

15 GLOSSARY

A

Abatement: Reduction; often used to describe mitigation of noise.

Accessibility: The ease with which a site or facility may be reached by passengers and others necessary to the facility's intended function. Also, the extent to which a facility is usable by persons with disabilities, including wheelchair users.

Action Alternative: An alternative that represents the proposed action or another alternative action, as contrasted to the No Action (No Project) Alternative.

Adverse: Negative or detrimental.

Affected Environment: The physical, biological, social, and economic setting potentially affected by one or more of the alternatives being considered.

Air Pollution: A general term that refers to one or more chemical substances that degrade the quality of the atmosphere.

Alignment: The horizontal and vertical general location for HST tracks within study corridors.

Alignment Alternatives: The general location for HST tracks, structures and systems for the HST system between logical points within study corridors.

Alluvium: Sedimentary materials deposited by running water.

Alquist-Priolo Earthquake Fault Zoning Act: California law passed in 1972 to prevent construction of buildings used for human occupancy on surface traces of active faults.

Americans with Disabilities Act (ADA): Federal regulation establishing legal requirements for accessibility.

Amplitude: The magnitude of a periodic wave; also describes the strength or intensity of a signal that travels in wave form, such as a radio signal.

Aquifer: Subsurface geologic unit (rock or sediment) that contains and transmits groundwater.

Arc, Arcing: Electrical discharge is said to arc when it jumps across the space between two contacts.

At Grade: At ground surface level; a term used to describe roadways, river crossings, and track alignments.

Attainment: An air basin is considered to be in *attainment* for a particular pollutant if it meets the federal or state standards set for that pollutant. *See also* **Maintenance, Nonattainment**.

A-Weighted Sound Level: A measure of sound intensity that is weighted to approximate the response of the human ear, so it describes the way sound will affect people in the vicinity of a noise source.

B

Baseline: Foundation or basis to use for comparison purposes.

Beneficial Visual Impact: Impact resulting if a project alternative eliminates a dominant feature that currently detracts from scenic qualities or blocks vistas in the landscape.

BNSF: BNSF Railway Company.

BTU: British Thermal Unit, equal to the amount of heat required to raise 1 pound of water 1 degree Fahrenheit at 1 atmosphere of pressure.

Buttressing: An action or structure that provides support or stability.

C

California Environmental Quality Act (CEQA): "Legislation enacted in 1970 to protect the quality of the environment for the people of California by requiring public agencies and decision-makers to document and consider the environmental consequences of their actions. CEQA is the state equivalent of the National Environmental Policy Act (NEPA)."

Capital Cost: The total cost of acquiring an asset or constructing a project.

Capitol Corridor: An existing intercity rail alignment approximating the I-80 corridor; carries freight traffic, long distance Amtrak service, and intrastate "Capitol" service.

Carbon Dioxide (CO₂): A colorless, odorless gas that occurs naturally in the earth's atmosphere; significant quantities are also emitted into the air by fossil fuel combustion.

Carbon Monoxide (CO): A colorless, odorless gas that is generated in the urban environment, primarily by the incomplete combustion of fossil fuels in motor vehicles.

Catenary Wire: A suspended (overhead) wire system that supplies power from a central power source to an electric vehicle such as a train.

Class I Trail: A trail in a separate right-of-way designated for exclusive use by bicycles and pedestrians, with cross traffic by motorists minimized.

Class II Trail: A trail in a restricted right-of-way designated for semiexclusive use by bicycles, with traffic by motor vehicles or pedestrians at crossings.

Class III Trail: A trail located in a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

Cofferdam: Watertight enclosure from which water is pumped to expose the bottom of a body of water and permit construction.

Community Cohesion: The degree to which residents have a sense of belonging to their neighborhood, a commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time.

