Fresno Council of Governments
CMAQ Cost-Effectiveness Policy – 2021 FTIP Update

Updated January 2021

All San Joaquin Valley Metropolitan Planning Organizations (MPOs) adopted policies in 2007 for distributing at least 20 percent of the CMAQ funds to projects that meet a cost-effectiveness threshold for emission reductions beginning in Fiscal Year (FY) 2011. Due to changes in technology and costs over time, the MPOs agreed to revisit the minimum cost-effectiveness standard, as well as policy feasibility, at least once every four years. The following is a summary of the current status and next steps to complete this task for the 2021 Federal Transportation Improvement Program (FTIP). Attachment 1 presents a sample schedule, which was taken from the 2021 FTIP Timeline, for the steps discussed below.

(1) Review of CMAQ Policy and Thresholds.

The MPOs have agreed to revisit the minimum cost-effectiveness threshold with every FTIP update, as well as policy feasibility, at least once every four years prior to development of the RTP. A review of the policy was conducted in December 2020 to determine if any updates were necessary due to changes in federal transportation legislation, apportionments, and project eligibility. *No updates to the CMAQ policy are recommended at this time.*

Prior to allocation of CMAQ funds for the local cost-effectiveness policy with each FTIP, the SJV MPOs in consultation with the interagency consultation (IAC) partners will develop the minimum cost-effectiveness threshold. Based on a review of the emission factors, Carl Moyer and other data in 2007, it was recommended that the cost-effectiveness threshold be set at $30 per pound ($60,000 per ton) for the 2009 FTIP. If updates were made to the CMAQ emission factors, Carl Moyer limits, REMOVE II or other state/local programs, the MPOs agreed to revisit the recommended threshold.

In April 2016, Sierra Research (a Trinity Consultants company) has reviewed most recent ARB CMAQ Cost-effectiveness Emission Factor Tables, Carl Moyer Guidelines, and CMAQ-funded regional programs for any changes that may support an increase to the cost-effectiveness threshold adopted in 2007. Research showed that the emission factors have declined by approximately 60% for all pollutants since 2007 due to more stringent ARB vehicle emission standards for the mobile sector, supported by modeling with the newest emission factor model, EMFAC2014. ARB has also increased the Carl Moyer cost-effectiveness limit by approximately 20% since 2004 to account for inflation. In May 2008, the San Joaquin Valley Air Pollution Control District (SJVAPCD) increased the Best Available Control Technology (BACT) Cost Effectiveness Thresholds under Rule 2201 to be comparable to other Air Districts in the state. Then in April of 2011, the SJVAPCD has increased the cost-effectiveness threshold for the vanpool program in REMOVE II from $20/lb to $35/lb. Review of related activities in other air districts suggests a similar trend. Based on the results of this review it was recommended to increase the cost-effectiveness threshold from $30/lb to $45/lb for the 2017 FTIP. In November 2017, Sierra Research revisited the need for a cost-effectiveness threshold update and did not identify any significant changes that warrant a threshold increase for the 2019 FTIP. While Sierra Research continually evaluates this threshold, no recommendations have been made for the 2021 FTIP, leaving the threshold as-is for this update.

Based on this review*, the SJV MPOs recommend maintaining the cost-effectiveness threshold at $45/lb ($90,000/ton) for the 2021 FTIP.* Further review of CMAQ Policy and threshold will occur with the next FTIP and RTP updates.

(2) Identify funding subject to CMAQ cost-effectiveness policy

MPO staff will identify funding subject to CMAQ cost-effectiveness policy in late 2019 or 2020. MPO staff should review initial CMAQ percentage commitments and estimates of CMAQ apportionments for all relevant fiscal years in the 2021 FTIP. The approved percentage of funds (e.g., a minimum of 20%) should be multiplied by CMAQ funds available in years 2020-2021 through 2023-2024. This is the amount subject to the cost-effectiveness policy.

