BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

County Program Manager Fund Expenditure Plan Guidance

For

Fiscal Year Ending 2017

Transportation Fund for Clean Air

Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109

December 7, 2015

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Changes from Fiscal Year Ending (FYE) 2016 to FYE 2017

Based on feedback and comments received during the public comment period, the following changes have been made:

- Streamlined and improved wording to clarify and to ensure adherence to state statute;
- Revised policy language related to shuttle projects to align it with the Board-adopted FYE 2016 TFCA Regional Fund Policies;
- Removed Annual Daily Traffic (ADT) and Peak Hour Traffic requirements for arterial management projects;
- Increased the cost-effectiveness limit for alternative fuel vehicle and infrastructure, smart growth, shuttle, arterial management, and bicycle facility projects to align it with the Board-adopted FYE 2016 TFCA Regional Fund Policies;
- Clarified that TFCA County Program Manager Funds may not be combined with TFCA Regional Funds unless the project scope is broadened; and
- Added language about enforcing the two-year time limit for completing bicycle projects.

Reporting Schedule for FYE 2017

The following is the schedule of items that must be submitted by the County Program Manager to the Air District:

- ❑ **March 3, 2016 - Expenditure Plan application for FYE 2017 -** The application must include:
  - Summary Information Form, signed and dated by County Program Manager's Executive Director
  - Summary Information Addendum Form (if applicable)

- ❑ **Within 6 months of Air District Board of Director's approval of allocation, and within 3 months for projects that do not conform to all TFCA Polices**:

  For each project:
  - Project Information Form (sample can be found in Appendix G)
  - Cost-effectiveness Worksheet (instructions can found in Appendix H)

- ❑ **Every May 31** (See Page 9)
  - **Funding Status Report Form –** Include all open projects and projects closed since July 1.
  - **Final Report Form** – For projects closed July 1-December 31 (and optionally those closing later), submit both a Final Report Form and a final Cost-effectiveness Worksheet.

- ❑ **Every October 31** (See Page 9)

- **Interim Project Report Form** – Submit this form for every open project.
- **Funding Status Report Form –** Include all open projects and projects closed since January 1.
- **Final Report Form –** For projects closed January 1-June 30 (and optionally those closing later), submit both a Final Report Form and a final Cost-effectiveness Worksheet.

Note: Items due on dates that fall on weekends or on State/Federal holidays are due on the next following business day.

Transportation Fund for Clean Air (TFCA)

Introduction

On-road motor vehicles, including cars, trucks, and buses, constitute the most significant source of air pollution in the Bay Area. Vehicle emissions represent the largest contributor to unhealthful levels of ozone (summertime "smog") and particulate matter.

To protect public health, the State Legislature enacted the California Clean Air Act in 1988. Pursuant to this law, the Bay Area Air Quality Management District (Air District) has adopted the *2010 Clean Air Plan (CAP)*, which describes how the region will work toward compliance with State and Federal ambient air quality standards and make progress on climate protection. To reduce emissions from motor vehicles, the *2010 CAP* includes transportation control measures (TCMs) and mobile source measures (MSMs). A TCM is defined as "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions." MSMs encourage the retirement of older, more polluting vehicles and the introduction of newer, less polluting motor vehicle technologies.

The TFCA Program

To fund the implementation of TCMs and MSMs, the State Legislature authorized the Air District to impose a $4 surcharge on motor vehicle registration fees paid within the nine-county Bay Area. These revenues are allocated by the Air District through the Transportation Fund for Clean Air (TFCA). TFCA grants are awarded to public and private entities to implement eligible projects.

TFCA-funded projects have many benefits, including the following:

- √ Reducing air pollution, including air toxics such as benzene and diesel particulates
- √ Conserving energy and helping to reduce greenhouse gas emissions
- √ Improving water quality by decreasing contaminated runoff from roadways
- √ Improving transportation options
- √ Reducing traffic congestion

Forty percent (40%) of these funds are allocated to a designated county program manager within each of the nine counties within the Air District's jurisdiction. This allocation is referred to as the

TFCA County Program Manager Fund. The remaining sixty percent (60%) of these funds are directed to Air District-sponsored programs and to Air District-administered TFCA Regional Fund.

This document provides guidance on the expenditure of the 40% of TFCA funding provided to the County Program Managers.

Eligible TFCA Project Types

TFCA legislation requires that projects meet eligibility requirements, as described in the California Health and Safety Code (HSC) Section 44241. The following is a complete list of mobile source and transportation control project types authorized under the California HSC Section 44241(b):

1. The implementation of ridesharing programs;
2. The purchase or lease of clean fuel buses for school districts and transit operators;
3. The provision of local feeder bus or shuttle service to rail and ferry stations and to airports;
4. Implementation and maintenance of local arterial traffic management, including, but not limited to, signal timing, transit signal preemption, bus stop relocation and "smart streets;"
5. Implementation of rail-bus integration and regional transit information systems;
6. Implementation of demonstration projects in telecommuting and in congestion pricing of highways, bridges, and public transit;
7. Implementation of vehicle-based projects to reduce mobile source emissions, including, but not limited to, engine repowers, engine retrofits, fleet modernization, alternative fuels, and advanced technology demonstrations;
8. Implementation of a smoking vehicles program;
9. Implementation of an automobile buy-back scrappage program operated by a governmental agency;
10. Implementation of bicycle facility improvement projects that are included in an adopted countywide bicycle plan or congestion management program; and
11. The design and construction by local public agencies of physical improvements that support development projects that achieve motor vehicle emission reductions. The projects and the physical improvements shall be identified in an approved area-specific plan, redevelopment plan, general plan, or other similar plan.

TFCA funds may not be used for:

- *Planning activities that are not directly related to the implementation of a specific project; or*
- *The purchase of personal computing equipment for an individual's home use.*

TFCA County Program Manager Fund

Roles and Responsibilities

County Program Manager—Each County Program Manager is required to:

1. Administer funding in accordance with applicable legislation, including HSC Sections 44233, 44241, and 44242, and with Air District Board-Adopted TFCA County Program Manager Fund Policies for FYE 2017 (found in Appendix D).
2. Hold one or more public meetings each year
    a. to adopt criteria for the expenditure of the funds if those criteria have been modified in any way from the previous year (criteria must include the Air District Board-Approved TFCA County Program Manager Fund Policies)[1], and
    b. to review the expenditure of revenues received.
3. Prepare and submit Expenditure Plan Applications, Project Information Forms, Cost-effectiveness Worksheets, Funding Status Reports, Interim Project Reports, and Final Reports.
4. Provide funds only to projects that comply with the Air District Board-Approved Policies and/or have received Air District Board of Director's approval for award.
5. Encumber and expend funds within two years of the receipt of funds, unless an application for funds states that the project will take a longer period of time to implement and an extension is approved by the Air District or the County Program Manager, or unless the time is subsequently extended if the recipient requests an extension and the County Program Manager finds that significant progress has been made on the project.
6. Limit administrative costs in handing of TFCA funds to no more than five (5) percent of the funds received.
7. Allocate (program) all new TFCA funds within six months of the date of the Air District Board of Director's approval of the Expenditure Plan.
8. Provide information to the Air District and to auditors on the expenditures of TFCA funds.

Air District—The Air District is required to:

1. Hold a public hearing to:
    a. Adopt cost-effectiveness criteria that projects and programs are required to meet. Criteria shall maximize emission reductions and public health benefits; and
    b. Allocate County Program share of DMV fee revenues.
2. Provide guidance, offer technical support, and hold workshops on program requirements, including cost-effectiveness.
3. Review Expenditure Plan Applications, Cost-effectiveness Worksheets, Project Information Forms, Funding Status Reports, Interim Project Reports and Final Reports.
4. Re-distribute unallocated TFCA funds from the County Program Manager Fund.
5. Limit TFCA administrative costs to a maximum of five percent (5%).

[1] California Senate Bill 491. *Transportation: omnibus bill.* Retrieved from https://leginfo.legislature.ca.gov/. Approved by Governor on October 2, 2015.

6. Conduct audits of TFCA programs and projects.
7. Hold a public hearing in the case of any misappropriation of revenue.

Attributes of Cost-Effective Projects

√ Project purchases or provides service using best available technology or cleanest vehicle (e.g., achieves significant petroleum reduction, utilizes vehicles that have 2010 and newer engines, is not a Family Emission Limit (FEL) engine, and/or have zero tailpipe emissions).

√ Project is delivered or placed into service within one year and/or significantly in advance of regulatory changes (e.g., lower engine emission standards).

√ Project requests relatively low amount of TFCA funds; Grantee provides significant matching funds.

√ The following are additional attributes of cost-effective projects for specific project categories:

- For vehicle trip reduction projects (e.g., bike facilities, shuttle/feeder bus service, ridesharing):
  - Project serves relatively large % of riders/participants that otherwise would have driven alone over a long distance.
  - Project provides "first and last mile" connection between employers and transit.
  - Service operates on a route (service and non-service miles) that is relatively short in distance.
- For vehicle-based projects:
  - Vehicle has high operational use, annual mileage, and/or fuel consumption (e.g., taxis, transit fleets, utility vehicles).
- For arterial management and smart growth projects:
  - Pre- and post-project counts demonstrate high usage and potential to affect mode or behavior shift that reduces emissions.
  - Project demonstrates a strong potential to reduce motor vehicle trips by significantly improving mobility via walking, bicycling, and improving transit.
  - Project is located along high volume transit corridors and/or is near major activity centers such as schools, transit centers, civic or retail centers.
  - Project is associated with a multi-modal transit center, supports high-density mixed-use development or communities.

Attributes of Project Readiness

Projects must meet Readiness Policy (Policy #6). Beginning in FYE 2017, the Air District and the County Program Managers are directed to enforce the two-year time limit for bicycle projects (i.e., any projects under Policy # 29), the County Program Managers should cancel any projects that are not completed within the two-year time limit, and the Air District will not consider any extension requests for bicycle projects that have already been granted a two-year extension from the County

Program Manager.[2] For all other project categories, County Program Managers may grant a two-year extension, for a total of four years to implement projects.

Therefore, County Program Managers are strongly encouraged to require that bicycle projects have completed the following activities prior to being awarded TFCA funds in order to ensure the successful completion of projects:

- Planning (drawings)
- Obtaining permits
- Conducting environmental review/approvals.

Furthermore, County Program Managers are strongly encouraged to ensure that *all* projects meet project readiness prior to being awarded TFCA funds.

Program Schedule

Program Schedule for the FYE 2017 Cycle (*County Program Manager deadlines are italicized*)

December 7, 2015	Expenditure Plan Application Guidance issued by Air District, including funding estimates
March 3, 2016	*Deadline for County Program Managers to submit Expenditure Plan application*
April 24, 2016	Proposed Expenditure Plan funding allocations reviewed by Air District Mobile Source Committee (tentative)
May 7, 2016	Expenditure Plan funding allocations considered for approval by Air District Board of Directors (tentative)
May 14, 2016	Air District provides Funding Agreements for funding allocations to County Program Managers for signature (tentative)
May 31, 2016	*Funding Status Report and Final Reports due for projects from FYE 2016 and prior years*
August 7, 2016	*Deadline: Within three months of Board approval, County Program Manager submits request for Air District approval of any projects that do not conform to TFCA policies (tentative)*
October 31, 2016	*Funding Status Report, Interim Project Reports, and Final Reports due for projects from FYE 2016 and prior years*
November 7, 2016	*Deadline: Within six months of Board approval, County Program Manager provides Cost-effectiveness Worksheets and Project Information Forms for new projects and programming (tentative)*
May 31, 2017	*Funding Status Report and Final Reports due for projects from FYE 2017 and prior years*

[2] Per direction provided by the Air District's Mobile Source Committee members on October 22, 2015.

