Readers' Guidance:

This chapter reflects modifications to the proposed project that occurred subsequent to issuance of the Draft EIR/EIS in April 2004. Changes are shown in strikeout and underline format so that the reader can compare updated information to that shown in the draft environmental document.

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INTRODUCTION

DOCUMENT ORGANIZATION

This ~~Draft~~ Final EIS/EIR presents information about ~~four~~ three alternatives that address transportation problems identified in the study corridor. The entire EIS/EIR consists of five volumes.

Volume 1 of the ~~Draft~~ Final EIS/EIR includes the following:

Executive Summary provides an overview of the alternatives studied and impacts.

Volume 2 (2 books) of the ~~Draft~~ Final EIS/EIR is the main body of the document set and includes the following:

Chapter 1, Purpose and Need, identifies transportation problems and issues that exist in parts of the San Gabriel Valley.

Chapter 2, Alternatives, describes a corridor study process that preceded the Draft EIS/EIR that looked at transportation conditions and possible solutions for improving mobility across the corridor, resulting in identification of light rail transit (LRT) service on existing railroad right-of-way as a promising means for addressing the transportation problems. Chapter 2 defines ~~four~~ three alternatives that are the subject of environmental and financial analysis. These include a No-Build Alternative (projects already planned and financially committed to in the Regional Transportation Plan; and two potential LRT alternatives (one about 24 miles in length (the Full Build [Pasadena to Montclair] Alternative), and one about ~~9~~ 11 miles in length [the Build LRT to Azusa Alternative]). Subsequent to the Draft EIS/EIR, the TSM Alternative was eliminated from consideration. Additionally, the eastern terminus of the Build LRT to Azusa Alternative was modified. Also subsequent to the Draft EIS/EIR, track configuration options were eliminated. For either LRT Alternative, two LRT tracks would be provided. One freight track would be provided between Claremont and Irwindale and freight service would be eliminated to the west of Irwindale. Two rail grade separations would be added to allow for independent LRT and freight operations.

Chapter 3, Environmental Evaluation, presents information to help decision makers and the public to understand the potential environmental impacts of the alternatives and ways to avoid those impacts. This chapter is composed of 18 subsections covering the range of environmental topics and other key information required in the evaluation of impacts under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

Chapter 4, Other Impact Consideration, addresses the relationship of project-related impacts to the greater environment for such issues as secondary impacts, cumulative impact, short-term impact versus long-term benefits, growth inducement, etc. The environmentally superior alternative is identified.

Chapter 5, Financial Analysis and Comparison of Alternatives, describes the plan for financing the proposed LRT alternatives and provides a high-level comparison of the advantages and disadvantages of alternatives.

Chapter 6, Agency Coordination, outlines the interaction with agencies and cities that occurred during preparation of the draft and final EIS/EIR.

Chapter 7, Section 4(f) Evaluation, presents the draft assessment of protected properties (parks and historic resources) potentially affected by the proposed LRT alternatives in comparison to Section 4(f) of the Transportation Act.

Chapter 8, Public Outreach, describes the Scoping process conducted at the initiation of the environmental process, on-going communication efforts, and proposed public meetings and comment opportunities during the circulation period for this Draft EIS/EIR.

Chapter 9, List of Preparers, identifies those who conducted the technical impact analyses reported in this document.

Chapter 10, Bibliography and Other References, provides a listing of data sources used in defining existing conditions and in assessing impacts

Chapter 11, Agencies, Persons and Organizations Consulted, identifies various parties contacted during preparation of the documents.

Chapter 12, Clarifications and Modifications, provides a listing of key changes that are included in the various chapters.

