4.5 TRAFFIC AND CIRCULATION

The following analysis summarizes the traffic study prepared by Darnell & Associates, Inc. (1999, Revised June 2002) evaluating the traffic-related impacts of the proposed Gregory Canyon Landfill. In addition, Darnell & Associates prepared a supplemental traffic study due to changes in the existing conditions (signals installed at the I-15/SR 76 ramps) and an increase in the cumulative traffic. A technical memorandum has also been prepared which considers direct haul vs. transfer trucks as well as additional information regarding safety. The traffic reports and memorandum are contained in Appendix I.

4.5.1 EXISTING SETTING

This section includes an assessment of the existing conditions of roadways and intersections in the project vicinity and documents current travel flow or delay difficulties prior to adding the proposed project or other approved development. Exhibit 4.5-1 depicts the roadways and intersections included in the transportation study area, as well as intersection geometrics (i.e., number of lanes and turning movements within those lanes).

4.5.1.1 Existing Roadway Characteristics

State Route 76 (SR 76 or Pala Road) is a regional transportation facility extending from Interstate 5 (I-5) in Oceanside to its eastern terminus at State Route 79 (SR 79) near Lake Henshaw. East of I-15, SR 76 is a two-lane facility. In the project vicinity, SR 76 traverses along flat terrain north of the San Luis Rey River flood plain. A vertical grade profile between I-15 and the site access, conducted by placing a level on the centerline approximately ¼ to ½ mile apart, indicates that grades are less than two percent (Exhibit 4.5-2). The steepest grade is 1.4 percent between Couser and Rice Canyon Roads.

Through the project study area, the roadway is characterized by two tight curve radii and slight grades. Tight turns are indicated by advisory speed limit signs. In the vicinity of the project access, SR 76 provides two 11-foot travel lanes with five feet of paved shoulder on each side divided by a painted double yellow line.

A speed survey was conducted in July 1999 by Darnell & Associates, Inc. to establish current average speed through the segment between I-15 and the project site. Four locations were surveyed: in front of the project access; east of the 20 mph curve; west of the 20 mph curve; and near Pankey Road. These locations provide the fastest and slowest portions of SR 76. Speeds on the four segments were averaged to provide the speed variable for the PCE factor. The average speed on these segments of SR 76 is 37.85 mph.[1]

Truck percentage data were collected in April 1999 for a 24-hour period. The combined average for east and westbound traffic for trucks with three or more axles is 21 percent of the total combined eastbound and westbound traffic for all vehicles. (This percentage is used in all traffic analyses with 1999 traffic counts.)

[1] Surveyed speeds included 24.6, 33.0, 41.6, 52.2 mph. If the highest and lowest average speeds were discounted from the formula, the average speed would be 37.3 mph. This study applies the higher of the two averages.

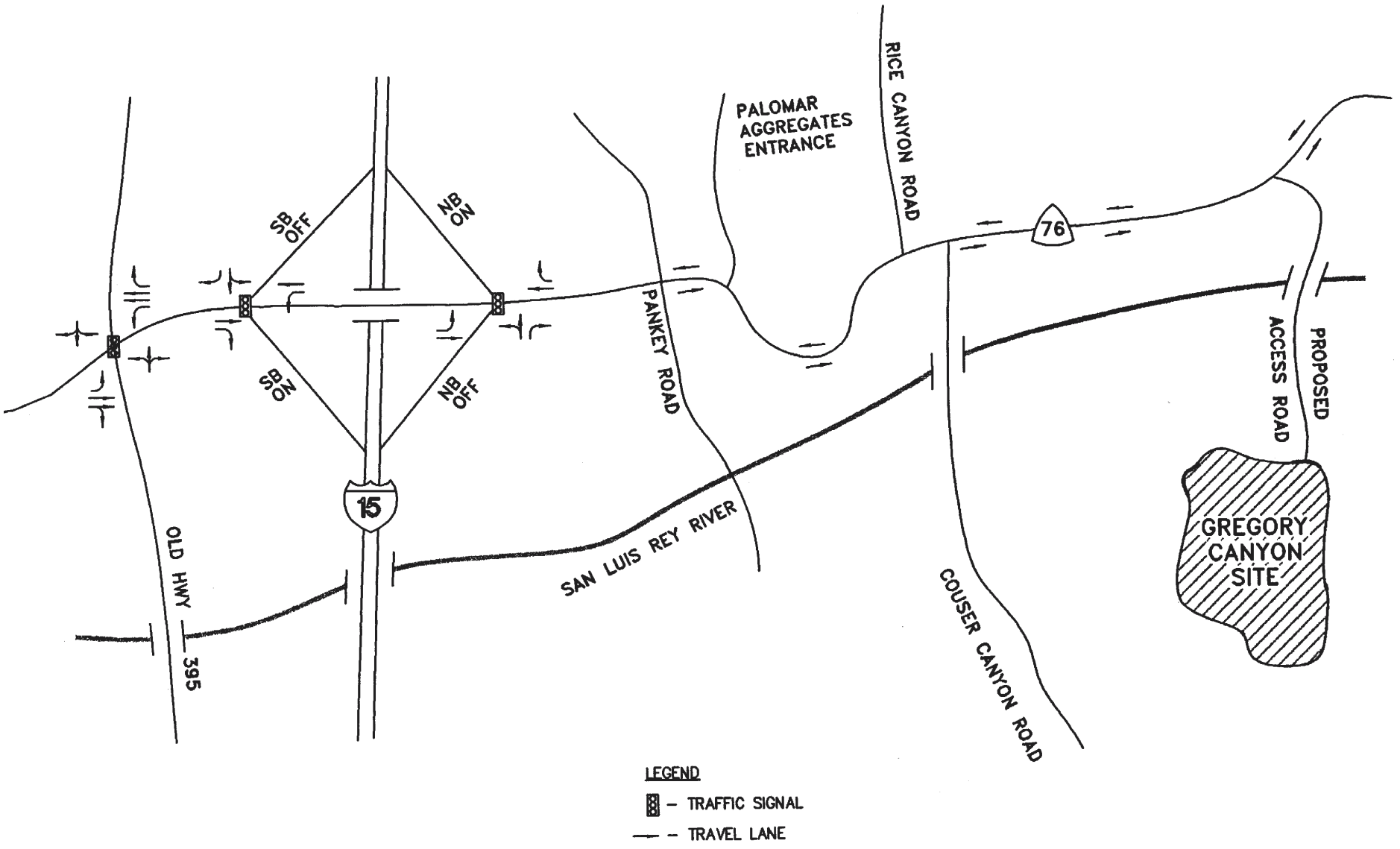

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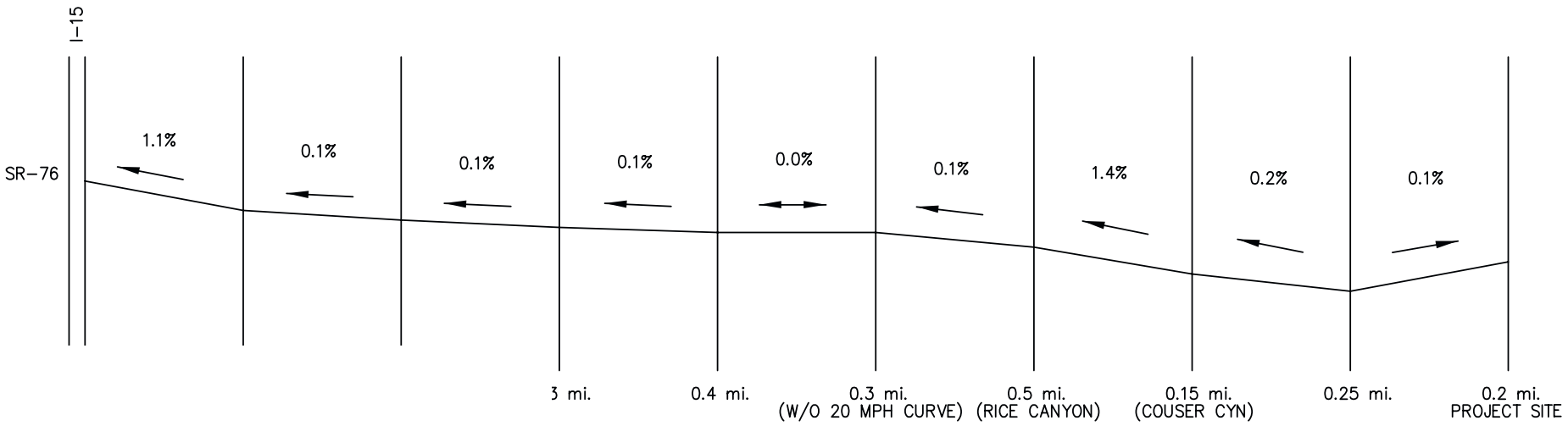
Exhibit 4.5-1
Existing Intersection Geometrics

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999 & 2001



NOTE:
Mileage Distance is Approximate

PCR

Exhibit 4.5-2
Vertical Grade Profile Sketch
SR 76 From I-15 to Project Site

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999

The SR 76/I-15 diamond interchange is stop controlled for all vehicles at the northbound on- and off-ramps and stop-controlled for only the southbound off-ramps. The SR 76 overcrossing is two travel lanes with a painted center median and left turn pockets at the I-15 on-ramps.