Expenditure Plan Application Process

By December 14, 2015, the Air District will email County Program Managers the Summary Information Form and Summary Information - Addendum Form (i.e., the Expenditure Plan application materials). These forms must be completed by the County Program Manager and returned to the Air District as indicated below. See Appendix B for examples of these forms.

Expenditure Plans are due Thursday, March 3, 2016 and must be submitted in hard copy by mail or delivery service to:

Chengfeng Wang, Strategic Incentives Division
Bay Area Air Quality Management District
Strategic Incentives Division
939 Ellis Street
San Francisco, CA 94109

Materials sent to the Air District via fax will not be accepted.

Programming of Funds

County Program Managers must allocate (program) TFCA funds within *six months* of Air District Board approval of a County Program Manager's Expenditure Plan and submit a hard copy of: 1) the Cost-effectiveness Worksheet and 2) the Project Information Form for each new project or supplemental allocation to an existing project.

Policy #3 provides a mechanism for consideration of projects that are authorized in the TFCA legislation and meet the cost-effectiveness requirement for that project type, but are in some way inconsistent with the current-year TFCA County Program Manager Policies. To request that such a project be considered for approval by the Air District, County Program Managers must submit a Cost-effectiveness Worksheet, Project Information Form, and supporting documentation to the Air District for review no later than *three months* after Air District Board's approval of the Expenditure Plan. (See the Program Schedule section for further details.)

Project Information and Reporting Forms

The following Air District approved forms will be posted on the Air District's website at: www.baaqmd.gov/tfca4pm.

- **Cost-effectiveness Worksheet (due within 6 months of Air District Board approval of Expenditure Plan, and for FYE 2016 and prior year projects, with the Final Report; see Appendix H)**

  The purpose of the Cost-effectiveness Worksheet is to calculate estimated (pre-project) and realized (post-project) emissions reduced for each project, and compare the emissions reductions to the TFCA funds invested. County Program Managers must submit a worksheet for each new project and must ensure that the TFCA cost-effectiveness is equal to or less than $90,000 in TFCA funds per ton of emissions reduced (i.e., reactive organic gases (ROG), oxides of nitrogen (NO_x) and weighted particulate matter less than 10 microns in diameter (PM10)), **unless a different value is specified for that project type** in the Policies.

  County Program Managers must submit a Cost-effectiveness Worksheet in MS Excel format for each project to the Air District pre- and post-project.

  - **For projects that provide a service** (e.g., ridesharing, shuttle, bike share projects), post-project evaluations should be completed using the Cost-Effectiveness Worksheet

version from the ***year of the project's start date*** (which may be the same as the pre-application Cost-effectiveness Worksheet).

- **<u>For all other projects</u>**, post-project evaluations should be completed using the ***most recent version*** of the Cost-effectiveness Worksheet for the year the project was completed.

Instructions for completing the worksheets are found in Appendix H. If you do not use the Air District's default guidelines to determine a project's cost-effectiveness you must provide documentation and information to support alternate values and assumptions to the Air District for review and evaluation.

- Cost-effectiveness worksheets must be submitted in a Microsoft Excel spreadsheet with the filename structure listed below.
  - [Last two digits of FYE][abbreviated county code][sequential project number]_CE-Submitted-[Project Name].xlsx
  - Example: 17SC12_CE-Submitted-SanJoseZeroEmissionShuttle.xlsx

- **<u>Project Information Form</u> (due within 6 months of Air District Board approval of Expenditure Plan; see Appendix G)**

  The primary purpose of the Project Information Form is to provide a description of each project funded and other applicable (including technical) information that is not captured in the Cost-effectiveness Worksheet. A copy of this form and instructions for completing it are found in Appendix G. Project Information Forms must be submitted for each new project funded, and a revised Project Information Form must be submitted whenever changes are approved by the County Program Manager that affect the information stated on this form.

  - Information Forms must be submitted in a Microsoft Word document with the filename structure listed below.
    - [Last two digits of FYE][abbreviated county code][sequential project number]_ProjInfo-[Project Name].docx
    - Example: 17SC12_ProjInfo-SanJoseZeroEmissionShuttle.docx

- **Biannual <u>Funding Status Report</u> Form (due October 31 and May 31; see Appendix C)**

  This form is used to provide an update on all open and recently closed projects (closed since January 1 for the October 31 report and closed since July 1 for the May 31 report) and report any changes in status for all projects, including cancelled, completed under budget, received supplemental funding, or received a time extension during the previous six months. A copy of this form is attached in Appendix C.

- **<u>Final Report Form</u> (due October 31 and May 31; tentatively available August 2016)**

  A Final Report Form is due at the conclusion of every project. These forms are available for download from the TFCA County Program Manager website. The Final Report Forms are specific to each type of project. Final Report Forms are due to the Air District semi-annually as follows:

  - ***Due October 31:*** *Projects that closed Jan 1–Jun 30 (and optionally those closing later)*
  - ***Due May 31:*** *Projects that closed Jul 1–Dec 31 (and optionally those closing later)*

  Note, in previous years these report forms were titled "Project Monitoring Forms".

- **Annual <u>Interim Project Report Form</u> (due October 31; tentatively available August 2016)**

For each active/open project, an Interim Project Report Form is due annually on October 31. These forms are available for download from the TFCA County Program Manager website. This report provides status information on project progress and fund usage. (Note, in previous years these report forms were titled "Project Status Reporting Forms".)

County Program Managers may also choose to require additional reports of Grantees.

Additional Information

Workshops, Support, and Assistance

Air District staff is available to assist with TFCA project cost-effectiveness analysis, workshops for Grantees, and outreach for TFCA projects. County Program Managers are urged to consult with Air District staff when evaluating complex projects (such as bike share, vehicle, and vehicle infrastructure projects requiring the evaluation of emission reductions beyond those required by regulations) or when using cost-effectiveness assumptions other than those provided by the Air District in this Guidance. Consulting with the Air District prior to awarding funds minimizes the potential for both funding projects that are not eligible for TFCA funds and awarding more funding to a project than it is eligible for. Please contact us and let us know how we can assist you.

Air District Contact

Please direct questions to: Linda Hui, Administrative Analyst, (415) 749-4796, lhui@baaqmd.gov

Appendix A: Guidelines for Eligible TFCA Reimbursable Costs

The TFCA-enabling legislation allows vehicle registration fees collected for the program to be used for project implementation costs, as well as administrative project costs. This appendix provides guidance on differentiating and reporting these costs. The Air District will use the definitions and interpretations discussed below in the financial accounting of the TFCA program. The Air District conducts audits on TFCA-funded projects to ensure that the funds have been spent in accordance with the program guidelines and policies.

Project Implementation Costs

Project implementation costs are charges associated with implementing a TFCA-funded project including:

- Documented hourly labor charges (salaries, wages, and benefits) directly and solely related to implementation of the TFCA project;
- Capital equipment and installation costs;
- Shuttle driver labor and equipment maintenance costs;
- Contractor labor charges related to the TFCA project;
- Travel, training, and associated personnel costs that are directly related to the implementation of the TFCA-funded project (e.g., the cost of training mechanics to service TFCA-funded natural gas clean air vehicles); and
- Indirect costs associated with implementing the project, including reasonable overhead costs incurred to provide a physical place of work (e.g., rent, utilities, office supplies), general support services (e.g., payroll, reproduction), and managerial oversight.

Administrative Project Costs

Administrative project costs are costs associated with the administration of a TFCA project, and do not include project capital or operating costs, as discussed above. Administrative project costs that are reimbursable to a Grantee are limited to a maximum of five percent (5%) of the total TFCA funds received.

Administrative project costs are limited to the following activities that have documented hourly labor and overhead costs (salaries, wages, and benefits). Hourly labor charges must be expressed on the basis of hours worked on the TFCA project.

- Costs associated with administering the TFCA Funding Agreement (e.g., responding to requests for information from Air District and processing amendments). Note that costs incurred in the preparation of a TFCA application or costs incurred prior to the execution of the Funding Agreement are not eligible for reimbursement;
- Accounting for TFCA funds; and
- Fulfilling all monitoring, reporting, and record-keeping requirements specified in the TFCA Funding Agreement, including the preparation of reports, invoices, and final reports.

Additionally, documented indirect administrative costs associated with administrating the project, including reasonable overhead costs of utilities, office supplies, reproduction and managerial oversight are also eligible.

The project implementation and administrative project costs that are approved by the County Program Manager shall be described in a Funding Agreement. The Grantee may seek reimbursement for project implementation and administrative project costs by providing proper documentation with project invoices. Documentation for these costs will show how these costs were calculated, for example, by listing the date when the hours were worked, employees' job titles, employees' hourly pay rates, tasks being charged, and total charges. Documentation of hourly charges may be provided with time sheets or any other generally accepted accounting method to allocate and document staff time.

SUMMARY INFORMATION

County Program Manager Agency Name:_____

Address: _____

PART A: NEW TFCA FUNDS

1. Estimated FYE 2017 DMV revenues (based on projected CY2015 revenues): Line 1: _____
2. Difference between prior-year estimate and actual revenue: Line 2: _____
   a. Actual FYE 2015 DMV revenues (based on CY2014): _____
   b. Estimated FYE 2015 DMV revenues (based on CY2014): _____
   ('a' minus 'b' equals Line 2.)
3. Estimated New Allocation *(Sum of Lines 1 and 2)*: Line 3: _____
4. Interest income. List interest earned on TFCA funds in calendar year 2015. Line 4: _____
5. Estimated TFCA funds budgeted for administration:[1] Line 5: _____
   (Note: This amount may not exceed 5% of Line 3.)
6. **Total new TFCA funds available in FYE 2017 for projects and administration Line 6:** _____
   (Add Lines 3 and 4. These funds are subject to the six-month allocation deadline.)

PART B: TFCA FUNDS AVAILABLE FOR REPROGRAMMING

7. **Total amount from previously funded projects available for reprogramming to other projects.** (*Enter zero (0) if none.)* **Line 7:** _____
   (Note: Reprogrammed funds originating from pre-2006 projects are not subject to the six-month allocation deadline.)

PART C: TOTAL AVAILABLE TFCA FUNDS

8. **Total Available TFCA Funds** *(Sum of Lines 6 and 7)* **Line 8:** _____
9. Estimated Total TFCA funds available for projects *(Line 8 minus Line 5)* Line 9: _____

I certify that, to the best of my knowledge, the information contained in this application is complete and accurate.