Chapter 13, Responses to Comments, includes copies of all written comments submitted on the Draft EIS/EIR, as well as comments contained in public hearing transcripts, and responses to those comments. Due to the size of this chapter, it is published as **Volume 3.**

Volume 4 includes conceptual level engineering and other drawings that show the physical configuration of the proposed LRT alternatives as of August 2005. These drawings represent the development of designs sufficient to support the environmental analysis reported in the Final EIS/EIR. The conceptual designs are based upon and reflect the existing Phase I Gold Line facilities and other transit elements in the LACMTA light rail system. These drawings were the basis for identifying and assessing the impacts reported in Volume 2.

Volume 5 includes a group of Appendices that support the information presented in the chapters. These appendices are incorporated into the main body of the Final EIS/EIR by reference. Due their size, the appendices are not distributed with the main body of the Final EIS/EIR, but are available upon request. The appendices are the Alternatives Analysis Final Draft Report Executive Summary, 2005 Biology Technical Report, 2005 Cultural Resources Historic Properties Survey Report & Finding of Effect, Phase I and Phase II Hazardous Materials Study, 2005 Noise and Vibration Study, 2005 Related Development Projects List, and 2005 Traffic Studies.

Study Area and Study Corridor

A general Study Area was defined to encompass 13 adjoining cities that lie along I-210 and a railroad right-of-way, between Pasadena on the west and Montclair on the east. The study area includes the cities of Pasadena, Arcadia, Monrovia, Duarte, Irwindale, Azusa, Glendora, San Dimas, La Verne, Pomona, and Claremont in Los Angeles County. In San Bernardino, it includes the cities of Montclair and Upland.

For the purposes of environmental analysis, a Study Corridor was defined within the broader Study Area. The Study Corridor was defined to be 1,000 feet in width, along either side of the rail alignment. This 1,000-foot width was selected because most environmental impacts that would potentially be generated by the proposed LRT service would occur within this band. The 1,000-foot band is the Area of Potential

Impact (API) for all environmental assessment topics except traffic and cultural resources. For traffic, the API was determined on a case-by case basis in consultation with corridor cities to reflect traffic patterns of the cities around proposed stations. For cultural resources, the Area of Potential Effect (APE) was defined by FTA, with concurrence of the State Historic Preservation Officer, to meet the needs for assessing impacts in accordance with Section 106 of the National Historic Preservation Act. The APE was defined to be the proposed railroad alignment and one parcel beyond sites to be used for stations or parking. This definition included the caveat that the APE could be refined to account for project elements that would not be known until later in the design development process, such as noise barriers.

For convenience and to reflect geographic limits of the two LRT alternatives, the Foothill Extension Study Corridor was divided into two segments. Segment 1 includes Pasadena east of the Sierra Madre Villa Station, and the cities of Arcadia, Monrovia, Duarte, Irwindale and Azusa. Segment 2 includes the cities of Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair. ~~and Upland~~.

The rail right-of-way in Los Angeles County was acquired by the Los Angeles County Metropolitan Transportation Authority (LACMTA), and is currently under the control of the ~~Los Angeles to Pasadena Blue Line Construction Authority~~ Metro Gold Line Foothill Extension Construction Authority (the Construction Authority). The rail right-of-way within San Bernardino County is owned by the San Bernardino Associated Governments (SANBAG).

Changes Since the Draft EIS/EIR

Subsequent to the release of the Draft EIS/EIR in April 2004, the Gold Line Phase II project has undergone several updates:

Name Change: To avoid confusion expressed about the terminology used in the Draft EIS/EIR (e.g., Phase I; Phase II, Segments 1 and 2), the proposed project is referred to in the Final EIS/EIR as the Gold Line Foothill Extension.

Selection of a Locally Preferred Alternative and Updated Project Definition: Following the release of the Draft EIS/EIR, the public comment period, and input from the cities along the alignment, the Construction Authority Board approved a Locally Preferred Alternative (LPA) in August 2004. This LPA included the Triple Track Alternative (2 LRT and 1 freight track) that was defined and evaluated in the Draft EIS/EIR, a station in each city, and the location of the Maintenance and Operations Facility. Segment 1 was changed to extend eastward to Azusa. A Project Definition Report (PDR) was prepared to define refined station and parking lot locations, grade crossings and two rail grade separations, and traction power substation locations. The Final EIS/EIR and engineering work that support the Final EIS/EIR are based on the project as identified in the Final PDR (March 2005), with the following modifications. Following the PDR, the Construction Authority Board approved a Revised LPA in June 2005. Between March and August 2005, station options in Arcadia and Claremont were added.

