3	7.5	9.8	6.6
Approach Delay (s)	10.1	8.1		8.0		9.6	
Approach LOS	B	A		A		A	

Intersection Summary			
Delay	9.3		
HCM Level of Service	A		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	159	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	183	63	91	145	2	24	30	40

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	132	187	63	91	147	54	40
Volume Left (vph)	5	5	0	91	0	24	0
Volume Right (vph)	59	0	63	0	2	0	40
Hadj (s)	-0.23	0.05	-0.67	0.53	0.02	0.26	-0.67
Departure Headway (s)	5.5	5.6	4.9	6.2	5.7	6.1	5.2
Degree Utilization, x	0.20	0.29	0.09	0.16	0.23	0.09	0.06
Capacity (veh/h)	614	609	692	552	601	545	637
Control Delay (s)	9.9	9.7	7.2	9.1	9.2	8.5	7.3
Approach Delay (s)	9.9	9.1		9.2		8.0	
Approach LOS	A	A		A		A	

Intersection Summary			
Delay	9.1		
HCM Level of Service	A		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☒ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6 Hour
Both Approaches - Major Street		X	267	341	443	344
Higher Approach - Minor Street		X	228	295	539	528

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☒ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND PM-26.5 veh-hrs	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

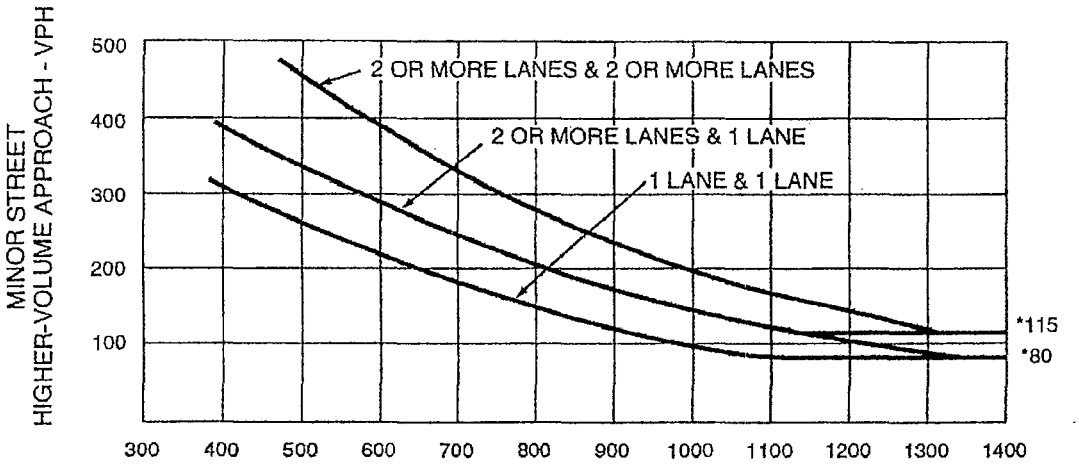
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	330	453
Higher Approach - Minor Street		X	317	600

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

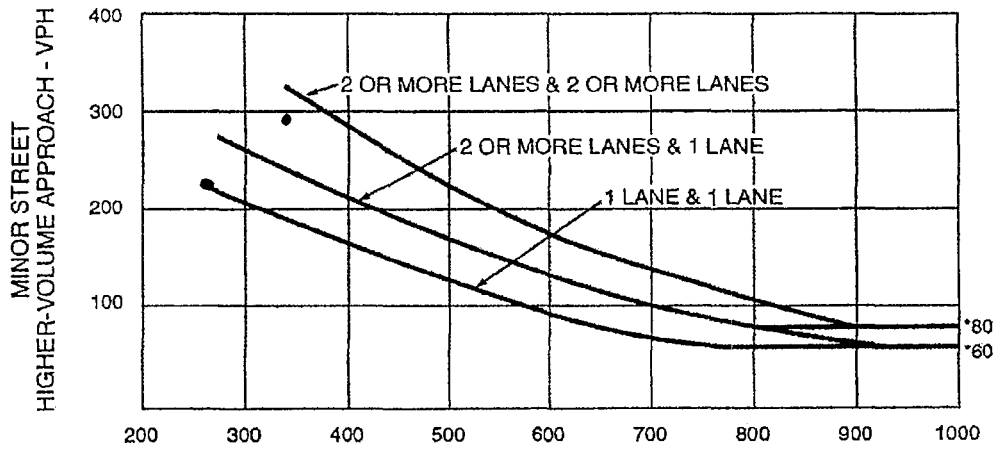
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

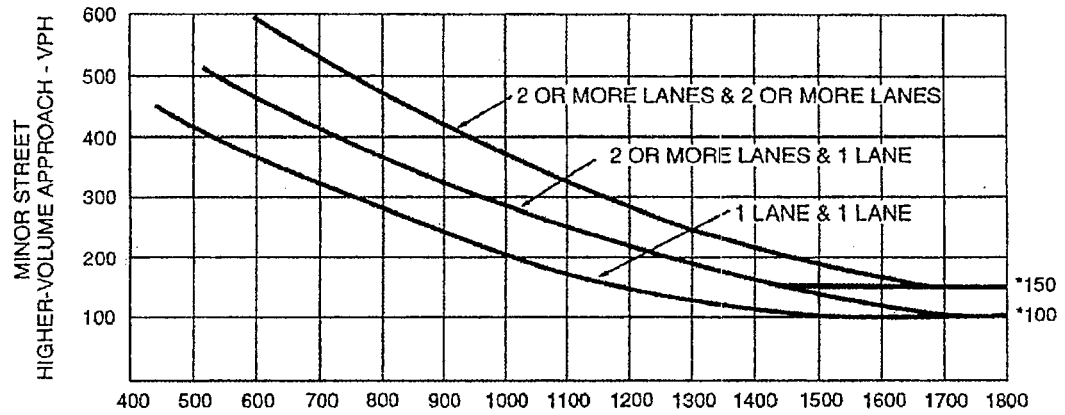
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Sanyo Avenue-Existing + California Crossings Conditions

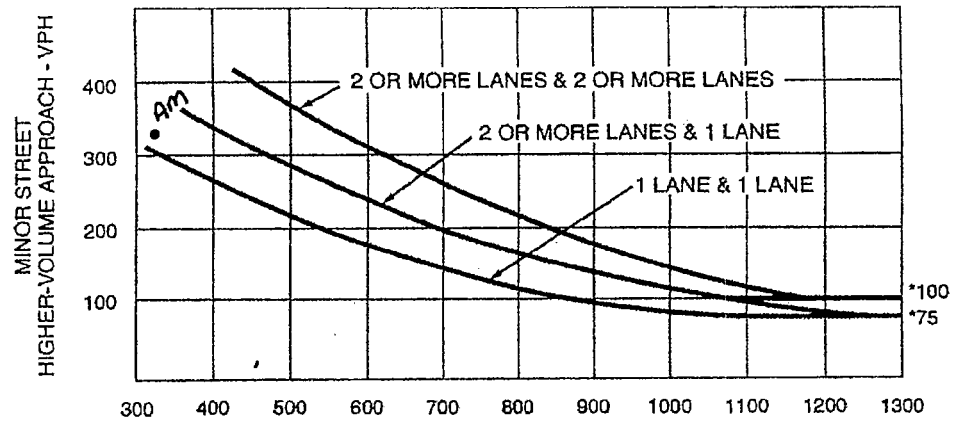
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	159	175	79	126	2	539	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	183	201	91	145	2	620	30	40

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	132	187	201	91	147	649	40
Volume Left (vph)	5	5	0	91	0	620	0
Volume Right (vph)	59	0	201	0	2	0	40
Hadj (s)	-0.23	0.05	-0.67	0.53	0.02	0.51	-0.67
Departure Headway (s)	7.5	7.3	6.6	7.7	7.2	7.2	6.0
Degree Utilization, x	0.28	0.38	0.37	0.20	0.30	1.30	0.07
Capacity (veh/h)	457	477	529	447	478	494	582
Control Delay (s)	13.4	13.6	12.3	11.4	12.0	169.0	8.2
Approach Delay (s)	13.4	12.9		11.8		159.6	
Approach LOS	B	B		B		F	

Intersection Summary			
Delay	82.6		
HCM Level of Service	F		
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

Signal Warrants-Airway Road/Paseo De Las Americas

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6 Hour
Both Approaches - Major Street		X	146	185	224	186
Higher Approach - Minor Street		X	27	44	95	73

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

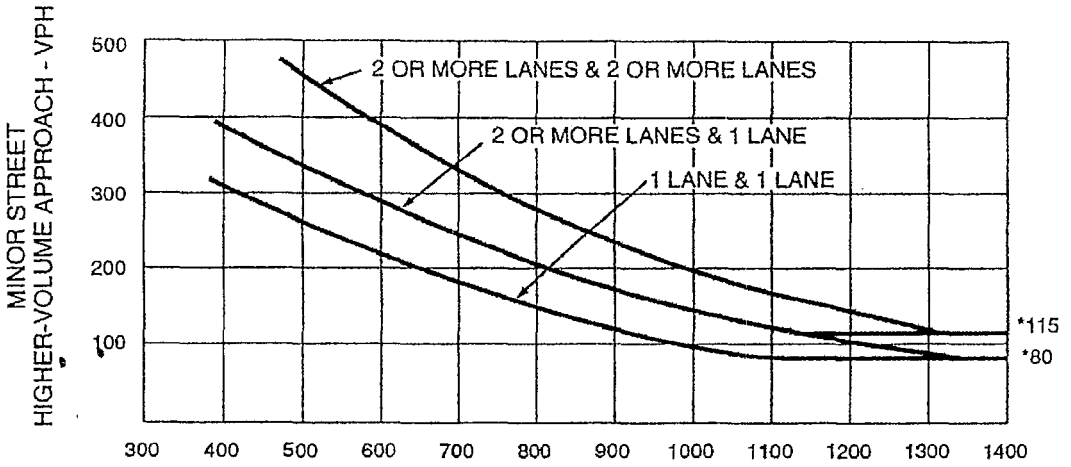
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	187	232
Higher Approach - Minor Street		X	42	92

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

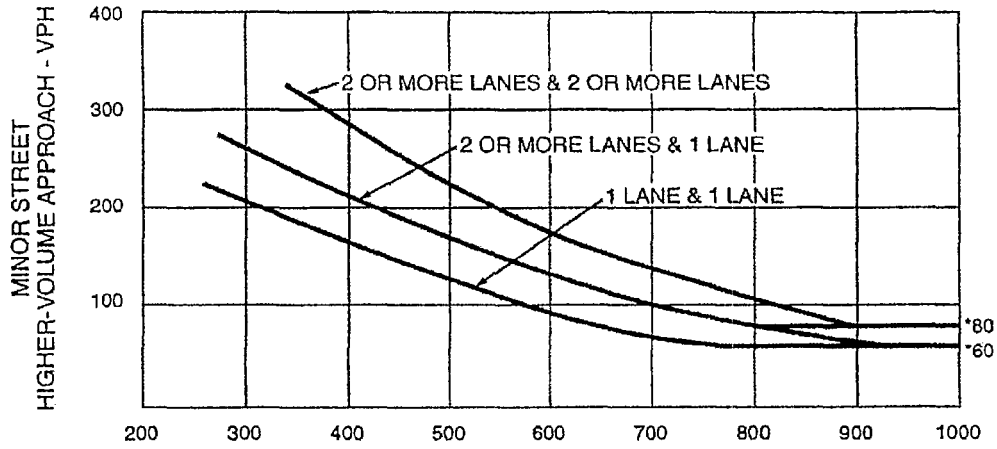
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

