



TO: Public and Private Agencies  
FROM: Kings County Association of Governments  
DATE: February 2, 2024

SUBJECT: Request for Project Proposals for Congestion Mitigation and Air Quality (CMAQ) and Carbon Reduction Program (CRP) Funds

The Kings County Association of Governments (KCAG) is seeking nominations for projects to be funded under the federal Congestion Mitigation and Air Quality (CMAQ) program as well as the Carbon Reduction Program (CRP). Both funds are available for eligible transportation projects that will contribute to meeting air quality standards in non-attainment areas for ozone and particulate matter (PM). Projects which will result in the construction of new capacity available to single occupant vehicles are not eligible for CMAQ funding. All public agencies and private agencies may nominate projects for consideration, although private agency projects must have a public nexus and a public agency sponsor. KCAG will select eligible projects for funding from prior year apportionments and new apportionments for FY 2025-26 through FY 2026-27. These new CMAQ funds are available to allocate to eligible projects. The CMAQ funds and apportionments available by Fiscal Year are as follows:

FY 2025-26: \$1,988,311 (new)  
FY 2026-27: \$1,988,311 (new)

In 2021 KCAG, with the other seven Metropolitan Planning Organizations (MPOs) in the San Joaquin Valley, adopted a CMAQ cost-effectiveness policy that requires us to program at least 20% of our CMAQ apportioned funds to projects that meet a threshold of \$63/lb. or less for emission reductions (see Exhibit A). Project selection priority is to be given to implementing those projects that have documented emission reductions associated with them and to transportation control measures included in an approved State Implementation Plan (SIP) for air quality.

Carbon Reduction Program

This cycle, projects for the Carbon Reduction Program (CRP) funds will be selected following the CMAQ Policy and Procedure. The state has developed a Carbon Reduction Strategy with three pillars: 1. Rail and Transit, 2. Bike and Pedestrian, 3. Battery Electric Vehicle/Zero Emission Vehicle (BEV/ZEV). This information is expected to be posted to the Caltrans Carbon Reduction Program website. All pillars are eligible activities under the CMAQ Policy and Procedure. The CRP funds and apportionments available by Fiscal Year are as follows:

FY 2023-24: \$ 286,376 (new)  
FY 2024-25: \$ 286,376 (new)  
FY 2025-26: \$ 286,376 (new)

**Completed project proposals must contain the following:**

- Agency Information
- Application Preparer’s Information
- Project Information
- Project Programming Information

- Project Funding and Delivery Schedule
- Sources of Local Funds
- Project Scoring (for self-evaluation purpose)
- Emission Reduction and Cost-Effectiveness Calculations (please show your work)

Project Screening and Scoring:

<b>February 2, 2024</b>	<b>CMAQ/CRP Call for Projects Released</b>
<b>February 2024</b>	Staff consultation appointments with potential applicants
<b>March 15, 2024</b>	All applications due to KCAG by 5:00 p.m.
<b>March 19 to 29, 2024</b>	Project screening and scoring
<b>April 10, 2024</b>	Programming recommendations presented to KCAG Technical Advisory Committee
<b>April 24, 2024</b>	Programming recommendations presented to KCAG Transportation Policy Committee

KCAG will review the project proposals based on the scoring criteria listed at the end of the CMAQ/CRP Project Application, to formulate a proposed CMAQ “Program of Projects”. KCAG reserves the right to program less than the requested amount for any project and may consider a maximum amount eligible for each individual project based on the number of quality proposals received. The Program of Projects will then be submitted to the KCAG Transportation Policy Committee for consideration of programming in the 2023 Federal Transportation Improvement Program (FTIP). Approved projects are required to be programmed by KCAG in the FTIP in order to receive federal approval.

In submitting applications, please remember:

- Applications submitted without the Air Quality Emission Calculations will be considered incomplete and disregarded.
- **All applications must be received by KCAG staff no later than 5:00 p.m. on Friday, March 15, 2024.**
- Completed project applications must be delivered by email to [Kayley.Clay@co.kings.ca.us](mailto:Kayley.Clay@co.kings.ca.us), or to the following address:

Kings County Association of Governments  
 Attention: Kayley Clay  
 339 W. D Street, Suite B.  
 Lemoore, CA 93245

Sincerely,

KINGS COUNTY ASSOCIATION OF GOVERNMENTS

Terri King, Executive Director

**Congestion Mitigation & Air Quality  
Improvement (CMAQ) Program  
&  
Carbon Reduction Program (CRP)**



*2024 Call for Projects  
Application Package  
February 2024*

**Application deadline: March 15, 2024**

Kings County Association of Governments

339 W. D Street, Suite B  
Lemoore, Ca 93245  
[www.kingscog.org](http://www.kingscog.org)

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**I. CMAQ INTRODUCTION**

The Kings County Association of Governments (KCAG) is seeking nominations for projects to be funded under the federal Congestion Mitigation and Air Quality Improvement (CMAQ) program for the Federal Fiscal Years (FFY) 2024-25 through 2026-27. CMAQ funds are available for eligible transportation projects that will contribute to meeting air quality standards in non-attainment and maintenance areas for ozone and particulate matter (PM). All public agencies and private agencies may nominate projects for consideration, although private agency projects must have “a strong public benefit” and a public agency sponsor.

**Funding Availability**

KCAG will select eligible projects for available funding from prior year apportionments and new apportionments for FY 2025-26 and FY 2026-27. A non-federal source of matching funds of at least 11.47% is required for most projects.

Federal Fiscal Year 2025-26	\$1,988,311	(new)
Federal Fiscal Year 2026-27	\$1,988,311	(new)

**Schedule**

The tentative schedule for the KCAG CMAQ Call for Projects and related Federal Transportation Improvement Programming (FTIP) are as follow:

<b>February 2, 2024</b>	<b>CMAQ Call for Projects Released</b>
<b>February 2024</b>	Staff consultation appointments with potential applicants
<b>March 15, 2024</b>	All applications due to KCAG by 5:00 p.m.
<b>March 19 to 29, 2024</b>	Project screening and scoring
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In submitting applications, please remember:

- Applications submitted without the Air Quality Emission Calculations will be considered incomplete and disregarded.
- **All applications must be received by KCAG staff no later than 5:00 p.m. on Friday March 15, 2024.**
- Completed project applications must be emailed to [Kayley.Clay@co.kings.ca.us](mailto:Kayley.Clay@co.kings.ca.us), or delivered to the following address:

Kings County Association of Governments  
 Attention: Kayley Clay  
 339 W. D Street, Suite B.  
 Lemoore, CA 93245

If you have any questions about the CMAQ program, eligibility of projects, the application process, or the project scoring criteria, please call Kayley Clay at (559) 852-2584, or email your inquiry to [Kayley.Clay@co.kings.ca.us](mailto:Kayley.Clay@co.kings.ca.us).

## **II. PROJECT SCREENING AND SCORING**

### **Project Screening and Scoring**

KCAG will review the project proposals based on the scoring criteria listed at the end of the CMAQ Project Application, to formulate a proposed CMAQ “Program of Projects”. KCAG reserves the right to program less than the requested amount for any project and may consider a maximum amount eligible for each individual project based on the number of quality proposals received. The Program of Projects will then be submitted to the KCAG Transportation Policy Committee for consideration of programming in the 2023 Federal Transportation Improvement Program (FTIP). Approved projects are required to be programmed by KCAG in the FTIP in order to receive federal approval.

### III. ELIGIBILITY CRITERIA

#### Project Applicant Qualification

Qualified applicants should be either a public agency, i.e. city, county, special district, Caltrans, transit operator, transit authority or a non-profit agency with the sponsorship of a public agency. Successful project applicants, or their sponsors, must have executed a master agreement with Caltrans or be a Federal Transit Administration (FTA) eligible grant applicant, or have an agreement with such an eligible agency to sponsor the project.

#### Project Eligibility

The guidance for project eligibility is based on FHWA's the Congestion Mitigation and Air Quality (CMAQ) Improvement Program as described in the Bipartisan Infrastructure Law (BIL) fact sheet, as well as under the Moving Ahead for Progress in the 21st Century Act (MAP-21) Revised Interim Program Guidance from July 2014, which is available at [https://www.fhwa.dot.gov/environment/air\\_quality/cmaq/policy\\_and\\_guidance/cmaq13ig.cfm](https://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/cmaq13ig.cfm).

Please refer to the FHWA website for CMAQ project eligibility if interested in the document with full detail. The simpler version is attached in Appendix B.

