

3.1.5 Utilities/Emergency Services

Many public utilities are located within the project area (i.e., the area disturbed during construction or within the proposed ROW of each build alternative). These include communication, electrical, natural gas/petroleum, water, and solid waste/sewer lines. Most of the existing utility lines are located within public ROW. Local jurisdictions along the project corridor provide public services. Additionally, there are also private service providers. Descriptions of utilities, emergency service providers, and the project's potential operational effects are described below.

3.1.5.1 Affected Environment

Information on public utilities in this section is the product of coordination with utility providers as summarized in the Draft Project Report (November 2011). Data on emergency services providers were obtained through research on official city department Web sites and correspondence with local government staff. City General Plans were also utilized when necessary as resources for additional information.

3.1.5.1.1 Utilities

This subsection summarizes major utilities found within the project area. Table 3.1.5-1 lists the agencies/companies that have utilities within or adjacent to the project area. There are approximately 313 utilities within the project area, including overhead and underground electrical, natural gas, oil and petroleum pipelines, telephone and communication, cable TV, water, and sewer. The locations of all utilities within the project area are provided in Appendix K, Section K1 Utility Plans. Most of the utilities run perpendicular to I-405 or along local streets, while approximately 18 facilities run parallel to I-405. The following agencies/companies have utilities within or adjacent to the project limits:

Electricity

Southern California Edison (SCE) provides electricity to the project area.

Most of the arterials, along with some local streets in the project area, accommodate either aerial overhead or underground electrical lines.

Natural Gas/Petroleum

Natural gas and petroleum within the project area is provided by the Southern California Gas Company (SCG), Chevron, City of Seal Beach, City of Westminster, Paramount Petroleum, Plains All-American Pipeline, and City of Long Beach Gas and Oil.

Table 3.1.5-1: Utilities Serving the I-405 Project Corridor

Utility Category	Utility Owner
Electrical	Southern California Edison
Natural Gas/Petroleum	Southern California Gas Company
	Chevron
	City of Seal Beach
	City of Westminster
	Paramount Petroleum
	Plains All American Pipeline
	City of Long Beach Gas and Oil
Water	Orange County Water District
	City of Westminster
	City of Seal Beach
	City of Fountain Valley
	Mesa Consolidated Water
Sewer	City of Westminster
	City of Garden Grove
	City of Seal Beach
	City of Fountain Valley
	Orange County Sanitation District
	City of Costa Mesa
	Rossmoor/Los Alamitos Sewer District
	County Sanitation Districts of Los Angeles County
	Metropolitan Water District of Southern California
Midway City Sanitation District	
Communications (Telephone, Cable, and Fiber Optics)	Verizon Communications
	XO Communications
	Time Warner Cable
	AT&T
	Qwest Communications
	MCI World Com/Sprint

Source: TEC, 2010.

Several major natural gas lines located within and adjacent to the project area include:

- A 14-inch high-pressure gas transmission line owned by the City of Long Beach and a 16-inch medium-pressure pipeline owned by SCG are located between the NAVWPNSTA Seal Beach perimeter security access road and Caltrans I-405 ROW in Seal Beach.

Water Distribution

It is the responsibility of the Orange County Water District (OCWD) to manage the groundwater basin under northern and central Orange County that supplies water to more than 20 cities and water agencies (OCWD 2010). Water pipelines owned by OCWD, as well as OCWD member agency Mesa Consolidated Water District, provide water to many businesses and residences within the study area. Most cities in the study area provide water services via the water resources division of each jurisdiction's public works department.

The cities of Westminster, Garden Grove, Seal Beach, and Fountain Valley also own water pipelines within the project area potentially affected by the project.

Water lines are located within most of the streets crossing I-405 and other freeways within the project area.

Wastewater and Stormwater

For most cities within the project area, the utilities division of their respective public works department maintains sewer utilities. In addition to wastewater, some sewerage systems also handle stormwater runoff. These facilities are also managed and maintained by the cities where they are located. Once wastewater passes through a city's sewerage system, the Orange County Sanitation District (OCSD) treats it at one of two operating facilities located in central and northwest Orange County. OCSD is responsible for the maintenance, management, and engineering of the wastewater system throughout Orange County. The Fountain Valley Wastewater Reclamation Facility on Ellis Avenue, which is partially located within the project area, is being upgraded to increase its secondary treatment capacity to 60 million gallons per day; construction is anticipated to be completed in late 2011 (OCSD 2010).

