

APPENDIX 3.3-B: GENERAL CONFORMITY REQUIREMENTS AND PROCESS

1 GENERAL CONFORMITY REQUIREMENTS AND PROCESS

Section 176(c)(1) of the Clean Air Act (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. Because the San Francisco to San Jose Project Section (Project Section, or project) of the California High-Speed Rail (HSR) System will likely require or receive one or more federal approvals or future federal construction funding, a General Conformity Determination must be issued in accordance with the implementing regulations of Section 176 of the CAA.

The Federal Railroad Administration's (FRA) General Conformity Determination would be related only to those activities included in the federal action pertaining to the HSR project, which is the project's potential approval through a National Environmental Policy Act (NEPA) record of decision (ROD). The project is described further in Chapter 1, Project Purpose, Need and Objectives, and Chapter 2, Alternatives, of the *San Francisco to San Jose Project Section Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS)*.

Pursuant to 23 United States Code (U.S.C.) Section 327 and a Memorandum of Understanding executed by the FRA and the State of California on July 23, 2019, FRA assigned its federal environmental review responsibilities under NEPA and related statutes to the Authority under a federal program commonly known as NEPA Assignment. Accordingly, the Authority is now the NEPA lead agency. Consistent with 23 U.S.C. Section 327 and the NEPA Assignment Memorandum of Understanding, FRA retains its obligations to make General Conformity Determinations under the CAA. The Authority and FRA have agreed to collaborate on the development of General Conformity Determinations. As part of this collaboration, the Authority has developed and provided to FRA a Draft General Conformity Determination and supporting information, as well as the Authority's proposed approach for achieving general conformity. Because the analysis used for the Draft EIR/EIS also generated the information necessary for the Draft General Conformity Determination, specific analysis may be incorporated in the General Conformity Determination. FRA will make the ultimate General Conformity Determination for this project.

The General Conformity regulations establish certain procedural requirements that must be followed when preparing a General Conformity evaluation. FRA's Draft General Conformity Determination will address the major applicable procedural issues and specify how these requirements are met for the evaluation of the federal action. 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. Pursuant to 40 Code of Federal Regulations (C.F.R.) Section 93.156, it is anticipated FRA will release a Draft General Conformity Determination for public and agency review concurrently with this Draft EIR/EIS. The Authority intends to publish FRA's Final General Conformity Determination concurrently with the ROD for the federal action, if the Authority decides to move forward with project approval.

1.1 General Conformity Regulations

In November 1993, the U.S. Environmental Protection Agency (USEPA) promulgated two sets of regulations to implement Section 176(c) of the CAA. The first regulations were the Transportation Conformity Regulations issued on November 24, 1993 and the second regulations were the General Conformity Regulations issued on November 30, 1993. Although the Transportation Conformity Regulations do not apply to the project, 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). In general terms, unless a project is exempt or presumed to conform under the General Conformity Regulations, 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* thresholds.

The General Conformity Rule is codified in 40 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 [national ambient air quality standards (NAAQS)] and achieving expeditious attainment of such standards.” 40 C.F.R. Part 93 also establishes the process by which federal agencies determine conformance of proposed projects that are federally funded or require federal approval. This determination must demonstrate that the federal action 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 toward attainment.

The CAA defines nonattainment areas as geographic regions that have been designated as not meeting one or more of the NAAQS. The CAA requires that each state prepare a State Implementation Plan (SIP) for each nonattainment area. A maintenance plan must be prepared for each former nonattainment 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.

General Conformity requirements only apply to federal actions proposed in nonattainment areas (i.e., areas where one or more NAAQS are not being achieved at the time of the proposed action and requiring SIP provisions to demonstrate how attainment will be achieved) and in maintenance areas (i.e., areas recently reclassified from nonattainment to attainment and requiring SIP provisions to demonstrate how attainment will be maintained).

The General Conformity regulations incorporate a stepwise process, beginning with an applicability analysis. According to USEPA’s *General Conformity Guidance: Questions and Answers* (USEPA Guidance) (USEPA 1994), before any approval is given for a federal action to go forward, the federal agency must apply the applicability requirements found at 40 C.F.R. Section 93.153 to the federal action or determine on a pollutant-by-pollutant basis whether a determination of General Conformity is required. During the applicability analysis, the federal agency determines the following:

- 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
- Where a facility has an emissions budget approved by the state or tribe as part of the SIP or Tribal Implementation Plan, the federal agency determines whether the emissions from the proposed action are within the budget.

The USEPA Guidance states that the applicability analysis can be, but is not required to be, completed concurrently with any analysis required under NEPA. FRA’s Draft General Conformity Determination may incorporate specific analysis from this Draft EIR/EIS. The applicability analysis for this project will be described in the FRA’s Draft Conformity Determination.

If, through the applicability analysis process, the responsible federal agency determines that the General Conformity regulations do not apply to the federal action, no further analysis or documentation is required. If, however, the General Conformity Regulations apply to the federal action, the responsible federal agency must conduct a conformity evaluation in accordance with the criteria and procedures in the implementing regulations, publish a Draft General Conformity Determination for public review, and publish the Final General Conformity Determination.