Changes in the Discussions: To make the Final EIS/EIR more reader-friendly, the following format and text changes have been made:

Discussion of a Transportation Systems Management (TSM) Alternative has been deleted since the LPA decision in August 2004 eliminated it as a potential preferred alternative.

Discussions of the LRT Alternatives have eliminated the breakout of the two track configurations used in the Draft EIS/EIR (Double Track and Triple Track). The Final EIS/EIR reports the impacts of a modified triple track configuration (2 LRT tracks and 1 freight track with two rail grade separations) but focuses on the phasing/geographic boundaries included in the LPA decisions.

Two LRT alternatives in the Final EIS/EIR are discussed under the general heading "Build Alternatives," and are defined as:

1. Full Build (Pasadena to Montclair) Alternative: This alternative would extend LRT service from the existing Sierra Madre Villa Station in Pasadena through the cities of Arcadia, Monrovia, Duarte, Irwindale, Azusa, Glendora, San Dimas, La Verne, Pomona, and Claremont, terminating in Montclair. The cities from Pasadena to Azusa are also referred to in the Final EIS/EIR as Segment 1. The cities from Glendora to Montclair are also referred to in the Final EIS/EIR as Segment 2. Key changes from the Draft EIS/EIR are the inclusion of Azusa in Segment 1, the elimination of the Pacific Electric right-of-way option between Claremont and Montclair, the inclusion of a 24-acre Maintenance and Operations facility in Irwindale (the site is smaller than in the Draft EIS/EIR), and the addition of two rail grade separations. Note that the Maintenance and Operations Facility is located in Segment 1 but is part of the Full Build Alternative. In other words, it would not be constructed as an element of the Build LRT to Azusa Alternative (described below). The length of the alternative is approximately 24 miles. One station (and parking) would be located in each city, except for Azusa, which would have two. There are two options for the station locations in Arcadia and Claremont. Segment 1 would include 2 LRT tracks throughout and 1 freight track between the Miller Brewing Company in Irwindale and the eastern boundary of Azusa. The freight track that now exists west of Miller Brewing, which serves a single customer in Monrovia, would be removed from service following relocation of that customer by the City of Monrovia. Segment 2 would include two LRT tracks throughout and 1 freight track between the eastern boundary of Azusa and Claremont. In Claremont, the single freight track joins up with the double Metrolink tracks (which are also used for freight movement) and continues through to Montclair (and beyond). This alternative also includes two railroad grade separations (in Azusa and in Pomona) so that LRT tracks would pass above the at-grade freight track. These allow the LRT and freight services to operate independently (thus eliminating the time-constrained double track option discussed in the Draft EIS/EIR). Implementation of the alternative would include relocation of the existing freight track within the rail right-of-way, but there would be no changes in the service provided to customers. The alternative includes 8 new traction power substations in Segment 2, as well as the 8 in Segment 1.

2. Build LRT to Azusa Alternative: This alternative (also referred to as Segment 1) would extend LRT service from the existing Sierra Madre Villa Station in Pasadena through the cities of Arcadia, Monrovia, Duarte, Irwindale, and to the eastern boundary of Azusa. (The main change from the Draft EIS/EIR is the inclusion of the City of Azusa.) The length of the alternative is approximately 11 miles. One station (and parking facility) would be located in each city, except for Azusa, which would have two. There are two options for the station location in Arcadia. Segment 1 would include two LRT tracks throughout and 1 freight track between the Miller Brewing Company in Irwindale and the eastern boundary of Azusa. The freight track that now exists west of Miller Brewing, which serves a single customer in Monrovia, would be removed from service following relocation of that customer by the City of Monrovia. This alternative also includes the railroad grade separation in Azusa so that LRT tracks would pass above the at-grade freight track. This allows the LRT and freight services to operate independently (thus eliminating the time-constrained double track option discussed in the Draft EIS/EIR). Implementation of the alternative would include relocation of the existing freight track within the rail right-of-way, but there would be no changes in the service provided to customers. The alternative also includes 8 new traction power substations.