- All projects and programs eligible for CMAQ funds must provide air quality benefit and must be consistent with the goals and policies of the adopted Regional Transportation Plan (RTP).
- Projects will be included in the conforming RTP and TIPs or statewide transportation improvement plan developed by MPOs or States respectively, under the metropolitan or statewide planning regulations.
- Projects must also be consistent with the transportation conformity provisions contained in section 176(C) of the Clean Air Act (CAA) and the Transportation Conformity Rule.
- Projects also need to complete the National Environmental Policy Act (NEPA) requirements and meet basic eligibility requirements for funding under titles 23 and 49 of the United States Code.
- Projects must comply with Americans with Disabilities Act (ADA) requirements, and provisions for Buy America. (For Buy America Provisions, ensure that transportation infrastructure projects are built with American-made products. That means that Department of Transportation investments are able to support an entire supply chain of American companies and their employees. If your project is selected, you will need to work with **Caltrans Local Assistance** to ensure all provisions of Buy America are met.)

#### Projects Not Eligible for CMAQ Funding

- Light-duty vehicle scrappage programs.
- Projects that add new capacity for single occupancy vehicles (SOVs) are ineligible for CMAQ funding unless construction is limited to high-occupancy vehicle (HOV) lanes.
- Routine maintenance and rehabilitation projects (e.g., replacement-in-kind of track or other equipment, reconstruction of bridges, stations, and other facilities, and repaving or repairing roads) are ineligible for CMAQ funding as they only maintain existing levels of highway and transit service, and therefore do not reduce emissions. Other funding sources such as STP and FTA's Section 5307 program are available for such activities.



- Administrative costs of the CMAQ Program may not be defrayed with program funds, (e.g., support for State’s “CMAQ Project Management Office”) is not eligible.
- Projects that do not meet the specific eligibility requirements of titles 23 and 49 U.S.C. are ineligible for CMAQ funds.
- Stand-alone projects to purchase fuel.

### **Guidance for Eligibility Decisions**

The following items should also guide CMAQ eligibility decision:

#### **(1) Capital Investment**

CMAQ funds may be used to establish new or expanded transportation projects or programs that reduce emissions, including capital investments in transportation infrastructure, congestion relief efforts, diesel engine retrofits (not repowers), or other capital projects.

#### **(2) Operating Assistance**

MAP-21 made an important change to the program in recognizing the importance of flexibility in the timing of financial assistance, the three years of operating assistance allowable under the CMAQ Program could now be spread over a longer period, for a total of up to five sequential years of support. At the end of the five-year period, operating costs would have to be maintained with non-CMAQ funding.

However, in November 2021, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), removed the five-year time limitation for operating assistance if the operating assistance is for a transit system that is located in a non-urbanized area; or an urbanized area with a population of 200,000 or fewer.

There are several general conditions that must be met for operating assistance to be eligible under the CMAQ Program:

- Operating assistance is limited to start up operating costs for new transportation services or the incremental cost of expanding these services, including transit, commuter and intercity passenger rail services, intermodal facilities, and travel demand management strategies, including traffic operation centers.
- In using CMAQ funds for operating assistance, the intent is to help start up viable new transportation services that can demonstrate air quality benefits and eventually cover costs as much as possible. Other funding sources should supplement and ultimately replace CMAQ funds for operating assistance, as these projects no longer represent additional, net air quality benefits but have become part of the baseline transportation network. The provisions in 23 U.S.C. 116 place responsibilities for maintenance of transportation facilities on the States. Since facility maintenance is similar to operations, a time-limited period of CMAQ assistance provides adequate incentive and flexibility while not creating a pattern of excessive or even perpetual support.
- Operating assistance includes all costs of providing new transportation services, including, but not limited to, labor, fuel, administrative costs, and maintenance. When CMAQ funds are used for operating assistance, non-Federal share requirements still apply.
- Elements of operating assistance prohibited by statute or regulation are not eligible for CMAQ participation, regardless of their emissions or congestion reduction potential.

### **(3) Emission Reductions Required**

Air quality improvements is defined by several distinct terms in 23 U.S.C. §149. These terms include contribution to attainment, reduction in pollution, air quality benefits, and others. For purposes of this guidance, the FHWA uses emission reduction to represent this group of terms. CMAQ-invested projects or programs must reduce CO, ozone precursor, PM or PM precursor emissions from transportation.

These reductions must contribute to the area's overall clean air strategy and can be demonstrated by the assessment that is required under this guidance. States and MPOs also may consider the ancillary benefits of eligible projects, including greenhouse gas reductions, congestion relief, safety, or other elements, when programming CMAQ funds, though such benefits do not alone establish eligibility.

### **(4) Planning and Project Development**

Activities in support of eligible projects also may be appropriate for CMAQ investments. Studies that are part of the project development pipeline (e.g., preliminary engineering) under the National Environmental Policy Act (NEPA) are eligible for CMAQ support, as are FTA's Alternative Analyses. General studies that fall outside specific project development do not qualify for CMAQ funding. Examples of such efforts include major investment studies, commuter preference studies, modal market polls or surveys, transit master plans, and others. These activities are eligible for other Federal planning funds, but not CMAQ funds.

### **Examples of CMAQ Eligible Project Categories**

The 2014 Moving Ahead for Progress in the 21st Century (MAP-21) Interim Federal CMAQ Guidance lists the following examples of project categories as eligible for CMAQ funding:

- Transportation Control Measures (TCMs)
- Extreme Low-Temperature Cold Start Programs
- Alternate Fuel and Vehicles
- Congestion Reduction and Traffic Flow Improvements
- Transit Improvements (including initial operating assistance and fare subsidies)
- Bicycle and Pedestrian Facilities and Programs
- Travel Demand Management (carpool, vanpool, shuttle, Employer-based programs)
- Public Education and Outreach
- Freight and Intermodal Facilities
- Diesel Engine Retrofits
- Idle Reduction Programs

In November 2021, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), added four additional eligible project types:

- Shared micromobility, such as bikesharing and shared scooter systems.
- Purchase of diesel replacements, or medium-duty or heavy-duty zero emission vehicles and related charging equipment.
- Modernization or rehabilitation of a lock or dam or marine highway corridor.
- Alternative Fuel projects and refueling infrastructure that would reduce emissions from non-road vehicles and non-road engines such as those used in construction or port-related freight operations.

## IV. CMAQ PROJECT CATEGORIES

This chapter is to specify differentiated project types within the same project category. The purpose of the CMAQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of air quality standards. KCAG continues to pursue funding of a balanced program of transportation projects that will improve air quality in our region. In order to continue toward this goal and to achieve consensus among interested parties and member agencies, KCAG establishes project categories that are used to ensure that the distribution of project funding provides for an overall balanced program.

### **Transit Improvements**

- New transit facilities, if they are associated with new or enhanced transit service.
- Acquisition of new transit vehicles (bus, rail, van) to expand the fleet.
- Replacement or retrofit of existing fleet vehicles.
- Operating Assistance to support new transit services.
- Subsidies for regular transit fares, but only if the reduced or free fare is part of an overall program for preventing exceedances of an air quality standard during periods of high pollutant levels.

### **Cleaner Fuel Technology**

- Purchase of alternative fuel vehicles for transportation related purposes, but only the differential cost between a new conventional fuel vehicle and a new alternative fuel vehicle is eligible. (School buses, refuse vehicles, trucks, maintenance vehicles, etc.). “Clean” Diesel is not considered an alternative fuel.
- Establishment of on-site fueling facilities and other infrastructure needed to fuel alternative-fuel vehicles.
- Purchase and installation of diesel retrofits (non-transit). Engine replacements are considered repowers, not retrofits, therefore are not eligible.
- Please Note: CMAQ funding for vehicles that serve general government operations (e.g. police and firefighting) is limited to the incremental cost difference between standard and alternative fuel vehicles. For public fleet alternative fuel vehicles that provide a dominant transportation function, the full vehicle is eligible for participation.

Please refer to the website below for the original source of FHWA to clarify alternative fuel vehicle eligibility for CMAQ fund.

4/6/2011 FHWA memo

[https://www.fhwa.dot.gov/environment/air\\_quality/cmaq/policy\\_and\\_guidance/cmaqaltfuel.cfm](https://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/cmaqaltfuel.cfm)

### **Traffic Flow Improvements**

- Projects to develop, establish, and implement the congestion management system for both highway and transit facilities.
- Traffic signal and/or intersection modernization, coordination, or synchronization projects designed to improve traffic flow within a corridor or throughout an area.
- New Traffic signal or roundabout projects designed to improve traffic flow at a congested intersection within a corridor or throughout an area.
- Operating expenses that can be shown to: (1) have air quality benefits, (2) result from new or additional services, and (3) not displace previous funding mechanisms, such as fares or fees for services.

### **Active Transportation**

- Construction of active transportation infrastructure that connects key travel demand destinations.
- Non-construction projects related to safe bicycle use.
- Complete streets projects that incorporate active transportation components.

### **Particulate Matter (PM-2.5/10) Reduction**

Purchase of PM-2.5/10 efficient street sweepers, paving unpaved roads, paving/stabilizing shoulders, and other particulate matter reduction projects. For your reference, a list of PM Certified Street Sweepers maintained by the South Coast Air Quality Management District may be found at: <https://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-1186/certified-street-sweepers-equipment-list.pdf>.

