3.7 HAZARDOUS MATERIALS

This section describes the current hazardous materials system in the SCAG region, discusses the potential impacts of the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategies (2012-2035 RTP/SCS or Plan) on hazards and hazardous materials, identifies mitigation measures for the impacts and evaluates the residual impacts. Contamination of water resources is addressed in Section 3.13 Water Resources.

REGULATORY FRAMEWORK

Hazardous materials and wastes are defined and regulated in the United States by federal, state, and local regulations, including those administered by the U.S. Environmental Protection Agency (USEPA), the California Environmental Protection Agency (Cal/EPA), the U.S. Occupational Safety and Health Administration, the U.S. Department of Transportation (USDOT), the U.S. Nuclear Regulatory Commission, and various other agencies. The following discussion provides an overview of relevant federal and state legislation and the respective implementing authorities.

Federal

Resource Conservation and Recovery Act (RCRA). RCRA gives the USEPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste by "large-quantity generators" (1,000 kilograms/month or more). Under RCRA regulations, hazardous wastes must be tracked from the time of generation to the point of disposal. At a minimum, each generator of hazardous waste must register and obtain a hazardous waste activity identification number. If hazardous wastes are stored for more than 90 days or treated or disposed at a facility, any treatment, storage, or disposal unit must be permitted under RCRA. Additionally, all hazardous waste transporters are required to be permitted and must have an identification number. RCRA allows individual states to develop their own program for the regulation of hazardous waste as long as it is at least as stringent as RCRA. In California, the USEPA has delegated RCRA enforcement to the State of California.

Occupational Safety and Health Act of 1970. The Occupational Safety and Health Act, which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in Title 29 of the Code of Federal Regulations (CFR) Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker’s right–to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.

Title 49 of the CFR, which contains the regulations set forth by the Hazardous Materials Transportation Act of 1975, specifies additional requirements and regulations with respect to the transport of hazardous materials. Title 49 of the CFR requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in operations of their equipment and commodity specific requirements.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA (generally referred to as Superfund) was enacted by Congress on December 11, 1980. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous
waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the NPL sites, which is the list of hazardous waste sites eligible for long-term remedial action financed under the federal Superfund program. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

**Superfund Amendments and Reauthorization Act (SARA).** SARA of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions, clarifications, and technical requirements were added to the legislation, including additional enforcement authorities.

**State**

Authority for the statewide administration and enforcement of RCRA rests with the California EPA’s (Cal/EPA) Department of Toxic Substances Control (DTSC). While the DTSC has primary State responsibility in regulating the generation, storage and disposal of hazardous materials, DTSC may further delegate enforcement authority to local jurisdictions. In addition, the DTSC is responsible and/or provides oversight for contamination cleanup, and administers state-wide hazardous waste reduction programs. DTSC operates programs to accomplish the following: (1) deal with the aftermath of improper hazardous waste management by overseeing site cleanups; (2) prevent releases of hazardous waste by ensuring that those who generate, handle, transport, store, and dispose of wastes do so properly; and (3) evaluate soil, water, and air samples taken at sites.

The storage of hazardous materials in Underground Storage Tanks (USTs) is regulated by Cal/EPA’s State Water Resources Control Board (SWRCB), which has delegated authority to the Regional Water Quality Control Board (RWQCB) and, typically at the local level, to the local fire department.

The California OSHA (Cal-OSHA) program is administered and enforced by the Division of Occupational Safety and Health (DOSH). Cal-OSHA is very similar to the federal OSHA program. For example, both programs contain rules and procedures related to exposure to hazardous materials during demolition and construction activities. In addition, Cal-OSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP). This program identifies policies and procedures designed to provide a safe work environment.

**Hazardous Waste Control Act.** The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal Resource Conservation and Recovery Act program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

**Unified Hazardous Waste and Hazardous Materials Management Regulatory Program.** The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are: Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting); Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC); Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials
Disclosure or “Community-Right-To-Know”); California Accidental Release Prevention Program (Cal ARP); Underground Storage Tank (UST) Program; and Uniform Fire Code Plans and Inventory Requirements. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

**Hazardous Materials Release Response Plans and Inventory Act of 1985.** The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

**Hazardous Waste Source Reduction and Management Review Act of 1989.** This Act requires generators of 12,000 kilograms/year of typical/operational hazardous waste to conduct an evaluation of their waste streams every four years and to select and implement viable source reduction alternatives. This Act does not apply to non-typical hazardous waste (such as asbestos and polychlorinated biphenyls).