Solid Waste Disposal and Recycling

Solid waste collection, recycling, and yard waste disposal within the Orange County portion of the project area are provided by Orange County Waste & Recycling. The County operates three solid waste landfills; the closest facility to the project area is the Frank R. Bowerman Landfill, located at 11002 Bee Canyon Access Road in Irvine, which is approximately 725 acres in size with 534 acres permitted for refuse disposal. The landfill opened in 1990 and is scheduled to close in approximately 2053.

Telephone, Cable, and Fiber Optics

Verizon Communications, XO Communications, Time Warner Cable, AT&T, Qwest Communications, and MCI World Com/Sprint provide telecommunication services within the

project area. Most of these facilities are located within street ROW, with some facilities located in easements along the ROW line and behind single-family residences and businesses.

3.1.5.1.2 Emergency Service Providers

Fire Protection and Emergency Medical Services

Orange County Fire Authority

Within the project area, the Orange County Fire Authority (OCFA) serves the cities of Westminster, Seal Beach, and Los Alamitos, as well as the community of Rossmoor. The Operations Department of the OCFA is divided into five geographical divisions, each under the command of a division chief. Most of the divisions are divided into two battalions, which are under the command of field battalion chiefs. Within these battalions are 60 fire stations (i.e., 5 to 9 stations per battalion) that provide regional emergency response.

OCFA has adopted the following service standards for the provision of fire protection:

- First-in fire engine should arrive on scene to both medical aids and fires within 5 minutes, 80 percent of the time;
- First-in truck company should arrive on scene to fires within 10 minutes, 80 percent of the time; and
- First-in paramedic company should arrive on scene at all medical aids within 8 minutes, 90 percent of the time.

Emergency response to the communities within the project area is provided by various stations, which are located in OCFA Divisions 1, 2, and 4, and described in greater detail below (OCFA 2010).

Fire protection varies by city, and many cities work together for emergency services. Some fire departments participate with other Orange County fire departments, enabling them to request additional fire units when necessary. OCFA and other service providers specific to each city are described in more detail below.

Costa Mesa Fire Department

The city of Costa Mesa Fire Department (CMFD) provides fire prevention services, enforcement of fire protection laws and ordinances, and emergency medical services (EMS). CMFD serves more than 113,000 residents in an area encompassing 16.8 square miles and responds to more than 9,000 calls annually. CMFD is divided into three divisions—Administration, Suppression/Mobile Intensive Care (also known as EMS), and Fire Prevention. CMFD operates six fire

stations, four paramedic engine companies, two truck companies, one urban search and rescue (USAR) squad, and a Battalion Chief on duty around the clock.

The CMFD EMS Division responds to the ill and injured, providing basic and advanced life support services (City of Costa Mesa 2010). Station 2, which is located east of the northbound SR-73 Bear Street off-ramp at 800 Baker Street, is within 0.25-mile of the project area.

Fountain Valley Fire Department

FVFD provides emergency response services to the city of Fountain Valley. There are two fire stations within the city limits equipped to handle fires, medical emergencies, hazardous materials incidents, swift water rescue, and wildland strike teams. Each Paramedic Engine Company is staffed with a captain, an engineer, and two firefighter/paramedics. The Truck Company is staffed with a captain, engineer, and firefighter and firefighter/paramedic. The command vehicle is staffed with a Battalion Chief (City of Fountain Valley 2010a). FVFD responds to approximately 5,100 individual calls for service each year, with an average response time of 4 minutes 51 seconds (City of Fountain Valley 2010b). Fire Station 1, which is located north of Talbert Avenue at 17737 Bushard Street, is within 0.25-mile of the project corridor.

Huntington Beach Fire Department

The Huntington Beach Fire Department (HBFD) serves the city of Huntington Beach, providing fire protection, rescue, emergency medical response, and hazardous materials control services. HBFD operates four full-time ambulances, each staffed with two full-time emergency medical technicians (EMTs).

