
3.12 PUBLIC HEALTH AND SAFETY

Introduction

This section describes hazards that may exist along the project corridor in east Contra Costa County and the potential for these hazards to adversely affect public safety or the health of people using the project or living near the project corridor. Potential public hazards along the corridor include:

- **Hazardous materials sites in and along the project right-of-way.** Hazardous materials include both raw materials and waste. The project corridor runs through Contra Costa County, one of the largest generators of hazardous waste in the state.¹ Hazardous materials releases into soil and groundwater (water beneath the earth's surface in underground streams and aquifers) have occurred at sites near the project corridor. Therefore, exposure to contaminated soil and groundwater may occur during project construction or operation. The California Regional Water Quality Control Board (RWQCB) annually reports sites with hazardous materials leaks and spills. This section of the EIR lists reported sites near the project corridor and describes potential impacts relating to the Proposed Project.
- **Hazardous materials in project construction and operation.** Once the Proposed Project is in service, transit vehicle operations and maintenance activities would involve the use, handling, and disposal of hazardous materials. Improper handling or accidental spills or releases of hazardous materials can threaten the health and safety of employees and the public. In addition, there are utilities, such as oil and gas pipelines, that exist in the vicinity of the project corridor. Therefore, construction activities, such as excavation, could disturb these utilities and expose the public to accidental ruptures and/or releases. Additional details on the location of existing utilities are provided in Section 3.14, Utilities, of this report.
- **System safety.** System safety refers to the prevention of potential accidents to riders, employees, or other members of the public near project structures or facilities. Potential accidents may be caused by fires, broken equipment, damaged software, and lack of procedures or training. In addition, certain project structures, such as train tracks, should be designed with adequate fencing to restrict public access. Preventative design criteria and safety procedures would be incorporated in the construction and operation of the Proposed Project. In addition, system safety also refers to the prevention of crimes, such as transit-related crimes and auto burglaries, at Proposed

¹ U.S. Environmental Protection Agency, *Biennial RCRA Hazardous Waste Report*, available at <http://www.epa.gov/region9/waste/archive/brs/brsgeo.html>, 1995.

Project facilities. BART security services for existing BART facilities are provided by the BART Police Department, which investigates all reported crimes that occur on BART property. Additional information on BART Police and passenger safety can be found in Section 3.13, Community Services, of this report.

Comments in response to the Notices of Preparation from 2005 and 2008 (see Appendix A) identified concerns regarding the potential of exposure of the public to soil and groundwater contamination. These issues are addressed in this section.

Existing Conditions

The project corridor is adjacent to industrial, commercial, residential, and agricultural areas within the cities of Pittsburg and Antioch. Industrial facilities, pipelines, railyards, and gas stations exist within the vicinity of the project corridor and are among the sites that have resulted in potential soil and groundwater contamination in the project area.

Database Search

A search of regulatory agency databases listing hazardous material sites within a half mile of the project corridor was requested from Environmental Data Resources, Inc. (EDR) for this EIR. An additional search near the Hillcrest Avenue Station with an expanded radius of 2 miles was also conducted to include all station options. The EDR reports for the project corridor and Hillcrest Avenue Station options are presented in the Public Health and Safety Technical Report.²

The potential for hazardous material sites to impact the project corridor was determined by the expected direction of groundwater flow in relation to the project corridor (if a site is located upgradient or downgradient from the corridor), the proximity of sites to the project corridor, and the cleanup status of hazardous material sites. Based on local topography, the general groundwater flow direction along the project corridor is most likely north/northeast toward the San Joaquin-Sacramento River Delta. Therefore, sites that are south/southwest of the project corridor would have the potential to impact the corridor. In addition, sites that are within one-eighth mile of the project corridor and have not received regulatory case closure were determined to have a potential impact on the corridor. Regulatory case closure status indicates that cleanup has been completed or is unnecessary.

The EDR reports indicate that five sites have the potential to impact the project corridor, stations, and/or maintenance facilities, given the location of the sites relative to groundwater flow, the proximity of the sites to the project corridor, and/or the regulatory cleanup status of the site. The sites are listed in Table 3.12-1 and are shown in Figure 3.12-1. The sites may

² Environmental Data Resources Inc., *EDR DataMap Corridor Study*, December 28, 2007. ERM, *eBART Project EIR – Records Searches for Hazardous Sites in the Project Corridor*, August 2008.

**Table 3.12-1
Hazardous Materials Sites Listed in Federal, State, and Local Agency Databases
with Potential to Affect the Project Corridor**

Map ID - Figure 3.12-1	Site Name	Address	Approximate Distance from Project Corridor	Summary of Environmental Conditions
1	Super-7/ Southland #17847	1220 California Avenue, Pittsburg	Approximately 100 feet north	The site is listed in the Cortese database. No other information was provided about the site in the EDR report.
2	Exxon S/ S 7-3615	2610 Contra Loma Boulevard, Antioch	Approximately 350 feet south	The site is listed in the LUST database as a result of a gasoline release that occurred in July 1987. Pollution characterization is being conducted at the site.
3	Unocal Service Station #5963	2701 Contra Loma Boulevard, Antioch	Approximately 550 feet south	The site is listed in the LUST database as a result of a gasoline release that occurred in September 1989. A preliminary site assessment is underway.
4	Shell Service Station	1800 and 1809 A Street, Antioch	Approximately 2,400 feet north	The site is listed in the LUST database as a result of potential groundwater contamination from petroleum hydrocarbons and trichloroethene. Previous reports indicate that groundwater flows to the north at approximately 0.004 feet per foot.
5	County Crossings	North SR 4, west of SR 160	Adjacent to the Proposed Project alignment, including the Hillcrest Avenue Station area	This area contains a site listed in the LUST database as a result of containing fertilizer chemicals (ammonia and sulfur). The property was the site of numerous industrial activities including the unregulated removal of LUSTs (buried railroad tanker car) and contaminated soil in 1994. "Sludge" was reported within the vicinity of the LUST during removal. Data indicate that the groundwater beneath the property has been contaminated with petroleum hydrocarbons.

Source: Environmental Data Resources, Inc., December 2007.

have hydrocarbon-contaminated soils and/or groundwater that could be encountered during construction within the project corridor. In addition, the sites are listed in the Leaking Underground Storage Tank (LUST) database or the Cortese database. The LUST database is an inventory of reported leaking underground storage tank (UST) incidents. The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known migration.

Phase I Environmental Site Assessments

Several reports on potential environmental contamination within and near the project corridor have been conducted in recent years.

UP ROW/SR 4. A Phase I Environmental Site Assessment (ESA) was completed in July 2003 to identify potential hazardous material sites within a half mile of the 100-foot right-of-way along the Union Pacific Right-of-way (UP ROW) from Loveridge Road in the City of Pittsburg to the City of Tracy.³ The UP ROW is approximately a half mile north of the project corridor. The Phase I ESA provided general findings for the project corridor and vicinity, which are summarized below.

- **Aerially Deposited Lead (ADL).** Vehicle traffic on SR 4 may have contaminated the project corridor with ADL from past use of automotive leaded gasoline.
- **Historical Agricultural Operations.** Most of the project area was historically used as farmland. Agricultural chemicals such as pesticides and herbicides most likely were applied to the surrounding area. Surface soil may retain residual chemicals at concentrations that may be considered hazardous. Therefore, there is a likelihood that residues of agricultural chemical exist along the project corridor.
- **Historical Railroad Operations.** Unidentified chemicals transported by the railroad (petroleum hydrocarbons and chlorinated solvents), lead, and petroleum hydrocarbons from historical railroad activity may have resulted in residual contamination in soil along the railroad portion of the project alignment.
- **Petroleum Pipelines.** Leaking petroleum pipelines have impacted soil in known portions of the right-of-way, and undiscovered leaking pipelines or contaminated areas may exist. Files for some of the sites with known contamination are located at the Central Valley RWQCB office in Fresno, California.

