13 GLOSSARY OF TERMS

This Glossary of Terms chapter consists of common terms or phrases used throughout this Draft Supplemental EIR/EIS. Although Chapter 12 of the Fresno to Bakersfield Section Final EIR/EIS included a comprehensive list of terms cited in that document, not all of the terms are pertinent to this Draft Supplemental EIR/EIS. Therefore, terms listed below are those that appear in this Draft Supplemental EIR/EIS.

A

A horizon: The A horizon is the soil zone immediately below the surface from which soluble material and fine-grained particles have been moved downward by water seeping into soil. Varying amounts of organic matter give the A horizon a dark color.

Abatement: Reduction; often used to describe noise mitigation.

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 proposes some action by one or both of the co-lead agencies, in contrast to the No Project Alternative.

Active fault: A ground rupture that has occurred within approximately the last 11,000 years. A potentially active fault includes ruptures that occurred between 11,000 and 1.6 million years ago.

Actual use: The amount or type of use that actually occurs.

Adverse: Negative or detrimental.

Affected environment: The physical, biological, social, and economic setting potentially affected by one or more of the alternatives under consideration.

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

Alignment: The specific horizontal and vertical route of a transportation corridor or path.

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

Alluvium: A term applied to sediments deposited in a streambed, on a floodplain, a delta, or at the base of a mountain during comparatively recent geologic time.

Alquist-Priolo Earthquake Fault Zoning Act: A 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 for those with disabilities.

Approximate location: As defined in Government Code, Section 4216, as the "approximate location of subsurface installations" being a strip of land not greater than 24 inches wide on both sides of the exterior surface of the subsurface installation. Approximate location does not define depth.

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

Area of Potential Effect (APE): The area along the project right-of-way potentially affected by the construction and operation of the Project; for archaeological properties, considered to be the area of ground proposed to be disturbed during construction of the undertaking, including grading, cut-and-fill, easements, staging areas, utility relocation, borrow pits, and biological mitigation areas; for historic architecture, considered to be the proposed construction footprint and properties near the undertaking where the undertaking would result in a substantial change

from the historic use, access, or noise and vibration levels that were present 50 years ago, or during the period of significance of a property, if different; paleontological resources, considered to be a zone 250 feet on both sides of the right-of-way for a given alternative, and within 0.5 mile of any potential facilities, including potential stations.

Artifacts: Objects made by people, including tools such as projectile points, scrapers, and grinding implements, waste products from making flaked stone tools (debitage), and nonutilitarian artifacts (beads, ornaments, ceremonial items, and rock art).

At-grade: At ground surface level; 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.**

Authority: *See* **California High-Speed Rail Authority**.

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

Ballasted track: Railways installed over a specific type of crushed rock that is graded to support heavily loaded rolling stock.

Ballast-less track: Rail lines installed over concrete slabs for support.

Barrier: A device intended to contain or redirect an errant vehicle by providing a physical limitation through which a vehicle would not typically pass.

Barrier offset distance: The lateral distance from the centerline of the track to the face of the barrier, trackside, or other roadside feature.

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 landscape vistas.

Best management practices (BMP): Methods designed to minimize adverse effects to the environment. Examples of BMPs include practices for erosion and sedimentation controls, watering for dust control, perimeter silt fences, rice straw bales, and sediment basins.

Biological resources: Plant and wildlife species, terrestrial and aquatic habitats (including jurisdictional waters), and habitats of concern (including sensitive plant communities, critical habitat, core recovery areas, mitigation banks, and wildlife corridors).

British thermal unit: *See* **Btu**.

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.

C

California Endangered Species Act (CESA): A law that mandates that state agencies do not approve a project that would jeopardize the continued existence of endangered species if reasonable and prudent alternatives are available that would avoid a jeopardy finding.

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).

California High-Speed Rail Authority (Authority): The state governing board that has responsibility for planning, designing, constructing, and operating the California High Speed Rail (HSR) System. The Authority's mandate is to develop the HSR system in coordination with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports.

California High-Speed Rail (HSR): *See* **high-speed rail**.

California High-Speed Rail (HSR) System: *See* **high-speed rail system**.

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

Carbon dioxide (CO_2): A colorless, odorless gas that occurs naturally in the atmosphere; fossil fuel combustion emits significant quantities of CO_2.

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

Central control facility: A facility for monitoring and controlling HSR operations. Co-located with the heavy maintenance facility, it provides central supervision over train and power dispatch facilities, serves as the hub for safety and security functions, manages real-time tracking of HSR vehicles, collects and records data, and controls access.

Centroid of flow of streams: The midpoint of that portion of a stream width that contains 50 percent of the total flow.

CEQA: *See* **California Environmental Quality Act**.

Check rail: The guiding rail between the two running rails that maintains a derailed wheel in the track alignment. Check rails are installed 36 cm from the rail and can be placed inside one or both of the running rails.

Class I trail: A trail within a separate right-of-way designated for exclusive use by bicycles and pedestrians. Cross traffic by motorists is minimized.

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

Clean Air Act (CAA): The law that defines the U.S. Environmental Protection Agency's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The CAA protects the general public from exposure to airborne contaminants that are known to be hazardous to human health.