Executive Director Signature: _____ Date: _____

[1] The "Estimated TFCA funds budgeted for administration" amount is listed for informational purposes only. Per California Health and Safety Code Section 44233, County Program Managers must limit their administrative costs to no more than 5% of the actual total revenue received from the Air District.

SUMMARY INFORMATION - ADDENDUM

Complete if there are TFCA Funds available for reprogramming.

Project #	Project Sponsor/ Grantee	Project Name	$ TFCA Funds Allocated	$ TFCA Funds Expended	$ TFCA Funds Available	Code*

TOTAL TFCA FUNDS AVAILABLE FOR REPROGRAMMING $_____

(Enter this amount in Part B, Line 7 of Summary Information form)

** Enter UB (for projects that were completed under budget) and CP (for cancelled project).*

Appendix C: Funding Status Report Form

County Program Manager: _____

Date: _____

Report Period: ☐ ***May 31st*** ☒ ***Oct. 31st***

Please provide any updated information in the yellow columns. If you update other cells, please shade them yellow as well.

CP	Cancelled Project[1]		Update by CMA
UB	Cmpl Under Budget		From Air District Database
Column A	Funds received should be listed as a negative; a balance from closure under budget listed as a positive		
Column B	100% = All components/reports completed, approved and $ paid out 90% = All components completed; $ paid out; awaiting Final Report		

TFCA Project #	Project Title	Project Sponsor	Current TFCA Funds Awarded	Current TFCA Funds Awarded per CMA Update	A Funds from CP/UB	TFCA$ Reprgm to Project# or FY	TFCA$ Paid Out To Date	TFCA$ Paid Out per CMA Update	B % Cmpl	% Cmpl per CMA Update	Project Completion Date	Project Completion Date per CMA Update	Final Rpt Due to CMA per Agrmnt	Final Rpt Due Date requested by CMA	Comments

I _____(print name), certify that the information provided is complete and correct; and that if any extensions have been approved, that significant progress has been made on the project(s) for which the funds were granted, pursuant to HSC 44242(d).

_____(Signature)
County Program Manager Liaison

[1] Cancelled projects include projects cancelled by the project sponsor, by the county program manager, and by the Air District. Provide explanation for the cancellation (e.g., ineligible) under the *Comments* Field.

Appendix D: Board-Adopted TFCA County Program Manager Fund Policies for FYE 2017

Adopted November 18, 2015

The following Policies apply only to the Transportation Fund for Clean Air (TFCA) County Program Manager Fund.

BASIC ELIGIBILITY

1. **Reduction of Emissions**: Only projects that result in the reduction of motor vehicle emissions within the Air District's jurisdictio6n are eligible.

   Projects must conform to the provisions of the California Health and Safety Code (HSC) sections 44220 et seq. and these Air District Board of Directors adopted TFCA County Program Manager Fund Policies for FYE 2017.

   Projects must achieve surplus emission reductions, i.e., reductions that are beyond what is required through regulations, ordinances, contracts, and other legally binding obligations at the time of the execution of a grant agreement between the County Program Manager and the grantee. Projects must also achieve surplus emission reductions at the time of an amendment to a grant agreement if the amendment modifies the project scope or extends the project completion deadline.

2. **TFCA Cost-Effectiveness:** Projects must not exceed the maximum cost-effectiveness (C-E) limit noted in Table 1. Cost-effectiveness ($/weighted ton) is based on the ratio of TFCA funds awarded divided by the sum of surplus emissions reduced of reactive organic gases (ROG), nitrogen oxides (NOx), and weighted PM10 (particulate matter 10 microns in diameter and smaller) over a project's useful life. All TFCA-generated funds (e.g., reprogrammed TFCA funds) that are awarded or applied to a project must be included in the evaluation. For projects that involve more than one independent component (e.g., more than one vehicle purchased, more than one shuttle route), each component must achieve this cost-effectiveness requirement.

   County Program Manager administrative costs are excluded from the calculation of a project's TFCA cost-effectiveness.

   Table 1: Maximum Cost-Effectiveness for FYE 2017 County Program Manager Fund Projects

Policy No.	Project Category	Maximum C-E ($/weighted ton)
22	Alternative Fuel Light-Duty Vehicles	250,000
23	Reserved	Reserved
24	Alternative Fuel Heavy-Duty Vehicles and Buses	250,000
25	Alternative Fuel Bus Replacement	250,000
26	Alternative Fuel Infrastructure	250,000
27	Ridesharing Projects	90,000

28 A-H	Shuttle/Feeder Bus Service – Existing	175,000; 200,000 for services in CARE Areas or PDAs
28 I	Shuttle/Feeder Bus Service - Pilot	Year 1 - 200,000 Year 2 - 175,000
28 I	Shuttle/Feeder Bus Service – Pilot in CARE Areas or PDAs	Year 1 - 500,000 Year 2 - 200,000 Year 3 - 175,000
29	Bicycle Projects	250,000
30	Bay Area Bike Share	500,000
31	Arterial Management	175,000
32	Smart Growth/Traffic Calming	175,000

3. **Eligible Projects and Case-by-Case Approval**: Eligible projects are those that conform to the provisions of the HSC section 44241, Air District Board adopted policies and Air District guidance. On a case-by-case basis, County Program Managers must receive approval by the Air District for projects that are authorized by the HSC section 44241 and achieve Board-adopted TFCA cost-effectiveness but do not fully meet other Board-adopted Policies.
4. **Consistent with Existing Plans and Programs:** All projects must comply with the transportation control measures and mobile source measures included in the Air District's most recently approved plan for achieving and maintaining State and national ambient air quality standards, which are adopted pursuant to HSC sections 40233, 40717 and 40919, and, when specified, with other adopted State, regional, and local plans and programs.
5. **Eligible Recipients:** Grant recipients must be responsible for the implementation of the project, have the authority and capability to complete the project, and be an applicant in good standing with the Air District (Policies #8-10).
   A. Public agencies are eligible to apply for all project categories.
   B. Non-public entities are only eligible to apply for new alternative-fuel (light, medium, and heavy-duty) vehicle and infrastructure projects, and advanced technology demonstrations that are permitted pursuant to HSC section 44241(b)(7).
6. **Readiness:** Projects must commence by the end of calendar year 2017. "Commence" includes any preparatory actions in connection with the project's operation or implementation. For purposes of this policy, "commence" can mean the issuance of a purchase order to secure project vehicles and equipment, commencement of shuttle/feeder bus and ridesharing service, or the delivery of the award letter for a construction contract.
7. **Maximum Two Years Operating Costs:** Projects that provide a service, such as ridesharing programs and shuttle and feeder bus projects, are eligible to apply for a period of up to two (2) years, except for bike share projects, which are eligible to apply for a period of up to five (5) years. Grant applicants that seek TFCA funds for additional years must reapply for funding in the subsequent funding cycles.

APPLICANT IN GOOD STANDING

8. **Independent Air District Audit Findings and Determinations:** Grantees who have failed either the fiscal audit or the performance audit for a prior TFCA-funded project awarded by either County Program Managers or the Air District are excluded from receiving an award of any TFCA funds for three (3) years from the date of the Air District's final audit determination in accordance with HSC section 44242, or duration determined by the Air District Air Pollution Control Officer (APCO). Existing TFCA funds already awarded to the project sponsor will not be released until all audit recommendations and remedies have been satisfactorily implemented. A failed fiscal audit means a final audit report that includes an uncorrected audit finding that confirms an ineligible expenditure of TFCA funds. A failed performance audit means that the program or project was not implemented in accordance with the applicable Funding Agreement or grant agreement.

   A failed fiscal or performance audit of the County Program Manager or its grantee may subject the County Program Manager to a reduction of future revenue in an amount equal to the amount which was inappropriately expended pursuant to the provisions of HSC section 44242(c)(3).

9. **Authorization for County Program Manager to Proceed**: Only a fully executed Funding Agreement (i.e., signed by both the Air District and the County Program Manager) constitutes the Air District's award of County Program Manager Funds. County Program Managers may only incur costs (i.e., contractually obligate itself to allocate County Program Manager Funds) after the Funding Agreement with the Air District has been executed.

10. **Maintain Appropriate Insurance:** Both the County Program Manager and each grantee must maintain general liability insurance, workers compensation insurance, and additional insurance as appropriate for specific projects, with required coverage amounts provided in Air District guidance and final amounts specified in the respective grant agreements.

INELIGIBLE PROJECTS

11. **Duplication:** Duplicative projects are not eligible. Projects that propose to expand and achieve additional emission reductions of existing projects are eligible (e.g., shuttle service or route expansion, previously-funded project that has completed its Project Useful Life).

12. **Planning Activities:** A grantee may not use any TFCA funds for planning related activities unless they are directly related to the implementation of a project or program that result in emission reductions.

13. **Employee Subsidies**: Projects that provide a direct or indirect financial transit or rideshare subsidy or shuttle/feeder bus service exclusively to the grantee's employees are not eligible.

14. **Cost of Developing Proposals:** Grantees may not use TFCA funds to cover the costs of developing grant applications for TFCA funds.

USE OF TFCA FUNDS

15. **Combined Funds:** Unless otherwise specified in policies #22 through #32, TFCA County Program Manager Funds may not be combined with TFCA Regional Funds to fund a County Program Manager Fund project. Projects that are funded by the TFCA County Program Manager Fund are not eligible for additional funding from other funding sources that claim emissions credits. (For example, County Program Manager-funded projects are eligible for Congestion Mitigation and Air Quality (CMAQ) funds because CMAQ does not require emissions reductions for funding eligibility.)

16. **Administrative Costs:** The County Program Manager may not expend more than five percent (5%) of its County Program Manager Funds for its administrative costs. The County Program

Manager's costs to prepare and execute its Funding Agreement with the Air District are eligible administrative costs. Interest earned on County Program Manager Funds shall not be included in the calculation of the administrative costs. To be eligible for reimbursement, administrative costs must be clearly identified in the expenditure plan application and in the Funding Agreement, and must be reported to the Air District.

17. **Expend Funds within Two Years:** County Program Manager Funds must be expended within two (2) years of receipt of the first transfer of funds from the Air District to the County Program Manager in the applicable fiscal year, unless a County Program Manager has made the determination based on an application for funding that the eligible project will take longer than two years to implement. Additionally, a County Program Manager may, if it finds that significant progress has been made on a project, approve no more than two one-year schedule extensions for a project. Any subsequent schedule extensions for projects can only be given on a case-by-case basis, if the Air District finds that significant progress has been made on a project, and the Funding Agreement is amended to reflect the revised schedule.

18. **Unallocated Funds:** Pursuant to HSC 44241(f), any County Program Manager Funds that are not allocated to a project within six months of the Air District Board of Directors approval of the County Program Manager's Expenditure Plan may be allocated to eligible projects by the Air District. The Air District shall make reasonable effort to award these funds to eligible projects in the Air District within the same county from which the funds originated.

19. **Incremental Cost (for the purchase or lease of new vehicles):** For new vehicles, TFCA funds awarded may not exceed the incremental cost of a vehicle after all rebates, credits, and other incentives are applied. Such financial incentives include manufacturer and local/state/federal rebates, tax credits, and cash equivalent incentives. Incremental cost is the difference in cost between the purchase or lease price of the new vehicle, and the price of its new conventional vehicle counterpart that meets, but does not exceed, the most current emissions standards at the time that the project is evaluated.

