

# Air Quality and Climate Change Highlights

*Prepared by the Office of Natural Environment  
Federal Highway Administration*



U.S. Department of Transportation  
**Federal Highway Administration**

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## Announcements and Recent Events

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### CMAQ 101 Training

On October 28, 2015, FHWA released a 27 minute YouTube video on the Congestion Mitigation and Air Quality Improvement (CMAQ) program. The video provides a basic introduction to the program, how CMAQ funds are distributed to states, and the types of projects eligible for the CMAQ program. The training is available at <https://www.youtube.com/watch?v=XKXcs0WtNHA&feature=youtu.be>. For more information about the CMAQ program contact Emily Biondi at [emily.biondi@dot.gov](mailto:emily.biondi@dot.gov) or (202) 366-9482.

### U.S. EPA Revises Ozone NAAQS

On October 1, 2015, the U.S. Environmental Protection Agency (U.S. EPA) lowered the National Ambient Air Quality Standards (NAAQS) for ground-level ozone to 70 parts per billion (ppb), from 75 ppb. The updated standards will improve public health protection, particularly for at-risk groups including children, older adults, people who have lung diseases such as asthma, especially outdoor workers. They also will improve the health of trees, plants, and ecosystems. Public health benefits of the updated standards are estimated at \$2.9 to 5.9 billion annually in 2025 and outweighing estimated costs of \$1.4 billion. EPA projections show the vast majority of U.S. counties will meet the standards by 2025 with Federal and state rules and programs now in place or underway. EPA will work with states and tribes as they develop and implement clean air plans. For more information, including a version of the final rule, please see: <http://www3.epa.gov/ozonepollution/actions.html#stand>.

### EPA Releases MOVES2014a

On November 4, 2015, U.S. EPA's Office of Transportation and Air Quality released MOVES2014a, a minor revision to EPA's Motor Vehicle Emission Simulator (MOVES2014) emission modeling tool. For on-road emissions, MOVES2014a adds new options requested by users for the input of local vehicle miles traveled (VMT), includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014. MOVES2014a incorporates several improvements in the calculation of non-road equipment emissions. State and local agencies that have already completed significant work with MOVES2014 do not need to

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redo or revise that work with MOVES2014a. The model revision does not significantly change the criteria pollutant emissions results of MOVES2014 and therefore is not considered a new model for SIP and transportation conformity purposes. The revised model, supporting documentation, and more information on the model revision can be found on the MOVES website:

<http://www.epa.gov/otaq/models/moves/index.htm>.

### **Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas**

EPA released final guidance for modeling local air quality impacts of certain transportation projects in PM<sub>2.5</sub> and PM<sub>10</sub> nonattainment and maintenance areas for transportation conformity purposes. This guidance is to be used by state and local agencies to conduct quantitative PM "hot-spot analyses" for new highway and transit projects that involve significant diesel emissions. This guidance describes how to estimate project emissions using EPA's MOVES model, California's EMFAC model, and other methods. It also outlines how to apply air quality models (such as AERMOD and CAL3QHCR) for PM hot-spot analyses. The guidance also includes a list of additional resources that may assist agencies in conducting quantitative PM hot-spot analyses. For more information please see

<http://www3.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#pm-hotspot>

### **FHWA Guidance on Bicycle and Pedestrian Provisions of Federal Transportation Legislation Update**

On September 10, 2015, the FHWA Bicycle and Pedestrian Program updated the *FHWA Guidance: Bicycle and Pedestrian Provisions of Federal Transportation Legislation* webpage to provide updated references to Federal surface transportation legislation, make technical corrections and clarifications, and include references and links to other policies or guidelines. The purpose of this guidance is to describe Federal legislative and policy direction related to safety and accommodation for bicycling and walking. The Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012 enacted some program changes, but continued broad consideration and eligibility for bicycling and walking. The document describes the range of opportunities to improve conditions for bicycling and walking in communities. The updated guidance can be found at

[http://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/guidance/guidance\\_2015.cfm](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm).

