4.4.16.3  Congestion Mitigation and Air Quality Improvement Program (CMAQ)

4.4.16.3.1  Introduction

4.4.16.3.2  Section Objectives

4.4.16.3.3  DOT Policy

4.4.16.3.4  Legal Basis/Abstract in Laws

  4.4.16.3.4.1  Other Regulations, Laws, and Guidance Triggered or Related

4.4.16.3.5  General Methodology Analysis and Evaluation

  4.4.16.3.5.1  Air Quality Monitoring

4.4.16.3.6  Relationship to Transportation/Air Quality Conformity

4.4.16.3.7  Interagency Coordination and Agreements

4.4.16.3.8  Appendices
4.4.16.3 CMAQ

4.4.16.3.1 Introduction

The Congestion Mitigation and Air Quality Improvement (CMAQ) program provides funding to State and local governments for transportation projects and programs that help meet the requirements of the Clean Air Act. Funding is available for areas that do not meet the National Ambient Air Quality Standards (NAAQS) (nonattainment areas) as well as former nonattainment areas that are now in compliance (maintenance areas). CMAQ projects can play a role in positive conformity determinations and can also help the Department meet its goals with respect to the program performance measurements. The purpose of the CMAQ program is to fund projects that will help bring areas in nonattainment for ozone, carbon monoxide (CO) and/or particulate matter (PM) into attainment of the NAAQS and to ensure that the NAAQS are maintained for the duration of all applicable Clean Air Act "NAAQS Maintenance Plans" in all former nonattainment areas.

This CMAQ guidance will emphasize the importance of using CMAQ funding when appropriate and reflect changes in SAFETEA-LU as incorporated in the Federal guidance. All NYSDOT staff involved with the CMAQ program are to follow this guidance. MPOs are urged to consider this guidance in their CMAQ programming and project selection decision making.

The CMAQ program funds transportation projects and programs in nonattainment and maintenance areas that contribute to the attainment and maintenance of the NAAQS. Each year, air quality is improved through continued emphasis on projects that provide transit alternatives, congestion management, intelligent transportation system development, and implementation of various transportation initiatives such as promoting bus fleet upgrades and conversions to alternative fuels and retrofit technology, and multi-modal transportation applications.

Emission reductions have remained an integral part of all MPO and NYSDOT Regional CMAQ project selection processes. Estimated emission reductions are used to prioritize our projects for selection for CMAQ funding. The Department’s procedure of stressing the importance of using quantification methodologies for all project types has been successful in providing measures of effectiveness in the selection of projects for CMAQ funding.

This Guidance is applicable for the following Counties:

Region 1: Albany, Essex (The portion of Whiteface Mountain above 1900 feet elevation), Greene, Rensselaer, Saratoga, and Schenectady
Region 2: Montgomery
Region 3: Onondaga
Region 4: Genesee, Livingston, Monroe, Ontario, Orleans, and Wayne
Region 5: Chautauqua, Erie, and Niagara
Region 6: NA
Region 7: Jefferson
Region 8: Dutchess, Orange, Putnam, Rockland, and Westchester
Region 9: Schoharie
Region 10: Nassau and Suffolk
Region 11: Bronx, Kings, New York, Queens, and Richmond

4.4.16.3.2 Section Objectives

The purpose of this section is to establish the Department’s policy, standards and procedures for its CMAQ program.

4.4.16.3.3 DOT Policy

In keeping with the Department's mission to “ensure our customers -- those who live, work and travel in New York State -- have a safe, efficient, balanced and environmentally sound transportation system," and in light of the health and environmental effects of unacceptable air quality and the requirements of the Clean Air Act Amendment 1990 (CAAA90), it is the policy of the Department to select CMAQ projects to maximize emission reductions and to contribute to the attainment of NAAQS.

