



Attachment A

LOCAL TRANSPORTATION CONTROL MEASURE REVIEW AND MOST STRINGENT MEASURE ANALYSIS

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To: San Joaquin Valley Metropolitan Planning Organization (MPO) Staff
From: Suriya Vallamsundar and Alex Marcucci, Trinity Consultants
Date: April 8, 2024
RE: Local Transportation Control Measure Review and Most Stringent Measure (MSM) Analysis for the San Joaquin Valley 2024 Plan for the 2012 Annual Particulate Matter (PM_{2.5}) Standard

This memorandum presents the results and methodology for conducting the Most Stringent Measure (MSM) analysis in support of the 2024 Plan for the 2012 Annual PM_{2.5} Standard, as well as attainment extension request. The California Air Resources Board (CARB) and the San Joaquin Valley Air Pollution Control District (District) are currently developing a SIP to meet serious area requirements under the Clean Air Act (CAA) for the 2012 annual PM_{2.5} National Ambient Air Quality Standard (NAAQS). Due to the serious nonattainment designation, a Best Available Control Measure (BACM) analysis is required including transportation control measure (TCM) review for the control of direct PM_{2.5} and PM_{2.5} precursors from on-road mobile sources. In April 2023, Trinity Consultants (Trinity) conducted a BACM analysis for the Initial SIP Requirements for the 2012 Annual PM_{2.5} Standard and concluded that the TCMs being implemented in the SJV meet all the BACM requirements with no additional measures identified since the latest comprehensive TCM review was conducted in July 2022 for the Valley's 2022 Ozone Plan¹.

As the SJVAPCD is making progress on the remaining elements for the PM_{2.5} SIP, the District is planning on requesting an attainment deadline extension. According to CAA Section 188(e)² and the 2016 PM_{2.5} Final Rule³, if a state(s) submits a request for a serious area attainment date extension simultaneous with the serious area attainment plan, such a plan shall meet the most stringent measure (MSM) requirements in addition to the BACM/BACT analysis. The MSM analysis for the 2024 PM_{2.5} Plan included the review of MSMS contained in other nonattainment area SIPs and conducting a comparison to TCMs implemented in the Valley, as well as identifying new candidate TCMs for MSM by applying a more stringent criteria for determining the feasibility of the measure than previously done for the BACM analysis. In addition, this MSM analysis consisted of reevaluating measures previously rejected as BACM to assess their feasibility as MSM. As a result of this review, no additional TCMs were identified as MSMS beyond those already being implemented in the SJV.

Background

The EPA defines an MSM in 40 CFR 51.1010 (b) as any permanent and enforceable control measure that achieves the most stringent emissions reductions in direct PM_{2.5} emissions and/or emissions of PM_{2.5} plan precursors from among those control measures which are either included in the SIP for any other NAAQS, or have been achieved in practice in any state, and that can feasibly be implemented in the relevant PM_{2.5} NAAQS nonattainment area. A measure could also be considered an MSM if the measure cannot be

¹ San Joaquin Valley Air Pollution Control District. 2022 Ozone Plan for the San Joaquin Valley. Appendix D Mobile Source Control Strategy. Accessed at <https://ww2.valleyair.org/media/rtrjnlxo/13-appendix-d-mobile-source-control-strategy.pdf>.

² Clear Air Act, 188. Accessed at <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart4-sec7513.htm>.

³ 81 Federal Register 58009. Accessed at <https://www.federalregister.gov/documents/2016/08/24/2016-18768/fine-particulate-matter-national-ambient-air-quality-standards-state-implementation-plan>.

implemented within the four-year window after an area is reclassified as serious nonattainment. Furthermore, an MSM could be a control measure that has not been implemented anywhere else. The 2016 PM_{2.5} Final Rule recommends starting the process of identifying MSMs with the work already undertaken for the nonattainment area's BACM determinations and evaluating if any of these measures qualify for implementation as an MSM. EPA notes that more stringent criteria should be applied for determining the feasibility of potential MSM than that is prescribed for BACM.

In April 2023, during SIP development for the 2012 annual PM_{2.5} standard, Trinity was tasked with conducting a BACM analysis for TCMs in line with the 2016 Final PM_{2.5} Rule⁴. Based on that review, Trinity identified no additional measures for implementation given that all TCMs that are currently being implemented in the Valley constitute BACM. In addition to these TCMs, there are statewide and district-wide programs and regulations implemented by CARB that focus on reducing transportation emissions by controlling the extended idling of vehicles, encouraging vehicle turnover, and employer-based trip reduction measures, etc. The MSM analysis started with reassessing these TCMs from previous BACM analysis to identify if any additional TCMs would qualify as MSMs, as described herein.