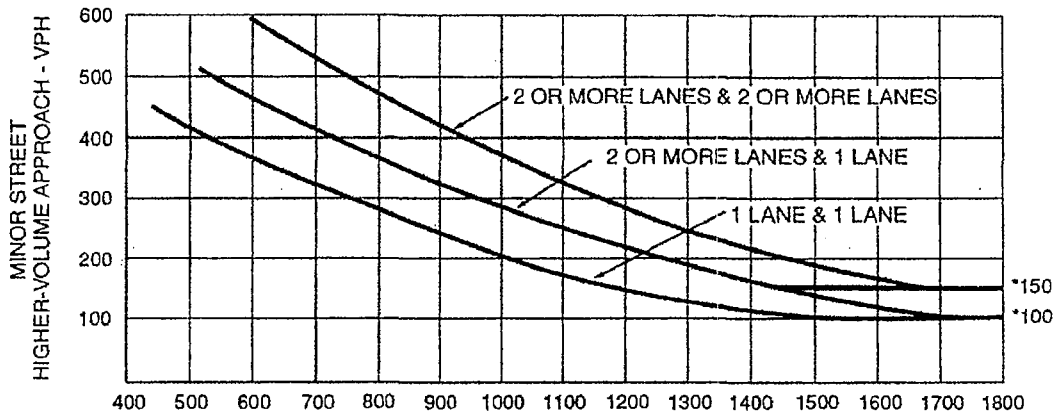
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Paseo De Las Americas - Existing

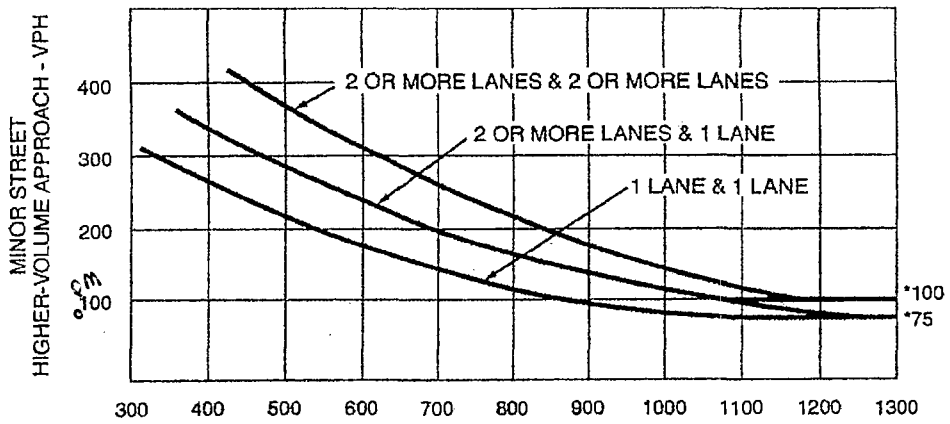
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	68	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	76	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		170	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		170	73
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1433		801	974

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	64	83	6	38	38	37	10
Volume Left	0	0	6	0	0	37	0
Volume Right	0	51	0	0	0	0	10
cSH	1700	1700	1433	1700	1700	801	974
Volume to Capacity	0.04	0.05	0.00	0.02	0.02	0.05	0.01
Queue Length 95th (ft)	0	0	0	0	0	4	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	9.7	8.7
Lane LOS			A			A	A
Approach Delay (s)	0.0		0.5			9.5	
Approach LOS						A	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	126	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	145	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		213	49
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		213	49
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		87	99
cM capacity (veh/h)			1493		741	1009

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	43	55	30	72	72	94	11
Volume Left	0	0	30	0	0	94	0
Volume Right	0	33	0	0	0	0	11
cSH	1700	1700	1493	1700	1700	741	1009
Volume to Capacity	0.03	0.03	0.02	0.04	0.04	0.13	0.01
Queue Length 95th (ft)	0	0	2	0	0	11	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	10.6	8.6
Lane LOS			A			B	A
Approach Delay (s)	0.0		1.3			10.4	
Approach LOS						B	

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6 Hour
Both Approaches - Major Street		X	258	326	729	605
Higher Approach - Minor Street		X	55	89	219	168

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

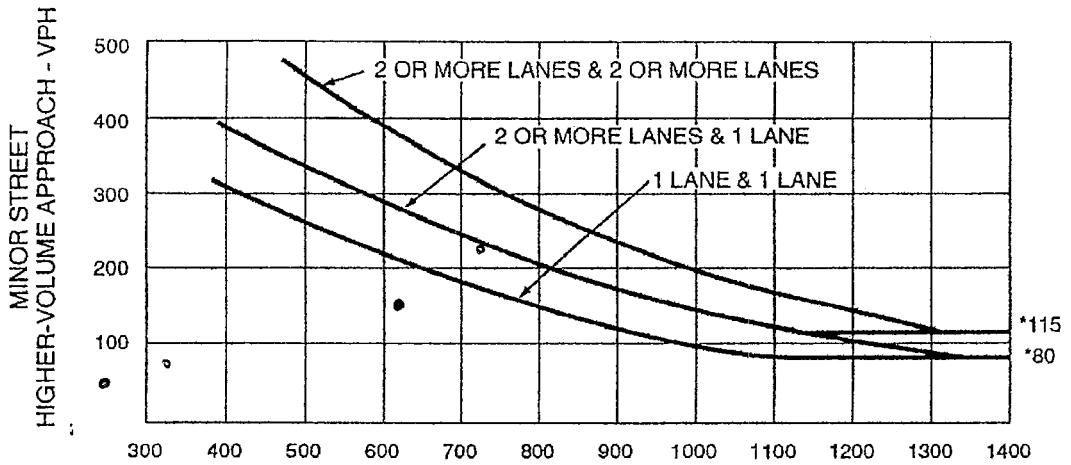
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	Hour PM
Both Approaches - Major Street		X	330	755
Higher Approach - Minor Street		X	85	212

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

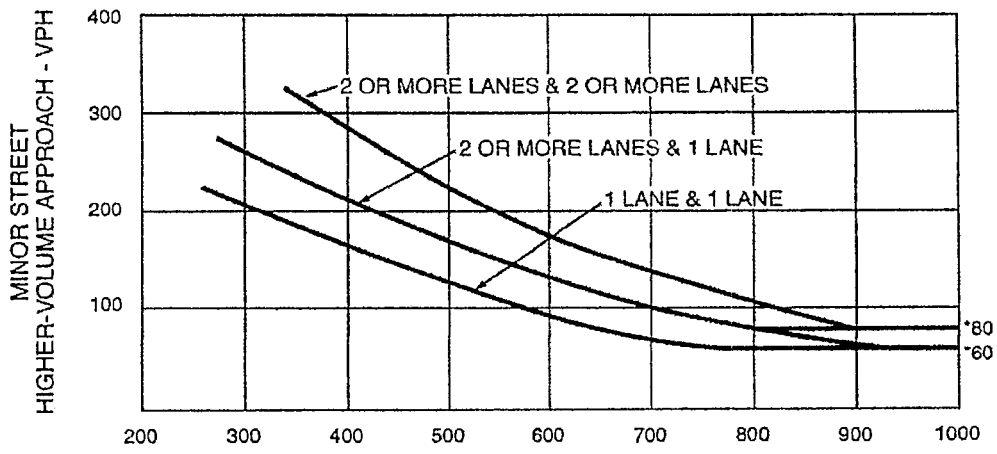
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

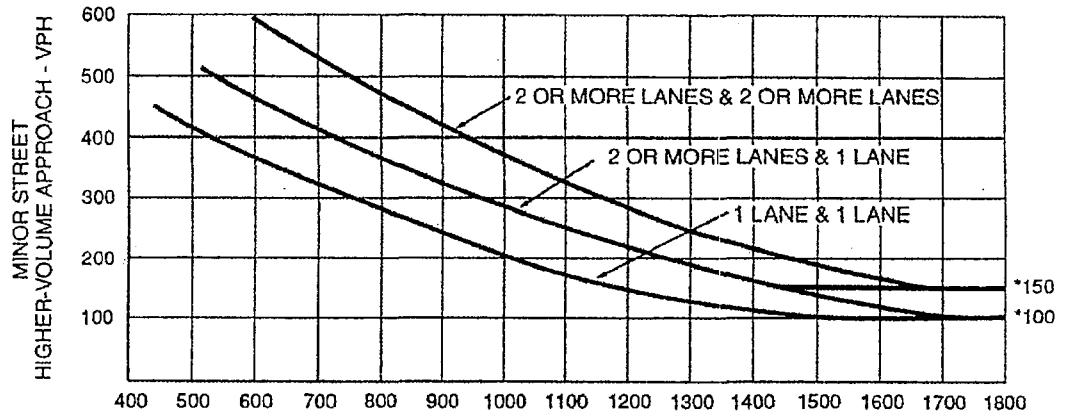
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Paseo De Las Americas - Existing+California Crossings

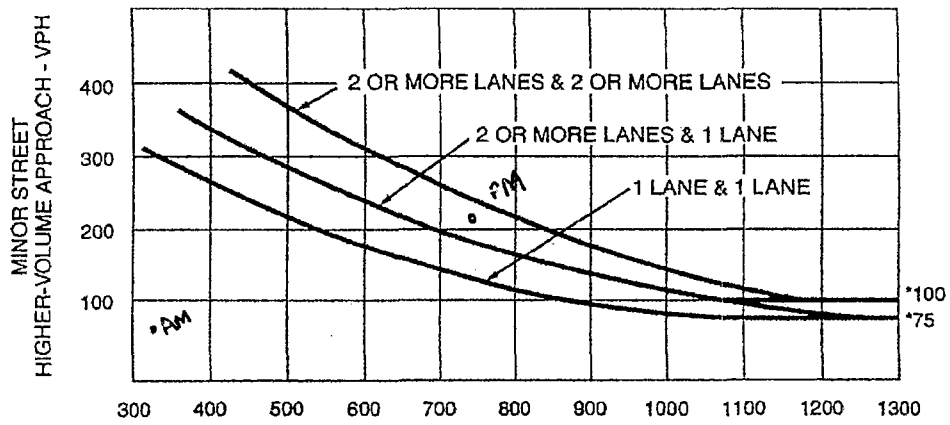
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	171	5	68	76	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	190	6	76	84	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			286		239	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			286		239	143
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	99
cM capacity (veh/h)			1274		725	879

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	64	222	6	38	38	84	10
Volume Left	0	0	6	0	0	84	0
Volume Right	0	190	0	0	0	0	10
cSH	1700	1700	1274	1700	1700	725	879
Volume to Capacity	0.04	0.13	0.00	0.02	0.02	0.12	0.01
Queue Length 95th (ft)	0	0	0	0	0	10	1
Control Delay (s)	0.0	0.0	7.8	0.0	0.0	10.6	9.1
Lane LOS			A			B	A
Approach Delay (s)	0.0		0.5			10.5	
Approach LOS						B	

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	547	26	126	202	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	629	30	145	232	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			693		511	347
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			693		511	347
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		51	98
cM capacity (veh/h)			898		476	649

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	43	650	30	72	72	232	11
Volume Left	0	0	30	0	0	232	0
Volume Right	0	629	0	0	0	0	11
cSH	1700	1700	898	1700	1700	476	649
Volume to Capacity	0.03	0.38	0.03	0.04	0.04	0.49	0.02
Queue Length 95th (ft)	0	0	3	0	0	66	1
Control Delay (s)	0.0	0.0	9.1	0.0	0.0	19.6	10.6
Lane LOS			A			C	B
Approach Delay (s)	0.0		1.6			19.1	
Approach LOS						C	

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☒ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6 Hour
Both Approaches - Major Street		X	507	643	734	609
Higher Approach - Minor Street		X	534	870	898	690

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☒ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

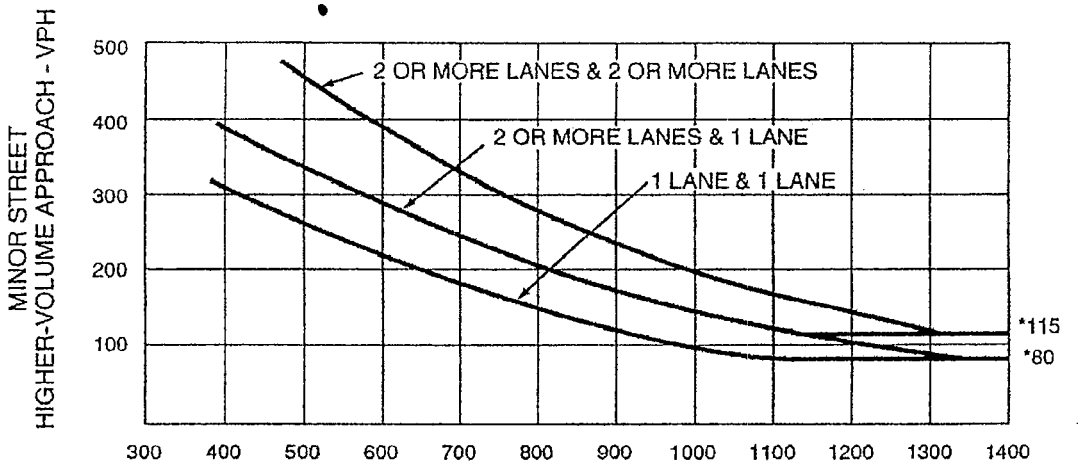
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	650	760
Higher Approach - Minor Street		X	830	870

