U.S. Department of Transportation
Federal Highway Administration

Air Quality + Sustainable Transportation Highlights

Prepared by the Office of Natural Environment

November/ December 2023

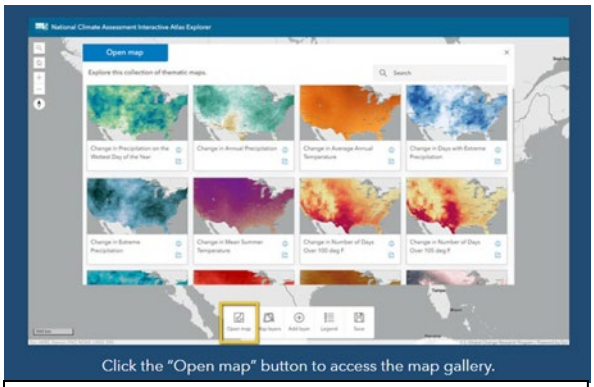
Announcements

Federal Highway Administration (FHWA) Finalizes Greenhouse Gas Emissions Performance Measure

The FHWA issued a final rule that establishes a greenhouse gas (GHG) performance measure for State Departments of Transportation (State DOTs) and Metropolitan Planning Organizations (MPOs). The measure is part of the National Highway Performance Program and assesses the percent change in carbon dioxide (CO_2) emissions on the National Highway System relative to 2022 levels (23 CFR 490.507(b)). The finalized performance measure will provide State DOTs and MPOs a national framework to track transportation-related GHG emissions, along with the flexibility to set their own declining targets.

The U.S. DOT Climate Change Center webpage lists a number of GHG analysis tools and resources that can be used to evaluate the impact of GHG reduction strategies and help set targets.

Release of the 5th National Climate Assessment (NCA5)



Source: Fifth National Climate Assessment. Image of sample NCA5 maps

The US Global Change Research Program delivered the NCA5 report providing comprehensive analysis of the state of climate change in the United States. The Assessment evaluates climate impacts across 10 U.S. regions, including water, forests and ecosystems, coasts and oceans, agriculture and rural communities, the built environment, energy and transportation, health and air quality, and economic and social systems. The extensively reviewed Assessment includes input from public comment and engagement, and an external peer review conducted by the National Academies of Sciences, Engineering, and Medicine.

Vulnerability Assessment Scoring Tool (VAST) Technical Assistance Available

The FHWA is offering technical assistance on VAST to State DOTs, MPOs, local governments, and other organizations interested in developing vulnerability assessments for their transportation assets. VAST can be used to document vulnerable transportation assets and assist in the planning process including the development of a Resilience Improvement Plan. The tool can address multiple types of transportation assets and climate stressors. For additional information visit the FHWA Climate Change Adaptation Tools page or the Vulnerability Assessment Scoring Tool (VAST) | U.S. Climate Resilience Toolkit. Please contact Allison Yeh for questions and technical assistance requests.

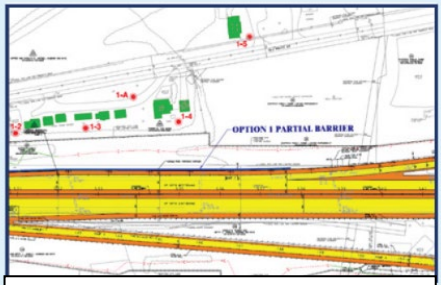
Every Day Counts- Integrating GHG Assessment and Reduction Targets

The Every Day Counts (EDC) is a State-based model that identifies and rapidly deploys innovations that make our transportation system adaptable, sustainable, equitable and safer for all. The EDC has a new initiative, Integrating GHG Assessment and Reduction Targets in Transportation Planning, that explores integrating GHG analysis into transportation planning in order to decrease future emissions. As part of this initiative, FHWA is offering technical assistance to State DOTs, MPOs, transit agencies, and other transportation agencies looking to integrate GHG emissions into their planning process. Webinars and peer learning opportunities are being planned for 2024 ahead of the release of two new handbooks. For more information and to stay up to date sign up for the Integrating GHG Assessment and Reduction Targets newsletter.

Stakeholders should use the Technical Assistance Request Form to request services.

FHWA Celebrates 25 years of the Traffic Noise Model (TNM)

FHWA is celebrating 25 years of TNM this year, and HEP has created a webpage with information about the development and history of traffic noise calculations and modeling. Please visit Tnm 25th Anniv - Traffic Noise Model - Noise - Environment - FHWA (dot.gov).



Source: FHWA. Interstate 78 project noise study report graphic

The website contains a brief history of FHWA processes and methods for calculating noise levels, a TNM timeline, and an informational brochure. It will be updated in the coming months with an interview video featuring personnel who were there through these events, as well as a Public Roads article commemorating this occasion.

