APPENDIX D
Reasonably Available Control Measure (RACM) Analysis

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D Reasonably Available Control Measure Analysis

D.1 RACM Assessment – Statewide Sources

The Clean Air Act (Act) requires the implementation of all reasonably available control measures (RACM) as expeditiously as practicable and shall provide for attainment of the air quality standards. This section demonstrates that for the 70 ppb 8-hour ozone standard, California's mobile source and consumer products measures along with the Department of Pesticides (DPR) measures meet the RACM requirement in the Sacramento Metro nonattainment area.

D.1.1 RACM Requirements

United States Environmental Protection Agency (EPA) has interpreted RACM to be 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. Section 172(c)(1) of the Act requires SIPs to provide for the implementation of RACM as expeditiously as practicable. 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 includes stringent emissions standards for new vehicles, in-use programs to reduce emissions from existing vehicle and equipment fleets, cleaner fuels that minimize emissions, and incentive programs to accelerate the penetration of the cleanest vehicles beyond that achieved by regulations alone. Taken together, California's mobile source program meets RACM requirements in the context of ozone nonattainment.

To ensure the State continues to meet RACM requirements and achieve its emissions reductions goals in the future, California continues to develop new programs and regulations to strengthen its overall mobile source program and to achieve new emissions reductions from mobile sources.

D.1.2 RACM For Mobile Sources

D.1.2.1 Waiver and Authorizations

While section 209 of the Act preempts other states from adopting emission standards and other emission-related requirements for new motor vehicles and engines that differ from the federal standards set by EPA, the Act provides California with the ability to seek a waiver or authorization from the federal preemption clause in order to enact emission standards and other emission-related requirements for new motor vehicles and engines, as well as new and in-use off-road vehicles and engines[1] – provided that the California standards are at least as protective as applicable federal standards.

[1] Locomotives and engines less than 175 horsepower (hp) used in farm and construction equipment are exempt from California's waiver authority.

Over the years, California has received waivers and authorizations for over 100 regulations. The most recent California standards and regulations that have received waivers and authorizations are: the Advanced Clean Cars (ACC) regulations for light-duty vehicles (including the Zero-Emission Vehicle (ZEV) and the Low-Emission Vehicle III (LEV III) regulations); the On-Board Diagnostics (OBD) regulation; the Heavy-Duty Idling, Malfunction and Diagnostics System Regulation; the In-Use Off-Road Diesel Fleets Regulation; the Large Spark Ignition (LSI) Fleet Regulation; and the Mobile Cargo Handling Equipment (CHE) regulation. Further, CARB has recently submitted waiver requests for: the Advanced Clean Transit (ACT) regulation; the Zero-Emission Airport Shuttle Buses Regulation; the Zero-Emission Powertrain Certification Regulation, and the Heavy-Duty Omnibus Regulation. Other authorizations include the Off-Highway Recreational Vehicles and the Portable Equipment Registration Program (PERP).

Additionally, CARB obtained an authorization from EPA to enforce adopted emission standards for off-road engines used in yard trucks and two-engine sweepers. CARB adopted the off-road emission standards as part of its "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles," (Truck and Bus Regulation). The bulk of the regulation applies to in-use heavy-duty diesel on-road motor vehicles with a gross vehicle weight rating in excess of 14,000 pounds, which are not subject to preemption under section 209(a) of the Act and do not require a waiver under section 209(b).

The waiver and authorizations California has received are integral to the success and stringent emission requirements that characterize CARB's mobile source program. Due to California's unique waiver authority under the Act, no other state or nonattainment area has the authority to promulgate mobile source emission standards at levels that are more stringent than the federal standards. Other states can elect to match either the federal standards or the more stringent California standards. As such, no state or nonattainment area has a more stringent suite of mobile source emission control programs than California, implying a de-facto level of control that at least meets, if not exceeds, RACM.

D.1.2.2 CARB's Mobile Source Controls

CARB's current mobile source control program, along with efforts at the local and federal level, has been tremendously successful in reducing emissions of air pollutants, resulting in significantly cleaner vehicles and equipment in operation today.

CARB developed its 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy)[2] through a multi-step measure development process, including extensive public consultation, to develop and evaluate potential strategies for mobile source

[2] CARB 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy) https://ww2.arb.ca.gov/resources/documents/2022-state-strategy-state-implementation-plan-2022-state-sip-strategy

categories under CARB's regulatory authority that could contribute to expeditious attainment of the 70 ppb 8-hour ozone standard, as well as supporting attainment for other national and State air quality standards. This effort builds on the measures and commitments already made in the 2016 State SIP Strategy and expands on the scenarios and concepts included in the 2020 Mobile Source Strategy, CARB's multi-pollutant planning effort that identifies the pathways forward to achieve the State's many air quality, climate, and community risk reduction goals. The Board adopted the 2022 State SIP Strategy in September 2022.

With the 2022 State SIP Strategy, CARB is pursuing an unprecedented variety of new measures to reduce emissions from the sources under our authority using all mechanisms available. The measures included in the 2022 State SIP Strategy encompass actions to establish requirements for cleaner technologies (both zero emissions and near zero emissions), deploy these technologies into the fleet, and to accelerate the deployment of cleaner technologies.

D.1.2.3 Light- and Medium-Duty Vehicles

Since setting the nation's first motor vehicle exhaust emission standards in 1966 that led to the first pollution controls, California has dramatically tightened emission standards for light-duty vehicles. Through CARB regulations, today's new cars pollute 99 percent less than their predecessors did thirty years ago. In 1970, CARB required auto manufacturers to meet the first standards to control NO_X emissions along with hydrocarbon emissions, which together form smog. The simultaneous control of emissions from motor vehicles and fuels led to the use of cleaner-burning gasoline that has removed the emissions equivalent of 3.5 million vehicles from California's roads.

Light- and medium-duty vehicles are currently regulated under California's ACC program, which includes the LEV III and ZEV programs. The ACC program combines the control of smog, soot-causing pollutants, and greenhouse gas emissions into a single coordinated package of requirements for model years 2015 through 2025. Since first adopted in 1990, CARB's LEV I and LEV II, and the ZEV Programs have resulted in the production and sales of hundreds of thousands of ZEVs in California. Advanced Clean Cars II (ACC II), a measure in the 2016 State SIP Strategy, is a significant effort critical to meeting air quality standards. ACC II, which was adopted by the CARB Board in August 2022, has the goal of cutting emissions from new combustion vehicles while taking all new vehicle sales to 100 percent zero-emission no later than 2035.

For passenger vehicles, the 2022 State SIP Strategy includes actions to increase the penetration of ZEVs by targeting ride-hailing services offered by transportation network companies through the Clean Miles Standard regulation in order to reduce GHG and criteria pollutant emissions and promote electrification of the fleet. For motorcycles, the 2022 State SIP Strategy proposes more stringent exhaust and evaporative emissions

standards along with zero-emissions sales thresholds. The primary goal of the On-Road Motorcycle New Emissions Standard measure is to reduce emissions from new, on-road motorcycles by adopting more stringent exhaust and evaporative emissions standards along with zero-emissions sales thresholds.

CARB is also active in implementing in-use programs for owners of older dirtier vehicles to retire them early. The "car scrap" programs, like Clean Cars 4 All and Clean Vehicle Rebate Project provide monetary incentives to replace old vehicles with zero-emission vehicles. Other California programs and goals such as the 2012 Governor's Executive Order to put 1.5 million zero-emission vehicles on the road by 2025 and will produce substantial and cost-effective emission reductions from the light-duty vehicle sector.

Taken together, California's emission standards, fuel specifications, and incentive programs for on-road light- and medium-duty vehicles represent all measures that are technologically and economically feasible within California. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.1.2.4 Heavy-Duty Vehicles

California's heavy-duty vehicle emissions control program includes requirements for increasingly stringent new engine emission standards and addresses vehicle idling, certification procedures, on-board diagnostics, emissions control device verification, and in-use measures to ensure that emissions from the existing vehicle fleet remain adequately controlled. Taken together, the on-road heavy-duty vehicle program is designed to achieve in 2023 an on-road heavy-duty diesel fleet with 2010 engines emitting 98 percent less NO_X and $PM_{2.5}$ than trucks sold in 1986.

Other significant in-use control measures CARB has in place include: the On-Road Heavy-Duty Diesel Vehicle (In-Use) Regulation; the Drayage (Port or Rail Yard) Regulation; the Public Agency and Utilities Regulation; the Solid Waste Collection Vehicle Regulation; the Heavy-Duty (Tractor-Trailer) Greenhouse Gas (GHG) Regulation, the Airborne Toxic Control Measures (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling; the Heavy-Duty Diesel Vehicle Inspection Program; the Periodic Smoke Inspection Program (PSIP); the, Fleet Rule for Transit Agencies; the Lower-Emission School Bus Program; and Heavy-Duty Truck Idling Requirements.

In 2013, California recognized the heavy-duty engines could be cleaner and established optional low-NO_X standards for heavy-duty diesel engines (Optional Reduced Emissions Standards for Heavy-Duty Engines regulation), with the most aggressive standard being 0.02 g/bhp-hr, 90 percent below the 2010 federal standard. Further, in 2021, CARB adopted the Heavy-Duty Engine and Vehicle Omnibus Regulation (Omnibus Regulation) which made the 0.02 g/bhp-hr a mandatory standard, and comprehensively overhauled how NO_X emissions from new heavy-duty engines are regulated in California. The

Omnibus Regulation also includes in-use standards that significantly reduce tailpipe NO_X emissions during most vehicle operating modes, and revisions to the emissions warranty, useful life, emissions warranty and reporting information and corrective action procedures, and durability demonstration procedures.

To further control emissions from the in-use fleet, CARB adopted in 2021 the Heavy-Duty Inspection and Maintenance Regulation, which requires periodic demonstration that vehicles' emissions control systems are properly functioning in order to legally operate within the State. This regulation is designed to achieve criteria emissions reductions by ensuring that malfunctioning emissions control systems are timely repaired.

In June 2020, CARB adopted the ACT regulation, a first of its kind regulation requiring medium- and heavy-duty manufacturers to produce ZEVs as an increasing portion of their sales beginning in 2024. This regulation is expected to result in roughly 100,000 ZEVs by 2030 and nearly 300,000 ZEVs by 2035. Most recently in the ongoing efforts to go beyond federal standards and achieve further reductions, the 2022 State SIP Strategy includes the complementary Advanced Clean Fleets measure. Through this program, CARB is developing a medium and heavy-duty zero-emission fleet regulation with the goal of achieving a zero-emission truck and bus California fleet by 2045 everywhere feasible, and significantly earlier for certain market segments such as last mile delivery and drayage applications.

The 2022 State SIP Strategy also includes the Zero-Emissions Trucks Measure, which would accelerate the number of zero-emission heavy-duty vehicles beyond existing measures, and the proposed Advanced Clean Fleets regulation. The Zero-Emissions Trucks Measure was developed in response to comments from the public related to turning over heavy-duty trucks at the end of their useful life. The Zero Emissions Trucks Measure targets the replacement of older trucks in order to increase the number of heavy-duty ZEVs as soon as possible and reduces emissions from fleets not affected by the Advanced Clean Fleets measure. CARB is exploring new methods to replace older trucks, including market signal tools, that would not unduly burden low-income truckers, provide flexibility, and target reductions in the areas that need it most.

In addition, CARB’s significant investment in incentive programs provides an additional mechanism to achieve maximum emission reductions from this source sector. California has a variety of programs to incentivize clean heavy-duty vehicles that include the Carl Moyer Air Quality Standards Attainment Program, the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, the Truck Loan Program, and AB 617 Community Air Protection Funds.

Taken together, California’s emission standards, fuel specifications, and incentive programs for on-road heavy-duty vehicles represent all measures that are technologically

and economically feasible within California. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.1.2.5 Off-Road Vehicles and Engines

California regulations for off-road equipment include not only increasingly stringent emission standards for new off-road diesel engines, but also in-use requirements and idling restrictions. CARB has programs in place to control emissions from various new off-road vehicles and equipment. CARB also has in-use programs for off-road vehicles and equipment, including the In-Use Off-Road Diesel Fueled Fleets Regulation (Off-Road Regulation) and Large Spark-Ignition Engine Fleet Requirements Regulation, as well as incentive programs including the Clean Off-Road Equipment (CORE) Voucher Incentive Project. CARB adopted amendments to the small off-road engine regulations in December 2021, the Transport Refrigeration Unit Part 1 regulatory action in February 2022, and will be proposing the Zero-Emission Off-Road Forklift regulation in the next year.

The Off-Road Regulation, adopted in 2010, is an extensive program designed to accelerate the penetration of the cleanest equipment into California's fleets, and impose idling limits on off-road diesel vehicles. The program goes beyond emission standards for new engines through comprehensive in-use requirements for legacy fleets. CARB also included in the 2022 State SIP Strategy a measure for amendments to the existing Off-Road Regulation. These amendments were approved by CARB in November 2022 and create additional requirements to the currently regulated fleets by targeting the oldest and dirtiest equipment that is allowed to operate indefinitely under the current regulation's structure, through an operational ban on the oldest and dirtiest equipment and limitations on vehicles added to a fleet.

The LSI Engine Fleet Requirements Regulation applies to operators of forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment (GSE). The 2006 LSI rulemaking and 2010 amendments required operators of in-use fleets to achieve specific hydrocarbon + NO_X fleet average emission level standards that became more stringent over time. CARB adopted amendments to the small off-road engine (SORE) regulations in December 2021 that will accelerate the transition of SORE equipment to Zero-Emission Equipment (ZEE). Deployment of ZEE is key to meeting the expected emission reductions in the 2016 State SIP Strategy.

As discussed in the 2016 State SIP Strategy, CARB is also developing new requirements to transition diesel-powered transport refrigeration units (TRUs) to zero-emission technology in two phases. CARB adopted the Part 1 amendments to the existing TRU ATCM in February 2022, which requires the transition of diesel-powered truck TRUs to zero-emission. As discussed in the 2022 State SIP Strategy, CARB plans to develop a

subsequent Part 2 regulation to require zero-emission trailer TRUs, domestic shipping container TRUs, railcar TRUs, and TRU generator sets, for future Board consideration.

Additionally, the 2022 State SIP Strategy includes the Tier 5 Off-Road New Compression-Ignition Engine Standards measure to reduce NO_X and PM emissions from new, off-road compression-ignition engines by adopting more stringent exhaust standards for all power categories. Compression-ignition engines are used in a wide range of off-road equipment including tractors, excavators, bulldozers, graders, and backhoes. The standards considered for this measure would be more stringent than required by current EPA and European Stage V nonroad regulations and would require the use of best available control technologies for both PM and NO_X.

CARB is also developing a measure, as described in the 2022 State SIP Strategy, to accelerate the development and production of zero-emission off-road equipment and powertrains through the Off-Road Zero-Emission Targeted Manufacturer Rule. Existing zero-emission regulations and regulations currently under development target a variety of sectors (e.g., forklifts, cargo handling equipment, off-road fleets, small off-road engines, etc.) however, as technology advancements occur, more sectors, including wheel loaders, excavators, and bulldozers) could be accelerated through this measure.

Further, CARB implements a number of incentive programs and projects to advance the turnover of off-road equipment to cleaner technologies. The Moyer Program has provided funding towards on- and off-road equipment for decades. CORE is a newer project that is intended to accelerate deployment of advanced technology in the off-road sector and targets commercial-ready products that have not yet achieved a significant market foothold. For engines and equipment used in agricultural processes, CARB has the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) program to support fleet turnover to cleaner engines.

Taken together, California's comprehensive suite of emission standards, fuel specifications, and incentive programs for off-road vehicles and engines represent all measures that are technologically and economically feasible within California. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.1.2.6 Marine Sources

Commercial harbor craft include any private, commercial, government, or military marine vessels including, but not limited to ferries, excursion vessels, tugboats (including ocean-going tugboats), barges, and commercial and commercial passenger fishing boats. CARB's Commercial Harbor Craft Regulation (CHC Regulation) was adopted in 2007 to reduce toxic and criteria emissions to protect public health and subsequently amended in 2010. As described in the Draft 2022 State SIP Strategy, the Board also adopted amendments to the CHC Regulation in March 2022, which establish expanded

and more stringent in-use requirements to cover more vessel categories and mandate accelerated deployment of zero-emission and advanced technologies in vessel categories where technology feasibility has been demonstrated.

To reduce emissions from Ocean Going Vessels (OGV), CARB has adopted to date the Ocean-Going Vessel Fuel Regulation "Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels within California Waters and 24 Nautical Miles of the California Baseline" (2008) and the Ocean-Going Vessels At-Berth Regulation (2007). The At-Berth Regulation requires container ships, passenger ships, and refrigerated-cargo ships at six California ports to meet compliance requirements for auxiliary engines while they are docked, including emission or power reduction requirements. Reduced vessel speeds also provide emission reduction benefits, and programs are operated by local air districts along the California coast to incentivize lower speeds. CARB staff received comments during the public process about including a statewide vessel speed reduction program. In the Draft 2022 State SIP Strategy, the CARB measure for 'Future Emissions Reductions from Ocean-Going Vessels' discusses pursuing options available under CARB authority to achieve further emissions reductions, including developing a statewide vessel speed reduction program.

