

Staff Report

2025 Updates to Motor Vehicle Emissions Budgets for California Ozone State Implementation Plans

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I. Executive Summary

Transportation plans and programs produced by transportation planning agencies must demonstrate that the emissions from the proposed plan, program, or project do not exceed the motor vehicle emissions budgets (MVEB) established in applicable state implementation plans (SIP) and thus conform to the SIP. Transportation conformity is the federal regulatory procedure for linking and coordinating the transportation and air quality planning processes. Conformity is required by section 176(c) of the Clean Air Act (Act) and ensures that federal funding and approval are given to highway and transit projects that are consistent with, or "conform to," the air quality goals established by SIPs. This coordination is achieved through the use of MVEBs that are established in SIPs for national ambient air quality standards (NAAQS or standard).

For the 75 parts per billion (ppb) 8-hour ozone standard (75 ppb ozone standard) and the 70 ppb 8-hour ozone standard (70 ppb ozone standard), California submitted SIPs to the U.S. Environmental Protection Agency (U.S. EPA) that included MVEBs developed using the California on-road mobile source Emission FACtor models, EMFAC2014 and EMFAC2017.¹ These models utilized the latest emissions factors available at the time and the latest activity data provided by the Metropolitan Planning Organizations (MPO) with jurisdiction over the area.

In 2021, California released a new version of the model, EMFAC2021,² which used updated data and methodologies, including effects on emission levels from new and revised regulations to reflect CARB's latest understanding of statewide and regional vehicle emissions. EMFAC2021 incorporated new forecasting frameworks to project zero-emission vehicle (ZEV) populations, estimates of heavy-duty vehicle miles traveled, and included features to reflect more fuels and technologies, including emissions from Plug-in Hybrid Electric Vehicles (PHEV) and natural gas trucks, as well as energy consumption from ZEVs. In addition, heavy-duty truck categories have been expanded to show more vocational types and reflect updated emission rates. Effective November 15, 2022, U.S. EPA approved EMFAC2021³ for use in SIP development and for transportation conformity and set a 2-year grace period for the use of EMFAC2021. EMFAC2021 must be used for all new regional emissions analyses for transportation conformity purposes that are started on or after November 15, 2024.

Due to updated data and methodologies, EMFAC2021 estimates higher overall emissions from the on-road vehicle population in many areas of the State compared to the prior

¹ *Mobile Source Emission Inventory - EMFAC2017 Web Database*

² *EMFAC2021 Model and Documentation / California Air Resources Board*

³ *87 FR 68483*

versions of the model. In using EMFAC2021, the MPOs in San Diego County and San Joaquin Valley may not be able to demonstrate conformity against MVEBs established using EMFAC2014 and EMFAC2017 in the 75 and 70 ppb ozone standard SIPs.

To align the MVEBs in the SIPs for the 75 and 70 ppb ozone standards with EMFAC2021, in the *2025 Updates to Motor Vehicle Emissions Budgets for California Ozone State Implementation Plans* (2025 Ozone MVEB Update) CARB is updating the MVEBs for San Diego County applicable to the 75 and 70 ppb ozone standards, and the San Joaquin Valley applicable to the 75 ppb ozone standard.

U.S. EPA guidance on conformity⁴ states that U.S. EPA cannot approve updates to existing MVEBs unless it can be demonstrated that the SIP continues to meet applicable requirements of the Act with the updated motor vehicle emissions calculated using the updated transportation model. The applicable planning requirements are reasonable further progress (RFP) and the attainment demonstration. As demonstrated in Chapters IV through VI, the changes to emissions resulting from EMFAC2021 and the updated MVEBs do not interfere with either RFP or attainment in these nonattainment areas.

⁴ [EPA-420-B-24-038, November 2024](#)

II. Background

The Act requires U.S. EPA to set NAAQS for criteria pollutants, including ozone, and periodically review the latest health research to ensure that the standards remain protective of public health. The Act also requires that states not meeting the standards develop SIPs that demonstrate how the area will attain those standards and further specifies required SIP elements based on the pollutant and the severity of the air quality problem.

CARB and local air districts across California worked together to develop, adopt, and submit to U.S. EPA SIP revisions to meet requirements for the 75 and 70 ppb ozone standards. The SIPs included the numerous elements required by the Act, including emissions inventories for the precursors of ozone, reactive organic gases (ROG) and oxides of nitrogen (NO_x). These inventories are a summary of the region's total emissions from all sources, and are needed to demonstrate SIP elements such as RFP and attainment of the standard by the attainment date. The portion of the total emissions inventory from on-road motor vehicles are singled out by the Act for transportation conformity purposes and referred to as an MVEB.⁵

Section 176(c) of the Act establishes transportation conformity requirements which are intended to ensure that transportation activities do not interfere with air quality progress. To accomplish this, the Act requires that transportation plans, programs, and projects that obtain federal funds or approvals be consistent with, or conform to, applicable SIPs before being approved by an MPO. Conformity to the SIP means that proposed transportation activities must not:

- 1) Cause or contribute to any new violation of any standard,
- 2) Increase the frequency or severity of any existing violation of any standard in any area or
- 3) Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The MVEBs in the SIPs are the mechanism for ensuring that transportation planning activities conform to the SIP. MVEBs are submitted in the SIPs for the criteria pollutants and their precursors. For ozone SIPs, MVEBs are set for ROG and NO_x emissions in future RFP milestone years and the attainment year. After MVEBs are approved by U.S. EPA as part of the SIPs, MPOs must demonstrate that emissions from new regional transportation plans (RTP) or federal transportation improvement programs (FTIP) do not exceed the MVEBs in the RFP milestone or attainment years.

The SIPs submitted to U.S. EPA in 2016-2017 for the 75 ppb ozone standard established MVEBs in nonattainment areas for their respective RFP milestone years and attainment years

⁵ *40 CFR Parts 51*

depending on the area's classification. The MVEBs in the 75 ppb ozone standard SIPs as originally submitted were established using EMFAC2014, approved by U.S. EPA effective December 14, 2015. The MVEBs for most of the SIPs for the 75 ppb ozone standard, including the San Joaquin Valley, were updated in *2018 Updates to the California State Implementation Plan* (2018 SIP Update).⁶ The MVEBs in the 2018 SIP Update were developed using EMFAC2014 but included a safety margin to align the MVEBs with EMFAC2017 which was approved by U.S. EPA on August 15, 2019. U.S. EPA later approved the San Joaquin Valley SIP for the 75 ppb ozone standard and MVEBs into the California SIP on March 25, 2019, and these remain the effective MVEBs for the 75 ppb ozone standard for the San Joaquin Valley.

For San Diego County, a SIP was developed to address the requirements for the 75 and 70 ppb ozone standards and included MVEBs established using EMFAC2017. This SIP was submitted to U.S. EPA in 2021. This plan and the associated MVEBs were approved by U.S. EPA into the California SIP on March 1, 2024. For both the San Joaquin Valley and San Diego County SIPs, the SIP-approved MVEBs included baseline emissions consistent with the planning emissions inventory used in the relevant plan.

