California High-Speed Rail Authority

Burbank to Los Angeles Project Section

General Conformity Determination

August 2021

CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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TABLE OF CONTENTS

Tables

Figures

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AQMP	Air Quality Management Plan
Authority	California High-Speed Rail Authority
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
C.F.R.	Code of Federal Regulations
CO	carbon monoxide
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC2014	EMission FACtors 2014
EMMA	Environmental Mitigation Management and Assessment
FRA	Federal Railroad Administration
HSR	high-speed rail
IAMFs	impact avoidance and minimization features
max.	maximum
mph	miles per hour
N/A	not available
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NM	not monitored
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NZE	near zero-emission
O_3	ozone
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
PM_{10}	particulate matter 10 microns or less in diameter
ppm	parts per million
RECLAIM	Regional Clean Air Incentive Market
RSA	resource study area
SIP	State Implementation Plan
SCAQMD	South Coast Air Quality Management District
SO_2	sulfur dioxide
SO_x	sulfur oxides

tpy	tons per year
USEPA	United States Environmental Protection Agency
ZE	zero emission

EXECUTIVE SUMMARY

The California High-Speed Rail (HSR) System, proposed by the California High-Speed Rail Authority (Authority), will provide intercity, high-speed service on more than 800 miles of guideway throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The Burbank to Los Angeles HSR Section (Project), which is the focus of this General Conformity Determination, is a critical link in Phase 1 of the California HSR System connecting the San Francisco Bay Area to the Los Angeles Basin.[1]

The General Conformity Rule, as codified in Title 40 Code of Federal Regulations Part 93, Subpart B, establishes the process by which federal agencies determine conformance of proposed projects that are federally funded or require federal approval with applicable air quality standards. This determination must demonstrate that a Project would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions towards attainment.

This draft General Conformity Determination documents the FRA's finding that the Project complies with the General Conformity Rule, that it conforms to the purposes of the area's approved State Implementation Plan (SIP), and that it is consistent with all applicable requirements. This draft General Conformity Determination is being issued for public review and comment based on the impact avoidance and minimization features and mitigation measures described in Section 3.3.4.3 and Section 3.3.7, respectively, of the *Burbank to Los Angeles Section Final Environmental Impact Report/Environmental Impact Statement* (Authority 2021) and that will be implemented for the Project. A copy of this draft conformity determination will be made available on FRA's docket at https://www.regulations.gov/, Docket FRA-2021-0082. This compliance is demonstrated herein as follows:

- The operation of the Project would result in a reduction of regional emissions of all applicable air pollutants and would not cause a localized exceedance of an air quality standard; and
- Whereas emissions generated during the construction of the Project would exceed the General Conformity annual *de minimis* level, the Authority is committing to the purchase of additional offsets to net all criteria pollutant emissions to levels that are below the General Conformity *de minimis* level for each calendar year that exceedances occur.

[1] As part of its first phase, the California HSR system is currently planned as eight distinct sections from San Francisco in the north to Los Angeles and Anaheim in the south.

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1 INTRODUCTION

This draft General Conformity Determination for the Burbank to Los Angeles Section of the California High-Speed Rail (HSR) System ("project" or "Project) and was prepared consistent with the implementing regulations of Section 176 of the Clean Air Act (CAA). Section 176(c)(1) of the CAA prohibits federal agencies from engaging in, supporting, or providing financial assistance for licensing, permitting or approving any activities that do not conform to an approved CAA implementation plan. That approved plan may be a federal, state or tribal implementation plan.

The CAA defines nonattainment areas as geographic regions that have been designated as failing to meet one or more of the National Ambient Air Quality Standards (NAAQS). The CAA requires that each state prepare a SIP for each nonattainment area, and that a maintenance plan be prepared for each former non-attainment area that subsequently demonstrated compliance with the standards. The SIP is a state's plan for how it will meet the NAAQS by the deadlines established by the CAA.

The General Conformity Rule is codified in Title 40 Code of Federal Regulations (C.F.R.) Part 93, Subpart B, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans." Conformity is defined as "upholding an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards." 40 C.F.R. Part 93 also establishes the process by which federal agencies determine conformity. This determination must demonstrate that the Project would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions towards attainment. Because the Project is receiving federal funds through grants with the Federal Railroad Administration (FRA) and may also receive safety approvals from FRA, it is an action that may be subject to the General Conformity Rule.

FRA prepared this draft General Conformity Determination concurrently with the *Burbank to Los Angeles Environmental Impact Report/Environmental Impact Statement* (EIR/EIS), which complies with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Because the analysis used for the EIR/EIS also generated the information necessary for the General Conformity Determination, specific analysis may be incorporated herein by reference.

1.1 Regulatory Status of Study Area

By way of background, in addition to the regulations covering the General Conformity Rule, on November 24, 1993, the U.S. Environmental Protection Agency (USEPA) promulgated final conformity regulations to address transportation plans, programs, and projects developed, funded or approved under title 23 U.S. Code or the Federal Transit Act, 49 U.S. Code 1601 et seq. (40 C.F.R. Part 93 Subpart A). These regulations have been revised several times since they were first issued. Although the transportation conformity regulations do not apply to this Project (see Section 1.2), many of the transportation planning documents developed under those regulations are helpful in understanding the regional air quality and planning status of the resource study area (RSA).

The RSA for the Burbank to Los Angeles Project Section is the South Coast Air Basin. Planning documents for pollutants for which the RSA is classified as federal nonattainment or maintenance are developed by the South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB), and are approved by the USEPA. Table 1 lists the planning documents relevant to the Project's RSA.

Table 1 Planning Documents Relevant to the Resource Study Area

Type of Plan	Status
SCAQMD 2016 Air Quality Management Plan	Approved by the SCAQMD Board of Directors in March 2017, the 2016 AQMP demonstrates attainment for the 8-hour ozone NAAQS established in 2008, the annual $PM_{2.5}$ NAAQS established in 2012, and the 24-hour $PM_{2.5}$ NAAQS established in 2006. In addition, the 2016 AQMP includes revisions to the attainment demonstrations for the 1997 8-hour ozone NAAQS and the 1979 1-hour ozone NAAQS. The 2016 AQMP was submitted to USEPA on April 27, 2017, but no clean air determination has been made to date.
SCAQMD 2012 Air Quality Management Plan	Approved by the SCAQMD Board of Directors in February 2013, the 2012 AQMP was submitted to demonstrate attainment for the 24-hour $PM_{2.5}$ NAAQS established in 2006. On September 30, 2015, the USEPA proposed to approve elements of the South Coast 2012 $PM_{2.5}$ Plan and 2015 Supplement, which addressed Clean Air Act requirements for the 2006 $PM_{2.5}$ NAAQS, and proposed to reclassify the area as a 'Serious' nonattainment area for the 2006 $PM_{2.5}$ standard. The USEPA provided a 30-day public comment period from the date of publication in the Federal Register. On March 15, 2016, the USEPA approved in part and disapproved in part those portions of the SCAQMD's 2012 Air Quality Management Plan (2012 $PM_{2.5}$ Plan) that address attainment of the 2006 24-hour $PM_{2.5}$ standards and the 2015 Supplement to the 2012 $PM_{2.5}$ Plan. To correct these deficiencies, the state was required to submit to the USEPA a demonstration that the NO_x RECLAIM program, either as adopted in 2010 or as subsequently amended, ensures emissions reductions equivalent, in the aggregate, to the reductions anticipated from the direct application of reasonably available control technology on covered sources.
2010 South Coast Air Basin Request for PM_{10} Redesignation Request and Maintenance Plan	On April 28, 2010, the CARB submitted Request for PM_{10} Redesignation and Maintenance Plan to the USEPA. On June 12, 2013, the USEPA's Regional Administrator signed a final rule to approve the South Coast PM_{10} Redesignation Request and Maintenance Plan. The plan was developed and adopted by SCAQMD, and showed how the area would maintain the PM_{10} standard for at least the next 10 years.
2005 South Coast Air Basin Request for CO Maintenance Plan and Redesignation Request	On February 24, 2006, the CARB transmitted the Redesignation Request and Maintenance Plan (including the CO budgets) to the USEPA for approval. In addition, on August 11, 2006, the CARB provided information to the USEPA that demonstrates the Smog Check program satisfies federal I&M requirements for CO and provides emission reductions necessary for continued improvement in CO air quality. On April 24, 2007, USEPA's Regional Administrator signed a final rule to approve the South Coast Maintenance Plan and Redesignation Request for Carbon Monoxide.

Sources: South Coast Air Quality Management District, 2006, 2011, 2013, 2017

CAA = Clean Air Act
CARB = California Air Resources Board
CO = carbon monoxide
I&M = inspection and maintenance
NAAQS = National Ambient Air Quality Standards
PM_{10} = particulate matter smaller than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter
RECLAIM = Regional Clean Air Incentive Market
SCAQMD = South Coast Air Quality Management District
SIP = State Implementation Plan
USEPA = U.S. Environmental Protection Agency

1.2 General Conformity Requirements

On November 30, 1993, the USEPA promulgated final General Conformity regulations at 40 C.F.R. Part 93 Subpart B for all federal activities except highways and transit programs covered by Transportation Conformity. The regulations in Subpart B were subsequently amended in March of 2010. Because the Project will not be funded or require approval(s) under Title 23 U.S.