20. **Reserved.**

21. **Reserved.**

ELIGIBLE PROJECT CATEGORIES

22. **Alternative Fuel Light-Duty Vehicles:**

Eligibility: For TFCA purposes, light-duty vehicles are those with a gross vehicle weight rating (GVWR) of 14,000 lbs. or lighter. Eligible alternative light-duty vehicle types and equipment eligible for funding are:

A. Purchase or lease of new hybrid-electric, electric, fuel cell, and CNG/LNG vehicles certified by the California Air Resources Board (CARB) as meeting established super ultra-low emission vehicle (SULEV), partial zero emission vehicle (PZEV), advanced technology-partial zero emission vehicle (AT-PZEV), or zero emission vehicle (ZEV) standards.
B. Purchase or lease of new electric neighborhood vehicles (NEV) as defined in the California Vehicle Code.

Gasoline and diesel (non-hybrid) vehicles are not eligible for TFCA funds. Funds are not available for non-fuel system upgrades, such as transmission and exhaust systems, and should not be included in the incremental cost of the project.

23. **Reserved.**

24. **Alternative Fuel Heavy-Duty Vehicles and Buses:**

Eligibility: These projects are intended to accelerate the deployment of qualifying alternative fuel vehicles that operate within the Air District's jurisdiction. All of the following additional conditions must be met for a project to be eligible for TFCA Funds:

A. Vehicles purchased and/or leased either have a GVWR greater than 14,000lbs or are classified as urban buses; and

B. Are 2015 model year or newer hybrid-electric, electric, CNG/LNG, and hydrogen fuel cell vehicles certified by the CARB.

TFCA funds may not be used to pay for non-fuel system upgrades such as transmission and exhaust systems.

Scrapping Requirements: Grantees with a fleet that includes model year 1998 or older heavy-duty diesel vehicles must scrap one model year 1998 or older heavy-duty diesel vehicle for each new vehicle purchased or leased under this grant. Costs related to the scrapping of heavy-duty vehicles are not eligible for reimbursement with TFCA funds.

25. **Alternative Fuel Bus Replacement:**

Eligibility: For purposes of transit and school bus replacement projects, a bus is any vehicle designed, used, or maintained for carrying more than 15 persons, including the driver. A vehicle designed, used, or maintained for carrying more than 10 persons, including the driver, which is used to transport persons for compensation or profit, or is used by any nonprofit organization or group, is also a bus. A vanpool vehicle is not considered a bus. Buses are subject to the same eligibility requirements and the same scrapping requirements listed in Policy #24.

26. **Alternative Fuel Infrastructure:**

Eligibility: Eligible refueling infrastructure projects include new dispensing and charging facilities, or additional equipment or upgrades and improvements that expand access to existing alternative fuel fueling/charging sites (e.g., electric vehicle, CNG, hydrogen). This includes upgrading or modifying private fueling/charging sites or stations to allow public and/or shared fleet access. TFCA funds may be used to cover the cost of equipment and installation. TFCA funds may also be used to upgrade infrastructure projects previously funded with TFCA-generated funds as long as the equipment was maintained and has exceeded the duration of its years of effectiveness after being placed into service.

TFCA-funded infrastructure projects must be available to and accessible by the public. Equipment and infrastructure must be designed, installed and maintained as required by the existing recognized codes and standards and approved by the local/state authority.

TFCA funds may not be used to pay for fuel, electricity, operation, and maintenance costs.

27. **Ridesharing Projects:** Eligible ridesharing projects provide carpool, vanpool or other rideshare services. Projects that provide a direct or indirect financial transit or rideshare subsidy are also eligible under this category.

28. **Shuttle/Feeder Bus Service:**

These projects are intended to reduce single-occupancy vehicle trips by providing short-distance connections. All of the following conditions must be met for a project to be eligible for TFCA funds:

A. The service must provide direct connections between a mass transit hub (e.g., a rail or Bus Rapid Transit (BRT) station, ferry or bus terminal or airport) and a distinct commercial or employment location.

B. The service's schedule must be coordinated to have a timely connection with corresponding mass transit service.

C. The service must be available for use by all members of the public.

D. TFCA funds may be used to fund only shuttle services to locations that are under-served and lack other comparable service. For the purposes of this policy, "comparable service" means that there exists, either currently or within the last three years, a direct, timed, and publicly accessible service that brings passengers to within one-third (1/3) mile of the proposed commercial or employment location from a mass transit hub. A proposed service will not be deemed "comparable" to an existing service that brings passengers from a mass transit hub to within 1/3 mile of the employment location or commercial hub if the passengers' proposed travel time will be at least 15 minutes less than and will be at least 33% shorter than the existing service's travel time to the proposed destination.

E. Project applicants that were awarded FYE 2014 or FYE 2015 or FYE 2016 TFCA Funds that propose identical routes in FYE 2015 or in FYE 2016 or in FYE 2017 may request an exemption from the requirements of Policy 28.D. provided they meet the following requirements: 1) No further TFCA project funding as of January 1, 2017; 2) The proposed service must serve the identical transit hub and commercial or employment locations as the previously funded project; and 3) Submission of a plan to achieve financial self-sufficiency from TFCA funds by January 1, 2017, or a plan to come into compliance with Policy 28.D. and all other eligibility criteria.

F. Shuttle/feeder bus service applicants must be either: 1) a public transit agency or transit district that directly operates the shuttle/feeder bus service; or (2) a city, county, or any other public agency.

G. Shuttle/feeder bus service applicants must submit a letter of concurrence from the transit district or transit agency that provides service in the area of the proposed route, certifying that the service does not conflict with existing service.

H. Existing projects must meet a cost-effectiveness of $175,000 per ton of emissions reduced. Projects that would operate in Highly Impacted Communities or Episodic Areas as defined in the Air District Community Air Risk Evaluation (CARE) Program, or in Priority Development Areas (PDAs), may qualify for funding at a cost-effectiveness limit of $200,000 per ton of emissions reduced.

I. Pilot Shuttle/Feeder Bus Service: Pilot shuttle/feeder bus service projects are defined as routes that are at least 70% unique and where no other service was provided within the past three years. In addition to meeting the conditions listed in Policy #28.A-H for shuttle/feeder bus service, pilot shuttle/feeder bus service, project applicants must also comply with the following application criteria and agree to comply with the project implementation requirements:

i. Provide data and other evidence demonstrating the public's need for the service, including a demand assessment survey and letters of support from potential users. Project applicants must agree to conduct a passenger survey for each year of operation.

ii. Provide written documentation of plans for financing the service in the future;

iii. Provide a letter from the local transit agency denying service to the project's proposed service area, which includes the basis for denial of service to the proposed areas. The applicant must demonstrate that the project applicant has attempted to coordinate service with the local service provider and has provided the results of the demand assessment survey to the local transit agency. The applicant must provide the transit service provider's evaluation of the need for the shuttle service to the proposed area.

iv. Pilot projects located in Highly Impacted Communities as defined in the Air District Community Air Risk Evaluation (CARE) Program and/or a Planned or Potential Priority Development Area (PDA) may receive a maximum of three years of TFCA Funds under the Pilot designation. For these projects, the project applicants understand and must agree that such projects will be evaluated every year, and continued funding will be contingent upon the projects meeting the following requirements:

a. During the first year of operation, projects must not exceed a cost-effectiveness of $500,000/ton,

b. By the end of the second year of operation, projects must not exceed a cost-effectiveness of $200,000/ton, and

c. By the end of the third year of operation, projects must not exceed a cost-effectiveness of $175,000/ton and meet all of the requirements of Policy #28.A-H (existing shuttles).

v. Projects located outside of CARE areas and PDAs may receive a maximum of two years of TFCA Funds under this designation. For these projects, the project applicants understand and must agree that such projects will be evaluated every year, and continued funding will be contingent upon the projects meeting the following requirements:

a. By the end of the first year of operation, projects shall meet a cost-effectiveness of $200,000/ton, and

By the end of the second year of operation, projects shall cost $175,000 or less per ton (cost-effectiveness rating) and shall meet all of the requirements of Policy #28.A-H (existing shuttles).

29. **Bicycle Projects:**

New bicycle facility projects that are included in an adopted countywide bicycle plan or Congestion Management Program (CMP) are eligible to receive TFCA funds. Eligible projects are limited to the following types of bicycle facilities for public use that result in motor vehicle emission reductions:

A. New Class-1 bicycle paths;
B. New Class-2 bicycle lanes;
C. New Class-3 bicycle routes;
D. New Class-4 cycle tracks or separated bikeways;
E. Reserved.
F. Bicycle racks, including bicycle racks on transit buses, trains, shuttle vehicles, and ferry vessels;

G. Electronic bicycle lockers;
H. Capital costs for attended bicycle storage facilities; and
I. Purchase of two-wheeled or three-wheeled vehicles (self-propelled or electric), plus mounted equipment required for the intended service and helmets.
J. Reserved.

All bicycle facility projects must, where applicable, be consistent with design standards published in the California Highway Design Manual, or conform to the provisions of the Protected Bikeway Act of 2014.

30. **Bay Area Bike Share**

These projects make bicycles available to individuals for shared use for completing first- and last-mile trips in conjunction with regional transit and stand-alone short distance trips. To be eligible for TFCA funds, bicycle share projects must work in unison with the existing Bay Area Bike Share Project by either increasing the fleet size within the initial participating service areas or expanding the existing service area to include additional Bay Area communities. Projects must have a completed and approved environmental plan and a suitability study demonstrating the viability of bicycle sharing. Projects may be awarded TFCA funds to pay for up to five years of operations.

31. **Arterial Management:**

Arterial management grant applications must identify a specific arterial segment and define what improvement(s) will be made to affect traffic flow on the identified arterial segment. Projects that provide routine maintenance (e.g., responding to citizen complaints about malfunctioning signal equipment) are not eligible to receive TFCA funds. Incident management projects on arterials are eligible to receive TFCA funds. Transit improvement projects include, but are not limited to, bus rapid transit and transit priority projects. Signal timing projects are eligible to receive TFCA funds. Each arterial segment must meet the cost-effectiveness requirement in Policy #2.

32. **Smart Growth/Traffic Calming:**

Physical improvements that support development projects and/or calm traffic, resulting in motor vehicle emission reductions, are eligible for TFCA funds, subject to the following conditions:

A. The development project and the physical improvements must be identified in an approved area-specific plan, redevelopment plan, general plan, bicycle plan, pedestrian plan, traffic-calming plan, or other similar plan; and

B. The project must implement one or more transportation control measures (TCMs) in the most recently adopted Air District plan for State and national ambient air quality standards. Pedestrian projects are eligible to receive TFCA funds.

C. The project must have a completed and approved environmental plan. If a project is exempt from preparing an environmental plan as determined by the public agency or lead agency, then that project has met this requirement.

Traffic calming projects are limited to physical improvements that reduce vehicular speed by design and improve safety conditions for pedestrians, bicyclists or transit riders in residential retail, and employment areas.