4.4.16.3.4 Legal Basis / Abstract in Laws

**Clean Air Act:** On November 15, 1990, President George H.W. Bush signed the Clean Air Act Amendments of 1990 (CAAA90). This legislation has had a fundamental impact on air quality and transportation-related air quality. It more clearly related the effect of transportation on air quality problems and required the transportation sector to be an active participant in the work to achieve attainment of the National Ambient Air Quality Standards (NAAQS).

CAAA90 is comprehensive in its treatment of air quality. It deals not only with transportation issues but with many other air quality issues such as acid rain, air toxicity, new stationary source review, citizen suits, etc. For transportation concerns, the main focus is on Titles I and II of the CAAA90. Title I deals with nonattainment issues and Title II covers vehicle emissions.

**Intermodal Surface Transportation Efficiency Act:** After the enactment of CAAA90, the Intermodal Surface Transportation Efficiency Act (ISTEA) was promulgated in 1991. This legislation continued the trend established by CAAA90 to integrate air quality concerns with transportation concerns. This legislation and implementing transportation planning regulations recognized additional transportation requirements for nonattainment areas and linked conformity requirements to transportation planning requirements.

**Transportation Equity Act for the 21st Century:** Transportation Equity Act for the 21st Century (TEA-21) was released in 1998 and reauthorized the Federal surface transportation programs, including CMAQ.

**Safe, Accountable, Flexible, Efficient Transportation Equity Act:** On August 10, 2005, President George W. Bush signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This legislation is crucial to transportation planning and air quality and continues ISTEA’s linkage of transportation and air quality...
concerns. It re-authorized, for instance, the congestion mitigation and air quality (CMAQ) program established by ISTEA and TEA-21.

SAFETEA-LU addresses relevant transportation issues such as: improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment.

4.4.16.3.4.1 Other Regulations, Laws, and Guidance Triggered or Related

New York State Clean Air Compliance Act: To carry out CAAA90 mandates, some states needed to pass legislation authorizing their agencies to implement and enforce the mandates. New York was one of those states. In 1993 the Legislature passed, and the Governor signed the New York State Clean Air Compliance Act (CACA). This gave the State the authority to, among other things, establish an enhanced inspection and maintenance program for testing vehicular emissions, and collect air quality program fees. (For more information please see the Air Quality, Project Level section of this document).

FHWA Program Guidance: In October 2008, the Federal Highway Administration (FHWA) released their finalized Program Guidance for the CMAQ program. The FHWA’s guidance updates previous guidance and incorporates provisions of SAFETEA-LU related to the CMAQ program.

4.4.16.3.5 General Methodology Analysis and Evaluation

STEP 1: Evaluate Project Eligibility

The first step to establish eligibility is to determine if the project area is located in a non-attainment or maintenance area. The counties listed below are eligible for CMAQ money based on their air quality status. In these counties, which are either in nonattainment or maintenance for a particular pollutant, proposed CMAQ projects must include a calculation of the estimated emission benefits for that pollutant (or precursor). The below table is correct as of the date of this guidance.

