

TRAFFIC AND TRANSPORTATION

Testimony of James Adams

SUMMARY OF CONCLUSIONS

The Orange Grove Project (OGP) would be consistent with the Circulation Element in the San Diego County General Plan and all other applicable laws, ordinances, regulations, and standards (LORS). The project would not have a significant adverse impact on the local and regional road/highway network. During the construction and operation phases, local roadway and highway demand resulting from the daily movement of workers and materials would not increase beyond significance thresholds established by San Diego County. During the operational phase, the project would not adversely affect aviation operations associated with any airport flight traffic pattern or agricultural spraying operations.

INTRODUCTION

In the Traffic and Transportation analysis, staff addresses the extent to which the project may impact the transportation system in the local area. This analysis includes the identification of: (1) the roads and routings that are proposed to be used for construction and operation; (2) potential traffic-related problems associated with the use of those routes by construction workers and truck deliveries; (3) the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated facilities; (4) the frequency of trips and probable routes associated with the delivery of hazardous materials; and (5) the possible effect of project operations on local airport flight traffic.

In addition to assessing potential project related impacts, staff has reviewed the applicable LORS to determine compliance. The LORS that govern the project are listed below in **Traffic and Transportation Table 1**, followed by a discussion of the setting and potential impacts related to traffic operations and safety hazards resulting from the construction and operation of the OGP.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

**Traffic and Transportation Table 1
Laws, Ordinances, Regulations, and Standards**

Applicable LORS	Description
<p><u>Federal:</u></p> <p>Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 77</p>	<p>Includes standards for determining obstructions in navigable airspace. Sets forth requirements for notice to the Federal Aviation Administration of certain proposed construction or alteration. Also, provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace.</p>
<p>Title 49, Subtitle B</p>	<p>Includes procedures and regulations pertaining to interstate and intrastate transport (includes hazardous materials program procedures), and provides safety measures for motor carriers and motor vehicles who operate on public highways.</p>
<p><u>State:</u></p> <p>California Vehicle Code, Division 2, Chapter. 2.5, Div. 6, Chap. 7, Div. 13, Chap. 5, Div. 14.1, Chap. 1 & 2, Div. 14.8, Div. 15</p> <p>California Streets and Highway Code, Division 1 & 2, Chapter 3 & Chapter 5.5</p>	<p>Includes regulations pertaining to licensing, size, weight and load of vehicles operated on highways, safe operation of vehicles, and the transportation of hazardous materials.</p> <p>Includes regulations for the care and protection of State and County highways, and provisions for the issuance of written permits.</p>
<p><u>Local:</u></p> <p>San Diego County General Plan – Circulation Element.</p> <p>Guidelines for Determining Significance- Traffic and Transportation- Public Facilities Element</p>	<p>Objectives are to provide a guide for the provisions of a coordinated system of highway routes serving all sections of San Diego County, to help achieve efficiency and economy in this important field of public works, to facilitate the planning to meet and street and highway needs in subdivision and other land development programs and to inform the citizens of San Diego County of these plans.</p> <p>New development shall provide needed roadway expansion and improvements on-site to meet demand created by development, and to maintain a Level of Service C on Circulation Element roads during peak traffic hours.</p>

SETTING

The OGP site is located on State Route 76 (SR-76) about four miles east of Interstate 15 (I-15) in western San Diego County. The facility would be located adjacent to San Diego Gas and Electric (SDG&E's) Pala Substation and just north of the San Luis Rey River. **Traffic and Transportation Figure 1, Regional Transportation System** shows the region surrounding the project site. Transportation figures are located at the end of this analysis.

Plant construction and operation traffic would use the existing roadways, which would include I-15, SR-76 and Pala Del Norte Road. Access to the site would be via SR-76 and Pala Del Norte Road, a local/private road. The local roadways that could be affected by the OGP are shown in **Traffic and Transportation Figures 1 & 2, Regional and Local Transportation System**. The existing roads, highways, and transit modes in the area of the project are identified below.

EXISTING HIGHWAYS AND ROADS

I-15 is a north-south eight-lane freeway that connects the San Diego area with Riverside and San Bernardino counties to the north and ultimately crosses the California/Nevada border. Caltrans records show average daily traffic volume on I-15 in the project area is about 128,000 vehicles per day (Caltrans 2006). About 10% of the daily traffic involves truck movement. The corresponding volume for SR-76 is 13,400 with approximately 5% truck traffic (OGP 2008a, Table 6.11-2, pg. 6.11-6). SR-76 is a two-lane east/west road in the general project area. Bicycle travel is allowed for the entire length of SR-76 (Caltrans 2007, pg. 6.3), though there are no bike lanes near the project area. Pala Del Norte is not included in the list of County maintained roads (OGP 2008a, Table 6.11-1, pg. 6.11-4). Mission Road is a two-to-four lane north/south oriented road with about 24,000 to 18,000 vehicles per day depending on which road segment is analyzed. Ammunition Road is a two-to-three lane east/west oriented road with about 12,400 vehicles per day. Alturas Road is a two lane north/south oriented road with about 4,000 vehicles per day. East Mission Road is a two-lane east/west oriented road with about 20,500 vehicles per day (see **Traffic and Transportation Figure 1** and OGP 2008a, Table 6.11-6, pg. 6.11-8).