HBFD has 131 full-time safety personnel and 24 ambulance operators working out of 8 stations. Each station includes a Paramedic Engine Company staffed by a fire captain, two firefighter paramedics, and one engineer; two stations have a truck, and one has a Hazmat Response Unit staffed by the Paramedic Engine Company. In 2009, HBFD responded to 13,836 incidents, with an average response time of 4 minutes, 50 seconds (City of Huntington Beach 2009a). There are no fire stations in Huntington Beach located within 0.25-mile of the project corridor.

Westminster

Fire protection services are provided to the city of Westminster by OCFA. As a member city of OCFA and located in OCFA Division 1, Westminster receives services from Battalions 1 and 8, and Stations 61, 64, 65, and 66. Station 61 in Buena Park serves as the Fire Prevention Office, with personnel including a division chief, 3 battalion chiefs, 6 captains, 6 engineers, 12 firefighters, and an assistant fire marshal; in 2009, Station 61 responded to 4,873 calls. Station 64 responded to 6,486 calls in 2009, supported by 3 battalion chiefs, 6 captains, 6 engineers, and 9

firefighters. Stations 65 and 66 each house 3 captains, 3 engineers, and 6 firefighters, and responded to 2,090 and 4,635 emergency calls, respectively, in 2009 (OCFA 2010). The City of Westminster also offers a Paramedic Subscription Service to all residents and businesses in Westminster (City of Westminster 2010). Station 65 is located north of the Westminster Avenue interchange at 6061 Hefley Street and is the only fire station in Westminster within 0.25-mile of the project corridor.

Garden Grove Fire Department

The Garden Grove Fire Department (GGFD) provides fire prevention and protection services. Operating out of seven stations, GGFD utilizes seven engine companies, with two engines on reserve. Each day, 29 firefighters work 24-hour shifts. GGFD also provides basic life-support services by firefighters certified as EMTs. In 2009, GGFD responded to 10,892 calls for service, with an average response time of 4 minutes, 34 seconds (City of Garden Grove 2010). There are no fire stations in Garden Grove within 0.25-mile of the project corridor.

Seal Beach

Fire protection/suppression and emergency services are provided to the city of Seal Beach by OCFA. Seal Beach is an OCFA partner city. Located in OCFA Division 1, it is served by Battalions 1 and 8. The Fire Prevention Office serving Division 1 is located in Buena Park at OCFA Station 61, and the fire stations serving the area are Stations 44 and 48, which are located in Seal Beach. In 2009, Station 44 responded to 1,101 emergency calls, supported by 3 captains, 3 engineers, and 3 firefighters. Station 48 responded to 5,956 calls, supported by 3 captains, 3 engineers, and 9 firefighters (OCFA 2010). The Seal Beach General Plan's Safety Element encourages cooperation between OCFA and the Seal Beach Police Department in both enforcement and the designation of safety routes for emergencies, specifying I-405 as the primary route for emergency response. The Safety Element also specifies that Stations 44 and 48 have an average emergency and nonemergency response time of approximately 3 to 5 minutes (City of Seal Beach 2003). Station 48 is located at 3131 North Gate Road (Seal Beach Boulevard intersection) and is within 0.25-mile of the project corridor.

Rossmoor

Fire protection/suppression and emergency services are provided to Rossmoor by OCFA. The unincorporated area of Rossmoor is located in OCFA Division 1 and served by Battalions 1 and 8. The Fire Prevention Office serving Division 1 is located in Buena Park at OCFA Station 61. Personnel at Station 61 include a division chief, 3 battalion chiefs, 6 captains, 6 engineers, 12 firefighters, and an assistant fire marshal. In 2009, Station 61 responded to 4,873 calls (OCFA 2010). Fire Station 48 also serves Rossmoor and is within 0.25-mile of the project corridor.

Los Alamitos

As a partner city, Los Alamitos receives fire protection/suppression and emergency services from OCFA. Located in OCFA Division 1, it is served by Battalions 1 and 8. Station 61 in Buena Park functions as the Fire Prevention Office for OCFA Division 1: station details are provided under Rossmoor above. Los Alamitos is also protected by OCFA Station 2, with three captains, three engineers, and three firefighters on staff. Station 2 responded to 1,701 calls in 2009 (OCFA 2010). No fire stations in Los Alamitos are located within 0.25-mile of the project corridor.