Clean Water Act (CWA): The primary federal law protecting the quality of the nation's surface waters, including wetlands. The CWA regulates discharges and spills of pollutants, including hazardous materials, to surface waters and groundwater.

CNEL: *See* **community noise equivalent level**.

CO_2e: Carbon dioxide equivalent, which is the concentration of CO_2 that would have global warming effects similar to other greenhouse gases.

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

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

Community noise equivalent level (CNEL): 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.).

Concourse: Area for accommodating patrons at a high-speed rail station.

Concrete derailment walls: Tall curbs located close to the train wheels that, in the event of a derailment, keep the train within the right-of-way and upright.

Congestion management plan: A planning document that addresses strategies for reducing traffic congestion.

Connectivity: 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 that transfers property development rights 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**.

Construction: Any activity that directly alters the environment, excluding surveying or mapping.

Construction laydown area: An area, typically adjacent to the HSR right-of-way and within a temporary construction easement that is used to stockpile materials and store equipment for building HSR or related improvements. In some cases, this area is also used to assemble or pre-fabricate components of guideway or wayside facilities before transport to installation locations. Construction laydown areas are part of the Project Footprint that is evaluated for potential environmental impacts, yet actual use of the area is left to the discretion of the design-build contractor. After conclusion of construction, this area is typically restored to pre-construction condition.

Contact wire: A suspended (overhead) wire system that supplies traction power from a central power source to an electric vehicle such as a train. *See* **overhead contact system**.

Contra-flow: Movement against the general direction of flow.

Cooperating agency: Any agency invited by the lead federal agency that has agreed to participate in the NEPA process, and has legal jurisdiction over, or technical expertise regarding, environmental impacts associated with a proposed action.

Corridor: A geographic belt or band that follows the general route of a transportation facility (e.g., highway or railroad).

Criteria pollutants: Pollutants for which federal and state air quality standards have been established: carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x), ozone (O_3), particulate matter with a diameter of 10 microns or less (PM_{10}), particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), and lead (Pb).

Critical habitat: Designated areas that provide suitable habitat for federally listed threatened or endangered species, and in which are the geographical locations and physical features essential to the conservation of a particular species.

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. Cultural resources include, but 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) CEQA — the result of two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts; (2) NEPA — an 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

Datum: A reference from which measurements are made for establishing horizontal and vertical control.

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

Dedicated corridor: Segment along the HSR alignment where HSRs operate in a right-of-way that is exclusive of other passenger or freight railroads.

Dedicated track: Segment along the HSR alignment where HSRs operate on tracks exclusive of other passenger and freight railroads.

Degree of curve: The central angle turned by a curve in 100 feet. It is closely approximated by Dc = 5,730 feet/radius. Railroad curves are defined by the Chord Definition, in which the length is described by a 100-foot-long tangent between two points on the arc of the curve.

Densification: The process of making an element more compact by reducing air space. Also refers to land development that increases the number of people who live or work within a particular area of land.

Design criteria: To determine each alternative's ability to meet the HSR project purpose, need, and objectives, alternatives are evaluated using HSR system performance criteria that distinguish design differences and qualities in the alignment and station locations.

Detention pond: A pond designed to temporarily store and slowly release the runoff that it receives.

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

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

Dry utility: A wire, cable, pipeline, and support facility used to convey electricity, natural gas, gaseous chemicals, telecommunications, cable television, or other nonliquid products.

E

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

Ecosystem: An interconnected network of living organisms, including people, and their local physical environment; often viewed as an ecological unit**.**

Effect: A change in the condition or function of an environmental resource or environmental value as a result of human activity.

Electric multiple units (EMU): A multiple-unit train consisting of self-propelled carriages that use electricity as the motive power. An EMU requires no separate locomotive, as electric traction motors are incorporated within one or a number of the carriages. Most EMUs are used for passenger trains, but some have been built or converted for specialized nonpassenger roles, such as carrying mail or luggage, or in departmental use, for example as de-icing trains. An EMU is usually formed of two or more semi-permanently coupled carriages, but electrically powered single-unit railcars are also generally classed as EMUs.

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.

Elevated guideways: Railroad track and emergency walkways on both sides of a track that may range from approximately 20 to 60 feet high (or higher) in certain urban areas.

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

EMF: *See* **electromagnetic field**.

EMI: *See* **electromagnetic interference**.

EMU: *See* **electric multiple units**.

Endangered species: Any 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): Documentation of the detailed analysis of a project's potential significant effects upon the natural, cultural, and community resources, measures to mitigate significant adverse impacts to a less-than-significant level, and reasonable alternatives to avoid significant effects. The EIR is prepared as part of the CEQA environmental review process that is intended to disclose the potential consequences of a proposed project to the public and provide decision-makers with analytical information and public reactions in advance of a final decision on a proposed project.

Environmental impact statement (EIS): Documentation required by the National Environmental Policy Act (NEPA) for certain actions "significantly affecting the quality of the human environment." An EIS is a decision-making tool that presents detailed analysis of a proposed action and alternatives to the proposed action. The EIS presents the project's potential effects—both beneficial and adverse- and any mitigation measures to reduce adverse effects.

