13 GLOSSARY OF TERMS

A

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.

Active fault: A ground rupture or extended break in a body of rock marked by the relative displacement and discontinuity of strata on either side of a particular surface 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. *See also* **Fault, Fault rupture.**

Adverse: Negative or detrimental.

Adverse effect: An effect of any project alternative that would negatively affect the environmental resource value or quality as it currently exists prior to the project.

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 horizontal and vertical route of a transportation corridor or path.

Alluvium: Sediments deposited in a streambed, on a floodplain, in 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.

Alternative: All project components for a given alignment, including the guideway, bridges, elevation profiles, stations, and maintenance facilities.

Americans with Disabilities Act (ADA): A federal regulation establishing legal requirements for accessibility to public places.

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.

Aquatic resource: Aquatic resources are wetlands and nonwetland waters that are considered jurisdictional under the federal Clean Water Act (CWA) (collectively called waters of the U.S.) and waters of the state regulated under the Porter-Cologne Water Quality Control Act; including riparian vegetation subject to notification under Cal. Fish and Game Code Section 1600 et seq. for the protection of fish and wildlife species.

Aquifer: Subsurface geologic unit (sediment) that contains and conveys groundwater.

Archaeological resource: Pre-contact archaeological resources are places on the landscape that contain the physical remnants of activities carried out by Native Americans during the pre-contact period (as late as AD 1769). Historical archaeological resources are post–European contact resources that may include remnants of early settlements. *See also* **Cultural resource.**

Area of potential effect (APE): The area along the project right-of-way in which cultural resources are potentially affected by the construction and operations of the project; considered to be the zone within 250 feet of both sides of the right-of-way for a given alternative, and within 0.5 mile of any potential facilities, including potential stations. *See also* **Cultural resource.**

At grade: At ground surface level; used to describe roadways, river crossings, and track profiles.

Attainment: When an air basin complies with federal or state standards for a particular 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 that it describes the way sound will affect people near a noise source.

B

Ballasted track: Railway tracks installed on a specific type of crushed rock that is graded to support heavily loaded rolling stock. *See also* **Rolling stock**.

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

Baseline: Foundation or basis to use for comparison purposes.

Beneficial effect: An effect of any project alternative that would result in improvement of the environmental resource value or quality as it currently exists prior to the project.

Best management practice (BMP): Methods designed to minimize adverse effects on the environment. Examples of BMPs include practices for erosion and sedimentation controls, watering for dust control, 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 special-status plant communities, critical habitat, core recovery areas, mitigation banks, and wildlife corridors). *See also* **Jurisdictional waters, Special-status species, Special-status plant communities, Non-special-status wildlife, Critical habitat, Essential fish habitat, Conservation easement, Wildlife corridor, Mitigation bank.**

Blended system: Integration of the HSR system with existing or expanded intercity, regional, and commuter electrified rail systems and operating all trains on common infrastructure.

British thermal unit (Btu): The amount of heat required to raise 1 pound of water by 1 degree Fahrenheit at 1 atmosphere of pressure.

C

California ambient air quality standards (CAAQS): State air quality standards stipulating the allowable ambient concentrations of specific criteria pollutants.

California Endangered Species Act (CESA): The law mandating that state agencies 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. *See also* **Endangered species**.

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 responsible for planning, designing, constructing, and operating the California 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) System: The system that includes the HSR tracks, structures, stations, traction power substations, maintenance facilities, and high-speed trains able to travel up to 220 miles per hour.

Cantilevers: Long projecting beams or girders fixed at only one end, used in bridge construction.

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.

Clean Air Act (CAA): The law defining 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 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 water and groundwater.

Carbon dioxide equivalent (CO_2e): A quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO_2 that would have the same global warming potential when measured over a specified timescale. *See also* **Greenhouse gases**.

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

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 an entity such as a local jurisdiction or an agricultural protection organization. The land remains in private ownership and may be farmed, but may not be developed for urban uses.

Construction period impacts: Temporary (short- and long-term) impacts associated with project construction. The construction period includes testing of the HSR system prior to passenger service.

Context-sensitive solutions: This solution process provides a collaborative, interdisciplinary approach in which all stakeholders identify a transportation facility that fits its setting. The approach leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.

Cooperating agency: Any government agency invited by the lead federal agency that has agreed to participate in the NEPA process and that has legal jurisdiction over, or technical expertise regarding, potential 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).