Police Protection Services

California Highway Patrol

The California Highway Patrol (CHP) is responsible for law enforcement on state highways within the project area. The project area and all of Orange County are under the Border Division. The Border Division office nearest the project area is the Santa Ana office, which is located at 2031 E. Santa Clara Avenue, Santa Ana. Currently, there are four bidirectional CHP enforcement areas along I-405 within the project limits. These CHP enforcement areas are located in the median of I-405 at the following general locations:

- Between Harbor Boulevard and Ward Street (southbound between Euclid Street and Harbor Boulevard and northbound between Euclid Street and Ward Street)
- Between Bushard Street and Magnolia Street
- Between Bolsa Avenue and Beach Boulevard (southbound between McFadden Avenue and Beach Boulevard and northbound between Bolsa Avenue and UPRR Overhead)
- Between Springdale Street and Bolsa Chica Road

There are also existing CHP enforcement areas at the Harbor Boulevard northbound on-ramp, Hyland Avenue northbound on-ramp, and Edinger Avenue southbound on-ramp. Law enforcement in the local jurisdictions along the project corridor is described by government entity below.

Costa Mesa Police Department

The city of Costa Mesa's Police Department (CMPD) is responsible for enforcing local, state, and federal laws through the following means: crime prevention, field patrol (i.e., ground and air), crime investigation, apprehension of offenders, traffic enforcement and control, regulation of noncriminal activity, and the performance of related support services. The CMPD is composed of 228 full-time personnel, 154 sworn police officers, and 74 civilian support staff members. Additionally, 55 part-time personnel and approximately 35 senior volunteers aid the

CMPD. The ratio of police officer to civilian, according to 1999 population estimates by the California State Department of Finance, is 1:685. The primary police facility is located on Fair Drive in the Civic Center complex, and there are three separate substations (City of Costa Mesa 2010). Emergency response statistics for CMPD are as follows: of 1,213 emergency calls, 960 were responded to within 5 minutes, with a 79 percent effectiveness rating; of 84,888 nonemergency calls, 79,766 were responded to within 15 minutes, with a 99 percent effectiveness rating (City of Costa Mesa 2010). No police stations in Costa Mesa are located within 0.25-mile of the project corridor.

Fountain Valley Police Department

The Fountain Valley Police Department (FVPD) is broken up into four division bureaus: Patrol, Traffic, Detective, and Records. Additionally, FVPD has a Dispatch Center to field 911 calls, a Canine Team to assist patrol officers, and a partnership with the West County Special Weapons and Tactics (SWAT) Team to provide specially trained personnel for tactical operations. Patrol officers serve the community by responding to emergency calls, suppressing criminal activity, participating in Neighborhood Watch and Business Coalition meetings, and providing traffic enforcement (City of Fountain Valley 2007). In 2009, the average response time for Priority 1 calls was 3 minutes, 51 seconds (City of Fountain Valley 2010a). The FVPD, which is located at 10200 Slater Avenue, is within 0.25-mile of the project corridor.

Huntington Beach Police Department

The Huntington Beach Police Department (HBPD) is comprised of 237 sworn police officers and 144 civilian positions operating out of one central police station and three substations. Covering a 32-square-mi city area and 8.5 miles of beaches, the HBPD serves more than 200,000 residents and 11 million visitors each year using cars, beach quads, motorcycles, and helicopters. HBPD consists of four divisions: Executive, Administrative Operations, Uniform, and Investigations. The Administrative Operations Division includes the Communications Bureau, which encompasses the 911 center for the HBPD, as well as Personnel, Support Services, and Budget Bureaus. The Uniform Division, the largest of the four, consists of the Patrol Bureau, the Traffic/Aero Bureau, and the Special Enforcement Bureau (City of Huntington Beach 2010). According to the City's General Plan, the HBPD assigns priorities for calls for services, and the average response time is 7.28 minutes for Priority 1 emergencies, 11.28 minutes for Priority 2 calls, and 20.17 minutes for nonemergencies (City of Huntington Beach 1996). The only HBPD station within 0.25-mile of the project corridor is the substation located within Bella Terra.

Westminster Police Department

The city of Westminster has its own police department. The Operations Division is the largest division, consisting of all uniformed personnel, including Patrol Teams, Special Operations staff, Traffic Unit, Emergency Operations Center, and Reserve Officers. The Services Division includes the Detective Bureau, Management Services, and Support Services, which encompasses the Communications Bureau, Records Bureau, Crime Prevention, and other support staffed by civilians (City of Westminster 2010a). In 2009, the average time for a first unit to arrive in response to an emergency call was 5 minutes 17 seconds (City of Westminster 2010b). No police stations in Westminster are located within 0.25-mile of the project corridor.