**California Vehicle Code.** The California Vehicle Code (Title 13 of the CCR) establishes regulations for motor carrier transport of hazardous materials. For example, all motor carrier transporters of hazardous materials are required to have a Hazardous Materials Transportation license issued by the California Highway Patrol. In addition, placards identifying that hazardous materials are being transported must be displayed on the vehicle.

**California Health and Safety Code.** The transport of hazardous waste materials is further governed by the California Health and Safety Code Section 25163 and Title 22, Chapter 13, of the CCR. Specifically, Section 25163 of the California Health and Safety Code requires transporters of hazardous waste to hold a valid registration issued by the DTSC in his/her possession while transporting hazardous waste. Additionally, Title 22, Chapter 13 of the CCR includes a number of requirements, which include, but are not limited to, the following:

- Transporters shall not transport hazardous waste without first receiving an identification number and a registration certificate from DTSC;
- Registration as a hazardous waste transporter expires annually, on the last day of the month in which the registration was issued;
- To be registered as a hazardous waste transporter, an application must be submitted;
- Hazardous waste shall not be accepted for transport without a Uniform Hazardous Waste Manifest that has been properly completed and signed by generator and transporter; and
- Hazardous waste shall be delivered to authorized facilities only.

**Local Regulations**

Fire Departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage and handling of hazardous materials and wastes.
EXISTING SETTING

This section discusses the existing conditions related to hazardous materials in the SCAG region, which includes an overview of the presence of hazardous materials and the potential for impacts to occur as a result of the Plan including increased transportation of hazardous materials as a result of increased transportation facilities and increased use of hazardous materials and generation of wastes as a result of increased development including industrial and other uses.

Definitions

The term “hazardous material” can have varying definitions depending on the regulatory programs. For the purposes of this PEIR, the term “hazardous materials” refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(p) defines hazardous material as follows: 1

"Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment."

Following is a description of several types of substances and materials. A “hazardous waste” is defined as one which exhibits one or more of the characteristics identified below: 2

Toxic Substances. Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. The level depends on the substances involved and is chemical-specific. Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).

Ignitable Substances. Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

Corrosive Materials. Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).

Reactive Materials. Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Hazardous Materials

Soil and groundwater can become contaminated by hazardous material releases in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills

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1 Title 22 CCR., Section 66261.3, “Hazardous Waste”.
2 Title 22 CCR., Section 66261.20-66261.24, “Hazardous Waste”.
becoming dumping grounds for unwanted chemicals. In general, the largest and most contaminated of these sites became federal Superfund sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under CERCLA. Sites are added to the NPL following a hazard ranking system. The USEPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, is brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the USEPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners’ reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost. State legislation (SB 32, Escutia) adopted in 2001 establishes a locally-based program to help speed the cleanup and reuse of brownfields sites.

Radioactive Materials

Although there are no nuclear power stations within the SCAG Region, the San Onofre Nuclear Generating Station is located just south of Orange County near San Clemente, in the northwestern corner of San Diego County. San Onofre Nuclear Generating Station is jointly owned by Southern California Edison (SCE), San Diego Gas & Electric, and the City of Riverside. The two operating units at the station began commercial operation in the early 1980s, and the operation license expires in 2022. SCE must then apply to the US Nuclear Regulatory Commission for a 20 year license extension. The Santa Susana Sodium Reactor Experimental (SRE) was a small sodium-cooled experimental reactor built by SCE and Atomics International at the Santa Susana Field Laboratory, near Moorpark in Ventura County. The SRE began feeding electricity to the grid in 1957, and in 1959, suffered a partial core meltdown. Ten of 43 fuel assemblies were damaged due to lack of heat transfer and radioactive contamination was released. The SRE closed in 1964 and has subsequently been dismantled.

Contaminated Sites

DTSC maintained a database, known as “CalSites,” which contained information on properties in California where hazardous substances were released, or where the potential for a release existed. In 2006, DTSC launched its brownfields site database, EnviroStor, which provides similar information to CalSites, including identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. Table 3.7-1 shows the total number of sites listed in DTSC databases for the six counties that comprise the SCAG region.

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4 Ibid.
Several California environmental agencies maintain lists of properties that are contaminated or are otherwise associated with the use of hazardous materials, including the following:

- Department of Toxic Substances Control:
  - HazNet list – data on hazardous waste shipments from Hazardous Waste Information System
  - Hazardous Waste and Substances Site List (“Cortese” list) – hazardous materials release locations

- California Integrated Waste Management Board (part of Cal/EPA)
  - Solid Waste Information System – data on open, closed and inactive solid waste disposal facilities and transfer stations

- State Water Resources Control Board (SWRCB; part of Cal/EPA)
  - Leaking Underground Storage Tank (LUST) list – data for specific parts of the state is also maintained by the RWQCB

- Cal/EPA
  - Annual Work Plan – indicates which sites are targeted for cleanup using state funds.

