CHAPTER 12

TRANSPORTATION

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CHAPTER 12 TRANSPORTATION

INTRODUCTION

This chapter presents the traffic impact analysis conducted for the 2015 Plan. It provides the regulatory framework for evaluating issues related to transportation and circulation, describes existing circulation patterns, defines criteria used to determine if the 2015 Plan will result in significant impacts on transportation and circulation, and evaluates the anticipated impacts on transportation and circulation. The trips expected to be generated by the recommended project have been estimated and added to the existing and projected traffic volumes on the roadway system, and their impacts have been analyzed at five key intersections in the vicinity of the site. A traffic impact study was prepared for the 2015 Plan EIR (County Sanitation Districts of Los Angeles County, 1997) which provides a more detailed analysis and is available at the Districts' Joint Administration Office in Whittier.

The following is a description of the existing traffic counts, estimated trip generation, distribution of project-related traffic, and capacity analysis at the five key intersections surrounding the VWRP. The analysis has been conducted for the existing 1996 conditions and for future 2002, 2010 and 2015 conditions before and after the anticipated phased completion of the recommended project. Due to the minor nature of the proposed upgrades at the SWRP and VWRP (reference Chapters 7 and 8), discussion of the existing conditions at the SWRP is not included in this chapter, and only the potential transportation impacts associated with the construction and operation of these upgrades are addressed.

The cumulative impact of other known projects in the general vicinity has also been analyzed. The study has been prepared in conformance with the *Traffic Impact Study Guidelines* of Los Angeles County Public Works Department as well as 1995 *Congestion Management Program* (CMP) of the Los Angeles County Metropolitan Transportation Authority. An analysis of impacts due to the recommended project's construction related traffic has also been conducted.

SETTING

Regional Setting

The study area for the recommended project's traffic impact analysis falls in the North County area of the MTA's CMP. In the California Department of Transportation (Caltrans) Los Angeles Regional Transportation System (LARTS) modeling program, the region is called Regional Statistical Area 8 (Santa Clarita). Los Angeles is one of the 32 urbanized counties across the state that are required to develop a CMP to address regional congestion by linking transportation, land use, and air quality decisions. MTA is the designated Congestion Management Agency for Los Angeles County. State and federal laws also mandate the preparation of a 20-year regional transportation plan for metropolitan areas. SCAG is responsible for the preparation of a Regional Mobility Plan (RMP), as the designated metropolitan planning organization and the regional transportation planning agency for the metropolitan area including Los Angeles, Orange, San Bernardino, Ventura, Riverside, and Imperial Counties. The RMP includes long-range transportation forecasts for the region and sets forth goals and strategies for meeting the demands for these forecasts. The forecasts are primarily based on projected increases in regional population and the employment base.

The population of Los Angeles County is projected to increase by nearly three million people by 2015 (a 35 percent increase from the population in 1990). Employment in the county is projected to increase by over 1.3 million jobs by 2015 (an increase of 29 percent from the 1990 employment base).

Strategies using the CMP analysis tools, are developed to mitigate projected transportation impacts. These strategies include measures to improve the current transportation system, to change behavior of the traveling public, and to increase use of high-occupancy transportation modes, such as carpools, vanpools, buses, trains, etc.

In MTA's CMP development, SCAG was consulted regarding regional issues to ensure that the CMP is developed consistent with the RMP and SCAG's regional planning process. MTA closely coordinates with SCAG to ensure that projects proposed through the CMP are found in conformance with the AQMP when incorporated into the regional planning and programming process. All development projects required to prepare an EIR based on a local jurisdiction's determination are subject to MTA's Land Use Analysis Program and are required to incorporate into the EIR a CMP Transportation Impact Analysis (TIA).

Level of Service Concepts

In traffic engineering and planning, it is often necessary to assess impacts of a project on the adjacent roadway system. If the project creates a significant impact, a plan must be prepared and implemented to mitigate that impact. The concept of intersection capacity and level of service (LOS) is used to measure a project's traffic impact at key street segments and intersections. The capacity and LOS at the intersections during the peak traffic hours usually determine the operational performance of the urban area circulation system.

The term LOS is used to define operating traffic conditions on the roadway system under prevailing volume, control, and geometric configurations. LOS qualitatively measures the effects of such factors as travel speed, travel time, movement interruptions, freedom to maneuver, safety, driving comfort, and convenience. Generally, an LOS of D or better is considered to be an acceptable traffic condition for the streets in an urban area.

The intersection capacity utilization (ICU) method provides a tool to quantify an intersection's traffic performance, and determine its capacity and LOS for a given traffic and travel lane condition. The capacity, in terms of vehicles that can go through an intersection's green light during a one hour period, is calculated for each approach based on procedures outlined in the *Highway Capacity Manual* of the Transportation Research Board. The proportion of total signal time needed by each traffic movement during an hour is determined and compared to the available time in that hour for each lane. The sum of percentage utilization of the green light by each conflicting traffic movements plus a clearance allowance (usually 10 percent) is expressed as a decimal fraction. This sum represents the volume to capacity (V/C) ratio for the entire intersection and is called an intersection's ICU under a given condition. Thus, ICU represents the proportion of the total hour required to accommodate intersection hourly demand volumes at capacity. Other movements may be operating below or at capacity. The LOS of the intersection is determined based on the value of ICU.