Environmental justice: Identifying and addressing the potential for disproportionately high and adverse effects of programs, policies, and activities on minority 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 categorization of people based on shared cultural traits such as ancestral origin, language, custom, or social attitude.

F

Farmland Mapping and Monitoring Program (FMMP): An automated map and database system administered by the California Department of Conservation that records changes in agricultural land use.

Farmland of local importance: Farmlands 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** *and* **prime farmland**.

Farmland of statewide importance: Farmlands that are similar to **prime farmlands** but are less valuable because they have steeper slopes, less ability to retain moisture in the soil, or other characteristics that limit their use. To quality 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: The acquisition of part of a farm property that results in the severance (disconnection) of part of the land from agricultural use.

Fault: A fracture in the earth's lithosphere (brittle rocky shell) where movement has occurred or is occurring.

Fault creep: (1) The slow, continuous movement of crustal blocks along a fault; (2) measurable surface displacement along a fault in the absence of notable earthquakes.

Fault rupture: A rupture in which the fault extends to the ground surface and causes the ground to break, resulting in an abrupt, relative ground displacement. Surface-fault ruptures are the result of stresses relieved during an earthquake, and they often damage structures astride the typically narrow rupture zone.

Feasible: Capable of being implemented.

Fecundity: Fertility; the potential to be fruitful in offspring or vegetation.

Federal Endangered Species Act (ESA): The Federal ESA and subsequent amendments (Sections 7, 9, and 10) provide guidance for conserving federally listed species and the ecosystems upon which they depend.

Federal Railroad Administration (FRA): An agency within the U.S. Department of Transportation that administers financial assistance programs and regulates the operation and safety of freight and passenger rail throughout the United States. FRA is the federal lead agency under NEPA for the HSR program.

Fenestration: The arrangement, proportioning, and design of windows and doors in a building; openings in a building wall, such as windows and doors, designed to permit the passage of air, light, and people.

Fiber optic cable system: A data transmission technology that relies on light rather than electricity, conveying data through a cable consisting of a central glass core surrounded by layers of plastic.

Fill slope: A slope shaped by the placement and compaction of loose fill material, 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: The area covered by a facility or affected by construction activities. *See* **project footprint**.

Formation: A geologic unit (e.g., Modesto Formation and the Riverbank Formation).

Fossils: The remains or traces of ancient plants, animals, and other organisms.

Freeboard: Stream bank or levee height above the high-water mark of a defined high-flow event such as the 100-year flood.

Free area: Area within the station that is open to the general public.

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 that occur in a given period.

Fresno to Bakersfield Locally Generated Alternative (F-B LGA): An alternative generated in cooperation between the cities of Bakersfield and Shafter, Kern County, and the Authority.

Full parcel acquisition: A permanent acquisition of an entire parcel of land as necessary to implement a project.

G

G force: A force with a magnitude equal to the gravitational force acting on a body at sea level; expressed as 1.0 g.

General Conformity Rule: Federal, state, tribal, and local governments work in air quality nonattainment or maintenance areas to ensure that federal actions conform to the initiatives established in the applicable state implementation plan or tribal implementation plan.

General plan: A planning document, usually at the city or county level that articulates policies for land use and development over a specified period of time. A general plan may be supplemented by specific plans that implement land use and development policies for particular 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.

GIS: *See* **geographic information system.**

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, gradient: Slope changes in elevation, defined in percentage, as feet of rise in 100 feet of run along a single horizontal line.

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 (CO_2).

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

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

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

Guard rail: A short guidance rail in the guideway. When a wheel passes over a switch frog in a nonguided section, the opposite wheel is guided by the guard rail, which acts on the back of the wheel flange.

Guideway: A track or riding surface that supports and physically guides transit vehicles specially designed to travel exclusively on it (as defined by the Orange County Transportation Authority). Similarly, *Fixed Guideway* is a public transportation facility using and occupying a separate right-of-way or rail for the exclusive use of public transportation and other high-occupancy vehicles or a fixed catenary system useable by other forms of transportation (as defined by the Federal Railroad Administration).

Guideway system: For the purposes of this California High-Speed Rail project, the integrated linear system of infrastructure components (e.g., track structures; tunnel, trench, embankment, or bridge structures; overhead contact system; traction power substations; switching and paralleling stations; signaling and train control elements; perimeter access controls, guideway operations and maintenance access, linear right-of-way) that enables the high-speed train to travel along the high-speed rail alignment.

H

Habitat: An environment where plants or animals naturally occur; an ecological setting used by animals for a particular purpose (e.g., roosting habitat or breeding habitat).

Hazardous materials: Any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or the environment, if released.

Hazardous waste: A hazardous material that is no longer of use and will be disposed of. Hazardous waste is regulated by the U.S. Environmental Protection Agency under the Resource Conservation and Recovery Act. California hazardous waste law is in some cases more stringent than federal law, and waste can often be defined as California hazardous waste (or non-RCRA hazardous waste).

Heavy maintenance facility (HMF): A maintenance facility that typically supports delivery, testing, and commissioning, train storage, inspection, maintenance, retrofitting, and overhaul on a completed segment of the HSR System.