⁶ *CARB 2018 SIP Update*

III. Introduction

A. Motor Vehicle Emissions Budgets

On January 15, 2021, CARB released the updated emission inventory model to assess emissions from on-road motor vehicles, including cars, trucks, and buses in California, EMFAC2021. EMFAC2021 reflected the latest understanding of statewide and regional vehicle activities, emissions, and recently adopted regulations. Effective November 15, 2022, U.S. EPA approved EMFAC2021 and set a two-year regional emissions analysis grace period that provides time for CARB to revise previously approved SIP revisions with EMFAC2021, if needed, so that MPOs can incorporate revised SIP-approved MVEBs into the transportation conformity process. Therefore, EMFAC2021 must be used for all new regional emissions analyses for transportation conformity purposes that are started on or after November 15, 2024.

To determine if EMFAC2021 will impact the ability of MPOs in San Diego and the San Joaquin Valley to make conformity determinations against the MVEBs set using EMFAC2017 or EMFAC2014 in future transportation plans, CARB staff compared the MVEBs for the 75 and 70 ppb ozone standard SIPs to emissions estimated by EMFAC2021 in the RFP milestone and attainment years.

For the 75 ppb ozone standard, the baseline year was 2011 and thus the RFP milestone years for which MVEBs were set were 2017, 2020, 2023, and 2026 for Severe areas, including San Diego; and 2017, 2020, 2023, 2026, 2029 and 2031 for Extreme areas including San Joaquin Valley. Since MVEBs are only set for future years, no updates are proposed for MVEBs for 2017, 2020, or 2023. The attainment year for San Diego is 2026 (classified as Severe), and for the San Joaquin Valley the attainment year is 2031 (classified as Extreme).

Since the baseline year in the 70 ppb ozone standard SIPs was 2017, the RFP milestone years for which MVEBs were set were 2023, 2026, 2029, and 2032, for Severe areas, including San Diego. Since MVEBs are only set for future years, no updates are proposed for MVEBs for 2023. Further, the attainment year for San Diego, which is classified as Severe, is 2032.

As required by U.S. EPA guidance, CARB analyzed the effect of the updated MVEBs on RFP and attainment demonstrations in the SIPs. As demonstrated in Chapters IV to VI, the updates to the MVEBs do not interfere with the RFP or attainment demonstrations for San Diego or San Joaquin Valley for the standards which updated MVEBs are being proposed.

B. Reasonable Further Progress

Sections 172(c)(2) and 182(b)(1) of the Act require attainment plans to provide for RFP. RFP is defined in section 171(1) of the Act as "...such annual incremental reductions in emissions of the relevant air pollutant as are required...for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date." This requirement to demonstrate steady progress in emission reductions between the baseline year and attainment date ensures that areas will not delay implementation of control programs until immediately before the attainment deadline.

There are two separate progress requirements for the ozone nonattainment areas: a one-time requirement for a 15% reduction in ROG emissions over the first six years of the planning period; and an additional 3% per year reduction, averaged over each consecutive three-year period, of ozone precursor emissions, until attainment. For all the areas in this report, U.S. EPA has previously approved a 15% ROG-only rate of progress demonstration. As such, the requirement to demonstrate a reduction in ROG of "at least 15% from baseline emissions" (section 182(b)(1)(A)(i)) for the first 6 years of the attainment planning period has been met.

As per the U.S. EPA implementation rules for the 75⁷ and 70⁸ ppb ozone standards, (Ozone Rules), the 75 and 70 ppb ozone standard SIPs included a demonstration that the nonattainment areas achieved the required 18% reduction in ozone precursor emissions for the first six years of the attainment planning period, and an average emission reduction of 3% per year after that until the attainment date (section 182(c)(2)). The Ozone Rules also required that a baseline emissions inventory be used to demonstrate RFP, meaning that the emissions inventory used in the RFP demonstration only accounts for adopted regulations.

U.S. EPA guidance⁹ states that U.S. EPA cannot approve updates to existing MVEBs unless it can be demonstrated that the SIP continues to meet applicable requirements of the Act, including RFP, with the motor vehicle emissions calculated using the updated transportation model.

To demonstrate that RFP is maintained with the updated MVEBs, the RFP demonstrations in the submitted 75 ppb and 70 ppb ozone standard SIPs were evaluated with an EMFAC2021 adjustment in each RFP milestone year to be consistent with the updated MVEBs. In order to apply the most conservative test of the updates to the RFP demonstration, only increases in ROG and NO_x associated with the updated MVEBs are included in the RFP milestone years.

⁷ 80 FR 12264

⁸ 83 FR 63034

⁹ EPA-420-B-24-038, November 2024

As demonstrated in chapter IV through VI, the changes to emissions in the RFP milestone years associated with the updated MVEBs do not interfere with the RFP demonstrations in the relevant SIPs for San Diego for the 75 and 70 ppb ozone standards, and for the San Joaquin Valley for the 75 ppb ozone standard.

C. Attainment Demonstration

U.S. EPA guidance states that U.S. EPA cannot approve updates to existing MVEBs unless it can be demonstrated that the SIP continues to meet applicable requirements of the Act, including attainment, with the new level of motor vehicle emissions calculated using EMFAC2021.

The attainment demonstrations in the 75 ppb and 70 ppb ozone standard SIPs used photochemical modeling to demonstrate that the control strategy would result in the level of emissions reductions necessary to bring the areas into attainment for the ozone standard by their attainment date. To show that the updated MVEBs do not interfere with the attainment demonstrations in the SIPs, Chapters IV through VI include an analysis for each area.

This report provides two types of analysis to demonstrate that the attainment demonstration is maintained in the ozone SIPs. The first is a direct comparison of the updated MVEBs to the SIP-approved MVEBs in the attainment year for the relevant standard. If a demonstration can be made that both the ROG and NO_x updated MVEBs are less than or equal to the original SIP-approved MVEBs in the attainment year, then, since the on-road mobile source emissions are the only portion of the total emissions being updated in the MVEBs compared to the emissions in SIP, a conclusion can be made that the updated MVEBs do not interfere with the attainment demonstration in the SIP.

In addition, the modeled attainment demonstrations in the SIPs provide the percentage of emission reductions needed from the base year to the attainment year in order for an area to attain the standard. A second analysis included is a comparison of the percentage reductions from the base year to the attainment year of the on-road mobile source emissions in the original SIP to those in the updated MVEBs calculated using EMFAC2021. If the percentage of reductions in the EMFAC2021 mobile source emissions are the same or increased, then the attainment demonstration is maintained since the on-road mobile source emissions are the only source category being updated. This analysis demonstrates for San Diego County and the San Joaquin Valley that the level of on-road mobile emission reductions is maintained or increased with the EMFAC2021 emissions used in the updated MVEBs when compared to the level of on-road mobile emissions reductions in EMFAC2017 and included in the submitted attainment demonstration, and thus the updated MVEBs do not interfere with the attainment demonstrations.

As demonstrated in Chapters IV to VI the updated MVEBs based on EMFAC2021 do not interfere with the attainment demonstration in the 70 or 75 ppb ozone standard SIPs.

IV. San Diego County - 75 ppb Ozone Standard

Effective July 20, 2012,¹⁰ U.S. EPA designated the San Diego region as nonattainment for the 75 ppb ozone standard with a Marginal classification. During the SIP development process, it was determined that the San Diego region could not meet a Marginal, Moderate or Serious attainment deadline, and the State requested that the area be classified as Severe with a July 20, 2027 attainment date.