Community Noise Equivalent Level: A 24-hour L_{eq} that has been adjusted to add a “penalty” of 5 dBA for evening noise (between 7:00 p.m. and 10:00 p.m.) and 10 dBA for nighttime noise (between 10:00 p.m. and 7:00 a.m.).

Congestion Management Plan: A planning document that addresses strategies for reducing traffic congestion.

Connectivity: Describes the degree of “connectedness” of a transportation system, such as a transit network, and the ease with which passengers can move from one point to another within the network or points outside the network.

Conservation Easement: An easement created by transferring development rights over a property from a farmer to another entity, such as the local jurisdiction or an agricultural protection organization; the land remains in private ownership and may be farmed, but may not be developed with urban uses. *See also* **Easement**.

Cooperating agency: Under NEPA, any agency other than the lead agency that has legal jurisdiction over, or technical expertise regarding, environmental impacts associated with a proposed action and has agreed to participate.

Construction: Any activity related to building projects, including highways or HST infrastructure (e.g., track, stations, tunnels, bridges) that directly alters the environment.

Corridor: A geographic belt or band that follows the general route of a transportation facility (highway, railroad, etc). *See also* **Study corridors**.

Criteria Pollutants: Refers to pollutants for which federal and state air quality standards have been established: carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x), ozone (O₃), particulate matter with a diameter of 10 microns or less (PM10), particulate matter with a diameter of 2.5 microns or less (PM2.5), and lead (Pb).

Cultural Resources: Resources related to the tangible and intangible aspects of cultural systems, living and dead, that are valued by a given culture or contain information about the culture. These include (i.e., are not limited to) sites, structures, buildings, districts, and objects associated with or representative of people, cultures, and human activities and events.

Cumulative Impact: (1) As defined by CEQA, the result of two or more individual impacts which, when considered together, are considerable or which compound or increase other environmental impacts. (2) As defined by NEPA, and impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

Cut and Cover: Construction technique in which a trench is excavated, infrastructure is installed, and the trench is closed.

Cut and Fill: Construction technique involving excavation or grading followed by placement and compaction of fill material.

Cut Slope: A slope that is shaped by excavation or grading. *See also* **Fill slope**.

D

Decibel (dB): A logarithmic measurement of noise intensity.

Densification: The process of making an element more compact by reducing air space.

Dewatering: The process of removing water from an area or substance, such as fill material.

Disturbance: A discrete event, either natural or human induced, that causes a change in the condition of an ecological system.

E

Easement: An interest in land owned by another individual or organization that entitles its holder to a specific limited use.

Ecosystem: A system formed by the interaction of living organisms, including people, with their environment.

Electromagnetic Field (EMF): The force field that extends outward from any moving electrical current, consisting of both a magnetic field and an electric field.

Electromagnetic Interference (EMI): An electrical emission or disturbance that causes degradation in performance or results in malfunctions of electrical or electronic equipment, devices, or systems.

Emergent: (1) Arising naturally or (2) of vegetation, rooted in periodically or continuously inundated substrate, but with a portion of the plant extending above the water.

Eminent Domain: A jurisdiction or agency's legal right to take private property for public use in exchange for fair compensation.

Emission and Dispersion Modeling System (EDMS): Modeling system used by the Federal Aviation Administration (FAA) to estimate airplane emissions generated from a specified number of landing and take-off (LTO) cycles.

Endangered Species: Species listed under the federal Endangered Species Act as being in danger of or threatened with extinction throughout all or most of its range.

Enplanement: The act of boarding an airplane.

Environmental Impact Report (EIR): A detailed informational document that analyzes a project's potential significant effects and identifies mitigation measures and reasonable alternatives to avoid the significant effects. This document is part of the CEQA environmental review process.

Environmental Impact Statement (EIS): A detailed informational document that analyzes a project's potential significant effects and identifies mitigation measures and reasonable alternatives to avoid the significant effects. This document is part of the NEPA environmental review process.