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

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

High risk utility: Utility facilities conducting or carrying specific materials identified in Section 2 of the *Caltrans Project Development Procedures Manual,* Appendix LL—Utilities. Other utilities that could disrupt the operation of HSR.

High-speed rail system: The system that includes the HSR tracks, structures, stations, traction-powered substations, maintenance facilities, and train vehicles able to travel at or above 220 mph.

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 to 150 mph (160 to 240 kph) on existing rail infrastructure.

High-speed train: A train designed to operate safely and reliably at speeds near 220 mph (350 kph).

High visual impacts: Impacts 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.

HMF: *See* **heavy maintenance facility**.

Holocene: The period following the Pleistocene, from 10,000 years before present to the present.

HSR alternative alignment: The specific location of an HSR guideway within the study corridor; HSR alternative alignments may be along or adjacent to, but may also diverge from existing transportation corridors.

HSR alignment segment: A portion of a project section alignment that is distinguished from other segments within the alignment by fundamentally different geographic, community, or project characteristics (e.g., valley versus mountain, rural versus suburban versus urban, main line predominantly at grade versus main line predominantly above-ground or below-ground).

HSR network alternatives: Different ways to implement the HSR System in the study area with combinations of HSR alternative alignments and station locations.

Hydrocarbons: Various organic compounds, including methane, emitted principally from the storage, handling, and combustion of fossil fuels.

I

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

Impervious surface: Surface covered by impenetrable materials, such as paved parking lots or buildings, which increases the potential for water runoff and reduces the potential for groundwater recharge.

Important farmland: Categorized as **prime farmland, farmland of statewide importance, unique farmland,** or **farmland of local importance** under the Farmland Mapping and Monitoring Program. The categories are defined according to U.S. Department of Agriculture land inventory and monitoring criteria, as modified for California.

Indigenous species: A native species; any plant or animal species that occurs naturally in a wilderness area.

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

Initial Study: An environmental study carried out in compliance with CEQA to evaluate the potential for a proposed project to result in a significant adverse impact on the environment.

In Lieu of: Instead of or in place of.

In-situ: In the original or natural position.

Intactness: A measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements.

Intermediate station: A train station between two other stations.

Intermittent stream: A stream that only flows only during part of the year.

Intermodal: Transportation that involves more than one mode (e.g., walk, bike, automobile, transit, taxi, train, bus, or air) during a single journey.

Intermodal station: A transit station for more than one mode of transportation**.**

Intrusion: An errant vehicle's exit out of its right-of-way and entry into the operating space of another transportation system's right-of-way.

Intrusion detection technology: Technology used in the fencing around HSR operations to protect a train from the derailment of an adjacent train. When an intrusion detection system is activated, HSR operations are stopped by the signaling system.

Inversion: A region where atmospheric temperature increases rather than decreases with height, suppressing atmospheric mixing and tending to trap pollutants near the ground surface where adverse effects on health and materials are accentuated.

Invertebrate: Organisms lacking a vertebral column.

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

K

Key viewpoints (KVP): Viewpoints that represent the range of visual character and visual quality in the project viewshed, which is the portion of the surrounding landscape within which a project is potentially visible.

Kilo: Prefix meaning 1 thousand.

Kilovolt: A unit of potential equal to a thousand volts.

L

Landscape unit: An area of distinct, but not necessarily homogenous, visual character.

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

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

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

Leq (h), dBA: Equivalent or average noise level for the noisiest hour, expressed in **A-weighted decibels**.

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

Levee: An earthen berm or other constructed wall used to raise the hydraulic height of a riverbank.

Level of service (LOS): A rating using qualitative measures to characterize operational conditions within a traffic stream and perceptions of operational conditions by motorists and passengers.

Linguistic isolation: Defined by the U.S. Census Bureau as living in a household in which all members aged 14 years and older speak a non-English language and also speak English less than "very well" (i.e., have difficulty with English).

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.

Lithic: Pertaining to or describing a stone tool or artifact.

Local geology: Geologic units in the immediate vicinity of the area of potential effect.

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 risk utility: All utilities that are not identified as high risk facilities (as defined in Section 2 of the *Caltrans Project Development Procedures Manual,* Appendix LL—Utilities).

Low visual impacts: Impacts 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: The portion of a principal highway or railroad that is exclusive of connectors, ramps, spurs, etc.

Main line: The tracks allocated to high-speed rail traffic at normal commercial speed and not normally allowed for stops, shunting, or garage.

Maintenance: Activities associated with the inspection, provisioning, cleanup, repair, or replacement of HSR infrastructure, facilities, trains, or other equipment. Also an air basin that was formerly in nonattainment but now meets the established standards for that pollutant. *See also* **attainment** *and* **nonattainment**.

Maintenance of way: A maintenance activity for a railway right-of-way and track, including tracks, roadways, buildings, signals, and communication and power facilities.

Maintenance-of-way facility: A facility with offices for inspection and maintenance staff, and storage areas for essential equipment and materials, such as rail ballast, ties, sections of rail, OCS poles, and diesel-powered maintenance trains.