To control emissions from personal watercraft, CARB staff is also exploring development of more stringent Spark-Ignition Marine Engine Standards, as described in the 2022 State SIP Strategy. For this measure, CARB would develop and propose catalyst-based standards for outboard and personal watercraft engines greater than or equal to 40 kW in power that will gradually reduce emission standards to approximately 70 percent below current levels and consider actions that would require a percentage of outboard and personal watercraft vessels to be propelled by zero-emission technologies for certain applications.

Taken together, California's comprehensive suite of emission standards, fuel specifications, and incentive programs for marine vehicles and engines represent all measures that are technologically and economically feasible within California. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.1.2.7 Fuels

As mentioned earlier, cleaner burning fuels also play an important role in reducing emissions from motor vehicles and engines in these source categories. CARB has adopted standards to ensure that the fuels sold in California are the cleanest in the nation. These programs include the California Reformulated Gasoline program (CaRFG), which controls emissions from gasoline, and the Ultra-Low Sulfur Diesel requirements (2006), which provide the nation's cleanest diesel fuel specifications and help to ensure that diesel fuels burn as cleanly as possible and work synergistically with cleaner-operating

heavy-duty trucks equipped with advanced emission control systems that debuted in 2007, and the Low Carbon Fuel Standard. These fuel standards, in combination with engine technology requirements, ensure that California's transportation system achieves the most effective emission reductions possible.

Taken together, California's emission standards, fuel specifications, and incentive programs for other mobile sources and fuels represent all measures that are technologically and economically feasible within California. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.1.2.8 Mobile Source Summary

California's long history of comprehensive and innovative emissions control has resulted in the most stringent mobile source control program in the nation. EPA has previously acknowledged the strength of the program through the waiver process, and in their approvals of CARB's regulations and District plans.

In its 2021 approval of the area's 2017 Sacramento Area Regional Ozone Plan for the 75 ppb 8-hour ozone standard, EPA approved the State's current control program and measure commitments from the 2016 State SIP Strategy as meeting RACM requirements for the Sacramento Metro area. In its proposal for that final action, EPA found that,

> *"Based on our review of these RACM analyses and the Districts' and CARB's adopted rules… there are, at this time, no additional RACM that would further advance attainment of the 2008 ozone NAAQS in the Sacramento Metro Area. For the foregoing reasons, we propose to find that the Sacramento Metro Area Ozone SIP provides for the implementation of all RACM as required by CAA"*[3]

In addition to declarations that CARB's mobile source control program meets RACM requirements, EPA has also provided past determinations that CARB's mobile source control program meets the more rigorous Best Available Control Measure (BACM) requirements. As BACM requirements are considered a more stringent threshold to meet than RACM, EPA has stated that a determination that the control program has meet BACM requirements also constitutes a conclusion that it meets RACM requirements.[4]

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[3] 85 FR 68509 https://www.federalregister.gov/documents/2020/10/29/2020-23032/approval-of-air-quality-implementation-plans-california-sacramento-metro-area-2008-8-hour-ozone

[4] "We interpret the BACM requirement as generally subsuming the RACM requirement (i.e., if we determine that the measures are indeed the ''best available,'' we have necessarily concluded that they are ''reasonably available''). Consequently, our proposed approval of the… provisions relating to the implementation of BACM also constitutes a proposed finding that the Plan provides for the implementation of RACM."
69 FR 5411 https://www.federalregister.gov/documents/2004/02/04/04-2264/approval-and-promulgation-of-implementation-plans-for-california-san-joaquin-valley-pm-10

EPA has acknowledged CARB's mobile source control program as meeting BACM in and in their 2019 approval of the South Coast's $PM_{2.5}$ Serious Area Plan. In their 2018 proposal for that approval, EPA noted that,

> *"With respect to mobile sources, we recognize that CARB's current program addresses the full range of mobile sources in the South Coast through regulatory programs for both new and in-use vehicles… Overall, we believe that the program developed and administered by CARB and SCAG provide for the implementation of BACM for $PM_{2.5}$ and $PM_{2.5}$ precursors in the South Coast nonattainment area."*[5]

CARB has continued to substantially enhance and accelerate reductions from our mobile source control programs through the implementation of more stringent engine emissions standards, in-use requirements, incentive funding, and other policies and initiatives as described in the preceding sections. The CARB process for developing CARB's control measures includes an extensive public process and is consistent with EPA RACM guidance. Through this process, CARB found that with the current mobile source control program and new measures included in the 2022 State SIP Strategy, there are no additional reasonable available control measures that would advance attainment of the 70 ppb 8-hour ozone standard in the Sacramento Metro nonattainment area. There are no reasonable regulatory control measures excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures. As a result, California's mobile source control programs fully meet the requirements for RACM.

D.1.3 RACM for Consumer Products

Consumer products are defined as chemically formulated products used by household and institutional consumers. For thirty years, CARB has taken actions pertaining to the regulation of consumer products. Three regulations have set VOC limits for 129 consumer product categories. These regulations, referred to as the Consumer Product Program, have been amended frequently, and progressively stringent VOC limits and reactivity limits have been established. These are Regulation for Reducing VOC Emissions from Antiperspirants and Deodorants; Regulation for Reducing Emissions from Consumer Products; and Regulation for Reducing the Ozone Formed from Aerosol Coating Product Emissions, and the Tables of Maximum Incremental Reactivity Values. Additionally, a voluntary regulation, the Alternative Control Plan has been adopted to provide compliance flexibility to companies. The program's most recent rulemaking occurred in 2021 with amendments to Consumer Products Regulation and Method 310.

5 83 FR 49872 https://www.federalregister.gov/documents/2018/10/03/2018-21560/approval-and-promulgation-of-implementation-plans-california-south-coast-serious-area-plan-for-the

EPA also regulates consumer products. EPA's consumer products regulation was promulgated in 1998, however, federal consumer products VOC limits have not been revised since their adoption. EPA also promulgated reactivity limits for aerosol coatings. As with the general consumer products, California's requirements for aerosol coatings are more stringent than the EPA's requirements. Other jurisdictions, such as the Ozone Transport Commission states, have established VOC limits for consumer products which are modeled after the California program. However, the VOC limits typically lag those applicable in California.

In summary, California's Consumer Products Program, with the most stringent VOC requirements applicable to consumer products, meets RACM. There are no additional reasonable available control measures that, when considered in aggregate, would advance attainment of the 70 ppb 8-hour ozone standard in the Sacramento Metro nonattainment area. There are no reasonable regulatory control measures excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures. As a result, California's consumer product control program fully meets the requirements for RACM.

D.1.4 RACM for Pesticides

The Department of Pesticide Regulation (DPR) is the State agency responsible for regulating the application of pesticides, which are a source of VOCs in the Sacramento Metro area. California began including in the SIP controls to reduce VOC emissions from pesticide applications in the 1994 Ozone SIP. The 1994 Ozone SIP included a commitment to reduce VOC emissions from pesticide use 20 percent below the 1990 baseline emission levels by 2005, with flexibility to achieve reductions of less than 20 percent if less pesticidal VOC emissions reductions were needed in a given district. This commitment, known as the 1994 Pesticide Element, governed the application of agricultural and structural pesticides in five California nonattainment areas: South Coast, San Joaquin Valley, Sacramento Metro, Ventura County, and the Southeast Desert.

Under the Pesticide Element of the 1994 Ozone SIP, California's commitment for the Sacramento Metro area was to adopt and submit to EPA by 1997, any regulations necessary to reduce VOC emissions resulting from agricultural and structural pesticides by 20 percent of the 1990 base year emissions.[6] DPR has adopted and submitted the requisite regulations to EPA and has continued to strengthen their programs to further reduce exposure and emissions to pesticides in California. DPR compiles and publishes annual reports on VOC emissions from pesticides. In its latest report, DPR identified that VOC emissions in the Sacramento Metro nonattainment area were 56 percent lower than

[6] 62 FR 1150 https://www.govinfo.gov/content/pkg/FR-1997-01-08/pdf/97-144.pdf#page=1 (January 8, 1997).

the 1990 base year, and thus remain in compliance with the SIP goal benchmark of 20 percent below 1990 levels.[7]

Beyond ensuring that the control measures in the Sacramento Metro area are maintaining VOC emissions from pesticides that do not exceed the prescribed limits, DPR assessment indicates that no other state, aside from California, is required to adopt into their SIP measures to reduce VOC emissions from pesticides. This requirement suggests that the California pesticide control program exceeds the RACT threshold of "reasonably available" control technologies and meets at least the more stringent threshold of "best available" control technologies (BACT).

Finally, the pesticide control program currently being implemented in the Sacramento Metro area has been found by EPA to meet RACT/RACM requirements. In 2012, as part of their final approval of California's 2009 Field Fumigant Regulations and the Revised SIP Commitment for the SJV, EPA evaluated California's field fumigant regulations for the South Coast, Ventura County, Southeast Desert, San Joaquin Valley, and Sacramento Metro nonattainment areas, and concluded that the controls met RACT requirements:

> *"[U.S.] EPA believes, based on the information provided in the CDPR's alternatives analysis, and the research cited to support it, that CDPR has demonstrated that the proposed regulations are stringent enough to implement RACT-level controls on the application of pesticides."8*

EPA has also approved the RACM demonstration in the 80 ppb 8-hour ozone SIPs for the South Coast and San Joaquin Valley, including the VOC control measures,[9] as well as the RACM demonstration in the $PM_{2.5}$ SIP for the South Coast.[10] Finally, EPA has also determined that California's pesticide control program meets the more stringent control level requirements of BACM, as was affirmed in the Technical Support Document for EPA's action to approve California's 2009 Field Fumigant Regulations and the Revised SIP Commitment,[11] wherein they reference their prior approval of the PM10 SIPs for South Coast and Southeast Desert[12] and other SIPs:

7 California DPR October 2021 "Annual Report on Volatile Organic Compound Emissions from Pesticides for 1990 – 2019" https://www.cdpr.ca.gov/docs/emon/vocs/vocproj/2019_voc_annual_report.pdf
8 EPA Technical Support Document for Final Rule (August 14, 2012) https://www.regulations.gov/document/EPA-R09-OAR-2012-0194-0023
9 See 77 FR 12652 (March 1, 2012) (SJV 2007 8-hour Ozone SIP), and 77 FR 12674 (March 1, 2012) (South Coast 8-hour Ozone Plan)
10 76 FR 69928 (November 9, 2011)
11 EPA *Technical Support Document for Final Rule* (August 14, 2012) https://www.regulations.gov/document/EPA-R09-OAR-2012-0194-0023
12 70 FR 69081 (November 14, 2005)

> *"The approval of the fumigant regulations is consistent with these approved RACM/BACM demonstrations and therefore will not interfere with these SIPs' compliance with the RACM/BACM requirements."*

Beyond the VOC controls provided by the pesticide control program currently being implemented, the 2022 State SIP Strategy also includes a measure to reduce emissions associated with the use of a pesticide known as 1,3-Dichloropropene (1,3-D), which is considered a VOC. This measure was developed to limit short-term air concentrations of 1,3-D, a fumigant used to control nematodes, insects, and disease organisms in soil, by shifting application methods to those with lower emissions, such as requiring applicators to use totally impermeable film (TIF) tarpaulins or other mitigation measures. DPR is in the process of developing this regulation, which has a targeted effective date of 2024.

In summary, DPR's pesticide regulations represent all measures that are technologically and reasonably available in the context of the Sacramento Metro nonattainment area's 70 ppb 8-hour ozone attainment plan and meets RACM. There are no additional measures that, when considered in aggregate, would advance the attainment date by at least one year.

D.2 RACM Analysis – SFNA Air Districts

D.2.1 RACM requirements

This Appendix describes the Reasonably Available Control Measure (RACM) analysis that was conducted for the Sacramento Federal Nonattainment Area (SFNA). This analysis complies with Clean Air Act (CAA) Section 172(c)(1) which requires a nonattainment plan to:

> *"provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards."*

United States Environmental Protection Agency's (USEPA) RACM policy (80 FR 12282-12283; USEPA, 1999) indicates that nonattainment areas "should consider all available measures that are potentially reasonably available". Sources of potentially reasonable measures include measures adopted in other nonattainment areas and measures that the USEPA has identified in guidelines or other documents.

Areas should consider all reasonably available measures for implementation in light of local circumstances. However, areas are only required to adopt measures if they are economically and technologically feasible and (alone or cumulatively) will advance the attainment date by one year or more, or are necessary for reasonable further progress (RFP) (80 FR 12282). EPA "does not believe that Congress intended the RACM requirement to compel the adoption of measures that are absurd, unenforceable, or impracticable." (57 FR 13498)

D.2.2 Process of identifying RACM

To identify all RACM, District staff reviewed multiple sources of control measure information, including:

- Control measures included in the attainment plan for the 2008 8-hour National Ambient Air Quality Standard (NAAQS) (SMAQMD, et al, 2017)
- Rules adopted or amended between January 2006 and July 2022 in the Bay Area Air Quality Management District (BAAQMD), South Coast Air Quality Management District (SCAQMD), San Diego Air Pollution Control District (SDAPCD), San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), and Ventura County Air Pollution Control District (VCAPCD); and
- USEPA's Reasonably Available Control Technology (RACT)/ Best Available Control Technology (BACT)/ Lowest achievable Emission Rate (LAER) Clearinghouse;

- California Air Resources Board's (CARB's) BACT Clearinghouse;
- SCAQMD's 2022 Air Quality Management Plan; and
- Rules from other areas of the nation with similar nonattainment status, including Houston-Galveston-Brazoria, TX; Dallas-Fort Worth, TX; and Baltimore, MD.

Staff from each of the five air districts in the SFNA performed the RACM analysis for the stationary and areawide sources in their jurisdictions. For each potential RACM measure, the emissions inventory, emissions reductions, and cost effectiveness were estimated.

D.2.3 Conclusions

The RACMs collectively would not advance the attainment date or contribute to RFP for the Sacramento region because of the insufficient or non-quantifiable level of potential emission reductions they may generate. Several RACMs were determined to be impracticable and excluded due to excessive cost-effectiveness estimates. Tables D-1 through D-5 contain a list of the measures evaluated by each of the five air districts and a brief discussion of the conclusions.

D.2.4 Sacramento Metropolitan Air Quality Management District (SMAQMD)

Table D-1 SMAQMD Stationary/Area Source Control Measures Considered

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
460	Adhesives and Sealants	VOC limits on adhesives and sealants	Reduce VOC limits on adhesives and sealants similar to rules adopted by SCAQMD and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.587	VOC: 0.1923
442	Architectural Coatings	VOC limits on coatings	Reduce the VOC limits on architectural coatings similar to the rules adopted by SCAQMD and SJVUAPCD and the 2019 and 2020 CARB SCMs	Included in evaluation of attainment advancement	VOC: 1.576	VOC: 0.1837
459	Automotive Refinishing	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.5621	VOC: 0
411	Boilers	NO_X limits on boiler/steam generators with a rated heat input capacity of 1 mmBtu/hr or greater	Reduce NO_X limits similar to SCAQMD and SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.3671	NO_X: 0
	Brandy and Wine Aging	None	Establish VOC emissions standards to reduce evaporative VOC emissions from the fermentation process at distilleries and wineries similar to SJVUAPCD requirements	No sources subject to control	VOC: 0.2948	VOC: 0

[13] A blank indicates no current rule in place for that type of stationary or area source.