Environmental Justice: Identifying and addressing the potential for disproportionately high and adverse effects of programs, policies, and activities on minority populations and low-income populations.

Erosion: Process by which earth materials are worn down by the action of flowing water, ice, or wind.

Ethnicity: A grouping or category of people based on shared cultural traits, such as ancestral origin, language, custom, or social attitude.

F

Farmland of Local Importance: Farmlands that are important to the local agricultural community, as determined by each county's board of supervisors and local advisory committee. *See also Farmland of Statewide Importance, Prime Farmland.*

Farmland of Statewide Importance: Farmlands similar to prime farmlands but that have been evaluated as less valuable because they have steeper slopes, less ability to retain moisture in the soil, or other characteristics that limit their use. To qualify as farmland of statewide importance, a property must have been used for production of irrigated crops at some time during the previous 4 years.

Farmland Severance: Because agricultural land usually consists of large parcels, the acquisition of part of a property results in the severance (disconnection) of land retained under agricultural use and in impacts associated with construction and with occupation or use of developed areas.

Fault: A fracture in the earth's lithosphere (brittle rocky shell) along which movement has occurred.

Feasible: Capable of being implemented.

Fill Slope: A slope shaped by the placement and compaction of loose "fill" materials, which may be reused from elsewhere on the construction site, or imported.

Fiscally or Financially Constrained Plans: Plans that are limited by the foreseen availability of project funding in a region.

Flyover: A bridge that carries one road or rail alignment aerially over another.

Footprint: Area of the ground surface covered by a facility or affected by construction activities.

Freeway Deficiency Plans: Freeway Deficiency Plans contain the following components: an analysis of the causes of the deficiency; a list of improvements that would have to be made to remedy the deficiency, including cost estimates; a list of proposed improvements; and an implementation plan including a schedule.

Frequency: The number of times a field, such as an electromagnetic field, changes direction in space each second. Also, the number of trains, flights, or other transportation service occurring in a given time period.

G

G Force: A force whose magnitude is equal to the gravitational force acting on a body at sea level, expressed as 1.0g.

Gauss: Unit of measure describing the strength of a magnetic field. Near the surface of the earth, the earth's magnetic field measures approximately 0.5 gauss (0.1 Telsa). *See also Tesla.*

General Plan: A planning document, usually at the city or county level, that encapsulates policies for land use and development over a specified period of time. A general plan may be supplemented by specific plans that address land use and development policies for specific portions of a planning jurisdiction, such as historic districts or areas slated for redevelopment.

Geographic Information System (GIS): An information management system designed to store and analyze data referenced by spatial or geographic coordinates.

Giga: Prefix meaning 1 billion.

Grade Crossing: The intersection of a railroad and a highway at the same elevation (grade); an intersection of two or more highways; an intersection of two railroads.

Grade-Separated: At different elevations; on separate levels.

Greenhouse Gases: A class of air pollutants believed to contribute to the "greenhouse" global warming effect, including nitrogen oxides (NO_x), hydrocarbons (HC), and carbon dioxide (CO₂).

Grid: A system of interconnected power generators and power transmission lines that is managed to meet the requirements of energy users connected to the grid at various points.

Groundwater: Water contained and transmitted through open spaces in rock and sediment below the ground surface.

Growth Inducement: Contribution to the rate or extent of development in an area.

H

Habitat: An environment where plants or animals naturally occur; an ecological setting used by animals for a particular purpose, such as roosting or breeding.

Headway: The time between buses, trains, or other transit vehicles at a given point. For example, a 15-minute headway means that one bus arrives every 15 minutes.

Herbaceous: Describes plants that have little or no woody tissue. Herbaceous plants typically survive for only a single growing season.

Heritage Resources: An alternate term for cultural resources used in some planning documents. *See Cultural Resources.*

Hertz: A unit of measure describing **frequency**; equal to cycles (number of reversals) per second.