Six LOSs, designated by letters A through F, have been defined. LOS A describes a condition of free flow, with low traffic volumes and relatively high speeds, while LOS F describes forced traffic flow at low speeds with jammed conditions and waiting lines that do not go through an intersection's green light or on uninterrupted street segments

The following is a description of the various LOSs. The concept of a load factor is used to define the degree of traffic congestion. The load factor varies from 0.00 to 1.00, 0.00 representing the condition when a signal phase is not loaded (i.e., no vehicle

passes) and 1.00 representing a 100 percent loading of the phase.

LOS A: There are no fully loaded cycles at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. The movements experience very short delay (less than 5.0 seconds per vehicle). Drivers enjoy almost a free flow operating condition. The ICU ranges from 0.00 to 0.60.

LOS B: This level represents stable operation where an approach phase is occasionally fully utilized. Drivers begin to feel restricted within platoons of vehicles although movement interruption is not intolerable. Delay is in the range of 5.1 and 15.0 seconds per vehicle. The ICU ranges from 0.61 to 0.70.

LOS C: At this level, stable operation continues. Phase loading is still intermittent but more frequent than at LOS B. Occasionally, drivers have to wait through more than one red light. Backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not much discomfort. Delay is in the range of 15.1 and 25.0 seconds per vehicle. The ICU ranges from 0.71 to 0.80.

LOS D: This level represents a condition in which instability starts to develop in traffic operation. Substantial delay and discomfort accompany approach vehicles during certain cycles. While backups are not excessive, drivers frequently have to wait through more than one red light. Average vehicle delay is in the range of 25.1 and 40.0 seconds per vehicle. The ICU ranges from 0.81 to 0.90.

LOS E: This level represents near and at capacity operations. At capacity (i.e., ICU=1.00), traffic volume reaches the maximum number of vehicles that the intersection can accommodate during the hour. However, full utilization of every signal cycle may not occur during the hour. At this level, all drivers wait through at least one red light. Average vehicle delay is in the range of 40.1 and 60.0 seconds per vehicle. The ICU ranges from 0.91 to 1.00.

LOS F: This level of service represents a fully jammed traffic condition. Traffic backs up significantly and large lines develop. Several signal cycles are continually needed to clear the lines at each cycle. The traffic control system fails while the discomfort of a driver reaches its maximum level. Average vehicle delay exceeds the acceptable limit of 60.0 seconds per vehicle. The ICU exceeds 1.00 and is considered unacceptable.

Valencia Water Reclamation Plant

Site Location and Access

The 2015 Plan consists of construction at and adjacent to the existing VWRP site. The VWRP site is located west of The Old Road at its intersection with Rye Canyon Road in the unincorporated Valencia area of Los Angeles County. Figure 12-1 shows the site location, local vicinity, and the adjacent roadway system. The primary access to the site will continue to be via the existing access street off The Old Road between Rye Canyon Road and the Golden State Freeway southbound ramps.

Existing Street and Freeway System

As shown in Figure 12-1, the major east-west access to the site is provided by Magic Mountain Parkway (SR-126), and the major north-south access is provided by The Old Road and the Golden State Freeway. The following is a brief description of these major roadways:

- *Magic Mountain Parkway (SR-126 east of I-5):* Magic Mountain Parkway is a major east-west arterial roadway with an existing width of approximately 80 feet, providing two travel lanes in each direction plus left-turn pockets at major

intersections. Parking is not permitted on the sides of the roadway. The street is posted with a 50 miles per hour speed limit sign. The intersections of Magic Mountain Parkway, at both northbound and southbound I-5 ramps and at The Old Road, have traffic signals.

- *The Old Road*: The Old Road is a major north-south roadway with an existing width of approximately 80 feet, providing two travel lanes in each direction plus left-turn pockets at major intersections. Parking is permitted on both sides of the roadway. The street is posted with a 50 miles per hour speed limit sign. The intersections of The Old Road, at Rye Canyon Road and at Magic Mountain Parkway, are signal controlled. However, at the I-5 southbound ramps, the intersection is controlled by a stop sign placed at the southbound off-ramp.

- *The Golden State Freeway:* I-5 runs in the north-south direction providing four travel lanes in each direction. In the project area, I-5 provides access to the Los Angeles area to the south and Bakersfield area to the north. Full access interchanges are provided at Magic Mountain Parkway and Henry Mayo Drive (SR-126 West). In addition, on- and off-ramps are also provided for southbound traffic, north of Rye Canyon Road.

Figure 12-1 shows existing lane configuration and traffic controls at key intersections.