Corrosive soils: Soils that have electrochemical or chemical properties that corrode or weaken concrete or uncoated steel. Factors for corrosivity to concrete are sulfate and sodium content, texture, moisture content, and soil acidity. Factors for corrosivity to uncoated steel are moisture content, particle-size distribution, soil acidity, and electrical conductivity of the soil.

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 of suitable habitat for federally listed threatened or endangered species, which provide the geographical locations and physical features essential to the conservation and recovery of a particular species.

Cultural resource: A resource related to the tangible and intangible aspects of cultural systems, living and dead, that is valued by a given culture or contains information about the culture. Cultural resources include historical and archaeological resources such as sites, structures, buildings, districts, and objects associated with or representative of people, cultures, and human activities and events. *See also* **Archaeological resource, Historical resource, Historic built resource**

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

D

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

Dedicated track: Portion of the HSR alignment where high-speed trains operate on guideways exclusive of other passenger and freight trains.

Design criteria: A set of standards that determine each alternative's ability to meet the HSR project purpose and need and performance requirements, which are used to compare design differences and qualities in alternative alignments and station locations.

Design options: Design features used during the early stages of the alternatives screening process to refer to preliminary alternative alignments.

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

Displacement: The movement of people out of their residences, businesses, nonprofit organizations, or farms as a result of acquisition of private property for a transportation project.

Disturbance: A discrete natural or human-induced event 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 for either a short-term or long-term period.

Economic impacts: Changes in employment, business productivity (including agricultural productivity), and public funding. Public funding can be affected by displacements and relocations of residences and businesses, which in turn can alter school district funding and revenue from property and sales taxes.

Ecosystem: An interconnected network of living organisms, including people, and their local physical environment; often considered 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. In this Draft EIR/EIS, the term is typically used to refer to environmental changes as a result of the project alternatives that are evaluated under NEPA.

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 a moving electrical current, consisting of both a magnetic field and an electric field.

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

Electromagnetic spectrum: The range of wavelengths or frequencies over which electromagnetic radiation extends.

Emergency services: Emergency response by fire, law enforcement, and emergency services to fire, seismic events, or other emergency situations.

Emergent vegetation: Vegetation rooted in periodically or continuously inundated soil but with a portion of the plant extending above the water.

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

Endangered species: Any species listed under the federal Endangered Species Act or California Endangered Species Act as being in danger of or threatened with extinction throughout all or most of its range. *See also* **Endangered Species Act, California Endangered Species Act.**

Endangered Species Act (FESA): The federal law that provides guidance for conserving federally listed species and the ecosystems upon which they depend.

Environmental impact report (EIR): The EIR is prepared as part of the CEQA environmental review process. Based on both agency expertise and issues raised by the public, the state prepares a Draft EIR with a full description of the affected environment, a reasonable range of alternatives, an analysis of the impacts of each alternative, and applicable mitigation measures. Based on comments on the Draft EIR, the state writes a Final EIR with its proposed action. Both the Draft EIR and Final EIR are formal published documents and part of the CEQA environmental review process. *See also* **Significant impact, Less-than-significant impact, mitigation.**

Environmental impact statement (EIS): Documentation of the detailed analysis of a project's potential effects (both beneficial and adverse), mitigation measures, and reasonable alternatives to avoid significant effects. The EIS is prepared as part of the NEPA environmental review process. Based on both agency expertise and issues raised by the public, the agency prepares a Draft EIS with a full description of the affected environment, a reasonable range of alternatives, and an analysis of the effects of each alternative. Based on comments on the Draft EIS, the agency writes a Final EIS with its proposed action. Both the Draft EIS and Final EIS are formal published documents and part of the NEPA environmental review process. *See also* **mitigation.**

Environmental justice: The process for identifying and addressing the potential for disproportionately high and adverse effects of programs, policies, and activities on minority and low-income populations, as provided in Executive Order 12898 issued by President Clinton in 1992. Environmental justice is defined in California law as, "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Additionally, the Authority's Title VI policy and plan and its Limited English Proficiency policy and plan address the Authority's commitment to nondiscrimination on the basis of race, color, national origin, age, sex, or disability. The Authority is also committed to providing language assistance to individuals with limited English proficiency.

Erodible soils: Soils that are susceptible to wind erosion, water erosion, or both.

