Staff Report

CARB Review of the Sacramento Regional 2015 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan

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CALIFORNIA
AIR RESOURCES BOARD

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Executive Summary

This report presents the California Air Resources Board (CARB or Board) staff's assessment of the Sacramento Region 2015 NAAQS 8-Hour Ozone Attainment and Further Reasonable Progress Plan (Plan) developed by the Sacramento Metropolitan Air Quality Management District (Sac Metro AQMD), El Dorado County Air Quality Management District (El Dorado County AQMD), Feather River Air Quality Management District (Feather River AQMD), Placer County Air Pollution Control District (Placer County APCD), and Yolo-Solano Air Quality Management District (Yolo-Solano AQMD) (Districts). CARB staff has concluded that the Plan meets the State Implementation Plan (SIP) planning requirements of the federal Clean Air Act (Act) including attainment demonstration, emissions inventory, reasonable further progress (RFP), reasonably available control measures (RACM) analysis, transportation conformity demonstrations, vehicle-miles-traveled (VMT) offset, and contingency measures for progress and attainment, as outlined in Table 1 below. The Board is scheduled to consider the Plan on October 26, 2023. If adopted, CARB will submit the Plan to the U.S. Environmental Protection Agency (U.S. EPA) as a revision to the California SIP.

The Act requires U.S. EPA to set air quality standards and periodically review the latest health research to ensure that standards remain protective of public health. Based on research demonstrating adverse health effects at lower exposure levels, U.S. EPA has set a series of increasingly health protective ozone standards, beginning with a 1-hour ozone standard in 1979. Subsequent health studies demonstrated the greater effects of exposure to ozone over longer time periods, resulting in U.S. EPA establishing an 8-hour ozone standard of 80 parts per billion (ppb) in 1997, 75 ppb standard in 2008, and 70 ppb standard in 2015.

The Sacramento Metro Nonattainment Area (Sacramento Metro)[1] was designated as Moderate nonattainment for the 70 ppb 8-hour ozone standard (70 ppb standard)[2], effective August 3, 2018. On August 3, 2020, CARB submitted a request on behalf of the Districts to U.S. EPA to reclassify Sacramento Metro as a Serious nonattainment area for the 70-ppb standard and U.S. EPA approved the request effective November 29, 2021.[3] Subsequently, since attainment by the Serious attainment date was not appropriate, on September 6, 2022, CARB submitted a letter on behalf of the Districts to U.S. EPA to

[1] Also known as Sacramento Federal Nonattainment Area or SFNA.
[2] 83 FR 25776, Posted June 4, 2018 and effective August 3, 2018, "Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards", *https://www.govinfo.gov/content/pkg/FR-2018-06-04/pdf/2018-11838.pdf*
[3] *https://www.federalregister.gov/documents/2021/10/28/2021-23454/designation-of-areas-for-air-quality-planning-purposes-california-eastern-kern-sacramento-metro-and*

reclassify Sacramento Metro as a Severe nonattainment area for the 70 ppb standard, with an attainment date of August 3, 2033.

CARB and the Districts have developed a series of SIPs which detail the actions needed to meet the various ozone standards, with each SIP and the corresponding control programs providing the foundation for subsequent planning efforts. The SIP process established under the Act has been an effective and important driver for air quality progress in Sacramento Metro.

The Plan addresses the 8-hour ozone standard of 70 ppb promulgated in 2015, representing the next building block in planning efforts to meet increasingly health protective air quality standards. The 70 ppb standard SIP elements contained in the Plan are listed in Table 1. The Districts ozone strategy has relied on oxides of nitrogen (NOx) and reactive organic gases (ROG) emission reductions from stationary and mobile sources. Over the past two decades, ozone levels in Sacramento Metro have shown significant improvement in response to reductions in emissions of NOx and ROG from current control programs. Most of these reductions come from on-road and off-road mobile source control strategies implemented statewide.

Table 1 –70 ppb ozone SIP Elements included in the Sacramento Metro Plan

SIP Element	District Plan
Attainment Demonstration	X
SIP Commitments	X
Photochemical Modeling Analysis	X
Weight of Evidence (WOE) Analysis	X
Reasonable Available Control Measures (RACM) Analysis	X
Transportation Conformity	X
Emissions Inventories	X
Reasonable Further Progress (RFP) Demonstration	X
Contingency Measures	X
Vehicle-Miles-Traveled (VMT) Offset Demonstration	X

CARB's comprehensive strategy to reduce emissions from mobile sources consists of emission standards for new vehicles including zero-emission requirements, in-use program to reduce emissions from existing vehicles and equipment fleets, cleaner fuels, and incentive programs to accelerate market penetration of the cleanest vehicles beyond what is achieved by regulations alone. These programs will reduce NOx and ROG emissions from on-road mobile sources by 52.5 percent and 41.7 percent, respectively, in 2032 compared to 2018 levels. As contained in this Staff Report, CARB also proposes an aggregate emission reduction commitment of 6.1 tons per day (tpd) NOx and 0.7 tpd ROG for Sacramento Metro by 2032 through the 2022 State SIP Strategy.

CARB staff has reviewed the Plan and concludes that it meets all the requirements of the Act for the 70 ppb standard for a Severe nonattainment area. CARB staff recommends the Board adopt the Plan along with the aggregate emission reduction from CARB's commitment for Sacramento Metro In 2032, and direct the Executive Officer to submit the Plan and the CARB Staff Report to U.S. EPA as a revision to the California SIP.

I. Background

Ozone, an important component of smog, is a highly reactive and unstable gas capable of damaging living cells, such as those present in the linings of the human lungs. This pollutant forms in the atmosphere through complex reactions between NOx and ROG directly emitted from vehicles, industrial plants, consumer products and many other sources. Ozone is a powerful oxidant – its actions can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Depending on the level of exposure, ozone can cause coughing and sore or scratchy throat, make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath, inflame and damage the airways, make the lungs more susceptible to infection, aggravate lung diseases such as asthma, emphysema, and chronic bronchitis, and increase the frequency of asthma attacks.

The Act requires U.S. EPA to set air quality standards and periodically review the latest research on air pollution and health to ensure that standards remain protective of public health. Based on research demonstrating adverse health effects at lower exposure levels, U.S. EPA has set a series of increasingly health protective ozone standards, beginning with a 1-hour ozone standard in 1979. Subsequent health studies demonstrated an even greater adverse response of exposure to ozone over longer time periods, resulting in U.S. EPA establishing 8-hour ozone standards of 80 ppb in 1997, 75 ppb standard in 2008, and 70 ppb standard in 2015.

U.S. EPA classifies ozone nonattainment areas based on ozone concentrations, and these classifications determine the attainment deadline and planning requirements. Areas can voluntarily request reclassification as needed to extend the attainment deadlines. Effective August 3, 2018, U.S. EPA designated Sacramento Metro as a nonattainment area with a Moderate classification and an August 3, 2024 attainment date.[4] On August 3, 2020, CARB submitted a request on behalf of the Districts to U.S. EPA to voluntarily reclassify Sacramento Metro as a Serious nonattainment area for the 70-ppb standard. U.S. EPA approved the request effective November 29, 2021.[5] On September 6, 2022, CARB submitted a letter on behalf of the Districts to U.S. EPA to voluntarily reclassify Sacramento Metro as a Severe nonattainment area for the 70-ppb standard, requiring attainment by August 3, 2033.

The Districts responsible for the control of air pollution are Sac Metro AQMD, El Dorado County AQMD, Feather River AQMD, Placer County APCD, and Yolo-Solano AQMD. The

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[4] 83 FR 25776, Posted June 4, 2018 and effective August 3, 2018, "Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards", *https://www.govinfo.gov/content/pkg/FR-2018-06-04/pdf/2018-11838.pdf*

[5] *https://www.federalregister.gov/documents/2021/10/28/2021-23454/designation-of-areas-for-air-quality-planning-purposes-california-eastern-kern-sacramento-metro-and*

Districts drafted the Plan with the assistance of CARB to address the Act requirements applicable to a Severe ozone nonattainment area, consistent with U.S. EPA's 2018 Implementation Rule for the 70 ppb 8-hour ozone standard (Implementation Rule)[6]. Due to the timing of the ozone season, the Districts must demonstrate that the Sacramento Metro nonattainment area will attain the standard by 2032, which is the last full ozone season prior to the attainment deadline. The Sac Metro AQMD will consider the adoption of the Plan first on September 28, 2023. The other Districts will separately consider the adoption of the Plan at their individual district board meetings on various dates before CARB's board meeting on October 26, 2023.