As in the Draft EIS/EIR, impact forecasts use 2025 conditions, except for traffic impacts, which reflects a 2030 forecast based on the recently adopted 2004 SCAG Regional Transportation Plan.

CEQA AND NEPA DEFINITIONS OF IMPACT

Language Used in the Document

For impacts that are assessed under NEPA, the level of impact is expressed in terms of whether it is *not adverse*, *potentially adverse*, or *adverse*. NEPA assessments often do not have specific impact criteria and documents typically do not specify whether impacts are significant.

CEQA, on the other hand, requires that determinations of significance be made. Accordingly, for impacts assessed under CEQA the level of impact is expressed in terms of whether there is *no impact* or whether it is *less than significant, potentially significan*t, or *significant* when compared to specific criteria of significance.

Explanation

Projects can result in either positive or negative impacts to the environment. Although benefits arising from a project could be considered as a project impact, in California the term "impact" is associated with negative effects because of the language and assessment methods used in preparing environmental documents that meet the requirements of the California Environmental Quality Act (CEQA). CEQA requires that a determination whether effects would be significant be stated in the environmental evaluation. The typical method of making this determination is to assess whether an impact would exceed a specified threshold of significance, as determined by each CEQA lead agency. CEQA thresholds can be either quantitative or qualitative. The State CEQA Guidelines define significant effect as: "... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." Section 15382 of the State CEQA Guidelines states that: "An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." Section 15064 of the State CEQA Guidelines states that: "An ironclad definition of significant effect is not possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban setting may be significant in a rural area."

NEPA does not have this requirement to determine and state significance in the environmental evaluation. Under NEPA, significance is used to determine whether an Environmental Impact Study (EIS) or some lower level of documentation will be required. The determination of appropriate documentation level is made in consideration of the context in which the action takes place and the intensity of effects. Some effects determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision to prepare an EIS is made (as in the case of the Gold Line Foothill Extension project) it is the nature of the effect that is evaluated and no judgment of its significance need be stated in the environmental document. The nature of an effect is judged as to whether on not it is adverse.

Federal agencies implementation guidelines for preparing NEPA documents also do not have a requirement to determine whether an effect is significant once the decision to prepare an EIS has been made. A NEPA assessment considers both the context in which the action takes place and the intensity of effects, often on a qualitative basis, with a resultant determination of whether an effect would be adverse or not. The degree of adversity is also usually expressed, but the term significant is rarely used.

For purposes of this combined NEPA/CEQA document, "adverse impact" or "adverse effect" under NEPA is usually taken to mean a "significant impact" under CEQA. More specifically, a CEQA significant impact is one that exceeds a defined threshold of impact and would thus require mitigation. A "less than adverse effect," "less than adverse impact," "minor adverse impact," "minor adverse effect," "not adverse impact," or "not adverse effect" under NEPA, as used in this document, would typically be a "less than significant impact" under CEQA. A less than significant impact under CEQA, although negative in nature, would not require mitigation because it would not exceed a specified threshold of significance. A "beneficial effect" or "beneficial impact" is a change producing a beneficial consequence; when such an effect occurs, it would be specifically identified as a positive result, but not as an "impact" under either NEPA or CEQA because of the California language convention noted above. "No effect" means essentially no change from either existing conditions or in comparison to the No-Build Alternative. Where unusual NEPA/CEQA impact pairings or conclusions are drawn, such as not adverse under NEPA but significant under CEQA, careful explanations will be provided.