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

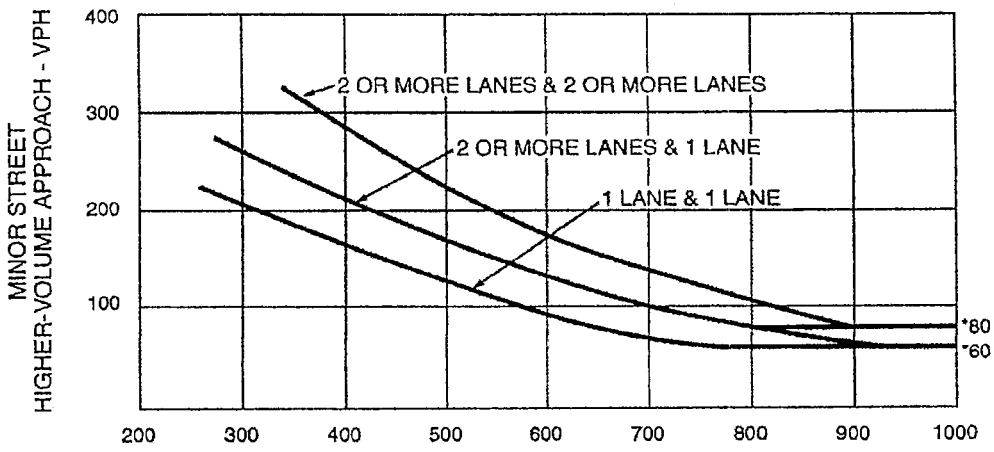
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

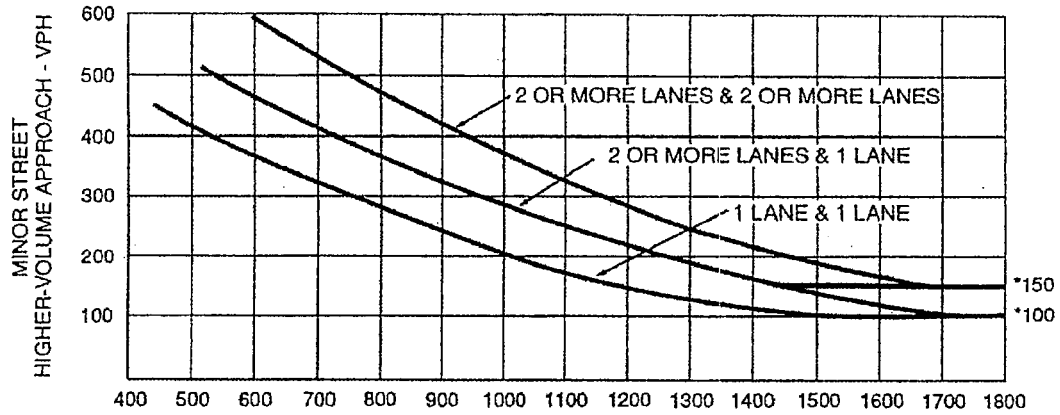
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

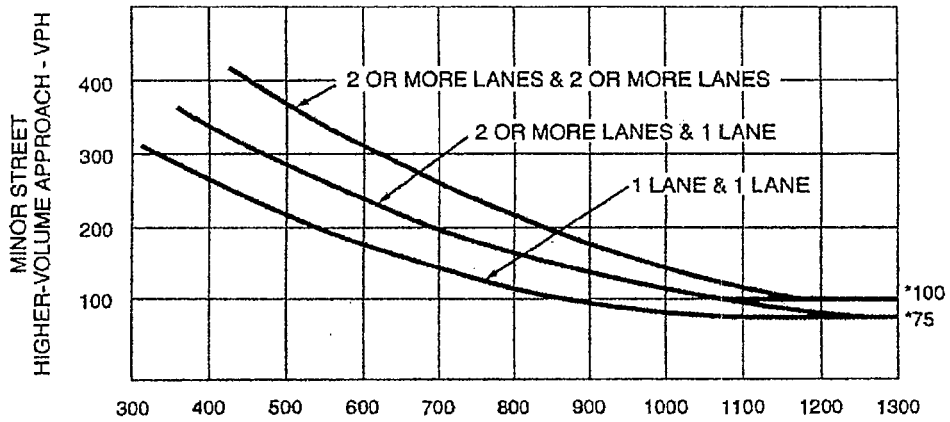
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	150	190	10	230	10	570	60	200	10	70	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	67	167	211	11	256	11	633	67	222	11	78	67
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	267			378			661	694	189	756	794	133
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267			378			661	694	189	756	794	133
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			0	81	73	94	74	93
cM capacity (veh/h)	1294			1177			246	342	821	176	300	891

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	67	111	267	11	170	96	700	222	156
Volume Left	67	0	0	11	0	0	633	0	11
Volume Right	0	0	211	0	0	11	0	222	67
cSH	1294	1700	1700	1177	1700	1700	253	821	391
Volume to Capacity	0.05	0.07	0.16	0.01	0.10	0.06	2.77	0.27	0.40
Queue Length 95th (ft)	4	0	0	1	0	0	1507	27	47
Control Delay (s)	7.9	0.0	0.0	8.1	0.0	0.0	837.4	11.0	20.1
Lane LOS	A			A			F	B	C
Approach Delay (s)	1.2			0.3			638.3		20.1
Approach LOS							F		C

Intersection Summary			
Average Delay	329.1		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	70	80	240	50	300	20	580	70	220	10	70	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	80	92	276	57	345	23	667	80	253	11	80	69
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	368			368			787	874	184	971	1000	184
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368			368			787	874	184	971	1000	184
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			95			0	68	69	88	62	92
cM capacity (veh/h)	1187			1187			168	254	827	100	214	827

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	80	61	307	57	230	138	747	253	161
Volume Left	80	0	0	57	0	0	667	0	11
Volume Right	0	0	276	0	0	23	0	253	69
cSH	1187	1700	1700	1187	1700	1700	175	827	280
Volume to Capacity	0.07	0.04	0.18	0.05	0.14	0.08	4.28	0.31	0.57
Queue Length 95th (ft)	5	0	0	4	0	0	Err	32	83
Control Delay (s)	8.3	0.0	0.0	8.2	0.0	0.0	Err	11.3	33.8
Lane LOS	A			A			F	B	D
Approach Delay (s)	1.5			1.1			7473.4		33.8
Approach LOS							F		D

Intersection Summary			
Average Delay	3676.6		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

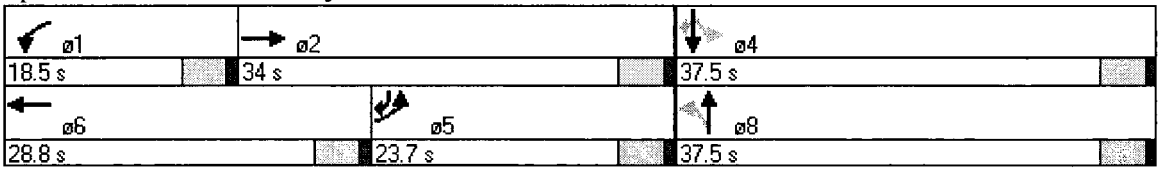
Mitigation – Existing + Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.91	0.95
Frt					0.988							0.850
Flt Protected	0.950			0.950						0.950	0.950	
Satd. Flow (prot)	3433	3539	0	1770	3497	0	0	1863	0	1681	1610	1504
Flt Permitted	0.950			0.950						0.757	0.757	
Satd. Flow (perm)	3433	3539	0	1770	3497	0	0	1863	0	1340	1283	1504
Satd. Flow (RTOR)					10							84
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	361	713	0	2	247	22	0	0	0	179	0	77
Adj. Flow (vph)	392	775	0	2	268	24	0	0	0	195	0	84
Lane Group Flow (vph)	392	775	0	2	292	0	0	0	0	98	97	84
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	23.7	34.0	0.0	18.5	28.8	0.0	37.5	37.5	0.0	37.5	37.5	23.7
Act Effct Green (s)	26.8	70.5		6.1	41.0					12.4	12.4	41.0
Actuated g/C Ratio	0.30	0.78		0.07	0.46					0.14	0.14	0.46
v/c Ratio	0.38	0.28		0.02	0.18					0.53	0.55	0.11
Control Delay	17.0	2.2		50.5	12.6					50.9	52.1	5.7
Queue Delay	0.0	0.1		0.0	0.0					0.0	0.0	0.0
Total Delay	17.0	2.3		50.5	12.6					50.9	52.1	5.7
LOS	B	A		D	B					D	D	A
Approach Delay		7.3			12.9						37.7	
Approach LOS		A			B						D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 78 (87%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 38.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

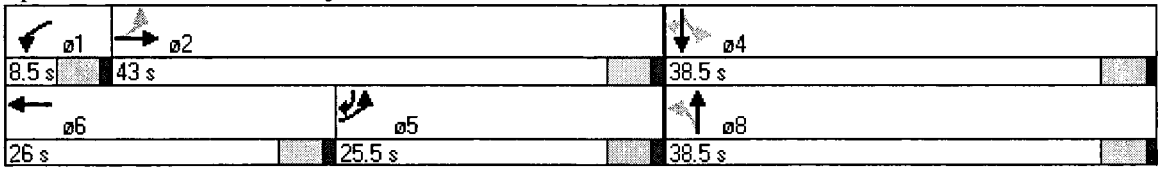


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.990			0.989							0.850
Flt Protected	0.950			0.950				0.950		0.950	0.950	
Satd. Flow (prot)	3433	3504	0	1770	3500	0	0	1770	0	1681	1610	1504
Flt Permitted	0.229			0.950				0.300		0.757	0.757	
Satd. Flow (perm)	828	3504	0	1770	3500	0	0	559	0	1340	1283	1504
Satd. Flow (RTOR)		9			9							11
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	975	111	8	1	758	62	1	0	0	741	0	294
Adj. Flow (vph)	1060	121	9	1	824	67	1	0	0	805	0	320
Lane Group Flow (vph)	1060	130	0	1	891	0	0	1	0	403	402	320
Turn Type	pm+pt			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases	2						8			4		4
Total Split (s)	25.5	43.0	0.0	8.5	26.0	0.0	38.5	38.5	0.0	38.5	38.5	25.5
Act Effct Green (s)	49.0	49.0		5.1	25.2			31.3		31.3	31.3	56.8
Actuated g/C Ratio	0.54	0.54		0.06	0.28			0.35		0.35	0.35	0.63
v/c Ratio	0.99	0.07		0.01	0.90			0.01		0.86	0.90	0.34
Control Delay	51.4	11.2		48.0	40.4			17.0		46.7	52.4	8.1
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	51.4	11.2		48.0	40.4			17.0		46.7	52.4	8.1
LOS	D	B		D	D			B		D	D	A
Approach Delay		47.0			40.5			17.0			37.8	
Approach LOS		D			D			B			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 49 (54%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 41.9 Intersection LOS: D
Intersection Capacity Utilization 82.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