HELPFUL TIP

For projects to be eligible for CMAQ funds, the projects must show a reduction in CO, ozone precursors (NOx and VOC), PM or PM precursors (NOx). If the project area is in non-attainment for multiple pollutants there must be a net reduction of all the pollutant for which the area is in non-attainment in order to be eligible.
<table>
<thead>
<tr>
<th>Pollutants</th>
<th>Severity/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8-HOUR OZONE</strong></td>
<td><strong>Moderate</strong></td>
</tr>
<tr>
<td><strong>Estimate VOC</strong></td>
<td>New York City &amp; Long Island Area Including:</td>
</tr>
<tr>
<td>and NO(_X) benefits</td>
<td>Bronx, Kings, Nassau, New York, Orange, Queens, Richmond, Rockland, Suffolk, and Westchester Counties</td>
</tr>
<tr>
<td></td>
<td>Poughkeepsie, NY Area Including:</td>
</tr>
<tr>
<td></td>
<td>Dutchess, Orange and Putnam Counties</td>
</tr>
<tr>
<td><strong>Former Sub Part 1 (Basic)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Albany-Schenectady-Troy Area Including:</td>
</tr>
<tr>
<td></td>
<td>Albany, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, and Schoharie Counties</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Rochester Area Including:</td>
</tr>
<tr>
<td></td>
<td>Genesee, Livingston, Monroe, Ontario, Orleans and Wayne Counties</td>
</tr>
<tr>
<td><strong>Nonattainment</strong></td>
<td>Erie, Niagara and Chautauqua Counties</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>Essex County (The portion of Whiteface Mountain above 1900 feet elevation)</td>
</tr>
<tr>
<td><strong>CARBON MONOXIDE</strong></td>
<td><strong>Maintenance</strong></td>
</tr>
<tr>
<td><strong>Estimate CO</strong></td>
<td>New York City &amp; Long Island Area Including:</td>
</tr>
<tr>
<td><strong>benefits</strong></td>
<td>Bronx, Kings, Nassau, New York, Queens, Richmond, &amp; Westchester</td>
</tr>
<tr>
<td></td>
<td>Onondaga County</td>
</tr>
<tr>
<td><strong>PM(_{2.5})</strong></td>
<td><strong>Nonattainment</strong></td>
</tr>
<tr>
<td><strong>Estimate PM(_{2.5})</strong></td>
<td>New York City &amp; Long Island Area Including:</td>
</tr>
<tr>
<td>&amp; NO(_X) benefits</td>
<td>Bronx, Kings, Nassau, New York, Orange, Queens, Richmond, Rockland, Suffolk, and Westchester Counties</td>
</tr>
<tr>
<td><strong>PM(_{10})</strong></td>
<td><strong>Moderate</strong></td>
</tr>
<tr>
<td><strong>Estimate PM(_{10})</strong></td>
<td>New York County</td>
</tr>
</tbody>
</table>
FHWA Program Guidance:

A summary of FHWA’s Finalized Program Guidance is below. This summary provides key information on the types of projects eligible and not eligible for CMAQ funding and must be used as a guide for CMAQ application preparation. Additional information about eligibility can be found in FHWA’s finalized Program Guidance.

Summary of FHWA’s The Congestion Mitigation and Air Quality (CMAQ) Improvement Program:

Priority Use of CMAQ Funds:

SAFETEA-LU dictates that States and MPOs should give priority for CMAQ funding to diesel retrofit projects and cost effective mitigation activities. Although SAFETEA-LU emphasizes these CMAQ priorities, it also retains the authority of state and local agencies to select the projects they deem important. However, project selection should still reflect cost-effectiveness in achieving air quality attainment.

In addition to SAFETEA-LU, the FHWA and FTA are required by Section 176(c) of the Clean Air Act to ensure timely implementation of transportation control measures in applicable SIPs. These and any other CMAQ eligible projects identified in approved SIPs must receive funding priority.

Annual Apportionments of CMAQ Funds to States/Federal Match:

Each state receives federal CMAQ funds based on the severity of its ozone and CO problem. The FHWA determines the funds per county by taking the population of the counties in nonattainment or maintenance and multiplying it by a weighting factor that can be found in Table 2 of the FHWA guidance.

Geographical Areas Eligible to use CMAQ Funds:

CMAQ funds can be used for projects in all 8-hour ozone, CO and PM nonattainment and maintenance areas. Projects in close proximity to nonattainment and maintenance areas are also eligible for CMAQ funds as long as the benefits will be primarily realized in the nonattainment and maintenance areas. Please see Table 1 for a list of NYS counties that are classified nonattainment or maintenance.

Each state is guaranteed a minimum apportionment of one-half of one percent of the year’s total program funding, regardless of whether the State has any nonattainment or maintenance areas. These flexible funds or minimum apportionment funds can be used anywhere in the state for projects eligible for either CMAQ or the Surface Transportation Program (STP). New York State’s CMAQ funding is based on its non-attainment area status, so all of its CMAQ...
funding must be used in or in close proximity to nonattainment and maintenance areas.