LEVEL OF SERVICE

“Level of Service” (LOS) is a qualitative measure describing operational conditions within a traffic stream. The LOS is a term used to describe and quantify the congestion level on a particular roadway or intersection, and generally describes these conditions in terms of such factors as speed, travel time, and delay. The Highway Capacity Manual¹ defines six levels of service for roadways or intersections ranging from LOS A representing the best operating conditions and LOS F the worst. **Traffic and Transportation Table 2** provides existing daily traffic volume and LOS are the major highways in the project area. As noted below, SR-76 has a considerable amount of traffic west of Old Highway 395 (LOS E during peak periods) but is LOS A east of I-15 (OGP 2008a, Table 6.11-3). Pala Del Norte is operating at LOS A with limited traffic. Mission, Ammunition, Alturas and East Mission Roads are currently LOS A or B.

AIRPORTS

The only airport in the general area is Fallbrook Community Airpark which is about eight miles west of the OGP site. The project site is not in the landing or take-off pattern of this aviation facility or any other airport. There are no agricultural airstrips in the project area.

¹ National Research Council, Highway Capacity Manual, Third Edition, 2000.

**Traffic and Transportation Table 2
Roadway Segment Average Daily Traffic Volume and LOS**

Roadway Segment	Volume	LOS
I-15 at SR-76	128,000	Northbound A/D (A.M./ P.M.) Southbound D/A (A.M./ P.M.)
SR-76 (east of I-15)	9,439	West of Old SR-395 E/E East of I-15 A

Source: OGP 2008a, Table 6-.11-2, pg. 6.11-5

PUBLIC TRANSPORTATION

The Bonsall Union School District encompasses a large area including the communities of Bonsall and Pala. School bus service for elementary and middle school is provided and travels on SR-76. The applicant states that the construction workers arrival and departure (7 a.m. and 4 p.m.) would not overlap with the times the school buses would utilize the portion of SR-76 from I-15 to the project site. The bus stops are two or more miles west of the OGP site (OPG 2008a, pg. 6.11-18). Staff has been advised by the District that a school bus does use SR-76 to pick up students who live in the general area and near the community of Pala. There are two school bus stops near Rice Canyon Road (see **Traffic and Transportation Figure 2**). The bus travels by the OGP site at 7 and 7:30 a.m., and 3 and 3:30 p.m. (Bonsall Union School District 2008)).

RAILROADS

The only rail line in the general project area is located west of the town of Fallbrook and is owned by Atchison Topeka and Santa Fe Railroad. The line is about eight miles west of the project site (see **Traffic and Transportation Figure 1**).

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project may have a significant effect on traffic and transportation if the project would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways; result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access; or

- result in inadequate parking capacity; or conflict with adopted policies, plans, or programs.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Construction Impacts and Mitigation

When evaluating a project's potential impact on the local transportation system, staff uses LOS determinations as the foundation on which to base its analysis. The following discussion identifies potential traffic impacts associated with the construction of the OGP, and provides an explanation of the impact conclusion.

The AFC provides an analysis of projected traffic conditions with the addition of project construction traffic trips. Project construction is expected to be completed in about six months. Construction is expected to commence in April 2009 with commercial operation scheduled to begin in the fall of 2009. All plant construction workers would park on the OGP site (OGP 2008a, pg. 1-16). This would also serve as a laydown area for materials and equipment. Staff has determined that the parking area is adequate for the number of construction workers involved in the project.

Construction Workforce Traffic

To determine the amount of vehicle trips to the project site during average and peak construction, the applicant assumed that workers would commute during the morning and afternoon peak intervals (6 to 8 a.m. and 4 to 6 p.m.) from Monday through Friday. It is assumed that approximately 20% of the workers would carpool (OGP 2008a, pg. 6.11-12). The average number of construction workers would be 56, while the peak workforce would consist of 105 workers during a one month period (3). Given experience with previous projects, staff believes that the estimated construction traffic trips and assumptions about peak construction activity are reasonable. Based on regional demographics and availability of skilled laborers, the construction workers would probably come from San Diego and Riverside counties.

To reach the project site, the staff believes construction workers coming from San Diego and Riverside would use I-15 and exit onto SR-76. They would then go east until reaching Pala Del Norte Road and turn left to reach the OGP access road. A left turn (heading north) would lead to the project site. Staff believes that OGP construction workers from the Fallbrook/Oceanside area could travel on SR-76 to Pala Del Norte Road and onto the site. Staff does not anticipate that construction traffic would degrade the LOS on these roads below Caltrans and San Diego County acceptable standards (LOS C and D).

Construction Truck Traffic

Construction of the generating plant would require the use and installation of heavy equipment and associated systems and structures. Heavy equipment would be used throughout the construction period, including trenching and earthmoving equipment, forklifts, cranes, cement mixers and drilling equipment. A passenger car equivalent (PCE) factor of three cars per truck was used to determine the traffic impacts of trucks and heavy equipment deliveries (National Research Council 1994). Project construction is expected to require seven trucks on average and 15 trucks during peak construction

