Air Quality + Sustainable Transportation Highlights

U.S. Department of Transportation
Federal Highway Administration

**Prepared by the Office of Natural Environment**

**September/ October 2023**

## Announcements

### Second Performance Period Mid-Point Applicability Determination for the Congestion Mitigation and Air Quality Improvement (CMAQ) Program Traffic Congestion and CMAQ On-Road Mobile Source Emissions Measure

The Federal Highway Administration (FHWA) published the Mid-Point Applicability Determination for the CMAQ Traffic Congestion and CMAQ On-Road Mobile Source Emissions Measures. These performance measures are required for certain State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs). As required in 23 CFR Part 490.105(e)(8)(iii) and (e)(9)(v), FHWA published updated applicability tables to reflect changes that occurred between October 1, 2021 and October 1, 2023, as of the mid-point of the second performance period. Some States and MPOs have been excluded from CMAQ performance requirements, in whole or in part, at the midpoint of the performance period because of areas reaching attainment status (or achieving their 20-year maintenance plan).

### MPO Target Setting Document

The FHWA released a new Metropolitan Planning Organization (MPO) CMAQ emissions measure Target Setting and Reporting Fact Sheet. The fact sheet is as an easy-to-read flow chart for MPOs to understand reporting requirements, target setting process and timeline. FHWA does not approve or reject MPO-established targets, instead MPOs have the discretion to establish their targets. MPOs set 2– and 4-year targets for on-road mobile source emissions for the purpose of carrying out the CMAQ Program.

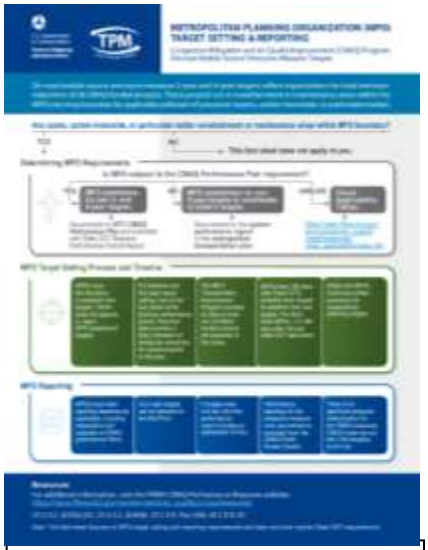


Image MPO Target Setting Document – Source FHWA

## Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program – Eligible Projects Questions and Answers

Image: PROTECT logo
Source FHWA

FHWA recently posted a new sets of frequently asked question (FAQs): PROTECT Formula Program Questions and Answers, which clarify the types of roads eligible for assistance and qualifying resilience projects under the PROTECT Program. The PROTECT program provides $8.7 billion in formula and discretionary funding for improving the resilience of highway, transit, intercity rail, and port facilities to climate change and natural disasters.

## Database for Air Quality and Noise Analysis (DANA) Tool Call for Case Studies

Federal Highway Administration (FHWA) announced an opportunity for State Departments of Transportation (State DOTS) to partner with FHWA to demonstrate the application of Database for Air Quality and Noise Analysis (DANA) tool for a variety of air quality and noise analyses. Selected agencies will apply the DANA tool for their proposed case study and produce a report, fact sheet, and presentation documenting the analysis. Each selected agency will also be expected to present the results at a virtual peer exchange. FHWA will use the case study results to showcase different applications of the DANA tool. A recording of the informational webinar is available here. The proposal deadline has been extended to December 1, 2023. If you have any questions or would like a copy of the full Call for Projects document, please contact David Kall at david.kall@dot.gov or Aileen Varela-Margolles at a.varela-margolles@dot.gov.

## Transportation Resilience in the United States and the Netherlands: Summary of Collaboration on Nature-Based Solutions and Application of Infrastructure Resilience Tools

This report summarizes the collaboration on infrastructure resilience between FHWA and Rijkswaterstaat from 2016 to 2022. This study highlights the shared nature-based resilience strategies, experiences, challenges, and solutions explored in this collaborative partnership. From 2016 to 2018, FHWA and Rijkswaterstaat conducted an applied comparison of a suite of resilience tools


Image: Figure of Structure of the tools comparison project. Source FHWA

developed and/or used by the respective agencies.