Project Eligibility Provisions:

For a project to be considered for CMAQ funds it must be on the MPOs current transportation plan and be included on the TIP (or the STIP in areas without an MPO). Also, in nonattainment or maintenance areas, projects must meet conformity provisions from Section 176(c) of the Clean Air Act and the transportation conformity rule. CMAQ funded projects must also have completed requirements under the National Environmental Policy Act (NEPA) and meet basic eligibility requirements for funding under titles 23 or 49 of the United States Code, as appropriate to the project.

The following categories, which are discussed in detail on page 10-12 of the FHWA Program Guidance, should guide MPOs in their CMAQ eligibility decisions:

- Capital Investment
- Operation Assistance
- Emission Reduction
- Planning and Project Development

CMAQ funds may be used to establish or expand transportation projects or programs that reduce emissions, including capital investment projects in transportation, congestion relief efforts, diesel engine retrofit technology, or other capital projects.

Federal CMAQ funding for operating assistance is generally limited to start up costs for the project and funding for operations of the facility for a period up to three years. The provisions in 23 U.S.C.116 place the responsibility for long term maintenance of the facilities on the states. There are exceptions to this provision and they can be read in detail in Section VII.D.7, VII.D.8, and VII.D.10 of the FHWA Guidance. More information on the types of projects eligible under operation assistance can be found on page 11 of the FHWA Guidance.

The FHWA defines emissions reductions in several distinct terms in 23 U.S.C.149. The terms used by the FHWA to represent emissions reductions include contributing to attainment, reduction in pollution, air quality benefits, and others. For transportation projects to be eligible for CMAQ funds, the projects must reduce CO, ozone precursors (NOx and VOCs), PM or PM precursors (e.g. NOx) for a pollutant for which the area is in nonattainment – that is, CO if the area is a CO non-attainment or maintenance area, ozone precursors if the area is ozone non-attainment or maintenance, PM if the area is in non-attainment for PM.
Per the FHWA guidance, States and MPOs may consider ancillary benefits of eligible projects including greenhouse gas reduction, congestion relief, safety, or other elements when allotting CMAQ funds (although these benefits alone do not establish eligibility for CMAQ funding).

Eligible project planning and development type activities may be funded with CMAQ resources. These include studies that are part of the project development under NEPA and FTA’s Alternative Analysis. General studies that are outside of specific project development are not eligible for CMAQ funding. Examples of these general studies include major investment studies, commuter preferences, modal market polls or surveys, transit master plans, and others. These activities may be eligible for Federal planning funds. Please note: FHWA will approve a study with CMAQ funds only if it leads immediately to a project’s implementation. If it does not, FHWA will request that the funds be returned.

Projects ineligible for CMAQ funding:

The following projects are ineligible for CMAQ funding:

- Light duty vehicle scrappage programs.
- Projects that add new capacity for single occupant vehicles (SOVs) are ineligible for CMAQ funding unless construction is limited to high occupancy vehicles (HOV) lanes.
- Routine maintenance and rehabilitation projects (e.g., replacement-in-kind of track or other equipment, reconstruction of bridges, stations, and other facilities and repaving or repairing roads) are ineligible because they only maintain existing levels of highway and transit service and therefore do not reduce emissions.
- Administrative costs of the CMAQ program may not be defrayed with program funds, e.g., support for State’s “CMAQ Project Management Office” is not eligible.
- Projects that do not meet the specific eligibility requirements of titles 23 or 49 U.S.C., as appropriate, are ineligible for CMAQ funds.
- Stand alone projects to purchase fuel (except as discussed under “Eligible Projects and Programs”, below).

Public-Private Partnerships (PPP):

In a PPP, a private or non-profit entity’s resource replaces or supplements State or local funds and possibly a portion of the Federal aid in selected projects. PPPs must have a legal written agreement in place between the public agency and the private entity before CMAQ funds can be obligated. Public money should not be used in projects where clear-cut public benefits cannot be demonstrated. Therefore, only PPPs that benefit the general public by clearly producing emission benefits are allotted CMAQ funds. The FHWA suggests that State & local officials consider a full range of cost sharing options when looking at a PPP.
Eligible Projects and Programs:

FHWA has an in-depth list of projects and programs eligible for CMAQ funding. A brief discussion of this list is detailed below. For a more comprehensive discussion of eligible projects please refer to the FHWA Guidance pages 13-25.