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
452	Can Coating	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.2050	VOC: 0
	Commercial Cooking	VOC emission standards for large commercial bread bakeries	Establish standards to control VOC emissions from commercial charbroilers similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.2534	VOC: 0.0039
	Composting Operations	None	Establish work practice requirements to reduce VOC emissions from green waste composting similar to SCAQMD and SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.2506	VOC: 0.0822
496	Confined Animal Facilities	Implement VOC emission mitigation measures from a menu of options	Reduce animal-count applicability thresholds; increase number of mitigation measures, and control efficiency	Included in evaluation of attainment advancement	VOC: 1.628	VOC: 0.161
	Flares	None	Establish NO_X emission standards for flares similar to SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0782	NO_X: 0
	Furnaces (Residential)	None	Establish point-of-sale NO_X emissions standard for natural gas-fired central furnaces similar to SCAQMD and SJVUAPCD requirements	Included in evaluation of attainment advancement	NO_X: 0.4002	NO_X: 0.088

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Further Control of High-Emitting Spray Booth Facilities	None	Require additional controls to reduce VOC emissions from spray booths at facilities emitting > 20 tons per year	No sources	VOC: 0	VOC: 0
446/447/ 448	Gasoline Storage, Loading, and Degassing of Tanks and Pipelines	VOC emission standards for organic liquid storage tanks; vapor-recovery requirements for loading at bulk plants and bulk terminals	Reduce VOC emission limits for gasoline loading at bulk plants and bulk terminals to be as stringent as BAAQMD; establish VOC emission standards for degassing storage tanks and pipelines similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.3872	VOC: 0
	Glass Melting Furnaces	None	Establish NO_X emission limits for glass melting furnaces	No sources	NO_X: 0	NO_X: 0
450	Graphic Arts	VOC limits on inks, coatings, adhesives or use emission control system	Reduce VOC limits for flexographic ink on porous substrates, extreme performance ink, and metallic ink to be as stringent as SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.4745	VOC: 0
412	Internal Combustion (IC) Engines	NO_X emission limits on IC engines located at major stationary sources of NO_X	Reduce NO_X limits to be stringent as SCAQMD; expand applicability to include non-major stationary sources of NO_X	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.6125	NO_X: 0

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
464	Industrial Wastewater	Requirements for covers and emission control systems for wastewater collection and treatment systems at organic chemical plants	Lower applicability thresholds to require controls on more wastewater streams, increase required efficiency of VOC control devices similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.0017	VOC: 0.0013
	Liquefied Petroleum Gas (LPG) Transfer and Dispensing	None	Establish standards to control VOC emissions from LPG transfer and dispensing similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.5693	VOC: 0.1608
	Metal Melting Furnaces	None	Establish NO_X emission limits for metal melting furnaces	No sources	NO_X: 0	NO_X: 0
451	Metal Parts and Products Coating	VOC limits on coatings, strippers, cleaning solvents	Reduce VOC limits for general one-component, extreme high gloss, and prefabricated architectural coatings, similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.2643	VOC: 0.0162
	Metal Working Fluids	None	Establish VOC limits on metalworking fluids and direct-contact lubricants similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.2217	VOC: 0.1197
440	Miscellaneous Coatings	None	Establish VOC limits and application method requirements for coating operations not covered by other rules, similar to SCAQMD, SJVUAPCD, VCAPCD, and BAAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.2919	VOC: 0.0450

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Miscellaneous Combustion Sources	None	Establish NO_X emission limits on miscellaneous combustion equipment < 5 mmBtu/hr including dryers and ovens similar to rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.4206	NO_X: 0.0291
	Mold Release Agents	None	Establish VOC limits on mold release agents similar to the control measure proposed by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.69	VOC: 0
485	Municipal Landfill Gas	Landfill gas collection and control systems	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.6267	VOC: 0
	Oil and Natural Gas Production	Sources subject to California Oil and Gas Methane Regulation	No more stringent control strategies identify	Included in evaluation of attainment advancement	VOC: 0.2385	VOC: 0
407/501	Open Burning	Burning of certain materials prohibited; burn procedures to minimize smoke; burning is not allowed on days declared no-burn day	Reduce the types of allowable agricultural burns similar to SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0362 VOC: 0.0925	NO_X: 0 VOC: 0

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Paper, Fabric, and Film Coatings	None	Establish VOC limits on coatings similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0826	VOC: 0.0595
444	Petroleum Solvent Dry Cleaning	Emit no more than 3.5 kg of solvent per 100,000 articles dry cleaned or use a solvent recovery dryer	Expand applicability to include all non-halogenated solvents; require closed-loop machines for new installations	Included in evaluation of attainment advancement	VOC: 0.0503	VOC: 0.0125
	Plastic Parts Coating	None	Establish VOC limits on plastic parts coatings similar to rule adopted by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.0104	VOC: 0.0065
465	Polyester Resin/Plastic Product Manufacturing	Limits on the monomer content of resin, use of vapor suppressants, use of close-mold systems, or emission capture and control system	Remove low-usage exemption, require non-atomizing equipment, and reduce monomer content similar to rules adopted by BAAQMD, SCAQMD, and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.1164	VOC: 0.0114
	Polystyrene /Polymeric Cellular (Foam) Manufacturing	None	Require reduction of VOC emissions from Expanded Polystyrene (EPS) molding using an emission control device	No sources	VOC: 0	VOC: 0
	Portland Cement Manufacturing	None	Establish NO_X limits for Portland cement manufacturing	No sources	NO_X: 0	NO_X: 0
	Semiconductor Manufacturing	None	Establish VOC limits for semiconductor manufacturing	No sources	VOC: 0	VOC: 0
443	Synthetic Organic Chemical Manufacturing – Fugitive Leaks	Leak detection and repair program	Reduce VOC leak detection threshold	Included in evaluation of attainment advancement	VOC: 0.2084	VOC: 0

Rule No.[13]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Soil Decontamination	None	Establish VOC emission control standards for soil vapor extraction systems, similar to rules adopted by BAAQMD and VCAPCD; Establish work practices to minimize VOC emissions from soil aeration similar to rule adopted by SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	VOC: 0.0119	VOC: 0.009
454/466	Solvent Cleaning	VOC limits on solvents, or use airtight/airless cleaning systems	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.8122	VOC: 0
413	Stationary Gas Turbines	NO_X emission limits on stationary gas turbines	Reduce NO_X emission limits to be as stringent as SCAQMD	Included in evaluation of attainment advancement	NO_X: 0.3365	NO_X: 0.0673
	Wastewater Separators	None	Require solid cover, floating pontoon cover; double-deck cover, or vapor recovery system similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0017	VOC: 0.0013
414	Water Heaters and Small Boilers	Point-of-sale NO_X emission standards on water heaters with rated heat input capacity less than 1 mmBtu/hr	No control strategies identified	Included in evaluation of attainment advancement	NO_X: 0.1820	NO_X: 0
463	Wood Products Coatings	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.5288	VOC: 0

D.2.5 El Dorado County Air Quality Management District (EDCAQMD)

Table D-2 EDCAQMD Stationary/Area Source Control Measures Considered

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
236	Adhesives and Sealants	VOC limits on adhesives and sealants	Reduce VOC limits on adhesives and sealants similar to rules adopted by SCAQMD and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.051	VOC: 0.016
215	Architectural Coatings	VOC limits on coatings	Reduce the VOC limits on architectural coatings similar to the rules adopted by SCAQMD and SJVUAPCD and the 2019 and 2020 CARB SCMs	Not Recommended – SCM Evaluated for Attainment Advancement.	VOC: 0.037	VOC: 0.004
	Asphaltic Concrete	None	Establish NO_X emission standards for aggregate dryers similar to the rules adopted by SCAQMD and SJVUAPCD	No sources	NO_X: 0	NO_X: 0
230	Automotive Refinishing	VOC limits on coatings	Reduce the VOC limits on architectural coatings consistent with the SCM	Included in evaluation of attainment advancement	VOC: 0.116	VOC: 0.056
229	Boilers	NO_X limits on boiler/steam generators with a rated heat input capacity of 5 mmBtu/hr or greater	Expand applicability to units ≥ 2 mmBtu/hr and reduce NO_X limits similar to SCAQMD and SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.002	NO_X: 0.0012

[14] A blank indicates no current rule in place for that type of stationary or area source.

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Brandy and Wine Aging	None	Establish VOC emissions standards to reduce evaporative VOC emissions from the fermentation process at distilleries and wineries similar to SJVUAPCD requirements	No sources subject to control	VOC: 0.015	VOC: 0
	Can Coating	None	Establish VOC limits on can coatings similar to rule adopted by SMAQMD	No sources	VOC: 0	VOC: 0
	Commercial Cooking	None	Establish standards to control VOC emissions from commercial charbroilers similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0	VOC: 0
	Composting Operations	None	Establish work practice requirements to reduce VOC emissions from green waste composting similar to SCAQMD requirements	No sources subject to control	VOC: 0.019	VOC: 0
	Confined Animal Facilities	None	Establish work practice requirements to reduce VOC emissions from confined animal facilities	No sources	VOC: 0	VOC: 0
	Flares	None	Establish NO_X emission standards for flares similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	NO_X: 0	NO_X: 0

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Furnaces (Residential)	None	Establish point-of-sale NO_X emissions standard for natural gas-fired central furnaces similar to SCAQMD and SJVUAPCD requirements	Included in evaluation of attainment advancement	NO_X: 0.042	NO_X: 0.009
	Further Control of High-Emitting Spray Booth Facilities	None	Require additional controls to reduce VOC emissions from spray booths at facilities emitting > 20 tons per year	No sources	VOC: 0	VOC: 0
216/244	Organic Liquid Storage, Loading, and Degassing of Tanks and Pipelines, Bulk Plant Terminals	VOC emission standards for organic liquid storage tanks; vapor-recovery requirements for loading at bulk plants and bulk terminals	Reduce VOC emission limits for gasoline loading at bulk plants and bulk terminals to be as stringent as BAAQMD; establish VOC emission standards for degassing storage tanks and pipelines similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.183	VOC: 0
	Glass Melting Furnaces	None	Establish NO_X emission limits for glass melting furnaces	No sources	NO_X: 0	NO_X: 0
231	Graphic Arts	VOC limits on inks, coatings, adhesives or use emission control system	Reduce VOC limits for flexographic ink on porous substrates, extreme performance ink, and metallic ink to be as stringent as SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.047	VOC: 0.029
233	IC Engines	NO_X limits on IC Engines	Reduce NO_X limits for IC engines similar to SCAQMD requirements	No sources	NO_X: 0	NO_X: 0
464	Industrial Wastewater	None	Establish emission control standards for wastewater systems	No sources	VOC: 0	VOC: 0

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Metal Melting Furnaces	None	Establish NO_X emission limits for metal melting furnaces	No sources	NO_X: 0	NO_X: 0
	Metal Parts and Products Coating	None	Establish VOC limits on metal parts and products coating similar to SMAQMD and SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.018	VOC: 0.004
	Metal Working Fluids	None	Establish VOC limits on metalworking fluids and direct-contact lubricants similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.024	VOC: 0.013
	Miscellaneous Coating	None	Establish VOC limits and application method requirements for coating operations not covered by other rules, similar to SCAQMD, SJVUAPCD, VCAPCD, and BAAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.098	VOC: 0.019
	Miscellaneous Combustion Sources	None	Establish NO_X emission limits on miscellaneous combustion equipment including dryers and ovens similar to rules adopted by SCAQMD and SJVUAPCD	No sources	NO_X: 0	NO_X: 0
	Mold Release Agents	None	Establish VOC limits on mold release agents similar to the control measure proposed by SCAQMD	Included in evaluation of attainment advancement	VOC: 0	VOC: 0

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Municipal Landfill Gas	None	Establish requirements for landfills including gas collection and control systems	Included in evaluation of attainment advancement	VOC: 0.023	VOC: 0
	Oil and Natural Gas Production	None	Establish requirements to inspect and maintain equipment to reduce fugitive VOC emissions	No sources	VOC: 0	VOC: 0
300	Open Burning	Burning of certain materials prohibited; burn procedures to minimize smoke; burning is not allowed on days declared no-burn day	Reduce the types of allowable agricultural burns similar to SJVUAPCD requirements	No sources	VOC: 0 NO_X: 0	VOC: 0 NO_X: 0
	Paper, Fabric, and Film Coatings	None	Establish VOC limits on coatings similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0
218	Petroleum Solvent Dry Cleaning	Emit no more than 0.6 kg of solvent per kg of wet waste or use a system that reduces waste losses below 0.01 kg per kg of clothes	Remove applicability threshold to include all dry cleaning solvents except for perchloroethylene and ban the use of open transfer systems	Included in evaluation of attainment advancement	VOC: 0	VOC: 0
	Plastic Parts Coating	None	Establish VOC limits on plastic parts coatings similar to rule adopted by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.034	VOC: 0.021

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Polyester Resin/Plastic Product Manufacturing	None	Establish VOC standards on monomer content of resins and require vapor suppressants and use of close-mold systems similar to rules adopted by BAAQMD, SCAQMD, and SJVUAPCD	No sources	VOC: 0	VOC: 0
	Polystyrene /Polymeric Cellular (Foam) Manufacturing	None	Require reduction of VOC emissions from EPS molding using an emission control device	No sources	VOC: 0	VOC: 0
	Portland Cement Manufacturing	None	Establish NO_X limits for Portland cement manufacturing	No sources	NO_X: 0	NO_X: 0
	Semiconductor Manufacturing	None	Establish VOC limits for semiconductor manufacturing	No sources	VOC: 0	VOC: 0
	Synthetic Organic Chemical Manufacturing – Fugitive Leaks	None	Establish VOC emissions standards for leak detection and repair program	No sources	VOC: 0	VOC: 0
	Soil Decontamination	None	Establish VOC emission control standards for soil vapor extraction systems, similar to rules adopted by BAAQMD and VCAPCD; Establish work practices to minimize VOC emissions from soil aeration similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0	VOC: 0

Rule No.[14]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
225/235	Solvent Cleaning	VOC limits on solvents	Reduce VOC limits of solvents similar to rules adopted by SMAQMD and PCAPCD.	Included in evaluation of attainment advancement	VOC: 0.086	VOC: 0.061
	Stationary Gas Turbines	None	Establish NO_X emission limits to be as stringent as SCAQMD	No sources	NO_X: 0	NO_X: 0
	Wastewater Separators	None	Require solid cover, floating pontoon cover; double-deck cover, or vapor recovery system similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0
239	Water Heaters and Small Boilers	Point-of-sale NO_X emission standards on water heaters with rated heat input capacity less than 75,000 Btu/hr	Expand point-of-sale emission standards to include units ≥ 75,000 Btu/hr and < 5 mmBtu/hr similar to rule adopted by SMAQMD	Included in evaluation of attainment advancement	NO_X: 0.077	NO_X: 0.033
237	Wood Products Coatings	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0	VOC: 0

D.2.6 Feather River Air Quality Management District (FRAQMD)

Table D-3 FRAQMD Stationary/Area Source Control Measures Considered

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Adhesives and Sealants	None	Establish VOC limits on adhesives and sealants similar to rules adopted by SCAQMD and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0076	VOC: 0.0076*
3.15	Architectural Coatings	VOC limits on coatings	Reduce the VOC limits on architectural coatings similar to the rules adopted by SCAQMD and SJVAPCD and the 2019 and 2020 CARB SCMs	Included in evaluation of attainment advancement	VOC: 0.0040	VOC: 0.0004
	Asphaltic Concrete	None	Establish NO_X standards similar to the rules adopted by SCAQMD/SJVUAPCD	No sources	NO_X: 0	NO_X: 0
3.19	Automotive Refinishing	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.0026	VOC: 0
3.21	Boilers	NO_X limits on boiler/steam generators with a rated heat input capacity of 1 mm Btu/hr or greater	Reduce NO_X limits similar to SCAQMD and SJVUAPCD requirements	No sources subject to control	NO_X: 0.0144	NO_X: 0
	Brandy and Wine Aging	None	Establish VOC emissions standards to reduce evaporative VOC emissions from the fermentation process at distilleries and wineries similar to SJVUAPCD requirements	No sources	VOC: 0	VOC: 0

[15] A blank indicates no current rule in place for that type of stationary or area source.