[6] 83 FR 62998, Posted December 6, 2018, "Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements", *https://www.govinfo.gov/content/pkg/FR-2018-12-06/pdf/2018-25424.pdf*

II. Nature of the Ozone Problem in Sacramento Metro

The Sacramento Metro nonattainment area includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano and Sutter counties (Figure 1). The area includes mountainous terrain, agricultural land, lakes and rivers, as well as one of California's larger urban areas. It is home to more than 2 million residents with an area of 5600 square miles. On the westernmost edge, it extends to the inland side of the California Coastal Range and continues to the border of the Lake Tahoe air basin to the east, taking in portions of the Sierra Nevada Mountain Range. It extends southward to the Sacramento Delta Region and northward to include the southern portion of Sutter County; the elevation in the region varies from near sea level to over 7000 feet.

Due to its inland location, the climate of the Sacramento region is more extreme than that of most coastal regions, such as the San Francisco Bay Area. While winter in the valley is mild, summer generally brings very hot weather to the valley floor, with temperatures routinely exceeding 100°F. Mountainous areas are considerably cooler in both summer and winter. During ozone episodes within the Sacramento Metro nonattainment area, the most important transport pattern is toward the northeast and the foothills within the Sacramento area itself. Due to the general daytime flow pattern from west to east, as well as the time needed for photochemical processes to occur, the highest ozone mixing ratios in the Sacramento Metro nonattainment area generally occur in the afternoon in the downwind, eastern portion of the region.

Design values are used to demonstrate an area's ozone compliance status in relation to the standard. The ozone design value is the 4th high, 8-hour ozone value averaged over three years. Figure 1 shows the design value concentrations for Sacramento Metro from 2000 to 2020. Between 2000 and 2020, the 8-hour ozone design value decreased by 20 percent from 107 ppb to 86 ppb and the number of exceedance days in Sacramento Metro declined by 58 percent. In 2000, seven out of sixteen sites exceeded the 70 ppb standard within Sacramento Metro. These seven sites are all located in the central and western portion of Sacramento Metro, where the emissions from biogenic sources are higher. More details of the discussion of the design values are in Appendix F of the Plan.

Figure 1: Sacramento Metro nonattainment area boundary and air monitoring sites

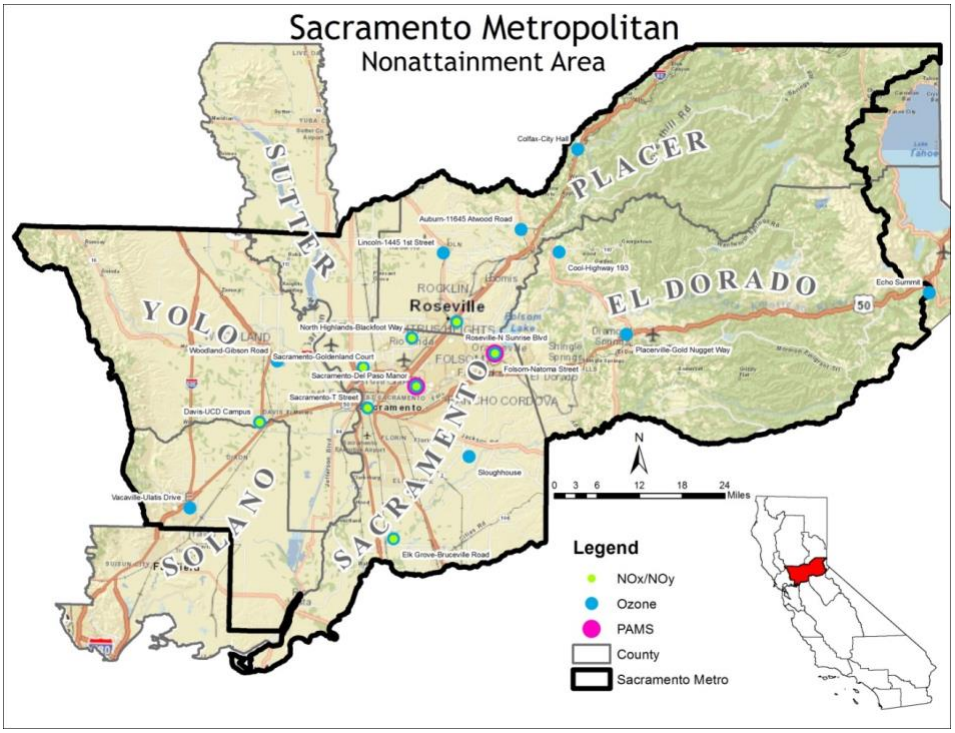
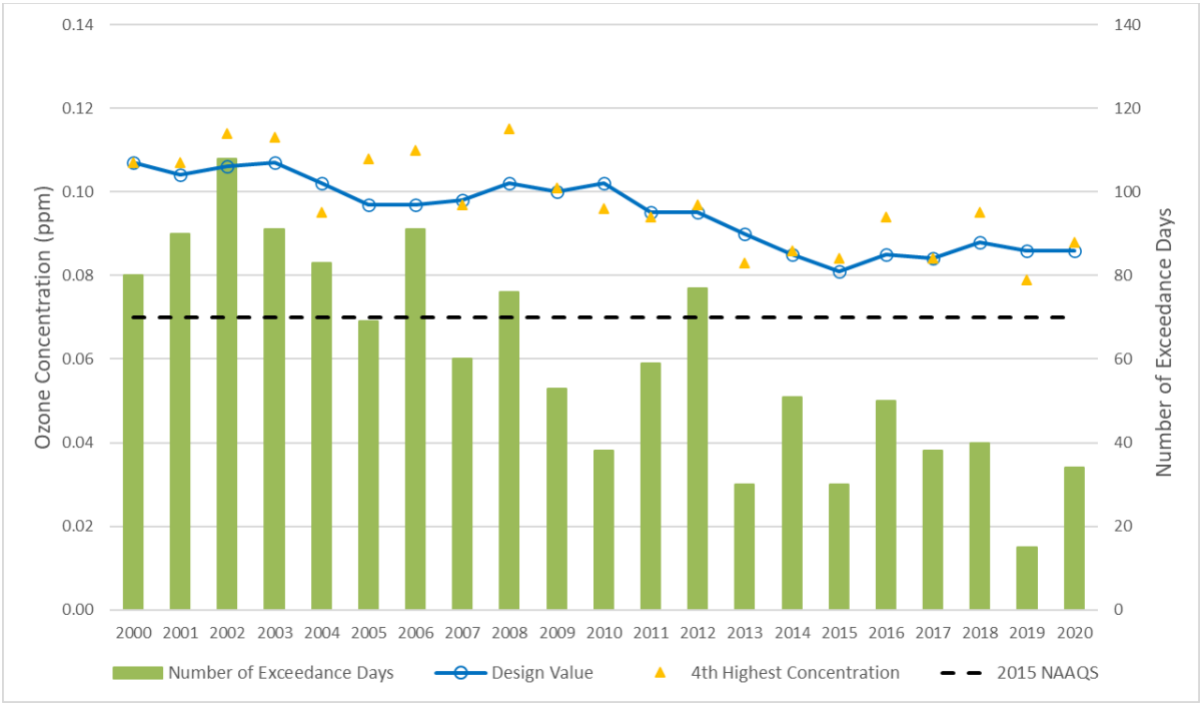


Figure 2 – The trend of 8-hour ozone design values and numbers of exceedance days of Sacramento Metro (ppb)



III. Emission Inventory

An emissions inventory is a critical tool used to evaluate, control, and mitigate air pollution. At its core, an emissions inventory is a systematic listing of the sources of air pollutants along with the amount of pollutants emitted from each source or category over a given time period. SIPs are required to include emissions inventories for the nonattainment area as a basis for evaluating attainment and what sources may need to be targeted through control measures. The planning emissions inventory is divided into three major categories: stationary, area-wide, and mobile sources. The summer season inventory is used for ozone planning because it reflects the activity levels and conditions presented when higher ozone levels occur in Sacramento Metro.

The Plan uses a 2017 baseline inventory of actual emissions and activity levels.[7] The 2017 emissions are used to back-cast or forecast other inventories from the base year. The inventories reflect District rules submitted through December 2021. Sacramento Metro's attainment challenges occur in the summer months, when meteorological patterns and hot, dry days, encourage the formation of ozone in the area. The Plan focuses on summer (May through October) average daily emissions inventories, with emissions presented as tons per day (tpd). The emission inventories in the Plan include emissions for the base year (2017), RFP milestone years (2023, 2026 and 2029), and attainment years for the 70 ppb standard (2032).

On-road motor vehicle emissions were generated using CARB's mobile source emissions model, EMFAC2017. On-road motor vehicle activity data reflect projections provided by the Sacramento Area Council of Governments (SACOG) in 2019.[8] Off-road mobile source emissions were generated using CARB's OFFROAD model. Both models were developed for use in the Plan, and represent significant improvements over models used in prior SIP updates.

Table 2 and 3 summarize the NOx and ROG emissions in Sacramento Metro. Within these categories, Light/Medium Duty Trucks, Heavy Duty Diesel Trucks, and Off-Road Equipment contribute the largest portions of NOx emissions in the Sacramento Metro 2017 baseline inventory.