³ URS Corporation, *Phase I Environmental Site Assessment, SR 4 East Corridor Transit Study*, July 2003.

Soils impacted by ADL, herbicides, pesticides, unidentified chemicals, and petroleum along the project corridor are considered environmental issues that may (1) preclude the on-site use of the soil or may require off-site disposal of the impacted soil during construction, and (2) affect construction worker safety. The Phase I ESA recommends the development of a statistically based sampling plan as part of a Phase II soil and groundwater investigation to evaluate soil and groundwater along the right-of-way. The report further suggests that investigation results could also be used to develop a Remedial Action Plan for soil and groundwater treatment/disposal options and to develop a Health and Safety Risk Assessment that would evaluate potential construction worker safety issues.

In a 2004 Draft EIR for the Contra Costa Countywide Comprehensive Transportation Plan, the Contra Costa Transportation Authority (CCTA) designated areas along the corridor with “low potential,” “moderate potential,” and “high potential” to encounter hazardous materials.⁴ The CCTA designated open space areas that had “low potential” for encountering hazardous materials. Commercial and mixed-use areas, which may include former gas stations, dry cleaners, and film developers, were considered to have “moderate potential” and industrial areas, such as those located near oil refineries, were considered to have “high potential.” A portion of the project corridor at the SR 4 Somersville Road interchange had a high potential for encountering hazardous materials.

Hillcrest Avenue Station Area. A Phase I ESA was conducted in July 2003 for a proposed development at the County Crossings Property, which coincides largely with the proposed Hillcrest Avenue Station area, including the parking, access, and maintenance facilities.⁵ The County Crossings Property is a 268-acre site located north of SR 4, west of SR 160, and east of Hillcrest Avenue. The Phase I ESA presents physical evidence and documentation of significant soil or groundwater impacts on this property. The County Crossings Property has been affected by current and former land uses, including a chemical plant, petroleum pipelines, polychlorinated biphenyls (PCBs), a metal recycling facility, and agricultural chemical use.

Several acres of the County Crossings Property were occupied by an agricultural chemical facility, the former Hickson-Kerley property, where soil remediation had occurred. North of the UP ROW in the vicinity of the Willow Avenue and Oakley Road, the facility occupied about 7 acres of APN 052-051-034 and was occupied by a tow yard and some remnant residential and office buildings. Groundwater on the property had been impacted by sulfates, ammonia, and manganese, and 15 monitoring wells had been constructed. In March 2005, the property owners requested that the Groundwater Monitoring and Reporting Program at the site be discontinued.

⁴ Contra Costa Transportation Authority (CCTA), *2004 Update to the Contra Costa Countywide Comprehensive Transportation Plan and Proposed Measure C Extension, Draft Environmental Impact Report, SCH No. 2003062128, Public Review Draft*, January 2004.

⁵ Engeo, Incorporated, *Phase I Environmental Site Assessment, County Crossings Property, Antioch, California*, October 2007.

In addition, the Phase I ESA documents that six active or former petroleum pipelines were located within the UP ROW (along the Mococo Line) that extends east to west near the southern property boundary. In 1995, petroleum-impacted soil and groundwater was identified at the site. In addition, Polynuclear Aromatic Hydrocarbons (PAHs) have also been detected. Investigations are currently underway to determine the extent of soil and groundwater contamination at the site. The Phase I ESA states that due to the low volatility of the petroleum products and the depth of soil impacts, human health risks were low.

A former PG&E Metering Station was also located near the intersection of Oakley Road and Phillips Lane. In 1991, soil and groundwater impacted with petroleum hydrocarbons and PCBs was identified. Groundwater extraction wells and vapor extraction wells were installed at the site, and the Quarter 28/Annual 2006 monitoring report shows limited residual groundwater contamination within the area of the former metering station. Groundwater monitoring is still ongoing as of the date of the Phase I ESA.

An area south of the UP ROW, at the proposed site of the Northside East Station option, is currently occupied by a metal recycling facility, which has been in operation for more than 20 years. The Phase I ESA states that while the facility is not currently listed as a contaminated site, the current and historical operations involving the handling of scrap metal and aluminum parts manufacturing may have impacted soil and/or groundwater beneath the site.

The Phase I ESA also states that more than 100 of the total 268 acres of the property was a former orchard. The Phase I ESA states that based on past experience with agrichemical impact assessments in the Antioch area, it was unlikely that significant concentrations of residual pesticides were in the site soils. A previous agrichemical assessment conducted for two of the parcels on the property found no evidence of environmental contamination from past agricultural use on the parcels. Nevertheless, the Phase I ESA recommends an agrichemical impact assessment be performed on the remaining former orchard parcels if sensitive land uses, such as residential development, are planned for these areas.

The Phase I ESA also discusses the existing PG&E substation located near the western property boundary along Hillcrest Avenue. The substation has been in operation since the 1950s. While the substation was not currently listed as a contaminated facility, the Phase I ESA states that it is conceivable that soil and/or groundwater surrounding the substation facility may have been affected by petroleum hydrocarbons and PCBs. The Phase I ESA also identifies the Mococo ROW and potential concerns that ballast material and surrounding soil may have been contaminated with metals, petroleum hydrocarbons, PAHs, and other compounds. Lastly, the Phase I ESA states that the investigations associated with the petroleum pipelines have been limited to the former Hickson-Kerley facility and have taken into account other undetected areas of impacted soil and/or groundwater along the pipeline alignment. The Phase I ESA

states that a sampling program should be considered in these areas if sensitive land uses, such as residential development, are planned for these areas.

Initial Studies and Environmental Assessments

An Initial Study/Environmental Assessment (IS/EA) was conducted January 2001 for the SR 4 widening project from Railroad Avenue to Loveridge Road.⁶ Another IS/EA was also conducted in August 2005 for the SR 4 widening project between Loveridge Road and SR 160.⁷ The SR 4 widening projects would involve residential, industrial, and non-commercial property acquisitions. The Railroad Avenue to Loveridge Road IS/EA indicates that areas along SR 4 west of Railroad Avenue were mainly occupied by side streets, residences, and businesses, such as restaurants. Areas between Railroad Avenue and Loveridge Road were mainly occupied by a mix of industrial and commercial uses, such as auto body shops, car sales and service, and vacant lots. The Loveridge Road to SR 160 IS/EA indicates that the majority of properties to the immediate north were vacant land or commercial and light industrial businesses, and to the immediate south, properties were mostly vacant land or residential properties. The site reconnaissance for the IS/EAs identified a few gasoline service stations, a used auto dealership, and a number of commercial storage facilities along the interchanges to the south of SR 4 between Loveridge Road and SR 160. The document states that a sampling work plan of specific properties would need to be conducted prior to construction of the SR 4 widening project.

Both of the IS/EAs for the SR 4 widening project also included a record search of the VISTA database, which lists state-designated and federally designated hazardous materials sites. The search was conducted to locate hazardous materials sites within 1.2 miles of the perimeter of the SR 4 widening project corridor. While the search identified several sites, most of the sites were either downgradient and/or too far upgradient to result in hazardous materials contamination in the SR 4 corridor.