### **Miscellaneous**

Projects that do not fit under the other category descriptions, including, but not limited to, the following:

- Travel demand management, including activities ranging from carpool and vanpool programs to parking management and road pricing measures.
- Outreach activities, such as public education on transportation and air quality, advertising of transportation alternatives to SOV travel, and technical assistance to employers or other outreach activities relating to promoting non-SOV travel.
- Marketing programs to increase the use of transportation alternatives to SOV travel and public education campaigns involving the linkage between transportation and air quality.
- Carpool and vanpool programs include computer matching of individuals seeking to carpool and employer outreach to establish rideshare programs and meet CAA requirements.
- New or expanded rideshare programs, such as new locations for matching services, upgrades for computer matching software, etc.

- Purchasing or leasing vehicles for vanpool activities (5-year maximum for operating costs).
- Planning, technical and feasibility studies, training, coordination, marketing and promotion of telecommuting are eligible activities under CMAQ.
- Intermodal freight facilities.
- Project development activities that lead to construction of facilities or new services and programs with air quality benefits, such as preliminary engineering or project planning studies.

### **Resources for Additional CMAQ Information**

The following are internet web sites where information can be found regarding CMAQ guidance, instructions on how to download a program to calculate emission reductions, and project eligibility.

<b>Federal Highways Administration</b>	<b>Website</b>
Congestion Mitigation Air Quality Program site	<a href="http://www.fhwa.dot.gov/environment/air_quality/cmaq/">http://www.fhwa.dot.gov/environment/air_quality/cmaq/</a>
Interim Program Guidance Under MAP-21	<a href="https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm">https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm</a>
CMAQ 2020 Cost-Effectiveness Tables Update	<a href="https://www.fhwa.dot.gov/environment/air_quality/cmaq/reference/cost_effectiveness_tables/index.cfm">https://www.fhwa.dot.gov/environment/air_quality/cmaq/reference/cost_effectiveness_tables/index.cfm</a>
Use of CMAQ Improvement Program Funds for Bicycle and Pedestrian Projects	<a href="http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/cmaqfunds.cfm">http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/cmaqfunds.cfm</a>
FAST Act Eligible CMAQ Activities	<a href="https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm">https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm</a>
Bipartisan Infrastructure Law (BIL) Eligible CMAQ Activities	<a href="https://www.fhwa.dot.gov/bipartisan-infrastructure-law/cmaq.cfm">https://www.fhwa.dot.gov/bipartisan-infrastructure-law/cmaq.cfm</a>
<b>California Department of Transportation</b>	<b>Website</b>
CMAQ Program in Caltrans website	<a href="https://dot.ca.gov/programs/financial-programming/office-of-federal-programming-data-management-ofpdm">https://dot.ca.gov/programs/financial-programming/office-of-federal-programming-data-management-ofpdm</a>
Local Assistance Program Guidelines (LAPG), Chapter 5- CMAQ	<a href="https://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/">https://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/</a>
CMAQ Guidance under SAFETEA-LU	<a href="https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/lpp/2010/lpp09-03.pdf">https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/lpp/2010/lpp09-03.pdf</a>
Caltrans Complete Streets Program	<a href="https://dot.ca.gov/programs/esta/complete-streets">https://dot.ca.gov/programs/esta/complete-streets</a>
California Air Resources Board (ARB)- Cost Effective Analysis Tools	<a href="http://www.arb.ca.gov/planning/tsaq/eval/eval.htm">http://www.arb.ca.gov/planning/tsaq/eval/eval.htm</a>

## V. COST-EFFECTIVENESS POLICY

All eight of the San Joaquin Valley Metropolitan Planning Organizations (MPOs) adopted policies for distributing at least 20% of the Congestion Mitigation and Air Quality (CMAQ) funds to projects that meet a cost-effectiveness threshold for emission reductions beginning in FY 2021.

The policies indicate that prior to allocation of CMAQ funds with RTP/ FTIP updates, the SJV MPOs in consultation with the interagency consultation (IAC) partners will develop the cost-effectiveness threshold. The cost-effectiveness threshold has been increased from \$30 per pound to \$63 per pound for the 2021 FTIP and subsequent updates. (See Appendix A)

MAP-21 requires PM2.5 nonattainment or maintenance areas to use at least 25% of CMAQ funds for projects that have PM2.5 emission reductions. During the scoring committee process, projects identified as cost-effective are scored and selected first. Those selected projects will be further identified as PM2.5 projects or not. Those projects will be tallied to see if the 25% PM2.5 commitment has been met. If more projects are needed to fulfill the PM2.5 commitment, they will be prioritized until the full commitment is met.

### **Methodology**

The methodology for calculating cost-effectiveness is the 2005 ARB “Methods to Find the Cost-Effectiveness of Funding Air Quality Projects”. Cost-effectiveness for CMAQ projects should be expressed as dollars spent per pound of pollutant reduced (ROG+ NOx + PM2.5 + PM10). CO emissions are not included in the formula. CO is several orders of magnitude larger than ozone precursors and overwhelms cost-effectiveness ratios unless CO emission reductions are scaled back significantly, typically by a factor of seven.

As with the state Carl Moyer Heavy-Duty Program, diesel particulate matter can be given an additional weighting factor of 20 since exhaust PM10 has also been identified as a toxic air contaminant. As indicated in the policy, cost-effectiveness is based on CMAQ dollars only (vs. total project costs which include capital investments and operating costs).

The funding dollars are amortized over the expected project life using a discount rate. The amortization formula yields a capital recovery factor, which, when multiplied by the funding, gives the annual funding for the project over its expected lifetime. Cost-effectiveness is determined by dividing annualized funds by annual emission reductions (ROG+ NOx + PM2.5 + PM10).

### **Example Formula**

Cost-Effectiveness = (Capital Recovery Factor\* CMAQ Funding) / (ROG+NOx+PM2.5+PM10)  
dollars/pound.

Project cost-effectiveness is determined by the California Air Resource Board’s (ARB) Air Quality Cost- Effectiveness Calculations Methodology:

<https://ww2.arb.ca.gov/resources/documents/congestion-mitigation-and-air-quality-improvement-cmaq-program>.

## VI. PROJECT DELIVERY AND OBLIGATION REQUIREMENTS

### Project Delivery

Approved CMAQ funded projects must be delivered in the programmed year specified and within the programming years of the FTIP (covering federal fiscal years 2024-25, 2025-26, 2026-27, and 2027-28). Approval of AB 1012 requires that both State and Federal funds be used in a “timely” manner. In order to avoid losing any Federal or State funds to our Region, the “use it or lose it” requirements of AB 1012 place local governmental agencies in a position that they must be able to deliver their projects on time. That is, they must be able to meet their project delivery schedules as proposed and as programmed within the Federal Transportation Improvement Program (FTIP).

Because the issue of “project delivery is so important, the CMAQ Scoring Committee may take into consideration as a part of a project’s “subjective” evaluation score, the local agency’s ability to deliver projects in a timely manner (i.e., past performance/current ability to deliver projects rapidly).

Each agency must be able to ensure that their project(s) can be delivered on time. Therefore, each application must state that each project will meet project delivery schedules. Also included with each project application should be a Financial Plan and Project Submittal Checklist. The financial plan and project submittal checklist are included in the CMAQ application packet.

De-obligated funding will be added to the regional apportionment balance.

### Contingency Project List

KCAG will adopt a list of projects for programming that are financially constrained by the amount of CMAQ funding available. In addition, KCAG will include a list of contingency projects, ranked in priority order based on the project’s evaluation score. KCAG intends to fund projects on the contingency list should there be cost savings or if a project is deleted from the program. Projects on the contingency list may also be funded using available apportionment to ensure project delivery and regional needs of the current FFY are met. This contingency list will be in effect only until the adoption of the next programming cycle.

### Obligation Requirements

***Federal requirements (FAST ACT) - STP, CMAQ, and Federal Transit Administration (FTA) funds (among other programs) must be obligated within 4 years of apportionment. Funds not obligated are lost to the state.***

***State requirements (AB-1012) - CMAQ and STBG (formerly RSTP) funds must be obligated within 3 years of apportionment. Funds not obligated are lost to the region.***

***Regional Requirements*** – KCAG requires regional deadline requirements, including obligation, award, and invoicing deadlines, to expedite project delivery and ensure funds are not lost to the region.

### FTIP Amendments

Federal regulations require adherence to the projects and schedules contained within the adopted FTIP. Amendments are used to make necessary changes to projects within the FTIP.



### **Scope Changes**

All projects selected based on the scope at time of submittal and the project sponsor will be held to fulfill the project with that scope. KCAG has limited options for accommodating minor scope changes, and larger scope changes may face project cancellation and CMAQ fund revocation. KCAG staff strongly encourages all agencies to submit projects with the utmost confidence that the identified scope can be delivered.

### **Project Cost Savings**

Project savings will be returned to the overall program and will be made available in the unprogrammed apportionment balance.