Existing Traffic Volumes on the Roadway System

The traffic volumes in the project area reflect traffic conditions typical of roadways in the unincorporated suburban areas of Los Angeles County. Manual counts of turning movements during the peak hours were conducted by West Coast Traffic Counters for use in the traffic impact study. The average AM and PM peak hours were found to be from 7:15 AM to 8:15 AM and 4:30 PM to 5:30 PM. In addition, 24-hour counts were conducted at key locations on the major streets using automatic machine counters.

Figure 12-2 shows existing traffic volumes at key locations of the circulation system. Detailed count data are included in Appendix B.

IMPACTS AND MITIGATION MEASURES OF THE 2015 PLAN ALTERNATIVES

Methodology and Assumptions for Impact Analysis

The completion years of the Stage V and Stage VI expansions (2002 and 2010, respectively) were used for analysis purposes. Analysis assumptions include the following:

- The traffic patterns on the roadway system will be considered for 2002 and 2010 reflecting traffic generated from Stage V and Stage VI expansions, respectively. All the other known projects within the vicinity will be considered completed by 2002 and their associated traffic volumes are included for that year's traffic analysis.

- The primary access to and from the site will be via the existing access street of the VWRP facilities.

- The 7:15 AM to 8:15 AM and 4:30 PM to 5:30 PM peak hour traffic volumes are appropriate for this analysis.

- The ambient traffic volumes on the roadway system will increase in accordance with the projections estimated by Los Angeles County MTA's 1995 CMP.

A total of five key intersections were selected for capacity and LOS analysis. The analysis was based on information obtained from field investigation, roadway configuration/control, and manual counts of turning movements at these five existing intersections. These five key intersections are:

- The Old Road and I-5 Southbound on- and off-ramps.
- The Old Road and Rye Canyon Road.
- The Old Road and Magic Mountain Parkway.
- Magic Mountain Parkway and I-5 Southbound on- and off-ramps.
- Magic Mountain Parkway and I-5 Northbound on- and off-ramps

Criteria for Determining Significance

According to the state CEQA Guidelines and professional standards, a project will normally have a significant effect on the environment if it will result in any of the following:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- Cause a substantial increase in the use of roads resulting from transporting construction materials and crews to the work area.
- Substantially increase the traffic delay experienced by drivers.
- Substantially alter present patterns of circulation or movement.
- Increase traffic hazards to motor vehicles, bicycles, or pedestrians.

In addition to the criteria cited above, the traffic impact of a project is measured in terms of increase in an intersection's V/C ratio by project related traffic. The MTA guidelines indicate that a project will have a significant impact when it increases traffic demand on an already deficient roadway system by two percent of the capacity, causing the roadway system to operate at LOS F or worsening the operation of a facility that already operates at LOS F. CEQA allows the local jurisdiction to apply a more stringent criteria in their jurisdiction if desired.

According to the traffic impact analysis guidelines of the county, impact of a project is considered significant if the project-related traffic increases the ambient V/C ratio by 0.04 or more at LOS C, 0.02 or more at LOS D, or 0.01 or more at LOS E and F. If feasible, a significant impact must be mitigated by the lead agency in order to implement the project. When the cumulative traffic from all the other known projects within the vicinity causes an intersection to perform at LOS F, the governing agency responsible for that intersection will expect all the participating projects to share the cost of upgrading the intersection performance to LOS E or better.

The Recommended Project

Operations Traffic Analysis

The daily and peak hour traffic volumes expected to be generated by the operation of the recommended project were estimated based on data on existing operation of facilities at the site. This was done because typical trip generation rates for this type of facility are not available from the Institute of Transportation Engineers' (ITE) handbook (ITE, 1991). It is estimated that this project (both Stage V and Stage VI) will generate a total of approximately 84 new vehicular trips per day; 42 trips inbound (I/B) and 42 trips outbound (O/B). Table 12-1 shows the daily and peak hour trips for the project. The estimated AM and PM peak hour volumes were deemed appropriate for this study. As shown in Table 12-1, the recommended project will generate