[7] CEPAM2019 v1.04 with External Adjustment.
[8] *https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy*

Table 2 – Sacramento Metro NOx Emissions[9]
(tpd, summer planning inventory)

Source Category	2017	2023	2026	2029	2032
Stationary and Area-wide	8.83	8.45	8.32	8.24	8.12
On-Road Motor Vehicles	35.85	19.35	13.89	11.64	9.9
Off-Road Vehicles and Equipment	25.93	19.83	18.19	17.05	16.14
TOTAL	70.60	47.62	40.39	36.93	34.16

Numbers may not add due to rounding

Table 3 – Sacramento Metro ROG Emissions[10]
(tpd, summer planning inventory)

Source Category	2017	2023	2026	2029	2032
Stationary and Area-wide	49.92	51.53	52.94	54.02	55.61
On-Road Motor Vehicles	19.38	12.88	11.48	10.67	9.69
Off-Road Vehicles and Equipment	27.34	22.8	19.81	16.8	14.61
TOTAL	96.64	87.2	84.24	81.49	79.92

Numbers may not add due to rounding

Chapter 5 and Appendix A of the Plan present a summary of the data sources, along with revisions and improvements made to the emission inventory.

Federal New Source Review (NSR) rules require new and modified major stationary sources that increase emissions in amounts exceeding specified thresholds to provide emission reduction offsets to mitigate emission growth. Emission reduction offsets represent either on-site emission reductions or the use of banked emission reduction credits (ERC). ERCs are voluntary, surplus emission reductions, which are registered, or banked, with the Districts for future use as offsets. Per U.S. EPA policy, ERCs banked before the plan's emission inventory base year (2017 for this plan) must be explicitly treated as emissions in the air. Table 4, shows the ERCs registered with the Districts for future use as offsets. Further detail on ERCs is provided in Chapter 5 on of the Plan.

Table 4 – Sacramento Metro ERCs
Balance as of July, 2022[11]
(tpd, summer planning inventory)

Pollutant	ERC Total
NOx	2.80
ROG	3.63

[9] Table 5-2 in the Plan.
[10] Table 5-1 in the Plan.
[11] Table 5-3 in the Plan.

IV. Attainment Demonstration

SIPs must identify both the magnitude of reductions, and the actions necessary to achieve those reductions as part of demonstrating attainment of the standard. The District has prepared an attainment demonstration that provides for expeditious attainment of the 70 ppb standard. The attainment demonstration includes the benefits of CARB and Districts control programs that provide ongoing emissions reductions. Continued implementation of these programs provides new emissions reductions each year. The attainment demonstration also includes emissions reductions from new measures committed to as a part of the 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy) adopted by the Board in September 2022.

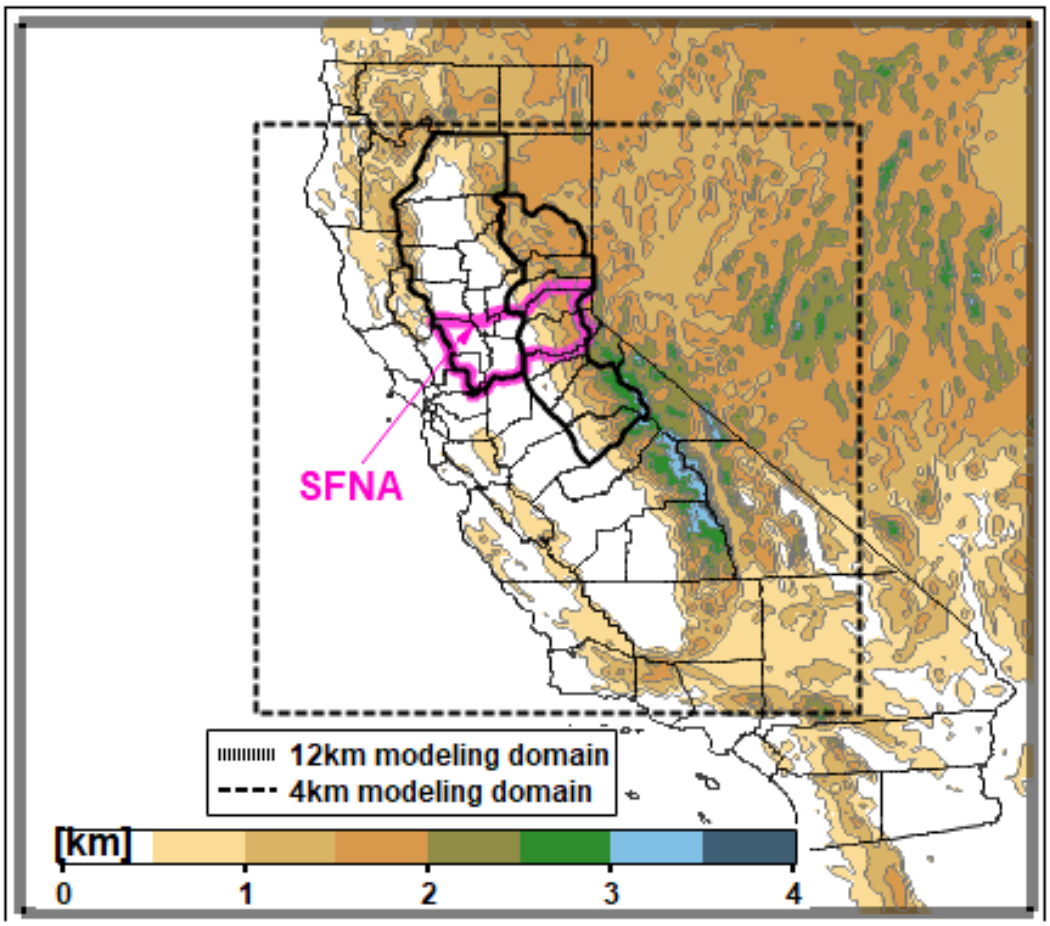
The Act requires the use of air quality modeling to relate ozone levels to emissions in a region and simulate future air quality based on changes in emissions. The modeled attainment demonstration in this plan was prepared using photochemical dispersion and meteorological modeling tools developed in response to U.S. EPA modeling guidelines[12], and recommendations from air quality modeling experts. The model uses emission inventories, with measurements of meteorology and air quality, to establish the relationship between emissions and air quality. The modeling is used to identify the benefits of controlling ozone precursors and the most expeditious attainment date. Figure 3 shows the Community Multiscale Air Quality (CMAQ) modeling domain for the Plan. The 12 km gridded modeling domain covers the entire State of California, while the 4 km gridded domain covers Sacramento Metro as well as San Joaquin Valley and Mountain Counties.

The starting point for the attainment demonstration is the monitored base design value, which is used to determine compliance with the ozone standards. The design value for a specific monitor and year represents the three-year average of the annual 4th highest 8-hour ozone level. U.S. EPA recommends using an average of three design values to better account for the year-to-year variability in ozone levels due to meteorology. After consultation with U.S. EPA Region 9 staff, CARB decided to use 2018 as the reference year for modeling for the northern portion of the State. 2018 also represents the reference year for projecting design values into the future. Site-specific design values should be calculated for the three-year periods ending in 2018, 2019, and 2020, and then these three design values are averaged. However, 2020 was an atypical year with large societal changes in response to the COVID-19 pandemic. To remove the impact from 2020 observations, CARB utilized an alternative methodology for calculating the average design values by excluding the year 2020. In this method, the 8-hour ozone design values for the year 2020 was replaced by the two-year average of the 4th highest 8-hour ozone concentrations from 2018

[12] U.S. EPA, 2014, Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5 and Regional Haze, available at *https://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf*

and 2019. These reference design values serve as the anchor point for estimating future year projected design values.

Figure 3: Map of the photochemical modeling domain with 12 km and 4 km gridded domains used in the attainment demonstration for the Plan.



In recent years, the prevalence of forest fires during the summer ozone season significantly impacted the air quality in the Sacramento Metro. High ozone concentrations were observed at several Sacramento Metro sites on days impacted by forest fires. Weight of Evidence of this SIP document focused on the days with ozone values that significantly affected the design values at Auburn site, which is one of the two high ozone sites in the Sacramento Metro. Excluding the fire impact days (7/31/2018, 8/1/2018, 8/2/2018, 8/8/2018, 8/9/2018 and 8/10/2018) at Auburn site, ozone design values would be 82 ppb in 2019 and 84 ppb in 2020. Details about fire impact days can be found in the Weight of Evidence analysis in Appendix F of the Plan.

The Sacramento Metro is designated as Serious nonattainment for the 70 ppb standard with a 2026 attainment deadline. However, it is very unlikely that Sacramento Metro would have

a design value of 70 ppb or lower by 2026. Therefore, CARB submitted a request on September 6, 2023 on behalf of the Districts to voluntarily reclassify as Severe nonattainment for the 70 ppb standard with a 2032 attainment deadline. The modeling analysis uses 2018 as the base year for the attainment demonstration. The year 2018 was chosen based on preliminary analysis that showed 2018 exhibiting superior model performance for O_3 in Northern California compared to adjacent years.