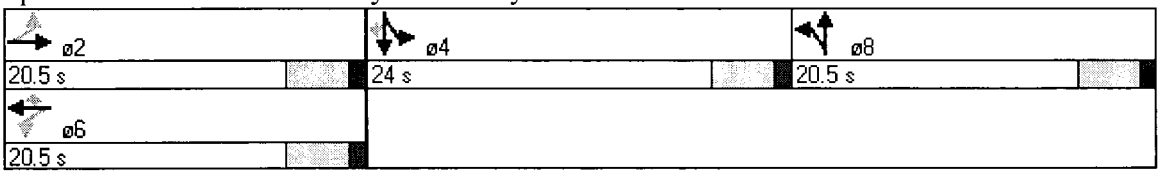


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.934				0.850		0.976				0.850
Flt Protected		0.996		0.950			0.950				0.971	
Satd. Flow (prot)	0	1733	0	1770	1863	1583	1770	1818	0	0	1809	1583
Flt Permitted		0.978		0.546			0.950				0.971	
Satd. Flow (perm)	0	1702	0	1017	1863	1583	1770	1818	0	0	1809	1583
Satd. Flow (RTOR)		71				56		3				13
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	14	81	91	4	88	52	31	15	3	184	121	12
Adj. Flow (vph)	15	87	98	4	95	56	33	16	3	198	130	13
Lane Group Flow (vph)	0	200	0	4	95	56	33	19	0	0	328	13
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Total Split (s)	20.5	20.5	0.0	20.5	20.5	20.5	20.5	20.5	0.0	24.0	24.0	24.0
Act Effct Green (s)		9.4		9.4	9.4	9.4	7.5	7.5			13.1	13.1
Actuated g/C Ratio		0.22		0.22	0.22	0.22	0.19	0.19			0.33	0.33
v/c Ratio		0.46		0.02	0.23	0.14	0.10	0.06			0.55	0.02
Control Delay		14.0		14.5	16.0	6.4	18.9	17.3			16.3	6.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		14.0		14.5	16.0	6.4	18.9	17.3			16.3	6.6
LOS		B		B	B	A	B	B			B	A
Approach Delay		14.0			12.5			18.3			16.0	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 39.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 47.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

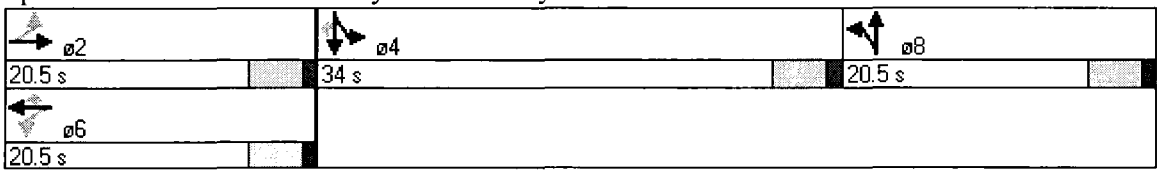


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.998				0.850
Flt Protected		0.998		0.950			0.950				0.954	
Satd. Flow (prot)	0	1747	0	1770	1863	1583	1770	1859	0	0	1777	1583
Flt Permitted		0.989		0.622			0.950				0.954	
Satd. Flow (perm)	0	1732	0	1159	1863	1583	1770	1859	0	0	1777	1583
Satd. Flow (RTOR)		49				201		1				40
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	4	60	51	4	159	175	79	126	2	539	26	35
Adj. Flow (vph)	5	69	59	5	183	201	91	145	2	620	30	40
Lane Group Flow (vph)	0	133	0	5	183	201	91	147	0	0	650	40
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Total Split (s)	20.5	20.5	0.0	20.5	20.5	20.5	20.5	20.5	0.0	34.0	34.0	34.0
Act Effct Green (s)		11.4		11.5	11.5	11.5	10.9	10.9			26.0	26.0
Actuated g/C Ratio		0.19		0.19	0.19	0.19	0.19	0.19			0.45	0.45
v/c Ratio		0.36		0.02	0.52	0.43	0.27	0.42			0.82	0.05
Control Delay		19.1		22.8	29.6	7.5	26.3	28.6			27.2	5.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		19.1		22.8	29.6	7.5	26.3	28.6			27.2	5.0
LOS		B		C	C	A	C	C			C	A
Approach Delay		19.1			18.1			27.7			25.9	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 58.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 23.5 Intersection LOS: C
Intersection Capacity Utilization 57.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 19: Airway Road & Sanyo Ave



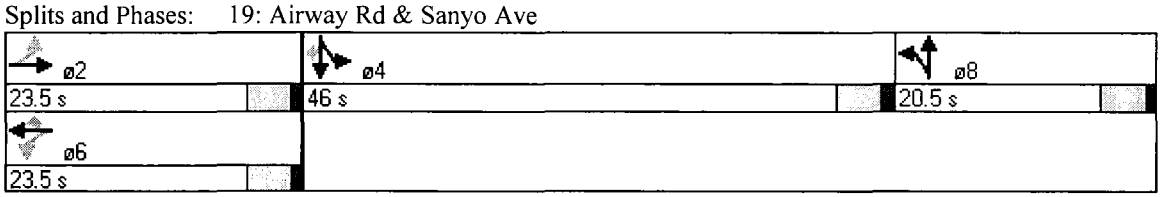
Mitigation – Cumulative

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953				0.850		0.920				0.850
Flt Protected		0.989		0.950			0.950				0.982	
Satd. Flow (prot)	0	1756	0	1770	1863	1583	1770	1714	0	0	1829	1583
Flt Permitted		0.757		0.422			0.950				0.982	
Satd. Flow (perm)	0	1344	0	786	1863	1583	1770	1714	0	0	1829	1583
Satd. Flow (RTOR)		27				548		57				43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	100	80	10	200	510	30	60	70	250	450	40
Adj. Flow (vph)	54	108	86	11	215	548	32	65	75	269	484	43
Lane Group Flow (vph)	0	248	0	11	215	548	32	140	0	0	753	43
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Total Split (s)	23.5	23.5	0.0	23.5	23.5	23.5	20.5	20.5	0.0	46.0	46.0	46.0
Act Effct Green (s)		28.3		28.3	28.3	28.3	10.4	10.4			39.3	39.3
Actuated g/C Ratio		0.31		0.31	0.31	0.31	0.12	0.12			0.44	0.44
v/c Ratio		0.56		0.04	0.37	0.63	0.16	0.56			0.94	0.06
Control Delay		31.6		26.1	29.4	12.5	35.8	31.1			45.2	4.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		31.6		26.1	29.4	12.5	35.8	31.1			45.2	4.6
LOS		C		C	C	B	D	C			D	A
Approach Delay		31.6			17.4			31.9			43.0	
Approach LOS		C			B			C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 6 (7%), Referenced to phase 2:EBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 30.7 Intersection LOS: C
Intersection Capacity Utilization 81.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

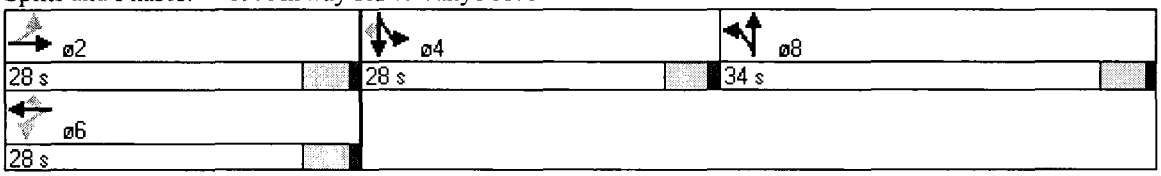


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958				0.850		0.982				0.850
Flt Protected		0.994		0.950			0.950				0.965	
Satd. Flow (prot)	0	1774	0	1770	1863	1583	1770	1829	0	0	1798	1583
Flt Permitted		0.941		0.545			0.950				0.965	
Satd. Flow (perm)	0	1679	0	1015	1863	1583	1770	1829	0	0	1798	1583
Satd. Flow (RTOR)		25				563		8				138
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	90	50	10	230	570	70	450	60	230	90	120
Adj. Flow (vph)	23	103	57	11	264	655	80	517	69	264	103	138
Lane Group Flow (vph)	0	183	0	11	264	655	80	586	0	0	367	138
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Total Split (s)	28.0	28.0	0.0	28.0	28.0	28.0	34.0	34.0	0.0	28.0	28.0	28.0
Act Effct Green (s)		25.8		25.8	25.8	25.8	30.4	30.4			21.8	21.8
Actuated g/C Ratio		0.29		0.29	0.29	0.29	0.34	0.34			0.24	0.24
v/c Ratio		0.37		0.04	0.49	0.77	0.13	0.94			0.84	0.28
Control Delay		25.4		22.6	31.2	17.8	21.5	54.3			50.6	6.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		25.4		22.6	31.2	17.8	21.5	54.3			50.6	6.4
LOS		C		C	C	B	C	D			D	A
Approach Delay		25.4			21.7			50.4			38.6	
Approach LOS		C			C			D			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 79 (88%), Referenced to phase 2:EBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 34.1 Intersection LOS: C
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

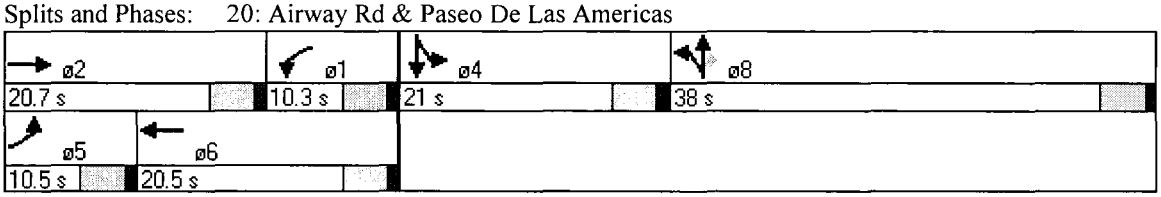


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.916			0.994				0.850		0.942	
Flt Protected	0.950			0.950				0.957			0.996	
Satd. Flow (prot)	1770	3242	0	1770	3518	0	0	1783	1583	0	1748	0
Flt Permitted	0.950			0.950				0.957			0.996	
Satd. Flow (perm)	1770	3242	0	1770	3518	0	0	1783	1583	0	1748	0
Satd. Flow (RTOR)		211			4				222		37	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	60	150	190	10	230	10	570	60	200	10	70	60
Adj. Flow (vph)	67	167	211	11	256	11	633	67	222	11	78	67
Lane Group Flow (vph)	67	378	0	11	267	0	0	700	222	0	156	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	10.5	20.7	0.0	10.3	20.5	0.0	38.0	38.0	38.0	21.0	21.0	0.0
Act Effct Green (s)	6.4	24.9		6.2	18.6			39.2	39.2		11.8	
Actuated g/C Ratio	0.07	0.28		0.07	0.21			0.44	0.44		0.13	
v/c Ratio	0.53	0.36		0.09	0.37			0.90	0.27		0.60	
Control Delay	53.0	17.9		41.0	32.9			42.2	3.6		36.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	53.0	17.9		41.0	32.9			42.2	3.6		36.7	
LOS	D	B		D	C			D	A		D	
Approach Delay		23.1			33.2			32.9			36.7	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 58.5 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 69.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 20: Airway Rd & Paseo De Las Americas

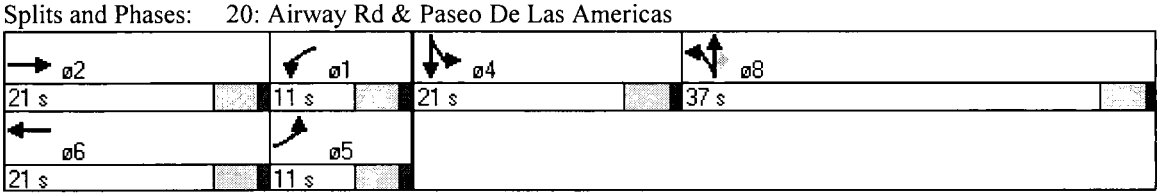


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.888			0.991				0.850		0.942	
Flt Protected	0.950			0.950				0.957			0.997	
Satd. Flow (prot)	1770	3143	0	1770	3507	0	0	1783	1583	0	1749	0
Flt Permitted	0.950			0.950				0.957			0.997	
Satd. Flow (perm)	1770	3143	0	1770	3507	0	0	1783	1583	0	1749	0
Satd. Flow (RTOR)		276			7				235		37	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	80	240	50	300	20	580	70	220	10	70	60
Adj. Flow (vph)	80	92	276	57	345	23	667	80	253	11	80	69
Lane Group Flow (vph)	80	368	0	57	368	0	0	747	253	0	160	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	11.0	21.0	0.0	11.0	21.0	0.0	37.0	37.0	37.0	21.0	21.0	0.0
Act Effct Green (s)	6.9	17.0		6.8	17.0			40.2	40.2		12.0	
Actuated g/C Ratio	0.08	0.19		0.08	0.19			0.45	0.45		0.13	
v/c Ratio	0.59	0.45		0.43	0.55			0.94	0.30		0.60	
Control Delay	45.2	19.7		46.8	30.3			37.8	7.5		37.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	45.2	19.7		46.8	30.3			37.8	7.5		37.1	
LOS	D	B		D	C			D	A		D	
Approach Delay		24.2			32.5			30.1			37.1	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 38 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 29.9 Intersection LOS: C
Intersection Capacity Utilization 70.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 20: Airway Rd & Paseo De Las Americas