**Underground Storage Tanks**\(^5\)

An underground storage tank (UST) system is a tank and any underground piping connected to the tank that has at least ten (10) percent of its combined volume underground. The federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. When the UST program began, there were approximately 2.1 million regulated tanks in the United States. Today, there are far fewer regulated tanks, since many substandard UST systems have been closed. Nearly all USTs at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and non-marketers who use tanks solely for their own needs (such as fleet service operators and local governments). USEPA estimates about 10,000 tanks hold hazardous substances covered by the UST regulations.

The greatest potential hazard from a LUST is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the SCAG region). A LUST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment. Table 3.7-2 shows the number of USTs within the SCAG region.

### TABLE 3.7-2: UNDERGROUND STORAGE TANKS

<table>
<thead>
<tr>
<th>County</th>
<th>Underground Storage Tank (UST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperial</td>
<td>217</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>7,266</td>
</tr>
<tr>
<td>Orange</td>
<td>3,022</td>
</tr>
<tr>
<td>Riverside</td>
<td>1,351</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>1,066</td>
</tr>
<tr>
<td>Ventura</td>
<td>1,399</td>
</tr>
</tbody>
</table>


**Hazardous Materials Transport.** There are several risks associated with the transportation-related use of hazardous materials in the SCAG region. Actual transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Finally, the past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a source of risk when such sites are disturbed in the course of future transportation projects or associated development. Each of these avenues is discussed below.

Hazardous materials move through the SCAG region by a variety of modes: truck, rail, air, ship, and pipeline. According to the Office of Hazardous Materials Safety (OHMS) in the U.S. Department of Transportation (USDOT), hazardous materials shipments can be regarded as equivalent to deliveries, but any given shipment may involve one or more movements, or trip segments, that may occur by different modes. For instance, a shipment might involve initial pickup by truck (one movement), a transfer to rail (a second movement), and a final delivery by truck again (for a total of three movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.

According to the Commodity Flow Survey (CFS) data, there were approximately 2.3 billion tons of hazardous materials shipments in the United States in 2007. **Table 3.7-3** indicates that trucks move more than one-half of all hazardous materials shipped from a location in the United States. By contrast, rail accounts for only seven percent of shipments.\(^6\)

**TABLE 3.7-3: HAZARDOUS MATERIAL SHIPMENTS IN THE UNITED STATES**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Total Commercial Freight Activity (thousand tons)</th>
<th>Hazardous Materials Shipped (thousand tons)</th>
<th>Percent of Hazardous Materials Shipped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>8,778,713</td>
<td>1,202,825</td>
<td>13.7%</td>
</tr>
<tr>
<td>Pipeline</td>
<td>650,859</td>
<td>628,905</td>
<td>96.6%</td>
</tr>
<tr>
<td>Rail</td>
<td>1,861,307</td>
<td>129,743</td>
<td>7%</td>
</tr>
<tr>
<td>Water</td>
<td>403,639</td>
<td>149,794</td>
<td>37.1%</td>
</tr>
</tbody>
</table>


Aside from rail, pipeline, and water shipments, hazardous materials transported through the SCAG region make use of many of the same freeways, arterials, and local streets as other traffic in the region. This creates a risk of accidents and associated release of hazardous materials for other drivers and for people along these routes, as does the use of rail modes for hazardous materials shipments. According to the USDOT, Hazardous Materials Information System, in 2010, highways accounted for the largest share of hazardous materials transport.

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materials incidents, with a total of 12,635 incidents or 85 percent of total incidents. Air accounted for 9 percent of total hazardous materials incidents, followed by rail and water transport.\textsuperscript{7}

**THRESHOLDS OF SIGNIFICANCE**

Based on CEQA Appendix G and as appropriate for the 2012-2035 RTP/SCS, the Plan would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazards or hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous materials within one-quarter mile of a school;
- Disturb contaminated property during the construction of new transportation or expansion of existing transportation facilities, and/or
- Cause a cumulatively considerable hazard to the public or the environment outside the SCAG region (impacts inside the region are considered in the project analyses).