Appendix E: Glossary of Terms

The following is a glossary of terms found in the TFCA County Program Policies:

Environmental plan – A completed and approved plan to mitigate environmental impacts as required as the result of the review process of all applicable local, state, and federal environmental reviews (e.g., CEQA, NEPA). For the purpose of the County Program Manager Fund, projects requiring a completed and approved environmental plan must complete all required environmental review processes. Any project that is exempt from preparing an environmental plan, as a result of an environmental review process, has met the requirement of having a completed and approved environmental plan.

Final audit determination - The determination by the Air District of a County Program Manager or grantee's TFCA program or project, following completion of all procedural steps set forth in HSC section 44242(a) – (c).

Funding Agreement - The agreement executed by and between the Air District and the County Program Manager for the allocation of TFCA County Program Manager Funds for the respective fiscal year.

Grant Agreement - The agreement executed by and between the County Program Manager and a grantee.

Grantee - Recipient of an award of TFCA Funds from the County Program Manager to carry out a TFCA project and who executes a grant agreement with the County Program Manager to implement that project. A grantee is also known as a project sponsor.

Project Useful Life *(see Years Effectiveness)*

TFCA funds - Grantee's allocation of funds, or grant, pursuant to an executed grant agreement awarded pursuant to the County Program Manager Fund Funding Agreement.

TFCA-generated funds - The Transportation Fund for Clean Air (TFCA) program funds generated by the $4 surcharge on motor vehicle registration fees that are allocated through the Regional Fund and the County Program Manager Fund.

Weighted PM10 - Weighted particulate matter less than 10 microns in diameter (PM10) is calculated by multiplying the tailpipe PM emissions by a factor of 20, which is consistent with CARB methodology for estimating PM10 emissions for the Carl Moyer Program.

Years Effectiveness - Equivalent to the administrative period of the grant and used in calculating a project's Cost Effectiveness. This is different from how long the project will physically last.

Appendix F: Insurance Guidelines

This appendix provides guidance on the insurance coverage and documentation typically required for TFCA County Program Manager Fund projects. Note that the Air District reserves the right to specify different types or levels of insurance in the Funding Agreement.

The typical Funding Agreement requires that each Grantee provide documentation showing that they meet the following requirements for each of their projects. The County Program Manager is not required to meet these requirements itself, unless it is acting as a Grantee.

1. **Liability Insurance:**

   Corporations and Public Entities - a limit of not less than $1,000,000 per occurrence. Such insurance shall be of the type usual and customary to the business of the Grantee, and to the operation of the vehicles, engines or equipment operated by the Project Sponsor.

   Single Vehicle Owners - a limit of not less than $750,000 per occurrence. Such insurance shall be of the type usual and customary to the business of the Grantee, and to the operation of the vehicles, engines or equipment operated by the Grantee.

2. **Property Insurance:**

   New Equipment Purchases - an amount of not less than the insurable value of Grantee's vehicles, engines or equipment funded under this Agreement, and covering all risks of loss, damage or destruction of such vehicles, engines or equipment.

   Retrofit Projects - 2003 model year vehicles or engines or newer in an amount of not less than the insurable value of Grantee's vehicles, engines or equipment funded under this Agreement, and covering all risks of loss, damage or destruction of such vehicles, engines or equipment.

3. **Workers Compensation Insurance:**

   Construction projects – including but not limited to bike/pedestrian paths, bike lanes, smart growth and vehicle infrastructure, as required by California law and employers insurance with a limit not less than $1 million.

4. **Acceptability Of Insurers:**

   Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII. The Air District may, at its sole discretion, waive or alter this requirement or accept self-insurance in lieu of any required policy of insurance.

The following table lists the type of insurance coverage generally required for each project type. The requirements may differ in specific cases. County Program Managers should contact the Air District liaison with questions, especially about unusual projects.

Project Category	Liability	Property	Workers Compensation
Vehicle purchase and lease	X	X	
Engine retrofits	X	X	
Operation of shuttle services	X		X
Operation of vanpools	X		
Construction of bike/pedestrian path or overpass	X		X
Construction of bike lanes	X		X
Construction of cycle tracks/separated bikeways	X		X
Construction of smart growth/traffic calming projects	X		X
Construction of vehicle fueling/charging infrastructure	X	X	X
Arterial management/signal timing	X		X
Purchase and installation of bicycle lockers and racks	X	X	X
Transit marketing programs	X		
Ridesharing projects	X		X
Bike Share projects	X	X	X
Transit pass subsidy or commute incentives	X		
Guaranteed Ride Home Program	X		

Appendix G: Sample Project Information Form

A. Project Number: 17XX01
Use consecutive numbers for projects funded, with year, county code, and number, e.g., 17MAR01, 17MAR02 for Marin County. Zero (e.g., 17MAR00) is reserved for County Program Manager TFCA funds allocated for administration costs.

B. Project Title: _____
Provide a concise, descriptive title for the project (e.g., "Elm Ave. Signal Interconnect" or "Purchase Ten Gasoline-Electric Hybrid Light-Duty Vehicles").

A. TFCA County Program Manager Funds Allocated: $_____

B. TFCA Regional Funds Awarded (if applicable):$_____

C. Total TFCA Funds Allocated (sum of C and D):$_____

D. Total Project Cost: $_____
Indicate the TFCA dollars allocated (C, D and E) and total project cost (D). Data from Line E (Total TFCA Funds) should be used to calculate C-E.

E. Project Description:

Grantee will use TFCA funds to _____. *Include information sufficient to evaluate the eligibility and cost-effectiveness of the project. Ex. of the information needed include but are not limited to: what will be accomplished by whom, how many pieces of equipment are involved, how frequently it is used, the location, the length of roadway segments, the size of target population, etc. Background information should be brief. For shuttle/feeder bus projects, indicate the hours of operation, frequency of service, and rail station and employment areas served.*

F. Final Report Content: Final Report form and final Cost Effectiveness Worksheet
Reference the appropriate Final Report form that will be completed and submitted after project completion. See www.baaqmd.gov/tfca4pm for a listing of the following forms:
- *Form for Ridesharing, Shuttles, Transit Information, Rail/Bus Integration, Smart Growth, and Traffic Calming Projects. (Includes Transit Bus Signal Priority.)*
- *Form for Clean Air Vehicle and Infrastructure Projects*
- *Form for Bicycle Projects*
- *Form for Arterial Management Projects*

G. Attach a completed Cost-effectiveness Worksheet and any other information used to evaluate the proposed project. *For example, for vehicle projects, include the California Air Resources Board Executive Orders for all engines and diesel emission control systems. Note, Cost-effectiveness Worksheets are not needed for TFCA County Program Managers' own administrative costs.*

H. Comments (if any):
Add any relevant clarifying information in this section.

Appendix H: Instructions for Cost-effectiveness Worksheets

Cost-effectiveness Worksheets are used to calculate project emission reductions and TFCA cost-effectiveness (TFCA $ / ton of emission reductions). County Program Managers must submit Cost-effectiveness Worksheets for each new project and each project receiving additional TFCA funds, along with Project Information Forms, no later than six months after Air District Board approval of the County Program Manager's Expenditure Plan. County Program Managers must also submit Worksheets with Final Report Forms. The most recent Worksheet should be used at time of Final Report to most accurately reflect the emissions reduced.

The Air District provides Microsoft Excel worksheets by e-mail. Worksheets must be completed for all project types with the exception of TFCA County Program Manager administrative costs.

Project Type	**Worksheet Name**
Ridesharing, Shuttles, Bicycle, Bike Share , Smart Growth, and Traffic Calming Projects	Trip Reduction FYE 17
Arterial Management: Signal Timing	Arterial Management FYE 17
Transit Bus Signal Priority (also for Transit Rail Vehicles)	Trip Reduction FYE 17
Alternative-Fuel Light-Duty and Light Heavy-Duty Vehicles or Infrastructure	LD & LHD Vehicle FYE 17
Alternative-Fuel Low-Mileage Utility Trucks – Idling Service	Heavy-Duty Vehicle FYE 17
Alternative-Fuel Heavy-Duty Vehicles, Buses, or Infrastructure	Heavy-Duty Vehicle FYE 17

Make entries in the yellow-shaded areas only in the worksheets. Begin each new filename with the application number (e.g., 17MAR04) as described below. Each worksheet contains separate tabs for: Instructions (no user input), General Information, Calculations, Notes and Assumptions, and Emission Factors (no user input).

County Program Managers must provide all relevant assumptions used to determine the project's cost-effectiveness in the Notes & Assumptions tab. If a County Program Manager seeks to use different default values or methodologies, it is advisable that they consult with the Air District before project approval, in order to avoid the potential for funding projects that are not eligible for TFCA funds.

The Air District encourages County Program Managers to assign the shortest duration possible for the # Years of Effectiveness value for a project to meet the cost-effectiveness requirement. This practice will help to minimize both the Grantee and County Program Manager's administrative burdens.

Instructions Specific to Each Project Type

Ridesharing and Shuttle Projects

Two key components in calculating cost-effectiveness is the number of vehicle trips eliminated per day and the trip length. **The number of vehicle trips eliminate is the number of trips by participants that would have driven as a single occupant vehicle if not for the service; *it is not the same as the total number of riders or participants***. A frequently used proxy is the number of survey respondents who report that they would have driven alone if not for the service provided. For calculating the length of trip, it is appropriate

to use only the length of the vehicle trip avoided by riders that otherwise would have driven alone.

In addition, **each shuttle route must meet the cost-effectiveness criteria** (Policy # 28). If a project consists of more than one route, one worksheet should be submitted with all routes listed, and a separate worksheet must be prepared showing the cost-effectiveness of each route (i.e., as determined by that route's ridership, funding allocation, etc.).

Transit Signal Priority

For the length of trip, a good survey practice is to determine the length of automobile trip avoided by just those riders that otherwise would have driven, rather than by all riders.

Arterial Management Projects

Please note that each segment must meet the cost-effectiveness requirement (Policy #31). If there are multiple segments being considered for funding, one worksheet should be submitted with all segments listed, and a separate worksheet should be submitted showing the cost-effectiveness for each segment.

For a signal timing project to qualify for four (4) years of effectiveness, the signals must be retimed after two (2) years.

Smart Growth, Traffic Calming

Projects must reduce vehicle trips by increasing pedestrian/bicycle travel and transit use. Projects that only involve slowing automobile traffic briefly (e.g., via speed bumps) tend to not be cost-effective, as the acceleration following deceleration increases emissions.

Vehicle and Fueling Infrastructure Projects

The investment in each individual vehicle must be shown to be cost-effective (Policy #2). The worksheet calculates the cost-effectiveness of each vehicle separately, so only one worksheet is required when more than one vehicle is being considered for funding.

TFCA Policies require that all projects including those subject to emission reduction regulations, contracts, or other legally binding obligations achieve ***surplus*** emission reductions—that is, reductions that go beyond what is required. **Therefore, vehicles with engines certified as Family Emission Limit (FEL) engines are not eligible for funding because the engine is certified for participation in an averaging, banking, and trading program in which emission benefits are already claimed by the manufacturer.**

Because TFCA funds may only be used to fund early-compliance emissions reductions, and because of the various fleet rule requirements, calculating cost-effectiveness for vehicle grant projects can be complex, and it is recommended that it be done only by someone familiar with all applicable regulations and certifications. Additionally, electric vehicle infrastructure generally does not qualify for more than $2,000 per charging spot, and County Program Managers should consult with the Air District on such projects, as the evaluation methodologies are evolving. Also, any questions should be raised to Air District staff well before project approval deadlines in order to assure project eligibility.