1. **Transportation Control Measures (TCM)**, identified in a State Implementation Plan (SIP), including programs that improve public transit, the implantation or construction of HOV lanes, traffic flow improvement projects, idling control, and construction or reconstruction of non-recreational pedestrian and bike paths.

2. **Extreme low temperature cold start programs**.

3. **Alternative fuels and alternative fuel vehicles**, including the purchase of publicly-owned passenger vehicles and non-transit vehicles such as street cleaners and refuse trucks and the conversion of fleets to run on alternative fuels. Hybrid vehicles are eligible, providing they are certified by EPA as a low emission and energy-efficient vehicle that may be eligible for use in HOV facilities. The use of CMAQ money to purchase alternative fuel is not an eligible expense in New York State. Only seven states may use CMAQ funds to purchase alternative fuels as defined in section 301 of the 1992 Energy Policy Act (natural gas, ethanol, biodiesel, etc.) assuming such projects meet other applicable eligibility requirements. More information can be found on pages 14-15 of the FHWA Guidance.

4. **Congestion reduction and traffic flow projects that reduce emissions**, including Intelligent Transportation Systems (ITS), congestion pricing, and traditional improvements such as the construction of roundabouts and HOV lanes. More details on these types of projects can be found on page 15-16 of the FHWA Guidance.

5. **Transit improvement projects** that would increase transit capacity and would likely result in an increase in transit ridership (thus a potential reduction in congestion.) Transit improvements can include the following:
   - Construction of new facilities
   - Purchase of new vehicles and equipment to expand a fleet (including diesel engine retrofit technology).

The Department’s position is that transit agencies should purchase vehicles that are the most cost effective in reducing emissions (hybrid and retrofits are examples). There are limited 2005 Bond Funds and NYSERDA Clean Fueled Bus Program funding that can be used to offset the additional cost of a hybrid bus compared to a regular bus. This funding would allow more hybrids to be purchased throughout the state and would result in additional benefits.
• Purchase of fuel (to provide operation assistance only)
• Subsidies for fares to increase transit ridership

The FHWA and NYSDOT will give priority to diesel engine retrofit technology projects. More information on transit improvement projects can be found on pages 17 of the FHWA Guidance.

6. **Bicycle and pedestrian facilities and programs** including the construction of paths (that are not exclusively recreational), outreach to increase bicycle safety, and funding one statewide position to promote bicycling and pedestrian transportation modes.

7. **Travel Demand Management (TDM) projects** that are aimed at reducing SOV travel and associated emissions are eligible for CMAQ funding. A brief list of some of the projects allowed include the following:

   • Fringe parking
   • Traveler information services
   • Shuttle services
   • Guaranteed ride home programs
   • Traffic calming measures
   • Parking pricing
   • Variable road pricing
   • Telecommuting
   • Employer based commuter choice programs

CMAQ funds may be used to support capital expenses and up to three years of operating assistance to administer and manage new or expanded TDM programs. TDM marketing is eligible for CMAQ funds indefinitely.

8. **Public education and outreach programs** that educate the public, community leaders, and potential project sponsors about traffic related emissions reduction. The FHWA includes a wide variety of projects in the public outreach genre, including:

   • Activities that promote new or existing transportation services
   • Developing and placing messages and advertising materials
   • Programs that promote the tax code provision related to commuter benefits

The “It All Adds Up to Cleaner Air” and “The Best Work Place for Commuters” as well as episodic emission reduction programs, are examples of public education and outreach programs funded with CMAQ money.