**Methodology**

As stated by the OHMS, the frequency and location of hazardous material shipments are an indicator of risk. Therefore, the impact of hazardous materials transportation through the SCAG region can be assessed by examining the 2012-2035 RTP/SCS’s effect on hazardous materials shipments.

To assess potential hazards to sensitive receptors adjacent to transportation corridors, Geographic Information Systems (GIS) analysis was used to identify where 2012-2035 RTP/SCS major freeway, rail, and transit projects would be within 150 feet of 2035 residential land uses. In addition, a half-mile buffer (one-quarter mile on either side) was drawn around the freeway, rail, and transit projects to identify the number of existing schools potentially affected by transportation projects in the 2012-2035 RTP/SCS.

**Cumulative Analysis**

The 2012-2035 RTP/SCS addresses transportation projects and land use distribution patterns, including land use scenarios. These land use distribution patterns identify growth distribution and anticipated land use development to accommodate growth projections. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although a similar level of development is anticipated even without the 2012-2035 RTP/SCS, this Plan would influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR covers overall impacts of all transportation projects and land development described in the 2012-2035 RTP/SCS. In addition, this PEIR considers cumulative impacts from other regional plans (e.g., the South Coast Air Quality Management Plan), which could result in additional impacts inside and outside the region.

Comparison with the No Project Alternative

The analysis of hazardous materials also includes a comparison between the expected future conditions with the Plan and the expected future conditions if no Plan were adopted. This evaluation is not included in the determination of the significance of impacts (which is based on comparison to existing conditions); however, it provides a meaningful perspective on the expected effects of the 2012-2035 RTP/SCS.

Determination of Significance

The methodology for determining the significance of hazardous material impacts compares the existing conditions to the future 2035 conditions under the Plan, as required in CEQA Section 15126.2(a).

Implementation of the 2012-2035 RTP/SCS would affect the transportation and handling of hazardous materials in the SCAG region by improving and increasing transportation routes in proximity to sensitive receptors such as schools and residential uses. The potential for risk related to hazardous materials was assessed by evaluating the locations of proposed projects in relation to the surrounding uses, as well as the potential expected significant impacts related to the risk of accidental releases due to an increase in the transportation of hazardous materials and the potential for such releases to reach schools, and communities adjacent to transportation facilities included in the 2012-2035 RTP/SCS.

The following discussion presents a programmatic regional evaluation of potential impacts of the 2012-2035 RTP/SCS projects on hazardous materials. As applicable (i.e., for transportation projects that would affect hazardous materials and development adjacent to facilities that carry hazardous materials), potential significant impacts must be evaluated on a project-by-project basis and appropriate mitigation measures identified as appropriate.

As specified in applicable Mitigation Monitoring and Reporting Plans, applicants or local jurisdictions or agencies shall be responsible for ensuring adherence to the applicable mitigation measures prior to construction. At a minimum, lead agencies for regionally significant projects, should provide to SCAG documentation of compliance with applicable mitigation measures through its Intergovernmental Review Process (IGR).

IMPLICTIONS

Impact 3.7-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The 2012-2035 RTP/SCS includes projects (both transportation projects and development undertaken in accordance with the Plan) that may involve the transportation, use, and/or disposal of hazardous materials. In particular, the proposed freight rail enhancements and other goods movement capacity enhancements could result in increased or new transport of hazardous materials or wastes. In addition, construction and maintenance of these projects would result in use of equipment that contains or uses routine hazardous materials (e.g., diesel-fuel, paint and cleaning solutions), and the transportation of excavated soil and/or groundwater containing contaminants from previously contaminated areas.

Port traffic (and associated goods movement in the region) is anticipated to triple over the lifetime of the Plan. Container traffic is anticipated to increase from approximately 14 million 20-foot Equivalent Units (TEUs) in 2010 to a projected approximately 43 million TEUs in 2035. The fraction of containers that include hazardous materials is not known, but if we assume that it remains constant, transport of hazardous materials would be expected to triple along with other container traffic. In addition to container traffic,
hazardous materials are transported via company trucks (for example gas companies transport gasoline, diesel and other flammable substances) various industrial users transport materials for their businesses (raw materials and waste products), and so on.

In general, it is anticipated that the increase in transport of hazardous materials would result in a less-than-significant hazard to the public and/or the environment, because handling and transport of hazardous materials and wastes are subject to numerous laws, regulations, and health and safety standards set forth by federal, State, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, OSHA, USDOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Cal/EPA, DTSC for example is within Cal/EPA, have parallel and, in some cases, more stringent rules governing the use of hazardous materials.

USDOT requires that hazardous waste inventories (which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal) be maintained. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the USDOT Regulations.