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Can Coating	None	Establish VOC limits on can coatings similar to rule adopted by SMAQMD	No sources	VOC: 0	VOC: 0
	Commercial Cooking	None	Establish standards to control VOC emissions from commercial charbroilers similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.0008	VOC: 0.0008*
	Composting Operations	None	Establish work practice requirements to reduce VOC emissions from green waste composting similar to SCAQMD requirements	No sources	VOC: 0	VOC: 0
	Confined Animal Facilities	None	Establish work practice requirements to reduce VOC emissions from confined animal facilities	No sources	VOC: 0.0639	VOC: 0
	Flares	None	Establish NO_X emission standards for flares similar to SJVUAPCD requirements	No sources	NO_X: 0	NO_X: 0
	Furnaces (Residential)	None	Establish point-of-sale NO_X emissions standard for natural gas-fired central furnaces similar to SCAQMD and SJVUAPCD requirements	Included in evaluation of attainment advancement	NO_X: 0.0010	NO_X: 0
	Further Control of High-Emitting Spray Booth Facilities	None	Require additional controls to reduce VOC emissions from spray booths at facilities emitting > 20 tons per year	No sources	VOC: 0	VOC: 0

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
3.9	Gasoline Storage, Loading, and Degassing of Tanks and Pipelines	VOC emission standards for organic liquid storage tanks; vapor-recovery requirements for loading at bulk plants and bulk terminals	Reduce VOC emission limits for gasoline loading at bulk plants and bulk terminals to be as stringent as BAAQMD; establish VOC emission standards for degassing storage tanks and pipelines similar to SCAQMD requirements	No sources	VOC: 0	VOC: 0
	Glass Melting Furnaces	None	Establish NO_X emission limits for glass melting furnaces	No sources	NO_X: 0	NO_X: 0
	Graphic Arts	None	Establish VOC limits on inks, coatings, or adhesives for graphic arts similar to SJVUAPCD requirements	No sources	VOC: 0	VOC: 0
3.22	IC Engines	NO_X limits on IC Engines	Reduce NO_X limits for IC engines similar to SCAQMD requirements	No sources subject to control	NO_X: 0.0005	NO_X: 0
	Industrial Wastewater	None	Establish emission control standards for wastewater systems	No sources	VOC: 0	VOC: 0
	LPG Transfer and Dispensing	None	Establish standards to control VOC emissions from LPG transfer and dispensing similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.05	VOC: 0.03
	Metal Melting Furnaces	None	Establish NO_X emission limits for metal melting furnaces	No sources	NO_X: 0	NO_X: 0

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Metal Parts and Products Coating	None	Establish VOC limits on metal parts and products coating similar to SMAQMD and SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.0003	VOC: 0.0003*
	Metal Working Fluids	None	Establish VOC limits on metalworking fluids and direct-contact lubricants similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.009	VOC: 0.005
	Miscellaneous Coating	None	Establish VOC limits and application method requirements for coating operations not covered by other rules, similar to SCAQMD, SJVUAPCD, VCAPCD, and BAAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.0015	VOC: 0
	Miscellaneous Combustion Sources	None	Establish NO_X emission limits on miscellaneous combustion equipment including dryers and ovens similar to rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0195	NO_X: 0
	Mold Release Agents	None	Establish VOC limits on mold release agents similar to the control measure proposed by SCAQMD	Included in evaluation of attainment advancement	VOC: 0	VOC: 0
3.18	Municipal Landfill Gas	Landfill gas collection and control systems	No control strategies identified	No sources	VOC: 0	VOC: 0

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Oil and Natural Gas Production	None	Establish requirements to inspect and maintain equipment to reduce fugitive VOC emissions	No sources	VOC: 0	VOC: 0
Reg. II	Open Burning	Burning of certain materials prohibited; burn procedures to minimize smoke; burning is not allowed on days declared no-burn day	Reduce the types of allowable agricultural burns similar to SJVUAPCD requirements	Only the emission reductions for burning of pruning are cost effective, and are included in evaluation of attainment advancement	NO_X: 0.0870 VOC: 0.1194	NO_X: 0.0034 VOC: 0.0035
	Paper, Fabric, and Film Coatings	None	Establish VOC limits on coatings similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0
	Petroleum Solvent Dry Cleaning	None	Establish VOC limits on solvents used and ban the use of open transfer systems	No sources	VOC: 0	VOC: 0
	Plastic Parts Coating	None	Establish VOC limits on plastic parts coatings similar to rule adopted by SCAQMD	No sources	VOC: 0	VOC: 0
	Polyester Resin/Plastic Product Manufacturing	None	Establish VOC standards on monomer content of resins and require vapor suppressants and use of close-mold systems similar to rules adopted by BAAQMD, SCAQMD, and SJVUAPCD	No sources	VOC: 0	VOC: 0

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Polystyrene /Polymeric Cellular (Foam) Manufacturing	None	Require reduction of VOC emissions from EPS molding using an emission control device	No sources	VOC: 0	VOC: 0
	Portland Cement Manufacturing	None	Establish NO_X limits for Portland cement manufacturing	No sources	NO_X: 0	NO_X: 0
	Semiconductor Manufacturing	None	Establish VOC limits for semiconductor manufacturing	No sources	VOC: 0	VOC: 0
	Synthetic Organic Chemical Manufacturing – Fugitive Leaks	None	Establish VOC emissions standards for leak detection and repair program	No sources	VOC: 0	VOC: 0
	Soil Decontamination	None	Establish VOC emission control standards for soil vapor extraction systems, similar to rules adopted by BAAQMD and VCAPCD; Establish work practices to minimize VOC emissions from soil aeration similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0
3.14	Solvent Cleaning	VOC limits on solvents	Current rule meets RACM.	Included in evaluation of attainment advancement	VOC: 0.011	VOC: 0
	Stationary Gas Turbines	None	Establish NO_X emission limits to be as stringent as SCAQMD	No sources	NO_X: 0	NO_X: 0

Rule No.[15]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Wastewater Separators	None	Require solid cover, floating pontoon cover; double-deck cover, or vapor recovery system similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0
3.23	Water Heaters and Small Boilers	NOx limits on small boilers and water heaters above 75,000 Btu/hr	Establish point-of-sale emission standards for units < 75,000Btu/hr similar to rule adopted by SMAQMD	Included in evaluation of attainment advancement	NO_X: 0.0054	NO_X: 0.001
3.20	Wood Products Coatings	VOC limits on coatings	Adopt VOC content limits of SJVUAPCD Rule 4606 and SCAQMD Rule 1136.	Included in evaluation of attainment advancement	VOC: 0.0016	VOC: 0.0016*

* The emissions inventory for this category is minimal and reductions were not calculated. To be conservative in the RACM analysis, the entire emissions inventory was counted as a reduction.

D.2.7 Placer County Air Pollution Control District (PCAPCD)

Table D-4 PCAPCD Stationary/Area Source Control Measures Considered

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
235	Adhesives and Sealants	VOC limits on adhesives and sealants	Reduce VOC limits on adhesives and sealants similar to rules adopted by SCAQMD and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.6574	VOC: 0.1744
218	Architectural Coatings	VOC limits on coatings	Reduce the VOC limits on architectural coatings similar to the rules adopted by SCAQMD and SJVAPCD and the 2019 and 2020 CARB SCMs	Included in evaluation of attainment advancement	VOC: 0.2682	VOC: 0.0318
	Asphaltic Concrete	None	Establish NO_X emission standards for aggregate dryers similar to the rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0651	NO_X: 0
234	Automotive Refinishing	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.2123	VOC: 0
233	Biomass Boilers	NO_X limits on biomass boilers	Establish NO_X emission standards for biomass boilers similar to the rules adopted by SJVUAPCD and YSAQMD	Included in evaluation of attainment advancement	NO_X: 0.3922	NO_X: 0

[16] A blank indicates no current rule in place for that type of stationary or area source.

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
231/247	Boilers	NO_X limits on boiler/steam generators with a rated heat input capacity of 5 mmBtu/hr or greater	Expand applicability to units ≥ 2 mmBtu/hr and reduce NO_X limits similar to SCAQMD and SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0825	NO_X: 0
	Brandy and Wine Aging	None	Establish VOC emissions standards to reduce evaporative VOC emissions from the fermentation process at distilleries and wineries similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.0028	VOC: 0
	Can Coating	None	Establish VOC limits on can coatings similar to rule adopted by SMAQMD	No sources	VOC: 0	VOC: 0
	Commercial Cooking	None	Establish standards to control VOC emissions from commercial charbroilers similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.0185	VOC: 0.0009
	Composting Operations	None	Establish work practice requirements to reduce VOC emissions from green waste composting similar to SCAQMD requirements	No sources	VOC: 0	VOC: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Confined Animal Facilities	None	Establish work practice requirements to reduce VOC emissions from confined animal facilities	No sources subject to control	VOC: 1.084	VOC: 0
	Flares	None	Establish NO_X emission standards for flares similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	NO_X: 0.0101	NO_X: 0.0101*
	Furnaces (Residential)	None	Establish point-of-sale NO_X emissions standard for natural gas-fired central furnaces similar to SCAQMD requirements	Included in evaluation of attainment advancement	NO_X: 0.1325	NO_X: 0.0298
	Further Control of High-Emitting Spray Booth Facilities	None	Require additional controls to reduce VOC emissions from spray booths at facilities emitting > 20 tons per year	No sources	VOC: 0	VOC: 0
212/215	Storage of Organic Liquids and Transfer of Gasoline into Tank Trucks, Trailers, and Railroad Tank Cars at Loading Facilities	VOC emission standards for organic liquid storage tanks; vapor-recovery requirements for loading at bulk plants and bulk terminals	Reduce VOC emission limits for gasoline loading at bulk plants and bulk terminals to be as stringent as BAAQMD; establish VOC emission standards for degassing storage tanks and pipelines similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.0188	VOC: 0
	Glass Melting Furnaces	None	Establish NO_X emission limits for glass melting furnaces	No sources	NO_X: 0	NO_X: 0
239	Graphic Arts	VOC limits on inks, coatings, adhesives or use emission control system	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.0094	VOC: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
242	IC Engines	NO_X emission limits on IC engines located at stationary sources of NO_X	Reduce NO_X limits to be stringent as SCAQMD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.1513	NO_X: 0
	Industrial Wastewater	None	Establish emission control standards for wastewater systems	No sources	VOC: 0	VOC: 0
	LPG Transfer and Dispensing	None	Establish standards to control VOC emissions from LPG transfer and dispensing similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.1419	VOC: 0.1012
	Metal Melting Furnaces	None	Establish NO_X emission limits for metal melting furnaces	No sources	NO_X: 0	NO_X: 0
245	Metal Parts and Products Coating	VOC limits on coatings, strippers, and solvent cleaner	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.048	VOC: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Metal Working Fluids	None	Establish VOC limits on metalworking fluids and direct-contact lubricants similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.0384	VOC: 0.0207
	Miscellaneous Coating	None	Establish VOC limits and application method requirements for coating operations not covered by other rules, similar to SCAQMD, SJVUAPCD, VCAPCD, and BAAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.3548	VOC: 0.0362
	Miscellaneous Combustion Sources	None	Establish NO_X emission limits on miscellaneous combustion equipment including dryers and ovens similar to rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.1293	NO_X: 0.0194
	Mold Release Agents	None	Establish VOC limits on mold release agents similar to the control measure proposed by SCAQMD	No sources	VOC: 0	VOC: 0
	Municipal Landfill Gas	None	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.1304	VOC: 0
	Oil and Natural Gas Production	None	Establish requirements to inspect and maintain equipment to reduce fugitive VOC emissions	No sources	VOC: 0	VOC: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
301-306	Open Burning	Burning of certain materials prohibited; burn procedures to minimize smoke; burning is not allowed on days declared no-burn day	Reduce the types of allowable agricultural burns similar to SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0337 VOC: 0.2153	NO_X: 0 VOC: 0
	Paper, Fabric, and Film Coatings	None	Establish VOC limits on coatings similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0008	VOC: 0.0008*
	Petroleum Solvent Dry Cleaning	None	Establish VOC limits on solvents used and ban the use of open transfer systems	Included in evaluation of attainment advancement	VOC: 0.0151	VOC: 0
249	Plastic Parts Coating	VOC limits on coatings	Reduce VOC limits on plastic parts coatings similar to rule adopted by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.0532	VOC: 0.0332
243	Polyester Resin/Plastic Product Manufacturing	Limits on the monomer content of resin, use of vapor suppressants	Remove low-usage exemption, require non-atomizing equipment, and reduce monomer content similar to rules adopted by BAAQMD, SCAQMD, and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0057	VOC: 0.0057*
	Polystyrene /Polymeric Cellular (Foam) Manufacturing	None	Require reduction of VOC emissions from EPS molding using an emission control device	No sources	VOC: 0.001	VOC: 0
	Portland Cement Manufacturing	None	Establish NO_X limits for Portland cement manufacturing	No sources	NO_X: 0	NO_X: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
244	Semiconductor Manufacturing	VOC limits on semiconductor manufacturing	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.0007	VOC: 0.0007*
	Synthetic Organic Chemical Manufacturing – Fugitive Leaks	None	Establish VOC emissions standards for leak detection and repair program	No sources	VOC: 0	VOC: 0
	Soil Decontamination	None	Establish VOC emission control standards for soil vapor extraction systems, similar to rules adopted by BAAQMD and VCAPCD; Establish work practices to minimize VOC emissions from soil aeration similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0	VOC: 0
216/240	Solvent Cleaning	VOC limits on solvents	Reduce VOC limits for solvents similar to rule adopted by SCAQMD	Included in evaluation of attainment advancement	VOC: 1.0501	VOC: 0.42
250	Stationary Gas Turbines	NO_X limits on stationary gas turbines	No control strategies identified	Included in evaluation of attainment advancement	NO_X: 0.0057	NO_X: 0
	Wastewater Separators	None	Require solid cover, floating pontoon cover; double-deck cover, or vapor recovery system similar to rule adopted by SJVUAPCD	No sources	VOC: 0	VOC: 0

Rule No.[16]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
246	Water Heaters and Small Boilers	None	Establish point-of-sale NO_X emission standards on water heaters with rated heat input capacity less than 1 mmBtu/hr	Included in evaluation of attainment advancement	NO_X: 0.0825	NO_X: 0.0128
236	Wood Products Coatings	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.2274	VOC: 0

* The emissions inventory for this category is minimal and reductions were not calculated. To be conservative in the RACM analysis, the entire emissions inventory was counted as a reduction.

D.2.8 Yolo-Solano Air Quality Management District (YSAQMD)

Table D-5 YSAQMD Stationary/Area Source Control Measures Considered

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.33	Adhesives and Sealants	VOC limits on adhesives and sealants	Reduce VOC limits on adhesives and sealants similar to rules adopted by SCAQMD and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.084	VOC: 0.043
2.14	Architectural Coatings	VOC limits on coatings	Reduce the VOC limits on architectural coatings similar to the rules adopted by SCAQMD and SJVAPCD and the 2019 and 2020 CARB SCMs	Included in evaluation of attainment advancement	VOC: 0.3490	VOC: 0.0411
	Asphaltic Concrete	None	Establish NO_X emission standards for aggregate dryers similar to the rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.0793	NO_X: 0
2.26	Automotive Refinishing	VOC limits on coatings	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.2690	VOC: 0
2.27	Boilers	NO_X limits on boiler/steam generators with a rated heat input capacity of 5 mmBtu/hr or greater	Expand applicability to units ≥ 2 mmBtu/hr and reduce NO_X limits similar to SCAQMD and SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.6720	NO_X: 0

[17] A blank indicates no current rule in place for that type of stationary or area source.

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
4695	Brandy and Wine Aging	None	Establish VOC emissions standards to reduce evaporative VOC emissions from the fermentation process at distilleries and wineries similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.2040	VOC: 0.0820
	Can Coating	VOC limits on coatings	No control strategies identified	No sources	VOC: 0	VOC: 0
	Commercial Cooking	None	Establish standards to control VOC emissions from commercial charbroilers similar to SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.0253	VOC: 0.0003
	Composting Operations	None	Establish work practice requirements to reduce VOC emissions from green waste composting similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 2.22	VOC: 0.16
11.2	Confined Animal Facilities	Implement VOC emission mitigation measures from a menu of options	Reduce animal-count applicability thresholds; increase number of mitigation measures, and control efficiency	Included in evaluation of attainment advancement	VOC: 0.6720	VOC: 0.0147
	Flares	None	Establish NO_X emission standards for flares similar to SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.015	NO_X: 0

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.44	Furnaces (Residential)	NO_X limits from natural gas-fired, fan-type central furnaces	No control strategies identified	Included in evaluation of attainment advancement	NO_X: 0.0729	NO_X: 0.0152
	Further Control of High-Emitting Spray Booth Facilities	None	Require additional controls to reduce VOC emissions from spray booths at facilities emitting > 20 tons per year	No sources	VOC: 0	VOC: 0
2.21	Gasoline Storage, Loading, and Degassing of Tanks and Pipelines	VOC emission standards for organic liquid storage tanks; vapor-recovery requirements for loading at bulk plants and bulk terminals	Reduce VOC emission limits for gasoline loading at bulk plants and bulk terminals to be as stringent as BAAQMD; establish VOC emission standards for degassing storage tanks and pipelines similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.503	VOC: 0.0016
	Glass Melting Furnaces	None	Establish NO_X emission limits for glass melting furnaces	No sources	NO_X: 0	NO_X: 0
2.29	Graphic Arts	VOC limits on inks, coatings, adhesives or use emission control system	Reduce VOC limits for flexographic ink on porous substrates, extreme performance ink, and metallic ink to be as stringent as SJVUAPCD requirements	Included in evaluation of attainment advancement	VOC: 0.0195	VOC: 0.0001
2.32	IC Engines	NO_X limits on IC engines located at stationary sources	Reduce NO_X limits to be stringent as SCAQMD	Included in evaluation of attainment advancement	NO_X: 0.459	NO_X: 0.0163