Highway 395 is a north-south transportation facility that parallels I-15 and intersects with SR 76. Highway 395 is currently a two-lane facility that is posted at 55 mph and separated with a painted double yellow divider.

4.5.1.2 Existing Segment Volumes and Intersections

Peak hourly turning movement counts were taken in March 1999 at the same three intersections counted in 1997 for comparison purposes. The intersections are:

- SR 76/Highway 395
- SR 76/I-15 northbound on/off (including ramps)
- SR 76/I-15 southbound on/off (including ramps)

The 1999 intersection data are similar in total volume to the 1997 counts. Therefore, the 1999 data are used to determine the peak hour level of service (LOS) in the project vicinity. Exhibit 4.5-3 presents the existing traffic volumes used in this analysis.

Segment traffic counts were taken on September 21 and 22, 1999 since the previous counts were from October 1997. However, the 1997 data is used for the existing segment analysis since the 1999 counts indicated lower traffic volumes on SR 76.

Existing Level of Service

Level of Service (LOS) is a professional industry standard established to measure the operating conditions of a given roadway segment or intersection. As presented in Table 4.5-1, LOS ranges from A to F, each with a defined characteristic. The LOS for roadways is based on: (1) traffic volume; (2) directional distribution of traffic; (3) roadway lane and shoulder widths; and (4) proportion of heavy vehicles in the traffic flow.

TABLE 4.5-1
LEVEL OF SERVICE CHARACTERISTICS

LOS	CHARACTERISTICS
A	Free flowing traffic conditions with no restrictions on maneuvering or operating speeds, low traffic volumes and high speeds
B	Stable flow, more restrictions, operating speeds beginning to be affected by traffic volumes
C	Stable flow, more restrictions, speed and maneuverability more closely controlled by higher traffic volumes
D	Represents conditions approaching unstable flow, traffic volumes profoundly affect arterials
E	Unstable flow, and some stoppages
F	Forced flow, many stoppages, and low operating speeds
Source: Highway Capacity Manual, 1985	

The County of San Diego encourages operation of LOS D or better at intersections and on roadway segments. The State of California Department of Transportation (Caltrans) has a goal of LOS C on state highways, intersections and freeway ramps. However, SR 76 and its intersections from Mission Avenue (west of the project) to SR 79 (east of the project) have been adopted in the Congestion Management Program (CMP) as a Regional Arterial System (RSA).

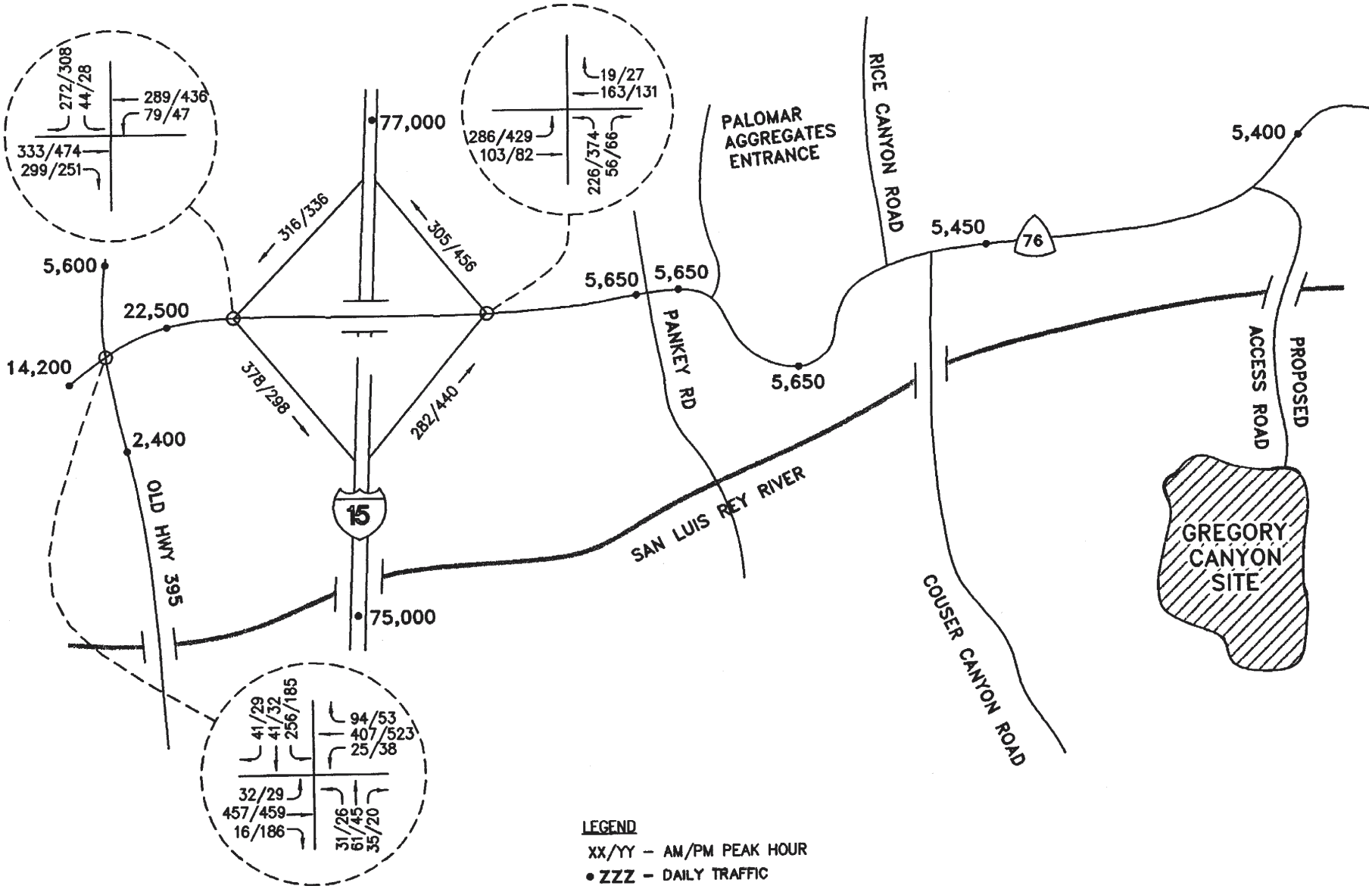


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Exhibit 4.5-3
Existing Traffic Volumes

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999

Therefore, the CMP Standards and Regional Growth Management Strategy (RGMS) objectives apply. The RGMS objective for RSA roadways is LOS D. Therefore, the criteria of LOS D is used as acceptable operation for SR 76 in the project area.

The Highway Capacity Software (HCS) Version 3.1a for Signalized Intersections, Unsignalized Intersections, Freeway Ramps, and two-lane street segments was used for the traffic analysis.

The methodologies incorporate variables such as the number of lanes, lane capacity, signal phasing, signal timing, traffic volumes, roadway geometrics, design speeds, traffic splits, and heavy vehicle percentages, in order to calculate a detailed assessment of operating conditions. Heavy vehicles were input at 21 percent to incorporate the most recent information.

Table 4.5-2 summarizes the LOS for existing operating conditions at intersections, freeway ramps and street segments within the study area. All intersections and segments currently operate at LOS D or better.[2]

TABLE 4.5-2
SUMMARY OF EXISTING CONDITIONS
PEAK HOUR LEVEL OF SERVICE

	A.M. PEAK 7 A.M. - 8 A.M.	P.M. PEAK 4 P.M. - 5 P.M.
Intersections	LOS [a]	LOS [a]
Highway 395/SR 76	D	D
SR 76/I-15 Southbound On/Off	C	C
SR 76/I-15 Northbound On/Off	C	D
Freeway Ramps		
I-15 Northbound On-Ramp	B	B
I-15 Northbound Off-Ramp	B	B
I-15 Southbound On-Ramp	B	B
I-15 Southbound Off-Ramp	B	B
SR 76 Segments		
West of Highway 395	D	D
I-15 to Pankey Road	C	C
Pankey Road to Palomar	C	C
Palomar to Couser Canyon	C	C
Couser Canyon to Project Access	C	C
East of Project Access	C	C

[a] LOS based on HCM 3.1a software calculations
Source: Darnell & Associates, 1999 and 2001

4.5.1.3 Existing Road Surface Conditions

Caltrans staff conducted a field review of SR 76 in April 1996 to identify pavement conditions for the Gregory Canyon Landfill Project. The existing traveled way was identified as exhibiting

[2] At the time that the analysis for the December 1999 Revised Draft EIR was conducted, there were no signals at the I-15/SR 76 northbound and southbound intersection ramps. Caltrans has since installed signals at these locations, and the existing conditions have been appropriately updated. This change does not impact the traffic analysis contained in this section.

some distress in the pavement which resulted in "alligator" cracking, wheel track rutting and some raveling. Caltrans completed a 0.20 inch asphalt concrete overlay in the area of PM 17.3/ 32.8, between the I-15 interchange and Pankey Road, in July 1997. No further analysis has been conducted by Caltrans staff. Pavement rehabilitation is either scheduled by Caltrans or done through a maintenance agreements between Caltrans and users of a roadway.