9. **Transportation Management Associations (TMAs)** that promote rideshare programs, transit, and shuttle services. CMAQ funds may be used as start up costs and up to three years of operations assistance for TMA type projects as long as the project reduces emissions.
10. **Carpooling and vanpooling** can be divided up into two types of costs. These include marketing (which applies to both) and vehicle (which applies only to vanpools). Marketing covers existing, expanded and new activities designed to increase ridership. Marketing funds may be funded indefinitely. Vehicle costs include purchasing or leasing vans. Eligible operating costs, limited to three years, include empty seat subsidies, maintenance, insurance, administration, and other related expenses.

11. **Freight/Intermodal projects** typically fall into two different categories. These include primary efforts that target emissions directly or secondary projects that reduce net emissions. Primary projects could include diesel retrofit technology. Eligibility is not confined to highway projects, but also applies to rail projects. Secondary projects that reduce emissions through changes to or additions to infrastructure are eligible for CMAQ funds. Projects that support freight operations in a very tangential manner are not eligible for CMAQ funds. Warehouse handling equipment is an example of a tangential freight support. However, equipment that provides a transportation function (i.e., rail yard switch locomotives, etc.) are eligible.

12. **Diesel engine retrofits and other advanced technologies** are regarded as high priority projects by the FHWA for the allocation of CMAQ money. These projects are defined as a vehicle replacement, repowering (replacing an engine with a cleaner engine), engine rebuilding, or other technologies deemed appropriate by the EPA to reduce emissions from diesel engines. Diesel engine replacement includes full engine rebuild and reconditioning and the purchase and installation of after treatment hardware, including particulate filters and oxidation catalysts and other technologies. Support for heavy duty vehicle retirement programs is also included. CMAQ funds may also be used to purchase and install emission control equipment on school buses. Outreach and information exchange programs to alert people to the benefits of diesel retrofits technology are also eligible for CMAQ funds.

13. **Idle reduction projects** that reduce emissions and are located within (or in proximity to) and primarily benefiting a nonattainment or maintenance area are eligible for CMAQ funds. The geographical restrictions mostly apply to off-board projects such as truck stop electrification efforts. On-board projects such as auxiliary power units and direct fired heaters for heavy duty trucks must travel within (or in proximity to) and primarily benefit a nonattainment or maintenance area.

Operating assistance for truck stop electrification projects is not an allowable expense for CMAQ funds because these operations generate their own revenue. Only capital costs are allowable.

14. **Training and Educational Development:** SAFETEA-LU allows States and MPOs to use federal funds to support training and educational development for the transportation workforce. Training funded with CMAQ money must be directly related to implementing air quality improvements and be approved in advance by FHWA.
15. **Inspection/maintenance (I/M) programs** can use CMAQ funds to establish either public or private owned I/M projects. Eligible activities include construction of a facility, purchase of equipment, program development, and one-time start up activities.

16. **Experimental pilot projects** that show promise in reducing air emissions have, in the past, been funded by FHWA. Pilot projects must be transportation related and be expected to reduce emissions by decreasing vehicle miles, fuel consumption, congestion or other factors.

**STEP 2: Project Selection Process**

All proposals for CMAQ funding should include a description of the project including size, scope, timetable, completion date, and location. The proposal should also include an emission reduction analysis of the proposed benefits of the project.

Quantified emission benefits and disbenefits should be included in all project proposals, except where it is not possible to quantify emissions benefits. Benefits and disbenefits should be included for all pollutants for which that area is in nonattainment or maintenance (please see ‘Additional Information Requested’ note below). If a quantitative analysis was not prepared, an explanation indicating the reasons why it was not required should be included. When a quantitative analysis of air quality benefits can not be accurately calculated, a logical determination that the project or program will decrease emissions and contribute to the attainment of NAAQS is acceptable.

In some situations, it may be more appropriate to examine the air emission benefits of several projects together. An example is a transit improvement project coupled with a demand management strategy to reduce SOVs in the same travel corridor.