Table 12-1

TRAFFIC GENERATION BY SCVJSS OPERATIONS AT VWRP

TRIPS BY	UNIT	DAILY 2-WAY TRIPS[e]	AM PEAK HOUR TRIPS		PM PEAK HOUR TRIPS	
			INBOUND	OUTBOUND	INBOUND	OUTBOUND
Scenario: No Project Conditions, Operation at Existing Capacity of 15.0 mgd						
Employees	28[a]	73	28	5[f]	5[f]	28
Maintenance	5 cars/day	13	3	1	1	3
Supplies	2 cars/day[b]	5	1	1	1	1
Biosolids	6 cars/day[c]	16	3	3	0	0
TOTAL		**107**	**35**	**10**	**7**	**32**
Scenario: Operation at Plant Capacity of 19.1 mgd						
Employees	34	88	34	6	6	34
Maintenance	6 cars/day	16	4	1	1	4
Supplies	2 cars/day	5	1	1	1	1
Biosolids	8 cars/day	21	4	4	0	0
TOTAL		**130**	**43**	**12**	**8**	**39**
Scenario: Year 2002 Conditions, Projected Capacity of 28.1 mgd by 2002						
Employees	40(12)[d]	104(31)	40(12)	7(2)	7(2)	40(12)
Maintenance	9(4) cars/day	23(10)	5(2)	2(1)	2(1)	5(2)
Supplies	4(2) cars/day	10(5)	2(1)	2(1)	2(1)	2(1)
Biosolids	12(6)cars/day	31(15)	6(3)	6(3)	0	0
TOTAL	—	**168(61)**	**53(18)**	**17(7)**	**11(4)**	**47(15)**
Scenario: Year 2015 Conditions, Projected Capacity of 34.1 mgd by 2010						
Employees	44(16)[d]	115(42)	44(16)	8(3)	8(3)	44(16)
Maintenance	11(6) cars/day	29(16)	6(3)	2(1)	2(1)	6(3)
Supplies	4(2) cars/day	10(5)	2(1)	2(1)	2(1)	2(1)
Biosolids	16(10) cars/day	42(21)	8(5)	8(5)	0	0
TOTAL	—	**196(84)**	**60(25)**	**20(10)**	**12(5)**	**52(20)**

Notes: Numbers in parentheses indicate 2015 Plan-related traffic.
Trips related to maintenance and supplies were increased proportionally to plant capacity of Stages V and VI.

a) For day shift (7:00 AM-3:30 PM) = 26, swing shift (3:00 PM-11:30 PM) = 2.
b) Assuming two-three trucks/week or one truck (equivalent to two cars)/day at VWRP.
c) Assuming three trucks (equivalent to six cars) per day at VWRP.
d) In Stage V, 12 employees will be added: seven day shift, one swing shift, and four graveyard shift (11:00 PM-7:30 AM). In Stage VI, four employees will be added for day shift only.
e) Each employee or truck is assumed to make at least one inbound and one outbound plus 30 percent additional trips for related activities per day.
f) A minimum of five employee trips are assumed during the peak hours in the non-peak traffic direction to account for employee drop-off/pick-up, if any.

approximately 25 inbound and 10 outbound trips during the AM peak hour and approximately five inbound and 20 outbound trips during the PM peak hour.

Project Traffic Distribution

The expected project related traffic volumes were distributed onto the local roadway system based on manual count data, observations of peak hour traffic movements, the characteristics of the nearby roadway system, and the population distribution of the region.

Figure 12-3 shows the percentage distribution of project-related traffic for both 2002 and 2010 conditions. Figure 12-4 shows the project-related traffic 2010 conditions distributed on the local roadway system for the AM and PM peak hours.

Construction Traffic Analysis

The project implementation schedule calls for a 30-month construction period for each of the Stage V and Stage VI expansions of the VWRP facilities. Stage V construction activities will start in 1999 and will be completed in 2002. Stage VI construction activities will start in 2005 and will be completed in 2010. Although a detailed contractor's work plan is not available at this time, it can be assumed that construction activities will include typical ingress/ egress of construction traffic at VWRP site.

The following construction activity scenario has been assumed and assumptions have been made to analyze the impacts of construction traffic on the roadway conditions in the vicinity of VWRP site:

- The contractor will have a maximum of 26 workers per day during various phases of construction. The workers will be arriving separately in their own personal vehicles and will park at the project site. The contractor's work schedule will be five regular weekdays from 7:30 AM to 4:00 PM.
- Various types of trucks, such as dump trucks, bob-tail trucks, 18-wheeler, etc. will be accessing the construction site periodically during the entire construction period. These trucks will travel on I-5, The Old Road, and Magic Mountain Parkway to and from the site during five regular weekdays from 7:30 AM to 4:30 PM.
- The construction phases will include various activities, such as clearing and grubbing, demolition, excavation, building construction, equipment/machinery installation, etc. Various types of construction equipment, such as cranes, back hoes, truck loaders, skip loaders, motor graders, hoe rams, excavators, flat-bed dump trucks, pick-up trucks, boom-trucks, etc. will be used at the site at various times throughout the construction period. Construction equipment will only travel on the roadways when they arrive at and depart from the sites, generally during off-peak hours.
- Excavated material and demolition debris will be transported in trucks to a nearby landfill using sections of The Old Road, Magic Mountain Parkway, and I-5.
- Construction materials will be hauled by trucks from various outside sources, using sections of The Old Road, Magic Mountain Parkway, and I-5.

Table 12-2 shows an estimate of worst case traffic generation at the VWRP site during the construction of Stage V and Stage VI facilities. Figure 12-5 shows distribution of construction related traffic onto the adjacent roadway system.