Maintenance-of-way program: A program of preventative and corrective maintenance, schedules for inspection and maintenance activities, and safety regulations for HSR employees.

Maintenance siding: A dead-end track dedicated to park maintenance trains and connected to a passing, turnout or station connection track, never to the main line.

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 parkland.

May 2014 Project: The portion of the Preferred Alternative identified in the Fresno to Bakersfield Section Final EIR/EIS which is complementary to the F-B LGA. That portion consists of the segment of the BNSF Alternative from Poplar Avenue to Hageman Road and the Bakersfield Hybrid from Hageman Road to Oswell Street. The May 2014 Project included a station that would be constructed at the corner of Truxtun and Union Avenues/SR 204 as well as a maintenance of infrastructure facility that would be located along the alignment just north of the city of Bakersfield and 7th Standard Road.

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.

Miocene: The period between 23 and 5.3 million years before present.

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

Mitigation bank: A large block of land that is preserved, restored, and enhanced for the purpose of mitigating for projects that take (disturb, injure, or kill) special-status species, convert wetlands or otherwise vegetated biological communities.

Mitigation Monitoring and Enforcement Plan (MMEP): Document outlining the strategy for implementing, monitoring, and ensuring the effectiveness of mitigation measures described in the EIR/EIS and committed to as part of project approval.

Mixed-use development: Development that incorporates residential and nonresidential uses.

MMEP: *See* **Mitigation Monitoring and Enforcement Plan**.

Modal: A transportation system defined on the basis of specific rights-of-way, technologies, and operational features.

Modal alternative: A hypothetical, reasonable build alternative to the proposed HSR system consisting of expansion of highways and airports serving the same geographic areas.

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

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 that establishes national policies and goals for the protection of the environment and requires 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, to identify appropriate measures to mitigate potential impacts, and to coordinate efforts with other planning and environmental reviews taking place. Codified at: 42 U.S.C. § 4331 et seq.

NAVD 88: North American Vertical Datum of 1988—The vertical control datum established for surveying elevations in the United States based on the General Adjustment of the North American Datum of 1988.

NEPA: *See* **National Environmental Policy Act**.

Nitrogen oxides (NO_x): A class of pollutant compounds that include nitrogen dioxide (NO_2) 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 regional and state transportation system (e.g., 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 2050. The No Project Alternative represents the baseline conditions for comparison with the HSR alternatives.

Nonattainment: An air basin that exceeds federal or state standards for a particular pollutant. *See also* **attainment***,* **maintenance***.*

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

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

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

Noxious weed: A plant that has been defined as a pest by law or regulation. 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: A federal list of sites that have been identified as posing an immediate public health hazard and where an immediate response is necessary.

Nuclear magnetic resonance (NMR): Property that magnetic nuclei have in a magnetic field and applied electromagnetic (EM) pulse or pulses that cause the nuclei to absorb energy from the EM pulse and radiate this energy back out. The energy radiated back out is at a specific resonance frequency that depends on the strength of the magnetic field and other factors.

O

OCS: *See* **overhead contact system.**

Off-site: Outside of the HSR project footprint.

Ordinary high-water mark: The line on the shore of a body of water established by the fluctuation of water levels.

Overhead contact system (OCS): A simple two-wire system, a messenger wire and a contact wire, with overhead wires supported by cantilevers and attached to poles alongside the tracks. *See* **contact wire**.

Overdraft: A condition where groundwater pumping exceeds the natural replenishment (recharge) to an aquifer.

Ozone (O_3): 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.

Paleontological potential: The probability that a geologic unit contains fossils.

Paleontological resource monitor: A person trained in the identification of fossils in the field and who monitors construction activities for paleontological resources.

Paleontological resource specialist (PRS): A person with advanced degree(s) in paleontology or paleobiology and trained in paleontological resources management. A PRS is usually responsible for compliance with the laws, ordinances, regulations, and standards addressing that resource.

Paleontological resources: Fossils and the remains of ancient plants, animals, other organisms.

Paleontological sensitivity: The probability of a geologic unit to yield fossils, based on historic paleontological productivity. Often used synonymously with **paleontological potential**.

Paleontologist: A scientist who studies fossils.

Pantograph power pickup: A device for collecting current from an overhead wire consisting of a hinged vertical arm operated by springs or compressed air and a wide, horizontal contact surface that slides along the wire.

Paralleling station: An HSR traction power facility that functions with switching stations to balance the electrical load between HSR tracks and to switch power off or on to either track in an emergency.

Parcel: A distinct, continuous portion or tract of land.

Park-and-ride: Facility where HSR patrons can leave personal vehicles.

Partial parcel acquisition: A permanent acquisition of a portion of a parcel of land as necessary to implement a project. Also describes a temporary acquisition of a parcel of land that requires the occupants to move during the construction period.

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 in size (PM_{10} and $PM_{2.5}$, respectively).

Particulate pollution: Air pollution such as dust, soot, and smoke that is irritating but usually not poisonous. Particulate pollution also can include bits of highly toxic solid or liquid substances. Of particular concern are particles smaller than, or equal to, 10 microns (PM_{10}) or 2.5 microns ($PM_{2.5}$) in size.