Some potential projects may lead to benefits for one pollutant and increased emissions for another, especially when the balance involves precursors such as NO\textsubscript{X} and VOC. Depending on the pollutants that the County is in non-attainment and/or maintenance for, there should be an overall net benefit of pollutants for project to be eligible for CMAQ funding.

Secondary factors for programming and selection of CMAQ funded projects, such as greenhouse gas are discussed in detail in the Greenhouse Gases section below.

**HELPFUL TIP**

Some areas have experienced significant delays in implementing approved CMAQ projects, causing FHWA to withdraw CMAQ eligibility (funding) because of inactivity. To avoid this in the future:

- Be sure that the CMAQ project is ready to go when put into the TIP
- A CMAQ project that is withdrawn by FHWA and has not incurred any substantial costs must go through the MPO selection process again to reinstate its eligibility. If
the project was withdrawn and did incur cost, it may be reinstated without another
selection process so that costs can be reimbursed.

- CMAQ funds are approved for a specific project and the project sponsor cannot
unilaterally decide to transfer unspent funds to some other project.

Emission impacts of selected CMAQ projects will have to be updated if there is a change in
either the scope or schedule (i.e. start date change of more than a year) of the project.

**Estimating Benefits for all Pollutants:**

Project proposals must include an emission benefit for all pollutants for which
the area is designated non-attainment or maintenance. However, the
Department is requesting that project proposals estimate emissions for all
criteria pollutants. For reporting purposes, having emission estimates for all
pollutants for all CMAQ projects allows the Department to evaluate the
emission reductions through the CMAQ program.

Every effort must be taken to ensure that estimations of air quality benefits are credible and
based on a reproducible and logical analytical procedure that will yield quantitative results of
emission reductions.

**STEP 3: Completeness Determinations**

All projects requesting CMAQ funds must submit a CMAQ Application to the Office of
Environment/Environmental Science Bureau (OOE/ESB) for review and issuance of a
Completeness Determination. FHWA will not obligate CMAQ funds without a Completeness
Determination from ESB.

ESB staff is available to answer technical and procedural questions during CMAQ
application preparation.

CMAQ Applications should include the following:

- Title and PIN
- A project description, a brief explanation of the problem, project history (previous
PINs) and what the project is intended to accomplish
- A project scope including a discussion of responsibilities, activities and time lines
- Estimated emission benefits using CMAQtraq (described below) or other method, as
appropriate, for all pollutants, even those that the region is in attainment for, for the
opening year of the project reported in kilograms/day
- Supporting calculations and assumptions
- References identifying the sources of the input data
- A timetable with the anticipated completion date of the project
• A funding analysis including the total cost of the project and the amount of CMAQ funds being requested
• A site map (if applicable)

A Completeness Determination is required for:

• All new CMAQ projects
• All existing CMAQ projects whose opening year has changed from that in the original application
• All existing CMAQ projects whose scope has changed from that analyzed in the original application
• All ongoing operational projects (such as TDM services) that require regular, cyclical CMAQ funding. This is necessary to verify ongoing emission benefits

Projects requesting only a change in funding that have previously received a CMAQ Completeness Determination will be treated as an administrative action. If the project has an administrative action request for CMAQ funds, it must still be submitted to the ESB for review for record keeping and reporting purposes. The request must include a statement attesting to the fact that neither the project’s scope nor schedule have changed. Only projects that do not have scope or schedule changes are considered for administrative action processing. A project whose scope and/or schedule have changed must submit an updated application, including updated emission analysis, for the project.

The application is to be sent to the ESB by means of a Region, MPO or TCC. If in the course of the review a question, clarification or additional information is needed, ESB will contact the applicant, TCC, MPO or RPPM to obtain a clarification in order to finalize the completeness determination. Once an application is determined to be complete the applicant, the Policy and Planning Division, and FHWA will be notified via e-mail.