APPENDIX K

- Freeway LOS Analysis

Existing								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 905								
South of Otay Mesa Road	2	4,600	28,000	8.29%	60%	5.11%	0.32	A
State Route 125								
North of Otay Mesa Rd	2	4,600	30,000	8.00%	60%	5.00%	0.33	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Existing + California Xings								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 905								
South of Otay Mesa Road	2	4,600	39,165	8.29%	60%	5.11%	0.44	B
State Route 125								
North of Otay Mesa Rd	2	4,600	33,190	8.00%	60%	5.00%	0.36	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Cumulative (2020) with 905 1A & 1B								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 905								
Britannia Blvd to La Media Rd	3	6,900	102,240	8.29%	60%	5.11%	0.77	C
La Media Rd to Siempre Viva Road	3	6,900	90,160	8.29%	60%	5.11%	0.68	C
South of Siempre Viva Road	2	4,600	76,130	8.29%	60%	5.11%	0.87	D
State Route 125								
North of Otay Mesa Rd	2	4,600	13,490	8.00%	60%	5.00%	0.15	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Buildout (2030) w/o California Xings								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 905								
Britannia Blvd to La Media Rd	4	9,200	155,202	8.29%	60%	5.11%	0.88	D
La Media Rd to Siempre Viva Road	3	6,900	80,111	8.29%	60%	5.11%	0.61	B
South of Siempre Viva Road	2	4,600	65,122	8.29%	60%	5.11%	0.74	C
State Route 125								
Lone Star Rd to Otay Mesa Rd	2	4,600	66,410	8.00%	60%	5.00%	0.73	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Buildout (2030) with California Xings								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 905								
Britannia Blvd to La Media Rd	4	9,200	156,000	8.29%	60%	5.11%	0.89	D
La Media Rd to Siempre Viva Road	3	6,900	83,700	8.29%	60%	5.11%	0.63	C
South of Siempre Viva Road	2	4,600	72,300	8.29%	60%	5.11%	0.82	D
State Route 125								
Lone Star Rd to Otay Mesa Rd	2	4,600	69,600	8.00%	60%	5.00%	0.76	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

APPENDIX L

- Caltrans Striping Concepts-Otay Mesa Rd btwn Piper Ranch & Harvest
- Proposed Improvements for Otay Mesa Rd btwn Sanyo Ave & Enrico Fermi
- Caltrans Striping Concepts for Airway Rd btwn Harvest Rd & Sanyo Ave
- Preliminary & Ultimate Striping Concept for Otay Mesa Rd and Harvest Rd

Caltrans Striping Concepts-Otay Mesa Rd btwn Piper Ranch & Harvest

NOTES:

1. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
2. ALL CROSSWALKS SHALL BE 3 METERS WIDE, INSIDE WIDTH.
3. ALL CHEVRON AND DIAGONAL MARKINGS SHALL BE CONSTRUCTED AT A 45 DEGREE ANGLE FROM THE ETW.
4. EXACT LOCATION OF MARKINGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
5. FOR DETAIL 25 Mod, 25A Mod AND DETAIL 27B Mod, SEE SHEET PDD-1.
6. ALL CONCRETE BARRIERS SHALL BE INSTALLED WITH BARRIER MARKERS (SEE SHEET PDD-1).
7. ALL GUARD RAILING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF THREE FLEXIBLE GUARD RAILING DELINEATORS (TYPE F) (SEE CONSTRUCTION DETAIL SHEET C-57).

LEGEND:

- OBJECT MARKER, TYPE Q
- TYPE F DELINEATOR, CLASS 1
- MODIFIED DELINEATOR TO BE MOUNTED ON CONCRETE BARRIER OR WALL. (F* DENOTES REFLECTIVE COLOR OF MODIFIED DELINEATOR ONLY). SEE STANDARD PLANS.
- CHANGE OF PAVEMENT DELINEATION DETAILS
- (X) DETAIL NUMBER PER CALTRANS STANDARD PLANS
- (P) PAINT TRAFFIC STRIPE
- BL BIKE LANE PAVEMENT MARKING

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

Ronald R Fromknecht 08SEP06
REGISTERED CIVIL ENGINEER DATE

Ronald R. Fromknecht No. 45704 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

PLANS APPROVAL DATE

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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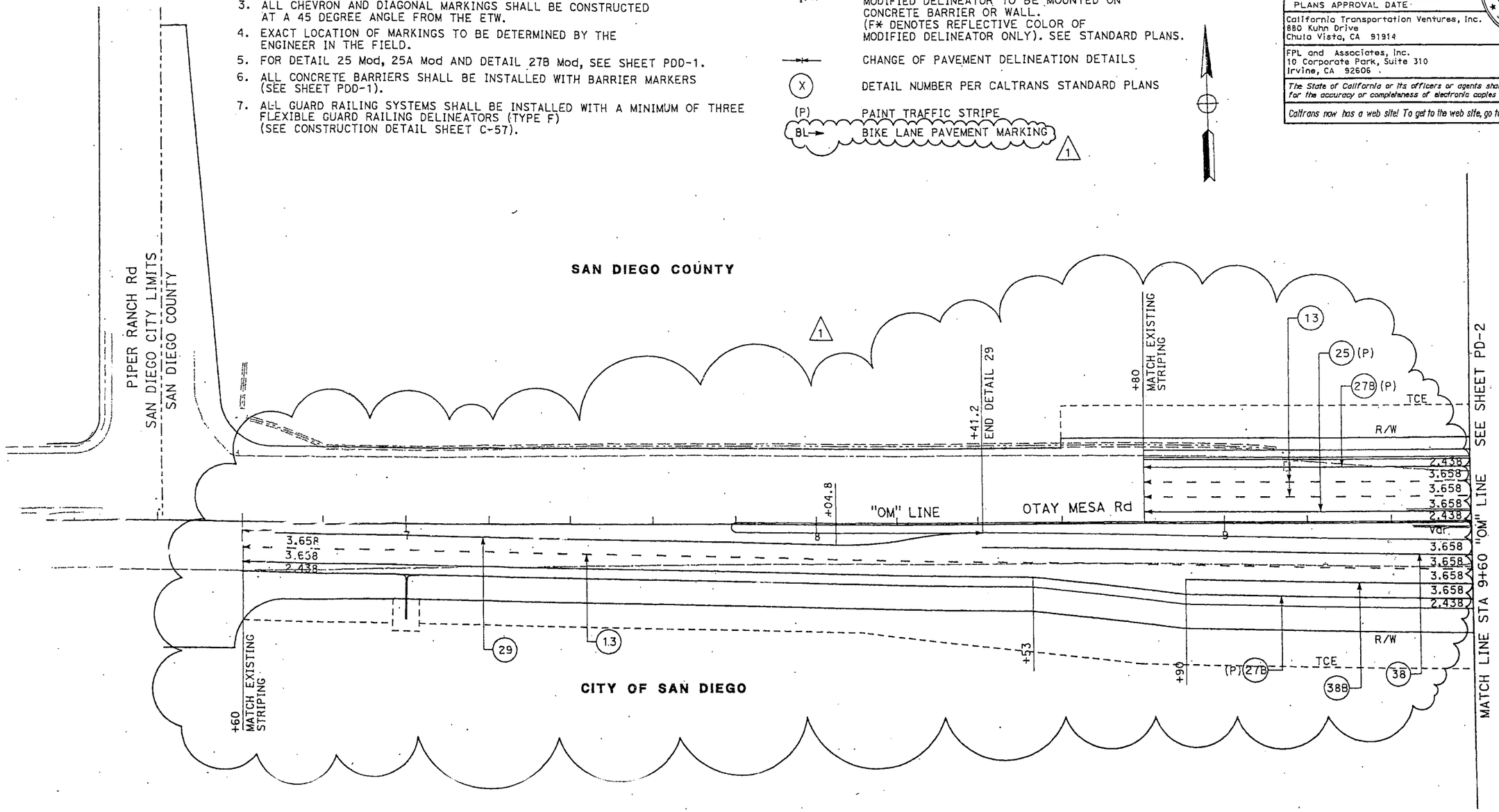

PAVEMENT DELINEATION PLAN

SCALE 1:500

L-2

PD-1

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFA C-044	XXXXX06

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

FOR REDUCED PLANS ORIGINAL 0 20 40 60 80

USERNAME => Eddie Tang

SEGMENT 1A

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN OVERSIGHT
RAMON MARTINEZ
CALCULATED/ DESIGNED BY
CHECKED BY

DATE	REVISED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 9/12/2006
TIME PLOTTED => 10:42:48 AM

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

Ronald R Fromknecht 08SEP06
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ronald R. Fromknecht — No. 45704 — Exp. 12-31-06 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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CALCULATED/ DESIGNED BY | DATE | REVISED BY | DATE REVISED
CHECKED BY

DESIGN OVERSIGHT
RAMON MARTINEZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

MATCH LINE STA 28+20 "A" LINE SEE SHEET PD-4

MATCH LINE STA 9+60 "OM" LINE SEE SHEET PD-1

MATCH LINE STA 12+50 "OM" LINE SEE SHEET PD-3

"A" LINE

ROUTE 125

"OM1" LINE

"OM4" LINE

"OM" LINE

SAN DIEGO COUNTY

CITY OF SAN DIEGO

OTAY MESA RD

SR-905

TYPE III (R) ARROW

TYPE III (L) ARROW

TYPE I (7.32) ARROW

300 mm SOLID WHITE STRIPE

100 mm SOLID WHITE STRIPE

TYPE F DELINEATORS AT 28 m SPACING (Typ)

FLEXIBLE POST DELINEATOR @ 13.7 m SPACING

BARRICADE (TYPE III)

MATCH EXISTING STRIPING

TCE

R/W

DIRT

ASPH

8.0
16.0
12.0
12.0
12.0
8"

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFR C-044	XXXXX06

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

PAVEMENT DELINEATION PLAN

SCALE 1:500

PD-2

L-3

LAST REVISION 09-08-06 | DATE PLOTTED => 9/12/2006 | TIME PLOTTED => 10:56:26 AM

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

Ronald R Fromknecht — 08SEP06
REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ronald R. Fromknecht — No. 45704 — Exp. 12-31-06 — CIVIL — STATE OF CALIFORNIA