4.5.1.4 Accident Reports for SR 76

Traffic accidents are a function of various factors, including driver behavior (experience, carelessness), speed, weather conditions, time of day, visibility, and roadway conditions.

Accident data on SR 76 from 1991 through 2001 was collected for the following three segments:

- I-15 Southbound ramp to Pankey Road (PM 17.169-PM 17.866)
- Pankey to west of Couser Canyon (PM 17.866-PM 18.939)
- West of Couser Canyon to east of Project Access (PM 18.94-PM 21.440)

Data from 1991 through 1998 was analyzed to provide a comparison of the average number of accidents on SR 76 to the statewide average for the seven-year period. This data illustrates that all three segments of SR 76 were higher than the State average for similar facilities. The I-15 to Pankey Road segment, which is closest to the I-15 ramps and contains fewer curves, had an average of 4.63 accidents per million vehicle miles (MVM) compared to the state average of 1.46 per MVM in the seven-year period. The Pankey to west of Couser Canyon segment had an average of 2.07 accidents per MVM compared to the state average of 1.47 in the seven-year timeframe. The west of Couser Canyon to east of the Project Access segment had an average of 2.56 accidents per MVM compared to the state average of 1.48 between 1991 and 1998. Refer to the traffic study included as Appendix I of this EIR, for detailed information regarding the number of accidents on SR 76 compared to the Statewide average for similar facilities from 1991 through 1998.

Table 4.5-3 provides a summary of the number of accidents on these three segments of SR 76 from 1996 through 2001 and includes accident data by vehicle type and primary collision factor for 1999 through 2001. As shown, the total number of traffic accidents decreased by 23 during the past three years as compared to the previous three years, although traffic volumes on these segments increased by over 150 percent from 1996 to 2001. The accident summary data also shows that passenger cars and pickup trucks were involved in a majority of accidents on these segments of SR 76, with passenger cars involved in a total of 55 accidents and pickup trucks involved in a total of 34 accidents on this entire segment. Heavy trucks were involved in a total of 18 of the accidents on this segment. Finally the accident summary data in Table 4.5-3 shows that nearly 90 percent of all accidents on this portion of SR 76 were caused by alcohol, speeding, and other traffic violations. This analysis is included in the technical memorandum that is included in Appendix I.

4.5.1.5 School Bus Stops on SR 76

The Bonsall Union School District and the Fallbrook Union High School District utilize school bus stops along SR 76. Currently, there is one stop that is used by both school districts near the

TABLE 4.5-3
ACCIDENT SUMMARY DATA

TOTAL NUMBER OF ACCIDENTS			
YEAR	**I-15 SB/PANKEY**	**PANKEY/COUSER**	**COUSER/EAST OF PROJECT**
1996[1][a]	6	9	8
1997[1] [a]	11	7	19
1998[1] [a]	5	0	14
3 YEAR TOTAL	**22**	**16**	**41**
1999[2] [b]	0	5	8
2000[2] [b]	2	3	16
2001[2] [b]	0	5	17
3 YEAR TOTAL	**2**	**13**	**41**
ACCIDENTS BY VEHICLE TYPE (1999-2001) [c]			
Passenger Car	6	15	34
Motorcycle	0	2	13
Pickup Truck/Panel	4	6	24
Heavy Trucks/Trailer	1	3	14
Emergency Vehicle	1	2	2
School Bus	0	3	1
Other Bus	0	0	1
Spilled Load	0	0	1
TOTAL VEHICLES	**12**	**31**	**90**
Percent Heavy Truck	**8.33%**	**9.68%**	**15.55%**
PRIMARY COLLISION FACTOR (1999-2001)			
Alcohol	0%	12%	17%
Speeding	44%	24%	29%
Other Traffic Violation	44%	24%	52%
Other Than Driver	11%	0%	2%
Fell Asleep	0%	4%	0%

[a] Data from TASAS report processed 4-19-99
[b] Data from TASAS report processed 2-15-02
[c] Vehicles may exceed accident totals due to multi-vehicle accidents
Source: Darnell & Associates, 2002

Verboom Dairy, which is located on site. The Bonsall Union School District has approximately two additional stops located along SR 76 in the project vicinity, both of which are located to the east of the project site. The Fallbrook Union High School District has approximately five additional stops along SR 76 in the project vicinity to the east and west of the project site, including stops at Couser Canyon Road and Rice Canyon Road.

4.5.2 SIGNIFICANCE CRITERIA

The County of San Diego has established a goal of maintaining LOS D on all roadways and intersections during the peak hour. Therefore, a significant impact would occur if the project would reduce the level of service of an intersection or roadway segment to below LOS D during either the morning or afternoon peak hour.

4.5.3 POTENTIAL IMPACTS

4.5.3.1 Short-Term (Construction) Impacts

The initial construction, as defined in Chapter 3, Project Description, includes the construction of the access road, bridge, ancillary facilities, the excavation of the landfill footprint and the installation of the waste containment system for Phase I. The initial construction period is estimated to be nine to twelve months.

Because of the nature of the project, construction would be ongoing throughout the life of the landfill. Therefore, construction trips are added to the long term operational impacts (discussed below). Once the landfill is operational, traffic impacts would be substantially greater than during the initial first year period. For this reason, the traffic analysis focuses on the greater impacts of the long-term (operational) impacts.

4.5.3.2 Long-Term (Operational) Impacts

The Long-Term (Operational) Impacts analysis assumes a worst case scenario which is the highest daily level of waste allowed, 5,000 tons per day, along with periodic construction (including the transport off-site of excess aggregate). The landfill would accept an average of 3,200 tons per day of waste.

CMP Analysis

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. In 1991, San Diego County adopted its initial CMP statutes. 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 analysis usually conducted as part of the CEQA review process. Authority for local land use decisions, including project approvals and any required mitigations, remains the responsibility of local jurisdictions. In the case of Gregory Canyon, Caltrans maintains jurisdictional responsibility for both I-15 and SR 76.

The criteria for which a project is subject to the regulations in the CMP are determined by the trip generation potential for the project. Currently, the average daily traffic (ADT) threshold established by the CMP is 2,400 vehicles or 200 or more peak hour trips. The Gregory Canyon landfill project will generate approximately 625 trucks per day (or 1,250 daily trips) plus 60 service and visitor trips per day, for a total of 1,310 maximum daily vehicle trips (see Table 4.5-4).[3] The project would result in a maximum of 116 vehicle trips in the morning peak hour (one hour between 7:00 and 9:00 A.M.) and 144 evening peak hour trips (one hour between 4:00 and 6:00 P.M.). Table Therefore, the project is not subject to CMP guidelines for traffic impact studies since the project would generate less than 2,400 vehicles and less than 200 peak hour trips.

[3] A passenger car equivalency (PCE) is applied for capacity analyses.

TABLE 4.5-4
PROJECT GENERATED TRAFFIC ASSUMING 5,000 AND 3,200 TONS PER DAY

ACTIVITY	TRUCKS OR VEHICLES/TRIPS (ONE WAY/TWO WAY)		WITH 1.5 PCE[a] FACTOR		TOTAL DAILY TRIPS (W/PCE FACTOR)	
	5,000 tpd	**3,200 tpd**	**5,000 tpd**	**3,200 tpd**	**5,000 tpd**	**3,200 tpd**
Collection trucks	625/1,250	400/800	1,875	1,200	1,875	1,200
Other (Periodic construction, including rock transport off-site; brine, and leachate removal) [b]	50/100	50/100	150	150	150	150
Employee	20/40	20/40	NA	NA	40	40
Service/Visitor	10/20	10/20	NA	NA	20	20
Total	NA	NA	NA	NA	2,085	1,410

[a] PCE = Passenger Car Equivalent, HCM Table 8-9; used to convert large truck to cars for analysis purposes.
[b] Shipment of brine off-site would only occur if the reverse osmosis facility were used and at maximum capacity would result in three trips per day. At the peak generation of leachate (year 16), the removal of leachate would result in a maximum of five trips per day.
Source: Darnell & Associates, 1999

Project Trip Generation

Trip generation for a landfill is unique to operations of the facility. While the site will be open to the public, including individuals, private contractors, and landscapers, for the delivery of waste, virtually all of the waste will be delivered to the site by commercial refuse vehicles. Since the majority of the waste will be brought to the site in commercial vehicles, the operator can control the daily trips entering the site and will limit the total number of trips per day, including public trips, to the volume documented in the traffic study. Based on discussions with the applicant, landfill operations have been defined such that trips can be determined by input rate, collection truck capacities, employment, and other service/visitor trips to the site. The landfill would accept a maximum input of 5,000 tons of solid waste per day (i.e., "worst case" scenario), but with a maximum annual input of one million tons.