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

Essential fish habitat (EFH): The waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Ethnicity: A group or category of people with shared cultural traits such as ancestral origin, language, customs, or social attitudes.

Expansive soils: Clay soils that are susceptible to expansion and contraction depending on the water content of the soil. Expansive soils provide an unstable subgrade support for foundations or other structures, and exert uplift or lateral pressures on foundations or walls in contact with them.

F

Fault: A fracture or discontinuity in the earth's crust accompanied by a displacement of one side of the fracture with respect to the other as a result of soil and/or rock mass movement. *See also* **Active fault, Fault rupture.**

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. *See also* **Active fault, Fault.**

Feasible: Capable of being implemented.

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.

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 track aerially over another.

Footprint: The area covered by a facility or affected by construction activities.

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

Fossils: The remains or traces of ancient plants, animals, and other organisms that are primarily found in sedimentary rocks.

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

Freeway: A divided arterial highway with controlled access and intersection grade separations, devoted exclusively to unimpeded traffic movement, mainly of a through or regional nature. *See also* **Highway.**

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.

Full parcel acquisition: A permanent acquisition of an entire parcel of land as part of land acquisition for a project. *See also* **Eminent domain, Partial acquisition**.

G

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

General Conformity Rule: A means by which federal activities do not cause or contribute to new violations of national ambient air quality standards (NAAQS); actions do not worsen existing violations of the NAAQS; and attainment of the NAAQS is not delayed. Federal, state, tribal, and local governments work together within designated air quality nonattainment or maintenance areas to ensure that federal actions do not conflict with the applicable state implementation plan or tribal implementation plan.

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 areas 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.

Global climate change: Long-term changes in the Earth's climate, usually associated with global warming trends, as well as regional changes in weather and precipitation patterns, attributed to increasing concentrations of greenhouse gases in the atmosphere.

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.

Grade separated: A place where a railroad, road or two railroad lines cross at different elevations; on separate levels.

Greenhouse gases (GHG): A class of air pollutants believed to contribute to the global warming effect, including CO_2, hydrocarbons, and NO_X.

Grid: A system of interconnected electric power generators and power transmission lines that are managed to meet the demand for energy by users connected to the grid.

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

Guideway: A track or riding surface that supports and physically guides transportation vehicles specially designed to travel exclusively on it.

H

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

Hazardous material: 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 to the environment if released.

Hazardous substance: Any substance or mixture of substances that are: (1) toxic, (2) corrosive, (3) an irritant, (4) a strong sensitizer, (5) flammable or combustible, or (6) generate pressure through decomposition, heat, or other means. Hazardous substances may cause personal injury or substantial illness, and include petroleum products; certain radioactive substances; asbestos-containing materials; lead-based substances; and certain substances that present an electrical, mechanical, or thermal hazard.

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 (RCRA). 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 supports delivery, testing, and commissioning on the first completed segment of the HSR system. Trainset assembly, testing and commissioning, train storage, inspection, maintenance, retrofitting, and overhaul are typical HMF activities.

Herbaceous: Plants that have little or no woody tissue. Herbaceous plants typically survive for only one growing season.

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

High-risk utility: Utility facilities that conduct or carry specific materials as identified in Section 2 of the *Caltrans Project Development Procedures Manual*, Appendix LL – Utilities. Utilities that could disrupt operations of the HSR.

High-speed steel-wheel-on-steel-rail train: An improvement of traditional railroad passenger technology that has been designed to operate at speeds up to 150 miles per hour on existing rail infrastructure.

High-speed train: A train designed to operate safely and reliably at speeds near 220 miles per hour.

Highway: A public road, street, parkway, or freeway/expressway with rights-of-way that include bridges, crossings, tunnels, drainage structures, signs, and guardrails. Highways are usually maintained by the state.

Historic built resource: Resources include buildings, engineered structures, or landscapes that were created during the historic period (pre-1967), as well as districts or groupings of such resources. *See also* **Cultural resource.**

Historical resource: California Public Resources Code Section 21084.1 defines historical resources as those listed, or eligible for listing, in the California Register of Historical Resources, or those officially designated or recognized as historically significant by a local government pursuant to a local ordinance or jurisdiction (county or city) unless evidence demonstrates that the resource is not historically or culturally significant. *See also* **Cultural resource.**

Hold-out rule: The hold-out rule is the rule enforced at Caltrain stations that have only one outboard platform which prevents a train from entering the station while another train at the station is boarding or alighting passengers.

