

**Tennessee Department of Transportation
Long Range Planning Division**

**Spring 2011 CMAQ Project Competition
Guidelines for Estimating Emission Reductions and Cost-Effectiveness**

PROPOSAL DEADLINE: July 1, 2011

These guidelines should be used in estimating the air pollution emission reductions that a proposed CMAQ project may achieve, and in estimating a project's cost-effectiveness.

Description of Air Quality Analysis

In the proposal narrative, project sponsors should summarize briefly the results of the air quality analysis, and attach the air quality analysis at the end of their narrative proposals. Air quality analyses should include a description of the emission reduction estimation method, the application of the method to the particular project and the results that were produced.

For all analyses, please convert the units of estimated emission reductions to kilograms per day.

If your air quality analysis provides unusual results (e.g., a NO_x increase), please explain. In the event that the project will cause an increase in one or more pollutants, you must explain why the project is still worthy of funding. Explain whether the project is likely to have a negative effect on measured air quality or contribute to an exceedance of an air quality standard.

Air Pollutants of Concern

The CMAQ program is targeted to those air pollutants that EPA has classified as criteria pollutants under the Clean Air Act. Criteria pollutants are widespread air pollutants that are regulated under EPA federal air quality health standards. Under the Clean Air Act, areas are designated as nonattainment or maintenance for one or more criteria pollutants.

Separate emission reduction estimates for each relevant criteria pollutant (CO, VOCs, NO_x, PM 10 and PM 2.5) are strongly encouraged, and proposals with separate estimates for multiple pollutants will receive higher scores.

Please note that carbon dioxide (CO₂) and other greenhouse gases are not CMAQ-eligible pollutants and estimates of greenhouse gas emission reductions will not be taken into consideration in determining project emission reductions or project cost-effectiveness.

Assumptions on Number of Days of Air Quality Benefits

In completing air quality analyses, project sponsors should carefully choose their analytical assumptions. For example, selecting the number of days that a project will reduce emissions should be based on the characteristics of that project.

For signalization and intersection improvement projects, the air quality benefit is typically estimated by calculating the vehicle delay time that will be reduced by the improved traffic flow achieved by the project. The primary benefits of such projects occur during the normal five-day work week. For these and similar projects, assume that the emission reduction benefits will occur for 260 days per year (not 365 days per year).

Duration or Timeframe of Air Quality Benefits

Provide estimated air quality benefits for the first full year of project implementation as well as the lifetime air quality benefits that the proposed CMAQ project will generate. In other words, you should include an estimate of how long the project or program will continue to generate emission reduction benefits.

Reasonable and Realistic Assumptions

Because emission reduction estimates must often rely on analytical assumptions, reasonable and realistic assumptions will earn higher scores than assumptions that appear overstated. Documenting the accuracy and reasonableness of analytical methods and assumptions (e.g., indicating an official source for the emission estimation method) will strengthen a project proposal.