Table 4.5-4 provides a summary of project trip generation for the maximum 5,000 tpd. Assuming collection trucks with a payload of eight tons, a maximum of 625 trucks would enter the site. To account for the effects of heavy vehicles onto the street system, trucks are converted to cars using a passenger car equivalent (PCE). The PCE is from Table 8-9 in the Highway Capacity Manual (HCM) and is determined using grade percentages and average speed. Given the actual grades of less than two percent on SR 76 and surveyed average speed of 37.85 mph, a PCE of 1.3 could be used. However, to be conservative a PCE factor of 1.5 is used. The 625 trucks entering and existing the site (x 2) and applying the 1.5 factor equates to 1,875 cars.[4] In addition, other operational activities, such as the transport of rock off-site for sale, removal of brine from the reverse osmosis facility or leachate from the LCRS, and periodic construction of a

[4] The County requested an analysis assuming 24-ton transfer trucks replaced eight-ton direct haul trucks. For this analysis, a PCE of 4.0 was assumed, which has been used in other EIRs in the County for transfer trucks. Assuming 24-ton transfer trucks with a 4.0 PCE, the project's total daily trips would be reduced as follows: three eight-ton haul trucks carrying a total of 24 tons would generate a total of nine trips and one 24-ton transfer truck would generate a total of eight trips. Therefore, analyzing trips associated with eight-ton direct haul trucks presents a worst-case scenario.

next cell would generate additional truck trips. Therefore, an additional 50 trips were added to account for these activities. Again, using a 1.5 PCE factor this equals 150 trips per day. Other vehicles will access the site, such as employees, visitors to the site, and service vehicles. Employees are expected to generate 40 trips per day and service/visitor vehicles are assumed to generate 20 trips. These 60 trips are not heavy trucks and therefore, the PCE factor is not applied. The 60 trips added to the 2,025 passenger car equivalent trips equals 2,085 trips per day, based upon 5,000 tpd of waste.

Table 4.5-5 provides a summary of the hourly total project trip generation for the maximum 5,000 tpd and the average 3,200 tpd. Based on the average 3,200 tpd, the project would generate 1,410 trips per day (with the 1.5 PCE factor). The traffic analysis evaluates expected traffic impacts from the project based on a worst-case scenario. It is anticipated that the project may not reach the maximum capacity until the year 2015.[5] At that time, it is expected that the project would generate 1,410 daily trips and not the 2,085 daily trips assumed in the traffic analysis. The 2,085 daily trips would only occur on peak days within the year. Based on the maximum one million ton annual intake, the number of peak days (5,000 tpd) that could occur are limited. Thus, the traffic analysis is a worst-case scenario and overstates the daily trips by approximately 675 trips per day.

Project Trip Distribution

Project related traffic was distributed according to likely routes and destinations. Based on the geographic location and available arterials leading to mainline access, 95 percent of the traffic is oriented west of the project site (i.e., to and from I-15) and 5 percent is oriented east of the project site. Using known factors such as regional origins/destinations, 75 percent of the traffic is expected to utilize the I-15 corridor to the south, 10 percent to the north, and 10 percent west along SR 76. Trips associated with periodic construction, such as the export of aggregate material, will follow the same pattern (i.e., travel west on SR 76).[6] The aggregate will be taken to an existing redimix plant located in Escondido, San Marcos, or Vista. Trips associated with the removal of brine and leachate will also follow a similar pattern as these trucks would go to wastewater treatment plants located in either San Diego or Los Angeles Counties. Exhibit 4.5-4 graphically depicts the distribution splits. Exhibit 4.5-5 shows the traffic volume associated with the directional distribution.

The peak hour volumes shown on Exhibit 4.5-5 are representative of the project traffic generated at the time area wide peak hours occur. Traffic counts determined the typical morning peak hour to occur between 7:00 A.M. and 9:00 A.M. and the typical evening peak hour to occur between 4:00 P.M. and 6:00 P.M. In contrast to this, the project generates its heaviest volumes at 11:00 A.M. and 2:00 P.M. (Table 4.5-6). The peak period for SR 76 was determined using 1999

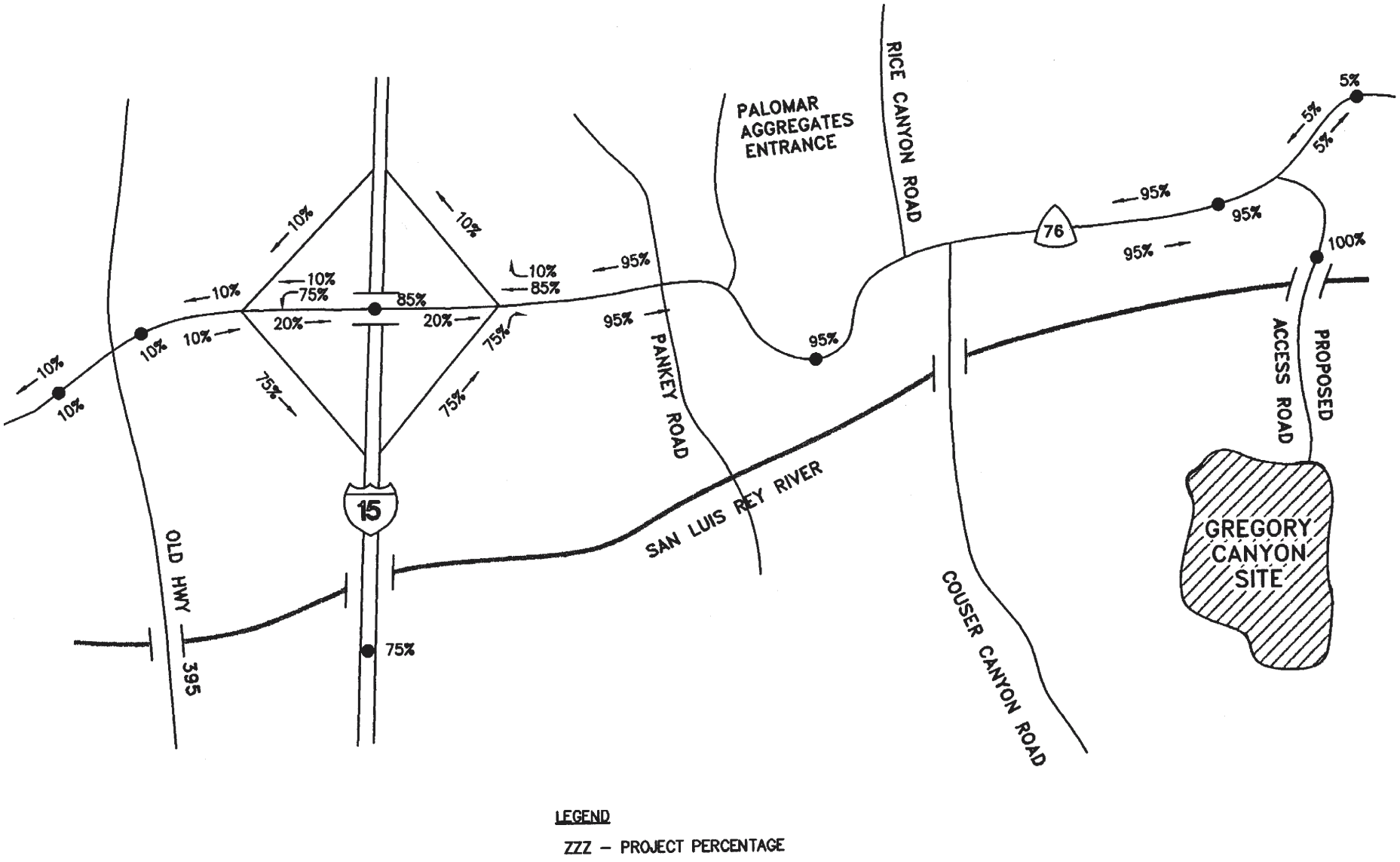
[5] While the maximum intake may not occur for several years, the Solid Waste Facility Permit application requests intake volumes that provide for the projected population growth in the region.

[6] A Major Use Permit (MUP) would be required for the exportation or sale of aggregate material from the project site. If the exportation or sale of aggregate were to occur, the applicant would obtain the MUP prior to the exportation or sale of material. The analysis considers a worst-case scenario, which for traffic would be the exportation of material since this would increase the number of trips to/from the site.