Garden Grove Police Department

The Garden Grove Police Department (GGPD) consists of three bureaus: Community Policing Bureau, Support Services Bureau, and Administrative Services Bureau. Additionally, the GGPD has divisions specializing in areas including crime prevention, gang suppression, patrol, investigations, youth services, and neighborhood traffic. The GGPD's resources include more than 100 part-time and civilian personnel, as well as 60 marked patrol vehicles and 51 unmarked detective/administrative vehicles. In 2009, the average emergency response time citywide was 4 minutes and 37 seconds, which is below GGPD's goal response time of 5 minutes. No police stations in Garden Grove are located within 0.25-mile of the project corridor.

Seal Beach Police Department

The Seal Beach Police Department (SBPD) includes field officers, as well as services such as animal control, crime prevention, disaster preparedness, and crime investigation (City of Seal Beach 2010a). SBPD is composed of 31 sworn police officers, 19 professional employees, up to 10 reserve police officers, 15 part-time officers, more than 65 volunteers-in-policing, and more than 50 Community Emergency Response Team volunteers (City of Seal Beach 2010b). The Seal Beach General Plan's Safety Element encourages cooperation between SBPD and OCFA in enforcement and the designation of safety routes for emergencies, specifying I-405 as the primary route for emergency response (City of Seal Beach 2003). No police stations in Seal Beach are located within 0.25-mile of the project corridor; the nearest station is located at 911 Seal Beach Boulevard.

Orange County Sheriff's Department

The community of Rossmore receives police enforcement services from the Orange County Sheriff's Department. Rossmore is protected by Orange County Sheriff's Department's North Operations Division, which is responsible for patrolling unincorporated areas north of the city of Irvine, as well as contract functions for Stanton and Villa Park. In addition to patrol services,

North Operations Division is also responsible for specialized law enforcement functions, including the Emergency Communications Bureau, which is comprised of Dispatch and Control One Units, Security Bureau, Special Events Division, Critical Incident Response Team, School Crossing Guards, and the Orange County Fairgrounds. The Security Bureau, which is in charge of protection from unlawful activities and responding to emergencies, employs more than 60 sworn officers and professional staff, with 49 Sheriff's special officers supported by a bureau commander, two sergeants, four deputy sheriffs, and four clerical personnel; the Security Bureau services cover 27 county facilities that contract with Orange County Sheriff's Department (Orange County Sheriff's Department 2010). In 2009, Orange County Sheriff's Department response times ranged between 5 minutes 38 seconds and 7 minutes 15 seconds for Priority 1 calls (Orange County Sheriff's Department 2009). There are no police stations in Rossmoor located within 0.25-mile of the project corridor.

Los Alamitos Police Department

The Los Alamitos Police Department has a staff of 29 full-time employees, 25 of whom are sworn police officers, and numerous part-time employees, including 4 reserve officers, 4 police service aides, 1 investigator, and 7 crossing guards. The police department is organized into two major divisions, Operations and Support Services. The Operations Division oversees patrol functions, as well as the Traffic Unit, Press Information, Police Explorer Post, and the Detective Bureau. Support Services encompass special programs and police functions that are not directly related to regular patrol, including the Records Bureau, Property and Evidence, Facilities, Emergency Preparedness, Community Outreach Program, and administrative functions (City of Los Alamitos 2010a). In 2009, the response time for Priority 1 calls was 2 minutes 45 seconds (City of Los Alamitos 2010b). A police station located at 3201 Katella Avenue is within 0.25-mile of the project corridor.

Emergency Medical Facilities

Four hospitals were identified within the I-405 Improvement Project area. Their locations and a description of services offered at these facilities are provided below.

- **Fountain Valley Regional Hospital and Medical Center (FVRMC):** FVRMC is located at 17100 Euclid Street, Fountain Valley, CA 92708. As described on the hospital Web site, this 400-bed full-service hospital has advanced expertise in cardiovascular, neurosurgery, bariatric, orthopedics/spine, and women's and children's health services.
- **Orange Coast Memorial Medical Center (OCMC):** OCMC is located at 9920 Talbert Avenue, Fountain Valley, CA 92708. As described on the hospital Web site, OCMC is a 220-bed facility with comprehensive health-care providers offering the most advanced care

in a variety of health concerns, including robotic surgery and outpatient services. OCMC was expanded in 2011.