The Railroad Avenue to Loveridge Road IS/EA identified one site that may have affected the study area: the former Chevron gas station located at 501 California Avenue. This site was also listed in the EDR report discussed above; however, the site received regulatory case closure in December 1997 and is therefore not expected to impact the project corridor. (An agency closes a case when the site has been remediated, or remediation is not necessary, and no further action is required at the site.)

⁶ Caltrans, *Initial Study/Environmental Assessment on Route 4 in Contra Costa County from Railroad Avenue to Loveridge Road*, January 2001.

⁷ Caltrans, *State Route 4 (East) Widening Project: Loveridge Road to State Route 160, Negative Declaration, Initial Study, Final Environmental Assessment*, August 2005.

The Loveridge Road to SR 160 IS/EA identified three sites that may have the potential to impact the project corridor. Two of the sites are listed in Table 3.12-1, above, and were included in the EDR report as active LUST sites (Exxon S/S 7-3615 at 2610 Contra Loma Boulevard, and Unocal Station #5963 at 2701 Contra Loma Boulevard in Antioch). The report states that these two sites would be unlikely to have an adverse impact on the proposed SR 4 widening project area because both are currently under remediation, with one site almost ready for regulatory case closure. The third site, located at 1801 Hillcrest Avenue, was not listed in the EDR report, but was documented in the SR 4 widening project IS/EA as the Shell Service Station, approximately 164 feet upgradient of the SR 4. The Shell Service Station site contained one diesel and five gasoline USTs; however, no releases have been documented at this site. The SR 4 widening project IS/EA recommends that a file review be conducted for this site at the County Health Department and the RWQCB during the final design phase of the SR 4 widening project to ensure that no releases to soil or groundwater have resulted from the USTs.

The SR 4 widening project IS/EA also states that due to historical vehicular activity since the 1950s, it is likely that surface soils have been impacted by ADL from exhaust of cars burning leaded gasoline. The document states that lead levels in surface soil along highways can reach concentrations that exceed the hazardous waste threshold, requiring the proper disposal of ADL-impacted soils. Therefore, the document proposes a mitigation measure to include an ADL sampling work plan and special health and safety measures during all construction activities pursuant to Title 8 of the California Code of Regulations. In addition, the document states that asbestos-containing materials may have been used in the construction of structures in the SR 4 widening project area, such as overcrossings or on- and off-ramps. As a result, demolition or substantial construction work on these structures may potentially impact construction workers.

Sensitive Receptors near Project Corridor

Project construction and operation would involve the routine transport, use, and disposal of hazardous materials, such as diesel fuel, paints, solvents, adhesives, caulks, and oils. The handling of hazardous materials during project construction and operation becomes a consideration when sensitive receptors occur within the vicinity of the corridor. Sensitive receptors are individuals, such as children, who are especially vulnerable to exposure to hazardous emissions. The locations of schools near the project corridor were reviewed, and those schools within approximately one-quarter mile of the project corridor are listed in Table 3.12-2 and located in Figure 3.12-2. In addition to schools that are in proximity to the project corridor, day care facilities, nursing homes, and hospitals also exist within one-quarter mile of the project corridor.

Table 3.12-2
Schools within One-Quarter Mile of the Project Corridor

School Name	Address	Approximate Distance from Project Corridor
Bel Air Elementary School	663 Canal Road, Pittsburg	200 feet
Willow Cove Elementary School	1880 Hanlon Way, Pittsburg	1,300 feet
Royal Oaks Academy	2130 Monostory Court, Pittsburg	1,300 feet
Parkside Elementary School	985 W. 17 th Street, Pittsburg	400 feet
Railroad Junction School	2224 Railroad Avenue, Pittsburg	1,300 feet
Independent Learning Center	2000 Railroad Avenue, Pittsburg	900 feet
Lynn Center / Martin Luther King Pre-School	950 El Pueblo Avenue, Pittsburg	600 feet
Los Medanos Elementary School	610 Crowley Avenue, Pittsburg	600 feet
Pittsburg Senior High School	250 School Street, Pittsburg	600 feet
Los Medanos College	2700 E. Leland Road, Pittsburg	400 feet
Marsh Elementary School	2304 G Street, Antioch	400 feet
Child Day Schools	112 E. Tregallas Road, Antioch	200 feet
Belshaw Elementary School	2801 Roosevelt Lane, Antioch	900 feet
Busy Kids Christian Child Care	620 E. Tregallas Road, Antioch	100 feet
Bidwell High School	800 Gary Street, Antioch	700 feet
Harbour Light Pre-School	1020 E. Tregallas Road, Antioch	150 feet
La Petite Academy	1350 E. Tregallas Road, Antioch	400 feet

Source: Google Earth, April 2008.

System Safety

System safety refers to the prevention of accidents to Proposed Project riders, employees, or other members of the public near the Proposed Project's structures or facilities. Potential accidents may be caused by fires, broken equipment, and damaged software. Table 3.12-3 lists performance data for the entire BART District that were collected for the fourth quarter of 2006, which is the most recent information available on the BART website.⁸

⁸ *BART, Quarterly Performance Review*, available at <http://www.bart.gov/about/reports/indicators.asp>, March 2007.

**Table 3.12-3
System Safety Performance Data for Fourth Quarter Fiscal Year 2006**

Safety Performance Indicator	Actual	Standard	Standards Met?
Station Incidents/Million Patrons	4.82	8.75	Yes
Vehicle Incidents/Million Patrons	0.80	3.00	Yes
Lost Time Injuries/Illnesses/Per Occupational Safety and Health Administration (OSHA) ^a	4.10	9.60	Yes
OSHA Recordable Injuries/Per OSHA	13.10	13.30	Yes
Unscheduled Door Openings/Million Car Miles	0.062	0.300	Yes
Rule Violations Summary/Million Car Miles	0.310	0.750	Yes

Source: BART, *Quarterly Performance Review*, available at <http://www.bart.gov/about/reports/indicators.asp>, March 2007.

Note:

- a. The Occupational Safety and Health Administration (OSHA) is a federal agency under the Department of Labor that publishes and enforces safety and health regulations for most businesses and industries in the United States.

The actual results for the quarter are compared to BART standards, showing that BART met the standards for all safety performance indicators during the quarter. Security-related issues that are responded to by the BART Police Department are addressed in Section 3.13, Community Services.

BART would respond to an accidental release of a hazardous material by assessing whether the release must be reported to a regulatory agency, as required by local, state, or federal laws. BART would also respond by following procedures set forth in emergency plans created to minimize exposure and risk to public health and safety. The BART System Safety Department is responsible for managing hazardous materials cleanup and ensuring that emergency plans are in place to respond to an accidental release during project operation. The construction contractors are responsible for emergency plans during project construction, and the BART System Safety Department provides emergency support. Emergency plans would outline procedures to ensure coordination with local jurisdictions in evacuating areas and notifying BART and emergency response personnel. If a release occurred during project operation, BART and eBART personnel would be notified of the release and instructed to stop train operations, if necessary.

Applicable Policies and Regulations

The following section describes policies and regulations for the hazardous material and public safety issues related to hazardous materials sites and hazardous materials use in project operations.

Hazardous Materials. For hazardous materials sites near the project corridor, the RWQCB annually reports sites in the Bay Area with LUSTs or environmental problems due to leaks and spills, and oversees the cleanup of these sites. The State Department of Toxic Substance Control (DTSC) also oversees cleanup of sites where surface and/or subsurface contamination has occurred due to the potential release of hazardous materials or wastes.