The attainment demonstration modeling includes the benefits of CARB's existing mobile source control program and Districts regulations submitted through December 2021. The attainment demonstration further includes emissions reductions from new measures committed to as a part of the 2022 State SIP Strategy. These measures provide the necessary control strategy, demonstrating that the Sacramento Metro nonattainment area will meet the 70 ppb standard by 2032.

Table 5 summarizes the 2032 emissions modeled in the attainment demonstration, including emissions reductions from the CARB and Districts measures.

Table 5 - 2032 Modeled Sacramento Metro NOx and ROG Emissions
(tpd, summer planning inventory)

2032 Emissions	NOx	ROG
Baseline Emissions Inventory	34.2	79.9
CARB Emissions Reductions Commitment (2016 and 2022 State SIP Strategy Measures)	6.1	1.3
Attainment Emissions Inventory	28.1	78.6

Further detail on the modeled attainment demonstration is provided in Chapter 6 and Appendix B of the Plan.

U.S. EPA modeling guidance requires that modeled attainment demonstrations be accompanied by a Weight of Evidence (WOE) analysis to provide a set of complementary analyses. Examining an air quality problem in a variety of ways provides a more informed basis for the attainment strategy as well as a better understanding of the overall problem and the level and mix of emissions controls needed for attainment. CARB staff prepared the WOE, which is provided in Appendix F of the Plan. WOE supports the attainment demonstration and includes an assessment of trends in ozone air quality, ozone precursor emission trends, meteorology impacts on ozone air quality trends, and a summary of corroborating analyses.

Control Strategy

The ongoing emission reductions from continued implementation of CARB and Districts current control programs, together with reductions from the measures described in the 2022 State SIP Strategy, provide the attainment control strategy for the Plan. The following

sections describe the ongoing and new CARB and Districts control measures that provide the emission reductions included in the attainment demonstration.

CARB Current Control Program

Given the severity of California's air quality challenges, CARB has implemented the most stringent mobile source emissions control program in the nation. CARB's comprehensive strategy to reduce emissions from mobile sources consists of emissions standards for new vehicles, in-use programs to reduce emissions from existing vehicle and equipment fleets, cleaner fuels, and incentive programs to accelerate the penetration of the cleanest vehicles beyond that achieved by regulations alone. A detailed description of the current mobile source control programs is included in Appendix C of the Plan.

CARB Commitments

SIPs may contain enforceable commitments to achieve the level of emissions necessary to meet federal air quality standards, as defined by the attainment demonstration. The 2022 State SIP Strategy lists new SIP measures and quantifies potential emissions reduction SIP commitments for Sacramento Metro based on the measures identified and quantified to date. Adoption of the 2022 State SIP Strategy and the measure schedule by the CARB Board on September 22, 2022 forms the basis of the commitments for emission reductions by the attainment deadlines for each region that will be proposed for CARB Board consideration alongside the respective nonattainment area's SIP. The commitments consist of two components:

1. A commitment to bring an item to the CARB Board for defined new measures or take other specified actions within CARB's authority; and
2. A commitment to achieve aggregate emission reductions by specific dates.

As part of each SIP needing emission reductions from the State, the total aggregate emission reductions and the obligation to make certain proposals to the CARB Board or take other actions within CARB's authority specified in the 2022 State SIP Strategy would become enforceable upon approval by U.S. EPA. While the 2022 State SIP Strategy discusses a range of measures and actions, those measures and actions would still be subject to CARB's formal approval process and would not be final until the CARB Board takes action.

Commitment to Act on Measures

For each of the SIP measures shown in Table 6, CARB commits to address each measure as described in this document. For each measure committed to, CARB staff would undertake the actions detailed for each measure. In the instance of measures that involve the development of a rule under CARB's regulatory authority, CARB commits to bring a publicly noticed item before the CARB Board that is either a proposed rule, or is a recommendation that the CARB Board direct staff to not pursue a rule covering that subject matter at that

time. This recommendation would be based on an explanation of why such a rule is unlikely to achieve the relevant emission reductions in the relevant timeframe, and would include a demonstration that the overall aggregate commitment will be achieved despite that rule not being pursued. This public process and CARB hearing would provide additional opportunity for public and stakeholder input, as well as ongoing technology review, and assessments of costs and environmental impacts.

The measures, as proposed by staff to the CARB Board or adopted by the CARB Board, may provide more or less than the initial emission reduction estimates. In addition, action by the CARB Board may include any action within its discretion.

Table 6 – Measures and Schedule

Measure	Agency	Action	Implementation Begins
On-Road Heavy-Duty			
Advanced Clean Fleets Regulation	CARB	2023	2024
Zero-Emissions Trucks Measure	CARB	2028	2030
On-Road Light-Duty			
On-Road Motorcycle New Emissions Standards	CARB	2022	2025
Clean Miles Standard	CARB	2021	2023
Off-Road Equipment			
Tier 5 Off-Road Vehicles and Equipment	CARB	2025	2029
Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation	CARB	2022	2024
Transport Refrigeration Unit Regulation Part 2	CARB	2026	2028
Commercial Harbor Craft Amendments	CARB	2022	2023
Cargo Handling Equipment Amendments	CARB	2025	2026
Off-Road Zero-Emission Targeted Manufacturer Rule	CARB	2027	2031
Clean Off-Road Fleet Recognition Program	CARB	2025	2027
Spark-Ignition Marine Engine Standards	CARB	2029	2031
Other			
Consumer Products Standards	CARB	2027	2028
Zero-Emission Standard for Space and Water Heaters	CARB	2025	2030
Enhanced Regional Emission Analysis in State Implementation Plans[13]	CARB	2025	2023
Pesticides: 1,3-Dichloropropene Health Risk Mitigation	DPR[14]	2022	2024
Primarily-Federally and Internationally Regulated Sources – CARB Measures			
In-Use Locomotive Regulation	CARB	2023	2024
Future Measures for Aviation Emission Reductions	CARB	2027	2029

[13] CARB finalization.
[14] California Department of Pesticide Regulation.

Commitment to Achieve Emission Reductions

While the 2022 State SIP Strategy includes estimates of the emissions reductions from each of the individual new measures, CARB's overall commitment is to achieve the total emissions reductions necessary from State-regulated sources to attain the federal air quality standards, reflecting the combined reductions from the existing control strategy and new measures. Therefore, if a particular measure does not get its expected emissions reductions, the State's overall commitment to achieving the total aggregate emission reductions still exists. If actual emission decreases occur that exceed the projections reflected in the current emission inventory and the 2022 State SIP Strategy, CARB will submit an updated emissions inventory to U.S. EPA as part of a SIP revision. The SIP revision would outline the changes that have occurred and provide appropriate tracking to demonstrate that aggregate emission reductions sufficient for attainment are being achieved through enforceable emission reduction measures. CARB's emission reduction commitments may be achieved through a combination of actions including, but not limited to, the implementation of control measures; the expenditure of local, State or federal incentive funds; or through other enforceable measures.

Air quality modeling indicates that NOx emissions reductions are needed within Sacramento by 2032 in order to provide for attainment. A significant fraction of the needed reductions will come from the existing control program. In addition, although most of the 2016 State SIP Strategy measure commitments have been adopted, there is one (Zero-Emission Forklift) that the CARB Board will be acting upon over this year, and two that were recently adopted but are not yet accounted for in the baseline emissions inventory (Advanced Clean Cars II, Transport Refrigeration Unit Part 1), as outlined in 7. Action will be taken on the remaining measures in the coming year.

Table 7 – Reductions from Remaining 2016 State SIP Strategy Measures

Measure	Action	Implementation Begins	2032 NOx (tpd)	2032 ROG (tpd)
Advanced Clean Cars II	2022	2026	0.4	0.4
Transport Refrigeration Unit Part I	2022	2023-2024	<0.1	<0.1
Zero-Emission Forklift	2023	2026	<0.1	<0.1
Total			0.5	0.4

Numbers may not add up due to rounding.

Table 8 shows that collectively, emissions reductions from CARB's current control program, reductions from the 2016 State SIP Strategy measures still to be adopted, and reductions estimated from the measures in the 2022 State SIP Strategy provide the emissions reductions needed from State sources to support attainment of the 70 ppb standard in Sacramento Metro. The measures in Table 9 reflect CARB commitments for State actions and the estimated emissions reductions for Sacramento Metro. Table 10 reflects CARB's aggregate emission reduction commitment for Sacramento Metro.

Table 8 – Sacramento Metro NOx Emission Reductions from CARB Programs

CARB Programs in Sacramento Metro	2032 NOx Emission Reductions (tpd)
Current Mobile Source Control Program[15]	31.5
CARB Emissions Reductions Commitments	6.1
2016 State SIP Strategy Measures (Not yet in baseline inventory)	0.5
2022 State SIP Strategy Measures	5.6
Total Reductions	37.5

Numbers may not add up due to rounding.