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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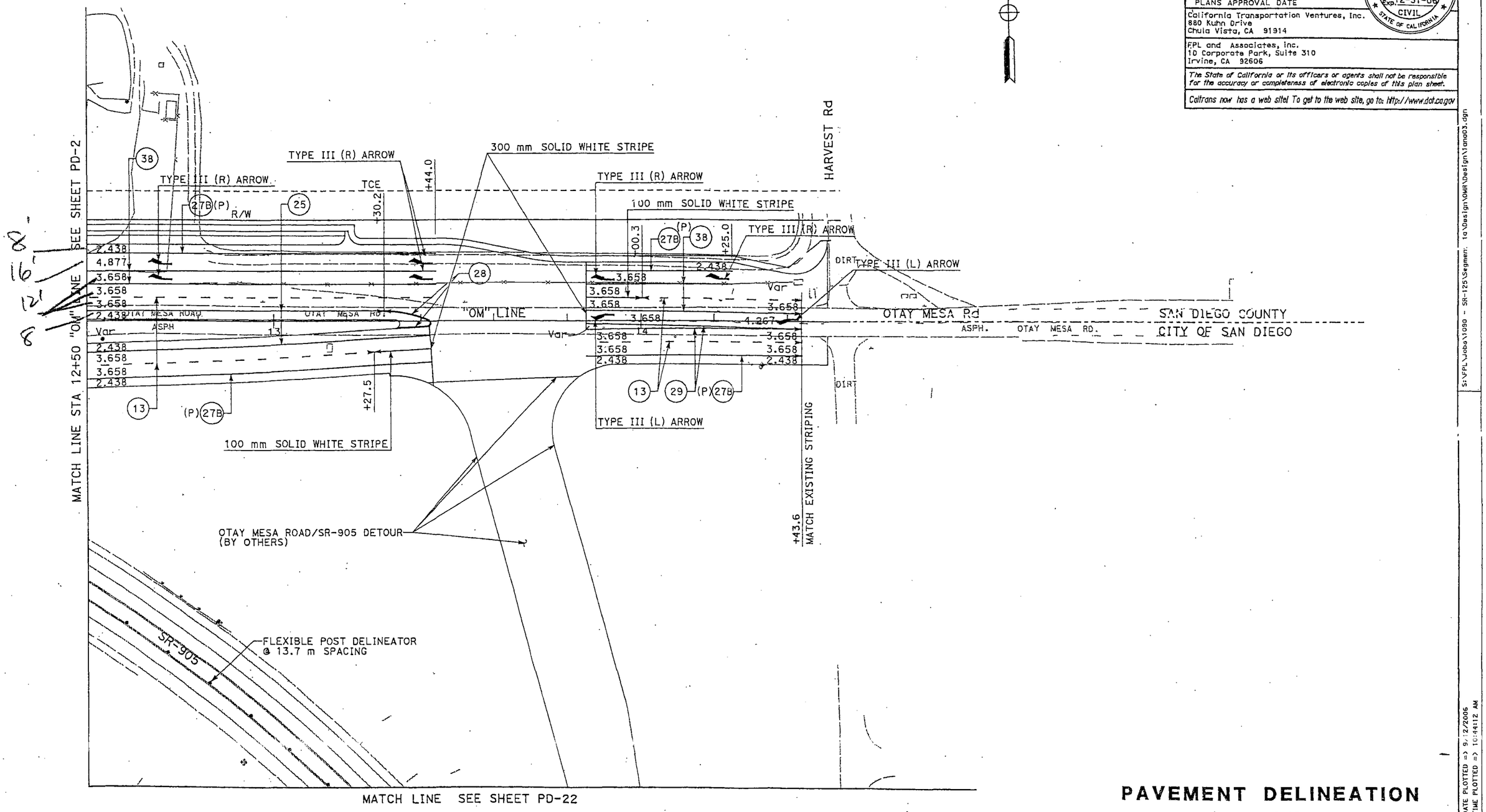

ISSUE RECORD		
No.	PURPOSE	DATE
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THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

PAVEMENT DELINEATION PLAN

SCALE 1:500

L-4

PD-3

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => Eddie Tang
DGN FILE => ...\tana03.dgn

CU 11274

EA 232301

SEGMENT 1A

LAST REVISION: DATE PLOTTED => 9:12/2006
TIME PLOTTED => 10:44:12 AM

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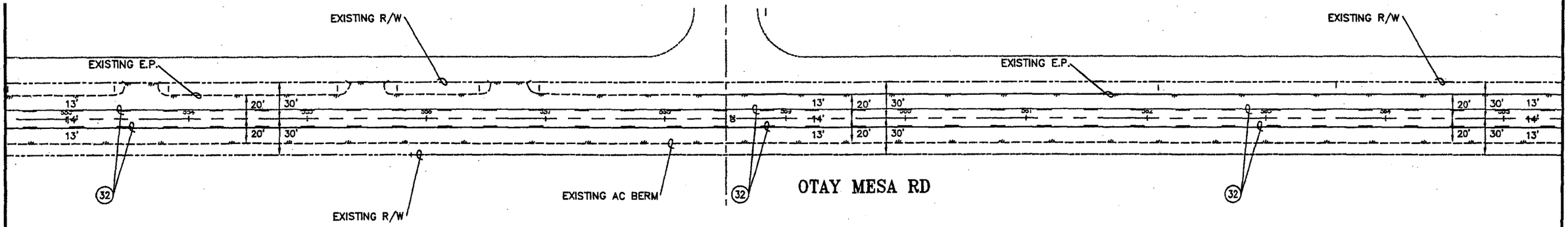
DESIGN OVERSIGHT
RAMON MARTINEZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DATE	REVISED BY	DATE REVISED
CALCULATED/ DESIGNED BY		
CHECKED BY		

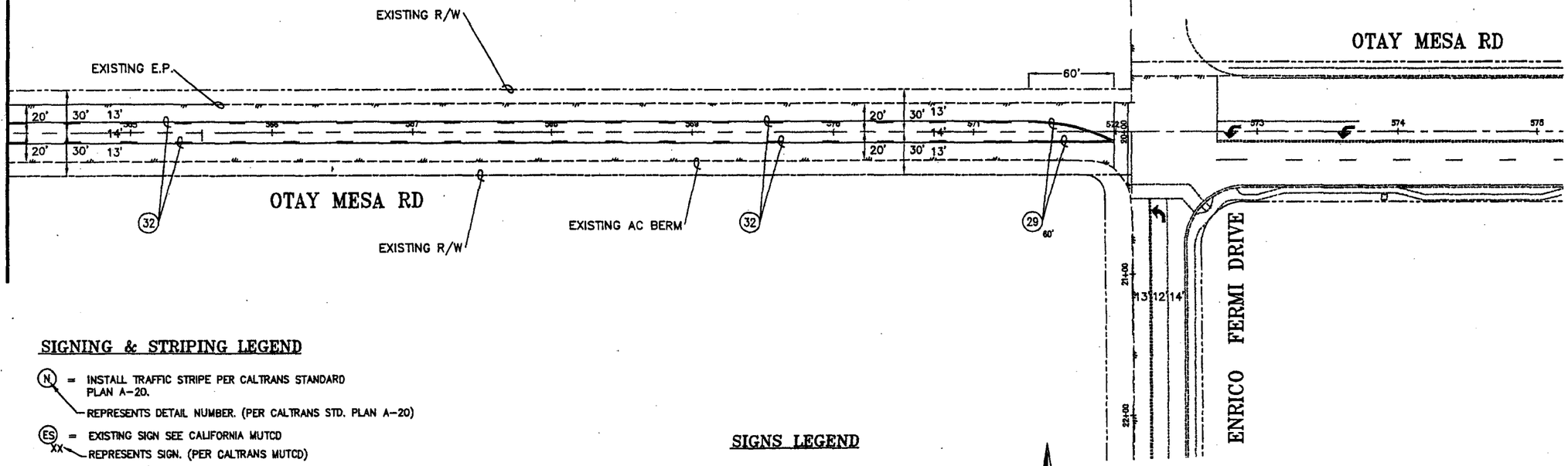
Proposed Improvements for Otay Mesa Rd btwn Sanyo Ave & Enrico Fermi

MATCHLINE STA. 552+50, SEE SHEET 1



MATCHLINE SEE STA. 565+50

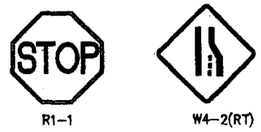
MATCHLINE SEE STA. 565+50



SIGNING & STRIPING LEGEND

- (N) = INSTALL TRAFFIC STRIPE PER CALTRANS STANDARD PLAN A-20.
  - REPRESENTS DETAIL NUMBER. (PER CALTRANS STD. PLAN A-20)
- (ES) = EXISTING SIGN SEE CALIFORNIA MUTCD
  - XX REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (S) = INSTALL SIGN PER CALIFORNIA MUTCD
  - XX REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (PA) = INSTALL TYPE IV (LT OR RT) ARROW PER CALTRANS STANDARD PLAN A24A.
- (PM) = PAINT STOP LEGEND AND 12" WHITE LIMIT LINE.
- (11) = INSTALL 4" WHITE SKIP LINE, PER DETAIL 11 OF CALTRANS STANDARD PLAN.
- (22) = INSTALL DOUBLE YELLOW CENTERLINE WITH PAVEMENT MARKERS PER DETAIL 22 OF CALTRANS STANDARD PLAN.
- (29) = INSTALL DOUBLE YELLOW MEDIAN WITH PAVEMENT MARKERS PER DETAIL 29 OF CALTRANS STANDARD PLAN.
- (32) = INSTALL TWO WAY LEFT TURN LANE PER DETAIL 32 OF CALTRANS STANDARD PLAN.
- (38) = INSTALL CHANNELIZING LANE WITH PAVEMENT MARKERS PER DETAIL 38 CALTRANS STANDARD PLAN.

SIGNS LEGEND



SCALE: 1" = 40'

0 40 80

PLANS PREPARED UNDER THE SUPERVISION OF:

BILL E. DARNELL R.C.E. No. 22338 DATE
DESIGN ENGINEER LICENSE EXPIRES 9-30-09

Darnell & ASSOCIATES, INC.
1446 FRONT STREET, THIRD FLOOR
SAN DIEGO, CA 92101
(619) 233-9373

DWG:051202CP-1A.dwg | DATE: 02-06-09 | BY: SN/JM/SN

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: X
LOCATION: X
X
RECORD FROM: X
ELEVATION: X DATUM: X

PRIVATE CONTRACT

SHEET 2	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS

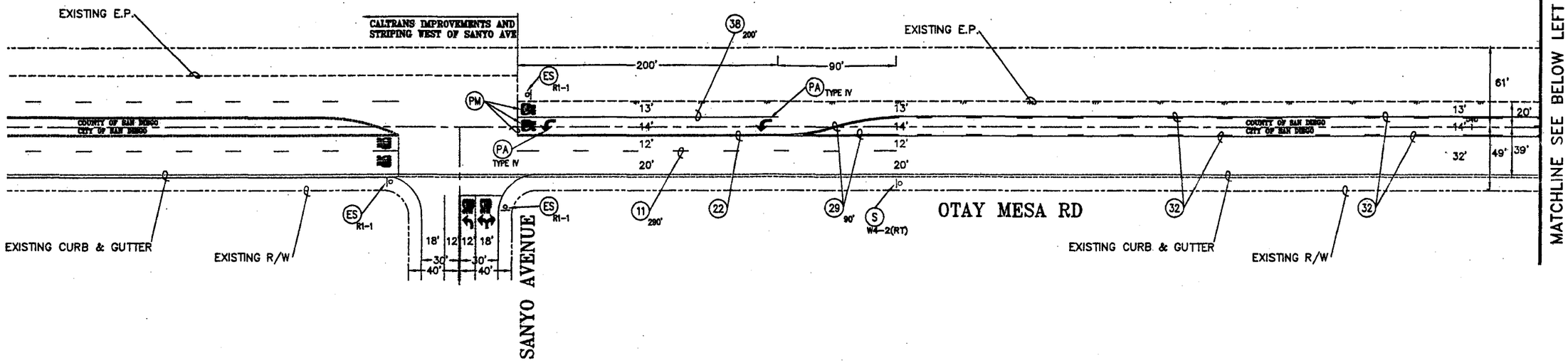
CHANNELIZATION CONCEPT

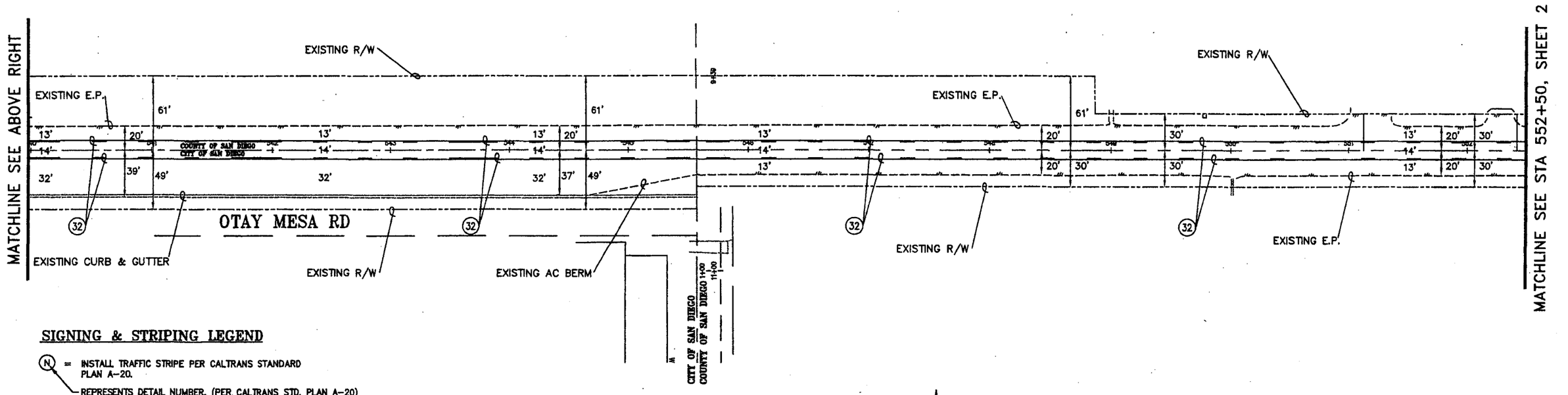
SANYO AVE TO ENRICO FERMI DRIVE

CALIFORNIA COORDIANTE INDEX 206-1791

Recommended for approval:
Engineer of work
By
Date R.C.E.