Holocene: The geologic period after the Pleistocene, from 10,000 years before present to the present. *See also* **Miocene, Pleistocene, Pliocene.**

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. In this Draft EIR/EIS, the term typically refers to changes as a result of the project alternatives that are evaluated under CEQA.

Impact avoidance and minimization feature (IAMF): Standard practices, actions, and design features that have been incorporated into HSR project design to avoid and minimize impacts.

Impervious surface: Surface covered by impenetrable materials, such as pavement and buildings, that increases the potential for water runoff and reduces the potential for groundwater recharge.

In situ: In the original or natural position.

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

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

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

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

Invertebrate: Organism lacking a vertebral column.

J

Jurisdictional waters: Aquatic resources regulated by the federal government and the State of California. Jurisdictional waters include waters of the U.S., wetlands, waters of the state, lakes and streambeds, and riparian areas. *See also* **Waters of the U.S., Waters of the state, Riparian.**

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 where a project is potentially visible.

Kilo: Prefix meaning 1 thousand.

Kilovolt (kV): A unit of electric potential equal to a thousand volts.

L

Landscape unit: Landscape units are used to divide long linear projects into logical geographic entities for which impacts from a proposed project can be assessed. They typically have broadly similar visual characteristics.

Landslide: Movement of earth or rock materials down a slope under the influence of gravity.

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

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

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.

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

Levee: A berm or wall that raises the height of a riverbank.

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

Light maintenance facility (LMF): A facility to support the HSR operations by dispatching freshly inspected and serviced trains and crews to begin revenue service at stations throughout the day, along with providing daily, monthly, and quarterly maintenance of HSR trainsets. Maintenance activities would include train washing, interior cleaning, wheel truing, testing, and inspections.

Linguistic isolation: The term used by the U.S. Census Bureau to assess populations with limited English proficiency. A household is linguistically isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well.”

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.

Local geology: Geologic units in the immediate vicinity of the project footprint or action area.

Low-income: A person whose median household income is at or below the Department of Health and Human Services poverty guidelines, or a locally developed threshold that is at least as

inclusive as the poverty guidelines. A low-income population means any readily identifiable group of low-income persons who live in geographic proximity and, if circumstances warrant, geographically transient persons (such as migrant workers, students, or Native Americans) who could be affected by a proposed program, policy, or activity. For the purposes of the analysis in this Draft EIR/EIS, a locally developed threshold is used for San Francisco, San Mateo and Santa Clara Counties to account for the substantially higher household incomes in the San Francisco Bay Area relative to other California counties. Low-income populations within San Francisco, San Mateo and Santa Clara Counties are defined as persons with household incomes at or below 200 percent of the Department of Health and Human Services poverty guidelines.

M

Magnetic fields: Forces that a magnetic object or moving electric charge exerts on other magnetic materials and on electric charges.

Maintenance: An air basin that was formerly in nonattainment but now meets the established air quality standards for pollutant. *See also* **Nonattainment.**

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

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. Whereas a general plan designates areas for conservation and development, a master plan guides the development in those areas.

Mean high water mark: The elevation reached by the water surface at the mean (average) high water level (for example, the 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.

Midden: Refuse accumulation associated with pre-contact use of a site or area. *See also* **Pre-contact archaeological site.**

Minority: A person who is American Indian/Alaskan Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian and other Pacific Islander. A minority population means any readily identifiable group or groups of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed or transient persons (such as migrant workers, students, or Native Americans) who could be affected by a proposed program, policy, or activity.

Miocene: The period between 23 and 5.3 million years before present. *See also* **Holocene, Pleistocene, Pliocene.**

Mitigation: Action or measure 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 the adverse impacts of projects on special-status species, wetlands, or otherwise vegetated biological communities.

Mobile source: Any non-stationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, and locomotives.

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

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 air quality 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 United States Code Section 4331 et seq.