High-Speed Steel-Wheel-on-Steel-Rail Train: An improvement of traditional railroad passenger technology that has been designed to operate at speeds of 100–150 mph (160–240 kph) on existing rail infrastructure.

High-Speed Train (HST): A train designed to operate safely and reliably at speeds near 200 mph (350 kph).

High Visual Impact: Impact sustained if features of a project alternative are very obvious, such that they begin to dominate the landscape and detract from the existing landscape characteristics or scenic qualities.

HST Alignment Alternatives: General location for HST tracks, structures and systems for the HST system between logical points within study corridors; they are generally configured along or adjacent to existing rail transportation facilities. These HST Alignment alternatives are described in Chapter 2, analyzed in Chapter 3, compared and used to create HST Networks in Chapter 7.

HST Network Alternatives: Represent different ways to implement the HST system in the study region with combinations of HST Alignment Alternatives and station location options. These HST Network alternatives are identified in Chapter 2 and compared in Chapter 7.

HST Alignment Segment: A portion of alignment (often defined to distinguish sub-alternatives) that can be combined with other segments to form an alignment.

Hydrocarbons: A wide variety of organic compounds, including methane (CH₄), emitted principally from the storage, handling, and combustion of fossil fuels.

/

Impact: A change in the condition or function of an environmental resource or environmental value as a result of human activity. Also called *effect*.

In Lieu Of: Instead of or in place of.

Indigenous Species: A native species; any plant or animal species that occurs naturally in a wilderness area and was not introduced, deliberately or accidentally, by humans.

Infrastructure: The facilities required for a societal function or service (e.g., *transportation infrastructure, utilities infrastructure*).

Initial Study: An environmental study carried out in compliance with CEQA, with the goal of evaluating whether a proposed project has the potential to result in significant impacts on the environment.

Insertion Loss: The actual noise-level reduction at a specific receiver due to construction of a noise barrier or some other intervention between the noise source (e.g., traffic) and the receiver.

In-Situ: In the original or natural position.

Intermodal: Describes transportation that involves more than one means (e.g., walk, bike, auto, transit, taxi, train, bus, air) during a single journey.

Investment-Grade Ridership Forecast: Ridership forecast that is sufficiently detailed and reliable to permit responsible decision-making about capital expenditures.

J**K**

Kilo: Prefix meaning 1 thousand.

L

Landslide: Movement of earth or rock materials downslope under the influence of gravity.

Land Use Compatibility Assessment: An assessment of the compatibility of a proposed project or land use with existing and projected land uses in nearby areas, based on the sensitivity of various land uses to change related to the alternatives and the impact of these changes on the land use.

Lead (Pb): A stable element that persists and accumulates both in the environment and in humans and animals and can have toxic effects.

Lead Agency: The public agency that has the principal responsibility for carrying out or approving a project or action and is thus responsible for preparing environmental review documents in compliance with CEQA and/or NEPA.

L_{eq}: A measure of the average noise level during a specified period of time.

L_{eq}(h), dBA: Equivalent or average noise level for the noisiest hour, expressed in A-weighted decibels. See also **A-Weighted Sound Level**.

Less Than Significant: In CEQA usage, describes an impact that is not sufficiently adverse, intense, or prolonged to require **mitigation**.

Level of Service (LOS): A rating using qualitative measures that characterizes operational conditions within a traffic stream and the perception by motorists and passengers of these conditions.

Liquefaction: A type of ground failure in which soils or sediments lose their internal cohesion, cease to behave as a solid, and flow like a liquid.

Logarithmic Scale: A measurement in which the ratio of successive intervals is not equal to 1 (which is typical for linear scales) but is some common factor larger than the previous interval (a typical ratio is 10, so that the marks on the scale read 1, 10, 100, 1000, 10000, etc.). Logarithmic scales are useful for graphing values that have a very large range.

Low Visual Impact: Impact sustained if features of a project alternative are consistent with the existing line, form, texture, and color of other elements in the landscape and do not stand out.