The construction and maintenance of transportation facilities as well as development that occurs pursuant to the Plan would involve the use of hazardous materials such as fuels, solvents, paints and other architectural coatings. The use and storage of these materials is regulated by local fire departments, Certified Unified Program Agencies (CUPAs), and the Cal OSHA. Materials remaining after project construction can likely be re-used on other projects. For materials that cannot be or are not reused, disposal would be regulated by DTSC under State and federal hazardous waste regulations.

The 2012-2035 RTP/SCS includes refinements to a truck-only freight lane system extending from the San Pedro Bay Ports to downtown Los Angeles, eventually reaching the Ontario Freeway (I-15) in San Bernardino County via an east-west segment. The 2012-2035 RTP/SCS includes a refined concept for the east-west segment of the freight corridor. An initial segment of the east-west freight corridor would connect to the I-15 just north of the San Bernardino Freeway (I-10).

Increased transport and handling of hazardous materials particularly by goods movement facilities could result in increased risk of accidental releases reaching neighborhoods and communities adjacent to the transportation facilities (see Impact 3.7-2 below).

SCAG’s GIS data was used to analyze where major freeway, rail, and transit projects would intersect residential development and business uses. A 150-foot potential impact zone was identified around freeway, rail, and transit projects in the 2012-2035 RTP/SCS to determine the acreage of neighborhoods and communities that could be affected by potential hazardous materials emissions. It is estimated that in 2035, approximately 3,235 acres of low, medium, and rural density residential and 5,941 acres of commercial land uses would be within 150 feet of, and could be affected by, major transportation projects in the 2012-2035 RTP/SCS (see Table 3.8-1 in Section 3.8 Land Use).

The 2012 RTP/SCS directs growth adjacent to transit and transportation facilities in order to reduce trips and trip lengths. With increasing growth adjacent to such facilities, there would be greater potential for exposure of sensitive receptors as well as other uses to risks associated with hazardous materials transport. This would be analyzed on a case-by-case basis.
Although individual projects would be required to comply with all existing regulations, due to the volume of projects (transportation and development) contained within the RTP/SCS it is possible that significant impacts could occur. Therefore, without Mitigation Measures MM-HM1 through MM-HM3, impacts could be significant.

**Impact 3.7-2: Potential to create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation.**

Implementation of the 2012-2035 RTP/SCS would facilitate the movement of goods, including hazardous materials, through the region. The SCS would also guide growth (of all types, including industrial uses that use and generate hazardous materials. The 2012-2035 RTP/SCS includes 74,297 total regional lane miles. As a result of growth that would occur with or without the RTP it is anticipated that there will be a substantial increase in vehicle miles traveled (VMT) by trucks, a common mode of hazardous materials transport, as RTP/SCS improvements close critical gaps in the highway network. In addition, freight rail enhancements, truck mobility improvements, intermodal facilities, and other goods movement capacity enhancements are included in the Plan. Transportation of goods, in general, and hazardous materials in particular, can thus be expected to increase substantially with implementation of the 2012-2035 RTP/SCS. It is estimated that daily regional heavy duty truck VMT within the SCAG region will increase from 41 million in 2011 to 65 million in 2035, which is a 58 percent increase.

The past several RTP updates, as well as this one, have included the concept of user supported (toll) dedicated truck lane facilities. These facilities would be aligned to connect freight-intensive locations such as the ports, warehousing/distribution center locations and manufacturing locations. They would have fewer ingress/egress locations than typical urban interstates to smooth the flow of goods in the region. Additional improvements included in the 2012-2035 RTP/SCS would generally improve transportation safety, thus reducing the likelihood of hazardous material transportation incidents. Specific elements in the Plan, including rail-to-rail grade separations, rail operations safety improvements, truck mobility improvements such as truck-only freight corridors, and grade separations of streets and highways from rail lines, could be expected to reduce the level of risk posed by hazardous materials transport by separating freight transportation from other traffic types and reducing the risk of collisions.

Such improvements to the transportation system may provide an incentive for even greater goods shipment through the SCAG region, thus potentially offsetting this benefit. The imposition of tolls or fees for dedicated truck lane facilities may induce the transfer of some freight, including hazardous materials, to rail rather than truck. Federal statistics show that hazardous materials incidents are much less common by rail than on highways.8 Implementation of Mitigation Measure MM-HM3 would reduce impacts related to upset and accident conditions involving the release of hazardous materials, however, impacts would remain significant.