National Historic Preservation Act (NHPA): The NHPA establishes the federal government policy on historic preservation and the programs, including the National Register of Historic Places (NRHP), through which this policy is implemented. Under the NHPA, significant cultural resources, referred to as *historic properties*, include any pre-contact or historic district, site, building, structure, or object included in, or determined eligible for inclusion in, the NRHP. Historic properties also include resources determined to be National Historic Landmarks (NHL). NHLs are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting United States heritage. A property is considered historically significant if it meets one of the NRHP criteria and retains sufficient historic integrity to convey its significance. The NHPA also established the Advisory Council on Historic Preservation, an independent federal agency that administers Section 106 of the NHPA by developing procedures to protect cultural resources included in, or eligible for inclusion in, the NRHP. *See also* **National Register of Historic Places.**

National Pollutant Discharge Elimination System (NPDES): Under Section 402 of the CWA, the NPDES Program regulates all point source discharges, including, but not limited to, construction-related runoff discharges to surface waters and some post-development discharges. In California, project sponsors must obtain an NPDES permit from the State Water Resources Control Board.

National Register of Historic Places (NRHP): An official list of historic properties eligible for federal protection under Section 106 of the NHPA. *See also* **National Historic Preservation Act.**

Native American Grave Protection and Repatriation Act (NAGPRA): The NAGPRA describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statutes as cultural items, with which they can show a relationship of lineal descent or cultural affiliation.

Nitrogen oxides (NO_X): A class of pollutant compounds that includes nitrogen dioxide (NO_2) and nitric oxide (NO), both of which are emitted by motor vehicles.

No effect: Conclusion that a project alternative would not alter the environmental status quo.

No Project Alternative: Represents the regional and state transportation system (e.g., highway, air, and conventional rail) as it is today with implementation of programs or projects that are included in regional transportation plans and have identified funds for implementation by 2040. The No Project Alternative represents the baseline conditions for comparison with the project alternatives.

Noise barrier: Barriers such as temporary walls or piles on excavated material, between noisy activities and noise-sensitive resources.

Nonattainment: An air basin that exceeds federal or state air quality standards for a particular pollutant.

Non-electrified steel-wheel-on-steel-rail train: Conventional intercity diesel-electric locomotive train equipment (e.g., Amtrak trains, freight trains).

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

Non-special-status wildlife: Wildlife species or species groups that do not meet the definition of a special-status species, including native birds protected under the Migratory Bird Treaty Act and Cal. Fish and Game Code Section 3503, as well as species groups of regional or international conservation concern (e.g., waterfowl and shorebirds, roosting bats).

Notice of Availability (NOA): Formal NEPA notice published in the *Federal Register* by the federal lead agency announcing the issuance and public availability of a draft or final EIS.

Notice of Determination (NOD): Formal CEQA notice issued by the state lead agency describing the project and whether the project would have a significant impact on the environment.

Notice of Intent (NOI): Formal NEPA 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 CEQA notice issued by the state lead agency stating that an EIR will be prepared for a proposed project.

Noxious weed: A plant that has been defined by law or regulation as a pest. The State of California and the federal government maintain lists of plants that threaten the well-being of the state or the country.

O

Open space: Any open piece of land that is undeveloped and accessible to the public for recreation. Open space is generally green space or an area that is partially covered with grass, trees, shrubs, or other vegetation, and generally does not have buildings or other built structures.

Ordinary high water mark: The highest line on the shore of an aquatic resource established by the fluctuation of water levels.

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

Overhead contact system (OCS): A simple two-wire rail operation system comprising overhead wires supported by cantilevers and attached to poles alongside the tracks to provide traction power to HSR trains. *See also* **Cantilevers**.

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

Paleontological resource specialist (PRS): A person with an advanced degree in paleontology or paleobiology and trained in paleontological resources management.

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

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

Paleontologist: A scientist who studies fossils.

Paralleling station: A facility that would work with the switching stations to balance the electrical load between two crossing tracks and to switch power off or on to either track in an emergency. *See also* **Switching station.**

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

Park: Publicly owned property set aside for public recreational use and typically maintained in a natural or landscaped state.

Partial acquisition: A permanent acquisition of a portion of a parcel of land as part of land acquisition for a project. *See also* **Full parcel acquisition, Eminent domain.**

Particulate matter (PM): Liquid and solid particles of a wide range of sizes and compositions; of special concern for air quality are inhalable particles that are smaller than or equal to 10 microns and 2.5 microns in size (PM_{10} and $PM_{2.5}$, respectively). *See also* **Air pollution.**

Passing track: Passing tracks allow for faster-moving trains to bypass slower-moving trains, and have the potential to provide operational benefits associated with faster recovery times from incidents or perturbations (disruption events) on the railway.