Hazardous materials users are required to comply with the following local, state, and federal laws and regulations:

- Reporting and planning requirements in accordance with the Emergency Planning and Community Right-To-Know Act of 1986.
- Emergency response planning provisions, including the development of a business emergency plan in accordance with the Waters Bill (California Health and Safety Code section 25500 et seq.). For the Proposed Project, the local administering agency for Business Emergency Plans (BEPs) is the Contra Costa County Health Services Department, which refers to the business emergency plan as a Hazardous Materials Business Plan (HMBP).
- Compliance with worker safety and health standards established under the federal Occupational Safety and Health Act of 1970 and the California Occupational Safety and Health Act.
- Tracking and record-keeping provisions pertaining to the generation, transportation, treatment, storage, and disposal of hazardous waste are in accordance with the federal Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and the California Hazardous Waste Control Law. Contra Costa County would regulate the Proposed Project's local hazardous waste generation.
- Compliance with all UST regulations, including the national UST regulatory program, commonly referred to as Subtitle I of RCRA, and a state program, the State UST Law. Contra Costa County is responsible for enforcement of UST regulations in the study area.

Pursuant to state law, cities within the study area have adopted Contra Costa County's Hazardous Waste Management Plan. This plan establishes a comprehensive approach to management of hazardous wastes in the county, including siting criteria for new waste

management facilities, educational and enforcement efforts to minimize and control hazardous waste streams in the County, and policies to maintain a unified database on businesses generating hazardous waste.

BART operates a quarterly hazardous waste disposal program through the Environmental Compliance Division in BART's System Safety Department. Hazardous and nonhazardous wastes at every BART service location are packaged according to the U.S. Environmental Protection Agency (US EPA) guidelines and disposed of by a licensed contractor at approved disposal facilities. Copies of hazardous waste manifests are kept on file at BART.

The Environmental Compliance Division also manages BART's Storm Water Pollution Prevention program, prepares HMBPs for facilities storing 55 gallons or more of hazardous materials, and conducts an annual environmental compliance program. The HMBPs include a complete inventory of all hazardous materials used and stored at the site, hazardous wastes generated and any treatment systems present, USTs or aboveground storage tanks (ASTs) at the site, emergency response plans and procedures, and an employee training for hazardous materials releases.

BART currently implements a waste minimization and waste recycling program, thereby reducing the amount of waste generated and transported to disposal facilities. BART complies with AST and UST regulations regarding permitting, secondary containment, and monitoring systems.

System Safety. The BART System Safety Department is in charge of BART's safety program and ensures that procedures are implemented throughout the entire BART District. The Department developed the BART System Safety Program Plan, which outlines safety goals and objectives and describes the procedures that BART follows to identify, reduce, and control hazards throughout the system. The BART System Safety Department also evaluates the performance of the program and takes corrective measures to improve program implementation.

Impact Assessment and Mitigation Measures

Standards of Significance

The following standards of significance apply to the construction and operational phases of the Proposed Project. According to California Environmental Quality Act (CEQA) Guidelines, a project would be considered to have a significant adverse impact on the environment if it would:

- Be located within two miles of a public airport or public-use airport where the project would result in a safety hazard for people residing or working in the project area;

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands;
- Physically interfere with an adopted emergency response or evacuation plan;
- Create a potential public or environmental health hazard through the routine transport, use, or disposal of hazardous materials;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5;
- Create the potential for upset or accident conditions involving the release of hazardous materials; or
- Emit hazardous pollutants or handle hazardous materials or waste within one-quarter mile of an existing or proposed school.

In addition, specific to the construction period, the Proposed Project would have a significant effect if it were to:

- Create a potential public or environmental health hazard;
- Present an undue potential risk for health-related accidents; or
- Result in a safety hazard for people residing or working in the project area.

In order to classify impacts for each public health and safety topic, a level of significance is determined and reported in the italicized impact statement that precedes the analysis. Conclusions of significance are defined as follows: significant (S), potentially significant (PS), less than significant (LTS), no impact (NI), and beneficial (B). If the mitigation measures would not diminish potentially significant or significant impacts to a less-than-significant level, the impacts are classified as “significant and unavoidable effects (SU).” For this section HS, refers to Public Health and Safety.

Project-Specific Environmental Analysis

Operational Impacts

Impact HS-1 The project corridor is not located within two miles of a public airport or public-use airport, and therefore, no impacts are anticipated from airport hazards. (NI)

According to a map review of the project corridor, the nearest public airport, the Buchanan Field Airport, is approximately 6.5 miles southwest of the project corridor. None of the project components, including the alignment, the stations, the maintenance facility, tailtracks, and maintenance annex, would be

located within two miles of a public airport or public-use airport. Therefore, no impacts related to airport hazards are anticipated from the construction or operation of the Proposed Project.

Impact HS-2 The Proposed Project is located in an area developed primarily with residential and commercial buildings, and would therefore not expose people or structures to significant risks from wildland fires. (NI)

According to a review of aerial photographs of the project corridor and site reconnaissance, the areas surrounding the corridor are primarily developed with residential and commercial buildings. The project corridor is not zoned as a State fire hazard zone, according to California Department of Forestry and Fire Protection California Fire Hazard Severity Zone Map.⁹ Therefore, risks from wildland fires are not expected.

Impact HS-3 Potential impacts to an adopted emergency response or evacuation plan would not be significant because BART emergency plans are developed in coordination with local emergency response agencies, and the Proposed Project design incorporates access for emergency response vehicles. (LTS)

The BART System Safety Department would be responsible for implementing emergency plans for the Proposed Project and would coordinate emergency plans with local jurisdictions. The BART System Safety Program Plan lists procedures for interagency coordination and participation with local response agencies in BART disaster exercises.¹⁰ BART coordinates local response agencies, including ambulance service, fire department, police and California Highway Patrol, and the Alameda-Contra Costa County Transit System. In addition, the proposed the BART/DMU Transfer Platform would be designed to include access and a parking area for emergency response vehicles. The parking area for emergency response vehicles would be located immediately north of the transfer platform. The 3000-square-foot, paved parking area would be accessible through an access gate from the SR 4 eastbound interior lane. Standard procedure is to coordinate BART emergency plans with local agencies. The Proposed Project would be designed to provide access for emergency response vehicles. No where along the project corridor would the Proposed Project's service or facilities cross a local street at grade; the guideway, stations, and maintenance activities would be located in the median of SR 4 and local street crossings would be grade separated. As such, the

⁹ CDF, *Contra Costa County Fire Hazard Severity Zone Map*, available at http://www.fire.ca.gov/fire_protection/fhsz_maps/fhsz_maps_contracosta.php, 2007.

¹⁰ San Francisco Bay Area Rapid Transit, *System Safety Program Plan, Revision No. 8*, February 1, 2008.

Proposed Project would not significantly interfere with an adopted emergency response or evacuation plan. Impacts on adopted response or evacuation plans would be less than significant.

Impact HS-4 The Proposed Project could result in an accidental release of hazardous materials. (PS)

Hazardous materials would be used in the operation of transit vehicles and in maintenance activities at the maintenance facility. Diesel fuel, car-washing chemicals, solvents, and oils are some of the hazardous materials that would be used for the operation and maintenance of the Proposed Project. In the event of accidental release of diesel fuel from DMU transit vehicles within the SR 4 median, the diesel fuel would be discharged into a median underdrain pipe running parallel to the guideway. The median underdrain pipes would connect to inlets at existing highway cross culverts which could lead to the stormwater outlets. BART would respond to an accidental release of a hazardous material by assessing whether the release must be reported to a regulatory agency, as required by local, state, or federal laws. BART would also respond by following procedures set forth in emergency plans created to minimize exposure and risk to public health and safety. The BART System Safety Department is responsible for managing hazardous materials cleanup and ensuring that emergency plans are in place to respond to an accidental release. Emergency plans would outline procedures to ensure coordination with local jurisdictions in evacuating areas and notifying BART and emergency response personnel. If a release occurred during project operation, BART and eBART personnel would be notified of the release and instructed to stop train operations, if necessary.