- **Huntington Beach Hospital (HBH):** HBH is located at 17772 Beach Boulevard, Huntington Beach, CA 92647. As described on the hospital Web site, HBH is a 131-bed facility with more than 500 employees and 300 physicians on staff.
- **Los Alamitos Medical Center (LAMC):** LAMC is located at 3751 Katella Avenue, Los Alamitos, CA 90720. As described on the hospital Web site, LAMC is a 167-bed full-service medical facility.

3.1.5.2 Environmental Consequences

Permanent Impacts

No Build Alternative

The No Build Alternative would not change utilities or public services from existing configurations. Emergency response times may increase under the No Build Alternative due to a projected increase in future traffic volumes and a corresponding increase in traffic congestion.

Build Alternatives

Most of the utility lines within the study area would be avoided during construction; however, each build alternative would require replacement and/or relocation of some water, sewer, gas, electrical, and telecommunications lines. Details of each utility conflict are shown in Appendix K, Sections K2 and K3; locations of all utilities are identified in Appendix K, Section K1. Utility relocations are considered routinely handled via design engineering and are not anticipated to result in any long-term or permanent disruptions in service as a result of relocation or replacement of utilities. No adverse permanent effects on utilities or adverse effects resulting from their relocation are anticipated.

Construction of any of the three build alternatives is likely to have beneficial effects on emergency services and medical facilities due to anticipated reduction in freeway and local street congestion and improved access along the project corridor, which could result in improved response times.

Temporary Impacts

No Build Alternative

There would be no temporary impacts with the No Build Alternative.

Build Alternatives

Utilities: Of the 313 utilities within the project corridor, 115 utilities are in conflict with one or more of the proposed alternatives and would require relocation/replacement in-kind or encasement, extension, protection, or abandonment. All utility conflicts are identified by alternative within the utility conflict matrix provided in Appendix K, Section K2, and summarized below in Table 3.1.5-2. Table 3.1.5-2 summarizes the type and number of utility lines that would be affected by each of the proposed alternatives. As typically required during the design phase of the project, coordination with utility providers would reduce impacts during relocation. To further minimize potential disruption, Caltrans has mandatory standards and procedures for the placement and protection of underground utility facilities within State highway ROWs. Several of the utilities in the utility conflict matrix in Appendix K, Section K2, have been identified as “high risk” under the *Policy on High and Low Risk Underground Facilities within the Highway Rights-of-Way* (Caltrans *Right-of-Way Manual*, January 1997). This Policy provides a safe environment for Department employees, construction contractors and workers, and the traveling public. The Policy states that facilities transporting the following, whether encased or not, are considered high-risk facilities:

- Petroleum products
- Oxygen
- Chlorine
- Toxic or flammable gases

Table 3.1.5-2: Numbers and Types of Utility Conflicts and Utility Disposition

Alternative	Conflicts by Utility Type					Utility Disposition	
	Electric ¹	Gas/ Petroleum	Comm ²	Sewer	Water	Relocation	Encasement/ Protection in Place/ Extension/ Abandonment
1	32	16	19	10	30	69	38
2	36	16	19	10	33	75	39
3	36	16	20	10	33	75	40

¹ This includes power and power transmission lines.

² This includes communication, cell, cable television, and telephone.

Caltrans also considers the following additional types of utility facilities as high risk:

- Natural gas in pipelines with a greater than 6-inch pipe diameter or in pipelines with normal operating pressures greater than 60 pounds per square inch gauge (psig).
- Underground electric supply lines, conductors, or cables with potential to ground more than 300 volts, either directly buried or induct or conduit, which do not have concentric grounded or other effectively grounded metal shields or sheaths.

Details about the handling of the various utility lines with anticipated conflicts would be solidified during final design. The potential exists for construction activities to encounter unexpected utilities within the project limits, and some utility relocation may require short-term, limited interruptions of service. With incorporation of Measures UT-1 and UT-2 discussed in Section 3.1.5.3, no substantial project effects related to relocation and or service disruption are anticipated.