The San Diego County Air Pollution Control District (San Diego APCD), in coordination with CARB staff, prepared the *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (2020 San Diego Plan)¹¹ to fulfill the requirements of the Act as applicable for San Diego. The San Diego APCD adopted the 2020 San Diego Plan on October 14, 2020, and submitted the plan to CARB on October 20, 2020. CARB adopted the 2020 San Diego Plan on November 19, 2020, and submitted it to U.S. EPA as revisions to the California SIP on January 8, 2021. The 2020 San Diego Plan demonstrated that San Diego will attain the 75 ppb ozone standard in 2026 and contained all of the SIP requirements of the Act including MVEBs for the RFP milestone and attainment years. On March 1, 2024, U.S. EPA approved the 2020 San Diego Plan except for the contingency measure requirements, for which the U.S. EPA deferred action.¹² The MVEBs in the 2020 San Diego Plan were developed using California's latest motor vehicle emission model at that time, EMFAC2017 (V.1.0.2).

With the development of a new motor vehicle emission model, EMFAC2021, and its approval by U.S. EPA effective November 15, 2022, updated MVEBs are needed to replace the approved MVEBs in the 2020 San Diego Plan developed using EMFAC2017. Without the approval of updated MVEBs based on EMFAC2021, MPOs may not be able to make conformity determinations for future transportation plans and projects against the MVEBs for the 75 ppb ozone standard as required by the Act.

In addition to setting updated MVEBs, U.S. EPA's policy requires that states demonstrate that the updated MVEBs and their associated emissions do not interfere with any applicable planning requirement of the Act, that is, the attainment demonstration and RFP.

¹⁰ 77 FR 30088

¹¹ 2020 Attainment Plan for Ozone in San Diego County

¹² 89 FR 15035

A. Motor Vehicle Emissions Budgets

As discussed previously, section 176(c) of the Act establishes transportation conformity requirements which are intended to ensure that transportation activities do not interfere with a region's air quality progress. The Act requires that transportation plans, programs, and projects that obtain federal funds or approvals conform to applicable SIPs and must not cause or contribute to any new or existing violation of a standard or delay the timely attainment of any standard.

The San Diego Association of Governments (SANDAG), the MPO with jurisdiction over San Diego County, prepares a long-range RTP at least every four years and a short range funding program, or RTIP, every two years. Before adopting the RTP or RTIP, SANDAG prepares a regional emissions analysis using the proposed plan and program as specified in the federal conformity regulation¹³ and compares those emissions to the approved MVEBs in the SIP. The MPO may determine the RTP/RTIP conforms if the emissions from the proposed actions are less than or equal to the MVEBs in the SIP. The conformity determination also signifies that the MPO has met other transportation conformity requirements, such as interagency consultation and financial constraints.

The 2020 San Diego Plan established MVEBs for the 75 ppb ozone standard based on guidance from the U.S. EPA on the motor vehicle emission categories and precursors that must be considered in transportation conformity determinations as found in the transportation conformity regulation and final rules. The MVEBs were also clearly identified, precisely quantified, and consistent with applicable Act requirements. Further, they were consistent with the emission inventory and control measures in the 2020 San Diego Plan.

The MVEBs in the 2020 San Diego Plan were established for ROG and NO_x emissions in the 75 ppb ozone standard RFP milestone years using emission rates from EMFAC2017, v.1.02, and activity data (vehicle miles traveled [VMT] and speed distributions) from the SANDAG 2019 Federal Regional Transportation Plan¹⁴ (2019 FRTP). The MVEBs included reductions from adopted regulations in all RFP milestone years and the attainment year.

To align future-year transportation MVEBs in the 2020 San Deigo Plan with EMFAC2021, the model required to be utilized by the MPOs, CARB is now proposing updated MVEBs for the 75 ppb ozone standard based on EMFAC2021, as shown in Table IV-1. The updated MVEBs include vehicle exhaust from two combustion processes (running and start exhaust) and four evaporative processes (hot soak, running losses, diurnal, and resting losses). Further, the estimated emissions were adjusted for the CARB's recently adopted Clean Truck Check Program and the federal Clean Trucks Plan.

¹³ *40 CFR Part 93*

¹⁴ *SANDAG - Regional Plan*

The MVEBs in Table IV-1 were developed for an average summer day emissions consistent with the ozone attainment and progress demonstrations, using the following method:

- 1) Used the EMFAC2021 model to produce the on-road motor vehicle emissions (average summer day) for the appropriate pollutants (ROG and NOx) using the SANDAG 2019 FRTP activity data (VMT and speeds);
- 2) Applied the off-model adjustments to account for the recently adopted CARB Clean Truck Check Program and the federal Clean Trucks Plan; and
- 3) Rounded the totals for ROG and NOx up to the nearest tenth of a ton.

Table IV-1, Updated 75 ppb Ozone standard MVEBs for San Diego
(summer planning inventory, tpd)

	2026 ROG	2026 NOx
Vehicular Exhaust	14.32	16.70
Reductions from CARB's Clean Truck Check program	0.00	2.25
Reductions from the federal Clean Trucks Plan	0.00	0.00
Total ^a	14.32	14.45
MVEBs ^b	14.4	14.5

^aValues from EMFAC2021 v1.02 may not add up due to rounding.

^bMVEBs calculated are rounded up to the nearest tenth of a ton.

Source: EMFAC2021 v1.02

The MVEBs in Table IV-1 were established according to the methodology outlined above and in consultation with SANDAG, the San Diego APCD, U.S. EPA, Federal Highway Administration, and Federal Transit Administration. These MVEBs will be effective once U.S. EPA approves them. As demonstrated below, the updated MVEBs do not interfere with San Diego's ability to meet RFP requirements or attain the standard by the required date.

B. Reasonable Further Progress Demonstration Analysis

As described in the background, the change in MVEBs must be demonstrated so as not to interfere with the RFP demonstration in the 2020 San Diego Plan for the 75 ppb ozone standard. There are two separate progress requirements for ozone nonattainment areas: a one-time requirement for a 15% reduction in ROG emissions over the first six years of the planning period; and an additional 3% per year reduction, averaged over each consecutive three-year period, of ozone precursor emissions until attainment. In 1997, U.S. EPA approved a 15% ROG-only rate of progress demonstration for San Diego for the 1-hour

ozone standard covering the entire nonattainment area for the 75 ppb ozone standard¹⁵. As such, the requirement to demonstrate a reduction in ROG of “at least 15% from baseline emissions” (section 182(b)(1)(A)(i)) for the first 6 years of the attainment planning period has been met for San Diego.

The 2020 San Diego Plan included a demonstration for the 75 ppb ozone standard that San Diego achieves an 18% reduction in ozone precursor emissions for the first six years of the attainment planning period from the 2011 baseline year and an average emission reduction of 3% per year after that until the attainment date (section 182(c)(2)). U.S. EPA approved the RFP demonstration which included NOx substitution within their March 1, 2024 approval of the 2020 San Diego Plan.

The updated MVEBs have the potential to adversely affect the RFP demonstration if the updated MVEBs are larger than the MVEBs in the 2020 San Diego Plan. To test that the updated MVEBs do not interfere with the RFP demonstration in the 2020 San Diego Plan, it is necessary to adjust the baseline emissions in the RFP demonstration for the differences in the MVEBs, Table IV-2.