In addition to the use of diesel in transit vehicles, diesel fueling and storage would occur at the maintenance facility near the Median Station. Vehicle cleaning and washing activities would also be carried out at this facility, and a limited shop facility would provide routine light vehicle maintenance. Hazardous materials used or stored at the maintenance facility may include car-washing chemicals (caustic detergent and for acid neutralization), solvents (aqueous solution and wipe cleaning), oils, diesel, acetylene, compressed gases (oxygen and nitrogen), waste metal particulates (copper, zinc, cadmium), and Universal Waste (e.g., batteries, fluorescent tubes). The maintenance facility would include two surface 50,000-gallon fuel oil storage tanks with containment berms inside a roofed enclosure. To reduce fire and explosion risk, the fuel oil storage tanks would be located away from ignition sources. Hazardous materials would be used and/or stored pursuant to all hazardous material handling/disposal regulations, such as RCRA, CERCLA, and the

California Hazardous Waste Control Law. Contra Costa County would regulate the Proposed Project's local hazardous waste generation and would oversee BART's development of a HMBP, which lists quantities of hazardous materials above specified thresholds and emergency response procedures for potential releases. In addition, hazardous materials would be stored in appropriate containers in a designated storage area. The storage area would be divided into separate compartments for segregating incompatible chemicals and would be a secure area protected from vehicle traffic. Small quantities of flammable substances would be stored in non-flammable cabinets. Compressed gases would be secured to a stationary wall. The maintenance facility would also be paved with concrete, which would serve as a barrier between hazardous materials and the underlying soil or groundwater. An accidental release of hazardous materials at a maintenance facility would be discharged into stormwater outlets located throughout the facility. Therefore, the potential exists that hazardous materials could be released into stormwater.

MITIGATION MEASURE. The following measure would help reduce impacts from an accidental hazardous material release to less-than-significant levels. (LTS)

HS-4.1 Develop and implement a Spill Prevention Plan. BART shall prepare and implement a Spill Prevention Plan outlining measures that would be in place to control hazardous materials use and storage. This plan would include, at a minimum, the following measures:

- Periodic inspection of hazardous materials storage and use areas to ensure containers and equipment are securely covered, containers are properly labeled and stored on secondary containment, and each site is equipped with spill kits;
- Employee hazardous materials training and awareness; and
- Spill reporting procedures.

Impact HS-5 The Proposed Project is designed to address potential safety hazards for people residing or working in the project area. (LTS)

Potential system safety hazards include accidents on trains, fires, broken equipment, and damaged software. At all times during operation of the Proposed Project, the BART System Safety Department would implement the BART System Safety Program Plan, which would ensure that employees follow safety procedures to identify, reduce, and control hazards throughout the system. The BART System Safety Department would also respond immediately by following procedures set forth in emergency plans to minimize

risk to public health and safety. In addition, the Proposed Project is designed with features to ensure the safety of passengers and the general public, including surveillance systems using CCTV to monitor station areas and parking structures; slip-resistant surfaces; fencing to deny access to transit trackways and maintain security of BART property; traffic barriers to protect trains and passengers from damage and injuries caused by entry of vehicles to the guideway operating envelope from adjoining roadways; fire protection devices, such as standpipe and hose systems; and other safety systems to prevent collisions and derailments, such as automatic control systems, which control train movement, enforce train safety, and direct train operations. Proposed Project vehicles would be equipped with cab signal systems that enhance the safety of the high speed operations, which would ensure that the system meets the California Public Utilities Commission requirements.

Safety hazards may also result due to the proximity of the Proposed Project's route to residential neighborhoods, such as potential entry of pedestrians and vehicles onto train tracks. The Proposed Project would be designed to ensure safe operations, and would include security fencing, closed circuit television that would be monitored at the BART central control facility, and vehicle barriers. Security fencing or combinations of walls or barriers with chain-link fabric would be installed. A 3-foot-high traffic barrier and security fencing would be installed in the SR 4 median. Security fencing would also be erected around Hillcrest Avenue Station and the maintenance facility.

With the Proposed Project, there would be no conflicts with vehicular traffic as all the street crossings between Pittsburg/Bay Point BART Station and Hillcrest Avenue Median Station would be grade separated. At-grade pedestrian crossings within the stations would be designed to ensure pedestrian safety. The system would be fully double-tracked, with the exception of a short section of single track that would bring the trains into the transfer platform around the BART tailtracks, which are used for train storage.

In addition, fire hazards may occur in the tunnel connecting the maintenance facility with the maintenance annex. The Proposed Project would adhere to all applicable codes and regulations that protect building safety. The National Fire Protection Association (NFPA) is the authority on fire, electrical, and building safety in the U.S., and develops codes and standards to minimize the possibility and effects of fire and other risks. The NFPA has published more than 300 consensus codes and standards covering a variety of processes, services, designs, and part installations. NFPA 502, Standard for Road Tunnels, Bridges, and Other Limited Highways, 2008 Edition, deals directly with mechanical fans and standpipes related to fire protection and fire life safety

requirements in tunnels.¹¹ The Proposed Project would adhere to NFPA 502, which would minimize the potential for fire hazard in the tunnel.

Impacts related to safety hazards from the Proposed Project are expected to be less than significant, because design requirements would be incorporated to promote safety near project structures and facilities, and emergency plans would be in place.

Impact HS-6 The Proposed Project would not involve handling hazardous materials or waste within one-quarter mile of an existing or proposed school. (LTS)

As shown in Table 3.12-2 above, the Proposed Project's route would be within one-quarter mile of existing schools. However, the handling of hazardous materials or waste would be restricted to maintenance facilities only, and no schools exist within one-quarter mile of the proposed maintenance facility in the median of SR 4 and/or the maintenance annex immediately north of SR 4. As such, impacts due to handling of hazardous materials or waste near a school would be less than significant.

Impact HS-7 The Proposed Project would not significantly increase the risk of a terrorist attack compared to existing conditions. (LTS)

The existing BART system is 104 miles, and the Proposed Project involves extending BART approximately 10 miles into eastern Contra Costa County. Given that the Proposed Project involves a small increase in distance compared to the existing system, the Proposed Project would not be a primary target compared to other existing components of the BART system. BART would be responsible for ensuring that emergency plans are in place to respond to a terrorist event. BART would be responsible for law-enforcement response as well as coordination with other law enforcement agencies. Emergency plans would outline procedures to ensure coordination with local jurisdictions in evacuating areas and notifying BART and emergency response personnel. If terrorist activity occurred during project operation, BART and eBART personnel would be notified of the event and instructed to stop train operations, if necessary. Since the Proposed Project would not be a primary target compared to other existing components of the BART system, and security procedures and emergency response plans are in place to prevent and respond to a potential act of terrorism, impacts related to a risk of terrorist attack would be less than significant.

¹¹ National Fire Protection Association, 2007, Codes and Standards, www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=14, accessed July 22, 2008.