Passing track: A track connected to the main line on both ends that allows a train to stop for commercial reasons (in a station for example) or operating purposes (to deal with a delayed train or a train with technical issues), and that allows other trains to pass.

Perennial stream: A stream that flows continually throughout the year.

Pesticide: Any substance intended to prevent the presence of, destroy, repel, or mitigate any pest. The term pesticide applies to insecticides and various other substances used to control pests, including herbicides.

Photogrammetry: The art, science, and technology of obtaining reliable information about physical objects and the environment through the process of recording, measuring, and interpreting images and patterns of electromagnetic radiant energy and other phenomena.

Plat: A plan or map of a plot of ground.

Platform: Station area adjacent to tracks where trains stop to allow passengers to board and alight.

Pleistocene: The period between 2.6 and 0.01 million years before present.

Point source pollution: Pollution that can be traced to a single source (e.g., a smokestack at a factory).

Polychlorinated biphenyls (PCB): Chemicals used in electrical transformers, hydraulic equipment, capacitors, and similar equipment.

Positive train control (PTC) infrastructure: Integrated command, control, communications, and information systems for controlling train movements that improve railroad safety by significantly reducing the probability of collisions between trains, casualties to roadway workers, and damage to equipment.

Positive train control (PTC) systems: PTC refers to communication-based/ processor-based train control technology designed to prevent train-to-train collisions, over speed derailments, incursions into established work zone limits, and the movement of a train through a main line switch in the improper position. The Rail Safety Improvement Act requires that railroads implement PTC systems to prevent train-to-train collisions on certain rail lines by the end of 2015.

Poverty level: The income at which a family or individual is considered poor. In 2009 the U.S. Census Bureau defined the poverty level for a family of four as an income of $21,954 or less.

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.

Prehistoric archaeological sites: Places where Native Americans lived or carried out activities during the prehistoric period (as late as AD 1769).

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.

Program-level/programmatic: 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: The combination of decisions and actions taken by a lead agency to implement a plan of action or construct a facility or operate a service. In the context of HSR, projects include the construction of guideway and associated infrastructure; maintenance, station, and other facilities; passenger rail operation and maintenance activities; and implementation of measures to mitigate the significant adverse impacts of HSR construction, operation, and maintenance.

Project footprint: The area needed to construct, operate and maintain all permanent HSR features (including tracks and guideway structures, train signaling and controls and communications facilities, traction power distribution and substations, switching and paralleling stations, passenger platforms and stations, maintenance-of-way facilities, maintenance facilities, HSR perimeter security controls, passenger station access, HSR facility operation or maintenance access, sound walls or other peripheral features owned and maintained by the Authority), freight or passenger or transit railroad grade separations, roadway grade separations and adjoining street or intersection changes, contiguous access to severed parcels, new utility features, existing utility relocations, access to new or relocated utility features, drainage facilities, any other physical changes within the area needed to construct and operate HSR, and HSR property rights or licenses to accommodate HSR construction, operation and maintenance (temporary and permanent ground or aerial fee properties, easements or licenses for HSR facility and associated feature sites, HSR operations and maintenance activities, operation or maintenance access, utility connections and maintenance, HSR stormwater and wildlife management features, construction activities, mobilization, staging and access).

Project-level: Refers to more detailed, site-specific environmental analysis focusing on the implementation of a single project that is part of a program of projects.

Project viewshed: The area within which the project alternatives could be visible.

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

Purpose and need: The reason(s) for undertaking a project or action, and the need(s) the project or action is intended to meet or fulfill.

Q

Qualified paleontologist: *See* **paleontological resource**s **specialist.**

Quality level: A level of accuracy scale used (1) to identify the location of underground and above ground utility facility information needed to develop capital projects and (2) for acquiring and managing that level of information during the project development process.

R

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

Rail guideway: A track that supports and physically guides high-speed trains.

Rail line: A length of railroad track and railbed.

Railbed: The substructure of a railroad, underlying the tracks.

Reactive organic gas (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 regional transportation improvement program 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 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.

Relocations: The removal, rearrangement, reinstallation, or adjustment of a utility facility required by a transportation improvement project. Also describes assistance to property occupants that would be displaced from parcels acquired to implement the HSR construction, operation, or maintenance.

Retention pond: A pond designed to hold and infiltrate most or all of the runoff that it receives.

Remnant: The portion of a property that is not acquired for HSR purposes.

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, it represents the corridor along a roadway or railway that is controlled by a transit or transportation agency/authority.

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

Riparian corridor: The area along a natural water course, lake, or tidewater where wildlife moves or migrates.

Rock or geologic unit: A body of rock or unconsolidated sediment that has a distinct origin and distinctive attributes allowing its distribution to be mapped.

Rolling stock: Wheeled railway vehicles.

Route mile: The distance traveled over tracks between two points. Route miles may have one or multiple sets of parallel tracks

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

Runoff: The flow of water over land from rain, snowmelt, or other sources.

S

Scale: A graduated line representing a proportionate size.