Code or the Federal Transit Act, 49 U.S. Code 1601 et seq., the General Conformity requirements are applicable, rather than Transportation Conformity. In general terms, unless a project is exempt under 40 C.F.R. § 93.153(c) or is not on the agency's presumed–to-conform list pursuant to 40 C.F.R. § 93.153(f), a General Conformity Determination is required where a federal action in a nonattainment or maintenance area causes an increase in the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants that are equal to or exceed certain *de minimis* rates.

During the applicability analysis, the federal agency determines:

- Whether the action will occur in a nonattainment or maintenance area;
- Whether one or more of the specific exemptions apply to the action;
- Whether the federal agency has included the action on its list of presumed-to-conform actions;
- Whether the total direct and indirect emissions are below or above the *de minimis* levels; and/or
- Where a facility has an emissions budget approved by the State or Tribe as part of the SIP or transportation improvement plan, the federal agency determines that the emissions from the Project are within the budget (USEPA 2010).

The USEPA Guidance states that the applicability analysis can be (but is not required to be) completed concurrently with any analysis required under NEPA. The applicability analysis for this Project is described in Section 8. If after the applicability analysis, the Federal agency concludes it should conduct a conformity determination, it may demonstrate conformity by one or more of several prescribed methods. These methods include:

- Demonstrating that the direct and indirect emissions are specifically identified in the relevant implementation plan;
- Obtaining a written statement from the entity responsible for the implementation plan that the total indirect and direct emissions from the action, along with other emissions in the area, will not exceed the total implementation plan emission budget; or
- Fully offsetting the total direct and indirect emissions by reducing emissions of the same pollutant in the same nonattainment or maintenance area.

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2 CALIFORNIA HIGH SPEED RAIL PROJECT

2.1 California High Speed Rail System

The Authority, a state governing board formed in 1996, is responsible for planning, designing, constructing, and operating the HSR System. Its mandate is to develop a high-speed rail system connecting the state's major population centers and coordinating 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.

The HSR System will provide intercity, high-speed service on more than 800 miles of railroad throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. It will use state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, including contemporary safety, signaling, and automated train-control systems, with trains capable of operating up to 220 miles per hour over a fully grade-separated, dedicated guideway alignment.

The FRA is responsible for oversight and regulation of railroad safety and is also charged with the implementation of the High-Speed Intercity Passenger Rail financial assistance program. As part of the High-Speed Intercity Passenger Rail Program, FRA is providing partial funding for the environmental analysis and documentation required under NEPA, CEQA and other related environmental laws. Pursuant to U.S. Code Title 23 Section 327, under the NEPA Assignment Memorandum of Understanding between the FRA and the State of California, effective July 23, 2019, the Authority is the federal lead agency for environmental reviews for all Authority Phase 1 and Phase 2 California HSR System projects. The FRA performs Clean Air Act Conformity determinations and other federal approvals retained by the FRA under the NEPA Assignment Memorandum of Understanding.

Although the Burbank to Los Angeles section of the HSR System is independent of the other HSR System sections for purposes of NEPA and CEQA analysis, certain construction activities within the Los Angeles to Anaheim Section, as well as within the Palmdale to Burbank Section, may take place concurrently with Burbank to Los Angeles Section construction activities. Therefore, estimates of these cumulative emissions within the South Coast Air Basin have been presented in Section 13 of this document. These emissions estimates have been included in this document in the interest of the full disclosure of future construction emissions that may occur in the South Coast Air Basin from other sections of the HSR project; each of these sections will undergo separate conformity determinations at a later date.

2.2 California High Speed Rail System – Burbank to Los Angeles Section

The Burbank to Los Angeles Project Section of the California HSR System is approximately 14 miles long, crossing the cities of Burbank, Glendale, and Los Angeles on an existing railroad corridor. HSR for this project section would be within a narrow and constrained urban environment, crossing major streets and highways and, in some portions, adjacent to the Los Angeles River. The Los Angeles County Metropolitan Transportation Authority owns the railroad right-of-way, the Southern California Regional Rail Authority owns the track and operates the Metrolink commuter rail service, the National Railroad Passenger Corporation (Amtrak) provides intercity passenger service, and the Union Pacific Railroad holds track access rights and operates freight trains.

The Burbank to Los Angeles Project Section includes new and upgraded track, maintenance facilities, grade separations, drainage improvements, communications towers, security fencing, passenger train stations, and other necessary facilities to introduce HSR service into the Los Angeles-San Diego-San Luis Obispo corridor from near Hollywood Burbank Airport to Los Angeles Union Station. In portions of the alignment, new and upgraded tracks would allow other passenger trains to share tracks with the HSR system. HSR stations would be located near Hollywood Burbank Airport and at Los Angeles Union Station. The alignment would be entirely grade-separated at crossings, meaning that roads, railroads, and other transport facilities would

be at different heights so the HSR system would not interrupt or interface with other modes of transport, including vehicle, bicycle, and pedestrian.

For most of the project section, the HSR alignment would be within the existing railroad right-of-way, which is typically 70 to 100 feet wide. The HSR alignment includes northbound and southbound electrified tracks for high-speed trains. The right-of-way would be fenced to prohibit pedestrian and public or unauthorized vehicle access.

The project footprint (the area required to build, operate, and maintain HSR service) is based on the following elements of design: station areas, hydrology, track, roadway, structures, systems, and utilities.

The Burbank to Los Angeles Project Section includes a combination of at-grade, below-grade, and retained-fill track, depending on corridor and design constraints. The at-grade and retained-fill portions of the alignment would be designed with structural flexibility to accommodate shared operations with other passenger rail operators. Throughout most of the project section (between Alameda Avenue and State Route 110), two new electrified tracks would be placed along the west side of the existing railroad right-of-way and would be useable for HSR and other passenger rail operators. The existing non-electrified tracks would be realigned closer to the east side of the existing right-of-way, for a total of four tracks; these realigned, non-electrified tracks would be usable for freight and other passenger rail operators, but not for HSR.

Throughout most of the Burbank to Los Angeles Project Section, the electrified track centerline and the non-electrified track centerline would have a minimum separation of 23.5 feet, and the northbound and southbound electrified tracks would have a separation of 16.5 feet, following the Authority and FRA's *Technical Memorandum 1.1.21 Typical Cross Sections for 15% Design* (2013).

However, in several areas of the corridor, the right-of-way is less than 100 feet wide, a threshold that constrains the design. As a result, reduced track separations were used in these constrained areas in order to stay within the existing right-of-way to the greatest extent possible and thus minimize property impacts. The reduced separations between the electrified and non-electrified track centerlines would be a minimum of 16.5 feet, and between the two electrified track centerlines would be 15 feet.

3 AIR QUALITY CONDITIONS IN THE STUDY AREA

3.1 Meteorology and Climate

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants in the atmosphere. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and local air quality levels. Elevation and topography can affect localized air quality.

The South Coast Air Basin covers 6,745 square miles and includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County.

Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the South Coast Air Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

The annual average temperature varies little throughout the South Coast Air Basin, ranging from the low- to middle-60s degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. Much of the annual rainfall in the South Coast Air Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the South Coast Air Basin and along the coastal side of the mountains. Average monthly rainfall during that period varies from 3.80 inches in February to 0.01 inch or less between June and July, with an annual total of 16.35 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The South Coast Air Basin intermittently experiences a temperature inversion (increasing temperature with increasing altitude) because of the Pacific High. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

3.2 Ambient Air Quality in the Study Area

CARB maintains ambient air monitoring stations for criteria pollutants throughout California. The stations nearest to the local RSA are the 1630 N Main Street station in the city of Los Angeles and the 752 Wilson Avenue station in the city of Pasadena. Monitoring data from these stations are shown in Table 2. The stations monitor CO, ozone (O_3), nitrogen dioxide (NO_2), particulate matter 10 microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and sulfur dioxide (SO_2). Locations for the monitoring stations are shown on Figure 1. A summary of the monitoring data includes the following:

