

4.10 Hazards and Hazardous Materials

4.10.1 Introduction

This section describes the affected environment and environmental consequences related to hazards and hazardous materials from operations of the NEPA Alternatives. The hazardous materials information contained herein is based on the *VTA's BART Silicon Valley Phase II Extension Project—Phase II Extension Initial Site Assessment (ISA)* prepared by BASELINE Environmental Consulting (2016).

4.10.2 Existing Conditions and Regulatory Setting

4.10.2.1 Environmental Setting

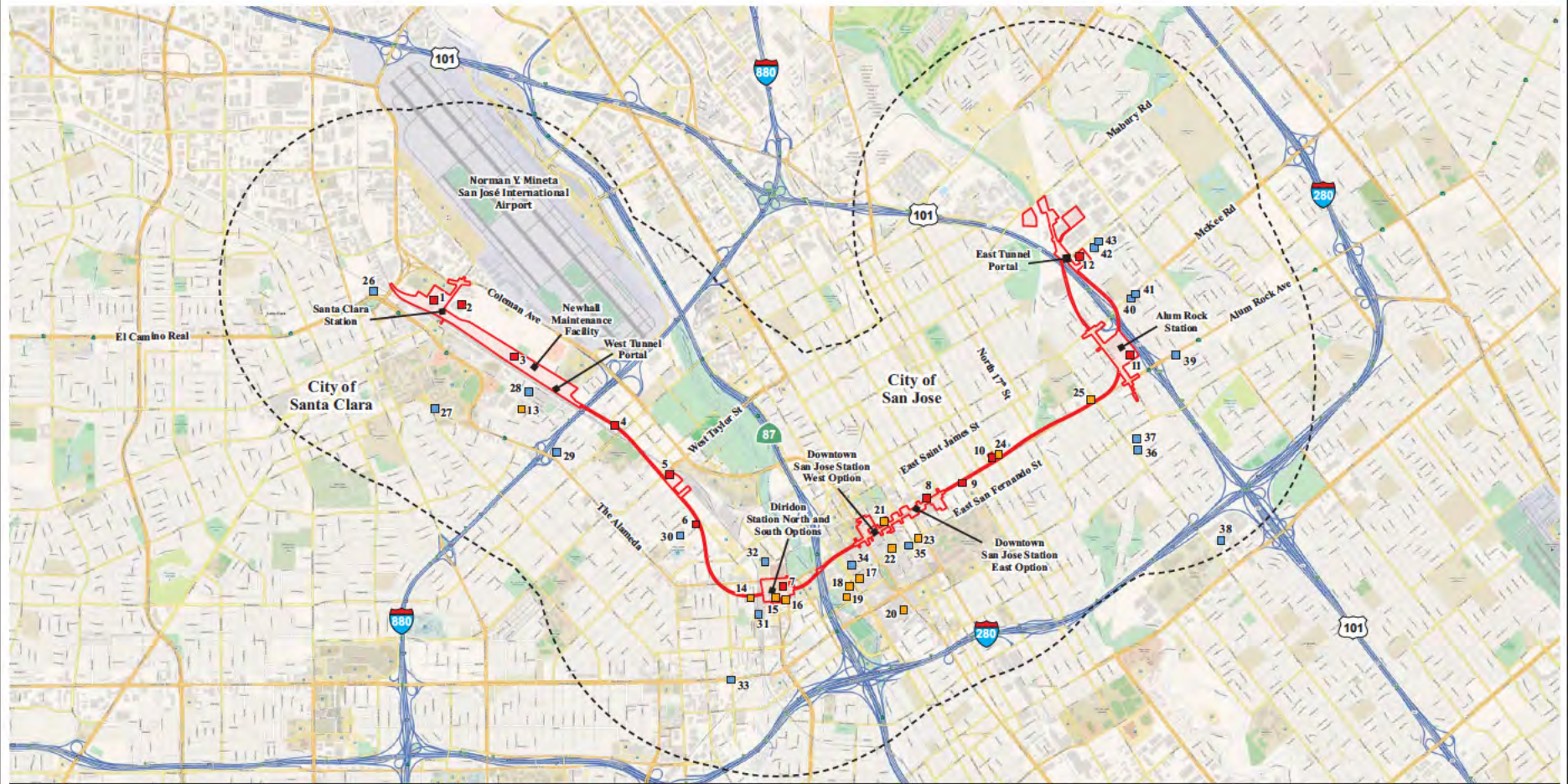
This section discusses the existing conditions related to hazards and hazardous materials for the BART Extension and in the surrounding area, including staging areas.