Table IV-2, Comparison of 2020 San Diego Plan MVEBs to Updated MVEBs
(summer planning inventory, tpd)

	2020 San Diego Plan MVEBs		Updated MVEBs		(Updated MVEBs) - (2020 San Diego Plan MVEBs)	
	ROG	NOx	ROG	NOx	ROG	NOx
2026	12.1	17.3	14.4	14.5	2.3	-2.8

Even with the increases identified in Table IV-2, Table IV-3 demonstrates that the updated MVEBs do not interfere with the RFP demonstration as submitted in the 2020 San Diego Plan. In order to apply the most conservative test of the adjustments to the RFP demonstration, only increases in ROG and NOx MVEBs are accounted for as an EMFAC adjustment in the RFP milestone and attainment years. Table IV-3 shows that with the adjustments from the updated MVEBs, the RFP demonstration, as submitted in the 2020 San Diego Plan still achieves an average emission reduction of 3% per year after until the attainment date.

¹⁵ 62 FR 1171

Table IV-3, San Diego 75 ppb Ozone RFP Demonstration
(summer planning inventory, tpd)

Year	2011	2026
ROG emissions	136.6	99.7
EMFAC2021 adjustment		2.3
Adjusted baseline ROG	136.6	102.0
Required % change since 2011		45.0%
Target ROG level		75.13
Shortfall (-)/ Surplus (+) in ROG		-26.87
Shortfall (-)/ Surplus (+) in ROG, %		-19.7%
Year	2011	2026
NOx emissions	110.7	53.6
EMFAC2021 adjustment		0.0
Adjusted baseline NOx	110.7	53.6
Change in NOx since 2011		57.1
Change in NOx since 2011, %		51.6%
NOx reductions since 2011 used for ROG substitution in this milestone year, %		19.7%
NOx reductions since 2011 surplus after meeting ROG substitution needs in this milestone year, %		31.9%
RFP shortfall (-), if any		0%
RFP met?		YES

C. Attainment Demonstration Analysis

As demonstrated in Table IV-2, the updated MVEBs are higher than the MVEBs in the 2020 San Diego Plan for ROG in the 2026 attainment year. Thus, to demonstrate that the updated MVEBs developed using EMFAC2021 do not interfere with attainment of the 75 ppb ozone standard in San Diego County, the percentage of reductions from the on-road mobile emissions generated by EMFAC2021 from the modeled base year, 2017, to attainment year, 2026, is compared to the percentage of on-road mobile emissions reductions from the base year to attainment year in the 2020 San Diego Plan attainment demonstration.

The 2020 San Diego Plan utilized photochemical modeling to demonstrate the level of emissions reductions necessary to bring San Diego County into attainment for the 75 ppb ozone standard by 2026. Specifically, for on-road mobile source emissions, the 2020 San Diego Plan attainment demonstration included a 41% reduction in ROG emissions and 54% reduction in NOx emissions in 2026 compared to 2017 levels, Table IV-4.

The analysis in Table IV-4 verifies that the reductions from the 2017 modeling base year to the 2026 attainment year in the EMFAC2021-estimated on-road mobile source ROG and NOx emissions meet or exceed the percentage of reductions in on-road mobile source emissions accounted for in the 2020 San Diego Plan modeled attainment demonstration. On-road mobile source emissions developed using EMFAC2021 show a 41% reduction in ROG emissions and a 65% reduction in NOx emissions in 2032 compared to 2017 levels – this results in no change in ROG reductions and an 11% increase in NOx reductions in 2026 compared to the reductions in mobile sources emissions in the 2020 San Diego Plan attainment demonstration. Since the on-road mobile source emissions are the only portion of the total emissions being updated in the MVEBs compared to the emissions in the SIP, a conclusion can be made that the updated MVEBs do not interfere with the attainment demonstration in the SIP. Table IV-4 thus demonstrates that the updated MVEBs do not interfere with the attainment demonstration as submitted in the 2020 San Diego Plan.

Table IV-4, San Diego 75 ppb Ozone Standard Attainment Demonstration
(summer planning inventory, tpd)

		On-road mobile source emissions	
		ROG	NOx
2020 San Diego Plan	2017	20.5	37.7
2020 San Diego Plan	2026	12.1	17.3
2020 San Diego Plan percentage reductions		41%	54%
EMFAC2021 emissions	2017	24.1	40.9
EMFAC2021 emissions	2026	14.3	14.2
EMFAC2021 emissions percentage reductions		41%	65%

D. Summary of SIP Submittal for San Diego 75 ppb Ozone Standard

CARB is updating the MVEBs for the 75 ppb ozone standard to reflect EMFAC2021 and submitting them into the California SIP to replace the MVEBs originally included in the 2020 San Diego Plan. These updated MVEBs do not alter or interfere with the RFP demonstration within the 2020 San Diego Plan for the RFP milestone year of 2026. In addition, the updated MVEBs do not interfere with the attainment demonstration within the 2020 San Diego Plan for the 2026 attainment year.

V. San Diego County - 70 ppb Ozone standard

Effective August 3, 2018,¹⁶ U.S. EPA designated San Diego County as nonattainment for the 70 ppb ozone standard. San Diego County was originally classified as a Moderate area with an August 3, 2024 attainment date. During the SIP development process, it was determined that San Diego County could not meet a Moderate or Serious attainment deadline, and the State requested that the area be classified as Severe with an August 3, 2033 deadline.

The San Diego APCD, in coordination with CARB staff, prepared the 2020 San Diego Plan¹⁷ to fulfill the requirements of the Act as applicable for San Diego County. The San Diego APCD adopted the 2020 San Diego Plan on October 14, 2020, and submitted the plan to CARB on October 20, 2020. CARB adopted the 2020 San Diego Plan on November 19, 2020, and submitted it to U.S. EPA as revisions to the California SIP on January 8, 2021. The 2020 San Diego Plan demonstrated that San Diego will attain the 70 ppb ozone standard in 2032 and contained all of the SIP requirements of the Act including MVEBs for the RFP milestone and attainment years. On March 1, 2024, U.S. EPA approved the 2020 San Diego Plan except for the contingency measure requirements, for which the U.S. EPA deferred action.¹⁸ The MVEBs in the 2020 San Diego Plan were developed using California's latest motor vehicle emission model at that time, EMFAC2017 (V.1.0.2).

With the development of a new motor vehicle emission model, EMFAC2021, and its approval by U.S. EPA effective November 15, 2022, updated MVEBs are needed to replace the approved MVEBs in the 2020 San Diego Plan developed using EMFAC2017. Without the approval of updated MVEBs based on EMFAC2021, MPOs may not be able to make conformity determinations for future transportation plans and projects against the MVEBs for the 70 ppb ozone standard as required by the Act.

In addition to setting updated MVEBs, U.S. EPA's policy requires that states demonstrate that the updated MVEBs and their associated emissions do not interfere with any applicable planning requirement of the Act, that is, the attainment demonstration and reasonable further progress.

A. Motor Vehicle Emissions Budgets

Section 176(c) of the Act establishes transportation conformity requirements which are intended to ensure that transportation activities do not interfere with a region's air quality progress. The Act requires that transportation plans, programs, and projects that obtain

¹⁶ *83 FR 25776*

¹⁷ *2020 Attainment Plan for Ozone in San Diego County*

¹⁸ *89 FR 15035*

federal funds or approvals conform to applicable SIPs and must not cause or contribute to any new or existing violation of a standard or delay the timely attainment of any standard.

SANDAG prepares a long-range RTP at least every four years and a short range RTIP every two years. Before adopting the RTP or RTIP, SANDAG prepares a regional emissions analysis using the proposed plan and program as specified in the federal conformity regulation¹⁹ and compares those emissions to the approved MVEBs in the SIP. The MPO may determine the RTP/RTIP conforms if the emissions from the proposed actions are less than or equal to the MVEBs in the SIP. The conformity determination also signifies that the MPO has met other transportation conformity requirements, such as interagency consultation and financial constraints.