GLOSSARY

A

alignment	In transportation, the horizontal and vertical ground plan of a roadway, railroad, transit route, or other facility as it would appear in plan and profile. The alignment is usually described on the plans by the use of technical data, such as grades, coordinates, bearings, and horizontal and vertical curves.
alluvial	Relating to or deposited by flowing water.
Area of Potential Impact (API)	The study area for all environmental issues other than cultural resources and traffic and circulation impacts.
Area of Potential Effect (APE)	The study area for cultural resources is known as the "area of potential effect" (APE).
at grade	At street level.
at-grade crossing	See "grade crossing."
A-weighted decibel (dBA)	Unit for measuring sound in which the sensitivity of the human ear to certain frequencies is taken into account.

B

beneficial impact	An impact that has a positive effect on the environment.
best management practice(s) (BMP, BMPs)	Techniques used in various industries to assure that projects, work, or processes meet regulatory or industry standards
British thermal unit (BTU)	One BTU is the quantity of energy necessary to raise one pound of water one degree Fahrenheit.

C

cast-in-drilled shafts	Construction method for column foundations where a hole is first drilled into the soil, then the hole is reinforced (such as with a woven-wire cage installed in the hole), and then a concrete foundation is poured and cast in the hole.
cast-in-place construction techniques	Construction method that consists of building forms and pouring concrete in the location where it is needed (compared to segmental construction, where components are manufactured elsewhere and assembled at the site).
catenary	An electrification system for light rail with overhead wires providing the contact points for the vehicles. Also called "overhead contact system."

census block group A subdivision of a census tract (or, prior to 2000, a block numbering area), a block group is the smallest geographic unit for which the Census Bureau tabulates sample data. A block group consists of all the blocks within a census tract with the same beginning number. Example: block group 3 consists of all blocks within a 2000 census tract numbering from 3000 to 3999. In 1990, block group 3 consisted of all blocks numbered from 301 to 399Z.

center-platform station Station with a single platform located between the tracks, which serves trains traveling in both directions.

congested Travel speeds less than 30 miles per hour for a duration of 15 minutes or longer (based on Caltrans' definition).

construction easement An area temporarily needed in addition to the actual project footprint during the construction period.

constructive use Occurs when the project's proximity impacts are so severe that the activities, features, or attributes that qualify a resource for inclusion in the National Register of Historic Places (or other historic registries) are substantially impaired.

Cretaceous The final period of the Mesozoic era, spanning the time between 145 and 65 million years ago.

cumulative impact The effects of two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts.

D

day-night noise exposure The energy average of noise over a continuous 24-hour period with a weighting applied to the nighttime levels. The levels measured during nighttime periods, from 10 PM until 7 AM, are penalized by multiplying the energy by a factor of ten, which is equivalent to a 10 dB increase. (The levels measured during daytime periods from 7 AM until 10 PM are not penalized.) This nighttime penalty accounts for periods when most people are more easily annoyed.

decibel (dB) Unit for measuring sound, based on a logarithmic scale.

dewatering Pumping or draining groundwater and/or stormwater from excavations or other points of accumulation.

direct impact Type of impact caused by a project, occurring at the same time and place as the project.

direct use Occurs when land is permanently incorporated into a transportation facility or a partial acquisition, full acquisition, or easement of the property is required.

double crossover tracks Tracks that allow trains to cross over to another set of tracks to reverse directions or to pass out-of-service vehicles.

double tracking Providing a second set of railroad tracks within a railroad right-of-way.

driven piles Construction method for column foundations where a foundation is driven into the ground by a pile driver (as opposed to cast-in-hole piles).

dwell time The time that a transit vehicle would be stopped at a station to allow boarding and alighting of passengers.

E

edge treatments Landscaping that runs along the edge of a street.

electrical grid A system by which electrical power is distributed throughout a region.