(3) Issue Call for Projects

MPOs will identify, through existing programmed projects in those years or other methods, projects that qualify for the cost-effectiveness policy. MPOs can use existing application processes or calls for projects that quantify, rank, and select eligible projects. Projects should be identified and selected for inclusion in the 2021 FTIP prior to approval of the document. MPO staff should release the calls for projects in late 2019 or 2020, including allowing for necessary steps, such as time for internal approval of the documents. The process should demonstrate that the cost-effectiveness threshold will be achieved. Funds contributed to the Air District grant incentive programs will be assumed to meet the threshold, as that is more stringent than the CMAQ cost-effectiveness policy.

(4) Quantify/Rank/Select CMAQ Projects

The quantification and selection of CMAQ projects should be completed by Fall 2020. A standardized process and methodology should be used by all San Joaquin Valley MPOs. Where applicable, calculations are based on ARB methodology (available at http://www.arb.ca.gov/planning/tsaq/eval/eval.html). The Emission Factor Tables were formally updated by ARB in May 2013 (see Attachment 2) and should be used with the appropriate calculation methodology from the "Methods to Find the Cost-Effectiveness of Funding Air Quality Projects" dated May 2005. In addition, in May 2016, ARB provided revised emission factors developed with EMFAC2014 for light-duty vehicles, buses, and off-road equipment (Attachment 5) that should be used as a supplement to the May 2013 Emission Factor Tables. For projects not covered by ARB methodology (e.g. roundabouts), the FHWA's "CMAQ Improvement Program Cost-Effectiveness Tables and Development Methodology" released December 3, 2015 will be used (Attachment 6). Another appropriate methodology may be used for projects not included in both guidance documents upon agreement by interagency partners. Cost-effectiveness analysis should be based on CMAQ dollars only, not total project cost. Formula includes combined annual emission reductions of ROG, NO_x, PM_{10}, and $PM_{2.5}$. Note that $PM_{2.5}$ emission factors reported in the May 2016 Emission Factor Tables can be converted to PM_{10} using a conversion table released by ARB (available at http://www.arb.ca.gov/planning/tsaq/eval/pmtables.pdf).

(5) Document Compliance with Policy

The MPOs will document the funding and project selection process to demonstrate compliance with the cost-effectiveness policy. Attachment 3 contains draft text and Attachment 4 contains a draft spreadsheet that can be used to document compliance. All corresponding documentation, including the original cost-effectiveness policy, will be posted on each MPO's respective website.

A checklist for completing the process is provided below.

CMAQ Cost-Effectiveness Policy – Checklist for 2021 FTIP Development

Identify funding subject to CMAQ cost-effectiveness policy

- ✓ Review initial CMAQ percentage commitments (i.e., did you commit to 20% or greater when approving the cost-effectiveness policy?).
- ✓ Review estimates of CMAQ apportionments provided by Caltrans (or projected by financial planning staff) for all relevant fiscal years in the 2021 FTIP.
- ✓ Multiply the approved percentage of funds (e.g., a minimum of 20%) by CMAQ funds available in years 2020-2021 through 2023-2024. This is the amount subject to the cost-effectiveness policy.

Issue Call for Projects

- ✓ Develop and publish "Call for Projects" documents.
    - ✓ Include information about CMAQ cost-effectiveness goals and how they will be achieved by the MPO selection process
    - ✓ Include information about CMAQ cost-effectiveness methodology (methodology available at http://www.arb.ca.gov/planning/tsaq/eval/eval.html).

Quantify/Rank/Select CMAQ Projects

- ✓ Review all applications/requests for funding for completeness of information.
- ✓ Use appropriate selection procedures for your County, including staff ranking and/or review by selection committees.
- ✓ Quantification and selection of CMAQ project completed and approved by Fall 2020. Incorporate CMAQ projects into Draft 2021FTIP document available for public review by Winter 2020.

Document Compliance with Policy and Post on Website

- ✓ Original cost-effectiveness policy
- ✓ Text documentation (see Attachment 3)
- ✓ Spreadsheet documentation (see Attachment 4)
- ✓ Other, as applicable (e.g., committee memos)