(PCE of 21 and 45, respectively per day (OGP 2008a, pg.6.11-12). In-bound and out-bound truck traffic would arrive and depart the project site using the same route as construction workers. If the delivery routes or the number of truck trips changes, staff would revisit the issue. Pursuant to Caltrans California Legal Advisory Truck Route guidelines, trucks using SR-76 east of I-15 should not exceed 30 feet length from king pin to rear axle (Caltrans 2007b). However, larger trucks (less than 38 feet) are not prohibited. In addition, staff has been advised that Caltrans will be changing the Advisory for the local section of SR-76 to allow larger truck traffic (Caltrans 2008c). Staff has been advised that the two on-site water tanks (535,000 gallons of potable water and 414,000 gallons of recycled water) will be filled during the middle of construction (month three or four). Assuming that a water truck can haul 6,500 gallons per trip, it would take about 146 trips to fill both tanks (OGP 2008f). If two trips occurred each hour for eight hours per day, it would take ten days to fill both tanks. Trucks hauling fresh water from a planned water hook-up would use East Mission Road from the intersection with East Live Oak Park Road and would proceed east to I-15, south to SR-76, and east to Pala Del Norte and would return using the same route. Recycled water trucks will leave the Fallbrook Public Utility District (FPUD) waste water facility and use Alturas Road north to Ammunition Road, east to Mission Road, south to SR-76, east to Pala Del Norte, and then return via the same route (see **Traffic and Transportation Figure 1**). Staff gathered traffic collision data and concluded that the traffic accident rates on some sections of road that would be used by the water trucks are higher than the statewide average (Fehr & Peers 2008). A Technical Memorandum is attached to this analysis that provides a traffic collision and roadway characteristics analysis for the road segments noted above. Water truck deliveries are not expected to change the existing LOS on these roadway segments.

Staff is proposing Condition of Certification **TRANS-4** which would require the project owner to work with Caltrans, the California Highway Patrol, and the San Diego County Sheriff's Office to consider whether any safety measures (e.g. truck escort) are appropriate to minimize the potential for traffic accidents involving the water delivery trucks. Staff is also proposing Condition of Certification **TRANS-2** to repair any damage to SR-76 or Pala Del Norte Road from construction traffic, particularly heavy trucks.

Total Construction Traffic

Total average construction traffic impact (workforce and trucks) would be 77 vehicle trips (56 workers plus 21 PCE for trucks and deliveries), or 154 one-way vehicle trips. Total peak construction traffic impact would be 155 vehicle trips (105 workers plus 45 PCE for trucks and deliveries), or 310 one-way vehicle trips. The average construction total is about a 0.15% increase in traffic (peak construction total is about a 0.16% increase) when compared to 2007 average daily traffic counts (9,439 on SR-76 east of I-15). The LOS A on SR-76 east of I-15 would not degrade substantially during construction but the applicant is proposing, and staff supports, a construction traffic control and management plan. However, the I-15 south-bound-ramp at SR 76 is currently (2007) LOS E during the morning peak period and the northbound ramp is LOS E during the afternoon peak (OGP 20082, table 1, pg. 6.11-20). In addition, traffic on SR-76 is LOS E during peak travel periods. Staff is proposing Condition of Certification **TRANS-1**. This condition requires preparation of a construction traffic

control and management plan that would, among other things, advise workers to avoid using these ramps and SR-76 west of Old Highway 395 during the congested peak periods.

Linear Facilities

Approximately 1.3 miles of 16-inch diameter pipeline would deliver natural gas to the project site. The pipeline would cross SR-76 at two locations and would be installed along the south and north side of SR-76. The pipeline would connect to a SDG&E gas line near Rice Canyon Road west of the project site (OGP 2008a, pp. 6.11-14 and 15). Recycled water for all the project needs would be supplied by the FPU D waste water facility on Alturas Road, about four miles north of the town of Bonsall. Fresh water would be provided by a new water pick-up station that will be installed at the intersection of Mission Road and Live Oak Road about one mile west of I-15, and two miles north of the intersection with SR-76. Traffic impacts from the construction of the linears would be short term in nature, mitigated by cones and flagmen when necessary, and would not significantly impact traffic flow. Proposed Condition of Certification **TRANS-1** would ensure that the project owner works with the Caltrans and San Diego County to mitigate any significant adverse impact on traffic flows on SR-76 during construction of the linear facilities.

School Bus Route

As noted earlier, the Bonsall Unified School District provides school bus service to transport students to and from Bonsall and Pala. Staff contacted the District to confirm the times the buses use SR-76 east of I-15 (Bonsall Unified School District 2008). The buses pass by the OGP site at 7 and 7:30 a.m. and 3 and 3:30 p.m. Staff's proposed Condition of Certification **TRANS-1** requires that project construction workers arrive at the site prior to 6:45 a.m. and depart after 3:45 p.m. to avoid encountering the school buses when they are using SR-76 east of I-15. If the school bus travel times on SR-76 east of I-15 change, worker arrival and departure times would need to change accordingly.

Construction Phase Transport of Hazardous Materials and Waste

Deliveries to the OGP site would include small quantities of hazardous materials to be used during project construction. The applicant has stated that the delivery/disposal of hazardous materials (about two trucks per month [OGP2008a, Table 6.11-5]) to and from the site, and materials handling on site would be conducted in accordance with all applicable federal and state statutes (see the **HAZARDOUS MATERIALS MANAGEMENT** section of this assessment for more information). The preferred transportation route for hazardous materials would utilize SR-76 and I-15.

Operation Impacts and Mitigation

Employee and Truck Traffic

Operation of the power plant would require a labor force of nine full-time employees though only six or less would be on a typical work shift (OGP 2008a, pg. 6.11-20). Other project-related trips (i.e. delivery trucks) are expected to be minimal (three to five per day) and would occur during regular business hours. Water truck trips would be a

maximum of two per hour. The applicant is proposing that water, both fresh and recycled, would be delivered by truck to the site via local roads identified above. If the delivery routes or the number of truck trips changes, staff would revisit the issue. Whatever safety measures are adopted pursuant to proposed Condition of Certification **TRANS-4** would apply to water truck deliveries during operation. Staff believes that operational workers would follow the same routes as for construction. These minor trip additions to surrounding local streets and highways would not significantly affect the LOS of these roads.