The cost-effectiveness of fueling infrastructure is based on the vehicles that will use the funded facility. For these projects, County Program Managers must exercise care that emission reductions from the associated vehicles are only credited towards a TFCA infrastructure project, and are not double counted in any other Air District grant program, either at the present time or for future vehicles that will use the facility during its effective life.

The total mileage a vehicle can travel may be limited by regulation, and the product of Years of Effectiveness and Average Annual Miles cannot exceed that mileage (e.g., some cities limit the lifetime miles a taxicab can travel).

Heavy-duty vehicle and infrastructure projects: The California Air Resources Board (CARB) Carl Moyer Program Guidelines document is the source for the formulas and factors used in the Heavy-Duty Vehicle worksheet. The full documentation is available at http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm. Note that there are some differences between the TFCA and Moyer programs; consult Air District staff with any questions. At a minimum, a funded vehicle must have an engine complying with the model year 2010 and later emission standards. Vehicles that are funded by the TFCA shall not be co-funded with other funding sources that claim emissions credits. At this time, vehicles that are funded by the CARB (e.g., Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project [HVIP]), Carl Moyer, or other Air District grant programs are not eligible for additional funding from TFCA.

Documentation and Recordkeeping: Beginning in FYE 2012, Project files must be maintained by County Program Managers and Grantees for a minimum of *five years* following completion of the project (i.e., Project Years Effectiveness), versus three years as before. Project files must contain all related documentation including copies of CARB executive orders, quotes, mileage logs, fuel usage (if cost-effectiveness is based on fuel use), photographs of engines and frames that were required to be scrapped, and financial records, in order to document the funding of eligible and cost-effective projects.

Guidance on inputs for the worksheets follows.

Instructions Tab

Provides instructions applicable to the relevant project type(s).

General Information Tab

Project Number, which has three parts:

1st – fiscal year in which project will be funded (e.g., 17 for FYE 2017).

2nd – County Program Manager; use the following abbreviations:

ALA – Alameda	**CC** - Contra Costa	**MAR** – Marin
NAP – Napa	**SF** - San Francisco	**SM** - San Mateo
SC - Santa Clara	**SOL** – Solano	**SON** – Sonoma

3rd – two-digit number identifying project; 00 is reserved for County Program Manager administrative costs.

Example: 17MAR04 = fiscal year ending **2017**, **Mar**in, Project #**04**.

Project Title: *Short and descriptive* title of project, matching that on the Project Information Form.

Project Type Code: Insert one and only one of the following codes for the corresponding project type. If a project has multiple parts, use the code for the main component. Note that not all listed project types may be allowed in the current funding cycle**.**

Code	Project Type	Code	Project Type
0	Administrative costs	**6c**	Shuttle services – NG powered
1a	NG buses (transit or shuttle buses)	**6d**	Shuttle services – EV powered
1b	EV buses	**6e**	Shuttle services – Fuel cell powered
1c	Hybrid buses	**6f**	Shuttle services – Hybrid vehicle
1d	Fuel cell buses	**6g**	Shuttle services – Other fuel type
1e	Buses – Alternative fuel	**6h**	Shuttle services w/TFCA purchased retrofit
2a	NG school buses	**6i**	Shuttle services – fleet uses various fuel types
2b	EV school buses	**7a**	Class 1 bicycle paths
2c	Hybrid school buses	**7b**	Class 2 bicycle lanes
2d	Fuel cell school buses	**7c**	Class 3 bicycle routes, bicycle boulevards
2e	School buses – Alternative fuel	**7d**	Bicycle lockers and cages
3a	Other heavy-duty – NG (street sweepers, garbage trucks)	**7e**	Bicycle racks
3b	Other heavy-duty – EV	**7f**	Bicycle racks on buses
3c	Other heavy-duty – Hybrid	**7g**	Attended bicycle parking (“bike station”)
3d	Other heavy-duty – Fuel cell	**7h**	Other type of bicycle project (e.g., bicycle loop detectors)
3e	Other heavy-duty - Alternative fuel (High Mileage)	**7i**	Bike share
3f	Other heavy-duty - Alternative fuel (Low Mileage)	**7j**	Class 4 cycle tracks or separated bikeways
4a	Light-duty vehicles – NG	**8a**	Signal timing (Regular projects to speed traffic)
4b	Light-duty vehicles – EV	**8b**	Arterial Management – transit vehicle priority
4c	Light-duty vehicles – Hybrid	**8c**	Bus Stop Relocation
4d	Light-duty vehicles – Fuel cell	**8d**	Traffic roundabout
4e	Light-duty vehicles – Other clean fuel	**9a**	Smart growth – traffic calming
5a	Implement TROs (pre-1996 projects only)	**9b**	Smart growth – pedestrian improvements
5b	Regional Rideshare Program	**9c**	Smart growth – other types
5c	Incentive programs (for any alternative mode)	**10a**	Rail-bus integration
5d	Guaranteed Ride Home programs	**10b**	Transit information / marketing
5e	Ridesharing – Vanpools (if cash incentive only, use 5c)	**11a**	Telecommuting demonstration
5f	Ridesharing – School carpool match	**11b**	Congestion pricing demonstration
5g	Other ridesharing / trip reduction projects	**11c**	Other demonstration project
5h	Trip reduction bicycle projects (e.g., police on bikes)	**12a**	Natural gas infrastructure
6a	Shuttle services – diesel powered	**12b**	Electric vehicle infrastructure
6b	Shuttle services – gasoline powered	**12c**	Alternative fuel infrastructure

County: Use the same abbreviations as used in Project Number.

Worksheet Calculated by: Name of person completing the worksheet.

Date of Submission: Date submitted to the County Program Manager.

Grantee Org.: Organization responsible for the project.

Contact Name: Name of individual responsible for implementing the project. Include all contact information requested (email, phone, address).

Project Start Date Project must meet Readiness Policy (Policy #6).

Completion Date & Final Report to CMA: County Program Managers must expend funds within two years of receipt, unless an application states that the project will take a longer period of time and is approved by the County Program Manager or the Air District.

Calculations Tab

Because the worksheets have many interrelated formulas and references, users must not add or delete rows or columns, or change any formulas, without consulting with the Air District. Several cells have input choices or information built in, as pull-down menus or comments in Excel. Pull-down menus are accessed by clicking on the cell. Comments are indicated by a small triangle in the upper right corner of a cell, and are made visible by resting the cursor over the cell.

Cost Effectiveness Inputs

 # Years Effectiveness: Equivalent to the administrative period of the grant. See inputs table below. The best practice is to use shortest value possible.

Total Project Cost: Total cost of project including TFCA funding, sponsor funding, and funds contributed by other entities. Only include goods and services of which TFCA funding is an integral part.

TFCA Cost: TFCA 40% County Program Manager Funds and the 60% Regional Funds (if any), listed separately.

Emission Reduction Calculations

Instructions and default values for each project type are provided in the table below. Default values for years of effectiveness are provided for the various project types. There are no defaults for Smart Growth projects, due to the wide variability in these projects.

Notes & Assumptions Tab

Provide an explanation of all assumptions used. If you do not use the Air District's guidelines and default values to determine cost-effectiveness, you must document and explain your inputs and assumptions after receiving written approval from the Air District.

Emission Factors Tab

This tab contains references for the Calculations tab. **No changes shall be made to this tab.**

Additional Information for Heavy-duty Vehicle Projects

CARB has adopted a number of standards and fleet rules that limit funding opportunities for on-road heavy-duty vehicles. See the below list of CARB rules that affect on-road heavy-duty fleets, followed by a reference sample CARB Executive Order. For assistance in determining whether a potential project is affected, contact Air District staff or consult Carl Moyer Implementation Charts at: http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm

Summary of On-Road Heavy-Duty Fleet Rules

Vehicle Type	Subject to CARB Fleet Rule?
Urban buses	Fleet Rule for Transit Agencies
Transit Fleet Vehicles	Fleet Rule for Transit Agencies
Solid Waste Collection Vehicles, excluding transfer trucks	Solid Waste Collection Vehicle Regulation
Municipal Vehicles and Utility Vehicles	Fleet Rule for Public Agencies and Utilities
Port and Drayage Trucks	Port Truck Regulation
All other On-road heavy-duty vehicles	On-road Rule

Summary of Maximum Cost-effectiveness & Years Effectiveness by Project Category

Policy No.	Project Category	Maximum C-E ($/weighted ton)	Years Effectiveness
22	Alternative Fuel Light-Duty Vehicles	250,000	3 years recommended, 4 years max
23	Reserved	Reserved	Reserved
24	Alternative Fuel Heavy-Duty Vehicles and Buses	250,000	3 years recommended, 4 years max
25	Alternative Fuel Bus Replacement	250,000	3 years recommended, 4 years max
26	Alternative Fuel Infrastructure	250,000	3 years recommended, 4 years max
27	Ridesharing Projects	90,000	2 years max
28 A-H	Shuttle/Feeder Bus Service – Existing	175,000; 200,000 for services in CARE Areas or PDAs	2 years max
28 I	Shuttle/Feeder Bus Service - Pilot	Year 1 - 200,000 Year 2 - 175,000	2 years max
28 I	Shuttle/Feeder Bus Service – Pilot in CARE Areas or PDAs	Year 1 - 500,000 Year 2 - 200,000 Year 3 - 175,000	2 years max
29	Bicycle Projects	250,000	From 3 to 10 years
30	Bay Area Bike Share	500,000	5 years max
31	Arterial Management	175,000	2 or 4 years
32	Smart Growth/Traffic Calming	175,000	10 years max

Emission Reduction Inputs

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
Ridesharing / Trip Reduction Project Type = 5a-h, 8b, 9a-c, 11a, or 11b Worksheet = Trip Reduction FYE 17 Note: For ridesharing the default maximum number of vehicle trips reduced per day is 1% of target population.	**Ridesharing** • # Years Effectiveness • # Trips/Day (1-way) eliminated [% of target population (# employees)] • Days/Yr • Trip Length (1-way) • # New Trips/Day (1-way) to access transit • Days/Yr • Trip Length (1-way)	• Enter in Cost Effectiveness Inputs, up to 2 years • Enter in Step 1-Column A, 1% of target population • Enter in Step 1-Column B, 240 days (max.) • Step 1-Column C, Default = 16 miles (1-way commute distance from MTC's Commute Profile) • Step 2-Column A, Default = 50% of # Trips/Day Eliminated (Step 1-Column A) • Enter in Step 2-Column B, same # as Step 1-Column B • Enter in Step 2-Column C, Default = 3 miles
	School-Based Ridesharing • # Years Effectiveness • # Trips/Day (1-way) eliminated [% of target population (total # students)] • Days/Yr • Trip Length (1-way)	• Enter in Cost Effectiveness Inputs, up to 2 yrs • Step 1-Column A, No Default • Enter in Step 1-Column B, 180 days (max.) • Step 1-Column C, 1-3 miles
	Transit Incentive Campaigns • # Years Effectiveness • # Trips/Day (1-way) eliminated [% of target population]. Use survey data if available. • Days/Yr • Trip Length (1-way), based on routes accessed • # New Trips/Day (1-way) to access transit • Days/Yr (new trips) • Trip Length (1-way) for new trips	• Enter in Cost Effectiveness Inputs, up to 2 yrs • Step 1-Column A, No default • Enter in Step 1-Column B, 90 days (max.) if # Trips/Day based on % of target population. If # Trips/Day based on participants, 240 days (max). • Step 1-Column C, No Default • Step 2-Column A, 50% of # Trips/Day Eliminated (Step 1-Column A) • Enter in Step 2-Column B - same as # days used in Step 1 • Step 2-Column C, Default = 3 miles
	Guaranteed Ride Home Programs • # Years Effectiveness • # Trips/Day (1-way) eliminated • Days/Yr	• Enter in Cost Effectiveness Inputs, up to 2 years • Enter in Step 1-Column A, 0.2% of target population. • Enter in Step 1-Column B, 240 days (Max.)