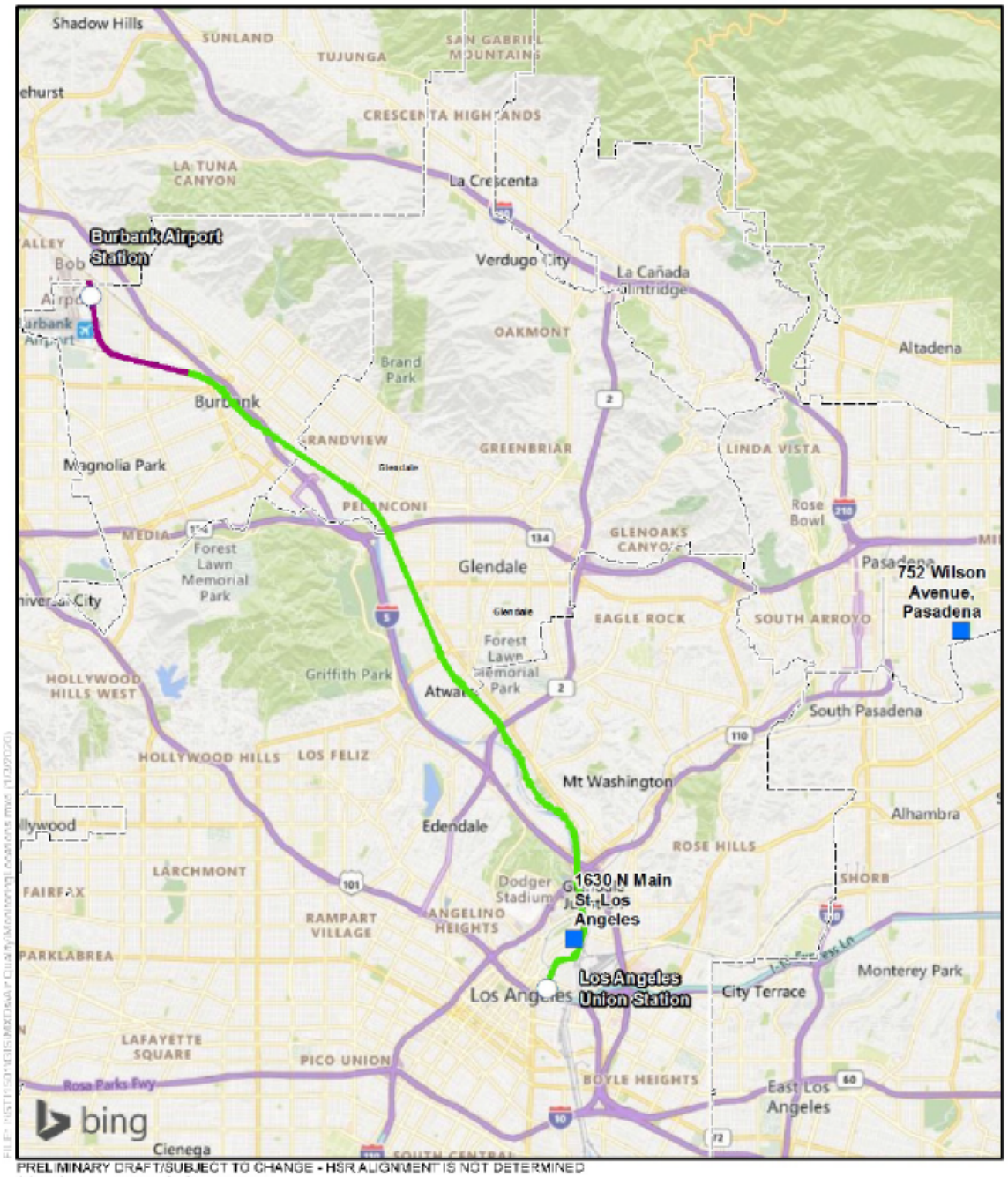

Figure 1 Air Quality Monitoring Stations Closest to the Project

Table 2 Ambient Criterial Pollutant Concentration Data at Air Quality Monitoring Stations Closest to the Project

Air Pollutant	Standard/Exceedance	1630 N Main Street Los Angeles			752 Wilson Avenue Pasadena		
		2016	2017	2018	2016	2017	2018
Carbon Monoxide (CO)[3]	Year Coverage	NM	NM	NM	NM	NM	NM
	Max. 1-hour Concentration (ppm)	1.9	2.0	2.0	1.5	2.2	2.0
	Max. 8-hour Concentration (ppm)	1.4	1.8	1.7	1.0	1.7	1.4
	Number of Days>Federal 1-hour Standard of >35 ppm	0	0	0	0	0	0
	Number of Days>Federal 8-hour Standard of >9 ppm	0	0	0	0	0	0
	Number of Days>California 8-hour Standard of >9 ppm	0	0	0	0	0	0
Ozone (O_3)	Year Coverage[1]	98%	96%	96%	95%	96%	98%
	Max. 1-hour Concentration (ppm)	0.103	0.116	0.098	0.126	0.139	0.112
	Max. 8-hour Concentration (ppm)	0.078	0.086	0.073	0.090	0.100	0.090
	Number of Days>Federal 8-hour Standard of >0.075 ppm	4	14	4	18	36	19
	Number of Days>California 1-hour Standard of >0.09 ppm	2	6	2	12	18	8
	Number of Days>California 8-hour Standard of >0.07 ppm	4	16	4	19	38	20
Nitrogen Dioxide (NO_2)	Year Coverage	97%	95%	97%	96%	94%	95%
	Max. 1-hour Concentration (ppm)	64.7	80.6	70.1	71.9	72.3	68.2
	Annual Average (ppm)	21	21	19	15	15	14
	Number of Days>Federal 1-hour Standard of >100 ppm	0	0	0	0	0	0
Sulfur Dioxide (SO_2)	Year Coverage	13.4	5.7	17.9	NM	NM	NM
	Max. 24-hour Concentration (ppm)	1.3	1.5	1.3	NM	NM	NM
	Annual Average (ppm)	0.30	0.36	0.34	NM	NM	NM
	Number of Days>California 24-hour Standard of >0.04 ppm	0	0	0	NM	NM	NM

Air Pollutant	Standard/Exceedance	1630 N Main Street Los Angeles			752 Wilson Avenue Pasadena		
		2016	2017	2018	2016	2017	2018
Respirable Particulate Matter (PM_{10})	Year Coverage	98%	94%	90%	NM	NM	NM
	Max. 24-hour Concentration (µg/m³)[2]	74.6	96.2	81.2	NM	NM	NM
	Number of Days>Federal 24-hour Standard of >150 µg/m³	0	0	0	NM	NM	NM
	Number of Days>California 24-hour Standard of >50 µg/m³	21	40	31	NM	NM	NM
	Annual Average[2] (µg/m³)	25.8	25.7	30.2	NM	NM	NM
Fine Particulate Matter ($PM_{2.5}$)	Year Coverage	98%	98%	95%	98%	100%	99%
	Max. 24-hour Concentration (µg/m³)	49.4	61.7	65.3	29.2	22.8	32.5
	State Annual Average (µg/m³)	12.0	16.3	16.0	9.5	9.7	10.3
	Number of Days>Federal 24-hour Standard of >35 µg/m³	2	6	6	0	0	0
	Annual Average[2] (µg/m³)	11.7	12.0	12.8	9.5	9.6	10.2

Source: California Air Resources Board, 2019 and U.S. Environmental Protection Agency, 2019

[1] Coverage is for the 8-hour standard.

[2] Coverage is for the national standard.

[3] CO data for the 752 Wilson Avenue, Pasadena station monitoring site.

> = greater than

µg/m³ = micrograms per cubic meter

CARB = California Air Resources Board

Max. = maximum

NM = not monitored

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

PM_{10} = particulate matter 10 microns or less in diameter

ppm = parts per million

- Monitored data from 2016 through 2018 do not exceed either the state or federal standards for CO.
- O_3 values for the region exceed the national 8-hour O_3 standards at all stations for every year. O_3 values exceed the state 8-hour O_3 standards at both stations every year from 2016 through 2018. O_3 values for the region also exceed the state 1-hour O_3 standard at both stations for every year from 2016 through 2018.
- The PM_{10} values for the region did not exceed the national 24-hour PM_{10} standard. The state 24-hour PM_{10} standard was exceeded at the Los Angeles station for every year. PM_{10} emissions were not measured at the Pasadena station from 2016 through 2018.
- The $PM_{2.5}$ values for the region exceed the national 24-hour $PM_{2.5}$ standard for the Los Angeles station for the years 2016, 2017, and 2018. The Los Angeles station exceeded the national 24-hour $PM_{2.5}$ standard between 2016 and 2018.
- SO_2 values were not exceeded at any of the two stations between 2016 and 2018. SO_2 emissions were not measured at the Pasadena station from 2016 through 2018.
- The 1-hour and annual NO_2 values were not exceeded at any of the two stations between 2016 and 2018.

3.3 Study Area Emissions

CARB maintains an annual emission inventory for select counties and air basins in the state. The inventory for the South Coast Air Basin consists of data submitted to CARB by the SCAQMD plus estimates for certain source categories, which are provided by CARB staff. Table 3 summarizes the 2019 inventory data for the SCAQMD. Note that Table 3 shows tons per day, whereas the emissions estimates for the Project are shown in tons per year.

In the SCAQMD, mobile-source emissions account for more than 90 and 80 percent of the South Coast Air Basin's CO and NO_X emissions, respectively. Mobile-source emissions also account for more than 40 percent of the South Coast Air Basin's reactive organic gas emissions. Area-source emissions account for approximately 80 percent of the South Coast Air Basin's PM, and stationary sources account for more than 70 and 50 percent, respectively, of the South Coast Air Basin's total organic gases and SO_X emissions.

3.4 Project Study Area Designations

Under the federal criteria, the South Coast Air Basin is currently designated as nonattainment for the federal 8-hour O_3, $PM_{2.5}$, and lead standards; unclassified for the federal NO_2 and SO_2 standards; attainment/maintenance for the federal PM_{10} and CO standards; and attainment/unclassified for all other standards. The South Coast Air Basin is considered in nonattainment for the state 1-hour O_3, 8-hour O_3, $PM_{2.5}$, and PM_{10} standards; unclassified for the state CO standards; in attainment for the state NO_2, SO_2, and lead standards; and in attainment/unclassified for all other state standards.