MSM Analysis Methodology

The 2016 PM_{2.5} Final Rule describes the following process for determining MSMs: (a) update emission inventories for nonattainment area; (b) identify potential MSMs; (c) compare MSMs to control measures already adopted in the SIP for the nonattainment area; and (d) adopt and implement any MSM that is more stringent than any measures that are already included in the SIP. Each of these steps is explained below:

Step 1: Update the Emissions Inventories

Updating emission inventories is not necessary given that the state will meet this inventory requirement as part of its serious area attainment plan submission and the attainment deadline extension request will be submitted as part of the plan itself.

Step 2: Identify Potential MSM

The second step in MSM analysis involves identifying potential MSMs from other SIPs, or measures that are implemented in other states for controlling emissions from sources similar to those listed in the emissions inventory. A review of TCMs from other PM_{2.5} nonattainment areas was conducted as part of the BACM analysis in April 2023. SIPs reviewed as part of the BACM analysis were revisited and are shown in Table 1.

⁴ San Joaquin Valley Air Pollution Control District. 2023. Initial SIP Requirements for the 2012 Annual PM_{2.5} Standard, Attachment A: Local Transportation Control Measure Review and Best Available Control Measure (BACM) Analysis for the San Joaquin Valley 2023 Particulate Matter (PM_{2.5}) State Implementation Plan. Trinity Consultants.

Table 1. PM_{2.5} Nonattainment Areas Reviewed for Candidate TCMs

Region	Designation	Applicable SIP
South Coast Air Quality Management District (SCAQMD)	Serious for 2012 and 2006 PM _{2.5} Standards and Moderate for 1997 PM _{2.5} Standards	2022 Air Quality Management Plan, South Coast Air Quality Management District
Alaska Department of Environmental Conservation (Fairbanks)	Serious for 2006 PM _{2.5} Standards	2020 Amendments to the Serious SIP
Northern Sierra Air Quality Management District (Plumas County)	Serious for 2012 PM _{2.5} Standards	2017 Portola Fine Particulate Matter (PM _{2.5}) Attainment Plan 2020 Contingency Measure SIP Submittal
Allegheny County Health Department Air Quality Program (Allegheny)	Moderate for 2012 PM _{2.5} Standards	2019 Attainment Demonstration for the Allegheny County, PA PM _{2.5} Nonattainment Area, 2012 NAAQS
Imperial County Air Pollution Control District	Moderate for 2012 and 2006 PM _{2.5} Standards	2018 Imperial County Annual Particulate Matter less than 2.5 microns in diameter State Implementation Plan
Utah Air Quality Board (Salt Lake City)	Serious for 2006 PM _{2.5} Standards	2019 Control Measures for Area and Point Sources, Fine Particulate Matter, Serious Area PM _{2.5} SIP for the Salt Lake City, UT Nonattainment Area 2020 Technical Support Documentation for Utah's Salt Lake City and Provo 2006 24-Hour PM _{2.5} State Implementation Plans
Utah Air Quality Board (Provo)	Serious for 2006 PM _{2.5} Standards	2018 Provisions to Ensure BACM/BACT for the Provo, UT Serious PM _{2.5} Nonattainment Area 2020 Technical Support Documentation for Utah's Salt Lake City and Provo 2006 24-Hour PM _{2.5} State Implementation Plans
Oregon Department of Environmental Quality (Klamath Falls)	Moderate for 2006 PM _{2.5} Standards	2012 Klamath Falls Fine Particulate Matter (PM _{2.5}) Attainment Plan
Allegheny County Health Department Air Quality Program (Liberty-Clairton)	Moderate for 2006 and 1997 PM _{2.5} Standards	2011 Attainment Demonstration for the Liberty-Clairton PM _{2.5} Nonattainment Area
Sacramento Metropolitan Air Quality Management District (Sacramento)	Moderate for 2006 PM _{2.5} Standards	2013 PM _{2.5} Implementation/Maintenance Plan and Re-designation Request for Sacramento PM _{2.5} Nonattainment Area
Bay Area Air Quality Management District (San Francisco Bay Area)	Moderate for 2006 PM _{2.5} Standards	Spare the Air: 2017 Clean Air Plan
Montana Department of Environmental Quality (Libby)	Moderate for 1997 PM _{2.5} Standards	2020 Request for Redesignation of the Libby PM _{2.5} Nonattainment Area and Approval of an Attainment Area Limited Maintenance Plan

Based on the SIP review, Trinity determined that none of the plans listed above include TCMs implemented as MSMs. In general, the TCMs being implemented in other jurisdictions are those that were already reviewed during the 2023 PM_{2.5} SIP BACM analysis and constitute either BACM or RACM TCMs. Only SCAQMD added new TCMs as part of their 2022 Air Quality Management Plan and those are listed in Table 2 below. These TCMs are either already being implemented in the SJV or cannot be implemented due to lack of implementation authority.