A local agency may transfer any cost savings between phases within the same project but cannot exceed the awarded amount of the total project. Cost increases must follow the post-programming adjustment guidelines and requirements. Any savings at project completion must be returned to the program proportionally. An agency is still responsible to meet federal local match requirements for all phases of the project.

### **Post Programming Adjustments**

Project sponsors are responsible for all cost increases and must maintain the project delivery schedule. Some cost increases may be considered through a post programming adjustment request. Cost increases will be considered based on the region's apportionment availability and project delivery each FFY and may be subject to scoring committee approval.

### **Authorization to Proceed and Reimbursement**

Local agencies must follow Caltrans' guidance and procedures for project authorization to proceed (Chapter 3) and invoicing (Chapter 5). All guidance and procedures can be found in the Local Assistance Procedures Manual located at the following link:

<https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm>

## VII. CARBON REDUCTION PROGRAM

### Introduction

The Kings County Association of Governments (KCAG) is seeking nominations for projects to be funded under the federal Carbon Reduction Program (CRP) for the Federal Fiscal Years (FFY) 2023-24 through 2025-26. CRP funds are available for eligible transportation projects that will contribute to meeting air quality standards in non-attainment and maintenance areas for ozone and particulate matter (PM), as well as contributing to the state's Carbon Reduction Strategy (CRS). All public agencies and private agencies may nominate projects for consideration, although private agency projects must have "a strong public benefit" and a public agency sponsor.

The complete CRP Guidelines can be found at <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/crp/2022/crp-guidance.pdf>.

### Funding Availability

KCAG will select eligible projects for funding from new apportionments for FY 2023-24 through FY 2025-26. A non-federal source of matching funds of at least 20% is required for most projects.

Federal Fiscal Year 2023-24	\$286,376	(new)
Federal Fiscal Year 2024-25	\$286,376	(new)
Federal Fiscal Year 2025-26	\$286,376	(new)

### Schedule

The tentative schedule for the KCAG CRP Call for Projects and related Federal Transportation Improvement Programming (FTIP) are as follow:

<b>February 2, 2024</b>	<b>CRP Call for Projects Released</b>
<b>February 2024</b>	Staff consultation appointments with potential applicants
<b>March 15, 2024</b>	All applications due to KCAG by 5:00 p.m.
<b>March 19 to 29, 2024</b>	Project screening and scoring
<b>April 10, 2024</b>	Programming recommendations presented to KCAG Technical Advisory Committee
<b>April 24, 2024</b>	Programming recommendations presented to KCAG Transportation Policy Committee

In submitting applications, please remember:

- Applications submitted without the Air Quality Emission Calculations will be considered incomplete and disregarded.
- **All applications must be received by KCAG staff no later than 5:00 p.m. on Friday, March 15, 2024.**
- Completed project applications must be emailed to [Kayley.Clay@co.kings.ca.us](mailto:Kayley.Clay@co.kings.ca.us), or delivered to the following address:

Kings County Association of Governments  
Attention: Kayley Clay  
339 W. D Street, Suite B.  
Lemoore, CA 93245

If you have any questions about the CRP program, eligibility of projects, the application process, or the project scoring criteria, please call Kayley Clay at (559) 852-2584, or email your inquiry to [Kayley.Clay@co.kings.ca.us](mailto:Kayley.Clay@co.kings.ca.us).

### **Project Eligibility**

Subject to the general eligibility requirements described in Section E. 1 of the CRP Guidelines Memorandum, the following activities are listed as eligible under 23 U.S.C. 175(c):

- A. A project described in 23 U.S.C. 149(b)(4) to establish or operate a traffic monitoring, management, and control facility or program, including advanced truck stop electrification systems;
- B. A public transportation project eligible for assistance under 23 U.S.C. 142 (this includes eligible capital projects for the construction of a bus rapid transit corridor or dedicated bus lanes as provided for in BIL Section 11130 (23 U.S.C. 142(a)(3));
- C. A [transportation alternatives project](#) as described in 23 U.S.C. 101(a)(29) as in effect prior to the enactment of the FAST Act,<sup>3</sup> including the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation;
- D. A project described in section 23 U.S.C. 503(c)(4)(E) for advanced transportation and congestion management technologies;
- E. A project for the deployment of infrastructure-based intelligent transportation systems capital improvements and the installation of vehicle-to-infrastructure communications equipment, including retrofitting dedicated short-range communications (DSRC) technology deployed as part of an existing pilot program to cellular vehicle-to-everything (C-V2X) technology;
- F. A project to replace street lighting and traffic control devices with energy-efficient alternatives;
- G. Development of a carbon reduction strategy;
- H. A project or strategy designed to support congestion pricing, shifting transportation demand to nonpeak hours or other transportation modes, increasing vehicle occupancy rates, or otherwise reducing demand for roads, including electronic toll collection, and travel demand management strategies and programs;
- I. Efforts to reduce the environmental and community impacts of freight movement;
- J. A project to support deployment of alternative fuel vehicles, including—
  - (i.) the acquisition, installation, or operation of publicly accessible electric vehicle charging infrastructure or hydrogen, natural gas, or propane vehicle fueling infrastructure; and
  - (ii.) the purchase or lease of zero-emission construction equipment and vehicles, including the acquisition, construction, or leasing of required supporting facilities;
- K. A project described under 23 U.S.C. 149(b)(8) for a diesel engine retrofit;
- L. Certain types of projects to improve traffic flow that are eligible under the CMAQ program, and that do not involve construction of new capacity; (23 U.S.C. 149(b)(5) and 175(c)(1)(L)); and
- M. A project that reduces transportation emissions at port facilities, including through the advancement of port electrification.

Other projects that are not listed above may be eligible for CRP funds if they can demonstrate reductions in transportation emissions over the project's lifecycle. Consistent with the CRP's goal

of reducing transportation emissions, projects to add general-purpose lane capacity for single occupant vehicle use will not be eligible absent analyses demonstrating emissions reductions over the project's lifecycle. For example, the following project types may be eligible for CRP funding:

*Sustainable pavements and construction materials*

Sustainable pavements technologies that reduce embodied carbon during the manufacture and/or construction of highway projects could be eligible for CRP if a lifecycle assessment (LCA) demonstrates substantial reductions in CO<sub>2</sub> compared to the implementing agency's typical pavement-related practices. The [LCA Pave Tool](#) can be used to assess the CO<sub>2</sub> impacts of pavement material and design decisions.

*Climate Uses of Highway Right-of-Way*

Projects including alternative uses of highway right-of-way (ROW) that reduce transportation emissions are also eligible. For example, renewable energy generation facilities, such as solar arrays and wind turbines, can reduce transportation emissions. And, biologic carbon sequestration practices along highway ROW to capture and store CO<sub>2</sub> may demonstrate potential for substantial long-term transportation emissions reductions. [State DOTs Leveraging Alternative Uses of the Highway Right-of-Way Guidance](#) provides information on these practices.

*Mode Shift*

Projects that maximize the existing right-of-way for accommodation of nonmotorized modes and transit options that increase safety, equity, accessibility, and connectivity may be eligible. Projects that separate motor vehicles from pedestrians and bicyclists, match vehicle speeds to the built environment, increase visibility (e.g., lighting), and advance implementation of a Safe System approach and improve safety for vulnerable road users may also be eligible. Micro-mobility and electric bike projects, including charging infrastructure, may also be eligible.

States should work with the FHWA on eligibility questions for specific projects. The [CMAQ Emissions Calculator Toolkit](#) is an available resource for estimating the CO<sub>2</sub> emissions benefits of certain projects.

## VIII. CMAQ / CRP APPLICATION INSTRUCTIONS

When submitting a project application to KCAG, please include:

1. "2024 KCAG CMAQ and/or CRP Call for Projects Application Forms" in Appendix (p. 32-37)
2. Project Cost Effectiveness calculations page, please see Appendix (p. 38-40).

All information necessary for the preparation of a CMAQ/CRP project application are available on the KCAG website:

1. The Application Package
2. The FHWA Interim CMAQ Guidelines (November 2014)
3. The FHWA CRP Guidelines (April 2022)
4. The ARB 2013 Methods for Finding Cost Effectiveness Handbook

Further assistance in developing and applying for CMAQ and/or CRP projects is also available by contacting KCAG Staff.

This information below is provided as guidance to assist the application preparer to present the best description and justification of the project and for certifying that the agency is committed to funding and delivering the project as applied for.

### **Sponsor Agency Information:**

**Name:** Indicate the name of your Jurisdiction or Agency

**Address:** Full street and P.O. Box addresses of the agency

### **Application Preparer's Information:**

This information is used as contact information in the programming software for federal aid projects and is part of the transparency in government efforts in Kings County.

**Name:** First and last names of the application preparer

**Title:** Position held within applying agency (title and department)

**E-mail:** Agency email address

**Phone:** Best work contact phone number

### **Project Information:**

This information helps in the project screening process. The items with an asterisk are required for the application to be considered.