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

Pier structure: A raised structure, typically supported by well-spaced piles or pillars. Bridges, buildings, and walkways may all be supported by piers.

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. *See also* **Holocene, Miocene, Pliocene.**

Pliocene: The period between 5.3 and 2.6 million years before present. *See also* **Holocene, Pleistocene, Miocene.**

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

Positive train control (PTC): 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, damage to equipment, and over-speed accidents.

Practicable: Available and capable of being implemented after considering cost, existing technology, and logistics in light of the overall project purposes.

Pre-contact archaeological sites: Places where Native Americans lived or performed activities during the pre-contact period (as late as AD 1769).

Preferred Alternative: The project alternative identified by the lead agencies based on balancing the impacts of the project alternatives on the natural environment and community resources presented in this Draft EIR/EIS in the context of CEQA, NEPA, stakeholder preferences, and capital construction costs. The Preferred Alternative achieves the HSR system's Purpose and Need while resulting in overall fewer impacts on both the natural environment and community resources than other project alternatives.

Profile: The vertical alignment of a transportation corridor or path. In this Draft EIR/EIS, the term refers to the vertical alignment of the HSR project alternatives.

Program-level or programmatic: Refers to a CEQA or NEPA environmental review, respectively, that addresses the broad spectrum of a large, complex, regionally extensive effort comprising smaller, regionally focused projects or phases.

Project footprint: The area encompassing the entirety of HSR facilities and construction-related ground disturbance associated with a given project alternative.

Project impacts: Temporary or permanent impacts related to project construction or project operation and maintenance. Major types of project construction activities include earthwork; bridge, aerial structure, and roadway crossings; railroad systems; and station construction. Project operations include HSR system operations and related project improvements, such as roadway modifications, maintenance of power supply components, and maintenance of the HSR system.

Project-level: A detailed site-specific environmental analysis focusing on a single project that may or may not be part of a larger program.

Protected trees: Trees that have special significance and are afforded protection by, and specifically identified in, county and city ordinances, codes, or general plans.

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

Public utilities: Utility-owned properties and facilities including major public utility infrastructure and facilities required for connecting to the HSR system. Facilities could include substations, easements, overhead utility lines (e.g., telephone, cable television), and buried utility lines (e.g., electricity, water, wastewater, stormwater, natural gas lines, petroleum product lines). Public utilities also include wastewater treatment facilities, stormwater management facilities, solid waste management facilities, and hazardous waste management facilities.

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

Quiet zone: Zones established by local jurisdictions that would eliminate the requirement for all trains to routinely sound their warning horns when approaching at-grade highway/rail crossings.

R

Radio frequency: The frequency range of the electromagnetic spectrum used for radio communication. *See also* **Electromagnetic spectrum.**

Railbed: The substructure of a railroad underlying the tracks.

Reactive organic gas (ROG): Reactive hydrocarbon pollutants.

Record of Decision (ROD): Issuance of an ROD is the final step in the NEPA process for an EIS. The ROD is a public document that states what the lead agency's decision for a project is. It identifies the alternatives considered, the environmentally preferred alternative, and any mitigation. The ROD identifies all factors that were considered during the decision-making process.

Recreation: A pastime, diversion, exercise, or other activity affording relaxation and enjoyment. Areas used for recreation generally include: public parks and open spaces, greenbelts, pedestrian and bicycle trails, playfields, and school district play areas available for public use during non-school hours.

Regional transportation improvement plan: A planning document that lists all transportation projects proposed for construction over a 6-year period for a given county or multicounty region. The regional transportation improvement plan includes 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, 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 a financially unconstrained component.

The financially constrained component includes projects and programs that fit within existing and planned funding sources.

Relocation: The removal, rearrangement, reinstallation, or adjustment of a utility facility required by the construction of a transportation improvement project. Also describes occupants who would be displaced from parcels acquired to implement the HSR construction, operation, or maintenance and who would receive assistance from the Authority in finding new property.

Resource study area (RSA): The geographic boundaries in which the environmental investigations specific to each resource topic were conducted; the RSA varies for each resource topic.

Richter scale: A logarithmic scale that measures the severity of earthquakes based on the magnitude of ground motion.

Ridership: The number of people who ride or are projected to use a transportation system.

Right-of-way: A legal right of passage over a defined area of real property. In transportation usage, the corridor along a roadway or railway alignment that is controlled by a transit or transportation agency or 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: Locomotives, carriages, wagons, or other vehicles used on a railroad.