Table 3 Estimated 2019 Annual Average Emissions for the South Coast Air Quality Management District (tons/day)

Source Category	TOG	ROG	CO	NO_X	SO_X	PM	PM_{10}	$PM_{2.5}$
Stationary Sources								
Fuel Combustion	53.06	11.56	49.18	44.23	6.27	5.82	5.65	5.55
Waste Disposal	696.57	14.65	1.12	2.47	0.59	0.36	0.25	0.23
Cleaning and Surface Coatings	106.16	43.66	0.07	0.04	0.00	1.84	1.77	1.71
Petroleum Production and Marketing	68.20	21.17	5.20	1.30	2.09	2.66	1.74	1.53
Total Industrial Processes	14.10	11.96	0.52	0.46	0.26	18.11	12.29	7.27
Total Stationary Sources	**938.09**	**102.99**	**56.08**	**48.51**	**9.22**	**28.80**	**21.70**	**16.28**
Stationary Sources Percentage of Total	***72.2%***	***26.5%***	***3.8%***	***12.8%***	***58.0%***	***9.5%***	***12.0%***	***24.2%***
Area-wide Sources								
Solvent Evaporation	124.82	105.60	–	–	–	0.03	0.03	0.03
Miscellaneous Processes	47.30	13.40	58.37	14.88	0.54	240.51	125.68	33.51
Total Area-wide Sources	**172.11**	**119.00**	**58.37**	**14.88**	**0.54**	**240.54**	**125.71**	**33.54**
Area-wide Sources Percentage of Total	***13.3%***	***30.6%***	***3.9%***	***3.9%***	***3.4%***	***79.4%***	***69.8%***	***49.8%***
Mobile Sources								
On-Road Motor Vehicles	96.59	85.90	659.96	179.15	1.92	25.89	25.38	11.27
Other Mobile Sources	91.63	81.25	717.48	136.96	4.23	7.71	7.35	6.25
Total Mobile Sources	**188.21**	**167.15**	**1377.45**	**316.10**	**6.15**	**33.60**	**32.72**	**17.52**
Mobile Sources Percentage of Total	***14.5%***	***43.0%***	***92.3%***	***83.3%***	***38.7%***	***11.1%***	***18.2%***	***26.0%***
Grand Total	**1,298.41**	**389.14**	**1,491.90**	**379.49**	**15.91**	**302.93**	**180.13**	**67.34**

Source: California Air Resources Board, 2018

Rounded to the nearest percentage; category percentages do not sum to 100 percent due to rounding.

CO = carbon monoxide
NO_X = nitrogen oxides
PM = particulate matter
PM_{10} = particulate matter smaller than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter
ROG = reactive organic gas
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
TOG = total organic gas

4 RELATIONSHIP TO NEPA

The *Burbank to Los Angeles Project Section Final EIR/EIS* identifies potential environmental impacts of the Project, both adverse and beneficial, identifies appropriate measures to mitigate adverse impacts, and identifies the agencies' preferred alternative. The EIR/EIS was prepared to comply with both NEPA and CEQA.

The General Conformity regulations establish certain procedural requirements that must be followed when preparing a General Conformity evaluation and are similar but not identical to those for conducting an air quality impact analysis under NEPA regulations. NEPA requires that the air quality impacts of the Project's implementation be analyzed and disclosed. For purposes of NEPA, the air quality impacts of the Project were determined by identifying the Project's associated incremental emissions and air pollutant concentrations and comparing them, respectively, to emissions thresholds and state and national ambient air quality standards. The air quality impacts of the Project under future Build conditions were also compared in the EIR/EIS to the future No-Build conditions for NEPA purposes (they were also compared to existing conditions). The General Conformity Determination process and general findings are discussed in Sections 3.3.2.1, 3.3.4.5, 3.3.6.3, 3.3.7, and 3.3.8 of the EIR/EIS.

To appropriately identify and offset, where necessary, the emissions resulting from the Burbank to Los Angeles section of the HSR system, the FRA is issuing this draft General Conformity Determination. The Authority is committing to the purchase of additional offsets to net all criteria pollutant emissions to levels that are below the General Conformity *de minimis* level for each calendar year that exceedances occur.

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5 AVOIDANCE AND MITIGATION MEASURES TO REDUCE EMISSIONS TO BE INCORPORATED IN THE PROJECT

To reduce impacts on the environment and as required by NEPA and CEQA, the construction of the Project will include impact avoidance and minimization features and mitigation measures that will be implemented as part of the Project to minimize, avoid, and mitigate air quality impacts. These impact avoidance and minimization features (IAMF) and mitigation measures will be required components of the Project. They will be included in the Mitigation Monitoring and Enforcement Program, which will be issued concurrently with the Authority's Record of Decision and would be enforceable commitments undertaken by the Authority. Construction of the Project is anticipated to take place through a design/build contract. The Authority will include all of the IAMFs and mitigation measures into the construction contract, which will create binding and enforceable commitments to implement these design features and mitigation measures.

The Authority will be responsible for implementing and overseeing a mitigation monitoring program to ensure that the contractor meets all air quality design features and mitigation measures.

- **AQ-IAMF#1: Fugitive Dust Emissions –** During construction, the Contractor shall employ the following measures to minimize and control fugitive dust emissions. The Contractor shall prepare a fugitive dust control plan for each distinct construction segment. At a minimum, the plan shall describe how each measure would be employed and identify an individual responsible for ensuring implementation. At a minimum, the plan shall address the following components unless alternative measures are approved by the applicable air quality management district.
  - Cover all vehicle loads transported on public roads to limit visible dust emissions, and maintain at least 6 inches of freeboard space from the top of the container or truck bed.
  - Clean all trucks and equipment before exiting the construction site using an appropriate cleaning station that does not allow runoff to leave the site or mud to be carried on tires off the site.
  - Water exposed surfaces and unpaved roads at a minimum three times daily with adequate volume to result in wetting of the top 1 inch of soil but avoiding overland flow. Rain events may result in adequate wetting of top 1 inch of soil thereby alleviating the need to manually apply water.
  - Limit vehicle travel speed on unpaved roads to 15 miles per hour (mph).
  - Suspend any dust-generating activities when average wind speed exceeds 25 mph.
  - Stabilize all disturbed areas, including storage piles that are not being used on a daily basis for construction purposes, by using water, a chemical stabilizer/suppressant, hydro mulch or by covering with a tarp or other suitable cover or vegetative ground cover to control fugitive dust emissions effectively. In areas adjacent to organic farms, the Authority would use non-chemical means of dust suppression.
  - Stabilize all on-site unpaved roads and off-site unpaved access roads using water or a chemical stabilizer/suppressant, to effectively control fugitive dust emissions. In areas adjacent to organic farms, the Authority would use non-chemical means of dust suppression.
  - Carry out watering or presoaking for all land clearing, grubbing, scraping, excavation, land leveling, grading, cut-and-fill, and demolition activities.
  - For buildings up to 6 stories in height, wet all exterior surfaces of buildings during demolition.
  - Limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at a minimum of once daily, using a vacuum type sweeper.

  - After the addition of materials to or the removal of materials from surface or outdoor storage piles, apply sufficient water or a chemical stabilizer/suppressant.

- **AQ-IAMF#2: Selection of Coatings** – During construction, the Contractor shall use:
  - Low-volatile organic compound (VOC) paint that contains less than 10 percent of VOC contents (VOC, 10%).
  - Super-compliant or Clean Air paint that has a lower VOC content than that required by South Coast Air Quality Management District Rule 1113, when available. If not available, the Contractor shall document the lack of availability, recommend alternative measure(s) to comply with by South Coast Air Quality Management District Rule 1113, or disclose absence of measure(s) for full compliance and obtain concurrence from the Authority.
- **AQ-IAMF#3: Renewable Diesel** – During construction, the Contractor would use renewable diesel fuel to minimize and control exhaust emissions from all heavy-duty diesel-fueled construction diesel equipment and on-road diesel trucks. Renewable diesel must meet the most recent ASTM D975 specification for Ultra Low Sulfur Diesel and have a carbon intensity no greater than 50 percent of diesel with the lowest carbon intensity among petroleum fuels sold in California. The Contractor would provide the Authority with monthly and annual reports, through the Environmental Mitigation Management and Application (EMMA) system, of renewable diesel purchase records and equipment and vehicle fuel consumption. Exemptions to use traditional diesel can be made where renewable diesel is not available from suppliers within 200 miles of the project site. The construction contract must identify the quantity of traditional diesel purchased and fully document the availability and price of renewable diesel to meet project demand.
- **AQ-IAMF#4: Reduce Criteria Exhaust Emissions from Construction Equipment** – Prior to issuance of construction contracts, the Authority would incorporate the following construction equipment exhaust emissions requirements into the contract specifications:
  1. All heavy-duty off-road construction diesel equipment used during the construction phase would meet Tier 4 engine requirements.
  2. A copy of each unit's certified tier specification and any required CARB or air pollution control district operating permit would be made available to the Authority at the time of mobilization of each piece of equipment.
  3. The contractor would keep a written record (supported by equipment-hour meters where available) of equipment usage during project construction for each piece of equipment.
  4. The contractor would provide the Authority with monthly reports of equipment operating hours (through the Environmental Mitigation Management and Assessment [EMMA] system) and annual reports documenting compliance.
- **AQ-IAMF#5: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment** – Prior to issuance of construction contracts, the Authority would incorporate the following material-hauling truck fleet mix requirements into the contract specifications:
  1. All on-road trucks used to haul construction materials, including fill, ballast, rail ties, and steel, would consist of a fleet mix of equipment model year 2010 or newer, but no less than the average fleet mix for the current calendar year as set forth in the CARB's EMFAC 2014 database.
  2. The contractor would provide documentation to the Authority of efforts to secure such a fleet mix.
  3. The contractor would keep a written record of equipment usage during project construction for each piece of equipment and provide the Authority with monthly reports of vehicle miles traveled (through EMMA) and annual reports documenting compliance.