Table 9 – Sacramento Metro Expected Emissions Reductions from the 2022 State SIP Strategy Measures

Measure	2032 NOx (tpd)	2032 ROG (tpd)
On-Road Heavy-Duty		
Advanced Clean Fleets Regulation	0.8	<0.1
Zero-Emissions Trucks Measure	NYQ[16]	NYQ
Total On-Road Heavy-Duty Reductions	0.8	<0.1
On-Road Light-Duty		
On-Road Motorcycle New Emissions Standards	0.1	0.2
Clean Miles Standard	<0.1	<0.1
Total On-Road Light-Duty Reductions	0.1	0.2
Off-Road Equipment		
Tier 5 Off-Road Vehicles and Equipment	0.2	NYQ
Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation	0.5	0.1
Transport Refrigeration Unit Regulation Part 2	0.4	<0.1
Commercial Harbor Craft Amendments	0.3	<0.1
Cargo Handling Equipment Amendments	<0.1	<0.1
Off-Road Zero-Emission Targeted Manufacturer Rule	NYQ	NYQ
Clean Off-Road Fleet Recognition Program	NYQ	NYQ
Spark-Ignition Marine Engine Standards	<0.1	0.1
Total Off-Road Equipment Reductions	1.5	0.3
Other		
Consumer Products Standards	-	NYQ
Zero-Emission Standard for Space and Water Heaters	NYQ	NYQ
Enhanced Regional Emission Analysis in State Implementation Plans	NYQ	NYQ
Pesticides: 1,3-Dichloropropene Health Risk Mitigation	-	NYQ
Total Other	NYQ	NYQ
Primarily-Federally and Internationally Regulated Sources – CARB Measures		

[15] Source: 2022 CEPAM v1.01; represents the current baseline emissions out to 100 nautical miles with adopted CARB and district measures.
[16] Not yet quantified.

In-Use Locomotive Regulation	3.2	0.1
Future Measures for Aviation Emission Reductions	NYQ	NYQ
Total Primarily-Federally and Internationally Regulated Sources – CARB Measures Reductions	3.2	0.1
Aggregate Emissions Reductions	5.6	0.7

Numbers may not add up due to rounding.

Table 10 – CARB Aggregate Emissions Reduction Commitment by 2032

Aggregated Emissions Reduction Commitment	2032 NOx (tpd)	2032 ROG (tpd)
Sacramento Metro	6.1	0.7

As a part of the aggregate emission reduction commitment for Sacramento Metro, CARB staff proposes to commit to emissions reductions specifically from on-road mobile sources. CARB continues to have an aggregate emission reduction commitment which is a sum of emissions reductions from on- and off-road mobile sources, consumer products, and other State-regulated sources as outlined above. The on-road mobile source commitment will provide the enforceability needed to support the use of motor vehicle emissions budgets that factor in reductions from the on-road mobile source measures in the 2022 State SIP Strategy. The proposed on-road mobile source commitment specified in Table 11 is a subset of emissions reductions from the aggregate emission reduction commitment and is not additive to the aggregate emission reduction commitment.

Table 11 – Emissions Reduction from On-Road Mobile Source Measures

On-Road Mobile Source Reductions	2032 NOx (tpd)	2032 ROG (tpd)
Sacramento Metro	1.2	0.4

2022 State SIP Strategy and Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 (Title VI) provides that no person in the United States shall, on the basis of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.[17] As a recipient of federal funds, CARB must ensure it complies with Title VI and U.S. EPA's Title VI implementation regulations[18] in its relevant programs and policies. In developing the 2022 State SIP Strategy robust suite of control measures, staff engaged in a thorough public process that addresses the requirements of Title VI. CARB will continue to address the requirements of Title VI in implementation of the 2022 State SIP Strategy and related Act implementation activities. Written guidance from

[17] 42 U.S.C. section 2000d.
[18] 40 C.F.R. Part 7.

U.S. EPA is needed to provide additional detail on Title VI requirements and expectations and support for effective implementation efforts.

Many low-income and disadvantaged communities in nonattainment areas, and across the State, continue to experience disproportionately high levels of air pollution and the resulting detrimental impacts to their health from widespread pollution from a variety of activities, many longstanding. Research[19] shows large disparities in exposure to pollution between disadvantaged communities and other communities. There are disparities between white and non-white populations in California, with Black and Latino populations experiencing significantly greater air pollution impacts than white populations. Mobile source pollution exposures show some of the highest disparities.[20] Mobile sources are the largest sources of pollution exposure disparity for Black populations and disadvantaged community residents, when compared to the average population in California. Specifically, mobile sources accounted for 45 percent of exposure disparity for the Black population, and 37 percent of exposure disparity for people in disadvantaged communities. While significant progress has been made in reducing mobile and stationary source pollution in California through regulatory and other program activities, disparities in the location of pollution and cumulative exposures continue despite CARB's efforts to reduce pollution across the state.

CARB prioritizes environmental justice, incorporating racial equity, and conducting meaningful community engagement in its policy and planning efforts and programs to address the longstanding environmental and health inequities from elevated levels of toxic air contaminants, criteria pollutants, and secondary impacts of climate change. It is imperative to optimize California's control programs to maximize emissions reductions and provide targeted near-term benefits in those communities that continue to bear the brunt of poor air quality. Specific efforts include development of community air monitoring networks to learn about local exposures, development of a racial equity assessment lens to consider benefits and burdens of CARB programmatic work in the planning stages, continuously increasing and improving community engagement efforts, and implementation of Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017) as described in more detail below. While significant progress has been made to address air pollution statewide and in local communities, ensuring all Californians have access to healthy air quality is imperative.

Besides these important efforts, the 2022 State SIP Strategy measures such as the Advanced Clean Fleets and In-Use Locomotive Regulations will reduce mobile source emissions from heavy-duty trucks and other sources around warehouses, railyards, and ports, as well as

[19] Apte et al. (2019). A Method to Prioritize Sources for Reducing High PM2.5 Exposures in Environmental Justice Communities in California. CARB Research Contract Number 17RD006
[20] Ibid.

reducing other emissions, which in turn will reduce corresponding health risk in California's most impacted communities.

CARB prioritized public participation as an essential part of developing the measures in the 2022 State SIP Strategy. CARB initiated the public process with a workshop in July 2021, and after the workshop, staff reached out to and met with community-based organizations who provided input on the potential control measures. CARB released the Draft Measures document which considered the input from community-based organizations and comments during the first workshop. CARB staff held a second workshop in October 2021 and received input from stakeholders. CARB staff also participated in the Valley control measure workshops as part of their SIP development process. The Draft 2022 State SIP Strategy was released in January 2022, prior to a third workshop, and informational update at the Board Meeting in February 2022. The input from numerous stakeholders and community-based organizations framed the control measures in the strategy such as the Zero-Emissions Trucks and Pesticide Measures. These workshops and Board updates provided forums in both English and Spanish and allowed special accommodations if requested for the proposed measures to be discussed in a public setting and provide additional opportunity for public feedback, input, and ideas. And finally, CARB released the Proposed 2022 State SIP Strategy and hosted a fourth workshop in August 2022, prior to the Board adopting the 2022 State SIP Strategy in September 2022. The workshops were well attended by stakeholders, including community-based organizations. CARB staff listened to stakeholders, evaluated their recommendations, and included some of these recommendations as measures that were appropriate for the 2022 State SIP Strategy.

Following the Board's approval of the 2022 State SIP Strategy, the public processes will continue as each measure within the strategy goes through its own public process to engage with impacted communities and stakeholders to further develop the measures prior to being brought to the Board for consideration as a regulation or other program. As development and implementation of these measures progress, CARB staff will continue to identify and implement opportunities to mitigate air pollution associated with racial inequities and meaningfully engage and partner with communities most impacted to address longstanding disparities and challenges. CARB will also continue to partner with other authorities such as air districts, other State agencies, and the federal government to ensure emissions reductions are achieved.

In addition to SIP efforts and individual regulatory processes reducing air pollution statewide, AB 617 requires community-focused and community-driven action to reduce air pollution and improve public health in communities that experience disproportionate burdens from exposure to air pollutants in California. CARB implements AB 617 through its Community Air Protection Program. AB 617 has created new opportunities for CARB and the local air districts to understand community member concerns through active participation in envisioning, developing, and implementing actions to clean the air in their

communities. The Community Air Protection Program was first implemented starting in 2018 and has since had 17 communities selected into the Program as of December 2022. CARB is now engaging in a process to provide greater opportunities and additional support for impacted communities across the State through the revision of the AB 617 Statewide Strategy, also referred to as the Program Blueprint. The revision of the Program Blueprint seeks to design more efficient approaches to maximize similar air quality benefits for more impacted communities. Moving forward, the AB 617 Community Air Protection Program and complementary environmental justice and racial equity work across CARB programs, policies and SIP planning efforts will continue to evolve and grow. These connected efforts, as well as interagency efforts, will provide additional pathways to address Title VI requirements and support achieving the goal where ZIP Code or race does not predict air pollution exposures. CARB has reviewed U.S. EPA and U.S. Department of Justice resources for Title VI and environmental justice policies, and looks forward to written Title VI guidance from U.S. EPA to address Act section 110(a)(2)(E) as the State develops future clean air plans.