Table 12-2
CONSTRUCTION TRAFFIC GENERATION

TRIPS BY	UNIT	DAILY 2-WAY TRIPS	AM PEAK HOUR TRIPS		PM PEAK HOUR TRIPS	
			INBOUND	OUTBOUND	INBOUND	OUTBOUND
Workers	20 per day	40	20	0	0	20
Haul Trucks (Supplies)	2 per day	8	1	1	1	1
Haul Trucks (Debris)	5 per day	20	2	2	2	2
Construction Equipment	1 per day	6	1	1	1	1
Total	—	**74**	**24**	**4**	**4**	**24**

Notes: It is assumed that workers will make one (inbound) trip in the morning and one (outbound) trip in the afternoon.
Supply trucks are assumed to make not more than four trips per day (two inbound, two outbound).
One truck trip is assumed to be equivalent to two car trips.
One trip of a construction equipment is assumed to be equivalent to three car trips.

Table 12-3
INTERSECTION CAPACITY AND LOS (DURING CONSTRUCTION)

INTERSECTION	PEAK HOUR	2002 W/ CONST. TRAFFIC		CONST. IMPACT[a]	2010 W/ CONST. TRAFFIC		CONST. IMPACT[b]
		V/C	LOS	±V/C	V/C	LOS	±V/C
The Old Road @ I-5 Southbound Ramp	AM	0.516	A	0.004	0.524	A	0.004
	PM	1.371	F	0.006	1.406	F	0.006
The Old Road @ Rye Canyon Road	AM	0.750	C	0.000	0.769	C	0.000
	PM	1.201	F	0.001	1.231	F	0.001
The Old Road @ Magic Mountain Pkwy	AM	0.681	B	0.000	0.689	B	0.000
	PM	1.346	F	0.005	1.369	F	0.005
Magic Mountain Pkwy @ I-5 Southbound Ramp	AM	0.920	E	0.000	0.945	E	0.000
	PM	0.784	C	0.001	0.798	C	0.001
Magic Mountain Pkwy @ I-5 Northbound Ramp	AM	1.147	F	0.006	1.181	F	0.006
	PM	1.097	F	0.000	1.129	F	0.000

Notes: a) Construction impact is measured in terms of V/C ratio and is calculated as the difference between the 2002 "with construction traffic" V/C ratio and the 2002 "without project" V/C ratio (Table 12-5).
b) Construction impact is measured in terms of V/C ratio and is calculated as the difference between the 2010 "with construction traffic" V/C ratio and the 2010 "without project" V/C ratio (Table 12-6).

The ICU method was utilized to determine impact of construction related traffic on the local roadways and intersections. Both Stage V and Stage VI construction activities were considered. Stage V construction traffic was added to the 2002 background volumes while Stage VI construction traffic was added to the 2010 background volumes. The results of the ICU analysis are shown in Table 12-3. The impacts were evaluated with and without related projects as background traffic and are shown in the traffic impact study.

Cumulative Traffic Analysis

Other Known Projects

Other known projects in the general vicinity of VWRP are shown in Table 12-4. The list of these potential developments was obtained from the City of Santa Clarita as well as Los Angeles County Department of Regional Planning.

Figure 12-6 shows the approximate location of these projects. The daily and peak hour traffic volumes to be generated by these other known projects were estimated based on information from the City of Santa Clarita and a reviewed traffic study from the Los Angeles County Department of Regional Planning, and supplemented by the ITE's handbook. Table 12-4 also shows the generation factors and resulting volumes for the other known projects.

Figure 12-7 shows project-related traffic distributed onto the roadway system.

Figure 12-8 shows cumulative 2002 traffic volumes (existing traffic increased by 1.0 percent per year growth rate through 2002 plus related-project traffic plus traffic from the recommended project's Stage V) at the key intersections. Figure 12-9 shows the cumulative traffic volumes with the recommended project's Stage VI in 2010. Note that the traffic growth rates used to estimate future volumes, are based on projections provided by MTA's 1995 CMP for the North County area. The growth projection is 1.0 percent per year through 2002, 0.7 percent per year for the period between 2002 and 2005, and 0.6 percent per year for the period between 2006 and 2010. A projected growth of 0.6 percent per year was used to estimate background volumes between 2010 and 2015. The average growth rate between 1995 and 2015 is approximately 0.7 percent per year. To depict a worst-case scenario, traffic to be generated from all other known related projects were added to the estimated future volumes.

Finally, an analysis was conducted for 2015 to determine intersection performance in the future with and without the recommended project. Figure 12-10 shows the cumulative traffic volumes in 2015.

The key intersections were analyzed for conditions before and after the proposed project completion under Stage V and Stage VI using the ICU method. Table 12-5 presents a summary of the results of the LOS analysis for the existing 1996 and projected 2002 AM and PM peak hour conditions at the key intersections. Table 12-6 presents the V/C ratio and LOS for 2010 and 2015 conditions. A discussion on ICU methodology and detailed ICU calculation sheets are included in the traffic impact report.