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.32	Landfill Gas Fired IC Engines	NO_X limits on IC engines located at stationary sources fired on landfill gas	Reduce NO_X limits to be stringent as SCAQMD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.459	NO_X: 0
	Industrial Wastewater	None	Establish emission control standards for wastewater systems	Included in evaluation of attainment advancement	VOC: 0.0021	VOC: 0.0016
	LPG Transfer and Dispensing	None	Establish standards to control VOC emissions from LPG transfer and dispensing similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.13	VOC: 0.07
	Metal Melting Furnaces	None	Establish NO_X emission limits for metal melting furnaces	No sources	NO_X: 0	NO_X: 0
2.25	Metal Parts and Products Coating	VOC limits on coatings, strippers, cleaning solvents	Reduce VOC limits for general one-component, extreme high gloss, and prefabricated architectural coatings, similar to SCAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.041	VOC: 0.0066
	Metal Working Fluids	None	Establish VOC limits on metalworking fluids and direct-contact lubricants similar to the rules adopted by SCAQMD and VCAPCD	Included in evaluation of attainment advancement	VOC: 0.204	VOC: 0.11

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.25-3	Miscellaneous Coating	None	Establish VOC limits and application method requirements for coating operations not covered by other rules, similar to SCAQMD, SJVUAPCD, VCAPCD, and BAAQMD requirements	Included in evaluation of attainment advancement	VOC: 0.279	VOC: 0.0423
	Miscellaneous Combustion Sources	None	Establish NO_X emission limits on miscellaneous combustion equipment including dryers and ovens similar to rules adopted by SCAQMD and SJVUAPCD	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.53	NO_X: 0
	Mold Release Agents	None	Establish VOC limits on mold release agents similar to the control measure proposed by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.386	VOC: 0
2.38	Municipal Landfill Gas	Landfill gas collection and control systems	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.0586	VOC: 0
2.23	Oil and Natural Gas Production	Leak detection and repair standards for components used in natural gas production and processing	No control strategies identified	Included in evaluation of attainment advancement	VOC: 0.36	VOC: 0
6.0	Open Burning	Burning of certain materials prohibited; burn procedures to minimize smoke; burning is not allowed on days declared no-burn day	Reduce the types of allowable agricultural burns similar to SJVUAPCD requirements	Not cost effective - Not included in evaluation of attainment advancement	NO_X: 0.1255 VOC: 0.2003	NO_X: 0 VOC: 0

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.29-2	Paper, Fabric, and Film Coatings	None	Establish VOC limits on coatings similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0363	VOC: 0.0261
9.7	Petroleum Solvent Dry Cleaning	Use of closed-loop machine with primary control system; newer facilities must install close loop with both primary and secondary control systems	Expand applicability to include all non-halogenated solvents	Included in evaluation of attainment advancement	VOC: 0.0272	VOC: 0.0043
2.25-2	Plastic Parts Coating	None	Establish VOC limits on plastic parts coatings similar to rule adopted by SCAQMD	Included in evaluation of attainment advancement	VOC: 0.0418	VOC: 0
2.30	Polyester Resin/Plastic Product Manufacturing	Limits on the monomer content of resin, use of vapor suppressants, use of close-mold systems, or emission capture and control system	Remove low-usage exemption, require non-atomizing equipment, and reduce monomer content similar to rules adopted by BAAQMD, SCAQMD, and SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.194	VOC: 0.0714
2.41	Polystyrene /Polymeric Cellular (Foam) Manufacturing	VOC limits for the manufacturing of expanded polystyrene products	No control strategies identified	No sources	VOC: 0	VOC: 0
	Portland Cement Manufacturing	None	Establish NO_X limits for Portland cement manufacturing	No sources	NO_X: 0	NO_X: 0
	Semiconductor Manufacturing	None	Establish VOC limits for semiconductor manufacturing	No sources	VOC: 0	VOC: 0

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
	Synthetic Organic Chemical Manufacturing – Fugitive Leaks	None	Establish VOC emissions standards for leak detection and repair program	No sources	VOC: 0	VOC: 0
	Soil Decontamination	None	Establish VOC emission control standards for soil vapor extraction systems, similar to rules adopted by BAAQMD and VCAPCD; Establish work practices to minimize VOC emissions from soil aeration similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0147	VOC: 0.0026
2.31	Solvent Cleaning	VOC limits on solvents, or use airtight/airless cleaning systems	No control strategies identified	Included in evaluation of attainment advancement	VOC: 1.021	VOC: 0
2.34	Stationary Gas Turbines	NO_X limits on stationary gas turbines	Reduce NO_X emission limits to be as stringent as SCAQMD	Included in evaluation of attainment advancement	NO_X: 0.0002	NO_X: 0.0002*
	Wastewater Separators	None	Require solid cover, floating pontoon cover; double-deck cover, or vapor recovery system similar to rule adopted by SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.0021	VOC: 0.0016

Rule No.[17]	Title	Current Requirements	Opportunity for Strengthening	Conclusion	Total Inventory (tpd)	Potential Reduction (tpd)
2.37	Water Heaters and Small Boilers	Point-of-sale NO_X emission standards on water heaters with rated heat input capacity less than 1 mmBtu/hr	No control strategies identified	Included in evaluation of attainment advancement	NO_X: 0.1152	NO_X: 0
2.39	Wood Products Coatings	VOC limits on coatings	Reduce VOC limits on wood coatings similar to rules adopted by SCAQMD/SJVUAPCD	Included in evaluation of attainment advancement	VOC: 0.151	VOC: 0

* The emissions inventory for this category is minimal and reductions were not calculated. To be conservative in the RACM analysis, the entire emissions inventory was counted as a reduction.

D.3 RACM Analysis – SACOG

D.3.1 Introduction

On October 26, 2015, the U.S. Environmental Protection Agency (EPA) strengthened the National Ambient Air Quality Standards (NAAQS) for ground-level ozone to 70 parts per billion (ppb).[18] EPA designated the Sacramento region as serious nonattainment for the 2015 8-hour ozone NAAQS and will be acting on a request to redesignate the region to severe. For a nonattainment area classified as severe-15, the regulatory attainment deadline is 15 years after the effective date of initial designation, which means the Sacramento region must attain the 2015 standard by the end of 2032. And, since EPA requires three full years of clean data to demonstrate attainment, a new attainment year of 2032 must be modeled and addressed in both conformity and Reasonably Further Progress (RFP) demonstrations. The requirement to assess Reasonably Available Control Measures (RACM) per Clean Air Act (CAA) Section 172(c)(1) must be met as part of the SIP development process for an ozone nonattainment area. The CAA mandates that RACM analysis must be conducted in order to show that the Sacramento region has adopted all RACM to achieve attainment of the 2015 8-hour ozone standard as expeditiously as practicable.

This report provides a preliminary RACM analysis that was completed by the Sacramento Area Council of Governments (SACOG) in consultation with the Sacramento Metropolitan Air Quality Management District (SMAQMD), on behalf of the districts in the non-attainment area, in order to meet the 8-hour ozone standard state implementation plan (SIP) requirements. Specifically, this draft report summarizes ozone SIP RACM requirements, documents the transportation control measure (TCM) identification process, and also provides preliminary RACM determination specific to SACOG.

D.3.2 RACM Requirements

In order to demonstrate attainment of the federal ozone standard as expeditiously as practicable as required by the CAA, nonattainment areas “should consider all available measures, including those being implemented in other areas, and must adopt measures for an area only if those measures are economically and technologically feasible and will advance the attainment date or are necessary for RFP.”[19]

This RACM analysis focuses on transportation control measures (TCMs) or strategies that reduce travel and thereby achieve air quality benefits and that are specifically identified in a State Implementation Plan (SIP). Once TCMs are included in a SIP, SACOG is legally

[18] EPA, 2015. National Ambient Air Quality Standards for Ozone. Final Rule. U.S. Environmental Protection Agency. Federal Register Vol. 80. FR 65292 (2015)

[19] EPA, 2018. Final Rule: Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements Federal Register, Volume 83, 6 December 2018.

bound to implement these measures in order to satisfy timely implementation demonstration requirements as part of the transportation planning process. If funds programmed for TCMs do not become available or if the schedule identified in a SIP cannot be met, the agency faces serious consequences, one of which could be a nonconforming Metropolitan Transportation Plan (MTP).

The criteria for identifying TCM projects and the requirements for timely implementation of these projects are defined in the EPA's Transportation Conformity Rule, 40 CFR Part 93:

> *A TCM is any measure that is specifically identified and committed to in the applicable implementation plan, including a substitute or additional TCM that is incorporated into the applicable SIP through the process established in CAA section 176(c)(8), that is either one of the types listed in CAA section 108, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart.*

Furthermore, Clean Air Act Section 108(f)(1)(A) specifically identifies the following measures as TCMs for consideration in the RACM analysis:

i. Programs for improved use of public transit;

ii. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;

iii. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;

iv. Programs to control extended idling of vehicles;

v. Programs to reduce motor vehicle emissions, consistent with Title II of the Clean Air Act, which are caused by extreme cold start conditions;

vi. Employer-sponsored programs to permit flexible work schedules;

vii. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;

viii. Programs for new construction and major reconstruction of paths, tracks, or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest;

ix. Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks;

x. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;

xi. Employer-based transportation management plans, including incentives;

xii. Trip-reduction ordinances;

xiii. Traffic flow improvement programs that achieve emission reductions;

xiv. Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;

xv. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use; and

xvi. Programs for the provision of all forms of high-occupancy, including shared-ride services.

According to the EPA ozone RACM guidance[20], fulfillment of the RACM requirement is dependent on an assessment of candidate control measures that are economic and technological feasible, applicable to the region, and can be implemented shortly after adoption. More specifically, the evaluation criteria used in this analysis include:

- Technological feasibility
- Economically feasibility
- Does not cause "substantial widespread and long-term adverse impacts," or be "absurd, unenforceable, or impracticable"
- If considered collectively with all other control measures (point source, non-point source, mobile source, non-mobile source) advances the attainment date by at least one year.

In addition, measures identified by EPA in any related guidance documents and measures that have been suggested during a public comment period must be considered. TCMs may be voluntary or market-based programs, as long as they produce surplus, quantifiable, permanent, and enforceable emission reductions (i.e., are SIP-creditable).

[20] Seitz, John S., Office of Air Quality Planning and Standards, Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas, 1999. Available at: https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19991130_seitz_racm_guide_ozone.pdf.

D.3.3 TCM Identification Process

To meet the RACM requirements described above, this analysis was performed using the following steps. First was the assembly of a comprehensive list of control measures recently implemented in other California ozone nonattainment areas, as well as in other states. Measures identified in this review were then organized according to the 16 categories specified in Section 108(f)(1)(A) of the CAA. The next step was to identify candidate RACM by contrasting the list of TCMs with measures implemented in the Sacramento region, as well as any new projects that qualify as TCMs. TCMs committed to in the *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Further Reasonable Progress Plan* were also reviewed, with a focus on their current implementation status. The last step was to provide a justification addressing the above-mentioned criteria for any of the TCMs that cannot be implemented in the Sacramento region.

Candidate RACM strategies were identified through a comprehensive review of implemented TCMs in California. SACOG relied on recent RACM analyses performed in the South Coast Air Basin and Ventura County for a comprehensive list of measures. Both regions have similar or higher non-attainment classifications. Section D.3.7 Table D-8 lists SIPs reviewed as part of South Coast and Ventura processes. SACOG additionally made use of the RACM analysis completed in 2016 by Sierra Research for the 2008 standard[21]; measures were reexamined in the context of their implementation status. Table D-9 lists SIPs reviewed as part of this process.

Additional measures were sought through a public outreach process. SACOG staff solicited ideas from local agencies, the public, and various partners through the Regional Planning Partnership. Appendix A Figure 1 contains this request for information.

D.3.4 TCMs Recommended for RACM

Out of nearly 200 control measures, programs and strategies identified in the course of the TCM review, only those strategies that are not currently implemented in the Sacramento region were selected for further RACM analysis.

The analysis produced only a small number of measures that are not being implemented in Sacramento. Reasoned justification was provided for not implementing a given measure based on the criteria identified in the EPA RACM guidance. The guidance indicates that measures could be rejected as not reasonably available based on local conditions. However, valid justification for rejecting a measure must be provided, which may include factors such as technological or economic infeasibility, or inability to help advance the attainment date.

[21] Sierra Research, Reasonably Available Control Measures Analysis for the Sacramento Area Council of Governments, 2015. Available at https://www.sacog.org/sites/main/files/file-attachments/8-racm.pdf

Table D-6 shows a complete listing of the measures evaluated for RACM determination and includes current SACOG TCMs as well as additional measures identified as part of this RACM analysis, with a brief justification provided if a control measure cannot be implemented. Additional details on the reasoning for not implementing a RACM strategy are provided in the next section.

Absent no formal guidance on how to organize TCMs, measures shown in Table D-6 are grouped into the 16 categories identified in Section 108(f)(1)(A) of the CAA.

Table D-6 Transportation Control Measures for Consideration in Sacramento

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 1. Programs for Improved Public Transit	1.1	Regional Express Bus Program	Purchase of buses to operate regional express bus services.	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.2	Light rail and other transit access to airports	Expand rail and bus service to airports	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.3	Accelerated bus retrofit	Accelerate installation of retrofits on diesel-powered buses	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.4	Major Expansion of Mass Transit	Major change to the scope and service levels.	No	Not economically feasible because there is not enough transit demand for order of magnitude increases in spending.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.5	Expansion of public transportation services	Provide additional rail and bus service	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.6	Transit service improvement including parking management	Install park-and-ride facilities near transit stations, improve bicycle and pedestrian access, install lights and real- time information systems	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.7	Free transit during special events	Provide free alternative transportation to special events	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.8	Require that government employees use transit for home to work trips, expand transit, and	Require all government employees to use transit a specified number of times per week.	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
		encourage large businesses to promote transit use				
Section 108 (f) 1. Programs for Improved Public Transit	1.9	Expand regional transit connection ticket distribution	Provides interchangeability of transit ticket.	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.10	Bus Signal Priority	Wireless bus signal priority system on bus fleets for increased operation efficiency and travel time savings.	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.11	Passenger rail improvements	Installation of additional platforms, double tracks, concrete ties, bridges, signal relocation.	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.12	Clean fuel buses	Purchase of alternative fuel buses	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.13	Intermodal Centers	Improved transit connection of various travel modes	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.14	Maglev	Construct regional low-speed magnetic levitation transit	No	Not economically feasible. High costs in lieu of relatively minor emission reductions	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.15	High Speed Rail	Construct high speed rail connecting large metropolitan centers in the state	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.16	Public transit facility improvements and operating assistance	Construct and/or improve bus and rail terminals, stations, and maintenance facilities	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.17	Paratransit Service	Self-explanatory	Yes	NA	Transit Operators

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 1. Programs for Improved Public Transit	1.18	Express Busways/Dedicated Bus Lanes	Construct bus-only lanes	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.19	Study Benefits of a Particulate Trap Retrofit Program	Examine potential to accelerate application of particulate traps on diesel- powered buses to achieve earlier compliance with State regulations.	Yes	NA	CARB/State requirement to replace vehicles with zero emissions. Active phase out by 2029.
Section 108 (f) 1. Programs for Improved Public Transit	1.20	Provide free public transit during episodes	Provide free transit rides during high level ozone episodes.	No	Difficult to quantify benefits; being limitedly applied for Clean Air Day	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.21	Half Price Fares on Feeder Bus Service	All local transit bus services to rail stations reduce fare by half.	No	No authority to implement. Unclear emission benefits.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.22	Real-Time Transit Information Systems	Provide real-rime information to transit riders to increase ridership and system efficiency	Yes	NA	Transit Operators
Section 108 (f) 1. Programs for Improved Public Transit	1.23	Shorter Distance from Buildings to Bus Stops	For existing buildings, re-route traffic to allow buses to come closer to the building. For new buildings, alter setback requirements to allow closer bus access.	No	Not economically feasible, however, some jurisdictions may already have existing requirements for new development.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.24	Vanpool program	Provide vanpool service for certain communities; purchase new vans	Yes	NA	TMAs
Section 108 (f) 1. Programs for Improved Public Transit	1.25	Consolidation of Public Transit Operators	Consolidate all public transit agencies in the County.	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 1. Programs for Improved Public Transit	1.26	Transit voucher programs	Provide transit vouchers to certain population groups (e.g., elderly, minorities, homeless) to reduce transit costs	yes	NA	Transit Operators, TMA
Section 108 (f) 1. Programs for Improved Public Transit	1.27	Free rail-to-bus/bus-to-rail transfers	Vanpool and shuttle services at non-intermodal centers	No	Not economically feasible; difficult to quantify benefits	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.28	Bus queue jumps	Installing special lanes and signals to allow transit to get ahead in traffic	No	No authority to implement.	NA
Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles	2.1	Update High Occupancy Vehicle (HOV) Lane Master Plan	Analysis of increased enforcement, increasing occupancy requirements, conversion of existing HOV lanes to bus only lanes and/or designation of any new carpool lanes as bus-only lanes; utilization of freeway shoulders for peak- period express bus use; commercial vehicle buy-in to HOV lanes; and appropriateness of HOV lanes for corridors that have considered congestion pricing or value pricing.	Yes	NA	SACOG, State
Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles	2.2	Bus and carpool lanes on arterials	Provide fixed lanes for buses and carpools on arterial streets.	Yes	NA	Cities and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles	2.3	HOV lanes	Construct additional high occupancy vehicle (HOV) lanes; allow use by alternative fuel vehicles.	Yes	NA	Caltrans, State
Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles	2.4	Express toll lanes/High Occupancy Toll (HOT) Lanes	Self-explanatory.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.1	Commute solutions	The federal Commuter Choice Program provides for benefits that employers can offer to employees to commute to work by methods other than driving alone.	Yes	NA	Employers, Transit Operators
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.2	Parking cash-out	State law requires certain employers who provide subsidized parking for their employees to offer a cash allowance in lieu of a parking space.	Yes	NA	Employer, CARB
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.3	Rideshare program	Provide rideshare service	Yes	NA	Cities, Counties, Employer