## 2024 Environmental Excellence Awards


Environmental Excellence Awards Logo. Source FHWA

FHWA is currently accepting nominations for the 2024 Environmental Excellence Awards. This biennial program recognizes outstanding transportation projects, processes, and partners that use FHWA funding sources to go above and beyond compliance to achieve environmental excellence. Entries are due by November 17, 2023. The Program features a range of human and natural environment categories designed to highlight best practices across the Nation. FHWA accepts nominations for any project, process, group, or individuals involved in a project or process that has used FHWA funding sources to make an outstanding contribution to transportation and the environment.

To learn more about the program, past winners, and how to apply, visit the Environmental Excellence Awards website or contact EEAwardsNomination@dot.gov.

## Emergency Relief Resilience Case Studies

Image: Damaged section of US 34, Iowa. Source: FHWA.

FHWA and State Departments of Transportation worked together to develop Emergency Relief Resilience case studies that discuss how resilience betterments were incorporated into repair and reconstruction projects on federal aid roads after the roads were damaged by natural disasters. These resilience betterments, which were funded by the FHWA Emergency Relief (ER) program, are anticipated to reduce future damages from similar events, thus decreasing costs to the ER program over time. For instance in the Iowa Resilience Case Study, after a flood destroyed a 3.5-mile section of US 34, the Iowa Department of Transportation began emergency repairs to restore essential traffic to US 34 and included resilience features to protect against future flooding. Additional case studies cover topics on addressing damages to roadways, bridges, detention basins, rock slopes, and embankments.

## The Environmental Protection Agency (EPA) Proposed New Module for Roadway Applications in EPA's Air Quality Dispersion Modeling System

The EPA proposed to add a new module, RLINE, specifically for roadway applications to the American Meteorological Society/EPA Regulatory Model (AERMOD) in a proposed rulemaking to update *Appendix W to Part 51, Title 40 – Guideline on Air*

*Quality Models*. AERMOD is EPA's regulatory air quality dispersion modeling system. EPA proposes to add the RLINE source type as a new source type applicable for regulatory modeling of mobile sources. This is in addition to the AREA, LINE, and VOLUME source types already available for mobile source modeling. Comments must be received on or before December 22, 2023

### Pilot Test of Climate Change Design Practices Guide for Hydrology and Hydraulics

The National Cooperative Highway Research Program (NCHRP) recently published two reports that documented the results of pilot tests conducted by eight State DOTs of methods included in the design guide titled*:* Applying Climate Change Information to Hydrologic and Hydraulic Design of Transportation Infrastructure and the NCHRP final report. The case study report explores nine pilot projects that utilized the Guide to incorporate climate change information into the hydrologic and hydraulic design of transportation infrastructure. The final report describes how planners and engineers can adapt existing tools for analysis and design to address the potential effects of a changing climate.

---

## Resources and Training

### Air Quality Courses:

### FHWA Resource Center Training: Introduction to EPA MOVES4 for National Environmental Policy Act (NEPA), State Implementation Plan (SIP) and Regional Conformity Emissions Analysis

The purpose of this training is to provide attendees with an overview of the Environmental Protection Agency's (EPA) MOtor Vehicle Emission Simulator (MOVES) MOVES4 mobile source emissions model. The course covers the functionality of the model, input requirements, output processing, and will address relevant EPA and FHWA guidance documents. The course also includes hands-on exercises that will demonstrate several realistic modeling scenarios applicable to Green House Gas (GHG), conformity (regional and project-level), and National Environmental Policy Act (NEPA) analyses. The intended audience are those who use (or expect to use) MOVES or those who will be reviewing MOVES-based analyses. Participants must have MOVES4 installed on their computer before training begins. The model is available from EPA's website: https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves#download. This training course will be held ONLINE on February 12-15, 2024, 1:00 PM – 5:00 PM ET via Teams and there is no registration fee. Please email Chris Dresser to register.

### FHWA Resource Center Environment, Air Quality & Realty Team Training Activities

The FHWA Resource Center recently put on a webinar called "Introduction to Motor Vehicle Emissions Simulator (MOVES) for Non-Modelers." A recording of the webinar

is available the FHWA Conformity Training webpage under "Web-based Training." The webinar provided an overview of the Environmental Protection Agency's (EPA's) MOVES vehicle emissions model for managers and other non-modelers. It also covered when and how MOVES is used, updates included in the recent MOVES4 release, and differences between MOVES4 and MOVES3. Please contact Chris Dresser with any questions.