4.4.16.3.5.1 Air Quality Modeling

CMAQtraq:

For most applications, the CMAQtraq software program should be utilized to calculate a project’s estimated emission benefits. The use of the CMAQtraq software is intended to promote statewide consistency for the estimation of emission benefits for traffic related projects and to assist Regions and MPOs in evaluating the relative air quality benefits between projects of different scope and size. CMAQtraq enables the calculation of emission benefits using either the standard CMAQ emission factors, or where necessary, custom emission factors (provided by the project sponsor, ESB or other source) unique to a specific project or program.

The 2008 version of CMAQtraq includes: emission factors for 28 vehicle types for both gasoline/diesel vehicles and natural gas vehicles using MOBILE 6.2 modeling runs; and PM emission factors for both PM10 and PM2.5 for gasoline/diesel and natural gas vehicles. CMAQtraq allows for data entry by vehicle type or by an aggregate vehicle type using a
weighted average calculation of actual emission factors to make it possible to calculate project benefits when the exact vehicle type is not known.

As emission calculations are entered into the database, CMAQtraq stores the values for each Project Component by Category and Sub-Category. Thus, it is possible to determine not only the total benefit for the entire project but also the benefits attributable to one component of the project. For example, a large transit project may reduce the number of vehicles in the local network and also promote bicycle/pedestrian transit opportunities. Each of the benefits is modeled separately, but calculated together to give the overall benefit. Other off model / spreadsheet methods are acceptable, provided they meet criteria for completeness determinations on pages 12-13.

NOTE

OOE is targeting March of 2012 to develop guidance on use of the MOVES model that will be applicable for CMAQ projects. Development of analysis tools based on MOVES will be done as appropriate and as resources permit.

If you have any questions on how to use the CMAQtraq software, please contact ESB Air Quality Staff, at (518) 457-5672.

Greenhouse Gases:

FHWA’s guidance includes a discussion of other, secondary factors that can be used in the CMAQ selection project process. Among the factors listed are greenhouse gasses (GHGs), specifically carbon dioxide (CO₂). Greenhouse gases in the atmosphere come from both natural and anthropogenic (manmade) sources. Some greenhouse gases occur naturally in the atmosphere, while others result from human activities. Naturally occurring GHGs include water vapor, CO₂, methane (CH₄), nitrous oxide (N₂O), and ozone. Certain human activities, however, add to the levels of most of these naturally occurring gases. Other GHGs include, but are not limited to, sulfur hexafluoride, hydrofluorocarbons (HFC), perfluorocarbons and chlorofluorocarbons.

The New York State Energy Plan has identified CO₂ emission reduction policy objectives. These are further supported in the Statewide Transportation Master Plan. The Department supports the inclusion of GHGs effects as a secondary factor for programming and selection of CMAQ projects.

All CMAQ project proposals for which the Department is the project sponsor are encouraged to include an estimate of the projects CO₂ reduction benefits. Other project sponsors are urged to estimate the CO₂ effects of their projects and MPOs should consider CO₂ effects in their CMAQ project selection criteria. To estimate the effects on CO₂ emissions of projects that affect VMT, the Department’s Draft Greenhouse Gases (CO₂) Emissions Estimate Guidelines for Project-Level Analysis, November 25, 2003 can be used. To estimate GHGs emission effects for non-VMT projects, consult with ESB.
4.4.16.3.6 Relationship to Transportation / Air Quality Conformity

All NYSDOT Regions except Region 6 (please refer to list on Page 2) are affected by air quality conformity requirements (40 CFR Parts 51 and 93). The conformity provisions of the CAAA1990 require that all federal actions, including transportation plans, programs, and projects conform to the applicable State implementation Plan (SIP) for air quality. The analytical and procedural requirements for project-level conformity differ from the CMAQ criteria and procedures. For guidance regarding the transportation conformity process, consult with ESB and refer to current EPM Chapter 1.1.

4.4.16.3.7 Interagency Coordination and Agreements

State projects requesting CMAQ funding must ensure compliance to standards outlined in FHWA’s Program Guidance. Additionally, procedures outlined in this Guidance must be adhered to.

4.4.16.3.8 Appendices

FHWA’s October 2008, finalized Program Guidance