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.4	Implement Parking Charge Incentive Program	Evaluate feasibility of an incentive program for cities and employers that convert free public parking spaces to paid spaces. Review existing parking polices as they relate to new development approvals.	Yes	NA	Cities, Counties, Employer
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.5	Preferential parking for carpools and vanpools	Encourage employers to provide preferential parking for carpools and vanpools to reduce SOV trips	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.6	Employee parking fees/parking study	Study to gauge benefits from increased parking fees at employment centers	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.7	Merchant transportation incentives	Implement "non-work" trip reduction ordinances requiring merchants to offer customers mode shift travel incentives such as free bus passes and requiring owners/managers/developers of large retail establishments to provide facilities for non-motorized modes.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.8	Purchase vans for vanpools	Encourage employers to purchase vans for employee commute travel	Yes	NA	Implemented through TDM Funding Program

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.9	Encourage regulated employers to subsidize the cost of transit for employees	Provide outreach and possible financial incentives to encourage local employers to provide transit passes or subsidies to encourage less individual vehicle travel.	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.10	Compressed work weeks/flexible work schedules	Encourage employers to implement alternate work schedules to reduce travel	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.11	Telecommuting	Encourage employers to allow employees to work from home	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.12	Income tax credit to telecommuters	Self-explanatory	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.13	Extend parking cash-out rule to more employers	Self-explanatory	No	Requires State legislation.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.14	Bike to work month	Encourage biking to work during April bike awareness month	Yes	NA	SACOG

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.15	Off-days for ozone alerts just like sick days	On ozone alert days, notify employees through email that there is an ozone alert. Employees are given a pre-specified number of days they can decide not to come in to work on ozone forecast days.	No	No authority to implement. Not economically feasible.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.16	Pay for in-house meals on ozone action days	Employer pays for meals in-house on ozone alert days so that employees do not travel to off-site locations.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.17	Voluntary business closures on ozone action days	A more expensive version of "off-days" for ozone alerts.	No	No authority to implement. Not economically feasible.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.18	Close government offices on ozone action days to serve as an example	Similar to voluntary business closures.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.19	Mandatory compressed work weeks	Self-explanatory.	No	No authority to implement. Employer could decide individually if this measure is feasible for them.	NA
Section 108 (f) 3. Employer-Based Transportation	3.20	Adopt a Safe Routes to School Policy	Adopt policy to increase the number of students that walk/bike to school by removing	Yes	NA	Cities, Counties, School Districts, SACOG, Districts

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Management Plans, Including Incentives			barriers that prevent children and adults from doing so.			
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.21	Encourage students to bike or walk to school	Self-explanatory	Yes	NA	Implemented though Safe Routes to School
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.22	Showers and Lockers at Work	Provide showers and lockers to encourage walking and biking to work.	Yes	NA	Employers
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.23	Voluntary Employer Parking Cash-out Subsidy	Employers who provide free parking would voluntarily provide the cash equivalent of the parking subsidy to employees who do not drive to work.	Yes	NA	Cities, Counties, Employers, State
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.24	Satellite work centers	Employers open new remote offices near employees' residences	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.25	Proximity job swap	Encourage employers to give incentives to employees to move close to worksite	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 3. Employer-Based Transportation	3.26	Promote business closure on high ozone days	Self-explanatory	No	Not economically feasible.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Management Plans, Including Incentives						
Section 108(f) 4. Trip Reduction Ordinance	4	The state law prohibits mandatory employer-based trip reduction programs (California Health & Safety Code §40717.6). Instead, SACOG is involved in and provides funds for educational and outreach programs to educate employers of the environmental benefits of a variety of employer-based trip reduction options through the Transportation Demand Measure Funding Program.	NA	NA	NA	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.1	Intelligent Transportation Systems	Install ITS on freeways and arterials to increase traffic operations efficiency	Yes	NA	Caltrans, Cities, and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.2	Traffic Signal Synchronization/Traffic Signal Improvements	Install synchronized traffic signals, median dividers, turn lanes, and grade separations	Yes	NA	Caltrans, Cities, and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.3	Intersection Improvements	Installation of turn lanes, curbs, traffic signals	Yes	NA	Caltrans, Cities, and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.4	Site-specific transportation control measures	This measure could include geometric or traffic control improvements at specific congested intersections or at other substandard locations. Another example might be	Yes	NA	Caltrans, Cities, and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
			programming left turn signals at certain intersections to lag, rather than lead, the green time for through traffic.			
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.5	Removal of on-street parking	Require all commercial/industrial development to design and implement off-street parking.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.6	Reversible lanes	Change direction of travel during special events or during congestion periods	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.7	One-way streets	Redesignate streets as one-way to improve traffic	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.8	Removal of on-street parking	Self-explanatory	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.9	Bus pullouts in curbs for passenger loading	Provide bus pullouts in curbs, or queue jumper lanes for passenger loading and unloading.	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.10	Freeway Service Patrol	Emergency services to clean up motor accidents in a timely fashion	Yes	NA	STA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.11	Fewer stop signs	Improve flow-through traffic by removing stop signs.	No	Not technologically feasible because the safety issue outweighs the	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
					potential small air quality benefit.	
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.12	Ban left turns	Banning all left turns would stop the creation of bottlenecks although slightly increase travel distances.	No	Left turns are not allowed in some heavy-traffic streets. No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.13	Changeable lane assignments	Increase number of one-way lanes in congested flow direction during peak traffic hours.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.14	Adaptive traffic signals and signal timing	Self-explanatory.	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.15	Freeway bottleneck improvements (add lanes, construct shoulders, etc.)	Identify key freeway bottlenecks and take accelerated action to mitigate them.	Yes	NA	Caltrans
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.16	Minimize the impact of construction on traveling public. Have contractors pay when lanes are closed as an incentive to keep lanes open.	Prohibit lane closures during peak hours, limit work to weekends and/or nights.	Yes	NA	Caltrans
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.17	Internet provided road and route information	Reduce travel on highly congested roadways by providing accessible information on congestion and travel.	Yes	NA	Caltrans, Cities, and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.18	Regional route marking systems to encourage underutilized capacity	Encourage travel on local roads and arterials by better route marking to show alternatives.	Yes	NA	Caltrans, Cities, and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.19	Congestion management field team to clear incidents	Self-explanatory.	Yes	NA	Freeway Service Patrol; Emergency Services
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.20	Use dynamic message signs to direct/smooth speeds during incidents	Self-explanatory.	Yes	NA	Caltrans
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.21	Get real-time traffic information to drivers	Self-explanatory.	Yes	NA	Caltrans, 511
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.22	Speed limit reduction	Reduce freeway speed limit to 55mph	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.23	Require 40 mph speed limit on all facilities	Self-explanatory.	No	The California Vehicle Code Sections 22357 and 22358 mandates a methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	NA
Section 108 (f) 5. Traffic Flow Improvement	5.24	Require lower speeds during peak periods	Self-explanatory.	No	The California Vehicle Code Sections 22357 and 22358 mandates methodology for	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Programs That Achieve Emissions Reductions					setting speed limits for local areas. This measure is not feasible until the statute is changed.	
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.25	On-street parking restrictions	Restrict on-street parking where appropriate.	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.26	Roundabouts at low traffic intersections	Construct roundabouts and remove stop sign as appropriate	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.27	Eco-driving educational program	Education program to improve vehicle efficiency by improving driving habits	No	Difficult to quantify emission benefits.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.28	Reroute trucks on ozone action days	Self-explanatory.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.29	Street Intersection Realignment	Realign skewed intersections to provide better traffic flow and safety.	Yes	NA	Cities and Counties
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.3	Road Hazard Reporting	Provide real-time traffic information to help drivers make decisions about when and where to travel.	Yes	NA	Caltrans
Section 108 (f) 5. Traffic Flow Improvement	5.31	Truck only lanes	Construct or convert lanes for use by heady-duty trucks only	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Programs That Achieve Emissions Reductions						
Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service	6.1	Park-and-ride facilities	Construct park-and-ride lots near transit centers and transfer stations	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service	6.2	Park-and-ride lots serving perimeter counties	Specific to a locality.	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service	6.3	Regional Parking Regulation to Provide Incentives for alternative transportation modes	Regulation to provide parking facilities and designs to encourage carpools, vanpools, and bicycling.	Yes	NA	Cities and Counties
Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service	6.4	Preferential parking for vanpools, carpools	Self-explanatory	Yes	NA	Employers
Section 108 (f) 6. Fringe and Transportation Corridor Parking	6.5	Free parking near transit facilities	Self-explanatory	Yes	NA	Cities, Counties, Transit Operators

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service						
Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service	6.6	Rail grade separation	Adjust road surface heights in line with rail to improve traffic flow	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.1	Off-peak goods movement	Require trucks to operate during off-peak hours	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.2	Truck restrictions during peak periods	Implement an ordinance to restrict truck travel during peak periods in order to minimize traffic congestion.	No	No authority to implement. Cities could decide individually if this measure is feasible for them.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration	7.3	Encourage students to bike or walk to school	Self-explanatory	Yes	Implemented though Safe Routes to School	SACOG, CARB

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Particularly During Periods of Peak Use						
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.4	Adjust school hours so they do not coincide with peak traffic periods and ozone seasons	Measure to reduce travel during peak periods and ozone-contributing periods in the early morning.	No	School hours are dictated by many variables, including overcrowding and year-round schooling. This measure is not feasible.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.5	Area-wide tax for parking	Reduce driving by limiting parking through implementation of pricing measures.	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.6	Increase parking fees	Reduce driving by limiting parking spaces through pricing measures.	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration	7.7	Graduate parking fees	Charge the most for parking in central business districts	Yes	NA	Cities

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Particularly During Periods of Peak Use						
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.8	Purchase parking lots and convert into other land uses	Limit parking by converting available parking to other land uses to discourage driving.	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.9	Limit the number of parking spaces at airports to support mass transit	Reduce airport travel by limits on parking at airports.	No	Regulatory agencies do not have the legal authority to make local land use decisions. It is at the discretion of the regional or local airport authority to make local land use decisions pertaining to airports. Additionally, it is necessary to have significant mass transit available at airports before this measure can be implemented.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission	7.10	No CBD vehicles unless LEV, alternative fuel, or electric	Define high-use area and ticket any vehicles present unless they are low emitting, alternative fueled or electric.	No	No authority to implement. Ex., the Legislature significantly reduced authority of the	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Concentration Particularly During Periods of Peak Use					SOUTH COAST AQMD to implement indirect source control measures through revisions to the Health & Safety Code (40717.6, 40717.8, and 40717.9).	
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.11	Establish Auto Free Zones and Pedestrian Malls	Self-explanatory	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.12	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.13	Land use/air quality guidelines	Guidelines for developments that contribute to achieving air quality goals.	Yes	NA	CARB, Regional Air Districts

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.14	Cash incentives to foster jobs/housing balance	Specific to locality – encouraged by California Clean Air Plan.	Yes	NA	State, SACOG GMG program
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.15	Trip reduction oriented development	Land use decisions that encourage trip reductions.	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.16	Transit-oriented/sustainable development	Encourage land-use planning that promote development near transit centers	Yes	NA	Implemented through Sustainable Communities Strategy
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.17	Sustainable development	Land use decisions that create equitable standards of living to satisfy the basic needs of all peoples, all while taking the steps to avoid further environmental degradation.	Yes	NA	Cities and Counties

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Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.18	Smart Parking Detection System	Utilize mobile communication devices to access the parking availability at multiple lots and provide real- time inventory of parking spaces.	Yes	NA	Cities
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.19	Programs to encourage goods movement by rail	Self-explanatory	Yes	NA	State
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.20	Divert trucks from nonattainment areas	Require pass-through trucks to choose routes away from Sacramento region	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.21	Buy parking lots and convert to other land use	Limit parking by converting available parking to other land uses to discourage driving	Yes	NA	Cities and Counties

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Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.22	Incentives for cities with good development practices	Provide financial or other incentives to cities that practice air quality- sensitive development.	Yes	NA	CARB, SACOG, State Legislature
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.23	Increase fees for parking garages and meters during ozone episodes	Increase fees for parking garages to deter vehicle use during high ozone level days.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.24	Charge city-owned parking garage pass holders a fee for more than one entrance and exit each day	Extra charges for pass holders to deter additional vehicle use and vehicle trips.	No	Not economically feasible. No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.25	VMT Tax	Charge VMT tax per mile for all vehicles registered or garaged in the region.	No	Need state legislation.	NA

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Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.26	Increase parking fees	Self-explanatory	Yes	NA	Cities and Counties
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.27	Central business district vehicle restrictions	Restrict vehicle use in downtown areas	No	No authority to implement. Downtown Sacramento is surrounded by freeways, difficult to quantify, not economically feasible.	NA
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.1	Financial Incentives, including Zero-Bus Fares	Provide financial incentives or other benefits, such as free or subsidized bus passes and cash payments for not driving, in lieu of parking spaces for employees who do not drive to the workplace.	Yes	NA	Employers
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.2	Rideshare information systems and marketing	Self-explanatory	Yes	NA	SACOG and TMAs
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.3	Cash incentives for carpoolers	Self-explanatory	Yes	NA	TMAs

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.4	Employers provide vehicles to carpoolers for running errands or emergencies	Having vehicles available for workday errands makes it easier to go to work without one.	Yes	NA	SACOG TDM program and some employers
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.5	Subscription services	Free van services to provide transportation for the elderly, handicapped or other individuals who have no access to transportation.	Yes	NA	TMAs
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.6	School carpools	Self-explanatory and voluntary.	No	No authority to implement.	NA
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.7	"Guaranteed Ride Home" program	Provide vanpool service in emergency situations to transit riders	Yes	NA	TMAs
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.8	Transit voucher program	Provide transit vouchers to certain population groups (elderly, minorities, homeless) to reduce transit costs.	Yes	NA	Transit Operators
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.9	Rideshare and vanpool services	Non-employer based rideshare and vanpool option near transit stations.	Yes	NA	SACOG

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Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.10	Preferential parking for carpools and vanpools	Encourage employers to provide preferential parking for carpools and vanpools to reduce SOV trips	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.11	Auto sharing Program	Fund incentives for new auto sharing customers (i.e., Zipcar, etc.).	Yes	NA	CARB, Regional Air Districts
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.12	Vanpool program	Provide vanpool service for certain communities; purchase new vans	Yes	NA	CARB, Regional Air Districts
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.13	Station cars	Provide vanpool service from transit stations to parking lots	Yes	NA	Cities and Counties
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.1	Establish Auto Free Zones and Pedestrian Malls	Self-explanatory	Yes	NA	Cities and Counties
Section 108 (f) 9. Programs to Limit Portions of Road	9.2	Encouragement of pedestrian travel	This measure involves encouraging the use of pedestrian travel as an	Yes	NA	SACOG TDM program

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Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place			alternative to automobile travel. Pedestrian travel is quite feasible for short shopping, business, or school trips.			
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.3	Bicycle/Pedestrian Program	Fund high priority projects in countywide plans consistent with funding availability.	Yes	NA	SACOG ATP and Statewide program
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.4	Close streets for special events for use by bikes and pedestrians when/where appropriate	Self-explanatory	Yes	NA	Cities and Counties
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the	9.5	Encourage bicycle travel	Promotion of bicycle travel to reduce automobile use and improve air quality. Bikeway system planning, routes for inter-city bike trips to help bicyclists avoid other, less safe	Yes	NA	SACOG, Cities, Counties, TMAs

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place			facilities. Another area for potential actions is the development and distribution of educational materials, regarding bicycle use and safety.			
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.6	Free bikes	Provide free bikes to transit users	No	Not economically feasible. Unclear emission benefits.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.7	Cash rebates for bikes	Provide financial incentives to purchase bicycles and thereby encourage use.	No	No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian	9.8	Close streets for special events for bikes and pedestrians	Self-explanatory.	Yes	NA	Cities and Counties