Hazardous Materials

The ISA identified numerous sources of hazardous materials in soil, railroad ballast, groundwater, and buildings for the BART Extension that could possibly be encountered during construction and operations. They are described in detail below.

Hazardous Materials Release Sites

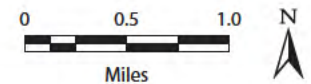
The ISA identified 437 records of sites with known releases of hazardous materials within a 1-mile radius of the BART Extension (BASELINE Environmental Consulting 2016). Based on the findings of the ISA, only 43 of the 437 hazardous materials release sites are under active regulatory oversight and/or have land use restrictions and are located on, adjacent to, or hydraulically upgradient of the BART Extension (Figure 4.10-1). Petroleum hydrocarbons, chlorinated solvents, and metals are the primary contaminants of concern in soil and groundwater associated with the 43 hazardous materials release sites. Two release sites located at the Santa Clara Station, one release site located at the Diridon Station (South and North Options), and one release site located above the tunnel alignments between the Santa Clara Station and the Diridon Station (South and North Options) have land-use restrictions that prohibit subsurface work or groundwater extraction without prior approval from the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), Santa Clara County Department of Environmental Health, and/or City of San Jose Planning Department. The ISA evaluates the 43 sites to identify whether the releases have resulted in either known, potential, or no subsurface contamination on the BART Extension.



Legend

- Project Area of Potential Effect
- 1-Mile Buffer
- Release Site of Concern with Known Subsurface Contamination on the Project
- Release Site of Concern with Potential Subsurface Contamination on the Project
- Release Site of Concern with No Subsurface Contamination on the Project

Notes: "Release Sites of Concern" are under active regulatory oversight and/or have land use restrictions, and are located on, adjacent to, or upgradient within one mile of the Project. Site information is summarized in Table 3 and Section 5.3
 Base: MapQuest OpenStreetMap
 Sources: Release Sites of Concern (SWRCB, 2015 and DTSC, 2015)



Graphics: ...00332213 (10-11-2016)

Figure 4.10-1
Hazardous Materials Locations
 VTA's BART Silicon Valley-Phase II Extension Project

Potential Hazardous Materials Release Sites

As early as the 1950s, numerous commercial and industrial properties have been located in the vicinity of the BART Extension. The ISA identified five permitted underground storage tank (UST) facilities and 69 Resource Conservation and Recovery Act (RCRA) generator sites on or adjacent to the BART Extension (within 500 feet) that are generally associated with commercial and industrial properties (e.g., dry cleaners and gas stations) (BASELINE Environmental Consulting 2016). The large quantity and apparent long history of commercial and industrial properties that have managed hazardous materials in the vicinity could have resulted in undocumented releases of hazardous materials that could have impacted soil and/or groundwater.

The ISA identified 107 hazardous materials release sites on or adjacent to the BART Extension that have obtained regulatory closure for cleanup activities (BASELINE Environmental Consulting 2016). Due to the large number of sites, residual soil and groundwater contamination, if any, from closed release sites, impacted soil and/or groundwater beneath the BART Extension could pose an unacceptable health risk under future land use and development scenarios (e.g., grading, excavation, and/or dewatering). As a result, future developers of many of these sites are required to notify the Santa Clara County Department of Environmental Health and the appropriate planning/building department prior to redevelopment to state that residual contamination exists on the property and to list all measures necessary to protect human health and the environment.

Railroad Corridors

Between 2001 and 2008, several investigations were conducted to evaluate the environmental issues related to the soil and ballast along the existing railroad corridor for the Phase I Project that will connect to the eastern terminus of the BART Extension. The results from the investigations indicated there were no significant impacts on soil or ballast from polychlorinated biphenyls (PCBs), volatile organic compounds, semi-volatile organic compounds, or petroleum hydrocarbons. However, significant arsenic and lead contamination in the shallow soil and ballast materials was present along much of the Phase I Project. The primary source of arsenic appears to be from slag used as ballast for track maintenance from about 1960 to 1983, and potential secondary sources may have included use of inorganic pesticides. The occurrence of elevated lead concentrations appears to be attributed to aerially distributed automobile exhaust emissions and lead-acid batteries used to power signals near railroad crossings. Overall, arsenic appears to be the primary metal impacting shallow soil and ballast along the railroad corridor.

Existing and former railroad corridors are located along the following portions of the BART Extension.