- **AQ-IAMF#6: Reduce the Potential Impact of Concrete Batch Plants** – Prior to construction of any concrete batch plant, the contractor would provide the Authority with a technical memorandum documenting consistency with the Authority's concrete batch plant siting criteria and utilization of typical control measures. Concrete batch plants would be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant would implement typical control measures to reduce fugitive dust such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology to reduce emissions to be equivalent to the USEPA AP-42 controlled emission factors for concrete batch plants. The contractor would provide to the Authority documentation that each batch plant meets this standard during operation.

AQ-MM#1: Offset Project Construction Emissions through Off-Site Emission Reduction Programs

The project's construction emissions that cannot be reduced by IAMFs and any other mitigation measures, would be offset through a South Coast Air Quality Management District (SCAQMD) rule or contractual agreement by funding equivalent emissions reductions that achieve reductions in the same years as construction emissions occur, thus offsetting project-related air quality impacts in real time. The project will implement measures and best practices to minimize emissions from project construction. After implementation of these measures, emission levels that still exceed thresholds will be offset to the extent necessary to satisfy General Conformity. The Authority's Sustainability Policy has a goal to achieve net zero emissions from construction. As this project section advances through project delivery towards construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost for achieving the Authority's Sustainability Policy goal to the extent possible.

AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment

This mitigation measure would reduce the impact of construction emissions from project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset with emission credits required under Mitigation Measure AQ-MM#1.

The Authority and all project construction contractors will require that a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use zero-emission (ZE) or near-zero emission (NZE) technology.

The Authority and all project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery and soil import/export) associated with the project use ZE or NZE technology.

The Authority and all project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or NZE vehicles.

If local or state regulations mandate a faster transition to using ZE and/or NZE vehicles at the time of construction, the more stringent regulations will be applied. For example, Executive Order (EO) N-79-20, issued by California Governor Newsom on September 23, 2020, currently states the following:

- Light duty and passenger car sales be 100 percent ZEV by 2035
- Full transition to ZEV short haul/drayage trucks by 2035
- Full transition to ZEV heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible.

The project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

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6 REGULATORY PROCEDURES

The General Conformity regulations establish certain procedural requirements that must be followed when preparing a General Conformity evaluation. This section addresses the major applicable procedural issues and specifies how these requirements are met for the evaluation of the Project. The procedures required for the General Conformity evaluation are similar but not identical to those for conducting an air quality impact analysis pursuant to NEPA regulations. It is anticipated, however, that the Final General Conformity Determination will be published concurrent with the Authority's Record of Decision for the Burbank to Los Angeles section of the HSR system. This draft General Conformity Determination is being released for public and agency review pursuant to 40 C.F.R. §93.156.

The Authority identified the appropriate emission estimation techniques and planning assumptions in close consultation with the state entities charged with regulating air pollution in the South Coast Air Basin.

6.1 Use of Latest Planning Assumptions

The General Conformity regulations require the use of the latest planning assumptions for the area encompassing the Project, derived from the estimates of population, employment, travel, and congestion most recently approved by the area's metropolitan planning organization (40 C.F.R. §93.159(a)).

The traffic data used in the air quality analysis (see EIR/EIS, Section 3.2) are consistent with the most recent estimates made by the metropolitan planning organizations for traffic volume growth rates, including forecast changes in vehicle miles traveled and vehicle hours traveled. The Authority developed these estimates based on the metropolitan planning organizations' traffic assignment models using the baseline and future population, employment, and travel and congestion information available at the time the analysis was prepared. These assumptions are consistent with those in the current conformity determinations for the region's Transportation Plan and Transportation Improvement Plan.

6.2 Use of Latest Emission Estimation Techniques

The General Conformity regulations require the use of the latest and most accurate emission estimation techniques available, unless such techniques are inappropriate (40 C.F.R. § 93.159(b)). Operational phase vehicular emission factors were estimated by using the CARB emission factor program, EMission FACtors 2014 (EMFAC2014). Parameters were set in EMFAC2014 for each individual county to reflect conditions within each county, and statewide parameters were used to reflect statewide conditions. Operational phase aircraft emissions were estimated using the Federal Aviation Administration's Aviation Environmental Design Tool. In addition, electrical demands caused by propulsion of the trains, and of the trains at terminal stations and in storage depots and maintenance facilities were estimated using average emission factors for each kilowatt-hour required from CARB statewide emission inventories of electrical and cogeneration facilities data along with USEPA eGRID2012 (released October 20, 2015) electrical generation data. The energy estimates used for the propulsion of the HSR system include the use of regenerative braking power.

Emissions from regional building demolition and construction of the at-grade rail segments, roadway and rail bridges, retained-fill rail segments, and HSR stations (including parking areas and platform facilities) were calculated using the California Emissions Estimator Model (CalEEMod), which uses emission factors from the OFFROAD2011 model. The OFFROAD2011 model provides the latest emission factors for construction off-road equipment and accounts for lower fleet population and growth factors because of the economic recession and updated load factors based on feedback from engine manufacturers. For emission rates not available in OFFROAD2011, rates from OFFROAD2007 were conservatively applied. The use of emission rates from the OFFROAD models reflects the recommendation of CARB to capture the latest off-road construction assumptions. OFFROAD2011 default load factors (the ratio of average equipment horsepower used to maximum equipment horsepower) and useful life parameters

were used for emission estimates. Mobile-source emission burdens from worker vehicle trips and truck trips were calculated using vehicle miles traveled estimates and appropriate emission factors from EMFAC2014. Fugitive dust emissions from dirt and aggregate handling were calculated in CalEEMod, which uses emission factors derived from equations from the USEPA's AP-42 (USEPA 2006).

Construction exhaust emissions from equipment, fugitive dust emissions from earthmoving activities, and emissions from worker vehicle trips, deliveries, and materials hauling were calculated and compiled in a spreadsheet tool specific to the HSR Build Alternative for each year of construction. Project-specific data, including construction equipment lists and the construction schedule, were used for construction associated with the HSR Build Alternative. Construction exhaust emissions were modeled using Tier 4 emission rates (AQ-IAMF#4) from CalEEMod. Fugitive dust reductions from earthmoving best management practices were applied in CalEEMod (AQ-IAMF#1)[2]. PM exhaust and greenhouse gas emission reductions (30 percent and 99.1 percent, respectively) would occur from use of renewable diesel (AQ-IAMF#3) in all off-road diesel-powered engines (not applied in CalEEMod, instead applied by manual calculations in the Tables).

Mobile-source emission burdens from worker trips and truck trips were calculated using vehicle miles traveled estimates and appropriate emission factors from EMFAC2014. Model year 2010 or newer on-road engines in heavy-duty, diesel powered truck emissions (AQ-IAMF#5) were modeled using emission rates derived from the CalEEMod.

6.3 Major Construction-Phase Activities

Project-specific data, including construction equipment lists and the construction schedule, were used for construction associated with the alignment/guideway. Calculations were performed for each year of construction.

Major activities were grouped into the following categories (described in more detail in Section 9 of this report):

- Land Clearing
- Land Clearing Haul Roads
- Earthmoving
- Tunneling Cut-and-Cover
- Materials Handling
- Laying Track At Grade
- System Facilities
- Buildings Demolition
- Bridge Demolition
- Elevated Structures Roads
- Elevated Structures Rail
- Roadway Construction
- Burbank Airport Station Construction
- Maintenance Station Facilities
- Los Angeles Union Station Platform Construction

These major construction activities are used in the construction emission estimates. Construction exhaust emissions were modeled using Tier 4 construction equipment emission rates (AQ-IAMF#4) from CalEEMod. Fugitive dust reductions from earthmoving best management practices were applied in CalEEMod (AQ-IAMF#1). PM exhaust and GHG emission reductions (30 percent and 99.1 percent, respectively) would occur from use of renewable diesel (AQ-IAMF#3) in all off-road diesel-powered engines (not applied in CalEEMod, instead applied by manual calculations in the Tables). Mobile-source emission burdens from worker trips and truck trips were calculated

[2] The IAMF requires watering on all unpaved surfaces, which would achieve additional reductions (up to 61 percent).

using VMT estimates and appropriate emission factors from EMFAC2014. Model year 2010 or newer on-road engines in heavy-duty, diesel powered truck emissions (AQ-IAMF#5) were modeled using emission rates derived from the CalEEMod. Section 9.0 provides details of the construction emission calculations.

6.4 Emission Scenarios

The General Conformity regulations require that the evaluation reflect certain emission scenarios (40 C.F.R. §93.159(d)). Specifically, these scenarios generally include the evaluation of the direct and indirect emissions from a Project for the following years: (1) for nonattainment areas, the attainment year specified in the SIP or, if the SIP does not specify an attainment year, the latest attainment year possible under the CAA, and for maintenance areas, the farthest year for which emissions are projected in the approved maintenance plan; (2) the year during which the total of direct and indirect emissions for the federal action are projected to be the greatest on an annual basis; and (3) any year for which the applicable SIP specifies an emissions budget. Both the operational and construction phases of the action have to be analyzed, and the following applies to the Project.