Electricity Transmission Capacity The maximum amount of power that can be carried from the generating source to the utility provider, and is a key component in the electrical power delivery system.

EMFAC (Emissions Factor Model) an emission inventory model that calculates emission factors (grams/mile) for motor vehicles operating on roads in California.

equivalent sound-pressure level The average of the sound energy in a time-varying signal over a defined period of time.

exclusive right-of-way A rail right-of-way that is separated from automobile traffic by elevation.

extirpated Locally extinct.

F

fault/faulting A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. Most faults are the result of repeated displacements over a long period of time. A fault trace is the line on the earth's surface defining the fault. For the purposes of the CEQA, an active fault is one that has ruptured in the last 11,000 years.

floor area ratio (FAR) The ratio of the floor area of a building to the area of the lot on which the building is located.

frequency A measure of how rapidly sound pressure fluctuates over one second, in units of hertz.

fugitive dust Emissions of windblown dust from sources other than exhaust stacks (e.g., wheel dust from unpaved roads).

G

g Estimates of anticipated peak horizontal ground acceleration.

geomorphic province A region with distinctive landforms, rock types, and geologic structure.

gigawatt A unit of power equal to 1 billion watts.

gigawatt-hour The expenditure of one gigawatt of power for one hour.

grade crossing (Also known as "at-grade crossing.") An intersection between a rail right-of-way and a street, where both are at the same elevation. (Note: does not include intersections where the rail right-of-way is located laterally (parallel) within an

existing street.)

grading Any land disturbance, excavation, or fill (addition of materials) or any combination of the three.

ground-borne vibration Vibration traveling through the ground.

growth-inducing impacts Impacts that directly or indirectly foster economic or population growth or the constructing of additional housing, removes obstacles to population growth, or taxes community service facilities to the extent that the construction of new facilities would be necessary, or encourages or facilitates other activities that cause significant environmental effects.

guideway In transit systems, a track or other riding surface (including supporting structure) that supports and physically guides transit vehicles specially designed to travel exclusively on it.

H

hazardous substances Substances, materials, or waste, the exposure to which results, or may result, in adverse effects on health or safety.

headway The scheduled time separation between two trains.

high-occupancy vehicle (HOV) lane A lane designated for cars containing multiple passengers, to promote carpooling.

Holocene An epoch of the Quaternary period, spanning the time from the end of the Pleistocene (8,000 years ago) to the present.

I

impact The effect of an action on the environment.

indirect impact Type of impact caused by a project that may occur either later in time or at some distance from the project but that is still reasonably foreseeable.

in-migration The act of moving into an area.

integrity The ability of a property to convey its historic significance.

K

kilowatt A unit of power equal to 1000 watts.

kilowatt-hour The expenditure of one kilowatt of power for one hour.

Kiss and Ride A location for dropping off or picking up passengers, with little or no parking provided

L

Leq Equivalent sound pressure level—the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.

level of service (LOS) A letter grade, similar to grades on report cards, signifying the condition of traffic flow, from A (excellent) to F (failing). LOS F is further defined by a number (LOS F0, LOS F1, LOS F2, etc.), which signifies the amount of time that traffic would be at LOS F. LOS F0 would be less than 1 hour; LOS F1 would be 1 hour or more, but less than 2 hours; LOS F2 would be 2 hours or more, but less than 3 hours; etc.

LRT Light rail transit.

LRV Light rail vehicle.

M

main line trunk system (sewer mains) Principal pipes in a system that collects sewage.

manual train operation Type of rail operation that requires an operator (a driver).

median The area in the middle of the street between lanes in opposite directions.

megawatt A unit of power equal to 1 million watts. A typical large electrical generating plant can produce 1,000 megawatts.

mitigation (mitigation measure) Methods proposed to avoid, minimize, rectify, reduce, eliminate, or compensate for a significant impact. Permits or similar actions that reduce impact as a requirement of a law are not mitigation. (see regulatory requirement).

mobile sources Sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats, and airplanes.

mobility gap The percentage of facilities estimated to be operating below a desired level of service (expressed in terms of freeway and arterial congestion).

moment magnitude Mw, or moment magnitude, is a measurement of the magnitude that is based on the seismic moment at the source of the earthquake, rather than on waves of motion; used to measure moderate to large earthquakes at any distance.

multimodal Those issues or activities which involve or affect more than one mode of transportation, including transportation connections, choices, cooperation and coordination of various modes.