- From Mabury Road to Las Plumas Avenue in the city of San Jose.
- Parallel to 28th Street in San Jose along construction staging areas for the Alum Rock/28th Street Station.

- Immediately west of the Diridon Station (South and North Options).
- Near the intersection of Emory Street in San Jose.
- Immediately south of and parallel to the Santa Clara Station and Newhall Maintenance Facility.

Based on the previous investigations for the Phase I Project, similar arsenic and lead impacts on shallow railroad soils and ballasts would be expected on the BART Extension (AECOM Technical Services, Inc. 2014).

Hazardous Building Materials

Construction may require demolition of existing buildings that could possibly contain hazardous building materials. Building materials such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring materials installed in buildings prior to 1981 may be asbestos-containing materials (ACMs). Also, lead-based paints (LBP) may have been applied to the interior and exterior surfaces of commercial and industrial buildings, regardless of construction date. Lead and asbestos are state-recognized carcinogens. Other hazardous building materials of concern include PCB-containing light ballasts; mercury vapor lamps; and/or wood, concrete, or sheetrock contaminated from chemical use, storage, and/or handling (AECOM Technical Services, Inc. 2014).

Naturally Occurring Asbestos

Geologic mapping from the United States Geological Survey does not show any areas of rock likely to contain naturally occurring asbestos (ultramafic rock) along the BART Extension. Therefore, naturally occurring asbestos in bedrock along the BART Extension would not be expected to be a potential hazard.

4.10.2.2 Regulatory Setting

The following federal regulations are relevant to the BART Extension.

Federal

Resource Conservation and Recovery Act/Federal Toxic Substances Control Act/Hazardous and Solid Waste Act

The United States Environmental Protection Agency (EPA) is the lead agency responsible for enforcing federal laws and regulations governing hazardous materials that affect public health or the environment. The major federal laws and regulations enforced by EPA that could relate to the management of hazardous materials in the alignment are the RCRA; the Toxic Substances Control Act (TSCA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and the Hazardous Material Transportation Act (HMTA).

The Federal Toxic Substances Control Act (1976) and the RCRA established an EPA-administered program to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. The RCRA was amended in 1984 by the Hazardous and Solid

Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous.

In 1976, TSCA was enacted to provide EPA authority to regulate the production, importation, use, and disposal of chemicals that pose a risk of adversely impacting public health and the environment, such as PCBs, ACMs, and LBP. TSCA also gives EPA authority to regulate the cleanup of sites contaminated with specific chemicals, such as PCBs.

In 1972, an amendment to FIFRA provided EPA authority to regulate the manufacture, distribution, and import of pesticides. EPA approves registered uses of a pesticide based on an evaluation of its potential adverse effects to human health and the environment. EPA has granted the California Department of Pesticide Regulation (DPR) authority to enforce federal laws pertaining to the proper and safe use of pesticides. DPR can also designate pesticides as “restricted material” based on potential adverse effects on public health, applicators, farm workers, domestic animals, honeybees, the environment, wildlife, or crops other than those being treated.

In 1990 and 1994, the HMTA was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The United States Department of Transportation (USDOT) developed hazardous materials regulations, which govern the classification, packaging, communication, transportation, and handling of hazardous materials, as well as employee training and incident reporting. The transportation of hazardous materials is subject to both RCRA and USDOT regulations.

Cortese List

U.S. Code 65962.5 (commonly referred to as the Cortese List) includes Department of Toxic Substances Control (DTSC)-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the State Water Resources Control Board as having underground storage tank leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

Department of Transportation Hazardous Materials Regulations (Code of Federal Regulations, Title 49, Sections 100–185)

USDOT Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), and 177 (Highway Transportation) would apply to the BART Extension.

OSHA Lead Standard for the Construction Industry – Title 29 Code of Federal Regulations 1926.62

This standard covers lead in a variety of forms, including metallic lead, all inorganic lead compounds, and organic lead soaps. The standard establishes maximum limits of exposure to

lead for all workers covered, including a permissible exposure limit (PEL) and action level (AL).

4.10.3 Methodology

The BART Extension would result in *an adverse effect* if it would represent a measurable localized increased risk that does not pose an immediate threat to health or safety and entail increased risks on a regional scale.

4.10.4 Environmental Consequences and Mitigation Measures

This section identifies impacts and evaluates whether they would be adverse according to NEPA, using the criteria (i.e., context and intensity) identified in Section 4.10.3, *Methodology*. This section also identifies design commitments, best management practices, and other measures to avoid, minimize, or mitigate impacts.