- Emissions generated during the operational phase of the HSR would meet the emission requirements for the years associated with Items 1 and 3, because the emissions generated during the operational phase of the Project would be less than those emitted in the No-Build scenario. In addition, microscale analyses conducted for the EIR/EIS demonstrate that the operational phase of the HSR would not cause or exacerbate a violation of the NAAQS for all applicable pollutants.
- Emissions generated during HSR's construction phase, which would include the year with the greatest amount of total direct and indirect emissions, may be subject to General Conformity regulations because regional emissions would increase and, as such, have the potential to cause or exacerbate an exceedance of an NAAQS. Therefore, analyses were conducted to estimate the amounts of emissions that would be generated during the construction phase (for comparison with the General Conformity applicability rates) and the potential impacts of these emissions on local air quality levels. Emissions generated at the construction sites (e.g., tailpipe emissions from the on-site heavy-duty diesel equipment and fugitive dust emissions generated by vehicles traveling within the construction sites) and on the area's roadways by vehicles traveling to and from these sites (by vehicles transporting materials and the workers traveling to and from work) were considered.
- Air quality dispersion modeling would be required for this conformity analysis to estimate the Project's localized impacts on $PM_{2.5}$ and CO concentrations if the annual emissions of the pollutants generated during construction were to exceed the General Conformity *de minimis* levels.

Annual emissions were estimated for each year of the Project's construction period. These emissions, which are the maximum values for the Project, are described in more detail in Section 10 of this report.

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7 APPLICABILITY ANALYSIS

The first step in a General Conformity evaluation is an analysis of whether the requirements apply to a proposed federal action in a nonattainment or a maintenance area. Unless exempted by the regulations or otherwise presumed to conform, a Federal action requires a General Conformity Determination for each pollutant where the total of direct and indirect emissions caused by the federal action would equal or exceed an annual *de minimis* emission rate.

7.1 Attainment Status of Project Area

The USEPA and the CARB designate each county (or portions of counties) within California as attainment, maintenance, or nonattainment based on the area's ability to meet ambient air quality standards. Regions are designated as attainment for a criteria pollutant when the concentration of that pollutant is below the ambient air standard. If a criteria pollutant concentration is above the ambient air standard, the area is in nonattainment for that pollutant. Areas previously designated as nonattainment that subsequently demonstrated compliance with the ambient air quality standards are designated as a maintenance area. Table 4 summarizes the federal (under NAAQS) and state (under California Ambient Air Quality Standards) attainment status for the South Coast Air Basin.

Table 4 Federal and State Attainment Status

Pollutant	Federal Classification	State Classification
O_3 1-hour	N/A	Nonattainment
O_3 8-hour	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment/Unclassified
Lead	Nonattainment	Attainment
All Others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, 2019

CO = carbon monoxide
NO_2 = nitrogen dioxide
NO_x = nitrogen oxides
O_3 = ozone
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
PM_{10} = particulate matter 10 microns or less in diameter
SO_2 = sulfur dioxide

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8 CONSTRUCTION ACTIVITIES CONSIDERED

As shown in Section 3.3.6.3 of the EIR/EIS, the results of the regional analyses conducted for the Project demonstrate that emissions generated during the operational phase would be less than those emitted in the No-Build and existing conditions scenarios and that the microscale analyses demonstrate that the Project would not cause or exacerbate a violation of the NAAQS for these pollutants. As such, no further analysis of the operational period emissions is necessary for this General Conformity determination. Section 9 focuses on the emissions generated from the construction period emissions for the Burbank to Los Angeles Project Section.

The analysis conducted for the EIR/EIS to estimate potential air quality impacts caused by on-site (e.g., demolition activities, construction equipment operations, and truck movements) and off-site (e.g., motor vehicle traffic effects due to truck trips) construction-phase activities included:

- Estimation of emissions generated by the construction activities (e.g., deconstruction, concrete and steel construction), including fugitive dust emissions and emissions released from diesel-powered equipment and trucks based on the hours of operation of each piece of equipment
- Identification of heavily traveled truck routes to estimate the cumulative effects of on-site construction activity emissions and off-site traffic emissions
- An on-site dispersion modeling analysis of the major construction areas
- An off-site dispersion modeling analysis of the roadway intersections/interchanges adjacent to the construction areas using traffic data that include construction-related vehicles and background traffic
- A comparison of the on-site and off-site modeling results to the applicable NAAQS for the applicable pollutants

Emission rates for these activities were estimated based on the following:

- The number of hours per day and duration of each construction activity;
- The number and type of construction equipment to be used;
- Horsepower and utilization rates (hours per day) for each piece of equipment;
- The quantities of construction/demolition material produced and removed from each site; and
- The number of truck trips needed to remove construction/demolition material, and to bring the supply materials to each site.

The following discusses of the major activities considered, the timing of these activities, and the procedures used to estimate emission rates.

A full description of construction analysis methodology can be found in Section 6.9 of the *Burbank to Los Angeles Project Section: Air Quality and Global Climate Change Technical Report* for this Project (Authority 2020).

Construction activities associated with the Project would result in criteria pollutant and greenhouse gas emissions. Construction emissions for the Project are quantified and analyzed in Section 3.3.6.3 of the EIR/EIS. The analysis assumed that project construction would take place from 2020 to 2028. Although the construction schedule has been updated, the analysis is still valid as the equipment quantities and annual emission rates would remain unchanged.

8.1 Site Preparation

8.1.1 Demolition

For purposes of this air quality analysis, demolition of existing structures along the HSR alignment and HSR stations would take place from December 2020 through October 2021. Demolition emissions were calculated using CalEEMod using the project specific equipment list.

In addition to the fugitive dust emissions resulting from the destruction of existing buildings, emissions were estimated for worker trips, construction equipment exhaust, and truck-hauling exhaust.

8.1.2 Land Clearing/Grubbing

Land grubbing refers to the site preparation activities for the HSR alignment construction. Emissions from land grubbing were estimated using OFFROAD 2011 emission factors as well as a site-specific equipment list. For purposes of this air quality analysis, land clearing and grubbing was assumed to take place along the route ahead of earthmoving and to construct haul roads from January 2020 to July 2025. Fugitive dust from land-grubbing activities includes that from worker trips, construction equipment exhaust, and truck-hauling exhaust.

8.2 Earthmoving

The earthmoving activities include grading, trenching, and cut/fill activities for the alignment construction. For purposes of this air quality analysis, earthmoving would take place from January 2020 to January 2025. The emissions associated with the earthmoving activities were estimated using CalEEMod with OFFROAD 2011 emission factors, in conjunction with the site-specific equipment list. Fugitive dust from earthmoving activities includes that from worker trips, construction equipment exhaust, and truck-hauling exhaust.

8.3 Trenching/Tunneling

The trenching and tunneling activities include excavation, cut/fill activities, and concrete installation for the below-grade portion of the HSR alignment. Cut-and-cover equipment would be used to cut through the ground, progressively installing concrete linings to support the excavated trench. The excavated material would be transported through the machine to the surface for removal by trucks. For purposes of this air quality analysis, the sequential excavation method and cut-and-cover activities would take place from January 2020 to January 2026. The emissions associated with the cut-and-cover activities were estimated using CalEEMod with OFFROAD 2011 emission factors, in conjunction with the site-specific equipment list. Fugitive dust includes that from worker trips, construction equipment exhaust, and truck-hauling exhaust.

8.4 High-Speed Rail Alignment Construction

For purposes of this air quality analysis, the HSR alignment construction is expected to take place from January 2020 to January 2027. Although the construction schedule has been updated, the analysis is still valid, as the equipment quantities and annual emission rates would remain unchanged. The construction analysis includes the following construction phases:

- Constructing roadway and rail bridges
- Laying cut-and-cover rail, retained-fill rail, and at-grade rail

Emissions from construction of the track were calculated using CalEEMod. Equipment counts, horsepower, hours of operation, and load factors used in CalEEMod are included in Appendix A of the *Burbank to Los Angeles Project Section: Air Quality and Global Climate Change Technical Report* for this Project (Authority 2020).

8.4.1 Material Hauling

Emissions from the exhaust of trucks used to haul material (including concrete slabs and ballast materials) to the construction site were calculated using heavy-duty truck emission factors from EMFAC2014 and anticipated travel distances of haul trucks within the South Coast Air Basin.

Quarries with 200 or more acres of permitted area are considered to be of sufficient size to effectively serve the demand (URS et al. 2011). At least three quarries in the vicinity of the project met this criterion; however, it was assumed that the smallest number of quarries would be used for efficiency. Therefore, one quarry with the largest acreage nearest to the project vicinity was selected for this analysis. Ballast-hauling activities would take place with the use of locomotives. Locomotive activity would take place in two working days.

8.4.2 System Facilities

For purposes of this air quality analysis, system facilities construction is expected from January 2022 to July 2028.

8.5 Station Construction

Emissions from Burbank Airport Station construction would result from mass site grading and excavation, underground and above-ground facility construction (i.e., train-boarding platforms, the station building, pick-up/drop-off facilities for private automobiles, and the transit center for buses and shuttles), asphalt paving activates for surface roadways and parking areas, and architectural coatings. Emissions from Los Angeles Union Station would be a result of construction activities for raising the existing platforms and installation of the overhead catenary system. Where applicable, emissions resulting from worker trips, vendor trips, and construction equipment exhaust were included. CalEEMod was used to estimate emissions from the construction phases of the HSR stations.