The remaining 198 utility lines would be protected in place within the project area and are not considered to conflict with the design of the build alternatives.

Emergency Service Providers: During construction of the build alternatives, motorists and emergency service providers can expect to experience typical construction-related temporary changes in access, with intermittent delays on I-405 and adjacent local roadways. Known temporary and long-term closures for each alternative were discussed in detail in Section 3.1.4, Community Impacts, and preliminary detour routes are provided in Appendix M. A Final TMP will be prepared for the project as required by Caltrans and Measure T-1 (see Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, and Appendix C of the Community Impact Study). As described in the Draft TMP, traffic handling plans must be coordinated with local jurisdictions and emergency service providers (e.g., CHP, local police, fire, paramedics) during final design and include emergency service routes that serve hospitals, fire/police stations, emergency shelters, emergency command centers, and other facilities that provide essential services in times of emergencies within the study area. These emergency service routes would be maintained during construction or alternate routes would be provided. Alternate emergency service routes to be used during construction would need to be coordinated with emergency service providers. Construction contract documents would require that emergency service providers be notified in advance prior to any lane closures, interruptions on emergency service routes, or changes in traffic control. In addition, as discussed in Measure COM-1 in Section 3.1.4, Community Impacts, no two consecutive/adjacent off-ramps or two consecutive/adjacent on-ramps in the same direction will be closed concurrently. Although construction-related delays

and detours may temporarily affect the response times of emergency service providers, measures identified in Section 3.1.4, Community Impacts, and Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, would minimize project effects on emergency service providers. The build alternatives would not result in any substantial effects on emergency service providers and/or response times.

Emergency Medical Facilities: As discussed in Section 3.1.4, Community Impacts, no closures have been identified that would result in any substantial effect on emergency access or response times. Of the four medical/hospital facilities in the vicinity of the I-405 Improvement Project, the Orange Coast Memorial Medical Center provides close access to I-405. There is a robust local street network that can be utilized to access these facilities. As discussed, TMP strategies (see Measure T-1 in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, and Appendix C of the Community Impact Study) require coordination with local jurisdictions and emergency service providers (e.g., CHP, local police, fire, paramedics) and will be required during final design to identify emergency service routes that serve hospitals, fire/ police stations, emergency shelters, emergency command centers, and other facilities that provide essential services in times of emergencies within the study area. All emergency service routes to these facilities would be maintained during construction or alternate routes would be identified by the emergency service providers/facilities, who would require advanced notification and contingencies in advance prior to any closures or interruptions to emergency service routes. Although construction-related delays and detours may temporarily affect the transit time of patients to these facilities, measures identified in Section 3.1.4, Community Impacts, and Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, would minimize project effects on emergency medical facilities. The build alternatives would not result in any substantial effects on emergency medical providers.

Alternative 1

Electrical Lines: Alternative 1 would affect 32 electrical lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects. At locations where electric facilities cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings. Relocations at constrained locations may require utility easements from the adjacent property owners and could be placed underground as agreed to by the utility owners. Seven of the affected electrical lines are parallel to the project. It is anticipated that these lines would be relocated. Three other lines are high-voltage transmission lines (50 kilovolts [kV] or greater), and relocation would be completed in accordance with California Public Utilities Commission (CPUC) General Order 131-D and General Order 128. Relocation of these high-voltage transmission lines requires a

long lead time and can involve adverse impacts in and of themselves; however, coordination with the utility companies has been ongoing and with the implementation of UT-1, these adverse impacts would be minimized. PUC General Order 131-D requires that any new, upgraded, or relocated power lines or substations that are designed for immediate or eventual operation at any voltage between 50 kV and 200 kV require review under the California plan approval stage (PUC, 1994). PUC General Order 128 sets uniform requirements for underground electrical supply and communication systems, the application of which will ensure adequate service and secure safety to all persons engaged in the construction, maintenance, operation, or use of underground systems and to the public in general (PUC, 1998).

Gas/Petroleum Lines: Alternative 1 would affect 16 gas/petroleum lines (see Appendix K, Section K2). The utility investigation performed for the project identified two major gas lines, a 14-inch high-pressure (HP) transmission and 16-inch HP distribution gas line, and a Verizon telecommunications facility located on the south side of I-405 within the Caltrans ROW obtained by Caltrans as part of the SR-22 WCC Project Phase II improvements. In 2010, the U.S. Navy granted a 20-ft utility corridor to Caltrans as a permanent highway easement to accommodate the SR-22 WCC Project Phase II with a condition that these facilities be relocated outside Caltrans ROW/easement by this I-405 project. Three relocation options were considered and shown below as well as in Figure 3.1.5-1. The PDT after evaluating the three options has decided to move forward with Option 1. It is likely that these lines would not be relocated during the winter season when the demand is greatest.