**Impact 3.7-3: Potential to create a hazard to the public or the environment by emitting hazardous materials within one-quarter mile of a school.**

As mentioned above, Plan projects as well as development anticipated to occur under the Plan would result in the use, transport and/or storage of potentially hazardous materials. The types and quantities of hazardous materials transported, used and stored is heavily regulated. Using SCAG’s GIS data, the 2012-2035 RTP/SCS network of projects was overlaid on the region to determine the potential for effects related to hazardous materials emissions to impact schools. Results of the GIS analysis show that under the Plan, approximately 541 existing kindergarten through 12th grade schools are within a one-quarter mile buffer of

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the 2012-2035 RTP/SCS projects and could be impacted (see Table 3.7-4). Hazardous materials carried on roadways within one-quarter mile of schools could affect these schools if there were to be a release or incident during transportation. Compliance with all applicable local, State, and federal laws, and regulations, as described in the regulatory framework section above, regulate, control, or respond to hazardous waste, transport, disposal, or cleanup in order to ensure that hazardous materials do not pose a significant risk to nearby receptors.

| TABLE 3.7-4: SCHOOLS, HOSPITALS AND NURSING HOMES WITHIN 0.25 MILES OF PLAN PROJECTS |
|-------------------------------+----------------+---------------------|
| Mode                         | No Project     | 2012-2035 RTP/SCS    |
| Colleges                     | 15             | 58                  |
| Hospitals                    | 6              | 45                  |
| K-12 Schools                 | 147            | 541                 |
| Nursing Homes                | 37             | 186                 |
| Senior Centers               | 6              | 47                  |
| Urgent Care Centers          | 4              | 36                  |

**SOURCE:** SCAG, GIS Analysis, 2011; SCAG, Land Use, 2008.

However, due to the number of projects and amount of development included in the 2012-2035 RTP/SCS it is anticipated that significant impacts could occur. Implementation of Mitigation Measure MM-HM4 would reduce impacts related to emitting hazardous materials within a quarter-mile of a school, however, impacts would remain significant.

**Impact 3.7-4: Potential to create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation or expansion of existing transportation facilities and the disturbance of contaminated sites as a result of population, housing and employment growth in the region.**

The 2012-2035 RTP/SCS includes transportation system improvements to close critical gaps in the transportation network that currently hinder access to certain parts of the region. Construction related to these improvements and other projects (including development undertaken pursuant to the Plan) in the 2012-2035 RTP/SCS could involve construction on or adjacent to sites that are contaminated (buildings and/or soil and/or groundwater due to past use or disposal of hazardous materials. Federal, State and local laws provide for remediation of these sites, and it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land, there are a substantial number of potentially contaminated sites in the SCAG region. In urban, as well as rural areas, many projects (both transportation and development) will likely need to address at least the potential for contamination. Because of the large number of contaminated sites and the risk associated with encountering and cleaning up of these sites, this impact could be significant.

The 2012-2035 RTP/SCS mobility and land use policies would influence population distribution, resulting in a potentially significant impact related to disturbance of contaminated sites by new urban development, most of which will be in urban areas. Future growth will be targeted in High Quality Transit Areas (HQTAs) in close proximity to transit. Consequently, the redevelopment and reuse of urban infill properties will become more common as the region grows. Implementation of Mitigation Measures MM-HM1 through MM-HM16 would reduce impacts related to redevelopment of contaminated sites, to less than significant.

**Cumulative Impact 3.7-5: Potential to contribute a cumulatively significant increase in risk associated with hazardous materials transport outside of the SCAG region.**
The SCAG travel demand model estimates vehicle trips (autos and trucks) in 2035, as a result of population, households, and employment projected for 2035. The year 2035 would be the year with the largest demand on the transportation system during the lifetime of the 2012-2035 RTP/SCS. The forecasted urban development and growth that would occur under the Plan and that would be accommodated by the transportation investments in the 2012-2035 RTP/SCS and the increased mobility provided by the 2012-2035 RTP/SCS would result in not only increased hazardous materials transport through the region but also outside the region. These trips would add to trips from outside the region to result in cumulative impacts outside the region. As the population increases through 2035, the number of trips in the SCAG region that originate, end or pass through Santa Barbara, San Diego and Kern counties as well as other counties and states would increase, including trips involving the transportation of hazardous materials. The 2012-2035 RTP/SCS would contribute to significant hazardous material transportation impacts in these other areas. Implementation of Mitigation Measures MM-HM1 through MM-HM4 would reduce cumulative impacts related to hazardous materials transport outside of the SCAG region, however, impacts would remain significant.