TABLE 4.5-5
HOURLY DISTRIBUTION OF PROJECT GENERATED TRAFFIC
(WITH PCE FACTOR)

	MAXIMUM WASTE (5,000 TPD) VOLUME TRIP GENERATION											
VEHICLE TYPE	**7:00**	**8:00**	**9:00**	**10:00**	**11:00**	**12:00**	**1:00**	**2:00**	**3:00**	**4:00**	**5:00**	**TOTAL**
Employee	11	9	0	0	0	0	0	0	0	11	9	40
8 Ton Truck	81	141	202	183	243	202	183	243	243	183	120	2,025
Service	0	2	4	4	4	0	2	4	0	0	0	20
Hourly Total[a]	92	152	206	187	247	202	185	247	243	194	129	2,085
	AVERAGE WASTE (3,200 TPD) VOLUME TRIP GENERATION[b]											
VEHICLE TYPE	**7:00**	**8:00**	**9:00**	**10:00**	**11:00**	**12:00**	**1:00**	**2:00**	**3:00**	**4:00**	**5:00**	**TOTAL**
Employee	11	9	0	0	0	0	0	0	0	11	9	40
8 Ton Truck	54	94	135	122	162	135	122	162	162	122	80	1,350
Service	0	2	4	4	4	0	2	4	0	0	0	20
Hourly Total [c]	65	105	139	126	166	135	124	166	162	133	89	1,410

[a] See table 4.5-4 for Project Generated Traffic
[b] Average Volume with 8 tons/collection truck = 400 trucks x 1.5 PCE[b] x 2 trips/day = 1,200 trips
[c] Vehicles are shown as two-way (enter/exit) with the exception of the employees which are shown as one way in the morning (entering) and one way in the evening (exiting)
Source: Darnell & Associates, 1999



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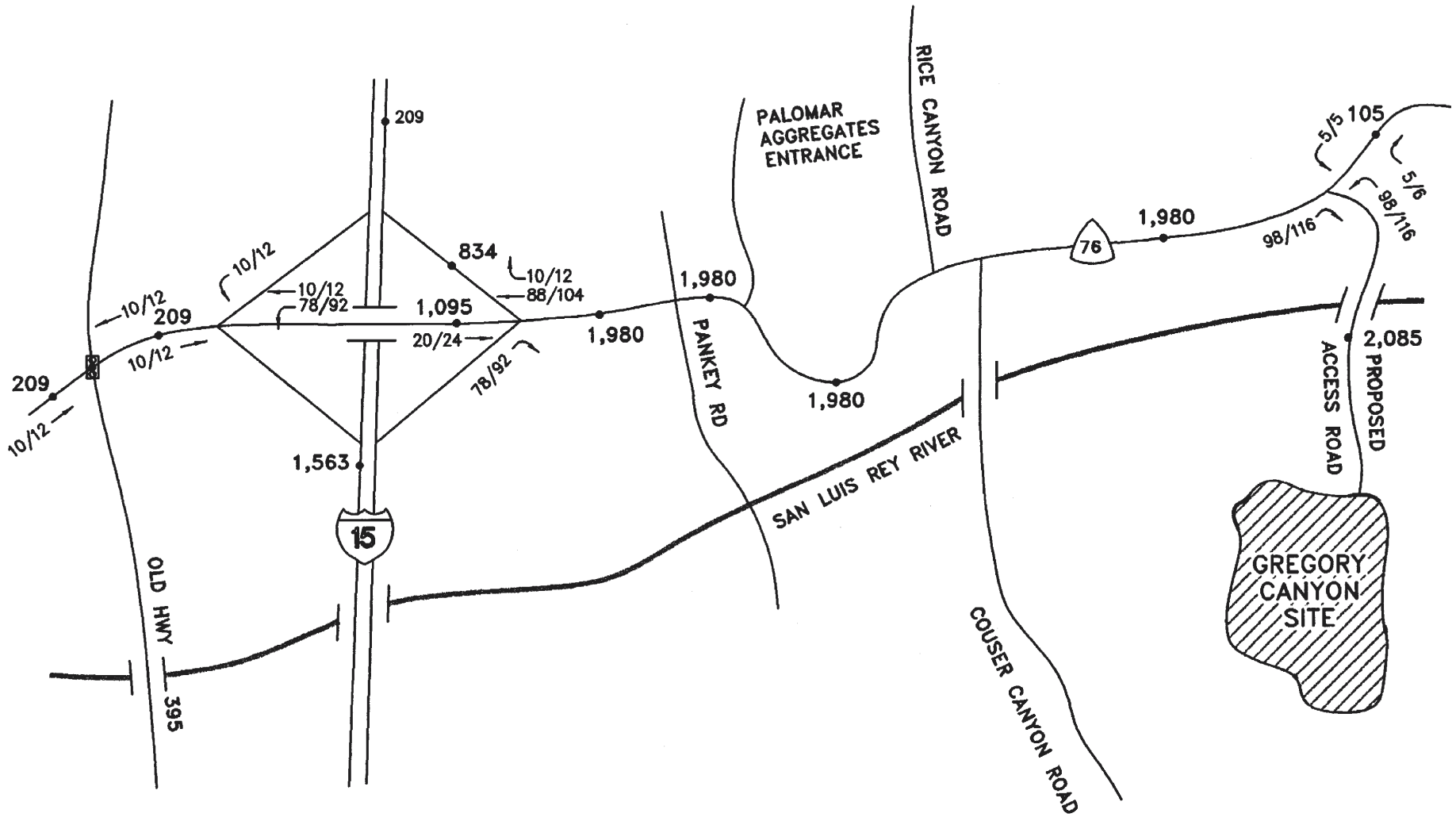
NOT TO SCALE

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999

Exhibit 4.5-4
Project Distribution Percentages



NOTE:
Vehicles Represent PCE's

LEGEND
XX/YY – AM/PM PEAK HOUR
• ZZZ – DAILY TRAFFIC

PCR

NOT TO SCALE

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999

Exhibit 4.5-5
Projected-Generated Traffic Volumes and Distribution

data. Table 4.5-6 summarizes the traffic volumes on SR 76 with and without the project in the typical A.M. and P.M. peak as well as the project peaks of 11:00 A.M. and 2:00 P.M. With the exception of the segment between Pankey Road to Palomar Aggregates the typical morning and afternoon peak hours were at the highest traffic demand. The Pankey Road to Palomar Aggregates segment has 39 more cars at 11:00 A.M. with the project compared to the typical A.M. peak with the Project. Therefore, the typical morning and evening peak hours are used for the traffic analysis.

TABLE 4.5-6
COMPARISON OF A.M./P.M. PEAK HOUR VOLUMES WITH PROJECT GENERATED 11 A.M./ 2 P.M. PEAK HOUR

ROAD SEGMENT	A.M. VOLUME 7-9 A.M.		P.M. VOLUME 4-6 P.M.		MID-DAY 11 A.M.		MID-AFTERNOON 2 P.M.	
	EXISTING	EXISTING PLUS PROJECT [a]	EXISTING	EXISTING PLUS PROJECT [b]	EXISTING	EXISTING PLUS PROJECT [c]	EXISTING	EXISTING PLUS PROJECT [d]
I-15 to Pankey Road	386	582	301	533	244	479	240	475
Pankey Road to Palomar Aggregates	255	451	301	533	255	490	222	457
Palomar Aggregates to Couser Canyon	303	499	256	488	173	408	230	465
Couser Canyon to Project Access	337	533	265	497	228	463	236	471
East of Project Access	328	338	297	308	293	305	262	274

[a] Project adds 196 trips west, 10 east
[b] Project adds 232 trips west, 11 east
[c] Project adds 235 trips west, 12 east
[d] Project adds 235 trips west, 12 east
Source: Darnell-Associates, 1999

Existing Plus Project Level of Service

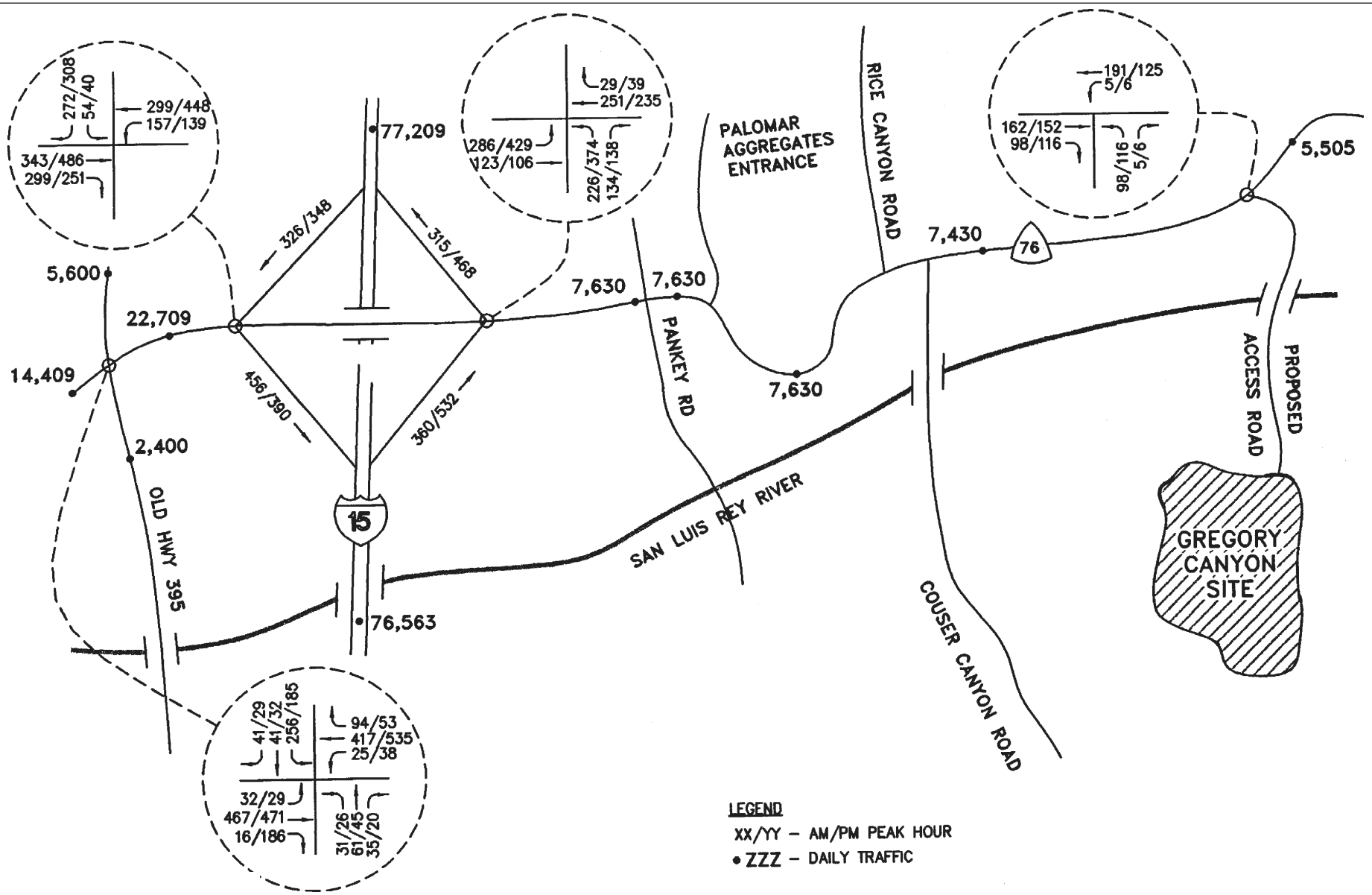
To determine impacts associated with project-related vehicles, maximum project traffic was added to existing conditions. The resulting traffic volumes are presented on Exhibit 4.5-6. Levels of service were calculated for this condition using the HCS methodologies described previously in Section 4.5.1.