8.6 Roadway Crossing Construction

The HSR Build Alternative would include the relocation and the expansion of local roads and roadway undercrossings and overcrossings, and reconstruction of several intersections to provide grade separations between roads and the HSR Alignment. Roadway demolition emissions are included in the CalEEMod analysis using the project-specific equipment list. Roadway project construction would begin in July 2021 and be completed by January 2027. Based on project-specific data, a simplified construction schedule was used to estimate construction emissions.

8.7 Early Action Project Construction

As described in Chapter 2 of the EIR/EIS, early action projects would be completed in collaboration with local and regional agencies, and they include grade separations and improvements at regional passenger rail stations. These early action projects are analyzed in further detail to allow the agencies to adopt the findings and mitigation measures as needed to construct the projects. The early action projects would include four roadway undercrossing grade separations (i.e., Sonora Avenue, Grandview Avenue, Flower Street, and Goodwin Avenue/Chevy Chase Drive), one roadway overcrossing grade separation (i.e., Main Street) and improvements at a regional passenger rail station (Burbank Metrolink Station). The projects are described in more detail in Section 2.6 of the *Burbank to Los Angeles Project Section: Air Quality and Global Climate Change Technical Report* for this Project [Authority 2020].

Construction emissions include exhaust emissions from heavy equipment used during the construction phase of each of the project components. The bulk of the construction activities would occur simultaneously and were broken down on a project-by-project component basis to evaluate the construction activities that would take place at a particular location during a peak day and average calendar year period. The construction schedule analysis was used to identify the type and number of equipment that would operate on a typical workday during the period of maximum construction activity. The number of each type of equipment was entered into a spreadsheet. Emission factors from the CARB's OFFROAD2011, EMFAC2014, and HSR inventory of air emissions were identified for each type of equipment and for heavy-duty trucks. Peak day and annual average emissions then were determined by summing emissions from overlapping construction activities as indicated in the proposed construction schedule.

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9 ESTIMATED EMISSIONS RATES AND COMPARISON TO *DE MINIMIS* THRESHOLDS – BURBANK-LOS ANGELES

Total annual estimated emissions generated within the South Coast Air Basin during the Project's construction period, as presented in the HSR EIR/EIS, are provided in Table 5. As shown in the table, direct emissions from the construction phase of the Burbank to Los Angeles Project Section would exceed the GC applicability level for NO_x in certain calendar years in which construction would take place. The following shows the maximum estimated annual values of each pollutant, by non-attainment or maintenance area, and the percentage of the 2019 estimated emission rates in the South Coast Air Basin (see Table 3) for Burbank to Los Angeles Project Section construction:

- VOC: 3.09 tons per year (tpy) (<0.01%)
- CO: 72.16 tpy (0.01%)
- NO_x: 22.07 tpy (<0.01%)
- SO_x: 0.18 tpy (<0.01%)
- PM_{10}: 16.07 tpy (0.02%)
- $PM_{2.5}$: 2.94 tpy (0.01%)

Table 5 Estimated Annual Average Emissions

Pollutants	Emissions (Tons/Year)[3]									Conformity Applicability Level (tons/year)[2]
	2020	2021	2022	2023	2024	2025	2026	2027	2028	
VOC	1.21	2.55	3.09	2.57	2.87	0.05	0.05	0.06	0.05	10
CO	28.95	57.34	65.28	63.29	72.16	1.85	1.84	1.85	1.86	100
NO_x	**11.88**	**22.07**	**20.88**	**16.49**	**20.46**	0.22	0.22	0.22	0.22	10
SO_x	0.07	0.15	0.16	0.16	0.18	0.00	0.00	0.00	0.00	N/A
PM_{10}[1]	9.57	13.02	13.69	13.58	16.07	0.20	0.20	0.20	0.20	100
$PM_{2.5}$[1]	1.66	2.50	2.68	2.62	2.94	0.03	0.03	0.03	0.03	70

Source: California High-Speed Rail Authority, 2020

Note: **Bold** values exceed applicability thresholds

[1] The PM_{10} and $PM_{2.5}$ emissions consist of exhaust and fugitive dust emissions.

[2] Pursuant to NEPA, effects on air quality would be considered an impact if the HSR Build Alternative criteria pollutant emissions would be equal to or exceed the general conformity *de minimis* levels in a nonattainment or maintenance area. It is currently assumed that general conformity would apply only to construction of the HSR Build Alternative, as operation of the HSR Build Alternative is expected to decrease regional emissions of criteria pollutants.

[3] The emissions presented in this table reflect the impact of the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, per the California Air Resources Board's "EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicles Rule Part One" issued on November 20, 2019 (https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf).

CO = carbon monoxide
HSR = high-speed rail
N/A = not applicable
NEPA = National Environmental Policy Act
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
PM_{10} = particulate matter 10 microns or less in diameter
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
tons/year = tons per year
VOC = volatile organic compound

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10 REGIONAL EFFECTS

As shown in Section 3.3.6.3 of the EIR/EIS, the total regional emissions for all of the applicable pollutants are lower during the operations phase of the Project than under No-Build conditions (and will therefore not exceed the *de minimis* emission level). As such, only emissions generated during the construction phase were compared to the conformity levels to determine conformity compliance. As shown in Table 5, construction-phase emissions, compared to the General Conformity applicability rates, are discussed below

- Annual estimated VOC emissions in the South Coast Air Basin are less than the applicability rate of 10 tons per year for construction in 2020 through 2028 for the HSR Project Alternative.
- Annual estimated CO emissions in the South Coast Air Basin are less than the applicability rate of 100 tons per year for construction in 2020 through 2028 for the HSR Project Alternative.
- Annual estimated NO_x emissions are greater than the applicability rate of 10 tons per year in years 2020 through 2024 for the HSR Project Alternative.
- Annual estimated PM_{10} emissions are less than the applicability rate of 100 tons per year for construction in 2020 through 2028 for the HSR Project Alternative.
- Annual estimated $PM_{2.5}$ emissions are less than the applicability rate of 70 tons per year for construction in 2020 through 2028 for the HSR Project Alternative.
- There are no applicable thresholds for SO_x annual emissions.

As such, a General Conformity Determination is required for this Project for NO_x for the years during construction where the emissions would exceed the *de minimis* levels and do not meet any of the exceptions cited in 40 C.F.R. § 93.154(c). This draft Conformity Determination identifies the Authority's commitment to the purchase of additional offsets to net all criteria pollutant emissions to levels that are below the SCAQMD daily emissions thresholds for each calendar year that exceedances occur, explained in Section 12.2.

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11 GENERAL CONFORMITY EVALUATION

For federal actions subject to a General Conformity evaluation, the regulations delineate several ways an agency can demonstrate conformity (40 C.F.R. § 93.158). This section summarizes the findings used to make the determination for the Project.

11.1 Conformity Requirements of Project

Based on the results shown in Table 5, conformity determinations are required for construction-phase emissions for NO_x because annual estimated emissions are greater than the applicability rates of 10 tpy for NO_x in the South Coast Air Basin.

11.2 Compliance with Conformity Requirements

NO_x emissions caused by the construction of the Project that would exceed the General Conformity *de minimis* levels are considered to have the potential to cause air quality impacts. The Authority has committed to the purchase of additional offsets to net all criteria pollutant emissions to levels that are below the General Conformity *de minimis* level for each calendar year that exceedances occur.

The requirements for offsets would be implemented as part of the Project as described in the mitigation measures from the Final EIR/EIS:

AQ-MM#1: Offset Project Construction Emissions through Off-Site Emission Reduction Programs

Emissions that cannot be reduced by IAMFs and any other mitigation measures, would be fully offset within the South Coast Air Basin through a South Coast Air Quality Management District (SCAQMD) rule or contractual agreement by funding equivalent emissions reductions that achieve reductions in the same years as construction emissions occur, thus offsetting project-related air quality impacts in real time. The project will implement measures and best practices to minimize emissions from project construction. After implementation of these measures, emission levels that still exceed thresholds will be offset to the extent necessary to satisfy General Conformity. The Authority's Sustainability Policy has a goal to achieve net zero emissions from construction. As this project section advances through project delivery towards construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost for achieving the Authority's Sustainability Policy goal to the extent possible.

AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment

This mitigation measure would reduce the impact of construction emissions from project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset with emission credits required under Mitigation Measure AQ-MM#1.

The Authority and all project construction contractors will require that a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use zero emission (ZE) or near-zero emission (NZE) technology.

The Authority and all project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery and soil import/export) associated with the project use ZE or NZE technology.

The Authority and all project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or NZE vehicles.

If local or state regulations mandate a faster transition to using ZE and/or NZE vehicles at the time of construction, the more stringent regulations will be applied. For example, Executive Order (EO) N-79-20, issued by California Governor Newsom on September 23, 2020, currently states the following:

- Light duty and passenger car sales be 100 percent ZEV by 2035
- Full transition to ZEV short-haul/drayage trucks by 2035
- Full transition to ZEV heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible.

The project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

11.3 Consistency with Requirements and Milestones in Applicable SIP

The General Conformity regulations state that notwithstanding the other requirements of the rule, a federal action may not be determined to conform unless the total of direct and indirect emissions from the federal action is in compliance or consistent with all relevant requirements and milestones in the applicable SIP (40 C.F.R. § 93.158(c)). This includes but is not limited to such issues as reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice standards. This section briefly addresses how the construction emissions for the Project were assessed for SIP consistency for this evaluation.