FHWA's Resource Center Environment, Air Quality & Realty Team is available to offer EPA's MOtor Vehicle Emission Simulator MOVES and other trainings. Please contact Mike Roberts, for additional information or to discuss scheduling a training.

## NHI Free Air Quality Planning Web-based Course

The National Highway Institute (NHI) Air Quality Planning web-based training series is designed for transportation practitioners. It includes four modules: Clean Air Act Overview (FHWA-NHI-142068), State Implementation Plan (SIP) and Transportation Control Measure (TCM) Requirements and Policies (FHWA-NHI-142069), SIP Development Process (FHWA-NHI-142070), and Transportation Conformity (FHWA-NHI-142071). All courses are free. For more information, visit the NHI website and search "Air Quality Planning," or look for the specific course number. Please contact Karen Perritt at (202) 366-9066 with any questions or comments.

## FHWA NEPA Air Quality Analysis for Highway Projects

The FHWA Resource Center Environment, Air Quality & Realty Team periodically conducts a series of training sessions on National Environmental Policy Act (NEPA) Air Quality Analysis for Highway Projects. The training includes sessions on project-level applications appropriate for managers and practitioners, as well as hands-on sessions intended for modelers. If you are interested in this training, please contact George Noel.

## Training Available for PM Hot-spot Analysis

The FHWA Resource Center has developed a training course to cover the Particulate Matter (PM) hot-spot requirement under the transportation conformity rule. This three-day course provides detailed, hands-on instruction on how to complete a quantitative PM hot-spot analysis in accordance with EPA's guidance. The course is geared towards State and local agency staff who will be completing these analyses, as well as those who may be reviewing, approving, or otherwise assessing hot-spot analyses. Previous modeling experience is not necessary, although familiarity with MOVES and air quality dispersion modeling may be helpful. The course includes class discussion and numerous hands-on exercises, including a hypothetical project that will be carried through the course as an example of a quantitative PM hot-spot analysis. Contact Chris Dresser if you have questions related to this training course.

## Resilience Courses:

### National Highway Institute (NHI) In-Person Resilience Course

NHI recently posted a new in-person course focused on planning and designing highway projects to be more resilient to changing climate conditions. It is a 2.5 day course in inland areas, or 3 day course in coastal areas, and includes material on climate science, tools and methods for assessing future conditions and addressing them in project development, and consideration in a range of engineering disciplines: inland flooding, costal hydraulics, pavements and geohazards. The target audience includes engineering, project planning and environmental staff; the series is also relevant to regional planners, asset managers, and others seeking to integrate climate change considerations into their practices. Fees related to the course would be eligible under the Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Formula Program For more information about the NHI In-Person Resilience Course, please contact Robert Kafalenos.

In-person course: Addressing Climate Resilience in Highway Project Development and Preliminary Design (NHI 142085)

### National Highway Institute (NHI) Resilience Training Courses

The National Highway Institute (NHI) recently released four one-hour web-based courses focused on resilience to climate change and extreme weather events. The four courses provide an introduction to past and expected future environmental conditions, future sea levels, climate datasets and modeling tools for temperature and precipitation change, system level vulnerability assessment, and methods for conducting project-level resilience assessments. The target audience includes engineering, project planning and environmental staff; the series is also relevant to regional planners, asset managers, and others seeking to integrate climate change considerations into their practices. Virtual courses (free):

- FHWA-NHI-142081 Understanding Past, Current and Future Climate Conditions
- FHWA-NHI-142082 Introduction to Temperature and Precipitation Projections
- FHWA-NHI-142083 Systems Level Vulnerability Assessments
- FHWA-NHI-142084 Adaptation Analysis for Project Decision Making

## Traffic Noise Courses:

### FHWA Web-Based TNM Training

FHWA created a Traffic Noise Model (TNM) Playlist on its YouTube Channel. These short-format videos demonstrate how to install TNM, complete basic tasks in the software, and provide details on specific features. Additional videos will be added

throughout the year. Additional TNM Training materials are available on the FWHA Noise Training Website. For technical assistance with TNM please contact TNMHelp@dot.gov.