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

Scoping: A process used under CEQA and NEPA to determine the set of issues to be discussed and for identifying issues of particular concern related to the proposed action or project to be analyzed in an EIR (under CEQA) or an EIS (under NEPA).

Scour: Erosion caused by fast-flowing water.

Section 4(f): Provisions originally enacted as Section 4(f) of the U.S. Department of Transportation Act of 1966 codified in 49 United States Code, Subtitle I, Section 303(c). Section 4(f) addresses the potential for conflicts between transportation needs and the protection of land for recreational use and resource conservation by providing protection for publicly owned parkland, recreation areas, and historic sites from use. Specifically, the provisions 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 the Land and Water Conservation Fund Act of 1964 prohibits the conversion of property acquired or developed with funds granted through the act to a nonrecreational purpose 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. State and local governments often obtain grants to acquire or make improvements to parks and recreation areas (16 U.S.C. § 460-4 through 460-11, September 3, 1964, as amended 1965, 1968, 1970, 1972–1974, 1976–1981, 1983, 1986, 1987, 1990, 1991, 1993–1996). Consequently, where such conversions of Section 6(f) lands are proposed, replacement land must be provided.

Sedimentary rock: Rock resulting from the consolidation of sediment.

Sedimentary rock units: Rock units composed of sediment, as distinct from those composed of igneous rocks (volcanic or granite). Sedimentary rock units yield fossils.

Sediments: Fragments of material originating from the physical or chemical weathering of rocks and minerals, from the decomposition of organic matter, or from atmospheric fallout. Clay, mud, and sand are all types of sediment.

Seismic monitoring devices: Devices that detect ground movements and automatically shut down power to high-speed trains and apply the on-board emergency brakes.

Senate Bill 45: A law that consolidates various funding programs into the **State Transportation Improvement Program (STIP)** and increases accountability for programming and delivery of STIP projects to the regions in the state and the various Caltrans districts.

Sensitive natural communities: Communities of plants and wildlife interacting in the same ecosystem whose extent has been much reduced in the state and which are locally rare.

Sensitive receiver: Noise-sensitive or vibration-sensitive locations where increased annoyance can occur, such as residences, schools, hotels/motels, or medical facilities.

Sensitive receptors: Locations considered more sensitive to adverse effects from air pollution (e.g., residences; preschools and kindergarten through grade 12 schools; daycare centers; health-care facilities such as hospitals, retirement homes, and nursing homes; and parks and/or playgrounds).

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

Service: The portion of the electrical, gas, water, or sewer system that connects a customer, usually at the meter location, to the utility distribution or supply system. Also refers to passenger transportation provided by transit and other carrier operations.

Shadow impact: A shadow impact ranking would be high if a new (not existing) elevated structure were within 75 feet (23 meters) of residential or open space, natural areas, or parkland.

Shared right-of-way: An HSR alignment where HSR operates in proximity to and within the existing operating rights-of-way of other transportation systems, including conventional passenger railroads or freight railroads, without sharing tracks. Also includes highways.

Shared use corridor: A segment along the HSR alignment where high-speed trains operate on exclusive tracks located along rail corridors proximate to existing rights-of-way where conventional passenger and freight railroads currently operate.

Shared use track: A segment along the HSR alignment where HSR operates with other passenger railroads (i.e., Caltrain, MetroLink, and Amtrak), on the same track.

Shinkansen: The Japanese high-speed train.

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

Slab track: Railroad track installed on concrete slabs for support.

Sleeve: A pipe in which a pipeline or conduit is inserted.

Society of Vertebrate Paleontology: An international society of paleontologists, with an emphasis on vertebrate paleontology.

Soil densification: Soil compaction that can lead to erosion.

Special provision: Specific clauses setting forth the conditions or requirements peculiar to the work and supplement the project's standard specifications.

Special-status plant communities: Significant or rare vegetation types (as defined by the California Department of Fish and Wildlife) or plant communities that are of limited distribution statewide or within a county or region.

Special-status species: Plants and animals that are legally protected under the Federal Endangered Species Act of 1973, the California Endangered Species Act, or other regulations, such as those species that meet the definitions of rare or endangered under CEQA Guidelines Sections 15380 and 15125.

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 clean up 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: Area that would provide intermodal connectivity, drop-off facilities, an entry plaza, a station house area for ticketing and support services, a station box where passengers wait and access the HSR, and parking facilities.

Stormwater Pollution Prevention Plan (SWPPP): A plan that specifies site management activities to be implemented during site development, including construction stormwater best management practices, erosion and sedimentation controls, dewatering (nuisance water removal), runoff controls, and construction equipment maintenance.

Straddle bent: A pier structure that spans the functional/operational right-of-way limit of a roadway, highway, or railway.

Study corridor: a linear geographic belt or band connecting different parts of the study region that follows the corridor alignment selected for the HSR system at the program level for evaluation at the project level.

Study region: A geographic region that encompasses one or more selected corridors of the HSR system, such as the Bay Area to Central Valley, the Central Valley, Southern Mountain Crossing, and Los Angeles Basin.

Subsidence: Sinking or lowering of the ground surface.

Subsistence remains: Remains that include the inedible portions of foods, such as animal bone and shell, and edible parts that were lost and not consumed, such as charred seeds.