The 2020 San Diego Plan established MVEBs for the 70 ppb ozone standard based on guidance from the U.S. EPA on the motor vehicle emission categories and precursors that must be considered in transportation conformity determinations as found in the transportation conformity regulation and final rules. The MVEBs were also clearly identified, precisely quantified, and consistent with applicable Act requirements. Further, they were consistent with the emission inventory and control measures in the 2020 San Diego Plan.

The MVEBs in the 2020 San Diego Plan were established for ROG and NO_x emissions in the 70 ppb ozone standard RFP milestone years using emission rates from EMFAC2017, v.1.02, and activity data (vehicle miles traveled [VMT] and speed distributions) from the SANDAG 2019 FRTP.²⁰ The MVEBs included reductions from adopted regulations in all RFP milestone years and the attainment year.

To align future-year transportation MVEBs in the 2020 San Diego Plan with EMFAC2021, the model required to be utilized by the MPOs, CARB is now proposing updated MVEBs for the 70 ppb ozone standard based on EMFAC2021, as shown in Table V-1. The updated MVEBs include vehicle exhaust from two combustion processes (running and start exhaust) and four evaporative processes (hot soak, running losses, diurnal, and resting losses). Further, the estimated emissions were adjusted for the CARB's recently adopted Clean Truck Check Program and the federal Clean Trucks Plan.

The MVEBs in Table V-1 were developed for an average summer day emissions consistent with the ozone attainment and progress demonstrations, using the following method:

- 4) Used the EMFAC2021 model to produce the on-road motor vehicle emissions (average summer day) for the appropriate pollutants (ROG and NO_x) using the SANDAG 2019 FRTP activity data (VMT and speeds);

¹⁹ 40 CFR Parts 51 and 93, *eCFR :: 40 CFR Part 93 -- Determining Conformity*

²⁰ *SANDAG - Regional Plan*

- 5) Applied the off-model adjustments to account for the recently adopted CARB Clean Truck Check Program and the federal Clean Trucks Plan; and
- 6) Rounded the totals for ROG and NOx up to the nearest tenth of a ton.

Table V-1, Updated 70 ppb ozone standard MVEBs for San Diego

(summer planning inventory, tpd)

Year	2026		2029		2032	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	14.32	16.70	12.66	14.18	11.29	12.35
Reductions from CARB's Clean Truck Check program	0.00	2.25	0.00	2.61	0.00	2.78
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.08	0.00	0.19
Total^a	14.32	14.45	12.66	11.49	11.29	9.38
MVEBs^b	14.4	14.5	12.7	11.5	11.3	9.4

^aValues from EMFAC2021 v1.02 may not add up due to rounding.

^bMVEBs calculated are rounded up to the nearest tenth of a ton.

Source: EMFAC2021 v1.02

The MVEBs in Table V-1 were established according to the methodology outlined above and in consultation with SANDAG, the San Diego APCD, U.S. EPA, Federal Highway Administration, and Federal Transit Administration. These MVEBs will be effective once U.S. EPA determines they are adequate or approved. As demonstrated below, the updated MVEBs do not interfere with San Diego's ability to meet RFP requirements or attain the standard by the required date.

B. Reasonable Further Progress Demonstration Analysis

As described in the Background, the change in MVEBs must be demonstrated to not interfere with the RFP demonstration in the 2020 San Diego Plan. There are two separate progress requirements for ozone nonattainment areas: a one-time requirement for a 15% reduction in ROG emissions over the first six years of the planning period; and an additional 3% per year reduction, averaged over each consecutive three-year period, of ozone precursor emissions until attainment. In 1997, U.S. EPA approved a 15% ROG-only rate of progress demonstration for San Diego County for the 1-hour ozone standard covering the entire nonattainment area for the 70 ppb ozone standard²¹. As such, the requirement to demonstrate a reduction in ROG of "at least 15% from baseline emissions" (section

²¹ 62 FR 1171

182(b)(1)(A)(i)) for the first 6 years of the attainment planning period has been met for San Diego.

As per the Ozone Rule, the 2020 San Diego Plan included a demonstration that San Diego County achieves an 18% reduction in ozone precursor emissions for the first six years of the attainment planning period, and an average emission reduction of 3% per year after that until the attainment date. U.S. EPA approved the RFP demonstration which included NO_x substitution within their March 1, 2024 approval of the 2020 San Diego Plan. The Ozone Rule requires that the baseline emissions inventory for the RFP demonstration is the most recent calendar year for which a complete triennial inventory is required to be submitted to the U.S. EPA, in this case 2017.

The updated MVEBs have the potential to adversely affect the RFP demonstration if the updated MVEBs are larger than the MVEBs in the 2020 San Diego Plan. Table V-2 compares the MVEBs from the 2020 San Diego Plan to the updated MVEBs in San Diego County.

Table V-2, Comparison of 2020 San Diego Plan MVEBs to Updated MVEBs
(summer planning inventory, tpd)

	2020 San Diego Plan MVEBs		Updated MVEBs		(Updated MVEBs) - (2020 San Diego Plan MVEBs)	
	ROG	NO _x	ROG	NO _x	ROG	NO _x
2026	12.1	17.3	14.4	14.5	2.3	-2.8
2029	11.0	15.9	12.7	11.5	1.7	-4.4
2032	10.0	15.1	11.3	9.4	1.3	-5.7

Even with the MVEBs increases identified in Table V-2, Table V-3 demonstrates that the updated MVEBs do not interfere with the RFP demonstration submitted in the 2020 San Diego Plan. To demonstrate that RFP is maintained with the updated MVEBs, Table V-3 shows the RFP demonstration from the 2020 San Diego Plan with adjustments in the future years of 2026, 2029, and 2032 as would be needed to align with the updated MVEBs. In order to apply the most conservative test of the adjustments to the RFP demonstration, only increases in ROG and NO_x MVEBs are accounted for as an EMFAC adjustment in the RFP milestone and attainment years. Table V-3 shows that with the adjustments from the updated MVEBs, the RFP demonstration as submitted in the 2020 San Diego Plan still achieves an average emission reduction of 3% per year from the 2017 baseline year through the 2032 attainment year.

Table V-3, San Diego 70 ppb Ozone RFP Demonstration
(summer planning inventory, tpd)

Year	2017	2026	2029	2032
ROG emissions	112.9	99.7	98.2	97.2
EMFAC2021 adjustment		2.3	1.7	1.3
Adjusted baseline ROG	112.9	102.0	99.9	98.5
Required % change since 2017		27.0%	36.0%	45.0%
Target ROG level		82.42	72.26	62.10
Shortfall (-)/ Surplus (+) in ROG		-19.58	-27.64	-36.41
Shortfall (-)/ Surplus (+) in ROG, %		-17.3%	-24.5%	-32.2%
Year	2017	2026	2029	2032
NOx emissions	77.0	53.6	51.4	49.7
EMFAC2021 adjustment		0.0	0.0	0.0
Adjusted baseline NOx	77.0	53.6	51.4	49.7
Change in NOx since 2017		23.4	25.6	27.3
Change in NOx since 2017, %		30.4%	33.2%	35.5%
NOx reductions since 2017 used for ROG substitution in this milestone year, %		17.3%	24.5%	32.2%
NOx reductions since 2017 surplus after meeting ROG substitution needs in this milestone year, %		13.0%	8.8%	3.2%
RFP shortfall (-), if any		0%	0%	0%
RFP met?		YES	YES	YES

Note: numbers in the table may not add up due to rounding

C. Attainment Demonstration Analysis

As demonstrated in Table V-2, the updated MVEBs are higher than the MVEBs in the 2020 San Diego Plan for ROG in the 2032 attainment year. Thus, to demonstrate that the updated MVEBs developed using EMFAC2021 do not interfere with attainment of the 70 ppb ozone standard in San Diego County, the percentage of reductions from the on-road mobile emissions generated by EMFAC2021 from the modeled base year, 2017, to attainment year, 2032, is compared to the percentage of on-road mobile emissions reductions from the base year to attainment year in the 2020 San Diego Plan attainment demonstration.