### NHI No Cost Highway Traffic and Construction Noise Course

FHWA's Planning, Environment, and Realty office and the National Highway Institute (NHI), in cooperation with the Resource Center and Division Offices, have updated and launched a web-based Traffic Noise Training Course. This on-demand, web-based training was a previously multi-day, instructor-led course. This course is now available on the NHI website at no cost and provides a comprehensive overview of all aspects of the highway traffic noise program. The courses are available on the NHI website by searching for "highway noise" and locating course codes 142086 – 142094.

### CMAQ Course:

### FHWA Web-Based Training on the Congestion Mitigation and Air Quality Improvement Program

Several web-based CMAQ training opportunities are available on-demand on FHWA's CMAQ training website. This page includes CMAQ program training such as CMAQ Overview, the CMAQ Transportation Performance Measures and the CMAQ Annual Reporting/Public Access System. Training Information for CMAQ Emissions Calculator Toolkit such as available tools and their associated webinars along with CMAQ Toolkit Video Series are available on the CMAQ Emissions Calculator Toolkit website. For questions, please contact Mark Glaze, Karen Perritt or Eddie Dancausse.

### Conformity Course:

### FHWA Web-Based Transportation Conformity Training

Several web-based transportation conformity training opportunities are available on-demand from FHWA's conformity training website (under "Web-based Training"). This page includes a new webinar recording for "Introduction to MOVES3 for Non-Modelers." The target audience for these training materials are FHWA staff and State and local transportation partners (Metropolitan Planning Organizations and State Departments of Transportation) who are either new to or would like a refresher training on the conformity process. For questions, please contact David Kall.

---

## Contacts

### FHWA Headquarters, Air Quality and Transportation Conformity (and Noise) Team

Cecilia Ho, Team Leader, (202) 366-9862, Cecilia.Ho@dot.gov

Edward Dancausse, (919) 747-7026, Edward.Dancausse@dot.gov

Mark Glaze, (202) 366-4053, Mark.Glaze@dot.gov

David Kall, (202) 366-6276, David.Kall@dot.gov

Victoria Martinez, (787) 771-2524, Victoria.Martinez@dot.gov

Anthony Norman, (202) 366-2037, Anthony.Norman@dot.gov

Karen Perritt, (202) 366-9066, Karen.Perritt@dot.gov

Aileen Varela-Margolles, (305) 978-7780, A.Varela-Margolles@dot.gov

### FHWA Headquarters, Sustainable Transportation Team

Mike Culp, (202) 366-9229, Team Leader, Michael.Culp@dot.gov

John Davies, (202) 366-6039, JohnG.Davies@dot.gov

David D'Onofrio, (202) 981-2815, David.D'onofrio@dot.gov

Connie Hill Galloway, (804) 775-3378, Connie.Hill@dot.gov

Suraiya Motsinger, (202) 366-4287, Suraiya.Motsinger@dot.gov

Mary Kay Murray, (202) 366-2066, Mary.Murray@dot.gov

Neelam Patel, (248) 602-7454, Neelam.Patel@dot.gov

Will Stein, (651) 291-6122, William.Stein@dot.gov

Diane Turchetta, (202) 493-0158, Diane.Turchetta@dot.gov

## FHWA Headquarters, Resilience Team

Becky Lupes, (202) 366-7808, Team Leader, Rebecca.Lupes@dot.gov

Eva Birk, (207) 512-4921, Eva.Birk@dot.gov

Emily Cline, (503) 316-2547, Emily.Cline@dot.gov

Elizabeth Habic, (202) 366-1701, Elizabeth.Habic@dot.gov

Rob Kafalenos, (202) 366-2079, Robert.Kafalenos@dot.gov

Katy Maher, (202) 366-6799, Kathryn.Maher@dot.gov

## FHWA Resource Center Air Quality Team

Michael Roberts, (404) 895-6224, Team Leader, Michael.Roberts@dot.gov

Chris Dresser, (202) 385-4357, Christopher.Dresser@dot.gov

Kamala Joy, (707) 867-6009, Kamala.Joy@dot.gov

Patrick Lentlie, (838) 217-3395, Patrick.Lentlie@dot.gov

George Noel, (978) 758-5824, George.Noel@dot.gov

Leigh Oesterling, (614) 601-3273, Leigh.Oesterling@dot.gov

---

Please e-mail Victoria.Martinez@dot.gov with suggestions for future issues

Past issues of the Air Quality and Sustainability Highlights are available on FHWA's Air Quality website and Sustainability website



FHWA-HEP-24-008