- Option 1 (proposed option): Relocate the gas line approximately 20 ft to the south, outside of the Caltrans ROW to the security buffer between the inner and outer fences of the NAVWPNSTA Seal Beach property. Coordination with NAVWPNSTA Seal Beach is ongoing regarding this option.
- Option 2: Relocate the gas lines from approximately 1,500 ft east of Seal Beach Boulevard to Bolsa Chica Road across I-405 to the north side, along Almond Avenue and Lampson Avenue. These gas lines would cross I-405 at two locations, on the Bolsa Chica Road overcrossing structure and through jacking and boring underneath I-405 east of Seal Beach Boulevard.
- Option 3: Relocate the gas lines from Seal Beach Boulevard to Bolsa Chica Road across I-405 to the north side, along Almond Avenue and Lampson Avenue. These gas lines would cross I-405 at two locations by being carried inside the Seal Beach Boulevard and Bolsa Chica Road overcrossing structures.



Figure 3.1.5-1: Proposed Relocations for Gas Lines near NAVWPNSTA Seal Beach

Communications Lines: Alternative 1 would affect 19 communication lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects. At locations where communication facilities cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings. One of the affected communication lines is parallel to the project. It is anticipated that this line would be relocated.

Sewer: Alternative 1 would affect 10 sewer lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects. At locations where sewer lines cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings.

Water Lines: Alternative 1 would affect 30 water lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects. At locations where water lines cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings. Two of the affected water lines are parallel to the project. It is anticipated that these lines would be relocated.

Alternatives 2 and 3

Electrical Lines: Alternatives 2 and 3 would affect 36 electrical lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects as described under Alternative 1. At locations where electric facilities cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings. Relocations at constrained locations may require utility easements from the adjacent property owners and could be placed underground as agreed to by the utility owners. Alternatives 2 and 3 would affect 10 electrical lines that are parallel to the project and would be relocated. Alternative 2 and 3 effects on high-voltage transmission lines would be the same as described under Alternative 1.

Gas/Petroleum Lines: Alternatives 2 and 3 would have the same effects on gas/petroleum lines as discussed under Alternative 1 (see Appendix K, Section K2).

Communications Lines: Alternatives 2 and 3 would affect 19 and 20 communication lines, respectively (see Appendix K, Section K2). Alternative 2 effects on communication lines would be the same as discussed for Alternative 1, and Alternative 3 would affect one additional communication line, which crosses perpendicular to the project corridor.

Sewer: Alternatives 2 and 3 would affect 10 sewer lines (see Appendix K, Section K2). Project effects on these lines would be the same as discussed for Alternative 1.

Water Lines: Alternatives 2 and 3 would affect 33 water lines (see Appendix K, Section K2). Most of these lines are straight-forward relocations, typical of highway construction projects. At locations where water lines cross I-405 on overcrossing structures that are to be replaced, these facilities would be relocated back into the reconstructed overcrossings. Alternatives 2 and 3 would affect 5 water lines that are parallel to the project. It is anticipated that these lines would be relocated.

With incorporation of the measures discussed below in Section 3.1.5.3, the temporary effect on utilities within the project area would be considered less than substantial.

3.1.5.3 Avoidance, Minimization, and/or Mitigation Measures

As discussed above, TMP-related measures in Section 3.1.4, Community Impacts, and Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, would minimize potential effects on emergency service providers and emergency medical facilities. The following measures would minimize potential construction-related temporary effects during utility relocation.

- UT-1:** During design, utility providers will be made aware of project developments and be involved in the planning of utility rerouting, identification of potential conflicts, and the formulation of strategies to deal with unanticipated problems that may arise during construction.
- UT-2:** During construction, emergency service providers will be alerted in advance of any temporary road closures and delays so that they have adequate time to make appropriate accommodations to ensure prompt emergency response times that fulfill their responsibilities and defined service objectives.