Table 2. Additional TCMs Identified through SIP Review

TCM #	TCM	Description	Analysis	Comments
<i>i. Improved Public Transit</i>				
1.17	Public transit facility improvements and operating assistance	Construct and/or improve bus and rail terminals, stations, and maintenance facilities	Existing	RTP/SCS
1.18	Paratransit Service	Self-explanatory	Existing	RTP/SCS
1.19	Express Busways/Dedicated Bus Lanes	Construct bus-only lanes	No Implementation Authority	Would require state agency authority and funds
<i>iii. Bicycle Facilities</i>				
3.14	Bike to Workday/Month	Encourage biking to work during bike awareness month. Provide outreach activities, education on the bike-to-work option, and provide assistance in trying to bike to work.	Existing	RTP/SCS
<i>v. Reduce Extreme Cold-Start Emissions</i>				
5.26	Roundabouts at low-traffic intersections	Construct roundabouts and remove stop signs as appropriate	Existing	RTP/SCS
<i>Vii. Planning and Development Efforts to Reduce SOV Travel</i>				
7.19	Programs to encourage goods movement by rail	Self-explanatory	Existing	CARB
7.20	Buy parking lots and convert to other land use	Limit parking by converting available parking to other land uses to discourage driving	No Implementation Authority	Would require local agency authority and funds
<i>ix. Pre-1980 Model-Year Vehicle Scrappage</i>				
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.	Existing	RTP/SCS
<i>xi. Employer-Based Plans and Incentives</i>				
11.9	Reduced Idling at Schools	Self-Explanatory	Existing	CARB

In addition to identifying new candidate measures, any measures that were rejected during the BACM process must be re-evaluated to determine if they may be feasible given the longer attainment timeframe or due to changes that have occurred in the interim that improve the feasibility of previously rejected measures. Accordingly, TCMs that were rejected as part of the 2023 PM_{2.5} BACM analysis were re-evaluated to see if these measures would constitute MSMs. As shown in Table 3, TCMs related to reducing extreme cold start emissions continue not to apply in the SJV, and TCMs related to express lanes, parking fee regulations, and pricing policies continue not to be feasible since there were no changes to regional authority associated with measure implementation.

Table 3. Re-evaluation of TCMs rejected as part of PM_{2.5} BACM Analysis

TCM #	TCM	Description	Re-Evaluation	Comments
<i>v. Reduce Extreme Cold-Start Emissions</i>				
5.1	Use of plug-ins	Expanded availability of plug-ins to facilitate cold weather starting of vehicles and reduce engine idling time	Not Applicable	Due to warmer temperatures compared to Alaska
5.2	Electrification of parking lot outlets	Electrification of parking lot outlets at temps < 21° F	Not Applicable	
5.3	Outreach Programs	Public education focused on the benefits of plugging-in	Not Applicable	
<i>x. Transit-Only or High Occupancy Vehicle Lanes</i>				
10.3	Express Lanes	Price travel demand on highways by developing an express lane network for vehicles	No implementation authority	Would require state agency authority and funds.
<i>xv. Limit or Restrict Vehicle Use in Downtown Areas</i>				
15.2	Parking Fee Regulations	Parking fees can be increased in different forms such as the highest charges for parking in central business districts, increase fees for parking garages to deter vehicle use during high ozone level days, and charging city-owned parking garage pass holders a fee for more than one entrance and exit each day, etc.	No implementation authority	Parking fees are set by each jurisdiction
15.11	Pricing Policies	Transportation Pricing (such as tolling and cordon pricing) to reduce the vehicle miles traveled	No implementation authority	Pricing policies are set by each jurisdiction and/or the State

Step 3. Compare MSM SIP Control Measures

The next step is to compare potential MSMs against measures already adopted in serious area SIPs for each source category to determine whether these measures would provide any additional emission reductions. According to the analysis discussed in Step 2, TCMs that are currently implemented in the Valley already represent MSMs with no new MSMs identified.

Step 4. Adopt and Implement Any MSM That are More Stringent Than Any Measures That Are Already Approved Into the SIP

The fourth step requires the adoption of any MSMs that are more stringent than existing measures. For measures identified as infeasible, a justification for rejecting a potential MSM must be provided. Based on re-evaluating TCMs rejected as part of the BACM analysis, no new measures were determined to meet the MSM criteria.

MSM Analysis Results

Based on MSM review, no additional TCMs were selected for implementation because it was determined that BACM conducted for the 2023 PM_{2.5} SIP already represents the best level of local controls feasible in the SJV. Thus, TCMs being implemented in the Valley meet the MSM requirement with no new TCMs identified.

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