- **Project is eligible for CMAQ/CRP funding under Federal Guidelines\***

The project fits into one of the categories listed in the FHWA CMAQ Guidelines of 2013 and/or the FHWA CRP Guidelines of 2022 or is not listed in the "Projects Ineligible for CMAQ Funding" guidelines.

- **Project complies with all Americans with Disabilities Act requirements\***

All projects must comply with the 1990 ADA to be eligible for federal funding. See ADA Design Standards at <https://dot.ca.gov/programs/civil-rights/ada-design-resources>.

- **Project complies with Complete Streets requirements (if roadway construction project)\***

Caltrans has adopted a Complete Streets Policy, and the policy is mirrored in the draft of the pending transportation authorization. All construction projects must comply with these requirements. See Complete Streets program at: <https://dot.ca.gov/programs/esta/complete-streets>

- **Project is on a Federal Aid eligible roadway (for roadway construction projects)\***

Construction projects must take place on roadways that are on the national Highway System (NHS) or have the functional classification of “Federal-aid Highways” (higher than “local roads” in urbanized areas or “rural minor collectors” in rural areas).

- **Project is eligible for warrants (for signal projects)\***

For signal projects, Caltrans requires that the projects qualify for signal warrants. See CA MUTCD at: <https://dot.ca.gov/programs/safety-programs/camutcd>

- **Project is listed in, or is consistent with, the 2022 Regional Transportation Plan (RTP)\***

All projects applying for federal funds must be listed in or consistent with the policies and direction of the current RTP.

The following definitions categorize the type of CMAQ project applied for and may assist you in selecting the correct ARB cost effectiveness calculation to use to demonstrate the project’s air quality benefits. Check all categories that apply to the project.

- **Project is a:**

**Transit project (funds will be transferred to an FTA grant)**

This project will transfer the CMAQ funding (regardless of project type) from FHWA to an FTA Grant to fund transit improvements. This is one of the CTIPS Programming categories.

**Non-transit project**

This project will not transfer FHWA funds to an FTA Grant but will be obligated directly.

**Active Transportation project**

The funding requested is for the construction of a bicycle facility (including bike racks), a pedestrian facility, or an outreach program to encourage bicycle riding, walking, and safety.

**Diesel Retrofit or Alternate Fuel Vehicle project**

This project is to retrofit a diesel engine, to purchase diesel filters, or to purchase alternate fuel vehicles.

**Congestion Relief or Traffic Flow Improvement project**

This is a roadway construction project that will improve the flow of traffic on the affected roadway(s).

**Carpooling or Vanpooling (including Park-and-Ride Lots) project**

This project is for capital expenses in car or vanpooling, for the construction of a park and ride lot, or for the marketing/public outreach for high occupancy projects.

**Freight or Intermodal project**

This project will construct a freight or intermodal facility that will reduce vehicle traffic or improve the movement of goods and people.

**Safety Project**

This project improves the safety of the corridor/intersection/facility.

**Project meets the cost-effectiveness threshold of \$63.00 per pound**

This project has a \$63/pound or less cost effectiveness score according to the quantitative or qualitative calculations performed.

**Certification:**

The signature under this statement certifies that the signatory has the authority to commit agency resources, including the non-federal matching funds, to the delivery of the project. It also certifies that the information included in the application, including the cost-effectiveness calculations, is accurate.

**Project Programming Information:**

- **Project Title:**

This is a brief description of the project (i.e. City of Hanford, AFV purchase or Fox Rd. Signal Project).

- **Project Description/Scope:**

A complete description of the project that is formatted as follows:

LOCATION is where the project will take place (i.e. in Corcoran for city projects or North of Corcoran for a County project, this can also be a single location such as "City corp. yard" for vehicle purchases or facility projects).

LIMITS are the logical termini of the project (i. e. 7th Street from 11th Ave. to 12th Ave. or 7th Street from 11th Ave. to ½ mile east of 11th Ave.).

IMPROVEMENT is the work actually being done (i.e. replace 4-way stop signs with signal, signal synchronization, or purchase Alt Fuel Vehicles).

- **Project Justification:**

Describe the purpose and benefit of the project.

- **Total Project Cost:**

Enter the total cost of the project including all funding sources/costs.

- **CMAQ and/or CRP Funds Requested:**

Enter the total amount of CMAQ funds requested (for all phases) for the project.

- **Non-federal Match:**

Enter the amount of non-federal funds being applied to the project. Note: This amount must equal at least 11.47% for CMAQ funded projects and 20% for most CRP funded projects, of the project total cost unless the project is in a category that allows a higher percentage of federal funding (e.g. safety).

**Project Funding and Delivery Schedule:**

Please specify in the table where the funding is requested by placing the dollar amount in the cells that correspond to the phase of the project (PE, ROW, CON) and the fiscal year in which the phase will be started (obligated).

**Sources of Local Funds:**

The “Sources of Local Funds” table in the application shows the common sources of local funds applied to CMAQ/CRP projects as matching funds. Enter the “abbreviation” in the “fund” column next to the project phase it will be applied to (as above in example).

If you are using a non-federal fund source, such as a state grant or private investment that is not already included in the table, please describe the source of the fund under “other” and create a two to three letter abbreviation for the source and enter the abbreviation into the applicable table cells.

**Project Scoring Criteria:**

The table of project scoring criteria in the application is provided as information only. The criteria will be completed by the CMAQ/CRP project application scoring committee only.



**IX. APPENDICES****EXHIBIT A****CMAQ Cost-Effectiveness Policy Threshold Update – 2023 FTIP  
for the San Joaquin Valley MPOs***April 27, 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 2023 Federal Transportation Improvement Program (FTIP) and 2022 Regional Transportation Plan (RTP). Attachment 1 presents a sample schedule for the CMAQ policy implementation milestones 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 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 ARB emission factors, Carl Moyer program and other related data in 2007, it was recommended that the original 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, or other state/local programs, the MPOs agreed to revisit the recommended threshold.

In April 2016, Sierra Research (a Trinity Consultants, Inc. 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. This technical review 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 April 2021, Trinity Consultants, Inc. (Trinity) revisited the need for a cost-effectiveness threshold update using the same approach as the analysis conducted in 2016 and determined that additional increase in cost-effectiveness threshold was warranted for the 2023 FTIP. Based on this review, the SJV MPOs recommend increasing the cost-effectiveness threshold from \$45/lb.

(\$90,000/ton) to \$63/lb. (\$126,000/ton) for the 2023 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 the summer through fall of 2021. MPO staff should review initial CMAQ percentage commitments and estimates of CMAQ apportionments for all relevant fiscal years in the 2023 FTIP. The approved percentage of funds (e.g., a minimum of 20%) should be multiplied by CMAQ funds available in years 2022-2023 through 2025-2026. 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 2023 FTIP prior to approval of the document. MPO staff should release the calls for projects in mid-2021, allowing additional 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*

As noted in Attachment 1, quantification and selection of CMAQ project should be completed by end of 2021 and the Draft FTIP document must be available for public review in spring or summer of 2022. 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 November 2020 (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” (Attachment 5). For projects not covered by ARB methodology (e.g. roundabouts), the FHWA’s “CMAQ Improvement Program Cost-Effectiveness Tables and Development Methodology” 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, NOx, PM10, and PM2.5.

*(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 sample checklist for completing the process is provided below.

**CMAQ Cost-Effectiveness Policy – Checklist for 2023 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 2023 FTIP.
- Multiply the approved percentage of funds (e.g., a minimum of 20%) by CMAQ funds available in years 2022-2023 through 2025-2026. 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 December 2021.
- Incorporate CMAQ projects into Draft 2023 FTIP document available for public review by May-June 2022.

*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)

## **CMAQ COST-EFFECTIVENESS THRESHOLD DOCUMENTATION FOR THE KINGS COUNTY ASSOCIATION OF GOVERNMENTS 2023 FTIP**

The Congestion Mitigation and Air Quality (CMAQ) program provides funding for transportation projects or programs that contribute to attainment or maintenance of the national ambient air quality standards. 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. For the 2023 Federal Transportation Improvement Program (FTIP), this applies to years 2022-2023 through 2025-2026. The Kings County Association of Governments (KCAG) has made every effort to expend the minimum 20 percent funding for cost-effective projects over the course of the FTIP and the attached documentation demonstrates that KCAG has met the 20 percent funding goal.

Project eligibility continues to be based on federal CMAQ guidance. MPOs can fund projects within local jurisdictions or contribute funding to the San Joaquin Valley Air Pollution Control District (SJVAPCD) grant incentive programs to meet the cost-effectiveness threshold requirements. Funds contributed to the SJVAPCD grant incentive programs will be assumed to have met the threshold, as that threshold is more stringent than the one established by the CMAQ cost-effectiveness policy.