Transport of Hazardous Materials and Waste

The transportation and handling of hazardous substances associated with the project can increase roadway hazard potential. Impacts associated with hazardous material transport to the facility can be mitigated to a level of insignificance by compliance with existing federal and state standards established to regulate the transportation of hazardous substances. The applicant intends to comply with all federal and state regulations related to the transportation of hazardous materials (OGP 2006a, pp. 6.11-16 & 22).

Project operation would require use of hazardous substances including sulfuric acid and cleaning and water treatment chemicals. The five truck deliveries per day noted earlier includes hazardous materials such as aqueous ammonia. A licensed hazardous waste transporter would haul any hazardous waste from the project site to one of three Class 1 hazardous waste landfills in western Kern County near the communities of Buttonwillow and Kettleman City, and in Imperial County near the community of Westmoreland. The handling and disposal of hazardous substances are also addressed in the **WASTE MANAGEMENT, WORKER SAFETY AND FIRE PROTECTION** and **HAZARDOUS MATERIALS** sections of this assessment.

Airport Operations and Ground Hugging Plumes

As noted earlier, the Fallbrook Community Airpark is located about eight miles north of the OGP site. The project site is not in the landing or take-off pattern of this or any other airport. In addition, the Combustion Turbine Generator (CTG) stacks under most circumstances would not generate visible plumes. Since the plant would be operating during warm conditions (summer/fall), the CTG stacks would not create ground hugging plumes that could impact vehicle traffic on SR-76 (Aspen 2008b). Staff concludes that the proposed project CTG stacks would not cause a significant adverse impact on aircraft or vehicle operations.

Emergency Services Vehicle Access

Emergency service vehicles would reach the project site via SR-76, Pala Del Norte Road, and a primary access road. A second access road will be built on the eastern portion of the site that would ensure emergency ingress/egress once the project becomes operational (OGP 2008a, pg. 6.11-17). For a more detailed discussion of emergency services concerning adequate ingress/egress for the OGP, see the **WORKER SAFETY AND FIRE PROTECTION** section in this assessment.

CUMULATIVE IMPACTS

The applicant has identified a number of projects that are in various stages of planning or development. Staff agrees that the two most likely to affect the OGP are the Rosemary's Mountain Quarry project and the Pauma Casino expansion. The two major traffic impacts of the quarry project are the constructing of SR-76 from I-15 east for 1.3 miles to the access road to the quarry, and the estimated 150 to 180 truck trips per day during the three year construction process (OGP 2008a, pg. 6.11-24). The quarry mining project began in June 2008 with the construction of a new section of SR-76 that will be a four lane highway from I-15 to the quarry access road 1.3 miles east of the interstate. The construction should be completed by May 2009. The Pauma Casino expansion could begin in the spring or summer of 2009, but the project is still under review by San Diego County (Caltrans 2008d). Once the casino becomes operational, an estimated 4,365 new average daily trips would occur (Ibid, pg. 6.11-26). The other project that may overlap with the OGP construction is the Pala Casino expansion which is underway and could overlap with the first couple of month's construction of the OGP (Ibid, pg. 6.11-25). Once completed, the expansion could generate 1,032 average daily trips on SR-76. As noted earlier, SR-76 is LOS E west of old Highway 395. The applicant has agreed to pay a "transportation impact fee" to San Diego County to mitigate the OGP's cumulative transportation impacts (Ibid, pg. 6.11-27). Staff believes that this is appropriate mitigation. There would also be additional mitigation related to transportation improvements on SR-76 to deal with any additional projects.

Staff has considered the project area minority populations (as identified in **Socioeconomics Figure 1**) and low income populations in its impact analysis. There are no significant direct or cumulative traffic and transportation impacts, and therefore, no environmental justice issues.

COMPLIANCE WITH LORS

The applicant has provided a table listing all applicable LORS (OGP 2008a, Table 6.11-18, pp. 6.11-30 and 31). Staff has concluded that the project as proposed would comply with relevant LORS (see **Traffic and Transportation Table 3**).

RESPONSE TO AGENCY AND PUBLIC COMMENTS

Staff has reviewed a letter from the California Department of Transportation, District 11 (San Diego), offering several comments related to construction traffic impacts on SR-76. The comments involve the installation of the gas pipeline in Caltrans right-of-way and the need for a construction traffic control plan. These comments included requirements related to the installation of the gas pipeline in Caltrans right-of-way, potential traffic control plan, and applicable encroachment permits (Caltrans 2008a). Staff advised the applicant at the data responses and issues workshop to comply with the applicable requirements noted in the Caltrans letter (CEC 2008). Staff's proposed Condition of Certification **TRANS-1** addresses these concerns.