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Use, Both as to Time and Place						
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.9	Use condemned dirt roads for bike trails	Self-explanatory.	No	Not applicable because there are no condemned dirt roads in the region.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.10	Safe Routes to School programs	Encourage educational and encouragement programs with families and schools and support policies to improve pedestrian and bicycle safety.	Yes	NA	Cities and Counties
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.11	Bicycle/pedestrian overpasses	Construct bike and pedestrian bridges and/or tunnels over major highways	Yes	NA	Caltrans, Cities, and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.12	Bicycle/pedestrian facilities	Construct sidewalks, curbs, gutters, landscaping, lighting for bike and pedestrian pathways	Yes	NA	Cities and Counties
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.13	Close roads for use of non-motorized traffic	Convert roadways to bike/pedestrian paths	No	No authority to implement. Unclear emission benefits.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.1	Mandatory bike racks for worksites	Mandate that employers install bike racks at businesses	No	No authority to implement.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities,	10.2	Bike racks on buses	South Coast, San Joaquin Valley, Washington DC	Yes	NA	Transit Operators

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas						
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.3	Regional bike parking	Construct bike parking facilities at transit centers	Yes	NA	Cities, Counties, Transit Operators
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.4	Bicycle facility improvements	Construct bike lanes, off-street bikeways, multi-use trails, route lighting, and street signage	Yes	NA	Cities and Counties
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.5	Expedite bicycle projects from RTP/SCS	Build out active mode facilities at an accelerated rate to achieve benefits in advance of attainment deadline.	Yes	NA	SACOG, Cities, Counties, Special Districts

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Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.6	Provide bike/pedestrian facilities safety patrols	Self-explanatory.	No	Will not advance attainment. Emission benefits would be difficult to calculate/provide minimal emission reductions.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.7	Inclusion of bicycle lanes on thoroughfare projects	Self-explanatory.	Yes	NA	Cities and Counties
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.8	Bicycle lanes on arterial and frontage roads	Self-explanatory.	Yes	NA	Cities and Counties
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and	10.9	Bicycle route lighting	Self-explanatory.	Yes	NA	Cities and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Protection of Bicyclists, in Both Public and Private Areas						
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.10	Complete Streets	Install bicycle and pedestrian facilities, upgrade traffic control systems, urban design improvements, streetlights and transit connections.	Yes	NA	Cities, Counties, SACOG
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.11	Bike share program	Implement bike share system and provide planning efforts for potential regional expansion of a Bike Share pilot program	Yes	NA	Cities, Counties, SACOG
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.12	Bike Purchase Incentives	Cash incentives to transit riders to purchase collapsible or electric bikes.	No	No authority to implement.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities	10.13	Longer Bike Racks on Buses	Install or modify bike rack on transit buses to accommodate up to three bikes	Yes	NA	Transit Operators

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and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas						
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.14	Greenway Network	Use riverbeds and other rights-of-way for bike and pedestrian paths to separate them from auto traffic	Yes	NA	Cities and Counties
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.15	First Mile/Last Mile Program	Variety of strategies to encourage active transportation including wayfinding, sidewalk improvements, pedestrian priority signalization, and bike/pedestrian facilities near transit.	Yes	NA	SACOG
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.16	Bike lockers at light rail stations, park& ride lots, other locations	Expand existing bike lockers at light rail stations; install bicycle storage spaces in parking lots.	Yes	NA	Cities, counties, Transit Operators

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.1	Limit excessive car dealership vehicle starts	Require car dealers to limit the starting of vehicles for sale on their lot(s) to once every two weeks. Presently, a number of new and used car dealers start their vehicles daily to avoid battery failure and assure smooth start-ups for customer test drives.	No	Not enforceable or practical	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.2	Encourage limitations on vehicle idling	Encourage limitations to limit extended idling operations.	Yes	NA	State
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.3	Turn off engines while stalled in traffic	Public outreach or police-enforced program.	No	This measure raises safety and congestion concerns. No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.4	Outlaw idling in parking lots	Self-explanatory and police-enforced program.	No	Enforcement of idle restrictions is a low priority for police relative to their other missions. The cost effectiveness of this measure has not been demonstrated. It is not economically feasible. No clear demonstration of emission reduction benefits.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.5	Reduce idling at drive-throughs; ban drive-throughs	Mandate no idling or do not allow drive- through windows during ozone season.	No	No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.6	Promote use of pony engines	Use special battery engines to keep air conditioning and other truck systems working while truck not in use.	Yes	NA	State
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.7	Idle restrictions at airport curbsides	Self-explanatory and police-enforced.	Yes	NA	Airport authorities
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.8	Truck stop electrification	Self-explanatory	Yes	NA	Businesses
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.9	Idle reduction	Prohibit idling at schools	Yes	NA	CARB
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.10	Restrict idling	Require idle limits for trucks.	Yes	NA	Cities and Counties
Section 108 (f) 12. Program to Reduce Motor Vehicle Emissions Consistent with Title II, Which Are Caused by Extreme Cold Start Conditions	12	Not Applicable	NA	NA	NA	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 13. Employer- sponsored programs to permit flexible work schedules	13.1	Compressed work weeks/flexible work schedules	Encourage employers to implement alternate work schedules to reduce travel	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 13. Employer- sponsored programs to permit flexible work schedules	13.2	Modifications of work schedules	Implement alternate work schedules that flex the scheduled shift time for employees. Encourage the use of flexible or staggered work hours to promote off- peak driving and accommodate the use of transit and carpooling.	Yes	NA	Employers
Section 108 (f) 13. Employer- sponsored programs to permit flexible work schedules	13.3	Telecommunications- Telecommuting/Teleconferencing	Encourage telecommuting and use of telecommuting/teleconferencing equipment in place of motor vehicle use where appropriate. Set-up satellite work centers closer to where employees live to reduce motor vehicle use where appropriate.	Yes	NA	Employers
Section 108 (f) 13. Employer- sponsored programs to permit flexible work schedules	13.4	Telecommuting	Encourage employers to allow employees to work from home	Yes	NA	Implemented through TDM Funding Program
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for	14.1	Spare the air program	Voluntary no-drive days during high ozone season	Yes	NA	SMAQMD and Regional Air Districts

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
single-occupant vehicle travel, as part of transportation planning and development efforts						
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.2	Special event controls	This measure would require new and existing owners/operators of the special event centers to reduce mobile source emissions generated by their events. A list of optional strategies would be available that reduce mobile source emissions.	Yes	NA	Counties, Cities, Special Event Operators
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.3	Blueprint vision	Implementation and technical assistance with programs to encourage land-use patterns and development near transit centers that decrease urban sprawl and reduce overall travel	Yes, implemented trough Su	NA	SACOG
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and	14.4	Spare the air program	Voluntary no-drive days during high ozone season	Yes	NA	SMAQMD and Regional Air Districts

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts						
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.5	New Development Air Quality Impact Evaluation	Evaluate air quality impacts of new development and recommend or require mitigation for significant adverse impacts.	Yes	NA	Cities, County, SMAQMD
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.6	Transportation for Livable Communities (TLC)/Housing Incentive program	Program provides planning grants, technical assistance, and capital grants to help cities and Nonprofit agencies define and implement transportation projects that support community plans including increased housing near transit.	Yes	NA	SACOG, State

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.7	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes	NA	Cities and Counties
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.8	Incentives for cities with good development practices	Provide financial or other incentives to local cities that practice air quality- sensitive development.	Yes	NA	Cities, Counties, SACOG, State
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle	14.9	Increase State gas tax	Self-explanatory.	No	Need state legislation. State gas tax has been increased by SB 1.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
travel, as part of transportation planning and development efforts						
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.10	Pay-As-You-Drive Insurance	Charge insurance fees based on driving patters	No	No implementation authority; would require changes to state law	NA
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.11	Spare the air program	Voluntary no-drive days during high ozone season	Yes	NA	SMAQMD and Regional Air Districts
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass	14.12	Display air quality data on billboards	Self-explanatory.	Yes	NA	SMAQMD Spare the Air Program

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts						
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.13	Sell clean air license plate to fund air quality programs	Self-explanatory.	No	Need state legislation. No clear demonstration of air quality benefits.	NA
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.14	Government Action Days (spare the air day, ozone action day)	Declare a Spare The Air day when ozone levels reach episodic thresholds so that the public is informed and encouraged to scale back activities generating pollutants.	Yes	NA	SMAQMD and Regional Air Districts
Section 108 (f) 14. Programs and Ordinances to facilitate	14.15	Vehicle tax for two or more vehicles per household	Initiate legislation to put a vehicle tax on household with two or more vehicles.	No	Need state legislation. No clear demonstration of air	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts					quality benefits. Not economically feasible.	
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.16	Development of rural-urban connections strategy and create best practices toolkit	Develop best practices to promote environmentally sustainable land use in economically viable rural areas for landowners and local governments	Yes	NA	SACOG
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.17	Traffic reduction strategies	Public awareness and education programs to encourage carpooling and the use of public transportation	Yes	NA	SACOG and TMAs

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.18	Buy parking lots and convert to land use	Self-explanatory	Yes	NA	Cities and Counties
Section 108 (f) 15. Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other Non-motorized means of transportation when commercially feasible and in the public interest	15.1	Require inclusion of paved shoulders adequate for bicycle use on state or federally funded reconstruction or widening of federal collectors	Require paved shoulders on state and federally funded roads that require reconstruction or widening.	No	No authority to implement. Not economically feasible.	NA
Section 108 (f) 15. Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other Non-motorized means of transportation when commercially	15.2	Bicycle/pedestrian facilities	Construct sidewalks, curbs, gutters, landscaping, lighting for bike and pedestrian pathways	Yes	NA	Cities and Counties

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
feasible and in the public interest						
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.1	Counties assess ten dollar license plate fee to fund repair/replacement program for high- emitters	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.2	Offer incentives for retirement and replacement of vehicles for participants meeting specific requirements	Self-explanatory.	Yes	NA	State
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.3	Demolish impounded vehicles that are high emitters	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty	16.4	Do whatever is necessary to allow cities to remove the engines of high emitting vehicles (pre-1980) that are abandoned and to be auctioned	Self-explanatory.	No	Not enforceable or economically feasible.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
vehicles and pre-1980 model light duty trucks						
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.5	Accelerated retirement program	Identify high-emitting vehicle age groups and develop a program to remove them from use.	Yes	Not enforceable or economically feasible.	State
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.6	Buy vehicles older than 1975	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.7	Accelerate retirements of trucks/buses	Replace high mileage trucks and buses	Yes	NA	CARB, Regional Air Districts
17. Other	17.1	Truck-Only Lanes	Self-explanatory.	Yes	NA	Caltrans
17. Other	17.2	Promote business closures on high ozone days	Non-employer-based strategy to require local business to close on bad air quality days, thereby reducing travel.	No	No authority to implement; not economically feasible	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for infeasible Measure	Implementing Agency or Agencies
17. Other	17.3	Clean Fleet Vehicles for Government Employees	Provide alternative fuel vehicles for government employees.	Yes	NA	CARB, Regional Air Districts
17. Other	17.4	Increase bike commuting and transit use to reduce congestion and the number of SOVs	Utilize a form of secure bike parking at park and ride lots within El Dorado County.	NA	NA	See Measure 10.16
17. Other	17.5	US Highway 50 Corridor At-Grade Temporary Freeway Conversion: "Trip to Green" Interim Technology and Infrastructure Project	Use innovation and technology to solve interregional recreation and tourism related congestion on US 50.	NA	NA	See Measure 5.1
17. Other	17.6	Placerville Drive Bicycle and Pedestrian Facilities Project	Construct Class IV bikeways and sidewalks along Placerville Drive from west of the US 50 undercrossing to the Placerville Drive / Green Valley Road / Ray Lawyer Drive / intersection and Class II bicycle facilities and sidewalks on Green Valley Road from Placerville Drive to Mallard Lane.	NA	NA	See Measure 10.5
17. Other	17.7	Encouraging Work from Home and electric vehicles for the Sacramento Region.	Self-explanatory	NA	NA	See Measure 3.11,
17. Other	17.8	Encouraging electric vehicles for the Sacramento Region	Self-explanatory	Yes	NA	CARB

D.3.5 RACM Evaluation

A small number of control measures identified during the TCM review, which were not yet implemented in the Sacramento region. These control measures were advanced for further RACM analysis and assessed based on the criteria specified in the 2015 Ozone Implementation Rule and EPA's RACM guidance. Factors considered included technical and economic feasibility, enforceability, local applicability, and ability to provide emission reductions before attainment deadline (advancement of attainment). Table D-7 is a collective list of measures reviewed, including reasoned justification for not implementing them in the Sacramento region at this time based upon reasoning described in sections D.3.5.1, D.3.5.2, and D.3.5.3 below.

D.3.5.1 Feasibility-Technical/Economic

Several of TCMs listed below, although technologically feasible, were disqualified based on their high costs in lieu of the relatively minor emission reductions they would produce. As an example, measures that offer transportation equipment were viewed as not cost-effective. For instance, a "free bikes" TCM is not deemed economically feasible because such a program would need to be extended to a large population group to provide significant emission benefits thereby resulting in high costs. In addition, enforcement and quantification of emission benefits would not be possible given that bikes could be resold for profit, stolen, or not used by the public. Table D-7 shows measures that were deemed economically infeasible and provides a detailed explanation of why they could not be implemented in the Sacramento region.

D.3.5.2 Implementation Authority

Some measures discussed in this section were not considered to be RACM because SACOG and its jurisdictions do not have the implementation authority needed to deploy and enforce them. A new TCM must have evidence of adequate personnel, and funding and authority under state or local law to implement, monitor and enforce. In some cases, implementation would require changes to state law. If a transportation agency, like SACOG, does not have the authority to implement and enforce a TCM, it cannot be credited in a SIP, and therefore cannot be considered as RACM. Table D-7 shows measures that cannot be implemented at this time.

D.3.5.3 Advancement of Attainment

Several of the TCMs shown below were viewed as not capable of advancing attainment due to the small emission benefits they would generate. Measures with emission reductions that would be difficult or impossible to quantify were also included in this grouping. As considered within this analysis, TCMs must be fully funded and in use/implemented in advance of the attainment demonstration year; and not included within other transportation emission assumptions accounted for within the MTP. Only emission reductions generated between measure implementation and the 1-year

advancement threshold can be credited within the SIP. Additionally, their inclusion as RACM is dependent on the findings of the regional air districts who collectively review control measures for point source, non-point source, and non-mobile sources. A RACM finding of advancing attainment by a year will be determined by the SFNA air districts.

D.3.6 Conclusions

Out of the approximately 200 candidate TCMs identified as candidate RACM, none were found to meet the criteria for RACM implementation. Based on a comprehensive review of TCM projects in other nonattainment areas, it was determined that the TCMs being implemented in the Sacramento region represent all RACM. None of the candidate measures reviewed herein, and determined to be infeasible, meet the criteria for RACM implementation.