To make a conformity determination, the federal agency must 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
- Fully offsetting the total direct and indirect emissions by reducing emissions of the same pollutant in the same nonattainment or maintenance area

1.2 Resource Study Area and Its Air Quality Conditions

The RSA for the project is the San Francisco Bay Area Air Basin (SFBAAB), which is shown on Figure 1. Planning documents for pollutants for which the RSA is classified as federal nonattainment or maintenance are developed by the Bay Area Air Quality Management District (BAAQMD), and California Air Resources Board (CARB) and approved by USEPA.

CARB maintains ambient air monitoring stations for criteria pollutants throughout California. Three monitoring stations, each in the SFBAAB, and in the vicinity of the project alternatives, were selected for representative ambient monitored data—Arkansas Street (San Francisco), Barron Avenue (Redwood City), and Jackson Street (San Jose). These are the nearest stations to the project area that are representative of local air quality conditions. These stations monitor carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), particulate matter (PM) smaller than or equal to 10 microns in diameter (PM₁₀), and PM smaller than or equal to 2.5 microns in diameter (PM_{2.5}). Between 2015 and 2017, measured CO and NO₂ concentrations did not exceed any federal or state standards at any of the three monitoring locations. However, the state standards for PM₁₀ were exceeded, as was the federal standard for 24-hour PM_{2.5}. The federal and state O₃ standards were exceeded at Redwood City—Barron Avenue and San Jose—Jackson Street. The state 24-hour and annual standards for PM₁₀ were exceeded at San Francisco—Arkansas Street and San Jose—Jackson Street. The federal standard for 24-hour PM_{2.5} was exceeded at all three sites. The most frequent exceedances occurred at San Jose.

CARB maintains an annual emission inventory for each county and air basin in the state. The inventory for the SFBAAB is composed of data submitted to CARB by the local air districts plus estimates for certain source categories, which are provided by CARB staff. The most recent published emission inventory data for the SFBAAB indicates that mobile source emissions represent the majority of volatile organic compounds (VOC)¹, nitrogen oxide (NO_x), and CO emissions. Area sources represent the majority of PM₁₀ and PM_{2.5} emissions, and stationary sources represent the majority of sulfur dioxide (SO₂) emissions.

USEPA designates each county (or portions of counties) within California as in attainment, maintenance, or nonattainment based on the area's ability to maintain ambient air concentrations below the air quality standards. Areas are designated as in attainment if ambient air concentrations of a criteria pollutant are below the ambient standards. Areas are designated as nonattainment if ambient air concentrations are above the ambient standards. Areas previously designated as nonattainment that subsequently demonstrated compliance with the standards are designated as maintenance. Table 1 summarizes the federal attainment status of the SFBAAB with regard to the NAAQS and the California ambient air quality standards (CAAQS).

¹ VOCs, as defined by USEPA, are equivalent to reactive organic gases as defined by CARB. Because conformity is a federal process, this document uses the term VOC except when referring to a California-specific requirement.



Sources: Authority 2019a, 2019b; CARB 2012

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Figure 1 Resource Study Area Air Basin

Table 1 Federal Attainment Status of the San Francisco Bay Area Air Basin

Pollutant	Federal Attainment Status
Ozone (O ₃)	Marginal nonattainment
Particulate matter (PM ₁₀)	Attainment
Particulate matter (PM _{2.5})	Moderate nonattainment
Carbon monoxide (CO)	Attainment
Nitrogen dioxide (NO ₂)	Attainment
Sulfur dioxide (SO ₂)	Attainment

Source: USEPA 2018

Under federal designations, the RSA is currently designated as marginal nonattainment for 8-hour O₃² and moderate nonattainment for PM_{2.5} in the SFBAAB. Accordingly, demonstration of project-level compliance with the General Conformity Rule for NO_x and VOCs (O₃ precursors), PM_{2.5}, and SO₂ (PM_{2.5} precursor) is required if project-related emissions of these pollutants in the SFBAAB would exceed the General Conformity *de minimis* thresholds.

The General Conformity requirements would apply to the federal action for each pollutant for which the total of direct and indirect emissions caused by the federal action equal or exceed the *de minimis* emission rates shown in Table 2. These emission rates are expressed in units of tons per year and are compared to the total of direct and indirect emissions caused by the project in each air basin for the calendar year. The applicable threshold levels for the pollutants for which General Conformity is required in the RSA are shown in Table 2.

Table 2 De Minimis Rates for Determining Applicability of General Conformity Requirements to Federal Actions

Air Basin	Annual Air Pollutant Emissions in Tons per Year					
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂
SFBAAB ¹	100	100	N/A	N/A	100	100

CO = carbon monoxide
 N/A = not applicable
 NAAQS = national ambient air quality standards
 NO_x = nitrogen oxide
 O₃ = ozone
 PM_{2.5} = particulate matter smaller than or equal to 2.5 microns in diameter
 PM₁₀ = particulate matter smaller than or equal to 10 microns in diameter
 RSA = resource study area
 SFBAAB = San Francisco Bay Area Air Basin
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds

¹ The General Conformity *de minimis* thresholds for criteria pollutants are based on the federal attainment status of the RSA in the SFBAAB. The RSA is considered a marginal nonattainment area for the O₃ NAAQS and a moderate nonattainment area for the PM_{2.5} NAAQS. Although the RSA is in attainment for SO₂, because SO₂ is a precursor for PM_{2.5}, the PM_{2.5} General Conformity *de minimis* thresholds are used.