Traffic & Transportation Table 3
Project Compliance with Adopted Traffic and Transportation LORS

Applicable LORS	Description
<p><u>Federal:</u> Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 77</p>	<p>Includes standards for determining obstructions in navigable airspace. Sets forth requirements for notice to the Federal Aviation Administration of certain proposed construction or alteration. Also, provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace.</p> <p><u>Consistent:</u> The project is not located within 20,000 feet of any airport and its structures would not penetrate any navigable airspace. The applicant is not required to file a “Notice of Proposed Construction or Alteration” with the FAA. In addition the project does not have any structure exceeding 200 feet in height which also triggers a notification to the FAA.</p>
<p>Title 49, Subtitle B</p>	<p>Includes procedures and regulations pertaining to interstate and intrastate transport (includes hazardous materials program procedures), and provides safety measures for motor carriers and motor vehicles who operate on public highways.</p> <p><u>Consistent:</u> Enforcement is conducted by state and local law enforcement agencies, and through state agency licensing and ministerial permitting (e.g., California Department of Motor Vehicles licensing, Caltrans permits), and/or local agency permitting (e.g., San Diego County Department of Public Works).</p>
<p><u>State:</u> California Vehicle Code, Division 2, Chapter. 2.5, Div. 6, Chap. 7, Div. 13, Chap. 5, Div. 14.1, Chap. 1 & 2, Div. 14.8, Div. 15</p>	<p>Includes regulations pertaining to licensing, size, weight and load of vehicles operated on highways, safe operation of vehicles, and the transportation of hazardous materials.</p> <p><u>Consistent:</u> Enforcement is provided by state and local law enforcement agencies, and through ministerial state agency licensing and permitting, and/or local agency permitting.</p>
<p>California Streets and Highway Code, Division 1 & 2, Chapter 3 & Chapter 5.5</p> <p>Caltrans Acceptable LOS</p> <p>California Legal Advisory Route</p>	<p>Includes regulations for the care and protection of State and County highways, and provisions for the issuance of written permits.</p> <p><u>Consistent:</u> Enforcement is provided by state and local law enforcement, and through ministerial state agency licensing and permitting, and/or local agency permitting.</p> <p>LOS D or better</p> <p>30 or 38 KPRA – truck trailer can be no longer from king pin to rear axle.</p> <p><u>Consistent:</u> The project would be in compliance with both these standards.</p>

Applicable LORS	Description
<p><u>Local:</u> San Diego County General Plan – Circulation Element.</p> <p>Guidelines for Determining Significance-Traffic and Transportation-Public Facilities Element</p>	<p>Objectives are to provide a guide for the provisions of a coordinated system of highway routes serving all sections of San Diego County, to help achieve efficiency and economy in this important field of public works, to facilitate the planning to meet and street and highway needs in subdivision and other land development programs and to inform the citizens of San Diego County of these plans.</p>
	<p><u>Consistent:</u> The San Diego County General Plan’s Circulation Element acknowledges that the road system in the project area should operate at LOS C or better. With implementation of proposed Condition of Certification TRANS-1, the local roads would meet the LOS standard with the addition of project related traffic.</p>
	<p>New development shall provide needed roadway expansion and improvements on-site to meet demand created by development, and to maintain a Level of Service C on Circulation Element roads during peak traffic hours. New developers must pay a traffic impact fee for any cumulative project impacts.</p>
	<p><u>Consistent:</u> The project would maintain the Level of Service (A) on SR-76 east of I-15 and the payment of traffic mitigation fees would help highway improvements related to cumulative traffic and transportation impacts.</p>

CONCLUSIONS

1. The project as proposed would comply with all applicable LORS related to traffic and transportation, and would not degrade the LOS levels on SR-76 or Pala Del Norte Road.
2. Because of the distance from the Fallbrook Community Airpark, the project would not impact aviation safety.
3. Staff is proposing Condition of Certification **TRANS-1** which would require a construction traffic control plan to provide appropriate mitigation during project construction.
4. Staff is also proposing Condition of Certification **TRANS-2** which would require a mitigation plan to repair SR-76 or Pala Del Norte Road if it is damaged by project related traffic.
5. Proposed Condition of Certification **TRANS-3** would require that the project owner pay a traffic impact fee to San Diego County to mitigate the project’s cumulative traffic and transportation impacts.

6. Staff is proposing Condition of Certification **TRANS-4** which would require the project owner to work with Caltrans, the California Highway Patrol, and the San Diego County Sheriff's Department to determine if traffic safety measures are needed to minimize potential traffic accidents involving the project's water delivery trucks.
7. There would be no unmitigated significant direct or cumulative traffic and transportation impacts and therefore no environmental justice issues.

PROPOSED CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall, in coordination with Caltrans and San Diego County, develop and implement a construction traffic control plan prior to site mobilization. Specifically, the overall traffic control plan shall include the following:

- Ensure that the project owner secures the encroachment permit for Caltrans right-of-way on SR-76 for the construction of the gas pipeline, and uses appropriate mitigation such as cones, signs, and flagmen to avoid unnecessary disruption of traffic flows on SR-76;
- Advise workers to avoid using the I-15 southbound/northbound ramps at SR-76 and also avoid using SR-76 west of Old Highway 395 during congested peak periods;
- Require workers to arrive at the site before 6:45 a.m. and depart after 3:45 p.m. to avoid encountering the Bonsall School District bus on SR-76: If the school bus travel time on SR-76 east of I-15 changes, worker arrival and departure times would change accordingly.
- Prior to site mobilization activities, the project owner shall provide the San Diego County Public Works Department for review and comment, and the CPM for review and approval, a traffic mitigation plan to maintain the existing LOS.

Verification: At least 90 days prior to the start of site mobilization activities, the project owner shall submit a construction traffic control plan to the Caltrans and the San Diego County Public Works Department for review and comment, and to the CPM for review and approval, to ensure that the construction of the linears and the increase in construction traffic would not adversely affect traffic flow on I-15 on-and-off ramps, SR-76 and Pala Del Norte Road.