Construction Impacts

Impact HS-8 Construction of the Proposed Project may expose construction workers to hazardous materials in contaminated soil and groundwater. (PS)

The project corridor is located in the vicinity of hazardous materials sites where contaminated soil and groundwater have been documented. According to the EDR reports that list sites with documented releases on regulatory agency databases, two gas station sites in the City of Antioch at 2701 Contra Loma Boulevard and 2610 Contra Loma Boulevard have open LUST cases from gasoline releases that have potentially contaminated groundwater beneath these sites (see Figure 3.12-1). The EDR reports indicate that preliminary site assessments and pollution characterization are underway at the sites. The sites are located hydrologically upgradient from the project corridor, which means that contaminated groundwater beneath these sites could migrate beneath the project corridor. Another site located in Pittsburg at 1220 California Avenue is listed on the Cortese database, which indicates a potential release at this site. This site is located hydrologically downgradient from the project corridor, but the site's proximity to the project corridor (approximately 100 feet) creates a potential for a release at the site, which could result in an impact to soil or groundwater beneath the project corridor.

A fourth site located at 1801 Hillcrest Avenue, approximately 164 feet upgradient of the project corridor, was identified in the SR 4 widening project IS/EA as having one diesel and five gasoline USTs. No releases have been documented at this site, but the IS/EA for Loveridge Road to SR 160 recommends a file review at the County Health Department and the RWQCB during the final design phase of the SR 4 widening project to ensure that no releases to soil or groundwater have resulted from the USTs.

Since the sites mentioned above are located in proximity to the SR 4 widening project, it is likely that mitigations would be implemented during the construction of the SR 4 widening project to avoid potential impacts from hazardous materials exposure.

However, in addition to potential impacts from these sites, other potential hazardous materials exist outside of the SR 4 widening project area, such as soils impacted by ADL from historical vehicular activity since the 1950s; soils or groundwater impacted by herbicides and pesticides as a result of historical agricultural operations; contaminated soil and groundwater with lead, petroleum hydrocarbons, and chlorinated solvents from historical railroad operations; and soil impacted by undiscovered leaking petroleum pipelines.

The construction of the Proposed Project would involve grading and soil excavation. Therefore, there is a potential that workers or others may be exposed to hazardous materials if contaminated soils and groundwater are encountered during construction activities.

In addition, a Phase I ESA conducted in October 2007 by ENGEEO, Inc. for the County Crossings Property in the Hillcrest Avenue Station area documents significant soil or groundwater contamination due to releases from an historical agricultural chemical facility, active or former petroleum pipelines, and a former PG&E metering station. Soil and groundwater have been impacted with constituents including sulfates, ammonia, manganese, petroleum hydrocarbons, and PCBs. Remediation and monitoring activities are currently ongoing at these sites.

Construction of the Median Station would involve a station and train service/storage in the median of SR 4, but also a tunnel accessing a maintenance annex, parking areas, access roadways, and a maintenance annex to the north of SR 4, in the area investigated by Engeo for the County Crossings Property. As a result, there is a potential that workers or others may be exposed to hazardous materials if contaminated soils and groundwater are encountered during construction, which would result in a potentially significant impact.

MITIGATION MEASURES. Implementation of the following mitigation measures would ensure that potential exposure to environmental contamination in the project corridor during construction is reduced to less than significant. (LTS)

HS-8.1 Conduct additional file review and a Phase I ESA prior to project construction. BART shall ensure that additional research, including a file review with Contra Costa County Health Services and the RWQCB, and a Phase I ESA for the project footprint is performed during the final design phase of the project to ensure that the identified LUST, UST, and County Crossings sites, as well as other potential sites, do not have an adverse impact on the Proposed Project. If the file review reveals no potential impact from environmental contamination, no further action to remedy soil or groundwater contamination would be necessary.

HS-8.2 Conduct further soil and groundwater investigations prior to any construction activities. If the file review under Mitigation Measure HS-8.1, above, reveals potential environmental contamination along or beneath the project alignment or other facilities from the LUST, UST, and County Crossings sites, BART

shall evaluate the sites to determine the level of investigation appropriate to evaluate the possible presence of hazardous chemicals in soil and groundwater. In the event soil and/or groundwater testing is deemed appropriate, BART shall ensure that a Phase II soil and groundwater investigation is conducted in the affected areas of the project corridor, including field sampling and laboratory analysis, to evaluate conditions where excavation and grading will take place. In addition, a Phase II soil and groundwater investigation shall be completed for other areas outside of the SR 4 median (such as station parking areas) where excavation and grading will take place. The Phase II investigation shall be completed prior to any construction or excavation work, and a schedule shall be developed in the pre-design phase of the project to ensure that a sufficient amount of time is allotted prior to site development to identify and implement actions to investigate the presence of hazardous substances in soil and groundwater, and to identify design and contingency measures in the event that the results of the investigation indicate the need for further testing, site controls, or remediation.

The number, location of field samples, and constituents tested for would depend on the size of the impacted site, site activities, and possible transport or migration routes. Field samples may include soil, soil gas, or groundwater, depending on the nature of the contaminants suspected to be present. The sampling plan shall specify that all soil and groundwater chemical analyses shall be performed by a California-certified laboratory, using standard EPA and California chemical testing methods. The investigation results shall, if necessary, lead to preparation of (1) a Remedial Action Plan for soil and groundwater treatment and disposal, (2) a Health and Safety Risk Assessment, and (3) a soil management plan with criteria for ADL-impacted soils, in consultation with DTSC and RWQCB. If necessary, a Remedial Action Plan shall be developed to determine the selection of the remedy for a contaminated site. If the proposed remedial approach does not involve complete source removal, a Health and Safety Risk Assessment shall be completed. Work in impacted areas will be conducted in accordance with applicable Cal OSHA requirements.

HS-8.3 Remediate the contaminated sites prior to construction activities as recommended by the soil and groundwater investigations. If hazardous materials are identified in soil and groundwater at levels that present a risk to the public, to construction workers, or to the

environment, based on the investigations described in Mitigation Measure HS-8.2 above, BART shall ensure that remediation is conducted at contaminated sites pursuant to applicable laws and regulations.

A Remedial Action Plan may be developed if warranted to address potential air and health impacts from soil excavation activities, potential transportation impacts from the removal of remedial activities, and potential risks of public upset should there be an accident at excavation sites. During excavation activities, construction workers or the public may be exposed to contaminants in the soil through incidental ingestion, dermal contact, inhalation of fugitive dust, and inhalation of volatile emissions. The Site-Specific Health and Safety Plan will include measures to mitigate these potential impacts, such as cordoning off excavation sites to prevent public access, water misting to control dust during removal activities, perimeter air monitoring for dust along the site boundaries both upwind and immediately downwind of site excavation and stockpiling activities, and air monitoring of volatile organic compounds (VOCs). All exposed contaminated materials shall be covered at the end of each day. Excavation work shall be performed in compliance with all OSHA rules and regulations. In addition, a Health and Safety Plan shall be prepared to address worker health and safety, including physical and chemical hazards at excavation sites and requirements for worker personal protective equipment (PPE), criteria for upgrades to PPE, minimum training requirements for site workers, emergency information such as directions to the nearest hospital and emergency telephone numbers, and specific administrative requirements such as documentation and training and daily health and safety tail gate meetings.

Impact HS-9 Construction activities involving demolition or upgrading of existing SR 4 structures may potentially expose workers to asbestos-containing materials. (PS)

The Proposed Project may involve modification to existing SR 4 structures. Existing SR 4 structures may have asbestos-containing materials, which construction workers would be exposed to during demolition and upgrading activities.