The 2020 San Diego Plan utilized photochemical modeling to demonstrate the level of emissions reductions necessary to bring San Diego County into attainment for the 70 ppb ozone standard by 2032. Specifically, for on-road mobile source emissions, the 2020 San Diego Plan attainment demonstration included a 51% reduction in ROG emissions and 71% reduction in NOx emissions in 2032 compared to 2017 levels, Table V-4

The analysis in Table V-4 verifies that the reductions from the 2017 modeling base year to the 2032 attainment year in the EMFAC2021-estimated on-road mobile source ROG and NOx emissions exceed the percentage of reductions in on-road mobile source emissions accounted for in the 2020 San Diego Plan modeled attainment demonstration. On-road mobile source emissions developed using EMFAC2021 show a 55% reduction in ROG emissions and an 80% reduction in NOx emissions in 2032 compared to 2017 levels - this results in an increase of 4% ROG reductions and 9% NOx reductions in 2032 compared to the reductions in mobile sources emissions in the 2020 San Diego Plan attainment demonstration. Since the on-road mobile source emissions are the only portion of the total emissions being updated in the MVEBs compared to the emissions in the SIP, a conclusion can be made that the updated MVEBs do not interfere with the attainment demonstration in the SIP. Table V-4 thus demonstrates that the updated MVEBs do not interfere with the attainment demonstration as submitted in the 2020 San Diego Plan.

Table V-4, San Diego 70 ppb Ozone Attainment Demonstration
(summer planning inventory, tpd)

		On-road mobile source emissions	
		ROG	NOx
2020 San Diego Plan	2017	20.5	37.7
2020 San Diego Plan	2032	10.0	11.1
2020 San Diego Plan percentage reductions		51%	71%
EMFAC2021 emissions	2017	24.1	40.9
EMFAC2021 emissions	2032	10.7	8.3
EMFAC2021 emissions percentage reductions		55%	80%

D. Summary of SIP Submittal for San Diego, 70 ppb Ozone Standard

CARB is updating the MVEBs for the 70 ppb ozone standard to reflect EMFAC2021 and submitting them into the California SIP to replace the MVEBs originally included in the 2020 San Diego Plan. These updated MVEBs do not alter or interfere with the RFP demonstration within the 2020 San Diego Plan for the RFP milestone years of 2026, 2029, or 2032. In addition, the updated MVEBs do not interfere with the attainment demonstration within the 2020 San Diego Plan for the 2032 attainment year.

VI. San Joaquin Valley - 75 ppb Ozone Standard

Effective July 20, 2012,²² U.S. EPA designated the Valley as nonattainment for the 75 ppb ozone standard with an Extreme classification. Extreme areas were required to submit a SIP revision meeting Extreme area requirements and demonstrating attainment of the standard by July 20, 2032.

The San Joaquin Valley Air Pollution Control District, in coordination with CARB staff, prepared the *San Joaquin Valley 2016 Plan for the 2008 8-Hour Ozone Standard* (2016 Valley Ozone Plan) to fulfill the requirements of the Act as applicable for the San Joaquin Valley. CARB adopted the 2016 Valley Ozone Plan on July 21, 2016, and submitted it to U.S. EPA as revisions to the California SIP on August 24, 2016. The 2016 Valley Ozone Plan demonstrated that the San Joaquin Valley will attain the 75 ppb ozone standard in 2031 and contained all of the SIP requirements of the Act, including MVEBs for the RFP milestone and attainment years developed using EMFAC2014, California's latest motor vehicle emission model at that time.

Court decisions²³ following the development and submittal of the 2016 Valley Ozone Plan determined that certain U.S. EPA-published guidance related to RFP and other SIP elements were not consistent with the Act. As such, CARB updated RFP and other portions of the 2016 Valley Ozone Plan to reflect the court decisions, *2018 Updates to the California State Implementation Plan* (2018 SIP Update).²⁴ CARB adopted the 2018 SIP Update on October 25, 2018, and submitted it to U.S. EPA on December 5, 2018. The 2018 SIP Update included a revised RFP demonstration starting from a new baseline year, revised MVEBs for the 75 ppb ozone standard developed using EMFAC2014, including a safety margin to align the MVEBs with EMFAC2017 and consistent with the new baseline and RFP milestone years in the revised RFP demonstration.²⁵

With the development of CARB's current motor vehicle emission model, EMFAC2021, and its approval by U.S. EPA effective November 15, 2022 updated MVEBs are needed to replace the old MVEBs in the 2018 SIP Update developed using EMFAC2014. Without the approval of updated MVEBs based on EMFAC2021, the San Joaquin Valley MPOs may not be able to make conformity determinations for future transportation plans and projects against the MVEBs for the 75 ppb ozone standard as required by the Act.

²² 77 FR 3088

²³ *South Coast Air Quality Management District v. EPA*, No. 15-1115 (D.C. Cir. 2018)

²⁴ *CARB - 2018 SIP Update*

²⁵ *EMFAC emissions model*

²⁵ *EMFAC emissions model*

In addition to setting updated MVEBs, U.S. EPA's policy requires that States demonstrate that the associated emissions related to the updated MVEBs do not interfere with any applicable planning requirement of the Act, that is, reasonable further progress and the attainment demonstration.

A. Motor Vehicle Emissions Budgets

To align future-year MVEBs in the 2018 SIP Update with EMFAC2021, CARB is proposing updated MVEBs for the 75 ppb ozone standard based on EMFAC2021, Table VI-1. The updated MVEBs include vehicle exhaust from two combustion processes (running and start exhaust) and four evaporative processes (hot soak, running losses, diurnal, and resting losses). Further, the estimated emissions were adjusted for the CARB's recently adopted Clean Truck Check Program and the federal Clean Trucks Plan.

The MVEBs for the eight San Joaquin Valley MPOs²⁶ were developed for a summer average day emissions consistent with the ozone attainment and reasonable further progress demonstrations, using the following method:

- 1) Used the EMFAC2021 model to produce the on-road motor vehicle emissions (average summer day) for the appropriate pollutants (ROG and NO_x) using 2023 FSTIP activity data;
- 2) Applied the off-model adjustments to account for recently adopted regulations (CARB Clean Truck Check Program and federal Clean Trucks Plan); and
- 3) Rounded up the totals for ROG and NO_x to the nearest tenth of a ton.

²⁶ This includes the Fresno Council of Governments (FCOG), Kern Council of Governments (KCOG) [SJV portion of KCOG], Kings County Association of Governments (KCAG), Madera County Transportation Commission (MCTC), Merced County Association of Governments (MCAG), San Joaquin Council of Governments (SJCOG), Stanislaus Council of Governments (StanCOG), and Tulare County Association of Governments (TCAG).