Since the increase in the V/C ratio by the project-related traffic is less than 0.01 at the five key intersections, as shown in Table 12-5 (for 2002) and Table 12-6 (for 2010 and 2015), the project's impact is considered less than significant. Note that 2002 conditions include Stage V project completion while 2010 conditions include Stage VI project completion. The 2015 conditions

Table 12-4
TRAFFIC GENERATION BY OTHER KNOWN PROJECTS

NO.	PROJECT TITLE & LOCATION	TYPE & SIZE/UNIT	DAILY TWO-WAY VOLUME		AM PEAK HOUR VOLUME				PM PEAK HOUR VOLUME			
			PER UNIT	TOTAL TRIPS	PER UNIT I/B	PER UNIT O/B	TOTAL TRIPS I/B	TOTAL TRIPS O/B	PER UNIT I/B	PER UNIT O/B	TOTAL TRIPS I/B	TOTAL TRIPS O/B
1	Tract 33608 Pico Canyon/ The Old Road	S-F 101 DU	10.3	1,040	0.21	0.6	20	60	0.7	0.38	70	40
		M-F 16 DU	8.6	140	0.13	0.63	5	10	0.58	0.30	10	5
		NC 871 (M-F Assumed)	8.7	7,580	0.16	0.45	135	390	0.57	0.31	495	265
		Open Space	—	—	—	—	—	—	—	—	—	—
2	Tract 43896 1 mile West of I-5 South of Pico Cyn Road	S-F 280 DU	9.5	2,660	0.18	0.52	50	145	0.63	0.34	180	95
		Park 262.78 Acres	19.15	5,030	0.41	0.17	110	45	0.58	0.62	150	160
3	Tract 45433 West of The Old Road between McBean Pkwy & Magic Mountain Pkwy	S-F 1,070 DU	8.6	9,160	0.15	0.44	165	465	0.56	0.3	595	320
		M-F 4 DU	10.6	40	0.17	0.85	5	5	0.74	0.38	5	5
		NC 798 (M-F Assumed)	8.8	6,990	0.16	0.45	125	360	0.57	0.31	455	245
		R 3 (Res. Assumed)	10.6	30	0.17	0.85	5	5	0.74	0.38	5	5
		School (500 Students Assumed)	1.38	690	0.28	0.13	140	65	0.02	0.06	10	30
		2 Parks 15 acres	19.15	290	0.41	0.17	5	5	0.58	0.62	10	10
4	PM 19050 Valencia Blvd between The Old Rd & I-5	5 Lots (225,500 GSF Assumed) 11.5 acres	40.0	9,020	0.72	0.48	160	110	1.8	1.8	405	405
5	PM 18654 Magic Mountain Pkwy	11 Lots (656,700 GSF Assumed) 33.5 Acres	40.0	26,270	0.72	0.48	475	315	1.8	1.8	1,180	1,180
		Open Space	—	—	—	—	—	—	—	—	—	—
6	PM 20186 South of Rt. 126 between Co. Line & Knudsen Pkwy	S-F 20 DU on 9,925 Acres	11.7	230	0.26	0.74	5	15	0.82	0.44	15	10
7	CP 88376 West of I-5 between McBean & Magic Mountain Pkwy	Golf Course 195 Acres	8.3	1,620	0.22	0.05	40	10	0.08	0.31	15	60
8	Tract 44806 NW Quadrant of The Old Rd & Pico Cyn	Condos & DU on 20.1 acres	9.5	80	0.15	0.73	5	5	0.65	0.34	5	5
9	Tract 48208 South along Pico Cyn between West of I-5 & East of Moor Cyn	M-F 7 DU	9.7	70	0.15	0.75	5	5	0.67	0.35	5	5
		NC's 59 Units (M-F Assumed)	10.8	640	0.23	0.64	15	40	0.74	0.40	45	25
		Open Space	—	—	—	—	—	—	—	—	—	—
		—	—	71,580	—	—	1,460	2,055	—	—	3,655	2,860