MITIGATION MEASURE. Implementation of the following mitigation measure would ensure that potential exposure to asbestos-containing materials in the project corridor would be less than significant. (LTS)

HS-9.1 Conduct an asbestos-containing materials (ACM) survey prior to demolition work, or upgrading or reconstruction of existing structures. If construction of the Proposed Project requires the demolition of existing SR 4 structures that were not demolished as part of the SR 4 widening project, BART shall ensure that the contractor conducts an ACM survey prior to demolition, upgrading, or reconstruction of existing SR 4 structures. The ACM survey shall be performed by an inspector who is Asbestos Hazardous Emergency Response Act-certified under Toxic Substances Control Act (TSCA) Title II and California Occupational Safety & Health Administration (Cal OSHA)-certified under Section 1529 of the California Code of Regulations. If asbestos-containing material (that may become airborne) is found, subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements. Prior to demolition, the permitting process with the Bay Area Air Quality Management District shall be initiated through the submittal of the ACM survey results. This mitigation measure shall be performed in conjunction with Caltrans.

Impact HS-10 Construction activities associated with the Proposed Project would involve transport, use, or disposal of hazardous material; however, construction activities would not create a potentially significant public or environmental hazard. (LTS)

Construction activities associated with the Proposed Project including the train control huts and staff building may involve the disposal of contaminated soil and groundwater. Additionally, construction activities would involve the use of hazardous materials, such as paints, solvents, adhesives, caulks, and oil. These hazardous materials, however, would not pose a significant health risk because of the limited volumes required for project construction. In addition, the project contractor will complete a HMBP for construction activities, if required. As such, construction activities associated with the Proposed Project including the train control huts and staff building would have a less-than-significant impact on the public and the environment.

Impact HS-11 The construction of the Proposed Project could impact access for emergency response vehicles. (PS)

Potential public safety impacts may exist if construction traffic and activities along local roads impede the movement of emergency response vehicles. If roadways are blocked or closed due to construction activities, emergency

response vehicles may be slowed and response times may potentially suffer. Potential impacts would be temporary, since construction would be completed in two phases: a 24-month phase for construction from Pittsburg/Bay Point BART Station to Loveridge Road, followed by another 24-month phase for construction from Loveridge Road to Hillcrest Avenue Station. Nevertheless, emergency vehicles may be detoured or response times affected, which would be a potentially significant impact.

MITIGATION MEASURE. Mitigation Measure TR-9.1 presented in Section 3.2, Transportation, of this EIR calls for the preparation and implementation of a construction phasing and traffic management plan to define how traffic operations and circulation will be handled during each phase of construction. The plan would provide information on road closures and detours, and would be coordinated with the cities of Pittsburg and Antioch, and Caltrans. The plan would also specify measures to allow access and alternate transportation routes for maintenance and emergency response vehicles in the event of roadway blockages and closures. Implementation of this transportation coordination plan would reduce impacts on emergency access to a less-than-significant level. (LTS)

Hillcrest Avenue Station Options Analysis

The Northside West, Northside East, and the Median Station East options are not within two miles of a public airport or within a state fire hazards zone, and so there would be no impacts related to public airports or wildfire hazards. These station options and associated maintenance facilities are also not located within one-quarter mile of an existing or proposed school, reducing potential risks to sensitive receptors from the use of hazardous materials along the project corridor. Additionally, the Northside West, Northside East, and Median Station East options would not handle significant amounts of hazardous materials and/or waste, and Mitigation Measure HS-4.1, the development of a Spill Prevention Plan, would be required for all three station options (and corresponding maintenance facilities), the same as for the Median Station, to reduce potential impacts from an accidental release to a less-than-significant level.

Furthermore, all tunnels associated with each station option, either access to the platforms (for the Northside West and Northside East Station options) or connecting the station with the maintenance facility (for the Median Station East option) would adhere to all applicable codes and regulations that protect building safety. The NFPA is the authority on fire, electrical and building safety in the U.S., and develops codes and standards to minimize the possibility and effects of fire and other risks. NFPA 502, Standard for Road Tunnels, Bridges, and Other Limited Highways, 2008 Edition, deals directly with mechanical fans and standpipes related to

fire protection and fire life safety requirements in tunnels.¹² The Hillcrest Avenue Station options would adhere to NFPA 502, which would minimize the potential for fire hazard in the tunnel, minimizing the potential for fire hazard in any given tunnel.

However, impacts related to potential exposure of construction workers to hazardous materials in soil and/or groundwater during construction are not the same as under the Proposed Project. This impact and the differences among the various Hillcrest Avenue Station options are described below.

Impact HS-12 Construction of the Northside West, Northside East, and Median Station East options may expose construction workers to hazardous materials in contaminated soil and groundwater. (PS)

Northside West Station Option. As with the Proposed Project, station parking, and associated tailtracks and maintenance facility for the Northside West Station option are located on the County Crossings Property. Unlike the Proposed Project, however, the Northside West Station option is located in close proximity to the UP ROW, and there is a potential that soil and groundwater beneath the station and maintenance facility directly east of the platform may have been impacted by historical railroad activities, historical agricultural operations, and leaking petroleum pipelines. In addition, the Northside West Station option would also be located closer to the Hickson-Kerley and the metals recycling sites than the Proposed Project. The Hickson-Kerley and recycling plant sites are within the County Crossings Property. Soil remediation has been conducted at the Hickson-Kerley site, and there has been a request to discontinue groundwater monitoring at the site. As proposed in Mitigation Measure HS-8.1, additional file review should be conducted to determine the status of soil or groundwater contamination at these sites prior to construction of the Northside West Station option. The Remote Maintenance Facility site may also have been impacted by historical agricultural operations.

Northside East Station Option. Similar to the Northside West Station option, this option would also locate the station, its associated tailtracks and the remote maintenance facility in proximity to the UP ROW. As such, there is a potential that soil and groundwater at these sites may have been impacted by historical railroad activities, historical agricultural operations, and leaking petroleum pipelines. In addition, similar to the Northside West Station option, this option would be located closer to the Hickson-Kerly site than the Proposed Project

¹² National Fire Protection Association, 2007, Codes and Standards, www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=14, accessed July 22, 2008.

and would occupy the site of the former metals recycling plant. The remote maintenance facility may also be impacted by historical agricultural operations.

Median Station East Option. The Median Station East option would place the maintenance facility in proximity of the UP ROW. As such, there is a potential that soil and ground location in that area may have been impacted by historical railroad activities, historical agriculture operations and other related hazards.

The Northside West, Northside East, and Median Station East options would involve more extensive grading and excavation than for the Median Station of the Proposed Project. Therefore, there is a greater potential that workers or others may be exposed to hazardous materials if contaminated soils and groundwater are encountered during construction of these station options than for the Proposed Project.

MITIGATION MEASURES. Implementation of Mitigation Measures HS-8.1 through HS-8.3 would ensure that potential exposure to environmental contamination in the vicinity of the Northside West, Northside East, and Median Station East options during construction would be less than significant. Mitigation Measure HS-8.1 recommends conducting additional file review prior to project construction, Mitigation Measure HS-8.2 proposes conducting further soil and groundwater investigations prior to commencement of construction activities, and Mitigation Measure HS-8.3 calls for remediation of any potential contaminated sites before construction. (LTS)

Cumulative Analysis

The cumulative impact area for the Proposed Project in combination with other foreseeable projects includes the service areas of the Contra Costa County Fire Department (CCCFD) and the Contra Costa County Health Service Department – Hazardous Materials Division. This geographic area provides a context within which to examine potential cumulative public health and safety impacts that may result from the Proposed Project in combination with other reasonably foreseeable development. Other foreseeable development includes the anticipated development described by the general plans for the cities of Pittsburg and Antioch, and the SR 4 widening project between Loveridge Road and SR 160. In particular, planned development near the two stations include 1,845 new residential units and 1,004,000 square feet of commercial space in the area near the Railroad Avenue Station and up to 2,500 new residential units, and 2,150,000 square feet of office and retail space near the Hillcrest Avenue Station area. In addition, Union Pacific is anticipated to increase the use of the Mococo Line (UP ROW) with additional freight trains.