	• Trip Length (1-way)	• Step 1-Column C, Default = 16 miles
	Transit Vehicle Signal Prioritization • # Years Effectiveness • # Trips/Day (1-way) eliminated • Days/Yr • Trip Length (1-way)	• Enter in Cost Effectiveness Inputs, 2 yrs • Step 1-Column A, No Default • Enter in Step 1-Column B, 240 days (max) • Step 1-Column C, No Default • Step 2-Column A, 50% of # Trips/Day Eliminated (Step 1-Column A) • Step 2-Column B, same as Step 1-Column B • Enter in Step 2-Column C, 3 miles

Emission Reduction Inputs

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
Bicycle Projects Project Type = 7a-j Worksheet = Trip Reduction FYE 17 Methodology to estimate number of trips reduced for bike paths, lanes, & routes based on: - the type of facility (Class 1, 2, or 3) - the length of the project segment - the traffic volume (ADT) on the facility. For Class 1 projects, use the ADT on the most appropriate parallel road. For gap closure projects (where project will close a gap between two existing segments of bikeway), use the length for the total facility. Note: the maximum number of vehicle trips reduced per day is 240. The Air District generally assumes that no bike project will reduce more than 240 vehicle trips per day. The Air District normally uses an average trip	**Bicycle Projects (Paths, Lanes, Routes)** • # Years Effectiveness Class 1 bike path (or bike bridge) Class 2 bike lane Class 3 bike route Class 4 cycle tracks or separated bikeways • # Trips/Day (1-way) eliminated (depends on length of project segment and ADT on project segment) Class 1 & Class 2 & Class 4 ADT ≤ 12,000 vehicles per day Class 1 & Class 2 & Class 4 ADT > 12,000 and ≤ 24,000 Class 1 & Class 2 & Class 4 ADT > 24,000 and ≤ 30,000 Maximum is 30,000. Class 3 bike route or bicycle boulevard • Days/Yr	• Enter in Cost Effectiveness Inputs: Not to exceed 10 years for Class 1 projects (trails/paths) Not to exceed 7 years for Class 2, Class 3 and Class 4 projects • Enter in Step 1-Column A: Length ≤ 1 mile = 0.4% ADT Length >1 and ≤ 2 miles = 0.6% ADT Length >2 miles = 0.8% ADT Length ≤ 1 mile = 0.3% ADT Length > 1 and ≤ 2 miles = 0.45% ADT Length > 2 miles = 0.6% ADT Length ≤ 1 mile = 0.25% ADT Length > 1 and ≤ 2 miles = 0.35% ADT Length > 2 miles = 0.45% ADT Route ≤ 1 mile = 0.1% ADT Route > 1 and ≤ 2 miles = 0.15% ADT Route > 2 miles = 0.25% ADT • Enter in Step 1-Column B, 240 days

length of 3 miles (one-way) for bicycle projects.	• Trip Length (1-way)	• Enter in Step 1-Column C, 3 miles. (Not same as segment length.)

	<u>Bicycle Lockers & Racks</u> • # Years Effectiveness • # Trips/Day (1-way) eliminated • Days/Yr • Trip Length (1-way)	 • Enter in Cost Effectiveness Inputs, 3 yrs • Enter in Step 1-Column A: Capacity of lockers x 2 trip/day Capacity of cages x 0.75 trips per day Capacity of racks x 0.5 trips per day • Enter in Step 1-Column B, 240 days • Enter in Step 1-Column C, 3 miles
	<u>Bay Area Bike Share</u> • # Years Effectiveness • # Trips/Day (1-way) eliminated **Weekdays** • Days/Yr • Trip Length (1-way) **Weekends** • Days/Yr • Trip Length (1-way)	 • Enter in Cost Effectiveness Inputs, max. 5 yrs • Enter in Step 1-Column A: Number of bikes X 1.48 trips per day X 12% (actual vehicle trips replaced based on Shaheen research dated June 2015) • Enter in Step 1-Column B, 260 days • Enter in Step 1-Column C, 16 miles • Enter in Step 1-Column B, 105 days • Enter in Step 1-Column C, 3 miles

Emission Reduction Inputs

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
Shuttles / Rail-Bus Integration / Transit Info Project Type =6a-i, 10a, or 10b Worksheet = Trip Reduction FYE 17	**Shuttle/Feeder Bus, Rail-Bus Integration, and Transit Information Systems**	
	• # Years Effectiveness	• Cost Effectiveness Inputs, up to 2 years
	# Trips/Day (1-way) eliminated trips. Trips only from riders who previously would have driven.	• Step 1-Column A, For on-going service, use survey results For new service, use 50% of daily seating capacity of vehicle * 67% (% single-occupancy vehicles (SOV) from MTC Commuter Profile)
	• Days/Yr eliminated trips	• 1-Column B, Enter number of operating days. Default =240 days/yr.
	• Trip Length (1-way) eliminated trips. Average trip length that will be eliminated due to shuttle passengers taking train/ferry in conjunction with the shuttle.	• Enter in Step 1-Column C, a survey-based distance, or, if no survey, 16 miles for shuttles and 35 miles for vanpools
Step 2 calculates emissions from new trips generated.	• # Trips/Day (1-way) new trips to access transit	• Step 2-Column A, Use survey data or, if none, a default is 50% of # Trips/Day Eliminated (Step 1-Column A)
	• Days/Yr new trips	• Enter in Step 2-Column B, same # as in Step 1-Column B.
	• Trip Length (1-way) new trips. Average trip length of shuttle passengers that drive from home to the BART/Caltrain station.	• Enter in Step 2-Column C, a survey-based distance, or, if no survey, default is 3 miles for home-to-rail trips.
When possible, emissions from shuttle vehicles should be based on the vehicle engine Executive Order. County Program Manager should consult with Air District staff for guidance. *For vans and shuttle vehicles 14,000 lbs. and lighter, use Step 3A.*	• # Vehicles, Model Year: Number of vehicles with same model year	• Step 3A - Column A, no default.
	• Emission Std.: Emission Standard from list provided.	• 3A - Column B, no default.
	• Vehicle GVW: Weight Class from list provided.	• 3A Column C, no default.

	• ROG, NO_x, Exhaust PM_{10}, and Total PM_{10} Factors: enter factor from appropriate table provided on Emission Factors tab—CARB Table 2 for vehicles model year 2004 and after, or CARB Table 7 for model years 1995-2003.	• 3A Column D through G, no default
	• CO_2 Factor: enter factor from CO_2 Table for Light- and Light Heavy-Duty Shuttles, on Emission Factors tab.	• 3A Column H, no default.
	• Total annual VMT = [length of shuttle/van trip (one-way)] X [# one-way trips per day] X [# days of service per year]. For all vehicles listed in Step 3A.	• 3A Column I, no default.
For buses, use Step 3B. *If a vehicle does not match the factors provided, County Program Manager should consult with Air District staff.*	• ROG, NO_x, Exhaust PM_{10}, Other PM_{10} and CO_2 Factors: enter factor from Emissions for Buses Table provided on Emission Factors tab.	• Step 3B: Columns D through H, no default. Note that Step 3B uses Other PM_{10}, not Total PM_{10}.
	• Total annual VMT = [length of shuttle/van trip (one-way)] X [# one-way trips per day] X [# days of service per year]. For all vehicles listed in Step 3B.	• 3B Column I, no default.

Emission Reduction Inputs

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
	Arterial Management	
Arterial Management Project Type = 8a Worksheet = Arterial Management FYE 17	• # Years Effectiveness	• Enter in Cost Effectiveness Inputs: For signal timing/synchronization, 2 yrs or, with retiming required at 2 yrs, 4 yrs. Each project should include either 2- or 4-year segments, not both.
	• Name of Arterial	• Column A: Name of the arterial and the direction of travel.
	• Segment Length (miles)	• Enter under Column B the length of arterial over which speeds will be increased.
	• Days/Yr.	• Enter under Column C the number of days per year over which the project would affect traffic. Default is 240 days.
	• Time Period	• Enter under Column D the time period over which the traffic volumes and speed will change (e.g., 4-7 PM). Include all the hours in a period that will benefit, not just the peak hour.

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
	• Traffic Volume • Traffic Speed without the Project • Travel Speed with Project	• Enter under Column E the traffic volume before the project for the corresponding Time Period and direction of travel that will make the stated speed change. • Enter under Column F the average traffic speed along the length of the arterial before implementation of the project. • Enter under Column G the average estimated traffic speed along the length of the arterial after implementation of the project. *Note: Maximum increase in speed is 25%.*
[Smart Growth]	**Smart Growth / Traffic Calming**	• Cost Effectiveness Inputs, 10 years max • No other default assumptions for "smart growth" or traffic calming projects are available. Provide detailed explanations of any assumptions and calculations in the Notes and Assumptions tab.

Emission Reduction Inputs

Alt-fuel Heavy-Duty Vehicles and Infrastructure
Project Types = 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 2d, 2e, 3a, 3b, 3c, 3d, 3e, 3f, 12a, 12b, 12c
Worksheet = Heavy Duty Vehicle FYE 17

Input Data Needed	Default Assumptions
○ Cost Effectiveness Inputs, # Years Effectiveness. Use separate workbook and Project # for each set of vehicles with different # Years Effectiveness or with different fuel types.	• 3 years is recommended - Not to exceed 4 years.
○ Column B, Unit #: A unique identifier. List each vehicle on a separate row.	○ Column B: No default
• Columns C through E, Baseline Emission Rate: NO_x, ROG, PM factors: See Moyer Table D-2a/b or D-6, based on your vehicle type, weight, and engine model year.	• Columns C through E: For FYE 2017 alt-fuel heavy-duty vehicle projects, including urban buses, the baseline default is the Model Year 2010 emission standards.
• Column F, Annual Fuel Use: Base on average fuel use over 2 years, and document with 2 years of records.	• Column F: No default.
• Column G, Fuel Consumption Factor: Moyer Table D-24	• Column G: Most on-road engines are below 750 horsepower, thus the default value is 18.5.
• Column H, Conversion Factor (g/mi to g/bhp-hr): Input a value only if Baseline Emission Rates (Columns C – E) are in g/mi and Fuel Basis is being used. Notice: enter data in this column or Column J, not both. Use Moyer Table D-28.	• Column H: No default.
• Column I, Annual VMT: Base on average VMT over 2 years, and document with 2 years of mileage records.	• Column I: No default.