**MITIGATION MEASURES**

Mitigation Measures MM-HM1 and MM-HM2 shall be implemented by SCAG over the lifetime of the 2012-2035 RTP/SCS. Mitigation Measures MM-HM3 through HM-MM16 can and should be implemented by project sponsors (for both development and transportation projects) as applicable. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions. Projects taking advantage of CEQA Streamlining provisions of SB 375 can and should apply mitigation measures as appropriate to site-specific conditions.

**Routine Transport, Use or Disposal of Hazardous Materials**

**MM-HM1:** SCAG shall encourage the United States Department of Transportation (USDOT), the Office of Emergency Services, and California Department of Transportation (Caltrans) and the private sector to continue to conduct driver safety training programs.

**MM-HM2:** SCAG shall encourage the USDOT and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.

**Upset and Accident Conditions**

**MM-HM3:** Project sponsors can and should comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

**Schools**

**MM-HM4:** Project sponsors can and should consider any known or planned school locations when determining the alignment of new transportation projects and modifications to existing transportation facilities as well as any industrial or other use that could pose a hazard to students.
Disturbance of Contaminated Property During Construction

**MM-HM5:** Project sponsors can and should ensure that Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These should include the following:

- Follow manufacturer’s recommendations on use, storage, and disposal of chemical products used in construction;
- Avoid overtopping construction equipment fuel gas tanks;
- During routine maintenance of construction equipment, properly contain and remove grease and oils;
- Properly dispose of discarded containers of fuels and other chemicals;
- Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples should be performed to determine the extent of potential contamination beneath all UST’s, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building; and
- If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project sponsor should cease work in the vicinity of the suspect material, the area should be secured as necessary, and the project sponsor should take all appropriate measures to protect human health and the environment. Appropriate measures should include notification of regulatory agency(ies) and implementation of actions as necessary, to identify the nature and extent of contamination. Work should not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

**MM-HM6:** As appropriate, project sponsors can and should submit documentation to determine whether radon or vapor intrusion from the groundwater and soil is located on-site as part of the Phase I documents. The Phase I analysis should be submitted to the appropriate government agency for review and approval, along with a Phase II report if warranted by the Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. The project sponsor should implement the approved recommendations.

**MM-HM7:** As appropriate each project sponsor can and should submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved this plan should be kept on file with the Lead Agency (or other appropriate government agency) and will be updated as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following:

- The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids
- The location of such hazardous materials
• An emergency response plan including employee training information

• A plan that describes the manner in which these materials are handled, transported and disposed

**MM-HM8:** Project sponsors can and should implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards.

  - Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal should be in accordance with applicable local, State and federal agencies laws.

  - Groundwater pumped from the subsurface should be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls should be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.

  - Prior to issuance of any demolition, grading, or building permit, the sponsor should submit for review and approval by the Lead Agency (or other appropriate government agency), written verification that the appropriate federal, State and/or local oversight authorities, including, but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous contamination at the site.

**MM-HM9:** Project sponsors can and should consult all known databases of contaminated sites and undertake a standard Phase I Environmental Site Assessment in the process of planning, environmental clearance, and construction for projects included in the 2012-2035 RTP/SCS, including development projects.

**MM-HM10:** Where contaminated sites are identified, project sponsors can and should develop appropriate mitigation measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction.

**MM-HM11:** If asbestos-containing materials (ACM) are found to be present in building materials to be removed project sponsors can and should submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations as applicable.

**MM-HM12:** Prior to issuance of demolition, grading, or building permits, project sponsors can and should submit to the appropriate agency responsible for hazardous materials/wastes oversight, a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

**MM-HM13:** Project sponsors can and should submit a comprehensive assessment report to the appropriate agency, signed by a qualified environmental professional, documenting the
presence or lack thereof of ACM, lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.

**MM-HM14:** If a Phase II Environmental Site Assessment report recommends remedial action, the project sponsor can and should:

- Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps;

- Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency; and

- Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.

**MM-HM15:** If lead-based paint is present, project sponsors can and should submit specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration’s (Cal OSHA’s) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001-36100, as may be amended. If other materials classified as hazardous waste by State or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all State and federal laws and regulations should be followed when profiling, handling, treating, transporting and/or disposing of such materials.

**MM-HM16:** If materials classified as hazardous waste by State or federal law are present, project sponsors can and should submit written confirmation to appropriate local agency that all State and federal laws and regulations should be followed when profiling, handling, treating, transporting and/or disposing of such materials.