Table 4.5-7 shows all intersections, freeway ramps, and roadway segments are projected to operate at an acceptable level of service (LOS D or better) with the addition of the project.

Project Access/Internal Circulation

The project includes improvements to SR 76 at the access road (Exhibit 3-7), which is located approximately 1.1 miles east of Couser Canyon Road. The improvements, which are approximately 1,700 linear feet, will realign SR 76 to the south of the existing alignment. In addition, the improvements will widen the roadway to 52 to 64 feet to provide for an eastbound deceleration lane and a westbound left turn lane. The improvements will provide adequate sight distance per Caltrans requirements.

The project access was analyzed for level of service utilizing the above assumptions for lane configuration, including one lane for egress. Both morning and evening peak periods would achieve acceptable levels of service under the greatest traffic volumes (i.e., Cumulative plus



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NOT TO SCALE

Sources: Darnell & Associates, Inc.; PCR Services Corporation,1999

Exhibit 4.5-6
Existing Plus Project Traffic Volumes and Distribution

TABLE 4.5-7
EXISTING AND EXISTING PLUS PROJECT PEAK HOUR LEVEL OF SERVICE

	A.M. PEAK 7 A.M. - 8 A.M.		P.M. PEAK 4 P.M. - 5 P.M.	
INTERSECTIONS	EXISTING	EXISTING PLUS PROJECT	EXISTING	EXISTING PLUS PROJECT
Highway 395/SR 76	D	D	D	D
SR 76/I-15 Southbound On/Off	C	C	C	C
SR 76/I-15 Northbound On/Off	C	C	D	D
FREEWAY RAMPS				
1-15 Northbound On-Ramp	B	B	B	B
1-15 Northbound Off-Ramp	B	B	B	B
1-15 Southbound On-Ramp	B	B	B	B
1-15 Southbound Off-Ramp	B	B	B	B
STREET SEGMENTS				
West of Highway 395	D	D	D	D
1-15 to Pankey Road	C	C	C	D
Pankey Road to Palomar	C	C	C	D
Palomar to Couser Canyon	C	C	C	D
Couser Canyon to Project Access	C	C	C	D
East of Project Access	C	C	C	C
LOS based on HCM 3.1a Software Calculations *Source: Darnell & Associates, 1999 and 2001*				

Proposed Project traffic volumes) and would not require signalization or other additional improvements.

The access road, which is located entirely on the project site, would travel south from SR 76, cross the San Luis Rey River and turn easterly to reach the landfill entrance. The project includes the construction of a new bridge over the San Luis Rey River. Separate roadways for access to/from the landfill and to/from the stockpile/borrow areas will be provided and maintained by the applicant and operator. The internal circulation plan would provide for adequate truck turning radii and would be adequate for the purposes of the landfill. No significant access or circulation impacts would occur at the landfill.

Project Impact on Road Surface Conditions

The large percentage of heavy trucks associated with the landfill could degrade the structural integrity of the highway facility. Caltrans staff have indicated that based on a 20-year life, a Traffic Index of 12.0, and soil types, the structural section for SR 76 in the project vicinity may require an increased asphalt concrete thickness for the traveled way and shoulders. This impact would be considered a potentially significant impact of the project, and a mitigation measure is provided.

Project Impact to Accident Rates on SR 76

As discussed above, traffic accident data from 1996 to 2001 on SR 76 from I-15 to east of the project site demonstrates that, although the traffic volume during this time increased by more than 150 percent, the occurrence of traffic accidents has actually decreased. In addition,

according to this accident data, heavy truck traffic was involved in less than 16 percent of the accidents on the segment of SR 76 that experienced the most accidents. Segment-wide, accidents involving heavy trucks account for only 13.5 percent of the total accidents. Furthermore, 90 percent of the accidents that occurred from 1999 through 2001 were caused by speeding, alcohol, or other traffic violations. As there is no evidence that the design of the roadway or the existence of trucks contributes to accidents, project traffic on SR 76 would not have a significant impact on the accident rate. However, the existence of a substandard radius curve west of Couser Canyon is a known existing roadway condition that may contribute to the higher accident rate. The applicant is negotiating an agreement with Caltrans to contribute funds that Caltrans may use to improve traffic safety on SR 76 in any manner deemed appropriate by Caltrans. (Potential interim improvements are analyzed in Section 10.4 of this Final EIR.) To date, Caltrans has not indicated it will accept or use these funds.

Project Impact to School Bus Stops on SR 76

The Project would not result in the modification, removal, or replacement of any of the bus stops in the project vicinity. The bus stop that is currently located near the Verboom Dairy will no longer be needed to serve the existing homes within the site boundary, as these homes would be removed. However, the stop may continue to be used as deemed necessary by the school districts. If the school districts determine that this stop is no longer necessary, it will be eliminated. None of the other bus stops in the vicinity are located on the project site.

While the project would result in increased traffic on SR 76, an increase in traffic volumes and the type of vehicles on a roadway are not shown to increase the accident rate on this segment of SR 76, as discussed above. Therefore, the increase in traffic associated with the project would not result in safety impacts related to the existing school bus stops. Furthermore, the A.M. and P.M. peak hours for school buses do not typically coincide with the peak hours for the project, as the project would generate its heaviest traffic between 11:00 A.M. and 2:00 P.M. While there is an existing safety condition on SR 76 with which school buses must currently contend, the school districts are responsible for determining if any safety modification, such as bus turn-outs and stop relocations, are warranted.

4.5.3.3 Cumulative Analysis

Two cumulative scenario analyses have been completed for the project: (1) near term, identifying development that is approved or known, which has been designated as "Existing Plus Other Development"; and (2) Year 2020 Buildout.

Existing Plus Other Development

Other known development which significantly affects the SR 76 corridor was identified and incorporated into the Existing Plus Other Development analysis as shown on in Table 4.5-8. This list was updated since the January 1999 Draft EIR.

The traffic volumes associated with these projects are presented in Exhibit 4.5-7. These volumes were then added to the existing traffic volumes for the Existing Plus Other Development traffic condition, which is shown on Exhibit 4.5-8.

TABLE 4.5-8
KNOWN DEVELOPMENT IN PROJECT AREA FOR NEAR TERM CUMULATIVE ANALYSIS

DEVELOPMENT	LOCATION [a]	DESCRIPTION [b]
H.G. Fenton Company	Immediately north of project site	Annual growth allowed to year 2005 by County Master Use Permit (18 trips per day w/PCE factor)
Rosemary Mountain/Palomar Aggregates	North of SR 76 about 1.25 miles east of I-15	Mining operation; used Traffic study for project with PCE factor
Pipeline No. 6	Runs north-south through project site	30-mile pipeline; Metropolitan Water District certified EIR used; 140 daily trips
Pala Gaming Facility	North of SR 76 and east of Pala Temecula Road	187,300 sf casino; 6,400 daily trips [c]
Sycamore Ranch	North of SR 76, west of Gird Road	195 residential units and a golf course
Gas station	southwest corner of SR 76/I-15	12-unit fueling station facility, 1,800 daily trips
Brook Hills	West of Gird Road on SR 76	110-lot subdivision, used traffic study data
Lake Rancho Viejo	About 8 miles southeast of Fallbrook	816 dwelling units
Pauma Valley Fruit Packing Facility	Northwest of SR 76/Hampton Road intersection	38,060 square foot packing plant

[a] See Exhibit 5-1 in this EIR for map showing locations

[b] Traffic studies and environmental documentation prepared for the projects were used where possible to determine peak hour traffic volumes and distribution

[c] The only publicly available information on the Pala Gaming Casino during the preparation of the December 1999 Revised Draft EIR was the traffic study prepared for a 65,000 square foot facility. This traffic data was used in the cumulative analysis. A Draft EA for the proposed 187,300 sq.ft. Pala Gaming Casino was circulated in April 2000. This change does not alter the traffic analysis contained in this section.