N

noise Unpleasant, unwanted, undesirable, or disturbingly loud sound that disrupts a person's quality of life by interfering with communication, sleep, and/or leisure.

0

overall regional energy consumption The energy used by the operation of vehicles (automobile, truck, bus, or train) within a region, regardless of the type of fuel used.

overall regional energy supply Overall energy refers to the combination of energy derived from petroleum fuels and electrical energy.

P

paleontology The scientific study of extinct organisms through the examination of fossils.

peak electricity demand Also referred to as peak load; expressed in megawatts, measures the largest electric power requirement during a specified period of time, usually integrated over one hour.

pedestrian-activated traffic signal Demand-type traffic signals that are operated by the pedestrian pushing a button to request a red light for the vehicular traffic and a "walk" phase for the pedestrian movement (after an appropriate waiting time to ensure safety). Until the button is pushed, the signal says green for the vehicles.

perched groundwater Unconfined groundwater separated from an underlying main body of groundwater by an unsaturated zone.

platform The portion of the stations where passengers would board the train or disembark.

Pleistocene The **Pleistocene** (3 million–10,000 years ago) is the latest major geological epoch, colloquially known as the "Ice Age" due to the multiple expansion and retreat of glaciers.

Pliocene The Pliocene (5.4–2.4 million years ago) is the uppermost subdivision of the long Tertiary period that began 64 million years ago; it represents the final stages of a global cooling trend that led up to the Quaternary ice ages.

point sources Specific points of origin where pollutants are emitted into the atmosphere such as factory smokestacks.

proximity impacts Impacts that may result if the project is located adjacent to or in close proximity to historic resources.

R

regulatory compliance An action or process, including the filing and receipt of permits, that is required under a law. These are typically standard actions or processes that would take place in implementing a project. For instance, various kinds of permits are needed for construction regardless of whether the construction was determined to be significant under CEQA. Such permits are not mitigation measures.

remediation Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a contaminated site.

retained fill Consists of fill materials (mostly soil) and a retaining system such as a retaining wall. The retaining system stabilizes the soil and minimizes the required width of the system by allowing vertical sides rather than slopes.

right-of-way (noun) Typically used to describe the property in which a transportation feature is located. For example, street right-of-way, rail right-of-way. Can also apply to other types of infrastructure (utility right-of-way) or to routes used by persons (pedestrian right-of-way).

riparian habitat Areas adjacent to rivers and streams with a differing density, diversity, and productivity of plant and animal species relative to nearby uplands.

ruderal vegetation Ruderal vegetation consists of pioneering herbaceous plants that readily colonize disturbed ground and are adapted to living in compact soils where water does not readily penetrate the soil.

S

safety The protection of people from accidental occurrences that could injure or kill them and protection of property from such accidents.

SCAG Southern California Association of Governments: Council of Government and Metropolitan Planning Organization for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

security The protection of people from intentional acts that could injure or kill them and protection of property from such deliberate acts.

seiche The seismically induced sloshing of water in a large enclosed basin, such as a lake, reservoir, or bay.

semi-exclusive right-of-way A transit right-of-way that is separated from automobile traffic by various means, such as curbs or painted lane markers, but not by elevation.

sensitive receptor An individual who is more susceptible to the effects of air pollution than the general population. Sensitive receptors generally include children and elderly individuals.

side-platform station Station with platforms on both sides of the tracks so that each platform serves trains traveling in opposite directions.

significant impact	An impact that is greater than or worse than an identified threshold.
sound	A pressure disturbance with characteristic frequency or wavelength, amplitude, and duration.
split-platform station	Similar to side-platform station, but with platforms for each direction on either side of an intersection.
staging area	An area used during construction to store equipment and supplies, manage construction, park employee vehicles, etc.
street furniture	Furnishings provided along a street for the use of pedestrians, such as benches and trash cans.
street running	Operating a train within a street right-of-way (rather than on separate right-of-way or separated from traffic by grade, such as elevated or underground).
superstructure	The part of the elevated alignment that is located above the columns.