FHWA Releases Triennial Noise Abatement Inventory

The 2020-2022 Noise Abatement Inventory data and summary graphs is now available. The inventory contains data from all 52 State Departments of Transportation (including

Puerto Rico and the District of Columbia) and fulfills the requirements of 23 CFR Part 772.13(f). The data includes the location, features, and dimensions of noise abatement measures that have been built since FHWAs Noise Program inception. This inventory focuses on the period from January 1, 2020, to December 31, 2022, but includes all data regarding noise barriers built since the 1960s. The collection involves a cooperative effort between FHWA Headquarters, Divisions, and State DOTs every 3 years.
FHWA provides a downloadable Excel sheet to allow users to view and filter the data within the nationwide noise barrier inventory. Selected graphs are also available.

National Electric Vehicle Infrastructure (NEVI) Formula Program Q&A

FHWA released an updated NEVI Formula Program Q&A that answers questions about the NEVI program, North American Charging Standard connectors, technical requirements, eligible expenditures, operation and maintenance costs, program administration costs, right-of-way, utility planning, public engagement, tribal consultation, Disadvantaged Business Enterprise program applicability, permitting and environmental review, air quality conformity, contract administration & procurement, and technical assistance.

Vulnerable Road User Research Plan

FHWA released the Vulnerable Road User research plan that details how walking, biking, and other sustainable modes of transportation are critical options in communities throughout the United States, particularly for economically disadvantaged communities. However, fatalities among pedestrians and bicyclists have been increasing even faster than the overall fatalities among all road users, which has drawn a focus on the safety of vulnerable road users. Future research areas include studying the linkage between walking and bicycling and climate change, greenhouse gas emissions, resiliency, health, stormwater management, emergency evacuation, and economic development.

FHWA Releases Trails as Resilient Infrastructure Guidebook

FHWA released a new guidebook that demonstrates how trails are part of resilient transportation infrastructure, how trails can be planned and designed to be resilient and sustainable, and how trails have a role in emergency planning and response. Trails of all kinds are places for recreation, exercise, and active transportation. Trails are also a crucial tool for making communities more resilient in the face of climate change and other emergencies. This guidebook examines the ways in which trails can be made more resilient and how trails can serve as resilient infrastructure, providing information and guidance in support of these goals.

Sustainable Transit for a Healthy Planet Climate Challenge

FTA invites transit agencies to participate in the third phase of the Sustainable Transit for a Healthy Planet Climate Challenge, which encourages reduction in GHG emissions

from public transportation. Launched in April 2023, Phase 3 focuses on incorporating resilience into transit agencies' climate action plans, helping to protect infrastructure, while improving mobility. Challenge participants will continue to receive technical assistance from FTA in developing their plans and strategies.

Agencies of all sizes are encouraged to sign-up and participate in the Challenge. New, existing, or updated plans submitted by March 1, 2024, are eligible for recognition during FTA's Earth Day celebratory event scheduled for April 2024.

Source: FTA. Sustainable Transit for a Healthy Planet Climate Challenge Logo

The US Environmental Protection Agency's (EPA) Clean Ports Program

EPA's Ports Initiative recently hosted a webinar on EPA's plans for the new Clean Ports Program, a $3 billion Inflation Reduction Act program to fund zero-emission port equipment and infrastructure as well as climate and air quality planning at U.S. ports. The webinar provided updates on key program design elements including anticipated eligible activities and equipment, evaluation criteria, program structure, timeline, and more. EPA anticipates this new funding opportunity will become available for application through a notice of funding opportunity (NOFO) released in late winter 2024. Slides from the webinar are now available on the Ports Initiative Events page.

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

The National Cooperative Highway Research Program (NCHRP) recently published the results of NCHRP 20-44(23), Pilot Test of Climate Change Design Practices Guide for Hydrology and Hydraulics which piloted methods included in a design practices guide developed under NCHRP 15-61: Applying Climate Change Information to Hydrologic and Hydraulic Design of Transportation Infrastructure (2019). The NCHRP 20-44(23) project produced two reports. Case Studies and Lesson Learned documents the results of nine pilot projects conducted by eight State DOTs that utilized the design guide to incorporate climate change information into the hydrologic and hydraulic design of transportation infrastructure. And the Final Report includes recommended updates to the design practices guide.

Allison Yeh Joins the Resilience Team

Allison joins FHWA's Office of Planning and Environment as an Environmental Protection Specialist. Previously, she served as the Assistant Executive Director for Hillsborough MPO in Florida, managing work program delivery and compliance. She led a team of planners on resilience, sustainability, disadvantaged transportation, environmental issues, and grants. Allison's extensive experience in climate resilience planning, will help advance FHWA's Resilience program dedicated to increase the health and longevity of the Nation's Highways. Allison has a Master of Urban Planning from the University of Michigan and is an American Institute of Certified Planners (AICP) certified land use and transportation planner and Leadership in Energy and Environmental Design (LEED) Green Associate.

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.

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.

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.

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

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