Surface Transportation Board (STB): An independent adjudicatory and economic-regulatory agency charged by Congress with resolving railroad rate and service disputes and reviewing proposed railroad mergers. The STB has jurisdiction over the construction and operation of new rail lines, including HSR.

Surficial geology: Unconsolidated Quaternary-era geologic materials lying on top of bedrock. Common surficial materials include sand and gravel, glacial tills, and clay and silts.

Swale or sheetflow runoff: Runoff from a low tract of land, especially one that is moist or marshy.

Switch: A mechanical installation enabling trains to be guided from one track to another at a railway junction.

Switching station: An HSR traction power facility that functions with paralleling stations to balance the electrical load between HSR tracks and to switch power off or on to either track in an emergency.

T

Take: To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (as defined in Section 3 of the **Federal ESA**).

Taxon: A general term for a named group of related organisms.

Tectonic activity: Movement of tectonic plates that result in earthquakes, volcanoes, and mountain building.

Terminal station: The first or last station of a passenger railway route.

Thermocline: A thin but distinct layer in a large body of water such as an ocean or lake in which temperature changes more rapidly with depth than it does in the layers above or below.

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)** documents that incorporate the initial broad analysis by reference.

Topographic map: A map of the surface features of the earth.

Total organic gases (TOG): A pollutant classification that includes all **Hydrocarbons**, both reactive and nonreactive.

Track mile: The literal number of miles of single track.

Trackway: The route of a train.

Trackwork: The design of train tracks.

Traction power supply station (TPSS): An electrical substation that supplies power to the HSR System.

Traditional cultural properties and resources (TCP): Places associated with the cultural practices or beliefs of a living community that are rooted in that community's history. Examples of TCPs include, but are not limited to, any place where people practice a ritual activity or festival; any place where something happened that is of significance to a group or community and is referred to in stories; any place that is a vital and beloved part of the community and that may give the community a special identity or defining character.

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** to travel to and from work, typically without the means to use a personally owned automobile.

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 of transportation services and facilities to realize the most efficient use of the existing transportation system.

Travel time: The time spent traveling 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 lake.

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 in crops at some time during the previous 4 years.

V

Value capture: A station area development principle that is a criterion for selecting an HSR station site.

Variance: Approved deviation, or exception, from a minimum design criteria or standard.

V/C ratio: Volume to capacity ratio; describes 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.

Vehicle Miles Traveled (VMT): A measurement of miles traveled by vehicles within a specified region for a specified time period. VMT is either calculated using 2 odometer readings or, for vehicles with less than 2 odometer readings, imputed using a regression estimate.

Vertebrate: Organisms with a vertebral column.

Vernal pool: An ephemeral wetland that predictably forms in permanent basins during the cooler part of the year but which turns dry during summer.

Vertical curve: The transition between grades is normally parabolic in the United States and Asian practices and circular arc radii in European practices.

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

Viewer group: Roadway/highway/rail users, residents, commercial viewers, office viewers, park and trail users, and agricultural and industrial workers within a viewshed.

Viewshed: The total area visible from a single observer position, or the total area visible from multiple observer positions. Viewsheds include scenes from highways, trails, campgrounds, towns, cities, or other viewer locations. Viewshed types include corridor, feature, or basin viewsheds.

Visual character: The physical attributes of the landscape.

Visual quality: The character or inherent features of a viewshed.

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 considered as a whole.

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

Vividness: *See* **visual vividness.**

Volt: Standard unit of measure for electrical potential.

W

Waterbody: Any significant accumulation of water. The term *body of water* most often refers to large accumulations of water, such as oceans, seas, and lakes, but it may also include smaller pools of water such as ponds, puddles, or wetlands.

Waters of the State: Isolated wetlands that may not be subject to regulations under federal law (as defined by the Porter-Cologne Water Quality Control Act (§ 1305(e)). An area is a wetland if, under normal circumstances, it (1) is saturated by ground water or inundated by shallow surface water for a duration sufficient to cause anaerobic conditions within the upper substrate; (2) exhibits hydric substrate conditions indicative of such hydrology; and (3) either lacks vegetation or the vegetation is dominated by hydrophytes (San Francisco Estuary Institute 2009).

Waters of the United States (U.S.): The federal Clean Water Act defines waters of the U.S. as (1) All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; and (3) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce (33 C.F.R. Part 328.3[a]).

Water-contact recreation: Recreational activities in which contact with the water is intended or likely, such as swimming, water-skiing, and fishing.

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

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

Wet utility: A pipeline that conveys liquid through gravity or pressured systems for public purposes (i.e., water and wastewater).

Wetland: An area of land with soil that is saturated with moisture, either permanently or seasonally. According to the *U.S. Army Corps of Engineers Wetland Delineation Manual*, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation), (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils), and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

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.

Wye connection: A railway that connects different sections of track. The transition to a wye requires splitting two guideways into four guideways crossing over one another before the wye legs diverge in opposite directions to allow bidirectional travel.

Y

Yard track: Dead-end track dedicated to operation needs and connected to a passing track, never to the main line railway.