Since the Proposed Project has no impacts on airport hazards (Impact HS-1) or wildland fire risks (Impact HS-2), there are no cumulative impacts for these issues. Maintenance facilities for the Hillcrest Avenue Median Station and station options are not located within one-quarter mile of an existing or proposed school, reducing potential risks to sensitive receptors from the use, transport, and storage of hazardous materials in proposed operations. In addition, the impact of system safety (Impact HS-5) is solely related to the operations and maintenance of the Proposed Project. As such, these impacts would not cumulate with other foreseeable projects to compound system safety issues.

Impact HS-CU-13 The Proposed Project in combination with other foreseeable projects would not significantly interfere with an adopted emergency response or evacuation plan. (LTS)

For the Proposed Project, the BART System Safety Department would be responsible for implementing emergency plans and would coordinate emergency plans with local jurisdictions. In addition, local jurisdictions would require that other foreseeable projects in the surrounding area, including residential and commercial developments as well as transportation improvements and increase freight trains, comply with adopted emergency and evacuation plans of the County and cities. Coordination of construction activities, road detours and closures, and sufficient advance warning to local emergency responders should ensure that adequate interim response plans and procedures are in place to avoid significant interference with emergency response or evacuation plans. Therefore, cumulative impacts from other foreseeable projects, in combination with the Proposed Project, with respect to adopted emergency response and evacuation plans would be less than significant.

Impact HS-CU-14 The handling of hazardous materials from the Proposed Project in combination with other foreseeable projects is not anticipated to create a hazard to local residents and the environment. (LTS)

The Proposed Project would involve limited volumes and concentrations of hazardous materials. Other projects, such as the SR 4 widening project, would allow additional vehicles to travel along SR 4, thereby increasing the potential for vehicles engaged in the transportation of hazardous material to travel in the vicinity of the project corridor. Furthermore, the increased use of the Mococo Line by additional freight trains may also transport hazardous materials, which would expose the area of the Proposed Project to a potential hazard. Transportation of hazardous materials is regulated by both federal and state requirements, which would help minimize the potential to create hazards for local residents and the environment. Similarly, the handling of hazardous

materials and waste at the Proposed Project maintenance facility and other industrial development in the vicinity is also highly regulated. These regulations, which are coordinated through the County Health Services and local jurisdictions, combine to reduce the potential for accidental releases and to clearly delineate responsibilities for emergency response. The IS/EAs completed for the Caltrans widening project and the Revalidations require the same adherence to state and federal laws governing Health and Safety, which protects people and the environment from potential hazards. As a result, the cumulative impacts from exposure to hazardous materials and waste would be less than significant.

*Impact
HS-CU-15*

Construction of the Proposed Project in combination with other foreseeable projects may expose construction workers and the public to hazardous materials in contaminated soil and groundwater. (PS)

The project corridor is located in the vicinity of hazardous materials sites where contaminated soil and groundwater have been documented. Potential contamination may exist from soils impacted by ADL and from historical vehicular activity since the 1950s; soils or groundwater impacted by herbicides and pesticides as a result of historical agricultural operations; contaminated soil and groundwater with lead, petroleum hydrocarbons, and chlorinated solvents from historical railroad operations; and soil impacted by undiscovered leaking petroleum pipelines. The Proposed Project, the SR 4 widening project, and the proposed development in the cities of Pittsburg and Antioch (including proposed transit-oriented development around the station locations) all have the potential to expose construction workers and public to potential soil and/or groundwater contamination. For the SR 4 widening project, Caltrans would conduct routine surface sampling for lead, and would adhere to appropriate health and safety provisions to protect the public. Nevertheless, the anticipated ground disturbance and construction activities from these various projects (SR 4 widening and other projects) would result in a significant cumulative health and safety impact.

MITIGATION MEASURES. Mitigation Measures HS-8.1 through HS-8.3, proposed for the Proposed Project, would require additional investigation of hazardous materials sites and appropriate remediation if necessary. These same measures would apply to the SR 4 widening project and would be implemented by Caltrans; they would also apply to future development in the station areas and be required of development applicants. The application of federal, state, and local regulations governing exposure to hazardous sites and construction worker and public safety would reduce this potentially significant cumulative impact to less than significant. (LTS)

Impact *Construction of the Proposed Project and the SR 4 widening project, involving
HS-CU-16* *demolition or upgrading of existing SR 4 structures, may potentially expose
workers, the public, and the environment to asbestos-containing materials. (PS)*

Improvements performed as part of the SR 4 widening project, which would include widening the right-of-way, widening bridges over local streets, and construction of drainage facilities to convey stormwaters, would be undertaken by Caltrans, and Caltrans would be responsible for addressing releases of asbestos-containing materials from such structures. Caltrans would have to adhere to stringent federal, state and local regulations, all of which would reduce the potential impacts of ACM to less than significant. The IS/EA completed by Caltrans on July 2005 for its widening project introduces specific measures that relate to the potential of exposing workers, the public and the environment to ACM. The measures recommend conducting surveys by an inspector who is Asbestos Hazardous Emergency Response Act (AHERA)-certified under Toxic Substances Control Act (TSCA) Title II and California Occupational Safety & Health Administration (Cal OSHA)-certified under Section 1529 of the California Code of Regulations. Prior to demolition, a notification along with the results of the ACM survey would be submitted to the Bay Area Air Quality Management District as a part of the permitting process. If ACM are encountered, standard special provision will be prepared to address the safe removal and disposal of this material prior to any demolition activity.

The Proposed Project may affect additional SR 4 features, including the roadway, the bridges, and abutments. As a result, the combination of the Proposed Project and the SR 4 improvements could result in greater disturbance of structures. As such, there is a potential to encounter ACM, which could result in a significant cumulative health and safety impact.

MITIGATION MEASURE. Mitigation Measure HS-9.1 requires that BART ensure that an ACM survey be undertaken prior to demolition work, or upgrading or reconstruction of existing structures, to ensure that potential impacts from the Proposed Project are less than significant. Since Caltrans would address asbestos-containing materials as part of its SR 4 widening project, the cumulative safety impacts to construction workers, the public, and the environment from asbestos releases would be less than significant. (LTS)

Impact
HS-CU-17 *Construction activities associated with the Proposed Project in combination with other foreseeable projects would involve transport, use, or disposal of hazardous material; however, construction activities would not cumulatively create potentially significant public or environmental hazards. (LTS)*

Construction activities associated with the Proposed Project and other foreseeable projects may involve the use and handling of hazardous materials, the disposal of hazardous waste from construction-related activities, and the disposal of contaminated soil and groundwater if encountered. All projects, including the Proposed Project, would have to comply with federal, state and local regulations regarding the handling of hazardous materials. Additionally, construction of the Proposed Project and other foreseeable projects would involve the use of hazardous materials, such as paints, solvents, adhesives, caulks, and oil. As introduced by the IS/EA completed by Caltrans on July 2005 for its widening project, all activities would have to adhere to state and federal regulations governing Health and Safety. As such, given the stringent regulations construction activities associated with the Proposed Project and other foreseeable projects would have a less-than-significant cumulative impact on the public and the environment.