Source: Darnell & Associates, 1999 and 2001

All intersections would operate at acceptable levels of service with or without other development traffic. Peak hour segment analysis indicates that SR 76 will operate at LOS D or better from I-15 to east of the Project site without any improvements. However, west of Highway 395, other development traffic would result in a LOS E condition, which would require improvements on SR 76 to four lanes to achieve LOS D. These improvements would require the widening of the I-15 overcrossing. All freeway ramps would operate at acceptable levels of service with or without other development traffic.

Existing Plus Other Development Plus Proposed Project

The proposed project traffic was added to the Existing Plus Other Development traffic as shown on Exhibit 4.5-9. As can be seen in Table 4.5-9, all intersections, roadway segments and freeway ramps achieve an acceptable LOS with the addition of an eastbound left turn lane and westbound through lane at the I-15 overcrossing.

Three roadway segments would operate at LOS E with the other development plus project. SR 76 west of Highway 395 would be impacted without the addition of the project. The landfill would contribute a less than significant amount of traffic to the segment (less than two percent). Therefore, the project would not have to contribute to the mitigation of SR 76 west of Highway 395 which would occur without the project. The segments between I-15 to Palomar would operate at LOS E. With the implementation of the required off-site improvements by the

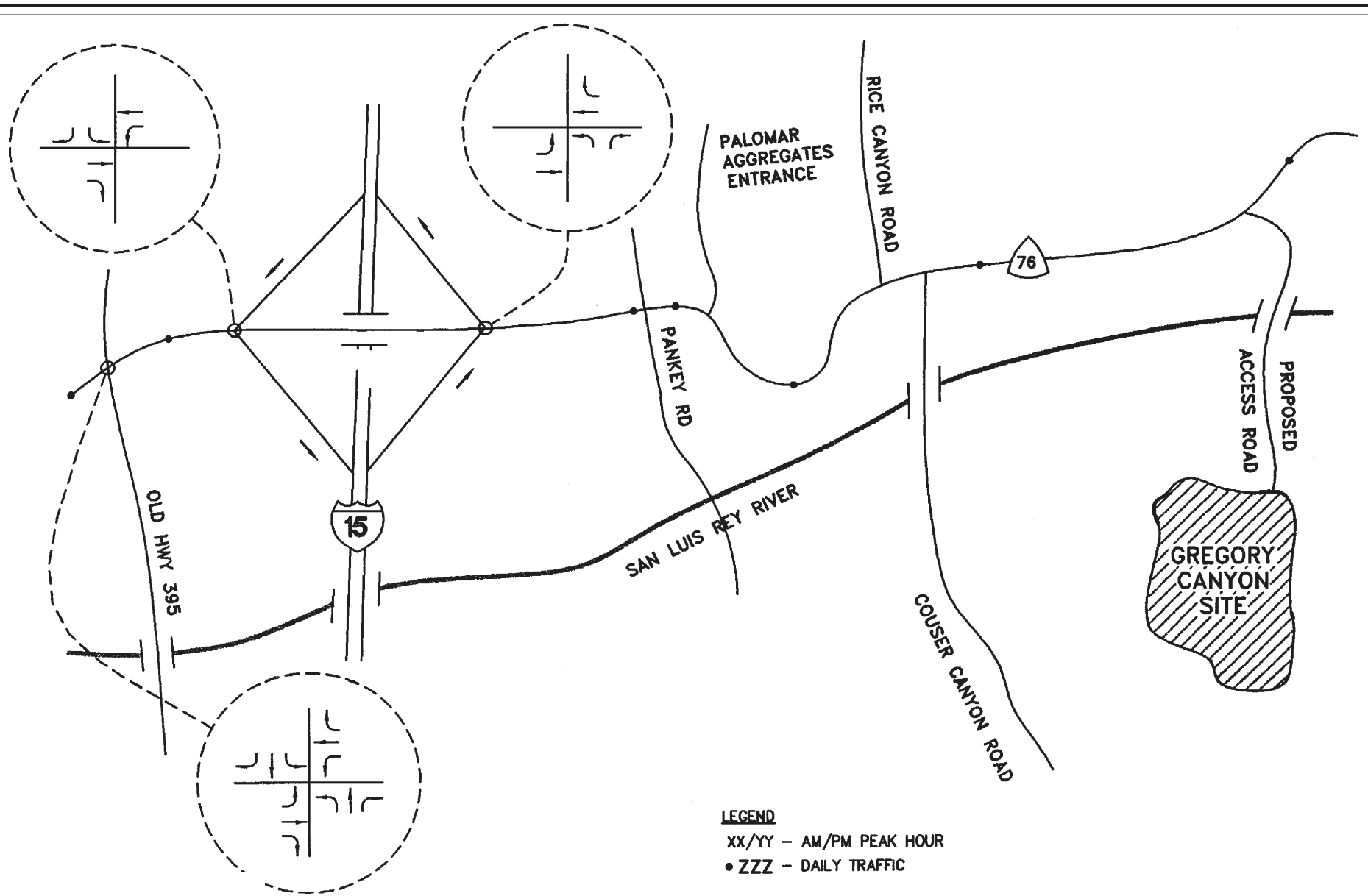
PALOMAR AGGREGATES ENTRANCE
RICE CANYON ROAD
76
PANKEY RD
ACCESS ROAD
PROPOSED
OLD HWY 395
15
SAN LUIS REY RIVER
GREGORY CANYON SITE
COUSER CANYON ROAD
LEGEND
XX/YY – AM/PM PEAK HOUR
• ZZZ – DAILY TRAFFIC

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TABLE 4.5-9
EXISTING PLUS OTHER DEVELOPMENT WITH AND WITHOUT PROJECT
PEAK HOUR LEVEL OF SERVICE

	A.M. PEAK 7 A.M.-8 A.M.		P.M. PEAK 4 P.M.-5 P.M.	
INTERSECTIONS	EXISTING PLUS OTHER DEVELOPMENT	EXISTING PLUS OTHER DEVELOPMENT & PROJECT	EXISTING PLUS OTHER DEVELOPMENT	EXISTING PLUS OTHER DEVELOPMENT & PROJECT
Highway 395/ SR 76	D	D	D	D
SR 76/I-15 Southbound On/Off [a]	C	C	D	D
SR 76/I-15 Northbound On/Off [a]	C	C	D	D
FREEWAY RAMPS				
I-15 Northbound On-Ramp	B	B	B	B
I-15 Northbound Off-Ramp	B	B	B	B
I-15 Southbound On-Ramp	B	B	B	B
I-15 Southbound Off-Ramp	B	B	B	B
STREET SEGMENTS				
West of Highway 395	D	D	E	E [b]
I-15 to Pankey Road	C	D	D	E [c]
Pankey Road to Palomar	C	D	C	E [c]
Palomar to Couser Canyon	C	D	D	D
Couser Canyon to Project Access	C	D	D	D
East of Project Access	C	C	D	D

LOS based on HCM 3.1a software calculations

[a] Includes signalization installed by Caltrans subsequent to the 1999 traffic study.

[b] SR 76 west of Highway 395 would operate at LOS E without the Project. The proposed landfill does not contribute significant traffic (less than 2%) and therefore, does not have to contribute to the mitigation.

[c] With the implementation of required off-site improvements by Palomar Aggregates, these segments will operate at LOS D.

Source: Darnell & Associates, 1999 and 2001

Palomar Aggregates, these segments will operate at LOS D. If the Palomar Aggregates project does not proceed, the Palomar traffic and improvements would not occur and the segments would operate at LOS D. Therefore, the project does not have a significant impact on the roadway segments.

All freeway on- and off-ramps would operate at LOS B with other development plus the project.

Caltrans and the developer for the Palomar Aggregates project are currently analyzing alignment alternatives for SR 76 from I-15 to just east of Couser Canyon Road. The six alignment alternatives are provided in the traffic study, Appendix H. The alignments vary from flattening curve radii along the existing alignment to more drastic alignments to the north and south of the existing alignment. Implementation of any of the alignments will not alter the conclusions of the traffic analysis regarding traffic capacity or circulation.

A Draft Environmental Assessment (EA) for the proposed Pala Gaming Casino was circulated for public comment in April 2000. The EA indicates that the Pala Casino and Entertainment Center would be a 187,300 square foot facility. This is different than the information that was publicly available at the time of the preparation of the December 1999 Revised Draft EIR for the proposed landfill. However, the increase in traffic for the casino was from 4,200 ADT previously used to 6,400 ADT contained in the EA. The increase in the ADT would not change the Existing Plus Other Development Plus Proposed Project scenario for the proposed landfill.

Year 2020 Conditions

Two full buildout, year 2020, scenarios were conducted to determine how the community will be affected by buildout of the area, including growth and planned improvements. Daily volumes for the year 2020 forecast were obtained from SANDAG's 2020 Model. Intersection volumes were adjusted from SANDAG's Series 8 Model (year 2015) to account for increased in the future condition.[7] One scenario assumes no improvements are made to SR 76 (plan to ground) and it remains as a two lane highway. The second scenario assumes implementation of the General Plan Circulation Element, which widens SR 76 to a four lane roadway.