Table VI-1, Updated 75 ppb ozone standard MVEBs for the Valley
(summer planning inventory, tpd)

Fresno MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	4.38	8.20	3.83	7.34	3.52	6.94
Reductions from CARB's Clean Truck Check program	0.00	2.31	0.00	2.66	0.00	2.74
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.09	0.00	0.17
Total ^a	4.38	5.89	3.83	4.60	3.52	4.02
MVEBs ^b	4.4	5.9	3.9	4.6	3.6	4.1

Kern MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	3.67	10.39	3.26	9.68	3.01	9.38
Reductions from CARB's Clean Truck Check program	0.00	3.65	0.00	4.23	0.00	4.40
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.14	0.00	0.28
Total ^a	3.67	6.74	3.26	5.31	3.01	4.70
MVEBs ^b	3.7	6.8	3.3	5.4	3.1	4.8

Kings MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	0.77	2.01	0.69	1.92	0.65	1.87
Reductions from CARB's Clean Truck Check program	0.00	0.70	0.00	0.83	0.00	0.87
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.03	0.00	0.06
Total ^a	0.77	1.31	0.69	1.06	0.65	0.95
MVEBs ^b	0.8	1.4	0.7	1.1	0.7	1.0

Madera MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	0.82	1.71	0.70	1.48	0.64	1.38
Reductions from CARB's Clean Truck Check program	0.00	0.49	0.00	0.54	0.00	0.55
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.02	0.00	0.03
Total ^a	0.82	1.22	0.70	0.92	0.64	0.79
MVEBs ^b	0.9	1.3	0.8	1.0	0.7	0.8

Merced MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	1.43	4.30	1.23	3.89	1.12	3.70
Reductions from CARB's Clean Truck Check program	0.00	1.49	0.00	1.69	0.00	1.72
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.06	0.00	0.11
Total ^a	1.43	2.81	1.23	2.15	1.12	1.87
MVEBs ^b	1.5	2.9	1.3	2.2	1.2	1.9

San Joaquin MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	3.46	5.82	3.07	5.19	2.86	4.90
Reductions from CARB's Clean Truck Check program	0.00	1.46	0.00	1.69	0.00	1.76
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.05	0.00	0.11
Total ^a	3.46	4.36	3.07	3.44	2.86	3.03
MVEBs ^b	3.5	4.4	3.1	3.5	2.9	3.1

Stanislaus MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	2.31	3.71	2.02	3.24	1.86	3.02
Reductions from CARB's Clean Truck Check program	0.00	0.81	0.00	0.95	0.00	0.99
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.03	0.00	0.06
Total ^a	2.31	2.89	2.02	2.26	1.86	1.97
MVEBs ^b	2.4	2.9	2.1	2.3	1.9	2.0

Tulare MVEBs	2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx
Vehicular Exhaust	2.12	3.49	1.84	3.00	1.68	2.76
Reductions from CARB's Clean Truck Check program	0.00	0.73	0.00	0.84	0.00	0.87
Reductions from the federal Clean Trucks Plan	0.00	0.00	0.00	0.03	0.00	0.05
Total^a	2.12	2.76	1.84	2.13	1.68	1.84
MVEBs^b	2.2	2.8	1.9	2.2	1.7	1.9

^aValues from EMFAC2021 v1.02 may not add up due to rounding.

^bMVEBs calculated are rounded up to the nearest tenth of a ton.

Source: EMFAC2021 v1.02

The MVEBs were established according to the methodology outlined above and in consultation with the San Joaquin Valley MPOs, the San Joaquin Valley Air Pollution Control District, U.S. EPA, Federal Highway Administration, and Federal Transit Administration. These MVEBs will be effective once U.S. EPA approves them. As demonstrated below, the updated MVEBs do not interfere with the San Joaquin Valley's ability to meet RFP requirements or attain the 75 ppb ozone standard by the required date.

B. Reasonable Further Progress Demonstration Analysis

As described previously, the change in MVEBs must be demonstrated so as not to interfere with the RFP demonstration in the 2018 SIP Update. There are two separate progress requirements for ozone nonattainment areas: a one-time requirement for a 15% reduction in ROG emissions over the first six years of the planning period; and an additional 3% per year reduction, averaged over each consecutive three-year period of ozone precursor emissions until attainment. In 1997, U.S. EPA approved a 15% ROG-only rate of progress demonstration for the Valley for the 1-hour ozone standard covering the entire nonattainment area for the 75 ppb ozone standard.²⁷ As such, the requirement to demonstrate a reduction in ROG of "at least 15% from baseline emissions" (section 182(b)(1)(A)(i)) for the first 6 years of the attainment planning period has been met for the Valley.

The 2018 SIP Update included a demonstration that the Valley achieves an 18% reduction in ozone precursor emissions for the first six years of the attainment planning period from the 2011 baseline year and an average emission reduction of 3% per year after that until the attainment date. U.S. EPA approved the RFP demonstration which included NOx substitution within their March 25, 2019 approval of the 2016 Valley Ozone Plan.

²⁷ 62 FR 1150

The updated MVEBs have the potential to adversely affect the RFP demonstration if the updated MVEBs are larger than the MVEBs for the Valley in the 2018 SIP Update. Table VI-2 compares the MVEBs from the 2018 SIP Update to the updated MVEBs for every county and all RFP milestone years in the Valley.

Table VI-2, Comparison of 2018 SIP Update MVEBs to Updated MVEBs by County
(summer planning inventory, tpd)

	2018 SIP Update MVEBs		Updated MVEBs		(Updated MVEBs) - (2018 SIP Update MVEBs)	
Fresno MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	4.9	13.2	4.4	5.9	-0.50	-7.30
2029	4.5	12.4	3.9	4.6	-0.60	-7.80
2031	4.2	12.1	3.6	4.1	-0.60	-8.00
Kern MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	4.2	14.4	3.7	6.8	-0.50	-7.60
2029	4.0	14.3	3.3	5.4	-0.70	-8.90
2031	3.9	14.3	3.1	4.8	-0.80	-9.50
King MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	0.9	2.6	0.8	1.4	-0.10	-1.20
2029	0.8	2.6	0.7	1.1	-0.10	-1.50
2031	0.8	2.6	0.7	1.0	-0.10	-1.60
Madera MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	1	2.5	0.9	1.3	-0.10	-1.20
2029	0.9	2.4	0.8	1.0	-0.10	-1.40
2031	0.8	2.3	0.7	0.8	-0.10	-1.50
Merced MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	1.5	5.9	1.5	2.9	0.00	-3.00
2029	1.3	5.6	1.3	2.2	0.00	-3.40
2031	1.2	5.4	1.2	1.9	0.00	-3.50

	2018 SIP Update MVEBs		Updated MVEBs		(Updated MVEBs) - (2018 SIP Update MVEBs)	
San Joaquin MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	3.5	7	3.5	4.4	0.00	-2.60
2029	3.1	6.6	3.1	3.5	0.00	-3.10
2031	2.8	6.3	2.9	3.1	0.10	-3.20
Stanislaus MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	2.2	4.9	2.4	2.9	0.20	-2.00
2029	2	4.5	2.1	2.3	0.10	-2.20
2031	1.8	4.3	1.9	2.0	0.10	-2.30
Tulare MVEBs	ROG	NOx	ROG	NOx	ROG	NOx
2026	2.1	4	2.2	2.8	0.10	-1.20
2029	1.8	3.7	1.9	2.2	0.10	-1.50
2031	1.7	3.5	1.7	1.9	0.00	-1.60

To verify that the updated MVEBs do not interfere with the submitted RFP demonstration, it is necessary to sum the total of the differences in all counties between the 2018 SIP Update MVEBs and the updated MVEBs. In order to apply the most conservative test of the EMFAC adjustments to the RFP demonstration, only the sum of the increases in the ROG and NOx MVEBs are accounted for as an EMFAC2021 adjustment to the RFP demonstration, Table VI-3.