M

Mainline: A principal highway or railroad, exclusive of connectors, ramps, spurs, etc.

Maintenance: An air basin is considered to be in *maintenance* for a given pollutant if it was formerly in nonattainment but is now meeting the established standards for that pollutant. See also **Attainment, Nonattainment**.

Major Investment Study (MIS): A study that evaluates project alternatives for their ability to solve an area's transportation problems.

Master Plan: A comprehensive planning document intended to guide the long-range growth and development of a community or region, or the long-term management and use of a parkland.

Measure M: Approved by Orange County voters in November 1990, Measure M instituted a sales tax of 0.5 cent for countywide transportation improvements.

Mean High-Water Mark: The elevation reached by the water surface at the mean (average) high water level (average high-tide elevation or average flood elevation), often indicated by physical characteristics, such as erosion, lines of vegetation, or changes in type of vegetation.

Medium Visual Impact: Impacts sustained if features of a project alternative are readily discernable but do not dominate the landscape or detract from existing dominant features.

Microscale: Description of local air quality analysis.

Midden: Refuse accumulation associated with prehistoric use of a site or area.

Mitigation: Action or measure undertaken to minimize, reduce, eliminate, or rectify the adverse impacts of a project, practice, action, or activity.

Monitoring: The collection of information to determine the effects of resource management and to identify changing resource conditions or needs.

Monoculture: The cultivation of a single product to the exclusion of other uses of land.

N

National Ambient Air Quality Standards (NAAQS): Federal standards stipulating the allowable ambient concentrations of specific criteria pollutants.

National Environmental Policy Act (NEPA): "Federal legislation requiring federal agencies to consider the environmental impacts of major federal projects or decisions, to share information with the public, to identify and assess reasonable alternatives, and to coordinate efforts with other planning and environmental reviews taking place."

Nitrogen Oxides (NO_x): A class of pollutant compounds that include nitrogen dioxide (NO₂) and nitric oxide (NO), both of which are emitted by motor vehicles. *See* **Criteria Pollutants**.

No Action: Under NEPA, refers to an alternative under which no action would be taken (no infrastructure would be built and no new management or operational practices would be instituted). *See* **No Project**.

No Project: Under CEQA, refers to an alternative under which no action would be taken (no infrastructure would be built and no new management or operational practices would be instituted). *See* **No Action**.

No Project Alternative: Represents the region's (and state's) transportation system (highway, air, and conventional rail) as it is today and with implementation of programs or projects that are in regional transportation plans and have identified funds for implementation by 2030.

Nonattainment: An air basin is considered to be in *nonattainment* for a particular pollutant if it is exceeding federal or state standards for that pollutant. See also **Attainment, Maintenance**.

Non-Electrified Steel-Wheel-on-Steel-Rail Train: Conventional intercity diesel locomotive train equipment (e.g., Amtrak California Corridor trains).

Nonpoint Source Pollution: Pollution that cannot be traced to a single source but collects from a wide area. Examples include pesticides or fertilizers that wash into rivers or percolate through the soil into groundwater.

Non-Water-Contact Recreation: Recreational activities where contact with the water is not likely, such as photography and wildlife viewing.

Notice of Intent (NOI): Formal notice stating that an environmental impact statement will be prepared for a proposed project; published in the Federal Register by the federal lead agency.

Notice of Preparation (NOP): Formal notice stating that an environmental impact report will be prepared for a proposed project, issued by the state lead agency.

Noxious Weed: A plant that has been defined as a pest by law or regulation. Both the State of California and the federal government maintain lists of plants that are considered threats to the well-being of the state or the country.

NPL/Superfund List: Federal list of sites that have been identified as posing an immediate public health hazard and where an immediate response is necessary.

O

Ordinary High-Water Mark: The line on the shore of a body of water established by the fluctuation of water.