Caltrans plans on widening and realigning 17 miles of SR 76 between I-5 and I-15. The scope of these improvements has been limited in the latest Regional Transportation Plan (RTP) to include only the segment from I-15 to Mission Road, although the widening and realignment of SR 76 from Mission Road to I-15 is still included in the 2020 RTP. Improvements to I-15 in the project vicinity are identified as Stage Five and include widening SR 76 west of I-15 and the I-15 overcrossing to four lanes with a graded right-of-way width for six-lanes, including signalization. This Project is currently under study, but is not funded.

With signalization of the I-15/SR 76 ramp intersections, as implemented by Caltrans, all intersections will operate at LOS D or better in the year 2020 with no improvements (Table 4.5-10). Ramp improvements include an additional eastbound left turn lane and westbound through lane on the I-15 overcrossing. In addition a new eastbound through lane west of I-15 would be added. Improvements to SR 76 and Highway 395 intersection would also be needed.

[7] Turn movement traffic volumes were checked against the short-term cumulative volumes to assure consistency between the model and the expected short-term development in the area.

TABLE 4.5-10
PEAK HOUR LEVEL OF SERVICE AT INTERSECTIONS AND FREEWAY RAMPS
WITH AND WITHOUT THE PROJECT
YEAR 2020

	NO MITIGATION				WITH MITIGATION			
	A.M.		P.M.		A.M.		P.M.	
INTERSECTION	WITHOUT PROJECT	WITH PROJECT	WITHOUT PROJECT	WITH PROJECT	WITHOUT PROJECT	WITH PROJECT	WITHOUT PROJECT	WITH PROJECT
Highway 396/SR 76	F	F	F	F	D	D	D	D
SR 76/ I-15 Southbound [a]	D	D	D	D	--	--	--	--
SR 76/ I-15 Northbound [a]	C	C	D	D	--	--	--	--
FREEWAY RAMPS								
SR 76/I-15 North On	C	C	C	C	--	--	--	--
SR 76/I-15 North Off	D	D	D	D	--	--	--	--
SR 76/I-15 South On	C	C	C	C	--	--	--	--
SR 76/I-15 South Off	D	D	D	D	--	--	--	--

LOS based on HCM 3.1a Methodology
[a] Includes signalization installed by Caltrans, subsequent to the 1999 traffic study.
-- No mitigation needed since LOS D or better with or without project
Source: Darnell & Associates, 1999 and 2001

Table 4.5-11 provides the roadway segment analysis with and without the Circulation Element improvements to a four lane roadway. This analysis is provided since the widening of SR 76 is designated in the General Plan, although it is not a funded project. The segment analysis, assuming full development with no improvements to SR 76 (plan to ground), indicates that all segments except Couser Canyon to the Project Access will operate below LOS D without the project (Table 4.5-11). With the project, all segments will operate below LOS D. Because the plan to ground analysis indicates the project would contribute to a degraded LOS for all roadway segments, a mitigation measure is included that the project dedicate the necessary property to provide for the future widening of SR 76 through the project site to four lanes and provide a fair share contribution for the implementation of the improvements of SR 76 from the western boundary of the project site to the project access road.

If the improvements designated in the General Plan Circulation Element are implemented and SR 76 is widened to four lanes, all segments will operate at LOS B or better with or without the proposed landfill project.

4.5.3.4 General Plan Analysis

The objectives of the San Diego County General Plan Element are to provide a guide of a coordinated system of highway routes serving all sections of San Diego County to help achieve efficiency and economy, to facilitate planning efforts to meet street and highway needs of land development programs and to inform the citizens of San Diego County of these plans. As indicated in the General Plan, accepted highway procedures should be used and incorporated into the planning process. These procedures include the use of traffic counts, origin and destination surveys, and estimates of future population and the effects of future traffic generators. The traffic analysis prepared for the Gregory Canyon Landfill project has provided a comprehensive

TABLE 4.5-11
ROADWAY CAPACITY LEVEL OF SERVICE ON STREET SEGMENTS YEAR 2020

	NO IMPROVEMENTS [a]		WITH CIRCULATION ELEMENT IMPROVEMENTS	
	A.M.	P.M.	A.M.	P.M.
STREET SEGMENTS	WITH PROJECT	WITHOUT PROJECT	WITH PROJECT	WITHOUT PROJECT
West of Highway 395	F	F	B	B
Highway 395 to I-15	F	E	B	B
I-15 to Pankey Road	F	F	B	B
Pankey Road to Palomar	E	E	A	A
Palomar to Couser Canyon	E	E	A	B
Couser Canyon to Project Access	E	D	A	A
East of Project Access	E	E	A	A

[a] Plan to ground; assumes no widening of the SR 76 but future development as projected in SANDAG model
Source: Darnell & Associates, 1999

evaluation of project-related traffic impacts, as well as incorporated the use of accepted procedures to estimate future traffic impacts and improvements. Implementation of the mitigation measures will provide means for efficiency of traffic and further facilitate planning efforts as indicated in the General Plan to meet street and highway needs.

4.5.3.5 Site Closure Impacts

No significant impacts to traffic are expected to result with landfill closure. During the closure period, the estimated 2,085 daily PCE trips generated from landfill development and operations would not occur. Although not expected to be significant, a negligible amount of traffic may be generated by post-closure monitoring activities.

It is anticipated that the project site will be used as open space following landfill closure. At this time, the number of estimated daily trips associated with post-closure uses have not been determined; however, the daily number of trips associated with open space uses are expected to be less than significant.

4.5.3.6 First San Diego Aqueduct Relocation Option

The relocation of the aqueduct could increase construction trips to the site. This would be a short term impact and is not significant. The proposed project access road would cross the existing or the proposed relocated aqueduct.

4.5.4 MITIGATION MEASURES AND PROJECT DESIGN FEATURES

Proposition C

Section 5I of Proposition C contains the following mitigation measure relative to potential traffic impacts:

MM 4.5.C5I *In order to mitigate traffic impacts, the Applicant shall widen and realign State Route 76 on either side of the access road to improve sight distance and to facilitate truck movements. The realigned segment will provide*

approximately 1,000 feet of sight distance in both directions for traffic leaving the landfill. The Applicant shall contribute on a fair share basis to the widening of State Route 76 west of the access road to applicable state standards. The fair share shall be based upon the state standard average daily trips. Striping will be provided for acceleration/ deceleration lanes and an over-take lane for through traffic. These realignment plans may be modified as necessary to meet Caltrans requirements.

Project Design Features

- SR 76 will be improved at the access road as shown in Exhibit 3-6 to provide adequate width for the eastbound deceleration lane and a westbound turn lane and to improve sight distance per Caltrans requirements. The improvements, which are approximately 1,700 linear feet, will realign SR 76 to the south of the existing alignment and will widen the roadway to 52 to 64 feet.

Impacts and Mitigation Measures

In addition to the mitigation measure contained in Proposition C, the following more specific mitigation measures have been developed to reduce potential traffic impacts identified in the environmental analysis from project implementation.[8]

Impact 4.5-1: *Project traffic could worsen sections of poor surface along SR 76 from Interstate 15 to project access.*

MM 4.5-1: The project applicant shall conduct a structural analysis of SR 76 and determine the structural requirements along SR 76 from the Rosemary Mountain Palomar Aggregates project to the proposed landfill entrance to determine whether the existing foundation can accommodate anticipated heavy truck loads. The applicant shall obtain certification from Caltrans for adequate pavement surface to be enforced by the County Department of Public Works. This analysis shall be extended west to the I-15 ramps if the Palomar Aggregates project is not implemented. Construction of the recommended pavement improvements, consistent with Caltrans requirements shall be implemented prior to operation of the landfill, if determined necessary, and fair share contribution made by the applicant.

Impact 4.5-2: *For the existing plus other development plus project scenario, the I-15/SR 76 northbound ramp will be adversely impacted by the proposed project and exceed the acceptable LOS D criteria.*

MM 4.5-2: At the commencement of operation, the project applicant shall make a fair-share contribution for the addition of an eastbound left turn lane and westbound through lane on the I-15 overcrossing.

Impact 4.5-3: *For the year 2020 scenario without the General Plan improvements (widening to four lanes) SR 76 will exceed the acceptable LOS D criteria.*

[8] The impacts and mitigation measures associated with the signalization of I-15/SR 76 northbound and southbound intersections have been removed, as the updated existing conditions includes these signals.

MM 4.5-3: The Project applicant shall make an irrevocable offer of dedication for right-of-way to 108 feet in width within the Project boundary for the widening of SR 76 to four lanes per the County of San Diego Circulation Element, including a designated bike route. In addition, the project applicant shall provide a fair share contribution for the cost to provide four lanes on SR 76 from the western boundary of the project site to the project access road.

4.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures identified above will eliminate or reduce the potential project level traffic impacts to a less than significant level. In terms of cumulative traffic impacts, although fair share contribution could be considered adequate mitigation under CEQA Guideline 15130(a)(3), given the uncertainty of the implementation of future improvements to SR 76 between I-15 and the western boundary of the project site, the cumulative traffic impact is considered significant and unmitigable.