Approved
FOR DIRECTOR OF PUBLIC WORKS
Checked by:
Approval date:





SIGNING & STRIPING LEGEND

- (N) = INSTALL TRAFFIC STRIPE PER CALTRANS STANDARD PLAN A-20.
  - REPRESENTS DETAIL NUMBER. (PER CALTRANS STD. PLAN A-20)
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  - XX REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (S) = INSTALL SIGN PER CALIFORNIA MUTCD
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- (PM) = PAINT STOP LEGEND AND 12" WHITE LIMIT LINE.
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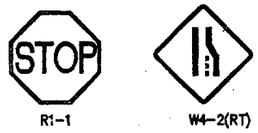
SIGNS LEGEND



SCALE: 1" = 40'

0 40 80

PLANS PREPARED UNDER THE SUPERVISION OF:

BILL E. DARNELL R.C.E. No. 22338 DATE
DESIGN ENGINEER LICENSE EXPIRES 9-30-09

Darnell & ASSOCIATES, INC.
1446 FRONT STREET, THIRD FLOOR
SAN DIEGO, CA 92101
(619) 233-9373

DWG:051202CP-1A.dwg | DATE: 02-06-09 | BY: SN/JM/SN

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: X
LOCATION: X
RECORD FROM: X
ELEVATION: X DATUM: X

PRIVATE CONTRACT

SHEET 1	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS

CHANNELIZATION CONCEPT

SANYO AVE TO ENRICO FERMI DRIVE

CALIFORNIA COORDIANTE INDEX 206-1791

Recommended for approval | Approved FOR DIRECTOR OF PUBLIC WORKS

Engineer of work: By Date R.C.E. | Checked by: Approval date

L-7

Caltrans Striping Concepts for Airway Rd btwn Harvest Rd & Sanyo Ave

INDEX OF SHEETS

Sheet No.	Description
1	Title and Location Map
2-35	Typical Cross Sections
36-37	Right of Way Parcel Key Map
38-68	Layouts
69-105	Profiles
106-130	Superelevation Diagrams
131-150	Construction Details
151-194	Temporary Water Pollution Control Plan, Details and Quantities
195-235	Erosion Control
236-272	Contour Grading
273-464	Drainage Plans, Profiles, Details and Quantities
465-474	Sanitary Sewer Plans
475-537	Utility Plans
538-542	Construction Area Signs
543-600	Stage Construction Plans
601-615	Detour Plans
616-657	Pavement Delineation Plans
658-670	Sign Plans
671-705	Summary of Quantities
706-730	Retaining Wall Plans, Typical, Details, Quantities and Log of Test Boring Sheet
731-740	Highway Planting
741-769	Electrical Plans
770-825	Revised and New Standard Plans

STRUCTURE PLANS

826-848	Britannia Blvd OC Br No. 57-1144
849-870	La Media Road UC Br No. 57-1145L/R
871-895	Airway Road UC Br No. 57-1148L/R

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HPLU-6211(071)N
HPLU-6211(072)N
HPLU-6211(073)N

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	905	R13.9/R18.6	1	895

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN DIEGO COUNTY
IN SAN DIEGO
FROM 0.6 KM EAST OF CACTUS ROAD
TO 0.3 KM WEST OF THE MEXICO BORDER

To be supplemented by Standard Plans dated July, 2004

LOCATION MAP

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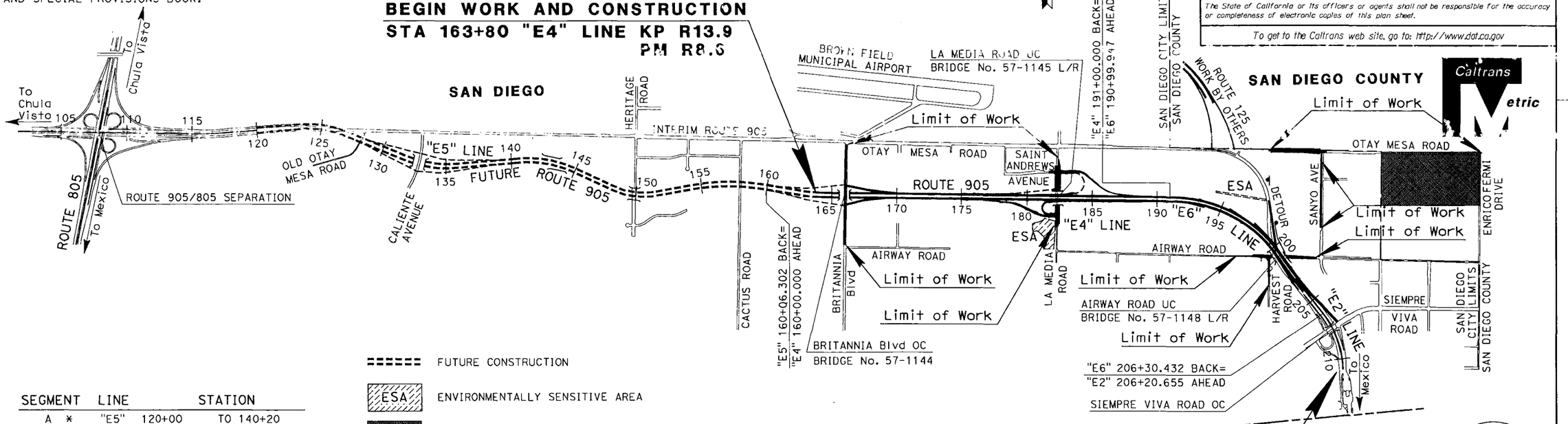
To get to the Caltrans web site, go to: http://www.dot.ca.gov



SEGMENT	LINE	STATION	
A *	"E5"	120+00	TO 140+20
B1 *	"E5"	140+20	TO 160+06.302
B2 *	"E4"	160+00	TO 163+80
C	"E4"	163+80	TO 175+00
D	"E4"	175+00	TO 188+20
E	"E4"	188+20	TO 191+00
	"E6"	190+99.947	TO 206+30.432
	"E2"	206+20.655	TO 210+81.712

* FUTURE CONSTRUCTION

04-23-07
Project Engineer Date
Registered Civil Engineer

E.L. HAJJ
No. C42203
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

September 17, 2007
Plans Approval Date

PHASE 2 PLAN

L-9

PRELIMINARY DESIGN

NO SCALE

The Contractor shall possess the class (or classes) of license as specified in the ''Notice to Contractors.''

PROJECT ENGINEER	DATE	PROJECT MANAGER	DATE
E.L. HAJJ		I. SALAZAR	

Contract No. 11-091824

LAST REVISION 04-23-07
DATE PLOTTED => 30-MAY-2008 10:07

b09182cb001.dgn

FORM DC-OE-93-PF (REV. 3/88)

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => b09182cb001.dgn

CU 11220 EA 091821

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	629	895

Joel P. Sims 08-06-08
REGISTERED CIVIL ENGINEER DATE

09-17-07
PLANS APPROVAL DATE

J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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Caltrans Metric

SAN DIEGO

MATCH LINE STATION "UC2" 11+80 SEE SHEET PD-32

MATCH LINE STATION "A2" 109+30 SEE SHEET PD-35

SEE SHEET PD-12

SEE SHEET PD-15

MATCH LINE STATION "E6" 198+80

MATCH LINE STATION "E6" 202+50

MATCH LINE STATION "A2" 106+80 SEE SHEET PD-34

MATCH LINE STATION "H1" 17+00 SEE SHEET PD-36

"UC2" LINE

"N2" LINE

"E6" LINE

"S2" LINE

"SV3P2" LINE

"SV6" LINE

"H1" LINE

ROUTE 905

AIRWAY ROAD

HARVEST ROAD

CLASS J DELINEATORS (TYPE G) BOC C

SURFACE MOUNTED CHANNELIZERS (LEFT-IN-PLACE) (17 EA)

200 mm WHITE CROSSHATCH

"STOP" (3 EA)

300 mm WHITE CROSSWALK

300 mm WHITE LIMIT LINE

TYPE VI ARROW (2 EA)

TYPE IV ARROWS (2 EA)

200 mm WHITE CROSSHATCH

CONCRETE BARRIER MARKERS (CEMENTED TO BARRIER) (12 EA)

"STOP"

"STOP"

SEE PD-14 FOR SIGNING INFORMATION.

PHASE 3 PLAN

L-10 PAVEMENT DELINEATION AND SIGN PLAN PD-13

SCALE 1:500

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

BORDER LAST REVISED 3/1/2007

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DGN FILE => b09182nd013_p3.dgn

CU 11223 EA 091821

LAST REVISION 08-13-08
DATE PLOTTED => 26-DEC-2008
TIME PLOTTED => 09:47

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL

CALCULATED-DESIGNED BY: MARY BETH HAYES
CHECKED BY: JOEL SIMS

REVISED BY | DATE REVISED

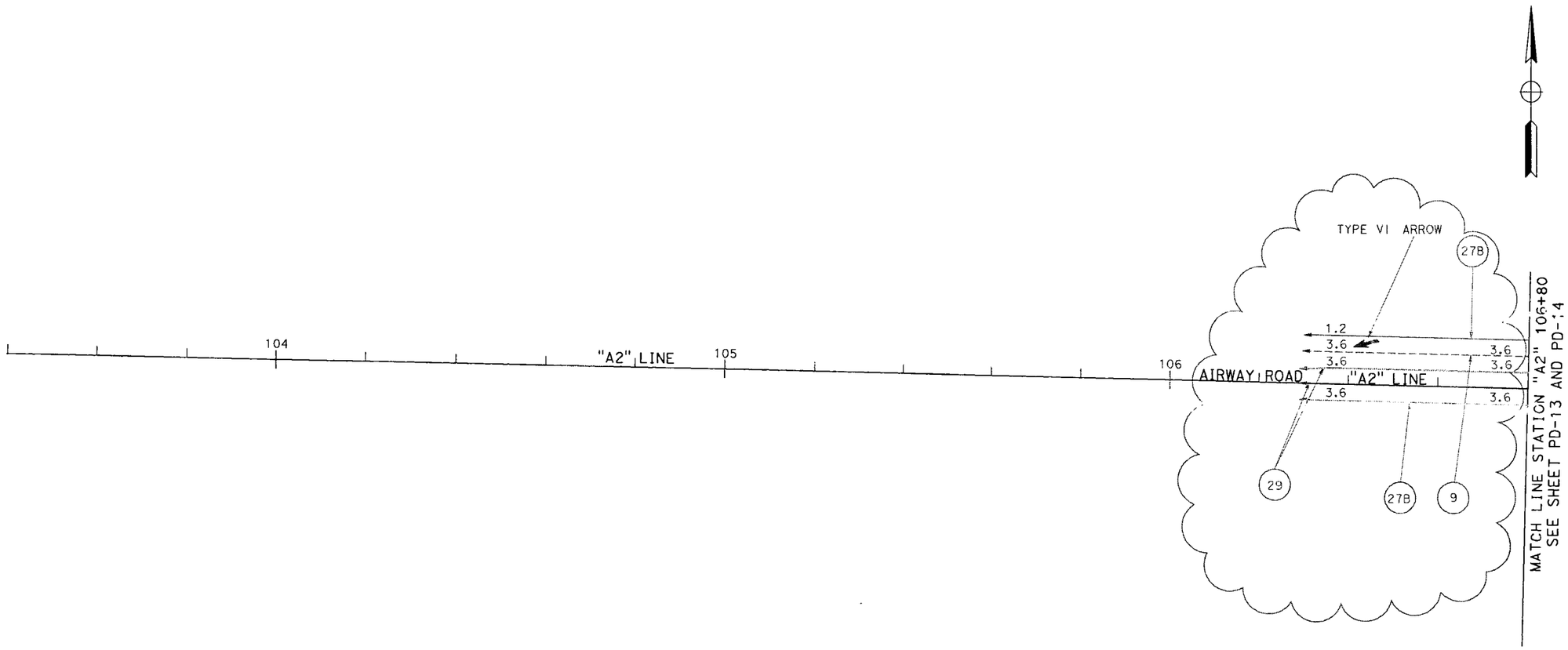
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	650	895