Table 12-4 (Continued)
TRAFFIC GENERATION BY OTHER KNOWN PROJECTS

NO.	PROJECT TITLE & LOCATION	TYPE & SIZE/UNIT	DAILY TWO-WAY VOLUME		AM PEAK HOUR VOLUME				PM PEAK HOUR VOLUME			
			PER UNIT	TOTAL TRIPS	PER UNIT I/B	PER UNIT O/B	TOTAL TRIPS I/B	TOTAL TRIPS O/B	PER UNIT I/B	PER UNIT O/B	TOTAL TRIPS I/B	TOTAL TRIPS O/B
10	Tract 48026 South of Pico Cyn Rd West of McBean Pkwy 3,500 ft West of The Old Rd	M-F 1 DU	13.0	10	0.23	1.14	5	5	0.95	0.49	5	5
		NC 75 (M-F Assumed)	10.6	790	0.22	0.62	15	45	0.72	0.39	55	30
		Rec Lot 1 (M-F Assumed)	—	—	—	—	—	—	—	—	—	—
11	Tract 49099 West of Hemming Way between McBean & Poe Pkwy	S-F 311 DU	9.4	2,940	0.18	0.51	55	160	0.63	0.34	195	105
12	Tract 49762 West of Hemming Way between McBean & Poe Pkwy	S-F 171 DU	9.09	1,690	0.20	0.56	35	95	0.67	0.36	115	60
13	PM 94807 South of Hwy 126 West of I-5 S to Santa Susana West to Co. Line	S-F 24,700 DU	3.4	83,980	0.03	0.17	740	4,200	0.18	0.09	4,445	2,225
14	TR 52006 South of Magic Mountain Pkwy East of I-5	M-F 76 DU	6.8	520	0.09	0.45	5	35	0.43	0.22	35	15
15	MC 96-003 North of Valencia Blvd between Touney Rd & McBean Pkwy	M-F 350 DU	5.4	1,890	0.07	0.33	25	115	0.33	0.169	115	60
		S-F 190 DU	9.8	1,860	0.19	0.55	35	105	0.66	0.355	125	65
16	95-242 between Santa Clara River & Magic Mountain Pkwy	M-F 1,245 DU	4.5	5,5480	0.05	0.25	65	310	0.26	0.13	325	70
		S-F 750 DU	8.8	6,600	0.16	0.46	120	345	0.58	0.31	430	235
		Industrial 167,000 GSF	7.0	1,160	0.76	0.16	130	25	0.12	0.86	20	145
		Comm. 636,000 GSF	35.8	22,790	0.48	0.28	305	180	1.68	1.68	1,070	1,070
		Elem. Sch. 500 Students	1.1	550	0.18	0.12	90	60	0.02	0.035	10	20
17	MC 96191 East of Ave Stanford & Magic Mountain Pkwy	Ind. 39,000 GSF	7.0	270	0.76	0.16	30	5	0.12	0.86	5	35
18	MC 95138 North of Rye Cyn Rd	Business Park 4 Million GSF	12.7	50,740	1.18	0.21	4,470	835	0.22	0.79	895	3,175
		—	—	**230,090**	—	—	**7,435**	**7,900**	—	—	**10,245**	**9,295**

Notes: Based on generation rates and equations from ITE's handbook (ITE, 1991).
Volume is a trip-end either inbound (I/B) or outbound (O/B).
Trip-ends are one-way traffic movements entering or leaving the site. All whole numbers are rounded to nearest five.

Table 12-5
INTERSECTION CAPACITY AND LOS (1996 AND 2002)

INTERSECTION	PEAK HOUR	EXISTING 1996 TRAFFIC		FUTURE 2002 W/O PROJECT		FUTURE 2002 W/ PROJECT		PROJECT IMPACT[a]
		V/C	LOS	V/C	LOS	V/C	LOS	±V/C
The Old Road @ I-5 Southbound Ramp	AM	0.294	A	0.512	A	0.517	A	0.005
	PM	0.962	E	1.365	F	1.369	F	0.004
The Old Road @ Rye Canyon Road	AM	0.437	A	0.750	C	0.750	C	0.000
	PM	0.815	D	1.200	F	1.202	F	0.002
The Old Road @ Magic Mountain Pkwy	AM	0.361	A	0.681	A	0.682	A	0.001
	PM	0.666	B	1.341	F	1.345	F	0.004
Magic Mountain Pkwy @ I-5 Southbound Ramp	AM	0.756	C	0.920	E	0.920	E	0.001
	PM	0.489	A	0.783	C	0.784	C	0.001
Magic Mountain Pkwy @ I-5 Northbound Ramp	AM	0.921	E	1.141	F	1.145	F	0.004
	PM	0.872	D	1.097	F	1.097	F	0.000

Note: a) Project impact is measured in terms of V/C ratio and is calculated as the difference between the 2002 "with project" V/C ratio and the 2002 "without project" V/C ratio.

Table 12-6
INTERSECTION CAPACITY AND LOS (2010 AND 2015)

INTERSECTION	PEAK HOUR	FUTURE 2010 W/O PROJECT		FUTURE 2010 W/ PROJECT		FUTURE 2015 W/ PROJECT		PROJECT IMPACT[a]
		V/C	LOS	V/C	LOS	V/C	LOS	±V/C
The Old Road @ I-5 Southbound Ramp	AM	0.520	A	0.525	A	0.533	A	0.005
	PM	1.400	F	1.405	F	1.438	F	0.005
The Old Road @ Rye Canyon Road	AM	0.769	C	0.769	C	0.788	C	0.000
	PM	1.230	F	1.233	F	1.261	F	0.003
The Old Road @ Magic Mountain Pkwy	AM	0.689	B	0.691	B	0.699	B	0.003
	PM	1.364	F	1.369	F	1.391	F	0.005
Magic Mountain Pkwy @ I-5 Southbound Ramp	AM	0.945	E	0.945	E	0.969	E	0.000
	PM	0.797	C	0.798	C	0.812	D	0.001
Magic Mountain Pkwy @ I-5 Northbound Ramp	AM	1.175	F	1.180	F	1.212	F	0.005
	PM	1.129	F	1.129	F	1.159	F	0.000

Note: a) Project impact is measured in terms of V/C ratio and is calculated as the difference between the 2010" with project" V/C ratio and the 2010 "without project" V/C ratio.

include a traffic scenario with the proposed implementation of the 2015 Plan. The project impacts were evaluated with and without related projects in all traffic scenarios in order to comply with the County's Traffic Impact Analysis Guidelines.