Districts Control Program

Consistent with its regulatory authority, the Districts have adopted rules for reducing emissions from a broad scope of stationary and area sources. Further detail on the Districts' current control program is provided in Chapter 7 and Appendix C of the Plan. No new local control measures were committed in this plan for attainment purposes.

Reasonably Available Control Measures Demonstration

As specified in the Act, the SIP shall provide for the implementation of RACM as expeditiously as practicable to provide for the attainment of the ozone standard. RACM must also include emission reductions from existing sources that may be obtained through the adoption, at a minimum, of reasonably available control technology (RACT). The U.S. EPA has interpreted RACM as those emission control measures that are technologically and economically feasible and when considered in aggregate, would advance the attainment date by at least one year.

The Districts conducted the RACM analysis in the Plan and determined that 0.459 tpd of NOx and 3.04 tpd of ROG reductions can be achieved through RACM measures, and they are equivalent to 0.532 tpd NOx reduction in Sacramento Metro. This is less than the 0.825 tpd amount required to advance attainment by a year. Therefore, the conclusion of the RACM analysis is that there are no RACM measures that can advance attainment by one year. Further detail on the RACM analysis is provided in Chapter 7.7 and Appendix D of the Plan.

Modeled Results

The results of the attainment demonstration modeling are shown in

Table 121212. In recent years, the prevalence of wildfires during the summer ozone season significantly impacted the air quality in Sacramento Metro. High ozone concentrations were observed on days affected by forest fires, particularly in 2018 and 2020. When fire-impacted days are excluded from the baseline design value, the projected ozone design values for all monitoring sites are below 70 ppb in 2032. Therefore, the attainment demonstration modeling predicts that Sacramento Metro will attain the 70 ppb standard in 2032. Further information on the modeled attainment demonstration is included in Chapter 6 and Appendices B of the Plan.

Table 1212 - Modeled 8-hour Ozone Design Values Demonstrating Attainment

Site	2018 Base Year Design Value (ppb)	2032 Future Year Design Value (ppb)
Colfax-CityHall	83.7	69.8
Placerville-Gold	84	69.6
Auburn-Atwood,fire days excluded	81.7	68.3
Cool-Hwy193	81.7	68.2
N_Highlands-Blackfoot	74.7	64.8
Folsom-Natoma	76.7	64.7
Roseville-NSunrise	76.3	64.2
Sacramento-DelPas	72	62.4
Sloughhouse	71.3	62.1
Elk_Grove-Bruceville	67.7	61.8
Sacramento-TStreet	66.3	60
Woodland-Gibson	66.7	58.4
Vacaville-Ulatis	64	58.2
Davis-UCD	62.3	56.5

V. Additional Clean Air Act Requirements

In addition to the elements related to the emissions inventory and attainment demonstration, the Act also requires SIPs for Severe ozone nonattainment areas to address the following elements:

- Provisions that demonstrate reasonable further progress (RFP);
- Transportation conformity emission budgets to ensure transportation projects are consistent with the SIP;
- Provisions for sufficient contingency measures for RFP and attainment;
- A vehicle miles travelled growth offset demonstration.

Reasonable Further Progress Demonstration

The Act and the Implementation Rule specify that each ozone nonattainment area must demonstrate ongoing emission reductions relative to the base year (2017). Federal law requires a three percent per year reduction in ROG emissions. Where both ROG and NOx emissions have been shown to contribute to high ozone levels, the Act allows NOx emission reductions to augment ROG emission reductions in order to demonstrate RFP.

The RFP demonstration in the Plan evaluated RFP to the 2032 attainment year for the Sacramento Metro. For each of the milestone years, the required progress is met based on the reductions from the existing control program using a combination of ROG and NO_X substitution reductions within the Sacramento Metro. The Act allows for NOx substitution when it is shown that NOx reductions are as effective at reducing ozone as ROG reductions. The Plan contains documentation that NOx reductions are as or more effective than ROG reductions. The Sacramento Metro meets the RFP targets for the milestone years (2023, 2026, 2029) and attainment year (2032) for this plan. Further detail on the RFP demonstration is provided in Chapter 12 of the Plan.

Motor Vehicle Emissions Budgets

Under section 176(c) of the Act, transportation plans, programs, and projects that receive federal funding or approval must be fully consistent with the SIP before being approved by a Metropolitan Planning Organization (MPO). U.S. EPA's transportation conformity rule[21] details requirements for establishing motor vehicle emission budgets (MVEBs) in SIPs for the purpose of ensuring the conformity of transportation plans and programs with the SIP.

[21] Federal transportation conformity regulations are found in 40 CFR Part 51, subpart T – Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. of the Federal Transit Laws. Part 93, subpart A of this chapter was revised by the EPA in the August 15, 1997 Federal Register.

The Plan establishes on-road MVEBs for Sacramento Metro in consultation with SACOG for the RFP milestone years and attainment year for transportation conformity purposes for the 70 ppb standard. The MVEBs will apply to all subsequent transportation conformity years, per the federal transportation conformity regulations. MVEBs for NOx and ROG were calculated using EMFAC2017 and reflect summer average emissions. The MVEBs also subtracted expected emission reductions from recently adopted and expected control measures that were included in the 2016 and 2022 State SIP Strategies for milestone years and attainment years. The MVEBs established in the Plan apply as a "ceiling" or limit on transportation emissions for the nonattainment area for the years in which they are defined and for all subsequent years until another year for which a different budget is specified, or until a SIP revision modifies the budget. Further detail on the MVEBs is provided in Chapter 10 of the Plan.

Contingency Measures

Contingency measures are required by the Clean Air Act to be implemented should an area fail to make RFP or attain the NAAQS by the required date. U.S. EPA has interpreted this requirement to represent one year's worth of RFP, which amounts to three percent reductions from measures that are already in place or that would take effect without further rulemaking action. Historically, U.S. EPA allowed contingency measure requirements to be met via excess emission reductions from ongoing implementation of adopted emission reduction programs, a method that CARB and local air districts have used for contingency measures and U.S. EPA has approved in the past. However, although CARB's current programs continue to achieve emissions reductions in future years in excess of what is needed for RFP and attainment, multiple court decisions over the last few years in the 9th circuit and nation-wide have effectively disallowed this prior SIP-approved approach.

Given the courts' decisions over the last few years and under existing guidance, CARB and local air districts will need to implement contingency measures that, when triggered, would achieve one year's worth of emissions reductions, or at least the relevant portion equivalent to the contribution of sources primarily regulated at the State and local level, unless a reasoned rationale for achieving less emission reductions can be provided. At this time, CARB is implementing the most stringent control programs and including a zero-emission component in most of our regulations, both those recently-adopted and those that are in development. Beyond the wide array of sources CARB has been regulating over the last few decades, and especially considering those we are driving to zero-emission, there are few sources of emissions left for CARB to implement additional controls upon under its authorities. The few source categories that do not have control measures are primarily-federally and internationally regulated, categories which will account for approximately 54 percent of Statewide NOx emissions by 2032.[22] Considering the air quality

[22] Source: CARB 2022 CEPAM v1.01; based on 2026 emissions totals.

challenges California and local air districts face, if an additional measure were available, CARB would implement this to support expeditious attainment of the NAAQS rather than withhold it for contingency measure purposes. That said, CARB and the District continue to explore potential contingency measures while awaiting U.S. EPA's written guidance (which was proposed in March 2023 but is not yet finalized) and fully intend to meet the contingency requirement as required by the Act.

Based on the evaluation of possible measures to address contingency measure requirements, CARB has identified the proposed California Smog Check Contingency Measure[23], which, if adopted by the Board, will be submitted to U.S. EPA for incorporation into the SIP. CARB is currently developing this measure to help fulfill contingency measure requirements for the Sacramento Metro and other nonattainment areas, with Board consideration in October 2023.

The Districts commit to amend their architectural coating rules to include triggering provisions that lower the volatile organic compounds (VOC)[24] limits for several coating categories, delete the coating categories for non-flats, floor stains, and some other specialty coatings, and establish new VOC content limits for colorants to be consistent with the Architectural Coatings Suggested Control Measure adopted by CARB on May 21, 2019 (CARB, 2019). These proposed changes will go into effect within 60 days if the U.S. EPA makes a finding that Sacramento Metro has failed to meet RFP or has failed to attain the NAAQS by the attainment deadline. 3 reflects the estimated reductions for different future years and the proposed adoption dates for these contingency measures for the Districts. Further discussion of contingency measures can be found in Chapter 8 and Appendix E of the Plan.