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

Scenic corridor: A corridor with landscapes and vistas of high scenic quality. Policies and regulations include design guidelines and designated scenic corridors/routes, and identified areas of particular scenic value for protection.

Scoping: The process of gathering information and receiving input from the public, businesses, organizations, and agencies to determine the focus and content of an EIR (under CEQA) and an EIS (under NEPA). Scoping helps identify the range of actions, alternatives, environmental effects, and mitigation measures to be analyzed in depth. It also helps focus detailed study on those issues pertinent to the final decision on the proposed project.

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. The regulations provide protection for publicly owned parkland, recreation areas, and historical sites. 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 a historical 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 impacts from the proposed use.

Section 6(f): Provisions enacted under Section 6(f) of the Land and Water Conservation Fund Act of 1964, which 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. If unavoidable, Section 6(f) directs the Department of the Interior to ensure that replacement lands are of equal value (monetary), location, and usefulness as conditions to such conversions. State and local governments often obtain grants to acquire or make improvements to parks and recreation areas (16 United States Code §§ 460-4 through 460-11, September 3, 1964, as amended 1965, 1968, 1970, 1972–1974, 1976–1981, 1983, 1986, 1987, 1990, 1991, and 1993–1996).

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

Sedimentary rock: Rock resulting from the consolidation of sediment.

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

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

Sensitive receptor: For air quality, sensitive receptors include schools, daycare facilities, elderly care establishments, medical facilities, residences, and other areas that are populated with people considered more vulnerable to the effects of poor air quality. For noise and vibration, sensitive receptors include noise-sensitive or vibration-sensitive land uses where increased annoyance can occur, such as residences, schools, hotels/motels, medical facilities. For EMF/EMI, sensitive receptors include land uses and facilities susceptible to EMF and EMI produced by the HSR, such as schools, universities, hospitals and other medical facilities, high-tech businesses, research facilities, railroads, rail transit systems, and airports.

Sensitivity analysis: An analysis that assesses how reactive 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.

Shared right-of-way: An HSR alignment where high-speed trains operate near other transportation systems, such as conventional passenger railroads and freight railroads, sharing portions of the legal right of passage without sharing tracks. Also includes highways.

Shinkansen: The Japanese high-speed train system.

Significant impact: In CEQA usage, an impact that is sufficiently adverse, intense, or prolonged to require mitigation. For NEPA usage, the term requires considerations of both context and intensity. See 40 Code of Federal Regulations Section 1508.27.

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

Special-status plant communities: Significant or rare vegetation types 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 FESA, the CESA, or other regulations, such as those species that meet the definitions of rare or endangered under CEQA Guidelines Section 15380 and Section 15125.

State Implementation Plan (SIP): Statewide plan for complying with the federal Clean Air Act. The SIP consists of a narrative, rules, and agreements that California will use to clean up air quality in polluted areas. *See also* **Clean Air Act.**

State streambeds: An area of California Department of Fish and Wildlife (CDFW) jurisdiction, which generally includes a streambed and bank, adjacent floodplain, and riparian vegetation.

However, the CDFW has not released an official definition of lake or streambed; therefore, the extent of the area regulated under Section 1602 remains undefined.

State transportation improvement program: A multiyear 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. State transportation improvement programming generally occurs every 2 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 type of construction plan that specifies site management activities to be implemented during site development. These management activities include construction period stormwater BMPs, erosion and sedimentation controls, dewatering (nuisance water removal), runoff controls, and construction equipment maintenance. *See also* **Best management practice (BMP)**.

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

Strata: Geologic units composed of sedimentary rocks usually thought of as overlying one another in layer-cake fashion.

Stratigraphically long-ranging: Fossils that are present in multiple geologic units.

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). *See also* **Fault, Active fault.**

Subsidence: Sinking or lowering of the ground surface.

Sulfur oxides (SO_x): Sulfur-oxygen compounds that include the important air quality criteria pollutants sulfur dioxide (SO_2) and sulfur trioxide (SO_3).

Surface water hydrology: The occurrence, distribution, and movement of surface water, including water found in rivers, canals, and stormwater drainage systems.

Surface water quality: A measure of the suitability of water relative to the requirements for a particular use based on selected physical, chemical, and biological characteristics. It is most frequently used by reference to a set of water quality standards against which compliance can be assessed.