Table VI-3, Comparison of 2018 SIP Update MVEBs to Updated MVEBs, Sum of Increases

(summer planning inventory, tpd)

	ROG	NOx
2026	0.3	0.0
2029	0.2	0.0
2031	0.2	0.0

Even with the increases identified in Table VI-3, Table VI-4 demonstrates that the updated MVEBs do not interfere with the RFP demonstration as submitted in the 2018 SIP Update. To demonstrate that RFP is maintained with the updated MVEBs, Table VI-4 shows the RFP demonstration from the 2018 SIP Update with MVEBs adjustments in the future years of 2026, 2029, and 2031, as would be needed to align with the updated MVEBs set using EMFAC2021. Table VI-4 shows that with the adjustments from the updated MVEBs, the RFP demonstration as submitted in the 2018 SIP Update, still achieves an average emission reduction of 3% per year from the 2017 baseline year through the attainment year.

Table VI-4, Valley 75 ppb Ozone Standard RFP Demonstration
(summer planning inventory, tpd)

Year	2011	2026	2029	2031
ROG emissions	378.7	300.3	301.9	302.9
EMFAC2021 adjustment		0.3	0.2	0.2
Adjusted baseline ROG	378.7	300.6	302.1	303.1
Required % change since 2017		45.0%	54.0%	60.0%
Target ROG level		208.3	174.2	151.5
Shortfall (-)/ Surplus (+) in ROG		-92.3	-127.9	-151.6
Shortfall (-)/ Surplus (+) in ROG, %		-24.4%	-33.8%	-40.0%
Year	2011	2026	2029	2032
NOx emissions	375.6	143.0	131.1	125.0
EMFAC2021 adjustment		0.0	0.0	0.0
Adjusted baseline NOx	375.6	143.0	131.1	125.0
Change in NOx since 2017		232.6	244.5	250.6
Change in NOx since 2017, %		61.9%	65.1%	66.7%
NOx reductions since 2017 used for ROG substitution in this milestone year, %		24.4%	33.8%	40.0%
NOx reductions since 2017 surplus after meeting ROG substitution needs in this milestone year, %		37.6%	31.3%	26.7%
RFP shortfall (-), if any		0%	0%	0%
RFP met?		YES	YES	YES

C. Attainment Demonstration Analysis

The 2016 Valley Ozone Plan used photochemical modeling to demonstrate that the control strategy would result in the level of emissions reductions necessary to bring the San Joaquin Valley into attainment for the 75 ppb ozone standard by 2031, the attainment year for Extreme nonattainment areas.

To demonstrate that the updated MVEBs do not interfere with the attainment of the 75 ppb ozone standard, we show that the updated 2031 MVEBs are less than or equal to the SIP-approved 2031 MVEBs from the 2018 SIP Update, which were developed to be consistent with the attainment demonstration in the 2016 Valley Ozone Plan. Since the on-road mobile source emissions are the only portion of the total emissions being updated in the MVEBs compared to the emissions in the SIP, a conclusion can be made that the updated MVEBs do not interfere with the attainment demonstration in the SIP. Table VI-5 demonstrates that overall, the updated 2031 MVEBs for the 75 ppb ozone standard are lower than the 2031 MVEBs in the 2018 SIP Update for both ROG and NOx, with the updated NOx MVEBs being

significantly lower than those in the 2018 SIP Update. As such, it can be concluded that the updated MVEBs do not interfere with the SIP-approved attainment demonstration.

Table VI-5, Direct Comparison of MVEBs from 2018 SIP Update to the Updated MVEBs
(summer planning inventory, tpd)

	2018 SIP Update, Sum of MVEBs		Sum of Updated MVEBs		(Updated MVEBs) - (2018 SIP Update, MVEBs)	
	ROG	NOx	ROG	NOx	ROG	NOx
2031	17.2	50.8	15.8	19.6	-1.4	-31.2

D. Summary of SIP Submittal for the San Joaquin Valley 75 ppb Ozone Standard

CARB is updating the MVEBs for the 75 ppb ozone standard to reflect EMFAC2021 and submitting them to the California SIP to replace the SIP-approved MVEBs originally included in the 2018 SIP Update. These updated MVEBs do not alter or interfere with the RFP demonstration within the 2018 SIP Update for the 2026, 2029, or 2031 RFP milestone years. In addition, the updated MVEBs do not interfere with the attainment demonstration in the 2016 Valley Ozone Plan for the 2031 attainment year.

VII. Environmental Impacts

A. Introduction

This chapter provides the basis for CARB's determination that the 2025 Ozone MVEB Update is exempt from the requirements of the California Environmental Quality Act (CEQA). A brief explanation of this determination is provided in section B below. CARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality, has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA (14 CCR 15251(d)). Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. CARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the Report prepared for a proposed action to comply with CEQA (17 CCR 60000-60008). If the 2025 Ozone MVEB Update is finalized, a Notice of Exemption will be filed with the Office of the Secretary for the Natural Resources Agency for public inspection.

B. Analysis

CARB has determined that the 2025 Ozone MVEB Update is exempt from CEQA under the "general rule" or "common sense" exemption (14 CCR 15061(b)(3)). The common sense exemption states a project is exempt from CEQA if "the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA."

As described in more detail above, the 2025 Ozone MVEB Update aligns the MVEBs in certain SIPs for the 70 ppb ozone standard and for the 75 ppb ozone standard with EMFAC2021 to ensure emissions from transportation projects conform with emissions limitations and requirements of the SIP. By using EMFAC2021, areas across the state may not be able to demonstrate conformity against MVEBs established using EMFAC2017 in the SIPs for the 70 ppb ozone standard. Therefore, CARB is updating the MVEBs for the San Diego County and San Joaquin Valley 75 ppb ozone SIPs and the San Diego County 70 ppb ozone SIP. This does not change any emissions requirements in the SIPs; rather, it ensures the MVEBs are consistent with up-to-date data so transportation projects meet SIP emissions requirements. Projects undertaken by MPOs will continue to be analyzed for environmental impacts as they are undertaken by local agencies.

Based on CARB's review it can be seen with certainty that there is no possibility that the 2025 Ozone MVEB Update may result in a significant adverse impact on the environment; therefore, this activity is exempt from CEQA.

VIII. Staff Recommendation

CARB staff recommends that the Board:

1. Adopt the 2025 Ozone MVEB Update, including the updated MVEBs for specified 75 ppb and 70 ppb ozone nonattainment areas as detailed in:
 - Table IV-1 for San Diego County for the 75 ppb ozone standard,
 - Table V-1 for San Diego County for the 70 ppb ozone standard, and
 - Table VI-1 for the eight counties in the San Joaquin Valley for the 75 ppb ozone standard,
2. Direct the Executive Officer to submit the 2025 Ozone MVEB Update to U.S. EPA as a revision to the California SIP.