TRANS-2 Prior to site mobilization activities, the project owner shall prepare a mitigation plan for SR-76 and Pala Del Norte Road should they be damaged by project construction. The intent of this plan is to ensure that if SR-76 and Pala Del Norte Road are damaged by project construction they will be repaired and reconstructed to original or as near original condition as possible. This plan shall include:

- Documentation of the pre-construction condition SR-76 and Pala Del Norte Road to the access road to the site. Prior to the start of site

mobilization, the project owner shall provide to the CPM photographs or videotape of SR-76 and Pala Del Norte Road

- Documentation of any portions of SR-76 and Pala Del Norte Road that may be inadequate to accommodate oversized or large construction vehicles, and identify necessary remediation measures; and
- Reconstruction of portions of SR-76 and Pala Del Norte Road that are damaged by project construction due to oversized or overweight construction vehicles.

Verification: At least 90 days prior to the start of site mobilization, the project owner shall submit a mitigation plan focused on restoring SR-76 and Pala Del Norte Road to its pre-project condition to Caltrans and San Diego County Public Works Department for review and comment, and to the CPM for review and approval.

Within 90 days following the completion of construction, the project owner shall provide photo/videotape documentation to Caltrans and the San Diego County Public Works Department, and the CPM that the damaged sections of SR-76 and/or Pala Del Norte Road have been restored to their pre-project condition.

TRANS-3 Prior to the start of commercial operations, the project owner shall pay San Diego County a traffic impact fee to pay for cumulative traffic and transportation improvements on the roads in the project area.

Verification: At least 30 days prior to the start of commercial operations, the project owner shall provide the CPM with proof that the traffic mitigation fee has been paid.

TRANS-4 Prior to the start of filling the project's potable and recycled water tanks, the project owner shall consult with Caltrans, the California Highway Patrol, and the San Diego County Sheriff's Department regarding potential traffic safety measures that would minimize the potential for traffic accidents on local roads involving the project's water delivery trucks. This would include any proposed changes in truck routes.

Verification: At least 60 days prior to the start of water tank fill-up, the project owner shall prepare a report describing consultation with the above listed agencies regarding measures, if any, that would reduce potential accidents involving the project's water delivery trucks. This report should be submitted to the listed agencies for review and comment, and to the CPM for review and approval. The report should include input from the applicable agencies.

REFERENCES

Aspen 2008a. E-mail from Will Walters, Aspen Environmental Group, to James Adams, California Energy Commission, on August 20, 2008.

Aspen 2008b. E-mail from William Walters to James Adams, California Energy Commission, on September 3, 2008.

Aspen 2008c. E-mail from Brewster Birdsall to James Adams on August 21, 2008.

Bonsall Unified School District 2008. Personal communication between Justin Cunningham and James Adams on September 2, 2008.

California Energy Commission (CEC) 2008. Personal communication between Joe Stenger, Orange Grove Project Manager, and James Adams at the data responses and issues workshop on September 11, 2008.

California Highway Patrol 2008. E-mail from Dawn Roe, Information Services Unit, to James Adams on August 28, 2008.

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TRAFFIC AND TRANSPORTATION TECHNICAL MEMORANDUM (Fehr & Peers 2008)

Date: October 30, 2008

To: James Adams, California Energy Commission

From: Matthew Manjarrez, P.E.
Steven Brown, P.E.

Subject: Orange Grove Project Traffic Safety Assessment

RS08-2632

Fehr & Peers has completed a traffic safety assessment of the water haul routes proposed for the Orange Grove Project. Specifically, we evaluated historical traffic collision data for the roadway segments that are part of the proposed haul routes, and we reviewed the physical characteristics of each segment to identify conditions that may be incompatible with the vehicles that will serve the project. The historical collision data was obtained from the Statewide Integrated Traffic Records System (SWITRS), and included all collisions on each roadway segment for the 36-month period from 2005 through 2007. The physical characteristics of each roadway segment were recorded during a field visit conducted by our staff on October 16, 2008.

Two different water haul routes are proposed, which are illustrated in Figure 6.11-3 of the Application for Certification. Fresh water would be brought in from the Fallbrook Public Utility District (FPUD) fresh water pickup station located on East Mission Road. The fresh water haul route would include East Mission Road (FPUD facility to I-15), I-15 (East Mission Road to SR 76), and SR 76 (I-15 to Pala del Norte Road). Reclaimed water would be brought in from the FPUD wastewater treatment plant located on Alturas Road. The reclaimed water haul route would include Alturas Road (FPUD facility to Ammunition Road), Ammunition Road (Alturas Road to South Mission Road), South Mission Road (Ammunition Road to SR 76), and SR 76 (South Mission Road to Pala del Norte Road). I-15 meets freeway design standards and is clearly able to safely carry the amount and type of truck traffic that would result from the Orange Grove project, so no detailed assessment of I-15 was performed. The traffic safety assessment included the following roadway segments:

- SR 76 between Pala del Norte Road and South Mission Road
- South Mission Road between SR 76 and Ammunition Road
- Ammunition Road between South Mission Road and Alturas Road
- Alturas Road between Ammunition Road and the FPUD fresh water facility
- East Mission Road between I-15 and the FPUD wastewater facility

HISTORICAL COLLISION DATA

Table 1 summarizes the historical collision data for each roadway segment listed above. The collision rate (collisions per million vehicle miles) was compared to published statewide average collision rates for similar facilities.