Emission benefits and cost-effectiveness calculations are based on the applicable pollutants for the region, including the components of ozone (nitrogen oxides (NO<sub>x</sub>) and reactive organic gases (ROG) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). The “Methods to Find the Cost-Effectiveness of Funding Air Quality Projects” document developed by the Air Resources Board (ARB) is currently the appropriate methodology for calculating cost-effectiveness. In addition, FHWA has published “CMAQ Improvement Program Cost-Effectiveness Tables and Development Methodology” on December 3, 2015 and this methodology will be used to establish project eligibility for project types not addressed in the state guidance. Another appropriate cost-effectiveness calculation methodology may be used upon consultation with IAC partners. Cost-effectiveness is expressed as dollars spent per pound of pollutant reduced (ROG + NO<sub>x</sub> + PM<sub>2.5</sub> + PM<sub>10</sub>). The cost-effectiveness threshold for the 2023 FTIP was recommended to be increased to \$63 per pound (\$126,000/ton) from a previous level of \$45 per pound (\$90,000 per ton) and is based on CMAQ dollars only, not total project cost.

KCAG has identified, through existing programmed projects in those years or other selection methods, projects that qualify for the cost-effectiveness policy. KCAG’s project selection process begins with announcing a “Call for Projects” and agencies must submit a CMAQ Application packet to KCAG. The application process allows the agency to demonstrate that the project is eligible for CMAQ funding and includes calculations demonstrating the cost-effectiveness of the project. The Call for Projects for available CMAQ funding can be found at: <https://www.kingscog.org/cmaq>. The applications and cost-effectiveness calculations are reviewed by KCAG staff to verify application completeness and accuracy of the cost-effectiveness calculations submitted. The selected projects are then brought through the KCAG Technical Advisory Committee (TAC) for a recommendation to the KCAG Transportation Policy Committee (TPC) to be programmed in the FTIP.

As stated in the Cost-Effectiveness Policy, KCAG has agreed to post information related to the implementation of the cost-effectiveness CMAQ policy on its website. Attached is documentation that fulfills this requirement and demonstrates that KCAG has estimated the amount of funding in the 2023 FTIP necessary to meet the 20 percent cost-effectiveness goal and provided a summary of the CMAQ projects that meet the minimum cost-effectiveness threshold.

## EXHIBIT B

### CONGESTION MITIGATION & AIR QUALITY PROGRAM POLICY GUIDANCE

#### **INTRODUCTION**

The Moving Ahead for Progress in the 21st Century (MAP-21) continues the Congestion Mitigation Air Quality Program (CMAQ) funding. Congress has reaffirmed its commitment to air quality / transportation funding in each Surface Transportation Act reauthorization since 1991, including the Bipartisan Infrastructure Law (BIL). Funds for the CMAQ program are apportioned by Caltrans to the metropolitan planning organizations (MPO) within designated non-attainment and maintenance areas. The MPO, in cooperation with Caltrans, cities and counties, and affected transit operators, shall select and program projects in conformance with federal law.

Therefore, the Kings County Association of Governments (KCAG) has developed the following process for the screening, scoring, and programming of projects proposed for CMAQ funds. The goal of the process for the CMAQ program is to select, and to program for funding, the best and most effective eligible transportation projects consistent with the provisions of MAP-21 and BIL.

All proposed projects must meet the Buy America provisions of MAP-21 or be approved for a partial waiver through FHWA prior to obligating construction funds.

Projects are to be nominated by the cities, county, transit operators, and other public transportation agencies through a process that directly involves local government representatives from varied interests including, bicycles, pedestrians, transit, ridesharing, and alternative fuels. The MPO will screen and score all proposed projects using the criteria developed and will prepare a regional priority list for the CMAQ program to be included in the Federal Transportation Improvement Program (FTIP).

#### **PROGRAMMING PROCESS**

The process for programming CMAQ projects in the Federal Transportation Improvement Program (FTIP) for Kings County will include the following:

1. Caltrans is to notify the MPO of the apportionment of CMAQ funds estimated to be available for program purposes prior to the renewal cycle for the FTIP/FSTIP.
2. Each MPO shall solicit project proposals from project sponsors through a cooperative process involving local government representatives from varied interests including bicycle and pedestrian facilities, transit, ridesharing, and alternative fuels.
3. Each eligible agency is to nominate projects in priority order.
4. KCAG shall screen all proposed projects for eligibility and consistency with MAP-21 and other requirements using the scoring criteria outlined in the application and develop a regional priority list of CMAQ projects for inclusion in the FTIP.
5. KCAG shall conduct a public hearing on the draft FTIP and adopt a final FTIP for submittal to Caltrans, the Federal Highway Administration, and Federal Transit Administration.
6. KCAG shall process amendments, either administrative or formal, to the adopted FTIP to reprogram existing CMAQ funded projects or add new CMAQ funded projects.

## **SCREENING CRITERIA**

A nominated project must meet the following minimum requirements before the project can be scored and prioritized in the FTIP by KCAG:

### **Consistency Requirements:**

1. The nominating agency must show that a good faith effort was made to involve all interested parties in the development of its proposed list of projects.
2. The nominating agency must show that public comment was invited and considered in the development of its proposed list of projects.
3. The nominating agency must show that the proposed projects are eligible projects as defined by MAP-21 and CMAQ guidance
4. The nominating agency must show that the proposed projects are consistent with or included in an adopted local or regionally adopted plans and programs.

### **Financial Requirements:**

1. The projects must have reasonable cost estimates and eligible nonfederal matching funds identified.
2. The nominating agency must show that all local contributions to the project have been affirmed by a formal action of a governing council or board.

### **Project Specific Requirements:**

1. All nominations must include a project description with project limits, scope of work, and project concept. Large projects may be broken into usable segments, such as planning, right-of-way preservation and construction.
2. The nominating agency must show that it can obligate the funds by the end of the federal fiscal year in which it is programmed.

### **Air Quality Requirements:**

1. A project must contribute to the attainment of air quality standards and include calculation estimates of emission reductions.

### **ADA Requirements:**

1. All proposed projects must meet Americans with Disabilities Act (ADA) requirements.

## **SCORING CRITERIA**

See CMAQ Application Package

## **AIR QUALITY BENEFITS CALCULATIONS**

See accompanying ARB Calculations spreadsheets.

**CONGESTION MITIGATION AND AIR QUALITY PROGRAM  
ELIGIBLE PROJECTS**

**MAP-21**

A state may obligate funds apportioned to it under MAP-21 for the Congestion Mitigation and Air Quality Improvement Program only for transportation projects or programs as follows:

1. If the Secretary, after consultation with the Administrator of the EPA, determines, on the basis of information published by the EPA pursuant to Section 108(f)(1)(A) of the Federal Clean Air Act (other than clauses (xii) and (xvi) of such section), that the project or program is likely to contribute to the attainment of a national ambient air quality standard; or

In any case in which such information is not available, if the Secretary, after such consultation, determines that the project or program is part of a program, method, or strategy described in such section;

2. If the project or program is included in a State implementation plan that has been approved pursuant to the Clean Air Act and the project will have air quality benefits; or
3. The Secretary, after consultation with the Administrator of the EPA, determines that the project or program is likely to contribute to the attainment of a national ambient air quality standard, whether through reductions in vehicle miles traveled, fuel consumption, or through other factors.

No funds may be provided under this section for a project which will result in the construction of new capacity available to single occupant vehicles unless the project consists of a high occupancy vehicle facility available to single occupant vehicles only at other than peak travel times.

Transportation projects and programs are eligible for CMAQ program funds only if they meet certain criteria spelled out in the MAP-21. In determining project eligibility under these criteria, priority will be given to implementing those projects and programs that have documented emission reductions associated with them, and are included in an approved SIP as a Transportation Control Measure (TCM). The EPA and the Department of Transportation have agreed that the following meet the criteria and may be funded without project-level air quality analysis and further consultation with the EPA:

1. Transportation activities in the approved SIP.
2. The TCMs included in Section 108(b)(1)(A) of the federal Clean Air Act Amendments of 1990, except items xii and xvi which are specifically excluded by the MAP-21.
3. Developing and establishing management systems for traffic congestion, public transportation facilities and equipment, and intermodal transportation facilities and systems, where it can be demonstrated that they are likely to contribute to the attainment of a National Ambient Air Quality Standard (NAAQS).
4. Capital and operating costs for traffic monitoring, management, and control facilities and programs, where it can be demonstrated that they are likely to contribute to the attainment of a NAAQS. However, CMAQ program funds may not replace existing local and state funds used for operating costs, but are intended to augment and reinforce new efforts.
5. Construction of bicycle and pedestrian facilities, non-construction projects related to safe bicycle use.

6. Other projects and programs may be funded if, after consultation with EPA, FHWA determines they are likely to contribute to attainment of NAAQS. The CMAQ program funds may also be used for preliminary engineering associated with projects and programs that have air quality benefits and related to a TCM or feasibility/developmental studies for any other eligible project or program.
7. The FHWA has concluded that projects and programs that reduce transportation-generated PM emissions in a PM non-attainment area may be considered for CMAQ funding under certain conditions. These projects must not detract or delay efforts to attain the ozone and carbon monoxide standards.
8. The FHWA has also announced that CMAQ funds may be used for motor vehicle inspection/maintenance programs such as inspection/maintenance program capital costs, purchase of equipment for inspection/maintenance stations (including the upgrading of computer software for quality assurances), and other one-time start-up costs such as training programs for mechanics in the effective use of inspection/maintenance diagnostic equipment.