Ozone (O₃): A photochemical oxidant that is a major cause of lung and eye irritation in urban environments.

P

Paleontological: Related to the study of life in past geologic time.

Pantograph: A device on the roof of the HST for collecting current from an overhead wire, consisting of a hinged vertical arm operated by springs and hydraulic mechanism with a wide, horizontal contact surface that slides along the wire.

Particulate Matter: Liquid and solid particles of a wide range of sizes and compositions; of particular concern for air quality are particles smaller than or equal to 10 microns and 2.5 microns (PM10 and PM2.5 respectively).

Point Source Pollution: Pollution that can be traced to a single source. An example is a smokestack at a factory.

Poverty Level: A federally established income guideline used to define persons who are economically disadvantaged.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Preferred Alternative: The alternative identified as preferred by the lead agencies.

Program-Level: Refers to a CEQA or NEPA environmental review that covers the broad spectrum of a large, complex, regionally extensive effort comprised of a number of smaller, regionally focused projects or phases.

Project-Level: Refers to more detailed site-specific environmental analysis focusing on a single project that is part of a larger program.

Prime Farmland: Rural land that has the best combination of physical and soil chemistry characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

Public Transportation: Includes bus, trolley bus, streetcar or trolley car, subway or elevated, railroad, ferryboat, and taxicab service.

Purpose and Need: The reason(s) why a project or action is undertaken, and the need(s) it is intended to meet or fulfill.

Q

R

Radio Frequency: The frequency range of the electromagnetic spectrum that is used for radio communication.

Reactive Organic Gases (ROG): Reactive **hydrocarbon** pollutants.

Regional Transportation Improvement Plan (RTIP): A listing of all transportation projects proposed over a six-year period for a given region. The RTIP is prepared to implement projects and programs listed in the **Regional Transportation Plan** and is developed in compliance with state and federal requirements.

Regional Transportation Plan (RTP): A long-range (20+ year) transportation plan. The regional transportation plan (RTP) identifies major challenges as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from growth anticipated in the region. There are typically two components of the RTP: a financially constrained and financially unconstrained version. The financially constrained version of the RTP includes projects and programs that fit within existing and planned funding sources.

Representative Demand: For this Program EIR/EIS, the higher ridership forecast of 117 million intercity trips (based on the sensitivity analysis described in Chapter 1), which includes the 31 million commute trips figure. Provides a reasonable representation of total capacity and serves as a representative worst-case scenario for analyzing the potential environmental impacts from construction and operation of the HST system through 2030. This higher forecast is generally used as a basis for defining the HST alternatives.

Richter Scale: A logarithmic scale measuring the severity of earthquakes, based on the magnitude of ground motion.

Ridership: The number of people who ride a transportation system.

Right-of-Way: A legal right of passage over a defined area of real property. In transit usage, right-of-way refers to the corridor along a roadway or track alignment that is controlled by a transit or transportation agency/authority.

Riparian: Relating to, living, or located on the bank of a natural watercourse, lake, or tidewater.

Riprap: Armoring consisting of randomly placed rock or concrete; used to strengthen an embankment or protect it from **erosion**.

Ruderal: Weedy vegetation, commonly including or dominated by introduced species, characteristic of areas where native vegetation has been disturbed or removed.

S

Scenic Corridor: A **corridor** with landscapes and vistas of high scenic quality.

Scoping: A process used under both CEQA and NEPA to determine the scope of issues to be addressed and to identify the significant issues related to the proposed action or project to be addressed in an environmental impact report or environmental impact statement.

Screenline: An imaginary line across parallel roadways that defines a zone of analysis.