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

Switching station: A station that would work with the paralleling station to balance the electrical load between two crossing 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 FESA).

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

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

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

Topographic map: A map showing the elevational contours of a given area.

Total organic gases: An air pollutant classification that includes all hydrocarbons, both reactive and nonreactive.

Toxic air contaminants: The seven mobile source air toxics identified as having significant contributions from mobile sources: acrolein, benzene, 1,3-butadiene, diesel particulate matter and diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter. *See also* **Mobile source**.

Trackwork: Design and construction of train tracks (distinct from other components of a rail system).

Traction power substation (TPSS): An electrical substation that supplies power to the HSR system.

Traditional cultural property (TCP): A place associated with the cultural practices or beliefs of a living community that is rooted in that community's history. Examples of TCPs include 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-oriented development (TOD): Development of compact, sustainable, pedestrian-oriented communities that are centered around high-quality transit systems.

Transportation energy: Generally defined in terms of direct and indirect energy, direct transportation energy involves all energy consumed by vehicle propulsion (e.g., automobiles, airplanes, power requirement of the HSR project), including recoverable energy. Indirect transportation energy involves consumption of the nonrecoverable, one-time energy expenditure involved in building a physical infrastructure through the irreversible burning of hydrocarbons for operating equipment and vehicles in which energy is lost to the environment.

Travel time: The time spent traveling from a place of origin to a 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, and time spent to reach the final destination.

Tsunami: Wave that travels in the open ocean, caused by an undersea earthquake, landslide, or volcanic activity.

U

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

Uniform Relocation Assistance and Real Property Acquisition Act: The Uniform Relocation Assistance and Real Property Acquisition Act, passed by Congress in 1970, stipulates that persons displaced from homes, businesses, and farms as a result of a federal action or by an undertaking involving federal funds must be treated fairly, consistently, and equitably.

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.

U.S. Army Corps of Engineers (USACE): The federal agency responsible for investigating, developing, and maintaining the nation's water and related environmental resources.

U.S. Environmental Protection Agency (USEPA): The federal agency that enforces federal laws protecting human health and the environment.

V

Vertebrate: Organism with a vertebral column.

Vernal pool: An ephemeral wetland that predictably forms in permanent basins underlain by nonpermeable layers during the cooler part of the year and dries during summer. Vernal pools typically support highly adapted communities such as special-status plants and vernal pool branchiopods.

Vertical curve: A smooth parabolic curve in the vertical plane used to connect two grades of different slope to avoid an abrupt transition in passing from one to the other.

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

Viewer group: Viewer groups include people such as residents, park and trail users (recreationists), shoppers and diners (retail), office workers (commercial), students, teachers, hospital employees (institutional), civic, industrial, and roadway/highway/trail users (travelers) within a viewshed.

Viewer sensitivity: An assessment of the concern viewer groups may have to changes in visual resources based on the relative combined levels of viewer awareness to visual changes and viewer exposure to visual changes.

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 (or landscape) character: An impartial description of the landscape's visual features, which is defined by the relationships between the existing visible natural and built landscape features.

Visual effect: Visual effects are determined by combining the level of change in visual quality with the viewer sensitivity to those changes.

Visual quality: An assessment of what viewers like and dislike about visual resources that compose the visual character. Elements of visual quality include natural harmony, cultural order, and project coherence. *See also* **Viewshed**.

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

Volume-to-capacity (V/C) 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. *See also* **Level of service (LOS)**.

Volt (V): Standard unit of measure for electrical potential.

W

Waters of the state: In California, waters of the state are broadly defined by the Porter-Cologne Water Quality Control Act (California Water Code, § 13050(e)) to mean any surface water or groundwater, including saline waters, within the boundaries of the state. Under this definition, isolated wetlands that may not be subject to regulation under federal law are considered waters of the state and regulated accordingly.

Waters of the 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 that 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 Code of Federal Regulations § 328.3(a)).

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

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

Watt (W): Standard unit of measure for electrical power.

Wetlands: An area of land with soil that is saturated with moisture, either permanently or seasonally. According to the *U.S. Army Corps of Engineers Wetlands Delineation Manual*,[1] 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, connecting two or more larger areas of habitat and allowing wildlife to move between these otherwise physically separate areas and serving as a corridor for movement or migration of wildlife.

[1] U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. January 1987.