Table 13: Sacramento Metro districts contingency measures commitments

District Rule	Estimated VOC Reductions (tpd) in Sacramento Metro			Proposed Adoption Date
	2028	2031	2035	
Feather River AQMD Rule 3.15	< 0.001	< 0.001	< 0.001	June 2024
El Dorado County AQMD Rule 215	0.003	0.003	0.003	May 2024
Sac Metro AQMD Rule 442	0.119	0.122	0.126	May 2024
Placer County APCD Rule 218	0.004	0.004	0.004	May 2024
Yolo-Solano AQMD Rule 2.14	0.027	0.028	0.029	May 2024

[23] *https://ww2.arb.ca.gov/resources/documents/california-smog-check-contingency-measure*
[24] The terms of ROG and VOC represent slightly different lists of organic compounds but are considered interchangeable in the Plan and the Staff Report.

Total Reductions	0.154	0.158	0.162	

Vehicle Miles Traveled Offset Demonstration

Section 182(d)(1)(A) of the Act requires a demonstration identifying specific enforceable transportation control strategies and transportation control measures to offset any growth in vehicle miles traveled (VMT) or number of vehicle trips within two years of designation for ozone nonattainment areas classified as Severe or above. Appendix G of the Plan includes a VMT offset demonstration and analysis prepared pursuant to the requirements of the Act and consistent with the August 2012 U.S. EPA guidance entitled "Implementing Act section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Traveled." The VMT offset analysis demonstrates that the identified transportation control strategies and measures are sufficient to offset the growth in emissions in Sacramento Metro. For completeness, the key mobile source regulations and emission reduction programs that were used in the VMT offset demonstration and analysis are included in Appendix G, Page G-10, Mobile Source Regulations for the VMT Offset Demonstration."

VI. Requirements Addressed Through Separate Submittals

In addition to all of the SIP requirements that are addressed in the Plan, there are many other requirements under the 70 ppb 8-hour ozone standard that have been addressed through separate submittals in recent years, or will be in the future, as listed in Table and described in more detail below.

Table 14 – 70 ppb SIP Elements Addressed in Separate Submittals

SIP Element	Submittal Title	Submittal Date
Emissions Statement	Sac Metro AQMD District Rule 105: Emission Statement (Adopted July 23, 2020)	August 3, 2020
	Feather River AQMD District Rule 5.4: Emission Statement (Adopted August 3, 2020)	September 22, 2020
	El Dorado County AQMD District Rule 1000: Emission Statement (Adopted August 25, 2020)	December 15, 2020
	Placer County APCD District Rule 503: Emission Statement (Adopted October 8, 2020)	December 15, 2020
	Yolo-Solano AQMD District Rule 3.18: Emission Statement (Adopted September 9, 2020)	November 2, 2020
Nonattainment New Source Review	Sac Metro AQMD District Rule 214: New Source Review Certification (Adopted July 26, 2021)	October 6, 2021
	Placer County APCD District Rule 502: New Source Review Amendment (Adopted August 12, 2021)	October 6, 2021
	Feather River AQMD District Rule 10.1: New Source Review Certification (Adopted June 7, 2021)	August 3, 2021
	El Dorado County AQMD District Rule 523-1: New Source Review (Adopted December 7, 2021)	March 9, 2022
	Yolo-Solano AQMD District Rule 3.4: New Source Review Certification (Adopted June 9, 2021)	August 3, 2021
Reasonably Available Control Technology (RACT)	Sac Metro AQMD: RACT SIP Analysis (Adopted July 23, 2020)	August 3, 2020
	Placer County APCD: RACT SIP Analysis (Adopted June 11, 2020)	July 31, 2020
	Feather River AQMD: RACT SIP Analysis (Adopted August 3, 2020)	October 19, 2020
	El Dorado County AQMD: RACT SIP Analysis Update (Adopted August 25, 2020)	September 18, 2020
	Yolo-Solano AQMD: RACT SIP Analysis (Adopted September 9, 2020)	October 30, 2020
Vehicle Inspection and Maintenance Program	California Smog Check Performance Standard Modeling and Program Certification for the 70 ppb Standard (Adopted March 23, 2023)	April 26, 2023
Clean Fuels for Fleets Program (if applicable)	California Clean Fuels for Fleets Certification for the 70 ppb Ozone Standard (Adopted January 27, 2022)	February 3, 2022
Severe/Extreme Area Fee Program	185 Fee Rule (if applicable)	August, 2028

Emissions Statement

Section 182(a)(3)(B) of the Act requires ozone nonattainment areas submit into the SIP an Emissions Statement rule or program for stationary sources with potential to emit ROG and/or NOx emissions; the program must mandate stationary sources with emissions over 25 tons per year (tpy) of NOx or ROG report and certify the accuracy of NOx and ROG emissions annually.

Since Sacramento Metro was classified as severe for the 1997 (80 ppb) and 2008 (75 ppb) 8-hour Ozone NAAQS, the Districts have in place rules with the severe area thresholds (25 tpy) for NOx and ROG. The Districts have established emission reporting programs for NOx and ROG sources through their respective rules and programs and fulfilled the CAA Section 182(a)(3)(B) emissions statement requirements by certifying that the existing SIP-approved rules remain adequate to meet these requirements. (Table)

Nonattainment New Source Review

Section 182(a)(2)(C) of the Act requires that ozone nonattainment areas submit into the SIP Nonattainment New Source Review (NNSR) rules or programs for permitting the construction and operation of new or modified major stationary sources. Since Sacramento Metro was classified as Severe for the 80 and 75 ppm 8-hour ozone NAAQS, the Districts have in place rules with the severe area thresholds (25 tpy) for NOx and ROG. The Districts can certify their existing SIP-approved NNSR rule as meeting the 70 ppb standard requirements unless U.S. EPA has found deficiencies in their NNSR rule, in which case, the Districts will be required to amend their NNSR rules. NNSR rules certifications or amendments are not included in this Plan and are prepared separately by each District for submittal. (Table)

Reasonably Available Control Technology

Section 182(b)(2) of the Act requires implementation of Reasonably Available Control Technology (RACT) in ozone nonattainment areas classified as Moderate or above. To demonstrate this, areas must develop and submit RACT analyses for stationary sources and applicable rules for which U.S. EPA has published Control Techniques Guidelines (CTG) and for major non-CTG stationary sources.

In 2017, the Districts adopted the RACT SIP for the 75 ppb 8-hour ozone standard and submitted to U.S. EPA for approval.[25] In 2020, the Districts adopted new RACT SIPs

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25 *https://www.airquality.org/ProgramCoordination/Documents/RACT%20SIP%20RactSipReport%20032317%20Item%204.pdf*

separately for the 70 ppb standard and reviewed existing stationary source rules to determine if those rules meet RACT requirements under the 70 ppb standard for a Serious nonattainment area (Table). When U.S. EPA reclassifies Sacramento Metro to Severe, the Districts will need to update their RACT SIPs to meet the Severe area requirements.

Vehicle Inspection and Maintenance Program

Sections 182(a)(2)(B), 182(b)(4), and 182(c)(3) of the Act require ozone nonattainment areas to have in place a vehicle inspection and maintenance program (I/M) to implement Basic and Enhanced I/M in applicable areas that is at least as stringent as the federal program. In California, the Bureau of Automotive Repair (BAR) develops and implements the I/M program. California's I/M program was first submitted and approved by U.S. EPA for inclusion in the California SIP in 1997, and subsequent revisions were approved in 2007 and 2010. To meet requirements under the 70 ppb standard, CARB worked with BAR to conduct a performance standard evaluation in order to certify that California's existing program continues to meet requirements. CARB prepared the California Smog Check Performance Standard Modeling and Program Certification for the 70 ppb Standard (Smog Check Certification) and this evaluation determined that the California Smog Check Program continues to meet I/M program requirements as applicable under the 70 ppb standard for Sacramento Metro and other nonattainment areas. The Smog Check Certification was adopted by CARB on March 23, 2023,[26] and submitted to U.S. EPA on April 26, 2023.

Clean Fuels for Fleets Program

Sections 182(c)(4) and 246 of the Act require ozone nonattainment areas classified as Serious or above with a 1980 population of 250,000 or more to submit revisions to the SIP to implement a cleanfuel vehicle program for fleets. The Clean-Fuel Vehicle Program requires at least a specified percentage of all new covered fleet vehicles purchased by fleet operators to be clean-fuel vehicles and that they use clean alternative fuels when operating in the nonattainment area. Alternately, the State, and the nonattainment areas within the State that need to meet the Clean-Fuel Vehicle Program requirement, can opt-out of the program by submitting a revision into the SIP for a program that will achieve long-term reductions in ozone-producing and toxic air emissions equal to those achievable by the U.S. EPA Program.