4.10.4.1 No Build Alternative

The No Build Alternative consists of existing transit and roadway networks and planned and programmed improvements (see Chapter 2, Section 2.2.1, *NEPA No Build Alternative*, for a list of these projects). The No Build Alternative projects would likely require consideration of hazardous materials exposure during construction and operation. Typically a worker health and safety plan would be prepared and adopted to prevent exposure of maintenance workers, control emissions of hazardous dusts, and safeguard offsite transport of hazardous materials. Additionally, a Phase 2 site assessment, Contaminant Management Plan (CMP), and associated permits could be required. Projects planned under the No Build Alternative would undergo separate environmental review to determine the potential for exposure to hazardous materials. Review would include an analysis of impacts and identification of mitigation measures to mitigate potential project impacts.

4.10.4.2 BART Extension Alternative

Operation

Handling and Storage of Hazardous Materials

Hazardous materials, such as motor fuels, oils, solvents, and lubricants, would be routinely managed during operations, particularly at the Newhall Maintenance Facility. Diesel would also be used for standby generators located at each station, yard, shop, and pump station, and possibly at the train control buildings. BART Extension workers, the public, and/or the environment could be exposed to hazardous materials during routine operations if the materials are not properly managed, thus posing a potentially significant adverse effect. Workers handling hazardous materials are required to adhere to federal Occupational Safety and Health Administration health and safety requirements. Handling of these materials would

also be compliant with applicable regulations such as the RCRA, USDOT Hazardous Materials Regulations, and local Certified United Program Agencies (CUPA) regulations via implementation of Hazardous Materials Business Plans (HMBP). HMBPs are designed to protect both human and environmental health from adverse effects as a result of the storage or possible release of hazardous materials. This is accomplished by documenting significant amounts of hazardous materials (thresholds are 55 gallons of a liquid, 200 cubic feet of a gas, and 500 pounds of a solid) so that emergency responders can effectively protect the public in case of an emergency. Furthermore, the HMBP would be modified, if necessary, to include a description of any new hazardous materials that might be used during future operations and would be subject to approval and oversight by the San Clara Fire Department (SCFD) and Hazardous Material Compliance Division (HMCD), including routine inspections. With the adherence to these regulations, potential significant adverse effects on human health or the environment related to hazardous materials handling and storage would be reduced to *no adverse effect*, and no mitigation would be required.

Disturbance of Contaminated Materials

Sources of known and/or anticipated subsurface contamination on the BART Extension sites include 43 known release sites, 5 permitted UST facilities, 69 RCRA generators sites, and existing railroad corridors. Contaminated materials encountered during construction and operations activities could pose a potential threat to human health and the environment. The disturbance of contaminated soil and/or ballast during construction and maintenance activities could pose a direct exposure hazard to workers. Vapor intrusion of groundwater contaminants (e.g., chlorinated solvents) into future BART Extension buildings, such as the stations, system facilities, and maintenance facilities, could pose an inhalation hazard to indoor workers and residents. BART passengers at the above-grade Santa Clara Station could be exposed to hazardous materials in soil and/or ballast (if any) by direct contact and/or inhalation of dust. Offsite residents near the Santa Clara Station and above-grade corridors of tracks could also be exposed to hazardous materials in soil and/or ballast (if any) by inhalation of dust disturbed by passing trains.

The level of potential health risks posed by the disturbance of subsurface contamination would primarily depend on the sensitivity of the receptors, contaminant concentrations, and duration of exposure. Health risks posed by existing subsurface contamination would not be expected to pose an immediate threat to human health. Operations could potentially expose maintenance workers, indoor workers, indoor residents, passengers, and offsite residents to subsurface hazardous materials and pose an adverse effect on human health.

The approach for assessing and managing hazardous materials in soil and ballast materials that would be encountered during earthwork activities is described in the CMP. For example, the CMP has developed screening values for the reuse of soil and ballast that are protective of potential human and ecological receptors. The CMP will be implemented through site-specific Remedial Action Plans (RAPs) prepared for the BART Extension and approved by the Regional Water Board. Under the oversight of the Regional Water Board, compliance

with the CMP and BART Extension RAPs is mandatory. In accordance with the CMP, the RAPs will identify site-specific hazards to human and ecological receptors and propose preferred site-specific remedial strategies. With compliance with the CMP and RAPs, there would be *no adverse effect*.

4.10.5 NEPA Conclusion

Potential impacts related to handling and storage of hazardous materials for the BART Extension Alternative would result in *no adverse effect* with adherence to the hazardous materials regulations.