Input Data Needed	Default Assumptions
• Column J, Conversion Factor (g/bhp-hr to g/mi): Input a value only if Baseline Emission Rates (Columns C – E) are in g/bhp-hr. Notice: enter data in this column **or** Column H, not both. Use Moyer Table D-28.	• Column J: No default.
• Column K, Percent operation in Air District: Only the operation within the Bay Area Air Quality Management District can be counted. Boundaries available from the Air District.	• Column K: No default.
• Columns L through N, New Emission Rate: NO_x, ROG, and PM: Use Executive Order values. Note: FEL engines are not eligible for TFCA funding. CARB certifies engines and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown at the end of this attachment. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. For the purpose of the TFCA Program, the certification emission **standards** are used to calculate emission reductions. The certification emission standards are shown in the row titled "(DIRECT) STD" under the respective "FTP" column headings for each pollutant. For instance, the Cummins 8.3 liter natural gas engine illustrated in the sample was certified to a combined oxides of nitrogen plus non-methane hydrocarbon (NOx+NMHC) emission standard of 1.8 g/bhp-hr, a carbon monoxide (CO) emission standard of 15.5 g/bhp-hr, and a particulate matter (PM) emission standard of 0.03 g/bhp-hr. In the case where an EO shows emission values in the rows labeled "AVERAGE STD" and/or "FEL", the engine is certified for participation in an averaging, banking, and trading (AB&T) program. AB&T engines (i.e., all FEL-certified engines) **are not eligible** to participate in the TFCA Program for new vehicle purchase projects since emission benefits from an engine certified to an FEL level are not surplus emissions.	• Columns L through N: For FYE 2017 heavy-duty vehicle projects, including urban buses, the new vehicle must be certified to *exceed* the Model Year 2010 standard of 0.2 g/bhp-hr of NO_x and 0.01 g/bhp-hr of PM, which are the default values. Some exceptions apply.
• Column O, Replacement Vehicle Cost: Must be supported by a quote for the new alt-fuel vehicle that exceeds standards.	• Column O: No Default.
• Column P, Must be supported by a quote for a new equivalent model vehicle that meets standards (for FYE 2017, the Model Year 2010 Standards).	• Column P: No Default.
• Column Q, Fuel Savings.	• Column Q: Default value is 0%. For new hybrid vehicles, on a case-by-case basis, the Air District may approve another value, based on documented fuel savings relative to a non-hybrid vehicle.
• Column R, Fuel Consumption Factor: Use Moyer Table D-24.	• Column R: Most on-road engines are below 750 horsepower.
• Column S, Conversion Factor (g/mi to g/bhp-hr): Enter a value only if New Emission Rates (Columns L – N) are in g/mi and Fuel Basis is being used. Notice: enter data in this column **or** Column T, not both. Use Moyer Table D-28.	• Column S: No default.

Input Data Needed	Default Assumptions
• Column T, Conversion Factor (g/bhp-hr to g/mi): Enter a value **only if** New Baseline Emission Rates (Columns L – N) are in g/bhp-hr. Notice: enter data in this column or Column S, not both. Use Moyer Table D-28.	• Column T: No default.
• Column Y, # Years Effectiveness: Same as in Cost Effectiveness Inputs.	• Column Y: 3 years is recommended - 4 yrs max.
• Column Z, Incremental Cost: The cost of the proposed vehicle minus the baseline vehicle.	• Column Z: Automatically calculated.
• Columns AB – AG, Emission Reductions. All reductions must be surplus to any regulatory, contractual, or other legally binding requirement. Note that if ROG values are not available for both the baseline and the proposed engine, ensure value is zero (0) for ROG, as no ROG emission reductions can be claimed.	• Columns AB – AG. Calculated automatically. Enter zero (0) if a reduction cannot be claimed.
• Column AM, TFCA Funding Amount: Amount of total TFCA funding. The column total must equal Total TFCA Cost from Cost-Effectiveness Inputs at top of worksheet.	• Column AM: Cannot exceed Incremental Cost.
• Column AP, Actual Weighted CE w/o CRF--Miles Basis ($/ton). Cost-effectiveness based on emissions including weighted PM. **Must meet Policy Requirements.**	• Column AP: Calculated automatically.
• Column AQ, Actual Weighted Contract CE w/o CRF--Fuel Basis ($/ton). Cost-effectiveness based on emissions including weighted PM. **Must meet Policy Requirements.** Emissions and cost-effectiveness calculations **can only be based on fuel usage for the following vehicles:** • Utility vehicles in idling service • Street sweepers • Solid waste collection vehicles. All other vehicles must use mileage basis. If using fuel-based calculations, usage must be based on two years of historical fuel usage documentation (e.g., fuel logs or purchase receipts).	• Column AQ: Calculated automatically.
• Column AS, Baseline CO_2 Factor Based on Mileage: Enter value from CO_2 Emission Factors Table for your fuel and vehicle type (e.g., Medium Heavy Duty Diesel is 1527 g/mi).	• Column AS: No default.
• Column AT, Proposed Engine CO_2 Factor Based on Mileage: Enter value from CO_2 Emission Factors Table for your fuel and vehicle type (e.g., Medium Heavy Duty CNG 1098 g/mi).	• Column AT: No default.
• Column AV, Baseline CO_2 Factor Based on Fuel Use: Enter value from CO_2 Emission Factors Table for your fuel type (e.g., Diesel is 10079 g/mi).	• Column AV: 10079 g/mi.
• Column AW, Proposed Engine CO_2 Factor Based on Fuel Use: Enter value from CO_2 Emission Factors Table for your fuel type (e.g., CNG is 7244 g/mi).	• Column AW: No default.

Project Type/Worksheet Name	Input Data Needed	Default Assumptions
Alt-fuel Vehicles and Infrastructure: Light-Duty and Light Heavy-Duty Project Types = 4a, 4b, 4c, 4d, 4e, 12a, 12b, 12c Worksheet = LD & LHD Vehicle FYE 17	• # Years Effectiveness	• 3 years is recommended - 4 years max.
	• Unit # / ID	• List each vehicle separately.
	• Incremental Cost	• For new vehicles, must be based on two quotes—one for the new alt-fuel vehicle, and one for a new conventionally-fueled equivalent model that meets current emission standards.
	• Current Standard and New Vehicle Standard	• Enter in Columns E and F the standard that a vehicle is certified to, as shown on the CARB Executive Order.
	• Cost-Effectiveness	• Column U, automatically calculated. Each vehicle must meet the Policy requirements for cost-effectiveness.

Sample CARB Executive Order for Heavy-Duty On-Road Engines

California Environmental Protection Agency AIR RESOURCES BOARD	CUMMINS INC.	EXECUTIVE ORDER A-021-0571-1 New On-Road Heavy-Duty Engines Page 1 of 2 Pages

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZES (L)	FUEL TYPE [1]	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS [2]	ECS & SPECIAL FEATURES [3]	DIAGNOSTIC [6]
2012	CCEXH0729XAD	11.9	Diesel	Diesel	UB	DDI, TC, CAC, ECM, EGR, OC, SCR-U, PTOX	EMD

PRIMARY ENGINE'S IDLE EMISSIONS CONTROL [5]	ADDITIONAL IDLE EMISSIONS CONTROL [5]
Exempt	N/A

ENGINE (L)	ENGINE MODELS / CODES (rated power, in hp)
11.9	ISX11.9 385 / 3865;FR20350 (379), ISX12 385 / 3865;FR20350 (379)

* =not applicable; **GVWR**=gross vehicle weight rating; **13 CCR xyz**=Title 13, California Code of Regulations, Section xyz; **40 CFR 86.abc**=Title 40, Code of Federal Regulations, Section 86.abc; **L**=liter; **hp**=horsepower; **kw**=kilowatt; **hr**=hour;

[1] **CNG/LNG**=compressed/liquefied natural gas; **LPG**=liquefied petroleum gas; **E85**=85% ethanol fuel; **MF**=multi fuel a.k.a. **BF**=bi fuel; **DF**=dual fuel; **FF**=flexible fuel;

[2] **L/M/H HDD**=light/medium/heavy heavy-duty diesel; **UB**=urban bus; **HDO**=heavy duty Otto;

[3] **ECS**=emission control system; **TWC/OC**=three-way/oxidizing catalyst; **NAC**=NOx adsorption catalyst; **SCR-U / SCR-N**=selective catalytic reduction – urea / – ammonia; **WU (prefix)** =warm-up catalyst; **DPF**=diesel particulate filter; **PTOX**=periodic trap oxidizer; **HO2S/O2S**=heated/oxygen sensor; **HAFS/AFS**=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); **TBI**=throttle body fuel injection; **SFI/MFI**=sequential/multi port fuel injection; **DGI**=direct gasoline injection; **GCARB**=gaseous carburetor; **IDI/DDI**=indirect/direct diesel injection; **TC/SC**=turbo/super charger; **CAC**=charge air cooler; **EGR / EGR-C**=exhaust gas recirculation / cooled EGR; **PAIR/AIR**=pulsed/secondary air injection; **SPL**=smoke puff limiter; **ECM/PCM**=engine/powertrain control module; **EM**=engine modification; **2 (prefix)**=parallel; **(2) (suffix)**=in series; **AMOX**=ammonia oxidation catalyst

[5] **ESS**=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1); **30g**=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C); **APS** =internal combustion auxiliary power system; **ALT**=alternative method (per 13 CCR 1956.8(a)(6)(D); **Exempt**=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; **N/A**=not applicable (e.g., Otto engines and vehicles);

[6] **EMD**=engine manufacturer diagnostic system (13 CCR 1971); **OBD**=on-board diagnostic system (13 CCR 1971.1);

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.).[4]

in	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
g/bhp-hr	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	0.20	0.20	*	*	15.5	15.5	0.01	0.01	*	*
FEL	*	*	*	*	*	*	*	*	*	*	*	*
CERT	0.04	0.01	0.12	0.09	*	*	1.1	0.00	0.004	0.002	*	*
NTE	0.21		0.30		*		19.4		0.02		*	

[4] **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **EURO**=Euro III European Steady-State Cycle, including **RMCSET**=ram mode cycle supplemental emissions testing; **NTE**=Not-to-Exceed; **STD**=standard or emission test cap; **FEL**=family emission limit; **CERT**=certification level; **NMHC/HC**=non-methane/hydrocarbon; **NOx**=oxides of nitrogen; **CO**=carbon monoxide; **PM**=particulate matter; **HCHO**=formaldehyde; **(Rev.: 2007-02-26)**

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971 (engine manufacturer diagnostic) and 13 CCR 2035 et seq. (emission control warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

This Executive Order hereby supersedes Executive Order A-021-057 dated December 7, 2011.

Executed at El Monte, California on this 17 day of April 2012.

Annette Hebert, Chief
Mobile Source Operations Division