Section 4(f): Provisions originally enacted as Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 C.F.R. 771.135) and subsequently codified in 49 U.S.C., Subtitle I, Section 303(c). The Section 4(f) provisions address the potential for conflicts between transportation needs and the protection of lands for recreational use and resource conservation by regulating the use of publicly owned parkland, recreation areas, and historic sites. Specifically, they prohibit the Secretary of Transportation from approving any program or project that would require the use of any publicly owned land from a public park, recreation area, wildlife or waterfowl refuge, or land of an historic site of national significance as determined by the officials having jurisdiction over these lands, unless there are no feasible and prudent alternatives to the use of these lands. In addition, a proposed program or project must include all possible planning to minimize harm resulting from the proposed use.

Section 6(f): Section 6(f) of Land and Water Conservation Fund Act of 1964, which prohibits the conversion to a non-recreational purpose of property acquired or developed with funds granted through the Act without the approval of the National Park Service. Section 6(f) directs the Department of the Interior to ensure that replacement lands of equal value (monetary), location, and usefulness are provided as conditions to such conversions. Consequently, where such conversions of Section 6(f) lands are proposed for transportation projects, replacement lands must be provided.

Sedimentary Rock: Rock resulting from the consolidation of sediment.

Seiche: Oscillation or “sloshing” of water in a lake, bay, or other enclosed body as a result of landsliding or seismic groundshaking.

Senate Bill 45: Bill that instituted consolidation of various funding programs into the **State Transportation Improvement Program** and increased accountability for programming and delivery of STIP projects to the regions around the state and the various Caltrans districts.

Sensitivity Analysis: An analysis that assesses how sensitive the outcomes predicted by modeling are to changes in different model inputs (assumptions or variables).

Shadow impact: Shadow impact is the introduction of shadows to a land sensitive to aesthetic conditions from a new structure.

Significant: In CEQA usage, describes an impact that is sufficiently adverse, intense, or prolonged to require **mitigation**. For NEPA usage see 40 CFR 1508.27.

South Coast Air Quality Management District: The regional regulatory agency with the primary responsibility for improving air quality in the South Coast Air Basin.

State Implementation Plan (SIP): Statewide plan for complying with the federal Clean Air Act. The SIP consists of narrative, rules, and agreements that California will use to cleanup polluted areas.

State Transportation Improvement Program (STIP): A multi-year capital improvement program of transportation projects on and off the state highway system, funded with revenues from the State Highway Account and other funding sources. STIP programming generally occurs every two years.

Station Location Options: general locations that represent the most likely HST stations based on current knowledge, consistent with the objective to serve the state's major population centers.

Strike-Slip Fault: A fault along which the dominant direction of movement is parallel to the fault trace (the expression of the fault on the ground surface).

Stub End: A track that terminates at one end.

Study Corridors: Six linear geographic belts or bands being considered for the HST system that connect different parts of the study region. They are distinct in terms of land use, terrain, and construction configuration (mix of at-grade, aerial structure, and tunnel sections) and generally follow the route of a transportation facility.

Study Region: Bay Area to Central Valley region encompassing all six study corridors.

Subsidence: Sinking or lowering of the ground surface.

Sulfur Oxides (SO_x): Sulfur-oxygen compounds that include the important **criteria pollutants** sulfur dioxide (SO₂) and sulfur trioxide (SO₃).

T

Take: As defined in Section 3 of the federal Endangered Species Act, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Tesla: Unit of measure describing the strength of a magnetic field. *See also Gauss.*

Tiering: Refers to the practice of addressing general issues in broader environmental impact reports or statements such as **program-level** documents and providing more detailed site-specific analyses in subsequent (typically **project-level**) documents that incorporate the initial broad analysis by reference.

Total Organic Gases (TOG): A pollutant classification that includes all **hydrocarbons**, both reactive and nonreactive.

Trainset: A complete unit of **rolling stock** that makes up a single train.

Transit-Dependent Population: The population over the age of 16 (workers) who use **public transportation** as a means of traveling to and from work.

Transit Node: A connection, station, or terminal on a transit network.

Transportation Demand Management: The operation and coordination of various transportation system policies and programs to manage travel demand to make the most efficient and effective use of existing transportation services and facilities.