VWRP Expansion Construction Impacts

Impact: *Degradation of the LOS at the Key Intersections During Construction at the VWRP.* As indicated in Table 12-3, the construction related traffic will not have a significant impact at any of the key intersections analyzed, i.e., the increase in V/C ratios at the intersections by construction traffic will be less than the threshold value of 0.01 at LOS F (see Table 12-5 for existing conditions). The increase in the V/C ratio due to construction related traffic is considered less than significant.

Mitigation: No mitigation is required.

VWRP Expansion Operations Impacts

Impact: *Increase in Employee and Truck Delivery Traffic Volume Resulting from Increased Operations at the VWRP.* An analysis with future 2002 and 2010 cumulative traffic volumes (existing traffic, normal traffic growth, and traffic from the proposed expansions and related projects) indicates that four of the five key intersections will exceed acceptable LOS (i.e., will be operating at an unacceptable LOS F). However, the increase in the V/C ratio at this level by project-related traffic during operation of the expanded facilities is less than the threshold value of 0.01. Since the five key intersections in the vicinity of the project will experience a traffic volume in excess of their capacity and operate at LOS F by the year 2015, mitigation measures will be necessary to accommodate all the identified cumulative developments that will have a significant impact. The impact of the 2015 Plan alone is determined to be less than significant.

Mitigation: No mitigation is required.

SWRP and VWRP Upgrade Construction Impacts

Impact: *Degradation of the LOS at the Key Intersections During Construction at the SWRP and VWRP.* Due to the minor nature of the proposed upgrades at the SWRP and VWRP, the construction related traffic will be minimal and not have a significant impact at any of the key intersections. The increase in V/C ratios at the intersections by construction traffic is considered less than significant.

Mitigation: No mitigation is required.

SWRP and VWRP Upgrade Operations Impacts

Impact: *Increase in Employee and Truck Delivery Traffic Volume Resulting from Increased Operations at the SWRP and VWRP.* The operations of the proposed upgrades at the SWRP and VWRP are not expected to result in any increase in the number of employees at those sites and a minimal increase in truck delivery. Therefore, this impact is considered to be less than significant.

Mitigation: No mitigation is required.

Biosolids Disposal and Reuse Impacts

Impact: *Increase in Truck Traffic Resulting from Biosolids Disposal and Reuse.* As shown in Table 12-1, operation of biosolids disposal and reuse facilities will generate a maximum of five equivalent car trips during the peak hours. This small increase in traffic generation (five cars or less) is considered less than significant by ITE's handbook. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

Impacts Based on CMP Thresholds

Impact on Highway/Freeway System and CMP Intersections

The Golden State Freeway, Magic Mountain Parkway (east of I-5) and Henry Mayo Drive (SR-126) are the CMP routes that run in the general vicinity of the project. The nearest CMP monitoring stations on these routes are located at the intersection of Magic Mountain Parkway and Valencia Boulevard, approximately two and a half miles east of the site.

As shown in Figure 12-6, there will be a maximum of 14 vehicles during either the AM or PM peak hour on Magic Mountain Parkway east of I-5. These volumes of project-related traffic are lower than the CMP threshold trips of 50 trips per hour on an arterial road requiring a detailed analysis. Therefore, Magic Mountain Parkway (a CMP arterial) and its intersection with Valencia Boulevard (CMP monitoring intersection) need not be studied any further for CMP-required TIA. Accordingly, no further traffic analysis was conducted for CMP highway/ freeway system and monitoring intersection per CMP guidelines. This impact is considered less than significant.

Mitigation: No mitigation is required.

Impact on CMP Transit System

The CMP transit monitoring routes near the project are the Golden State Freeway and SR-126. The only bus line serving along this route is the City of Santa Clarita Line 799, operating during peak hours only.

As shown in Table 12-1, the recommended project (after completion of Stage VI) is expected to add a total of 16 employee trips during the peak hours in the peak direction. Since the estimate is based on the assumption that each employee will make one vehicular trip per day, a total of 16 person trips will be made. Assuming that approximately 3.5 percent of total trips will be made by transit, a total of only one person-trips should be assigned to transit line from the project.

Due to this low volume of project-generated person-trips assigned to transit and the nature of the project land use, this impact is considered less than significant.

Mitigation: No mitigation is required.

No Project Alternative

Under the No Project Alternative there will be no increase in the number of employees (except for the operations of existing facilities at existing capacity of the WRPs), and no new construction activities will be undertaken. A detailed analysis of key intersections and roadways is not deemed necessary for this alternative, as it will not generate any new traffic at the site to impact the adjacent roadway system (except for the operation of existing facilities at existing capacity of the WRPs). There are no impacts under the No Project Alternative.