² Because O₃ is a secondary pollutant (i.e., it is not emitted directly into the atmosphere, but is formed in the atmosphere from the photochemical reactions of VOCs and NO_x in the presence of sunlight), its *de minimis* threshold is based on primary emissions of its precursor pollutants, NO_x and VOCs. If the net emissions of either NO_x or VOCs exceeds the *de minimis* applicability thresholds (USEPA 1994), the federal action is subject to a general conformity evaluation for O₃.

1.3 Regional Effects and Anticipated General Conformity Determination

The Authority identified the appropriate emission estimation techniques and planning assumptions in consultation with the state entities charged with regulating air pollution in the SFBAAB. As shown in Section 3.3.6.2, Air Quality, of the Draft EIR/EIS, the total regional emissions for all applicable pollutants are lower during the operations phase of the project than under No Project conditions (and would therefore not exceed the *de minimis* emission thresholds). As such, only emissions generated during the construction phase were compared to the conformity threshold levels to determine conformity compliance. Table 3 presents construction emissions from Alternatives A and B in the SFBAAB in tons per year.

Table 3 San Francisco to San Jose Annual Construction Emissions in the San Francisco Bay Area Air Basin (tons per year)¹

Alternative/Year	VOC	NO _x	CO	SO ₂ ²	PM ₁₀	PM _{2.5}
Alternative A						
2021	2	35	50	0	44	10
2022	4	82	112	0	103	24
2023	4	87	110	0	109	25
2024	4	91	120	0	119	26
2025	5	104*	144	1	106	26
2026	0	0	0	0	0	0
Alternative B³						
2021	2	39	56	0	52	12
2022	5	82	112	0	103	24
2023	4/5	103/105*	137/144	1	133/136	31
2024	4/5	106/105*	145/155	1	141/144	31/32
2025	5	113/106*	162/154	1	123/116	28/27
2026	0	0	0	0	0	0
General Conformity Threshold						
SFBAAB Threshold	100	100	N/A	100	N/A	100

Sources: CAPCOA 2017; CARB 2018; USEPA 1998, 2006, 2011; Scholz 2018

CO = carbon monoxide

I = Interstate

N/A = not applicable

NO_x = oxides of nitrogen

PM_{2.5} = particulate matter smaller than or equal to 2.5 microns in diameter

PM₁₀ = particulate matter smaller than or equal to 10 microns in diameter

RSA = resource study area

SFBAAB = San Francisco Bay Area Air Basin

SO₂ = sulfur dioxide

VOC = volatile organic compound

Values less than 0.5 have been rounded to zero.

Exceedances of thresholds are shown in **bolded underline with an asterisk (*)**.

¹ Emissions results include implementation of air quality impact avoidance and minimization features.

² Although the RSA is in attainment for SO₂, because SO₂ is a precursor for PM_{2.5}, the PM_{2.5} General Conformity *de minimis* thresholds are used.

³ Where values are different, emissions are presented for Alternative B (Viaduct to I-880) first, followed by Alternative B (Viaduct to Scott Boulevard). When only one value is presented, it is the same for both viaduct options.

As shown in Table 3, construction-related emissions, compared to the General Conformity applicability rates, are as follows:

- Annual estimated NO_x emissions in the SFBAAB are greater than the applicability rate of 100 tons per year in 2025 under Alternative A, and in 2023, 2024, and 2025 under Alternative B with implementation of impact avoidance and minimization features.
- Annual estimated VOC, SO₂, and PM_{2.5} emissions are less than the applicability rates in the SFBAAB with implementation of impact avoidance and minimization features, for all years and both alternatives.
- Because the SFBAAB is federally designated attainment for CO and PM₁₀, the applicability rates do not apply and no conformity evaluation is required for CO and PM₁₀.

A General Conformity Determination is required for the project for NO_x for the years during construction when the emissions would exceed the *de minimis* thresholds. Therefore, the Authority anticipates that a General Conformity Determination would be required for the project for NO_x for the years during construction when the emissions would exceed the *de minimis* thresholds in the SFBAAB and would not meet any of the exceptions cited in 40 C.F.R. Section 93.154(c).

The FRA's Draft General Conformity Determination will identify the Authority's commitment to reduce all NO_x emissions through emissions offsets through a Memorandum of Understanding with BAAQMD. To reduce impacts on the environment, the construction of the project would include project features to avoid and minimize impacts on air quality. These project features would be included in the Mitigation Monitoring and Enforcement Program, which would be issued concurrently with the ROD and would be enforceable commitments undertaken by the Authority. Construction of the project is anticipated to occur through a design/build contract. The Authority would include all project features in the construction contract, which would create binding and enforcement commitment to implement them. The Authority would be responsible for implementing and overseeing a mitigation monitoring program, so the contractor meets all air quality design features.

2 REFERENCES

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