## SIGNIFICANCE OF IMPACTS AFTER MITIGATION

**Routine Transport, Use or Disposal of Hazardous Materials**

Implementation of Mitigation Measures **MM-HM1** and **MM-HM2** would reduce potential impacts related to routine transport, use or disposal of hazardous materials to less than significant.

**Upset and Accident Conditions**

Implementation of Mitigation Measure **MM-HM3** would reduce potential impacts related to upset or accident conditions involving the release of hazardous materials into the environment. However, given the large volume of hazardous materials currently being transported throughout the SCAG region, as well as improvements to the regional transportation system that would facilitate an increase in the transportation of all goods, including hazardous materials, impacts would remain significant.
Schools

Implementation of Mitigation Measure MM-HM4 would reduce impacts related to hazardous materials emissions in the vicinity of a school. However, given the number of schools within a quarter-mile of planned 2012-2035 RTP/SCS projects, impacts would remain significant.

Disturbance of Contaminated Property During Construction

Implementation of Mitigation Measures MM-HM5 through MM-HM16 would ensure that contaminated properties are identified and appropriate steps are taken to minimize human exposure and prevent any further environmental contamination. Impacts would be less than significant after mitigation.

Cumulative Effects Outside the Region

Mitigation Measures MM-HM1 through MM-HM4 would reduce cumulative impacts related to hazardous materials transport outside the region. Risk of accidents and potential impacts to schools outside the region would be cumulatively significant impacts.

COMPARISION WITH THE NO PROJECT ALTERNATIVE

Implementation of the 2012-2035 RTP/SCS would result in the same regional total population as the No Project Alternative. Population for both No Project and the Plan is projected to be approximately 22.1 million people. However, no regional transportation investments would be made beyond the existing programmed projects under the No Project Alternative. The population distribution is assumed to follow past trends, uninfluenced by additional transportation investments and growth polices contained within the 2012-2035 RTP/SCS.

Direct Impacts

The No Project Alternative would result in the construction of approximately 68,040 new lane miles compared with over 74,297 new lane miles in the 2012-2035 RTP/SCS. Based on GIS analysis of existing uses adjacent to Plan and No Plan projects, new transportation projects in the No Project Alternative would be within a one-quarter mile radius of 147 kindergarten through 12th grade schools. The Plan projects would impact an additional 394 schools. Under the No Project Alternative, new highway, transit, and freight rail projects would be within 150 feet of 359 acres of residentially designated land and 266 acres of commercial land uses. This is far fewer acres of potentially affected neighborhoods and communities than under the 2012-2035 RTP/SCS. Further, because the plan emphasizes concentrating future development in areas well served by transportation infrastructure, the number of households impacted by the plan will be greater than in the No Project Alternative. This additional impact cannot be reliably quantified with available information. This is because it is infeasible for the plan to assume all the site sensitive factors such as specific locations, densities, and orientation as related to future development. Because there would be fewer transportation projects built, the No Project Alternative could result in a smaller increase in the movement of hazardous materials around the SCAG region, resulting in fewer associated risks.

Without the transportation system improvements incorporated in the 2012-2035 RTP/SCS, vehicle miles travelled (VMT) and vehicle hours travelled (VHT) would increase more by 2035 for the No Project Alternative than for the project. Thus, there would be more opportunities for accidents with vehicles transporting hazardous materials in the No Project Alternative than in the Plan. Also, with fewer new roadways constructed, hazardous materials transport would be concentrated on existing routes, and could not be diverted to dedicated lanes or grade-separated from automobile traffic. Construction related to improvements and other projects in the 2012-2035 RTP/SCS could involve construction on or adjacent to a
greater number of potentially contaminated sites than under the No Project Alternative. In addition, the Plan assumes the use of urban form strategies that would encourage greater property reuse and more infill development than under the No Project Alternative. Thus, it is more likely that previously contaminated sites would be encountered under the Plan than the No Project Alternative. **On balance, because the Plan would add transportation facilities thereby impacting more neighborhoods and because land uses would be concentrated next to transportation facilities, it is anticipated that the Plan impacts would be greater than No Project impacts due to increased number of transportation projects and number of lane miles. As noted this impact is offset somewhat by improved performance and safety in the transportation system.**

Cumulative Effects Outside the Region

With the construction of fewer new lane miles and other transportation projects in the No Project Alternative compared to the Plan, more transportation demand could be transferred to surrounding counties, and therefore, more hazardous materials transportation could potentially be facilitated in those counties. **No Project impacts could be greater than the Plan impacts for Cumulative Impact 3.7-5.**