T

tertiary	The first period of the Cenozoic era (after the Mesozoic era and before the Quaternary period), spanning the time between 65 and 1.8 million years ago.
threshold of significance	The level of impact at which point an impact is considered significant.
TMDL	Total maximum daily load. A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.
trackbed	The foundation material on which the Foothill Extension tracks would be mounted.
trackway	The Foothill Extension alignment and tracks.
tsunamis	Open sea tidal waves generated by earthquakes.

W

waters of the United States	The jurisdictional limits of the authority of the Corps of Engineers under the Clean Water Act, as defined by 33 CFR Part 328; includes all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; 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; all impoundments of waters otherwise defined as waters of the United States under the definition; tributaries of waters identified as waters of the United States; the territorial seas; and wetlands adjacent to waters (other than waters that are themselves wetlands). (33 CFR Part 328.3).

wetlands	Areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (33 CFR 328.3, 40 CFR 230.3).
wildlife movement corridor	A wildlife movement corridor is traditionally defined as a linear habitat that has the primary wildlife function of connecting two or more significant habitat areas.

ACRONYMS

AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act of 1990
ADT	average daily traffic
APE	Area of Potential Effect (applies to cultural resources only)
API	Area of Potential Impact
AST	aboveground storage tank
AT&SF	Atchison Topeka & Santa Fe Railway
ATIS	Advanced Traveler Information System
BMP	Best Management Practice(s)
BNSF	Burlington Northern Santa Fe Railway
BRT	Bus Rapid Transit
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CMAQ	Congestion Mitigation and Air Quality Program
CNDDB	California Natural Diversity Data Base
CO	carbon monoxide
COE	(US Army) Corps of Engineers
CPUC	California Public Utilities Commission
CR	Commuter Rail
dB	decibel
DEIR	Draft Environmental Impact Report

DEIS	Draft Environmental Impact Statement
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	(U.S.) Environmental Protection Agency
ESA	Environmental Site Assessment
FEIS/FEIR	Final Environmental Impact Statement/ Final Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HCP	Habitat Conservation Plan
HOV	high-occupancy vehicle
ISTEA	Intermodal Surface Transportation Efficiency Act
L_{dn}	level of day-night noise exposure
L_{eq}	equivalent sound pressure level
LACMTA	Los Angeles County Metropolitan Transportation Authority
LOS	level of service
LPA	locally preferred alternative
LRT	light rail transit
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Protection Act
NOA	Notice of Availability
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	particulate matter (2.5 microns)
PM_{10}	particulate matter (10 microns)

ppm	parts per million
ROD	Record of Decision
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
SANBAG	San Bernardino Associated Governments
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Section 106	Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470)
Section 4(f)	Section 4(f) of the U.S. Department of Transportation Act (USC 1653[f])
SGVCOG	San Gabriel Valley Council of Governments
SHPO	State Historic Preservation Officer
SOV	single-occupant vehicle
STIP	State Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plan
TEA-21	Transportation Equity Act for the 21st Century
TIA	traffic impact analysis
TMDL	total maximum daily load
TOD	trans-oriented development
TPSS	traction power substation
TSM	transportation system management
UP or UPRR	Union Pacific Railroad
USFWS	U.S. Fish & Wildlife Service
UST	underground storage tank
V/C	volume-to-capacity
VdB	vibration decibel
VHT	vehicle hours of travel
VMT	vehicle miles of travel