The total collision rate on the SR 76, South Mission Road, and Ammunition Road segments are higher than the statewide average. Only the SR 76 roadway segment has a fatal collision rate that is higher than the statewide average. The highest collision rates occur on Ammunition Road and Alturas Road. Notably, neither of these two roadways had any collisions involving trucks. In addition, the Alturas Road segment is very short and it carries a low traffic volume, so the collision rate may be subject to volatility due to the small statistical sample size; Alturas Road only experienced 4 collisions during the 36-month period being considered. Nearly half of the collisions on Ammunition Road were broadside type probably involving vehicles turning into and out of the driveways that are located throughout that roadway segment.

PHYSICAL ROADWAY CHARACTERISTICS

The field observations conducted on October 16th revealed that there were no sub-standard geometric features or conditions that would be incompatible with the types of trucks that will be using these roadways for the Orange Grove project. However, the following two issues should be considered.

- Alturas has a number of fronting properties with driveways and on-street parking. The fronting property owners may express concern that the planned truck activity deviates from the character of the roadway.
- East Mission and SR 76 both have a number of relatively sharp curves. However, the curves are clearly visible and well marked with advisory signs. Trucks can easily travel through these curves as long as their drivers are using reasonable care.

We hope this information is useful. Please contact Matthew Manjarrez at (916) 779-1900 with any questions, comments, or concerns.

TABLE 1

Historical Collision Data Summary

	Total Collisions	Fatal Collisions	Total Collision Rate		Fatal Collision Rate	
			Actual	Statewide Average	Actual	Statewide Average
SR 76 between S. Mission & Pala del Norte	345	7	2.45	1.32	.050	.029
S. Mission between SR 76 & Ammunition	242	3	1.91	1.56	.024	.067
Ammunition between S. Mission & Alturas	28	0	6.23	1.85	0	.013
Alturas between Ammunition & FPUD Facility	4	0	3.72	n/a	0	n/a
E. Mission between I-15 & FPUD Facility	25	0	1.01	2.95	0	.012

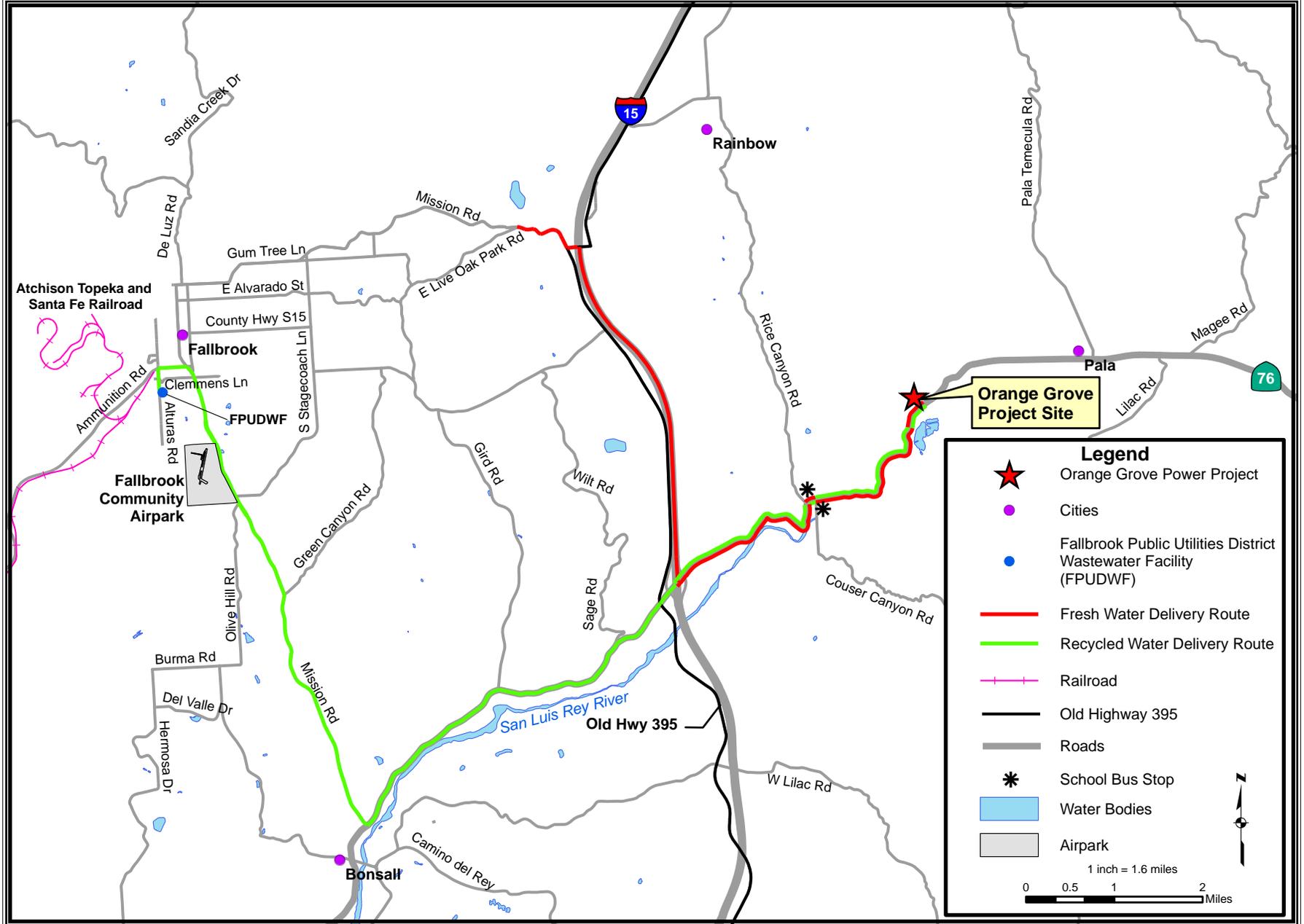
Notes:

1. The collision rates that are higher than statewide average are shaded. Statewide averages are not available for a roadway such as Alturas.
2. The collision rates are given in collisions per million vehicle miles traveled.
3. The statewide average rates were obtained from *1999 Accident Data on California State Highways* (Caltrans, June 2000). The rate group used for each roadway segment is listed below.
 - SR 76: Rate Group H03 – Rural Conventional Highway, 2 Lanes, Rolling Terrain, Design Speed ≤ 55 mph
 - S. Mission: Blended Rate Groups H03, H35, and H43 based on a weighted average.
 - Ammunition Road: Rate Group H35 – Suburban Conventional Highway, 4 Lanes, Divided, Design Speed ≤ 55 mph
 - E. Mission: Rate Group H07 – Suburban Conventional Highway, 2 Lanes, Rolling Terrain, Design Speed < 45 mph

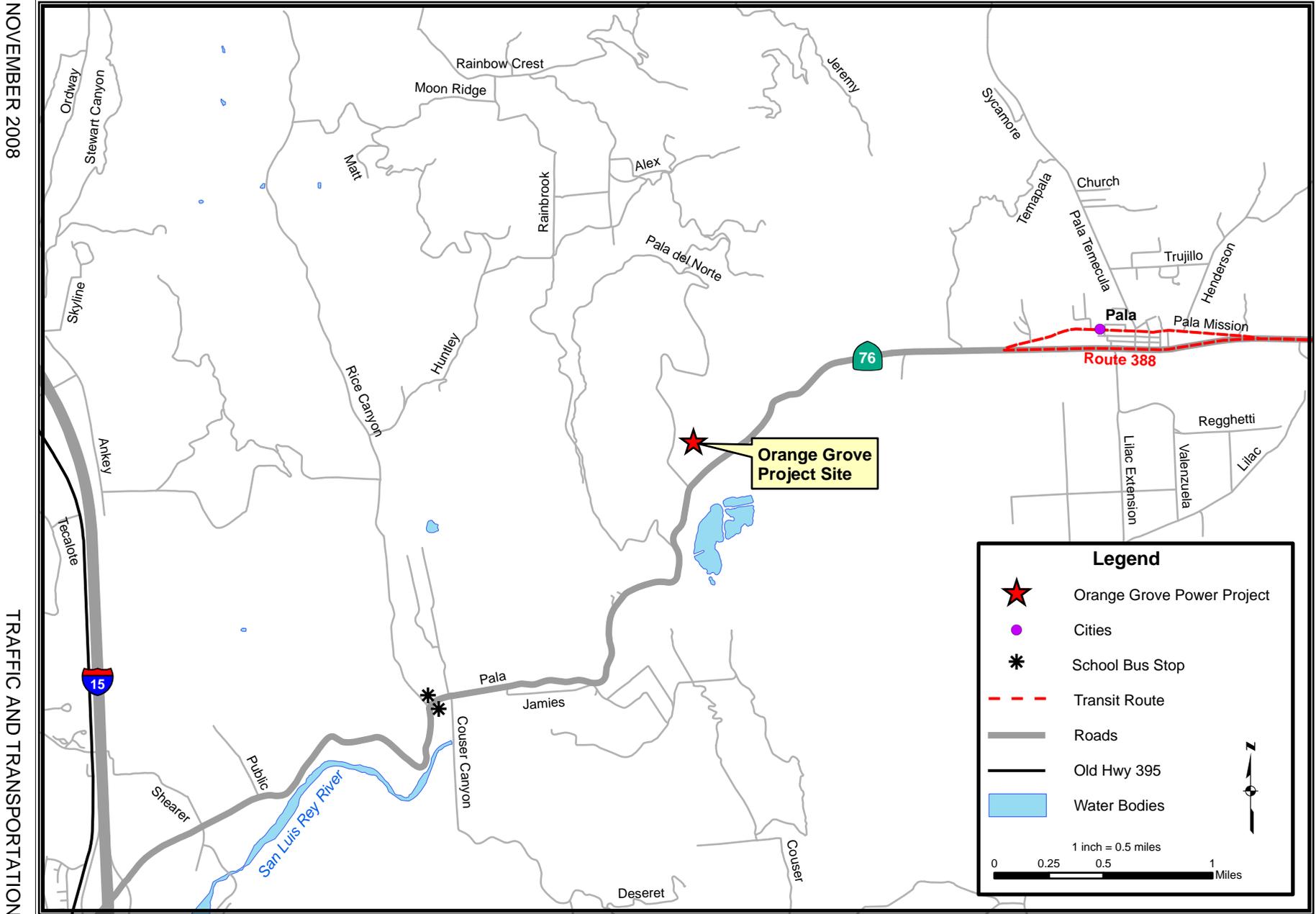
TRAFFIC AND TRANSPORTATION - FIGURE 1
 Orange Grove Project - Regional Transportation System

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TRAFFIC AND TRANSPORTATION - FIGURE 2
Orange Grove Project - Local Transportation System



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