## FAST Act

### Program Purpose

The FAST Act continued the CMAQ program to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

**Statutory citation:** FAST Act § 1114; 23 U.S.C. 149

### Funding Features

#### Type of Budget Authority

Contract authority from the Highway Account of the Highway Trust Fund, subject to the overall Federal-aid obligation limitation.

#### Apportionment of Funds

As under MAP-21, the FAST Act directs FHWA to apportion funding as a lump sum for each State then divide that total among apportioned programs. Once each State's combined total apportionment is calculated, funding is set-aside for the State's CMAQ Program. (See "Apportionment" fact sheet for a description of this calculation)

#### Set-asides

The following amounts are to be set aside from a State's CMAQ apportionment:

- 2% for State Planning and Research (SPR). [23 U.S.C. 505]
- For a State that has a nonattainment or maintenance area for fine particulate matter (PM<sub>2.5</sub>), an amount equal to 25% of the amount of State's CMAQ apportionment attributable to the weighted population of such areas in the State (eligible uses for these funds are noted below). States with low population density will have a reduced set-aside under certain conditions (more below). [23 U.S.C. 149(k)]

#### Transferability to Other Federal-aid Apportioned Programs

A State may transfer to the National Highway Performance Program, National Highway Freight Program, Surface Transportation Block Grant Program, Transportation Alternatives, and Highway Safety Improvement Program up to 50% of CMAQ funds made available each fiscal year (excluding set-asides). [23 U.S.C. 126]

Federal share: In accordance with 23 U.S.C. 120.

## **Eligible Activities**

Funds may be used for a transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, and that is included in the metropolitan planning organization's (MPO's) current transportation plan and transportation improvement program (TIP) or the current state transportation improvement program (STIP) in areas without an MPO.

The FAST Act added eligibility for verified technologies for non-road vehicles and non-road engines that are used in port-related freight operations located in ozone, PM10, or PM2.5 nonattainment or maintenance areas funded in whole or in part under 23 U.S.C. or chapter 53 of 49 U.S.C. [23 U.S.C. 149(b)(8)(A)(ii)]

The Act also specifically makes eligible the installation of vehicle-to-infrastructure communications equipment. [23 U.S.C. 149(b)(9)]

The FAST Act continues eligibility for electric vehicle and natural gas vehicle infrastructure and adds priority for infrastructure located on the corridors designated under 23 U.S.C. 151. [23 U.S.C. 149(c)(2)]

The FAST Act amended the eligible uses of CMAQ funds set aside for PM2.5 nonattainment and maintenance areas. PM2.5 set-aside funds may be used to reduce fine particulate matter emissions in a PM2.5 nonattainment or maintenance area, including–

- diesel retrofits;
- installation of diesel emission control technology on nonroad diesel equipment or on-road diesel equipment that is operated on a highway construction projects; and
- the most cost-effective projects to reduce emissions from port-related landside nonroad or on-road equipment that is operated within the boundaries of the area. [23 U.S.C. 149(k)(2) & (4)]

## **Program Features**

The FAST Act continues existing program features and adds the new exemption described below.

### Exemption from PM2.5 set-aside for States with low population density

The PM2.5 set-aside will not apply to a nonattainment or maintenance area in a State with low population density (80 or fewer persons per square mile of land area) if–

- the PM2.5 nonattainment or maintenance area does not have projects that are part of the emissions analysis of a metropolitan transportation plan or TIP; and
- regional motor vehicle emissions are an insignificant contributor to the air quality problem for the PM2.5 nonattainment or maintenance area. [23 U.S.C. 149(k)(3)]

**FEDERAL CLEAN AIR ACT AMENDMENT  
TRANSPORTATION CONTROL MEASURES**

**SECTION (f)(1)(A)**

Transportation control measures identified in the Federal Clean Air Act Amendment of 1990 include, but are not limited to, the following:

1. Programs for improved public transit;
2. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
3. Employer-based transportation management plans, including incentives;
4. Trip reduction ordinances;
5. Traffic flow improvement programs that achieve emission reductions;
6. Fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
7. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;
8. Programs for the provision of all forms of high-occupancy, shared-ride services;
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;
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;
11. Programs to control extended idling of vehicles;
12. Employer-sponsored programs to permit flexible work schedules;
13. 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; and
14. 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.

**SAN JOAQUIN VALLEY  
AIR QUALITY ATTAINMENT PLAN**

**TRANSPORTATION CONTROL MEASURES**

A Transportation Control Measure (TCM) is defined in the California Clean Air Act as "any strategy to reduce vehicle trips, vehicle miles traveled, vehicle idling, or traffic congestion." The following TCMs are included in the 1991 Air Quality Attainment Plan adopted by the San Joaquin Valley Unified Air Pollution Control District:

1. Traffic flow improvements;
2. Public transit;
3. Passenger rail and support facilities;
4. Rideshare programs;
5. Bicycle programs and facilities;
6. Trip reduction programs;
7. Parking management through supply limits or increased prices;
8. Telecommunications;
9. Alternative work schedules;
10. Fleet operator alternative fuels programs; and
11. Rapid rail and support facilities.

**2024 KCAG CMAQ Call for Projects Application Form**

**Sponsor Agency Information**

Name:	_____
Address:	_____

**Application Preparer’s Information**

Name:	_____	Title:	_____
E-mail:	_____	Phone:	_____

**Project Information** (\*indicates required project element), check (x) all that apply:

<input type="checkbox"/>	Project is eligible for CMAQ funding under Federal Guidelines*
<input type="checkbox"/>	Project complies with all Americans with Disabilities Act requirements*
<input type="checkbox"/>	Project complies with Complete Streets requirements (if roadway construction project)*
<input type="checkbox"/>	Project is on a Federal Aid eligible roadway (for roadway construction projects)*
<input type="checkbox"/>	Project is eligible for warrants (for signal projects)*
<input type="checkbox"/>	Project is listed in, or is consistent with, the 2022 Regional Transportation Plan*
<input type="checkbox"/>	Project is a: Transit project (funds will be transferred to an FTA grant)
<input type="checkbox"/>	Non-transit project
<input type="checkbox"/>	Bicycle or Pedestrian project
<input type="checkbox"/>	Diesel Retrofit or Alternate Fuel Vehicle project
<input type="checkbox"/>	Congestion Relief or Traffic Flow Improvement project
<input type="checkbox"/>	Carpooling or Vanpooling (including Park-and-Ride Lots) project
<input type="checkbox"/>	Freight or Intermodal project
<input type="checkbox"/>	Safety Project
<input type="checkbox"/>	Project meets the cost-effectiveness threshold of or less than \$63.00 per pound
<input type="checkbox"/>	Is this a proposed amendment to an existing project in the 2023 FTIP?

**Certification:**

I have been duly authorized to submit the following project proposal for scoring and possible programming. I certify that the information contained herein is accurate to the best of my knowledge. I acknowledge that project readiness is a key component of the scoring criteria. By signing this document, I am committing my agency to provide the required non-federal matching funds and deliver the proposed project within the scope and schedule specified in this application should this project be selected for programming.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Project Programming Information:**

Project Title:
Project Description/Scope (including limits):
Project Justification:
Total Project Cost:
CMAQ Funds Requested:
Non-federal Match:

**Project Funding and Delivery Schedule:**

Fund	Phase	2024-2025	2025-2026	2026-2027	Fund total
<b>CMAQ</b>					
	PE				
	ROW				
	Const.				
	Total				
<b>Local (Identify the Source of local match - see below.)</b>					
	PE				
	ROW				
	Const.				
	Total				
<b>Project Total</b>					
	PE				
	ROW				
	Const.				
	Total				

**Sources of Local Funds:**

Source of Funds	Abbreviation (Enter in "Fund" Column above)
Gas Tax	GT
General Fund	GF
Transit Fares	TF
Street Taxes	ST
Developer/Impact Fees	Fees
RSTP Exchange Funds	RSTP
Local Transportation Fund:	LTF
Other (Specify):	