Table D-7 RACM: Economic Feasibility, Advancement of Attainment, Implementation Authority

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 1. Programs for Improved Public Transit	1.4	Major Expansion of Mass Transit	Major change to the scope and service levels.	No	Not economically feasible because there is not enough transit demand for order of magnitude increases in spending.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.8	Require that government employees use transit for home to work trips, expand transit, and encourage large businesses to promote transit use	Require all government employees to use transit a specified number of times per week.	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.10	Bus Signal Priority	Wireless bus signal priority system on bus fleets for increased operation efficiency and travel time savings.	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.14	Maglev	Construct regional low-speed magnetic levitation transit	No	Not economically feasible. High costs in lieu of relatively minor emission reductions	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.15	High Speed Rail	Construct high speed rail connecting large metropolitan centers in the state	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.18	Express Busways/Dedicated Bus Lanes	Construct bus-only lanes	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.20	Provide free public transit during episodes	Provide free transit rides during high level ozone episodes.	No	Difficult to quantify benefits; being limitedly applied for Clean Air Day	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.21	Half Price Fares on Feeder Bus Service	All local transit bus services to rail stations reduce fare by half.	No	No authority to implement. Unclear emission benefits.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 1. Programs for Improved Public Transit	1.23	Shorter Distance from Buildings to Bus Stops	For existing buildings, re-route traffic to allow buses to come closer to the building. For new buildings, alter setback requirements to allow closer bus access.	No	Not economically feasible, however, some jurisdictions may already have existing requirements for new development.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.25	Consolidation of Public Transit Operators	Consolidate all public transit agencies in the County.	No	No authority to implement.	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.27	Free rail-to-bus/bus-to-rail transfers	Vanpool and shuttle services at non-intermodal centers	No	Not economically feasible; difficult to quantify benefits	NA
Section 108 (f) 1. Programs for Improved Public Transit	1.28	Bus queue jumps	Installing special lanes and signals to allow transit to get ahead in traffic	No	No authority to implement.	NA
Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles	2.4	Express toll lanes/High Occupancy Toll (HOT) Lanes	Self-explanatory.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.7	Merchant transportation incentives	Implement “non-work” trip reduction ordinances requiring merchants to offer customers mode shift travel incentives such as free bus passes and requiring owners/managers/developers of large retail establishments to provide facilities for non-motorized modes.	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.12	Income tax credit to telecommuters	Self-explanatory	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.13	Extend parking cash-out rule to more employers	Self-explanatory	No	Requires State legislation.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.15	Off-days for ozone alerts just like sick days	On ozone alert days, notify employees through email that there is an ozone alert. Employees are given a pre-specified number of days they can decide not to come in to work on ozone forecast days.	No	No authority to implement. Not economically feasible.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.16	Pay for in-house meals on ozone action days	Employer pays for meals in-house on ozone alert days so that employees do not travel to off-site locations.	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.17	Voluntary business closures on ozone action days	A more expensive version of “off-days” for ozone alerts.	No	No authority to implement. Not economically feasible.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.18	Close government offices on ozone action days to serve as an example	Similar to voluntary business closures.	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.19	Mandatory compressed work weeks	Self-explanatory.	No	No authority to implement. Employer could decide individually if this measure is feasible for them.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.24	Satellite work centers	Employers open new remote offices near employees' residences	No	No authority to implement.	NA
Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives	3.26	Promote business closure on high ozone days	Self-explanatory	No	Not economically feasible.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.5	Removal of on-street parking	Require all commercial/industrial development to design and implement off-street parking.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.6	Reversible lanes	Change direction of travel during special events or during congestion periods	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.8	Removal of on-street parking	Self-explanatory	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.11	Fewer stop signs	Improve flow-through traffic by removing stop signs.	No	Not technologically feasible because the safety issue outweighs the potential small air quality benefit.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.12	Ban left turns	Banning all left turns would stop the creation of bottlenecks although slightly increase travel distances.	No	Left turns are not allowed in some heavy-traffic streets. No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.13	Changeable lane assignments	Increase number of one-way lanes in congested flow direction during peak traffic hours.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.22	Speed limit reduction	Reduce freeway speed limit to 55mph	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.23	Require 40 mph speed limit on all facilities	Self-explanatory.	No	The California Vehicle Code Sections 22357 and 22358 mandates a methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.24	Require lower speeds during peak periods	Self-explanatory.	No	The California Vehicle Code Sections 22357 and 22358 mandates methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.27	Eco-driving educational program	Education program to improve vehicle efficiency by improving driving habits	No	Difficult to quantify emission benefits.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.28	Reroute trucks on ozone action days	Self-explanatory.	No	No authority to implement.	NA
Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions	5.31	Truck only lanes	Construct or convert lanes for use by heady-duty trucks only	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.1	Off-peak goods movement	Require trucks to operate during off-peak hours	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.2	Truck restrictions during peak periods	Implement an ordinance to restrict truck travel during peak periods in order to minimize traffic congestion.	No	No authority to implement. Cities could decide individually if this measure is feasible for them.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.4	Adjust school hours so they do not coincide with peak traffic periods and ozone seasons	Measure to reduce travel during peak periods and ozone-contributing periods in the early morning.	No	School hours are dictated by many variables, including overcrowding and year-round schooling. This measure is not feasible.	NA
Section 108 (f) 7. Programs to Limit or	7.5	Area-wide tax for parking	Reduce driving by limiting parking through	No	No authority to implement.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use			implementation of pricing measures.			
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.6	Increase parking fees	Reduce driving by limiting parking spaces through pricing measures.	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.9	Limit the number of parking spaces at airports to support mass transit	Reduce airport travel by limits on parking at airports.	No	Regulatory agencies do not have the legal authority to make local land use decisions. It is at the discretion of the regional or local airport authority to make local land use decisions pertaining to airports. Additionally, it is necessary to have significant mass transit available at airports before this measure can be implemented.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission	7.10	No CBD vehicles unless LEV, alternative fuel, or electric	Define high-use area and ticket any vehicles present unless they are low emitting, alternative fueled or electric.	No	No authority to implement. Ex., the Legislature significantly reduced authority of the SOUTH COAST AQMD to	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Concentration Particularly During Periods of Peak Use					implement indirect source control measures through revisions to the Health & Safety Code (40717.6, 40717.8, and 40717.9).	
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.20	Divert trucks from nonattainment areas	Require pass-through trucks to choose routes away from Sacramento region	No	No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.23	Increase fees for parking garages and meters during ozone episodes	Increase fees for parking garages to deter vehicle use during high ozone level days.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.24	Charge city-owned parking garage pass holders a fee for more than one entrance and exit each day	Extra charges for pass holders to deter additional vehicle use and vehicle trips.	No	Not economically feasible. No authority to implement.	NA
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission	7.25	VMT Tax	Charge VMT tax per mile for all vehicles registered or garaged in the region.	No	Need state legislation.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Concentration Particularly During Periods of Peak Use						
Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use	7.27	Central business district vehicle restrictions	Restrict vehicle use in downtown areas	No	No authority to implement. Downtown Sacramento is surrounded by freeways, difficult to quantify, not economically feasible.	NA
Section 108 (f) 8. Programs For the Provision of All Forms of High- Occupancy, Shared-Ride Services	8.6	School carpools	Self-explanatory and voluntary.	No	No authority to implement.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.6	Free bikes	Provide free bikes to transit users	No	Not economically feasible. Unclear emission benefits.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian	9.7	Cash rebates for bikes	Provide financial incentives to purchase bicycles and thereby encourage use.	No	No clear demonstration of emission reduction benefits.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
Use, Both as to Time and Place						
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.9	Use condemned dirt roads for bike trails	Self-explanatory.	No	Not applicable because there are no condemned dirt roads in the region.	NA
Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place	9.13	Close roads for use of non-motorized traffic	Convert roadways to bike/pedestrian paths	No	No authority to implement. Unclear emission benefits.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.1	Mandatory bike racks for worksites	Mandate that employers install bike racks at businesses	No	No authority to implement.	NA
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities	10.6	Provide bike/pedestrian facilities safety patrols	Self-explanatory.	No	Will not advance attainment. Emission benefits would be difficult	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas					to calculate/provide minimal emission reductions.	
Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas	10.12	Bike Purchase Incentives	Cash incentives to transit riders to purchase collapsible or electric bikes.	No	No authority to implement.	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.1	Limit excessive car dealership vehicle starts	Require car dealers to limit the starting of vehicles for sale on their lot(s) to once every two weeks. Presently, a number of new and used car dealers start their vehicles daily to avoid battery failure and assure smooth start-ups for customer test drives.	No	Not enforceable or practical	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.3	Turn off engines while stalled in traffic	Public outreach or police-enforced program.	No	This measure raises safety and congestion concerns. No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.4	Outlaw idling in parking lots	Self-explanatory and police-enforced program.	No	Enforcement of idle restrictions is a low priority for police relative to their other missions. The cost	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
					effectiveness of this measure has not been demonstrated. It is not economically feasible. No clear demonstration of emission reduction benefits.	
Section 108 (f) 11. Programs to Control Extended Idling of Vehicles	11.5	Reduce idling at drive-throughs; ban drive-throughs	Mandate no idling or do not allow drive- through windows during ozone season.	No	No clear demonstration of emission reduction benefits.	NA
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.9	Increase State gas tax	Self-explanatory.	No	Need state legislation. State gas tax has been increased by SB 1.	NA
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation	14.10	Pay-As-You-Drive Insurance	Charge insurance fees based on driving patters	No	No implementation authority; would require changes to state law	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
planning and development efforts						
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.13	Sell clean air license plate to fund air quality programs	Self-explanatory.	No	Need state legislation. No clear demonstration of air quality benefits.	NA
Section 108 (f) 14. Programs and Ordinances to facilitate Non- automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts	14.15	Vehicle tax for two or more vehicles per household	Initiate legislation to put a vehicle tax on household with two or more vehicles.	No	Need state legislation. No clear demonstration of air quality benefits. Not economically feasible.	NA
Section 108 (f) 15. Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other Non-motorized means of transportation	15.1	Require inclusion of paved shoulders adequate for bicycle use on state or federally funded reconstruction or widening of federal collectors	Require paved shoulders on state and federally funded roads that require reconstruction or widening.	No	No authority to implement. Not economically feasible.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
when commercially feasible and in the public interest						
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.1	Counties assess ten dollar license plate fee to fund repair/replacement program for high- emitters	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.3	Demolish impounded vehicles that are high emitters	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks	16.4	Do whatever is necessary to allow cities to remove the engines of high emitting vehicles (pre-1980) that are abandoned and to be auctioned	Self-explanatory.	No	Not enforceable or economically feasible.	NA
Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty	16.6	Buy vehicles older than 1975	Self-explanatory.	No	Not enforceable or economically feasible.	NA

Code Category	Measure No.	Measure Title	Description	Has it been implemented or	Reasoned Justification for unfeasible Measure	Implementing Agency or Agencies
vehicles and pre-1980 model light duty trucks						
17. Other	17.2	Promote business closures on high ozone days	Non-employer-based strategy to require local business to close on bad air quality days, thereby reducing travel.	No	No authority to implement; not economically feasible	NA

D.3.7 Additional References

Table D-8 Non-Attainment Area SIPs Reviewed in the South Coast 2021/2022 RACM Process*

Region	Designation	Applicable SIP
Chicago-Naperville, Illinoi-Indiana-Wisconsin	Serious	Draft Redesignation Request and Maintenance Plan for the Illinois Portion of the Chicago Ozone Nonattainment Area for the 2008 Ozone Standard
Coachella Valley, California	Severe 15	Final 2016 Air Quality Management Plan
Dallas-Fort Worth, Texas	Serious	Dallas-Fort Worth Serious Classification Attainment Demonstration State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard
Denver-Boulder-Greeley-Ft, Colorado	Serious	Serious State Implementation Plan for the Denver Metro and North Front Range Ozone Nonattainment Area, December 18, 2020
Eastern Kern, California	Severe 15	2017 Ozone Attainment Plan For 2008 Federal 75 ppb 8-Hour Ozone Standard
Houston-Galveston-Brazoria, Texas	Serious	Houston-Galveston-Brazoria Serious Classification Attainment Demonstration State Implementation Plan Revision for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard
New York-Northern New Jersey- Long Island, Connecticut	Serious	Revision to Connecticut's State Implementation Plan Ozone Attainment Demonstration for Areas Classified Serious Nonattainment for the 2008 Ozone Standards, October 20218-Hour Ozone Attainment Demonstration for the Connecticut Portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT) Nonattainment Area Technical Support Document
New York-Northern New Jersey- Long Island, New York	Serious	New York State Implementation Plan for the 2008 Ozone National Ambient Air Quality Standards – New York-N. New Jersey-Long Island, NY-NU-CT Serious Nonattainment Areas, 2021
San Diego, California	Severe 15	2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County
San Joaquin Valley, California	Extreme	2016 Ozone Plan for 2008 8-Hour Ozone Standard
Ventura, California	Serious	Final 2016 Ventura County Air Quality Management Plan; *Additional review by SACOG staff 8/15/22 http://www.vcapcd.org/pubs/Planning/2022-RASM-List-for-Appendix-F-AQMP- B.pdf
Western Mojave	Severe 15	MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)
Western Nevada County, California	Serious	Ozone Attainment Plan, Western Nevada County, State Implementation Plan for the 2008 Primary Federal 8-Hour Ozone Standard of .075 ppm, 2018
*SCAG's Regional Transportation Strategy and Control Measures, 2022. Table VI-C-4 *8-Hour Ozone Standard Nonattainment Areas Review for RACM.* Available at http://www.aqmd.gov/docs/default-source/clean-air- plans/air-quality-management-plans/2022-air-quality-management-plan/combine-appendix-iv-c.pdf?sfvrsn=8		

Table D-9 1997 8-Hour Ozone Standard Nonattainment Areas Reviewed in the SACOG 2016 RACM Process*

Region	Designation	Applicable SIP
South Coast, CA (including Riverside and W. Mojave Desert)	Severe/ Extreme	Air Quality Management Plan, South Coast Air Quality Management District, 2012
San Joaquin Valley, CA	Extreme	San Joaquin Valley 2007 Ozone Plan
Ventura, CA	Serious	Ventura County Air Quality Management Plan, 2007
Washington DC	Moderate	State Implementation Plan for 8-Hour Ozone Standard for the Washington DC-DV-MA Nonattainment Area, 2007
Baltimore, MD	Serious	Baltimore Serious Nonattainment Area 0.08 ppm 8- Hour Ozone Implementation Plan, 2013
Maricopa, Arizona	Moderate	MAG Eight-Hour Ozone Resignation Request and Maintenance Plan for the Maricopa Nonattainment Area, February, 2009
Denver-Boulder, Colorado	Marginal	Denver Metro Area & North Front Range Ozone Action Plan Including Revisions to the State Implementation Plan, 2008
Boston-Manchester, NH	Moderate	Revision to the New Hampshire State Implementation Plan Request for Redesignation of the Boston- Manchester-Portsmouth (SE), NH 8-Hour Ozone (1997 Standard) Nonattainment Area, 2012
Philadelphia- Wilmington, PA	Moderate	State Implementation Plan Revision: Attainment Demonstration and Base Year Inventory Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties located in the Philadelphia-Wilmington-Atlantic City, PA-NJ-DE Eight-Hour Ozone Nonattainment Area, 2007
Houston-Galveston, TX	Severe	Houston-Galveston-Brazoria Reasonable Further Progress State Implementation Plan Revision for the1997 Eight-Hour Ozone Standard, 2010
Dallas-Fort Worth, TX	Serious	Dallas-Fort Worth 1997 Eight-Hour Ozone Standard Nonattainment Area Plan, 2011
New York-New Jersey, NY	Moderate	New Jersey Department of Environmental Protection State Implementation Plan (SIP) Revision for the Attainment and Maintenance of Ozone NAAQS, 2007
*Sierra Research, Reasonably Available Control Measures Analysis for the Sacramento Area Council of Governments, 2015. Available at https://www.sacog.org/sites/main/files/file- attachments/8-racm.pdf		

D.4 Sensitivity Analysis (for the RACM Analysis)

In the photochemical modeling, CARB conducted an additional sensitivity modeling analysis to determine how the changes of each ozone anthropogenic precursor in the attainment year will change the ozone DV at a particular monitoring site. This analysis was conducted by reducing NO_X or VOC by 10% in the SFNA from the 2032 forecasted emission inventories. Table D-10 shows the results of the sensitivity analysis.

The Auburn Monitoring Station is the peak DV site (for 2019, 2020, and 2021) with a future DV of 68.3 ppb in 2032. A 10% cut in NO_X emissions in SFNA would reduce the future ozone concentration to 67.2 ppb, a reduction of approximately 0.33 ppb per ton of NO_X reduced. A 10% cut in VOC would reduce the future ozone concertation to 68.2 ppb, a reduction of less than 0.01 ppb per ton of VOC reduced. These results show that NO_X reductions are more effective in reducing ambient ozone concentrations than VOC reductions and confirm that the SFNA is a NO_X-limited area. These sensitivity results are also converted into VOC to NO_X trading ratio by dividing the results from the NO_X sensitivity analysis over the results of the VOC sensitivity analysis. This VOC to NO_X trading ratio is used to determine the ozone reduction potential for any control measure. For this plan, this ratio is used in the Reasonably Available Control Measures (RACM) analysis.

Table D-10 Sensitivity Analysis Results

Site	DV 2032	DV 2032 (10% SFNA NO_X Emissions Reduction)	Change of DV per ton of SFNA NO_X reduction	DV 2032 (10% SFNA VOC Emissions Reduction)	Change of DV per ton of SFNA VOC reduction	VOC to NO_X trading ratio
North Highlands	64.8	64.0	0.256335	64.7	0.009993	25.6523
Davis-UCD	56.5	56.1	0.102859	56.4	0.009849	10.4433
Del Paso Manor	62.4	61.6	0.233085	62.3	0.010507	22.1836
Roseville	64.2	63.3	0.279116	64.1	0.005567	50.1348
Elk Grove	61.8	61.6	0.065749	61.8	0.001647	39.9304
Colfax	69.8	68.8	0.298058	69.7	0.001018	292.823
Sac T Street	60.0	59.6	0.143804	59.9	0.012094	11.8904
Placerville	69.6	68.5	0.345354	69.6	0.003065	112.692
Folsom	64.7	63.8	0.300444	64.6	0.008395	35.7895
Cool	68.2	67.3	0.293580	68.2	0.001987	147.742
Sloughhouse	62.1	61.4	0.226203	62.0	0.008671	26.0879
Woodland	58.4	57.8	0.185698	58.3	0.007300	25.4371
Vacaville	58.2	58.1	0.055940	58.2	0.003113	17.9687
Auburn	68.3	67.2	0.333253	68.2	0.007948	41.9269