CARB's LEV programs are implemented statewide and far exceed the level of reduction that would be achieved through implementation of the U.S. EPA Program. As such, California ozone nonattainment areas classified as Serious and above have provided certification to this effect and opted out of the U.S. EPA Program since the first California SIP, 1994 California State Implementation Plan, was submitted to U.S. EPA on November 15, 1994,

[26] *https://ww2.arb.ca.gov/sites/default/files/2023-03/res23-9.pdf*

and approved on September 27, 1999[27]. California has continued to strengthen the requirements for light-duty passenger cars. The second-generation LEV II regulations were adopted in 1998 and the third-generation LEV III regulations in 2012 as part of the Advanced Clean Cars rulemaking package that also includes the State's ZEV regulation. The LEV III regulations include increasingly stringent emission standards for criteria pollutants and greenhouse gases for new passenger vehicles through the 2025 model year.

To meet requirements under the 70 ppb standard, CARB developed the California Clean Fuels for Fleets Certification for the 70 ppb Ozone Standard which was adopted by the Board on January 27, 2022. Effective June 26, 2023, U.S. EPA approved the California Clean Fuels for Fleets Certification for the 70 ppb standard for Sacramento Metro.

Severe/Extreme Area Fee Program

Sections 185 and 182(b)(4) of the Act require ozone nonattainment areas classified as Severe or above to have programs in place for the collection of fees from major stationary sources of NOx or ROG. This SIP requirement must be submitted by August 3, 2028, and will be included in a future submittal.

[27] 1 64 FR 46849, published on August 27, 1999 and effective on September 27, 1999, Approval and Promulgation of State Implementation Plans; California

VII. Environmental Analysis

A. Introduction

This chapter provides the basis for CARB's determination that no subsequent or supplemental environmental analysis is required for the Board's consideration of the Plan (Proposed Project). A brief explanation of this determination is provided in subsection C 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 the California Environmental Quality Act (CEQA) (see California Code of Regulations (CCR), title 14, section 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 CARB Staff Report to comply with CEQA (See 17 CCR §§ 60000-60008). This EA serves as a substitute document equivalent to an addendum to the prior 2022 State SIP Strategy EA to explain CARB's determination that no additional environmental analysis is required for this action.

B. Prior Environmental Analysis

When CARB proposed the 2022 State SIP Strategy, CARB prepared an EA under its certified regulatory program (17 CCR §§ 60000-60008) to comply with the requirements of CEQA (Public Resources Code section 21080.5). The EA, included as Appendix B to the Proposed 2022 State SIP Strategy and entitled Final Environmental Analysis for the proposed 2022 State Strategy for the State Implementation Plan, dated September 16, 2022, determined the 2022 State SIP Strategy could result in the following short-term and long-term impacts: beneficial impacts to air quality (long-term operational-related) and greenhouse gases; less-than-significant impacts to energy demand, mineral resources, population and housing, public services, recreational services and wildfire; and potentially significant and unavoidable adverse impacts to aesthetics, agriculture and forest resources, air quality (short-term construction-related), biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, noise, transportation/traffic, tribal cultural resources, and utilities and service systems. The CARB Board certified the EA when it adopted the 2022 State SIP Strategy in September 2022.

In addition, the Districts have prepared and plan to adopt their respective Notice of Exemption (NOE) along with the Plan at their board hearings. The Districts' NOEs determined the Plan is exempt from CEQA under the Application by Public Agencies exemption (California Code of Regulations, title 14, section 15300.4). The Districts' NOEs are incorporated here by reference.

C. Analysis

1. Legal Standards

When considering further action on an activity for which an Environmental Impact Report (EIR) or negative declaration (or equivalent substitute document) has previously been prepared, CARB looks to Public Resources Code section 21166 and CEQA Guidelines section 15162 for guidance on the requirements for subsequent or supplemental environmental review.

CEQA Guidelines section 15162 states:

> (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> > (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
> >
> > (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
> >
> > (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
> >
> > > (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration.
> > >
> > > (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR.
> > >
> > > (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more 35 significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
> > >
> > > (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one

or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

If a subsequent or supplemental EIR or negative declaration is not required, the lead agency may document its decision and supporting evidence in an addendum (14 CCR § 15164 (e)). The addendum and lead agency's findings should include a brief explanation, supported by substantial evidence, of the decision not to prepare a subsequent or supplemental EIR or negative declaration (14 CCR § 15164(e)). An addendum need not be circulated for public review but must be considered by the lead agency prior to making a decision on the project (14 CCR § 15164(c), (d)).

a. Basis for Determination

CARB analyzed the potential environmental impacts from the 2022 State SIP Strategy in the EA developed for that planning effort. The proposed project here involves compiling these measures, quantifying the emissions reductions associated with them, and submitting them to U.S. EPA for inclusion into the SIP. This exercise does not involve any modifications to any of the measures.

CARB staff has determined that the Plan and associated CARB Staff Report do not involve any changes that result in any new significant adverse environmental impacts or a substantial increase in the severity of the significant adverse impacts previously disclosed in the 2022 SIP Strategy EA. Further, there are no changes in circumstances or new information that would otherwise warrant any subsequent or supplemental environmental review. The 2022 SIP Strategy EA and the District's NOE fully address the implementation of the proposed project, and no additional environmental analysis is required. The basis for CARB's determination that none of the conditions requiring further environmental review are triggered by the proposed modifications is based on the following analysis.

(1) There are no substantial changes to the components of the proposed project that were previously analyzed in the 2022 SIP Strategy EA which require major revisions involving new significant environmental effects or a substantial increase in the severity of previously identified effects.

CARB has determined that the proposed project does not involve any changes that result in any new significant adverse environmental impacts or a substantial increase in the severity of the significant adverse impacts previously disclosed in the Final EA for the 2022 State SIP Strategy. The proposed project involves compiling these existing measures from the Plan and CARB's 2022 State SIP Strategy, quantifying the emissions reductions associated with them, and submitting them to U.S. EPA for inclusion into the SIP. As noted above, this exercise does not involve any modifications to any of the previously approved measures.

(2) There are no substantial changes with respect to the circumstances under which the proposed project is being undertaken which require major revisions

to the previous CEQA analyses involving new significant environmental effects or a substantial increase in the severity of previously identified effects.

CARB has determined that the proposed project does not involve any changes in circumstances that result in any new significant adverse environmental impacts or a substantial increase in the severity of the significant adverse impacts previously disclosed in the Final EA for the 2022 State SIP Strategy. As noted above, CARB does not propose to modify any of the commitments previously analyzed in the Final EA for the 2022 State SIP Strategy or the District's Plan. The proposed project involves compiling these existing measures from the District's Plan and CARB's State SIP Strategy, quantifying the emissions reductions associated with them, and submitting them to U.S. EPA for inclusion into the SIP. As noted above, this exercise does not involve any modifications to any of the previously approved measures.

(3) There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous CEQA analyses were completed, that changes the conclusions of the environmental analyses with regard to impacts, mitigation measures, or alternatives.

CARB has determined that the proposed project does not involve any new information that changes the conclusions of the Final EA for the 2022 State SIP Strategy or the District's NOE. As noted above, CARB does not propose to modify any of the commitments previously analyzed. The proposed project involves compiling these existing measures from the District's Plan and CARB's 2022 State SIP Strategy, quantifying the emissions reductions associated with them, and submitting them to U.S. EPA for inclusion into the SIP. As noted above, this exercise does not involve any modifications to any of the previously approved measures.

Finally, while in an abundance of caution CARB has prepared an addendum-equivalent analysis here, CARB notes that this SIP action also likely does not constitute a CEQA "project" in the first instance. As noted above, the District evaluated the potential environmental impacts from the Plan and determined it is exempt from CEQA. As to the District-proposed measures, CARB lacks jurisdiction to modify or remove these measures for any purpose other than compliance with Clean Air Act requirements. Therefore, CARB's review of those components is effectively ministerial. (See *San Diego Navy Broadway Complex Coalition v. City of San Diego (2010) 185 Cal.App.4th 924, 934.*) As to the CARB-derived measures, CARB has already committed to pursuing these measures as part of the 2022 State SIP Strategy. CARB's actions here do not modify those previous commitments made at the time CARB approved the 2022 State SIP Strategy; rather, it amounts to quantifying the anticipated reductions from those commitments, and reaffirming CARB's commitment to those reductions.

VIII. Staff Recommendation

CARB staff recommends that the Board:

1. Adopt the commitment to achieve aggregate emissions reductions of 6.1 tpd of NOx and 0.7 tpd of ROG in the Sacramento Metro by 2032, including a subset to come specifically from on-road mobile source measures of 1.2 tpd NOx and 0.4 tpd ROG, as included in the Plan;
2. Adopt the Plan, including the emission inventories, attainment demonstration, RACM demonstration, RFP demonstration, contingency measures, transportation conformity budgets and VMT offset, as a revision to the California SIP; and
3. Direct the Executive Officer to submit the Plan and the CARB Staff Report to U.S. EPA as a revision to the California SIP.