**Project Scoring Criteria** (to be completed by scoring committee only)**Roadway Projects:**

Category	Points
<b>Air Quality Benefits</b>	
Cost-effectiveness (based on \$/lb)	10 – 40 points
Project meets cost-effectiveness threshold of \$63/lb	10 points
Project exceeds cost-effectiveness threshold of \$63/lb (BONUS)	1 point for ea. \$1/lb
Project is a RACM or is listed as a TCM in an approved SIP	5
No air quality benefit – project not eligible	
<b>Congestion Relief and System Preservation Benefits</b>	
Signal Coordination of complete corridor	10 points
Transportation Systems Management Project	5 points
Reduced idle time by traffic flow improvement	5 points
Other system improvement (explain in project justification)	Up to 5 points
Increases idle time or congestion	-5
<b>Trip Reduction Benefits</b>	
Reduction of Vehicle Miles Traveled (VMT) (based on reduction)	5 to 10 points
No reduction of VMT	0 points
Increases VMT	-10 points
<b>Non-motorized Facilities:</b>	
Incorporates bicycle/pedestrian facilities	5 points
Obstructs or eliminates non-motorized facilities	-5 points
<b>Deliverability</b>	
Project can be delivered as programmed on schedule	15 points
Project can be delivered as programmed ahead of schedule	5 points
Project has potentially delaying elements (e.g. Buy America requirements or environmental issues)	0 points

Total possible points 115 (plus bonus points)

**Transit and Vehicle Purchase Projects:**

Category	Points
<b>Air Quality Benefits</b>	
Cost-effectiveness (based on \$/lb)	10 – 40 points
Project meets cost-effectiveness threshold of \$63/lb	10 points
Project exceeds cost-effectiveness threshold of \$63/lb (BONUS)	1 point for ea. \$1/lb
Project is listed as a TCM in an approved SIP or RACM	5 points
No air quality benefit – project not eligible	
<b>Congestion Relief and System Preservation Benefits</b>	
Service or capacity Expansion (including marketing)	5 points
Replaces vehicles older than ten years with ZEV	10 points
Replaces vehicles older than ten years with LEV	5 points
Improves service reliability/connectivity	5 points
Other system improvements (explain in project justification)	Up to 5 points
<b>Trip Reduction Benefits</b>	
Reduction of Vehicle Miles Traveled (VMT) (based on reduction)	5 – 10 points
No reduction of VMT	0 points
Increases VMT	-10 points
<b>Non-motorized Facilities:</b>	
Incorporates bicycle/pedestrian facilities	5 points
Obstructs or eliminates non-motorized facilities	-5 points
<b>Deliverability</b>	
Project can be delivered as programmed on schedule	15 points
Project can be delivered as programmed ahead of schedule	5 points
Project has potentially delaying elements (e.g. Buy America requirements or environmental issues)	0 points
<b>Other</b>	
Project meets identified “unmet transit need”	5 points

Total possible points 115 (plus bonus points)



**2024 KCAG CRP Call for Projects Application Form**

**Sponsor Agency Information**

Name:	_____
Address:	_____

**Application Preparer's Information**

Name:	_____	Title:	_____
E-mail:	_____	Phone:	_____

**Project Programming Information:**

Project Title:	
Project Description/Scope (including limits):	
Project Justification:	
Total Project Cost:	
CRP Funds Requested:	
Non-federal Match:	

**Certification:**

I have been duly authorized to submit the following project proposal for scoring and possible programming. I certify that the information contained herein is accurate to the best of my knowledge. I acknowledge that project readiness is a key component of the scoring criteria. By signing this document, I am committing my agency to provide the required non-federal matching funds and deliver the proposed project within the scope and schedule specified in this application should this project be selected for programming.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Project Funding and Delivery Schedule:**

Fund	Phase	2023-2024	2024-2025	2025-2026	Fund total
<b>CRP</b>					
	PE				
	ROW				
	Const.				
	Total				
<b>Local (Identify the Source of local match - see below.)</b>					
	PE				
	ROW				
	Const.				
	Total				
<b>Project Total</b>					
	PE				
	ROW				
	Const.				
	Total				

**Sources of Local Funds:**

Source of Funds	Abbreviation (Enter in "Fund" Column above)
Gas Tax	GT
General Fund	GF
Transit Fares	TF
Street Taxes	ST
Developer/Impact Fees	Fees
RSTP Exchange Funds	RSTP
Local Transportation Fund:	LTF
Other (Specify):	

## Project Cost-Effectiveness Calculation Page

Since methods and formulas vary based on the project type, there is no universal methodology provided for reference. Please refer to ARB Methods Guideline and find the methods, formulas and emission factor table that are applicable to your project type.

You can either detail the calculation process as the examples in ARB guidelines or create a table for that. Our goal is to ensure the accuracy of the calculation for the project cost-effectiveness.

The 2005 ARB methods guideline should be used in conjunction with the 2022 emission factor table for your project cost-effectiveness calculation.

- Please find the ARB Methods Guide for cost-effectiveness calculation (2005) here: <https://www.arb.ca.gov/planning/tsaq/eval/eval.htm>
- CARB Emission Factor Tables (2022): [https://ww2.arb.ca.gov/sites/default/files/classic/stcd/CMAQ%20EFs/Cost%20Effectiveness%20Tables%202022\\_final%20%28revised%29.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/stcd/CMAQ%20EFs/Cost%20Effectiveness%20Tables%202022_final%20%28revised%29.pdf)
- Automated Cost-effectiveness Calculation Tool (To download, use Firefox web browser) <https://ww2.arb.ca.gov/resources/documents/congestion-mitigation-and-air-quality-improvement-cmaq-program>

### ARB Guideline Sample

#### On-Road Cleaner Vehicle Purchases and Repowering

**Need to know:**

Funding dollars; Annual vehicle miles traveled (VMT); Engine certification rates or cleaner vehicle classification.

Inputs	Default	Units	Comments
Funding Dollars ( <b>Funding</b> )		dollars	
Effectiveness Period ( <b>Life</b> )		years	Suggested defaults are: Cleaner heavy-duty transit or urban bus - 12 Electric bus - 18, School bus - 20, Heavy-duty trucks - 10, Medium-duty vehicles - 10, Light-duty vehicles - 8 Light-duty electric vehicles - 10
Annual Vehicle Miles Traveled ( <b>VMT</b> )		annual miles	Suggested defaults: Transit bus - 40,000 mi/yr School bus - 15,000 mi/yr Heavy-duty truck – 70,000 mi/yr (line haul truck)

**Emission Factor Inputs** (Example is for Class 8 truck)

	Default	Units	Default	Units
	Before Emission Factor		After Emission Factor	
ROG Factor		g/mi		g/mi
NOx Factor	5.8	"	3.74	"
PM10 Factor	0.3	"	0.06	"

For heavy-duty emission factors, see Table 5. For medium-duty vehicle and light-duty emission factors, see Table 2 and Table 7. Select the factors that best represent your project.

Benefits for on-road heavy-duty engines are usually based on NOx and PM emissions only. (Defaults: The “Before” emission factors represent a typical new Class 8 truck. The “After” emission factors represent a 1.8 g/bhp-hr NOx + NMHC Class 8 truck. For electric buses use 0 as the default value.)

**Formulas**

**Units**

Annual Emission Reductions (ROG, NOx, and PM10) = lbs/year  
 $(VMT) * [(Before\ Emission\ Factor) - (After\ Emission\ Factor)] / 454$

Capital Recovery Factor (CRF) =  $\frac{(1 + i)^n (i)}{(1 + i)^n - 1}$

where:  $i$  = discount rate (Assume 3 percent)  
 $n$  = project life

**Cost-Effectiveness of**

Funding Dollars =  $(CRF * Funding) / (ROG + NOx + PM10)$  dollars/lb

*Note: The Federal Highway Administration requests that emission reductions from CMAQ projects be reported as kilograms/day. The conversion is*

$$(lbs\ per\ year) / [(2.2) * (365)] = kilograms/day$$

**Table Sample**

CALCULATIONS FOR ON-ROAD CLEANER VEHICLE PURCHASES/REPOWERING						
PROJECT COST		\$	-			
<b>PROJECT INPUTS</b>				<b>ANNUAL RESULTS</b>		
CMAQ FUNDING REQUESTED (F)		\$	-		Units	
EFFECTIVE PERIOD (LIFE)		10		years		
ANNUAL VEH MI TRAVEL (VMT)		0		miles		
<b>EMISSION FACTOR INPUTS</b>		<b>BEFORE</b>		<b>AFTER</b>		
	(See Table 5)	Factor	Units	Factor	Units	
ROG FACTOR		0.79	g/mile	0.05	g/mile	
CO FACTOR		1.83	"	1.93	"	
NOX FACTOR		18.41	"	0.06	"	
PM10 FACTOR		0.3500	"	0.2200	"	
				<b>FOR CMAQ PROJECTS</b>		
				ROG REDUCED	0	lbs/yr
				CO REDUCED	0	lbs/yr
				NOX REDUCED	0	lbs/yr
				PM10 REDUCED	0	lbs/yr
				EMISSIONS REDUCED (ER)	0	lbs/yr
				CRF (From Table 8)	0.12	
				COST EFFECTIVENESS	#####	\$/lb
				CONVERSION CALC.	0	kg/day
				COST EFFECTIVENESS	#####	\$/kg/day
<b>NOTES:</b>						
See pages 4-6 of 2005 ARB Methods Handbook						
Numbers in tables are default values						
For Emission Factors see 2010 Emission Factor Table Update first,						
if needed values are not found, see 2008 updated Tables, then 2005 Tables						