11.3.1 Applicable Requirements from the USEPA

The USEPA has already promulgated, and will continue to promulgate, numerous requirements to support the goals of the Clean Air Act with respect to the NAAQS. Typically, these requirements take the form of rules regulating emissions from significant new sources, including emission standards for major stationary point sources and classes of mobile sources, as well as permitting requirements for new major stationary point sources. Because states have the primary responsibility for implementation and enforcement of requirements under the Clean Air Act and can impose stricter limitations than the USEPA, the USEPA requirements often serve as guidance to the states in formulating their air quality management strategies.

11.3.2 Applicable Requirements from the CARB

In California, to support the attainment and maintenance of the NAAQS, CARB is primarily responsible for regulating emissions from mobile sources. In fact, the USEPA has delegated authority to the CARB to establish emission standards for on-road and some non-road vehicles separate from the USEPA vehicle emission standards, although the CARB is preempted by the Clean Air Act from regulating emissions from many non-road mobile sources, including marine craft. Only the USEPA can set emission standards for preempted equipment.

11.3.3 Applicable Requirements from SCAQMD

To support the attainment and maintenance of the NAAQS in the South Coast Air Basin, SCAQMD is primarily responsible for regulating emissions from stationary sources. SCAQMD develops and updates its Air Quality Management Plan regularly to support the California SIP. While the Air Quality Management Plan contains rules and regulations geared to attain and maintain the NAAQS, these rules and regulations also have the much more difficult goal of attaining and maintaining the California ambient air quality standards.

11.3.4 Consistency with Applicable Requirements for the Authority

The Authority already complies with, and will continue to comply with, a number of rules and regulations implemented and enforced by federal, state, regional, and local agencies to protect and enhance ambient air quality in the South Coast Air Basin.

The Authority will continue to comply with all existing applicable air quality regulatory requirements for activities over which it has direct control and will meet in a timely manner all regulatory requirements that become applicable in the future.

These are appropriate USEPA, CARB, and SCAQMD rules that are standard practice and best management practices for construction in the SCAQMD and include control of emissions and exhaust:

- SCAQMD Rule 402, Nuisance: This rule restricts the discharge of any contaminant in quantities that cause, or have a natural ability to cause, injury, damage, nuisance, or annoyance to businesses, property, or the public. The proposed project does not plan to discharge any contaminants in quantities that would cause injury to the public or property.
- SCAQMD Rule 403, Fugitive Dust: This rule requires the prevention, reduction, or mitigation of fugitive dust emissions from a project site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to use one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, using dust suppressants such as watering or chemical soil stabilizers, and/or ceasing all activities.
- SCAQMD Rule 1113, Architectural Coatings: This rule limits the amount of VOCs from architectural coatings and solvents, which lowers the emissions of odorous compounds.

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12 REPORTING AND PUBLIC COMMENTS

To support a decision concerning the Project, the FRA is issuing this draft general conformity determination for public and agency review for a 30-day period as required by 40 C.F.R §§93.155 and 93.156. In developing the analysis underlying this general conformity determination, the Authority has consulted with SCAQMD on a variety of technical and modeling issues. The Authority has also consulted with the USEPA and the CARB on the overall approach to general conformity.

12.1 Draft General Conformity Determination

The FRA will provide copies of this draft general conformity determination to the appropriate regional offices of USEPA, CARB, and SCAQMD for a 30-day review. The FRA will also issue a notice in the *Federal Register* announcing the availability of the draft general conformity determination and requesting written public comments during a 30-day period. A copy of this draft conformity determination will be made available on FRA's docket at https://www.regulations.gov/, Docket FRA-2021-0082. .

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13 FINDINGS AND CONCLUSIONS

FRA conducted a General Conformity evaluation consistent with 40 C.F.R. Part 93 Subpart B. The General Conformity regulations apply at this time to this Project because the Project is in an area that is currently designated as nonattainment for the federal 8-hour O_3, $PM_{2.5}$, and lead standards; unclassified for the federal NO_2 and SO_2 standards; attainment/maintenance for the federal PM_{10} and CO standards; and attainment/unclassified for all other standards. The FRA conducted the General Conformity evaluation consistent with all regulatory criteria and procedures and following the Authority's coordination with USEPA, SCAQMD, and CARB. As a result of this review, the FRA concluded, based on the fact that Project-generated emissions will either be offset (for construction phase) or will be less than zero (for operational phase), that the Project's emissions can be accommodated in the SIP for the South Coast Air Basin. The FRA has determined that the Project as designed will conform to the approved SIP, based on:

- A commitment from the Authority that construction-phase NO_x emissions will be offset consistent with the applicable federal regulations in the SCAQMD;
- SCAQMD will seek and implement the necessary emission reduction measures, using Authority funds.
- SCAQMD will serve in the role of administrator of the emissions reduction projects and verifier of the successful mitigation effort.

Therefore, the FRA herewith concludes that the Project, as designed, conforms to the purpose of the approved SIP and is consistent with all applicable requirements.

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14 REFERENCES

California Air Resources Board (CARB). 2018. *Almanac Emissions Projection Data. 2019 Estimated Annual Average Emissions. South Coast AQMD.* https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php?_ga=2.166477367.825502129.1616506775-1397874119.1606087613 (accessed April 2021).

———. 2019. *National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin.* February 2016. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations (accessed January 2021).

———. 2019. *iADAM: Air Quality Data Statistics. Top 4 Summary.* https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed December 2019).

California High-Speed Rail Authority (Authority). 2018. *Los Angeles to Anaheim Project Section Air Quality and Global Climate Change Technical Report.* December 2018.

———. 2019. *Palmdale to Burbank Section Administrative Draft Environmental Impact Report/Environmental Impact Statement.* September 2019.

———. 2020. *Burbank to Los Angeles Project Section: Air Quality and Global Climate Change Technical Report.* November 2020.

———. 2021. *Burbank to Los Angeles Section Final Environmental Impact Report/Environmental Impact Statement.* March 2021.

California High-Speed Rail Authority and Federal Railroad Administration (Authority and FRA). 2013. *Technical Memorandum 1.1.21 Typical Cross Sections for 15% Design.* August 2013.

Federal Railroad Administration and State of California, 2019. *Memorandum of Understanding between the Federal Railroad Administration and the State of California Acting Through Its California State Transportation Agency and Its California High-Speed Rail Authority, for the State of California's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327.* July 23, 2019.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments.* February 2015. http://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf (accessed August 2016).

South Coast Air Quality Management District (SCAQMD). 2006. *California State Implementation Plan (SIP) for Carbon Monoxide (CO) in the South Coast Air Basin.* September 2006. https://ww3.arb.ca.gov/planning/sip/sccosip05/sccosip05.htm (accessed December 4, 2019).

———. 2009. *2010 South Coast Air Basin Request for PM_{10} Redesignation Request and Maintenance Plan.* December 2009. https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/2010pm10maint.pdf (accessed December 4, 2019).

———. 2013. *Final 2026 Air Quality Management Plan.* February 2013. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan (accessed August 2017).

———. 2016. *Final 2015 Annual Air Quality Monitoring Network Plan.* July 2016. www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-monitoring-network-plan/annual-air-quality-monitoring-network-plan-v2.pdf?sfvrsn=2 (accessed August 2016).

———. 2017. *Final 2016 Air Quality Management Plan.* March 2017. www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15 (accessed August 2017).

URS, HMM, and Arup Joint Venture. 2011. *Estimated Emissions from hauling Ballast Material – Merced to Fresno and Fresno to Bakersfield Sections of the California High-Speed Train Project*. July 21, 2011.

U.S. Environmental Protection Agency (USEPA).1994. *General Conformity Guidance: Questions and Answers*. July 13, 1994. https://www.epa.gov/sites/production/files/2016-03/documents/gcqga_940713.pdf (accessed December 4, 2019).

———. 2006. Emission Factors & AP 42. https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors (accessed July 2016).

———. 2010. *Federal Register*, Vol. 74, No. 209, Friday, October 30, 2009, 40 C.F.R. Parts 86, 87, 89 et al. Mandatory Reporting of Greenhouse Gases; Final Rule. https://www.gpo.gov/fdsys/pkg/FR-2009-10-30/pdf/E9-23315.pdf (accessed December 4, 2019).

———. 2019. *Monitor Values Report*. https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed December 2019).

15 PREPARER QUALIFICATIONS

Amy Fischer, Senior Air Quality Scientist. Ms. Fischer has a B.S. in Environmental Policy Analysis from the University of Nevada, Reno. With 20 years of experience, Amy Fischer serves as a senior air quality and greenhouse gas emissions specialist qualified to conduct analyses for a variety of infrastructure projects. Ms. Fischer is the technical lead on air quality and climate change impact analyses documents and oversees the research and preparation of technical reports. She is skilled in air quality assessment models, including CalEEMod, Emission Factor models (EMFAC/OFFROAD), Road Construction Estimator Model (RoadMod) and Line Dispersion Models (CALINE).

Cara Carlucci, Planner. Ms. Carlucci holds a B.S. in City & Regional Planning with a minor in Real Property Development from California Polytechnic State University, San Luis Obispo. At LSA, she provides planning and technical assistance to project managers on a variety of planning and environmental documents including environmental assessments, initial studies, and Environmental Impact Reports. She has contributed to the CEQA air quality analyses for residential, commercial, and infrastructure projects, as well as stand-alone air quality impact studies.

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