

CMAQ COST-EFFECTIVENESS THRESHOLD DOCUMENTATION FOR THE MADERA COUNTY 2009 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM (FTIP)

Introduction

The general intent of the Madera County Transportation Commission's (MCTC) Congestion Mitigation and Air Quality (CMAQ) Program is aimed toward providing transportation projects that will improve our air quality and reduce transportation-related emissions. Because federal law requires the timely implementation of transportation control measures in air quality plans, the highest priority for funding under the CMAQ Program is implementation of such measures. Major emphasis is upon projects that support alternative modes of transportation, provide congestion relief measures, provide non-polluting transit vehicles and equipment, and provide new technologies/improvements geared toward providing a more efficient and safer transportation system.

The MCTC issued a Call for Projects – Cycle I for the CMAQ Program on November 17, 2007. This Call for Projects was to help select projects to program for the first three years of SAFETEA-LU Reauthorization according to the estimated apportionments that will be available and have been provided to the Madera County region.

The MCTC CMAQ Program allows 40% of the total Madera County apportionment to be set aside as a “Lifeline” amount. Each MCTC member agency is provided with a guaranteed level of CMAQ funding that can be used for any eligible CMAQ project.

The MCTC CMAQ Program allows for 60% of the total Madera County apportionment to be available to local government agencies/districts/jurisdictions and public/private partnerships in the Madera County Region through a competitive grant program.

MCTC has also recently adopted a policy for distributing at least 20% of the CMAQ funds to projects that meet a cost-effectiveness threshold for emission reductions beginning in FY 2011. For the 2009 FTIP this applies to years 2010-2011 and 2011-2012. The proposed threshold is \$30 per pound (\$60,000 per ton).

Methodology for Calculating Cost-Effectiveness

The methodology used for calculating cost-effectiveness of the CMAQ projects was the 2005 ARB “Methods to Find the Cost-Effectiveness of Funding Air Quality Projects”. Cost-effectiveness is expressed as dollars spent per pound of pollutant reduced (VOC + NOx + PM10). CO emissions are not included in the formula. Cost-effectiveness is based on CMAQ dollars only (vs. total project costs which include capital investments and operating costs).

The funding dollars were amortized over the expected project life using a discount rate. The amortization formula yields a capital recovery factor, which, when multiplied by the funding, gave the annual funding for the project over its expected lifetime. Cost-

effectiveness was determined by dividing annualized funds by annual emission reductions (VOC+ NO_x + PM₁₀).

Selection Process

For the “lifeline” projects, each member agency submitted applications for projects that totaled the amount allocated to them. MCTC then reviewed these applications to ensure eligibility. For the “competitive” projects, a Scoring Committee was formed to help score each individual project according to the scoring criteria that is explained in the next section. (A representative from each member agency, a representative from the San Joaquin Air Pollution Control District, the Valley COG’s air quality representative, and MCTC staff made up the Scoring Committee.) The scores for each project were then tabulated and ranked by average total points. Projects were then selected according to their ranking up to the allocated “competitive” amount.

Scoring Criteria for Selecting Projects

<i>Maximum 20 Points</i>	<i>Congestion Relief</i>
Factors	Has impact on congestion and increases service capacity and/or reliability.
<i>Maximum 10 Points</i>	<i>Trip Reduction</i>
Factors	Project reduces vehicle trips and/or vehicle miles traveled.
<i>Maximum 20 Points</i>	<i>Air Quality Emissions Reduction</i>
Factors	Incorporates transportation control measure and/or reduces air pollution emissions of organic compounds, oxides of nitrogen and/or particulate matter.
<i>Maximum 30 Points</i>	<i>Cost Benefit Ratio</i>
Factors	Quantified annual air emissions reduction (pounds per year) divided by annualized project cost.
<i>Maximum 20 Points</i>	<i>Subjective Evaluation</i>
Factors	The Scoring Committee may use this category to consider factors of overriding concern. Examples may include, but are not limited to: supports economic development activities, provides integration/connectivity, increases safety, increases accessibility, promotes energy conservation, promotes growth management, improves quality of life, leverage/maximizes other funds, promotes system management, etc.
<i>100</i>	<i>TOTAL POINTS AVAILABLE</i>

Note: Each category cannot exceed amount assigned.

In order to obtain CMAQ funding, a positive air quality benefit must result from the proposed project. This is one of the federal government's primary means of establishing eligibility for the program, and therefore, is a part of MCTC's process as well.

Also, because the issue of "project delivery" is so important, the *CMAQ Scoring Committee* took into consideration as a part of a project's "subjective" evaluation score (20-points) a local agency's ability to deliver projects timely (i.e. past performance/current ability to deliver projects rapidly).

Programming

After the projects are selected, MCTC reserves the right to program the CMAQ projects according to deliverability, local agency priority, geographic equity, and within the financial constraints of the four-year element.

**CMAQ Cost-effectiveness Documentation
for the
Madera County 2009 Federal Transportation Improvement Program**

NEW CMAQ PROJECTS FOR 2009 FTIP

FTIP ID	Agency	Project Description	Project Cost CMAQ \$	Cost Effectiveness
1 MAD302050	CHOW	Front End Loader (1), Replacement, Diesel	\$132,900	\$6.77
2 MAD502010	MUSD	School Bus (5), Replacement, CNG	\$849,890	\$10.42
3 MAD202063	MAD	Dual Left Turn Lane	\$300,000	\$10.49
4 MAD102058	CNTY	Pave Dirt Roads - Valley Lake Ranchos - 3.5 miles	\$627,200	\$10.60
5 MAD102057	CNTY	Pave Dirt Road - Road 406, Road 400 to 2.5 miles East	\$439,500	\$12.97
6 MAD102055	CNTY	Pave Dirt Road - Hickory Street, Palm St. to End	\$55,900	\$16.52
7 MAD502011	CWD	Dump truck (1), Replacement, CNG	\$159,354	\$16.94
8 MAD302051	CHOW	Public Transit Bus (1), Replacement, Gasoline	\$59,300	\$19.69
9 MAD102059	CNTY	Pave Dirt Road - Willow Pond Lane	\$41,000	\$27.13

Subtotal of Cost-Effective CMAQ Projects **\$2,665,044**

10 MAD502012	CWD	Service Trucks (2), Replacement, CNG	\$154,928	\$30.01
11 MAD302052	CHOW	Alley Paving - Robertson Blvd., Commercial District	\$266,700	\$31.95
12 MAD202054	MAD	Construct CNG Fueling Facility	\$684,000	\$43.37
13 MAD202064	MAD	CNG Transit Bus (2) Expansion	\$230,700	\$150.90
14 MAD202065	MAD	Pedestrian Facilities - Various locations to Rotary Park	\$277,800	\$820.87
15 MAD202066	MAD	Class I Bike Path - Laurel Street	\$237,000	\$944.90
16 MAD102056	CNTY	Pave Shoulder/Curb & Gutter - Road 30, Ave 12 to 500 ft North	\$62,700	\$4,315.00

Subtotal of Other CMAQ Projects **\$1,913,828**

Estimated Apportionments	
FY 2009-10	\$1,494,416
FY 2010-11	\$1,521,315
FY 2011-12	\$1,548,699
Total Apportionments	\$4,564,430

Total CMAQ Funds Awarded: **\$4,578,872**
 Total Cost-Effective CMAQ Funds Awarded: **\$2,665,044**
 % of CMAQ Funds Awarded to Cost-effective projects: **58.20%**