Joel P. Sims 08-06-08
REGISTERED CIVIL ENGINEER DATE

09-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
J.P. SIMS
No. 49715
Exp. 9-30-08
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC



PHASE 3 PLAN

L-11 **PAVEMENT DELINEATION AND SIGN PLAN** PD-34

SCALE 1:500

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **TRAFFIC DESIGN**

FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL
CALCULATED-DESIGNED BY:
CHECKED BY:

REVISED BY	DATE REVISED
MARY BETH HAYES	
JOEL SIMS	

LAST REVISION DATE PLOTTED => 26-DEC-2008
08-12-08 TIME PLOTTED => 09:51

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => b09182nd034_p3.dgn

CU 11223

EA 091821

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	651	895

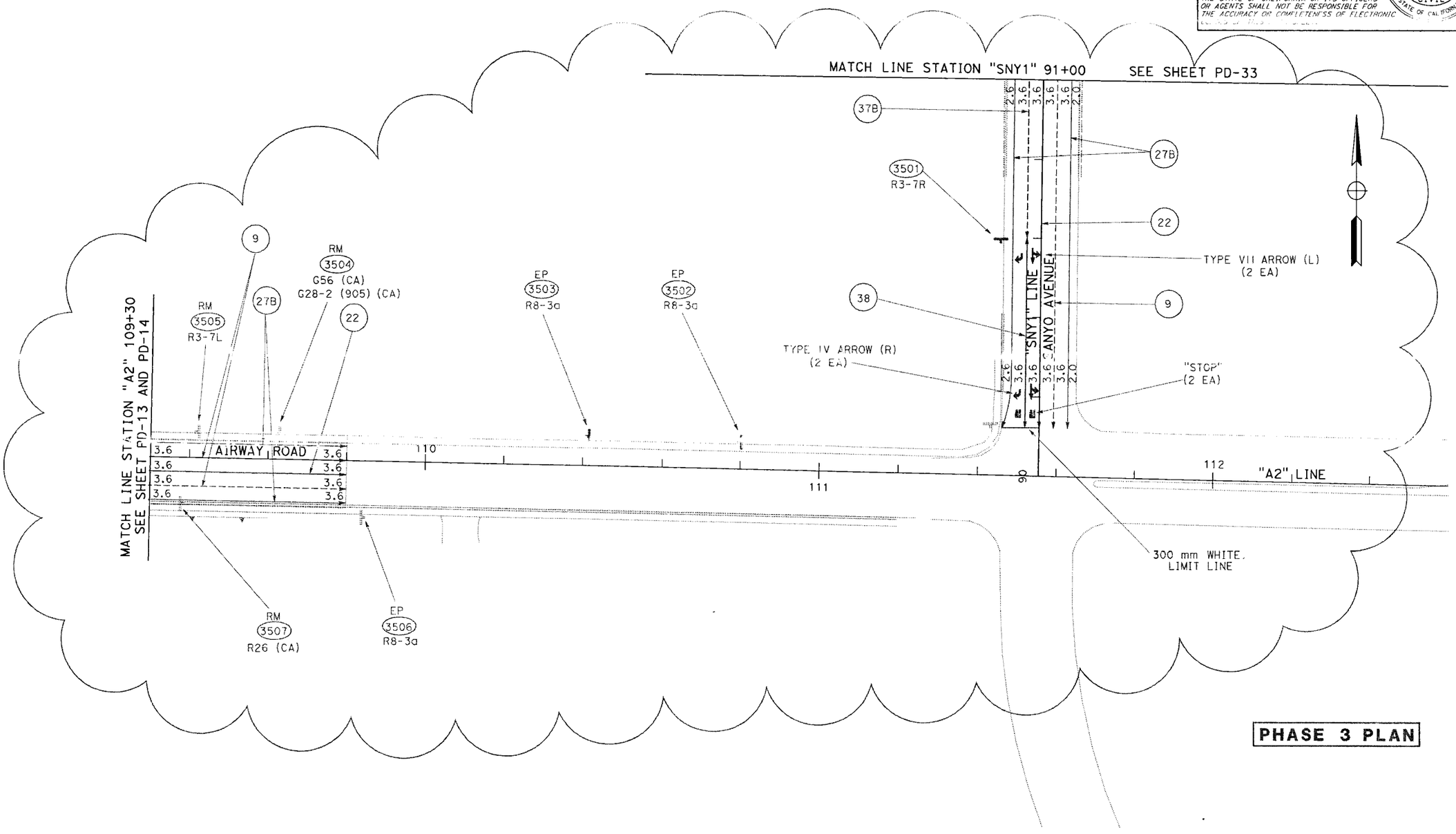
Joel P. Sims 08-06-08
REGISTERED CIVIL ENGINEER DATE

09-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC

Caltrans Metric



PHASE 3 PLAN

L-12

PAVEMENT DELINEATION AND SIGN PLAN

PD-35

SCALE 1:500

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL
CALCULATED-DESIGNED BY: MARY BETH HAYES
CHECKED BY: JOEL SIMS
REVISED BY
DATE REVISED

LAST REVISION 08-12-08
DATE PLOTTED => 26-DEC-2008
TIME PLOTTED => 09:52

BORDER LAST REVISED 3/1/2007

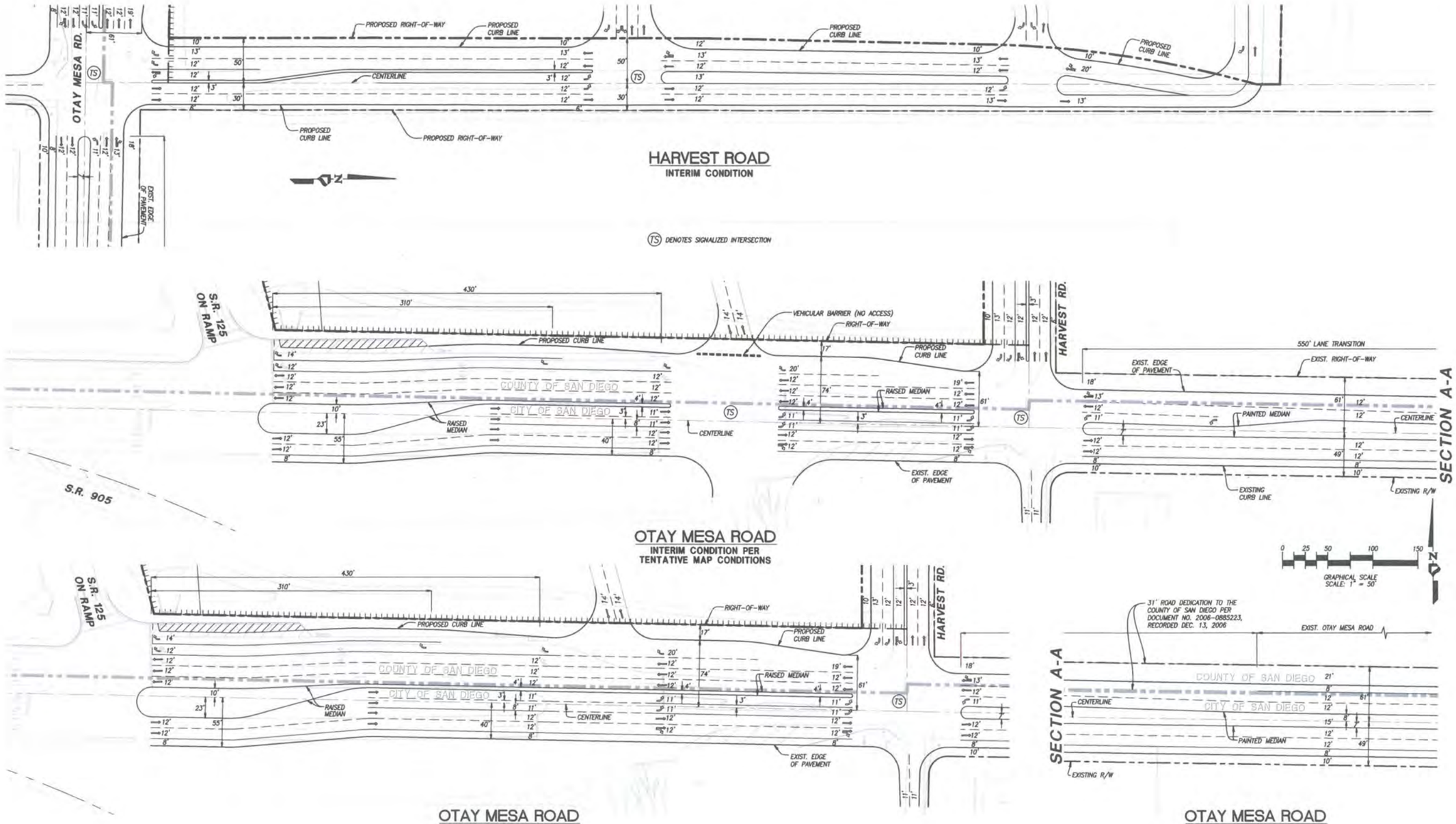
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s108638
DGN FILE => b09182na035_p3.dgn

CU 11223

EA 091821

Preliminary & Ultimate Striping Concept for Otay Mesa Rd and Harvest Rd



L-14

CALIFORNIA CROSSINGS INTERIM STRIPING PLAN

JUNE 30, 2010

SHEET 1 OF 1

PROJECT DESIGN CONSULTANTS
Planning | Engineering | Survey
701 B Street, Suite 800 San Diego, CA 92101
619.235.6471 Tel 619.234.0349 Fax

APPENDIX M

- Responses to Comments

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: September 28, 2010

TO: Mr. David Weber, Regency Centers,
Mr. Robert Bahen, Transcan Development, LLC
Mr. Bruce McIntyre, Helix Environmental

FROM: Bill E. Darnell

D&A Ref. No: 060304

RE: California Crossings (MUP, P06-102RPL, TPM 21046, ER 93-19-06AA) – Responses to County Comments Dated August 26, 2010

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's August 26, 2010 comments on our July 15, 2010 Traffic Study for California Crossings (MUP, P06-102RPL, TPM 21046, ER 93-19-06AA).

The attached table summarizes the County's comments and D&A's written responses to each of the comments. These responses have been incorporated into our September 2010 iteration of the traffic study.

Please feel free to contact the office if you have any questions.

1446 Front Street • Suite 300 • San Diego, CA 92101
Phone: 619-233-9373 • Fax: 619-233-4034
E-mail: office@darnell-assoc.com

CALIFORNIA CROSSINGS COMMERCIAL CENTER (MUP, P06-102 RPL; TPM 21046; ER 93-19-06 AA) RESPONSES TO COUNTY OF SAN DIEGO AUGUST 26, 2010 TRAFFIC RELATED COMMENTS				
Item No.	**Subject Area**	**Issue, Revision or Information Required**	**Issue Resolution Summary (Response To Comment)**	**Location where Revision can be Found in Revised Document**
21-37	Traffic Analysis	Prior to public review, revise pages 71 and 72 to avoid duplication of "One (1) northbound left turn lane"	The duplication of the "One (1) northbound left turn lane" was previously caused by a printing error and has thus been corrected.	Page 73 of Strike-Out/Underline Version; Page 72 of Clean Version.
21-38	Traffic Analysis	A new subdivision (Hawano, TM 5566) was recently added to the cumulative project list. County staff recommends that the TIS be updated prior to public review to include this project. Alternatively, the TIS may be updated prior to public hearing, but if new significant impacts are identified, recirculation of the EIR would be required.	A brief assessment of the area has determined that the addition of the Hawano project will not create any additional cumulative traffic impacts that have not already been identified within the traffic study for California Crossings; therefore, the applicant has decided to proceed without including the Hawano project at this time.	No updates to the traffic study were made to address this comment.
29-13	Chapter 2.1 Transportation & Traffic	Fair-share contributions are not allowed for mitigating direct impacts. Revised mitigation measures have been provided electronically in the EIR text.	The traffic study has been revised to eliminate all references to fair-share contributions for direct impacts.	Section VIII of September 2010 TIS.
29-14	Chapter 2.1 Transportation & Traffic	Revise Figure 2.1-1 to show City and County jurisdiction	Not applicable to the Traffic Study	-