Transportation System Management: Actions that improve the operation and coordination transportation services and facilities to realize the most efficient use of the existing transportation system.

Travel Time: The time spent on the road, in the air, or on a train from a place of origin to a place of destination. *Total travel time* includes the time required to reach a station or an airport, time spent waiting for the next scheduled train or flight, time spent getting to the boarding area, time spent checking and retrieving luggage, time spent getting a rental car or taxi, as well as time spent to reach the final destination.

Tributary Watercourse: A stream feeding a larger stream or a lake.

Tsunamis: Waves that travel in the open ocean and are caused by an undersea earthquake, landslide, or volcanic activity.

U

Unavoidable: In CEQA and NEPA usage, describes an impact that cannot be entirely avoided, reduced, or compensated for.

Unique Farmland: Farmland with soils of lower quality than either **prime farmland** or **farmland of statewide importance**, but still used for the production of crops. Unique farmlands are usually irrigated but may include nonirrigated orchards or vineyards in some of California’s climate zones. To qualify as unique farmland, a property must have been used for crops at some time during the previous 4 years.

Units of Measure:

Table of Metric Equivalents	
Length	
Unit	Approximate U.S. Equivalent
1 kilometer	0.62 mile
1 meter	39.37 inches
1 centimeter	0.39 inch
Area	
Unit	Approximate U.S. Equivalent

Table of Metric Equivalents	
1 square kilometer	0.3861 square miles
1 hectare	2.47 acres
Capacity	
Unit	Approximate U.S. Equivalent
1 liter	1.057 quarts
Mass and Weight	
Unit	Approximate U.S. Equivalent
1 metric ton	1.102 short tons (2,204.6 pounds)
1 kilogram	2.2046 pounds
1 gram	0.035 ounce
Speed	
Unit	Approximate U.S. Equivalent
1 kilometer per hour	0.621 mile per hour

Uplift: The action of a portion of the earth’s surface as it rises above adjacent areas. An area of higher elevation than surrounding areas; an area that has been uplifted.

UPRR: Union Pacific Railroad Company.

V

Volume to Capacity Ratio (V/C Ratio): The relationship between the amount of traffic a roadway was designed to carry and the amount of traffic it actually carries. Related to the **level of service (LOS)** the roadway can provide.

Very High Speed Steel-Wheel-on-Steel-Rail Train: A train capable of maximum operating speeds near 220 mph (350 kph) utilizing steel-wheel-on-steel-rail technology.

Viaduct: A bridge that conveys a road or a railroad over a valley; often constructed of a series of arches supported by piers.

Viewshed: Total visible area from a single observer position, or the total visible area from multiple observer positions. Viewsheds are accumulated seen-areas from highways, trails, campgrounds, towns, cities, or other viewer locations. Examples include corridor, feature, or basin viewsheds.

Visual Intactness: The aesthetic integrity of the visual environment and its freedom from encroaching elements.

Visual Resources: The natural and artificial features of a landscape that characterize its form, line, texture, and color.

Visual Unity: The visual coherence and compositional harmony of a landscape when considered as a whole.

Visual Vividness: The visual power or memorability of landscape components as they combine in patterns experienced by the viewer.

Volt: Standard unit of measure for electrical potential.

W

Watershed: The area that contributes water to a drainage system or stream.

Watt: Standard unit of measure for electrical power.

Wayside Power: Electrical power provided from the utility grid to the electrified railroad right-of-way at convenient locations from the side of the rail tracks or corridor.

Weir: A small dam that restricts flow in a stream in order to raise water level, or that diverts flow into a desired course.

Wetland: An area that is regularly saturated by surface water or groundwater and is characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions.

Wildlife Corridor: A belt of habitat that is essentially free of physical barriers such as fences, walls, and development, and connects two or more larger areas of habitat, allowing wildlife to move between physically separate areas.

X

Y

Z