### **FHWA Webinar Series: Advancing a Sustainable Highway System - Recordings available**

The Sustainable Transport and Climate Change Team within FHWA's Office of Natural Environment recently posted webinar recordings related to the FHWA report *Advancing a Sustainable Highway System: Highlights of FHWA Sustainability Activities*. The aforementioned report illustrates how sustainability has been incorporated into a wide variety of FHWA programs, projects, policies, processes, and partnerships. So far, the Office of Natural Environment has hosted three webinars as part of the *Advancing a Sustainable Highway System* Webinar Series, focusing on Access and Affordability, Linking Asset Management and Planning, and Sustainable Pavements, respectively. The webinar recordings and transcripts are available at:

[https://www.sustainablehighways.dot.gov/FHWA\\_Sustainability\\_Activities\\_Webinars.aspx](https://www.sustainablehighways.dot.gov/FHWA_Sustainability_Activities_Webinars.aspx). If you have any questions regarding the webinar series or the report, please contact Connie Hill at [Connie.Hill@dot.gov](mailto:Connie.Hill@dot.gov) or (804) 775-3378.

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## Volpe Center Report Details Available Resources and Gaps for Adaptation Support

*Climate Change Adaptation Support for Transportation Practitioners*, by the USDOT's Volpe National Transportation Systems Center, provides an overview of resources on climate change adaptation available to transportation agencies, discusses resource gaps identified through conversations with transportation practitioners and report reviews, and lays out a proposal for an "expert system" that would help guide users through the myriad of available resources on climate change adaptation assessment to find those most applicable to their specific project goals and needs. The publication is available at: [http://ntl.bts.gov/lib/56000/56100/56192/IC2013\\_Adaptation\\_Support\\_Practitioners.pdf](http://ntl.bts.gov/lib/56000/56100/56192/IC2013_Adaptation_Support_Practitioners.pdf). For more information, please contact Kristin Lewis at [Kristin.Lewis@dot.gov](mailto:Kristin.Lewis@dot.gov).

## FTA Climate Change Adaptation Assessment Pilot Project Case Studies

Project summaries of three of the Federal Transit Administration's (FTA) *Climate Change Adaptation Assessment Pilot Projects* were posted on FHWA's Climate Change Adaptation Case Studies website. The summaries detail efforts by Chicago Transit Authority, Los Angeles County Metropolitan Transportation Authority, and Southeastern Pennsylvania Transportation Authority to advance the state of practice for adapting transit systems to the impacts of climate change. In 2011, FTA selected seven pilot teams from across the country to conduct climate change adaptation assessments. The selected projects assessed the vulnerability of transit agency assets and services to climate change hazards such as heat waves and flooding, and developed initial adaptation strategies that fit with their transit agency's structure and operations. The effort is part of FTA's climate adaptation initiative, which also includes an adaptation report, workshops, and webinars. The three new summaries and a link to FTA's adaptation initiative are available at [http://www.fhwa.dot.gov/environment/climate\\_change/adaptation/case\\_studies/](http://www.fhwa.dot.gov/environment/climate_change/adaptation/case_studies/).

## Pooled Fund Initiative Creates Toolkit for Electric Vehicle (EV) Infrastructure Corridor Development

Last year, the Oregon Department of Transportation initiated a pooled-fund study to assist state and local transportation agencies interested in promoting the use of alternative vehicle and fuel technologies at a state, regional, or corridor scale and provide tools, information, and knowledge to do so. The *Deployment of Alternative Vehicle and Fuel Technologies* initiative utilizes a series of workshops around the country to develop a web-based "toolkit" for state and local transportation agencies that will facilitate their deployment of alternative fuel vehicle and related technologies. The first workshop, "EV Infrastructure Corridor Development Workshop: Lessons Learned from the West Coast Experience," took place in Portland, Oregon, on July 28, 2015. The toolkit provides resources and information to support plug-in electric vehicle (EV) adoption through EV charging infrastructure development along travel corridors. The *EV Infrastructure Corridor Development Toolkit* is comprised of two components: Resource Library and Workshop Materials. Additional toolkits will be developed for future workshops conducted for this initiative. The toolkit can be found at: <http://altfueltoolkit.org/ev-infrastructure-corridor-development-toolkit/>.

## Transportation Engineering Approaches to Climate Resiliency Gaps Report Posted

The FHWA Sustainable Transport and Climate Change Team posted the report entitled, "Transportation Engineering Approaches to Climate Resilience (TEACR): Assessment of Key Gaps in the Integration of Climate Change Considerations into Transportation Engineering". The objective of the overall TEACR project is to develop recommended engineering practices for identifying and evaluating project-level

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vulnerabilities from future extreme weather events and climate change, and design solutions to respond and adapt to those vulnerabilities. A first step to addressing these shortcomings is the identification of exactly what type of assistance practitioners need. This report reviews gaps in information and practice related to integrating climate change into transportation engineering and recommends a select set of gaps for further investigation in the remainder of the ongoing project. The report can be downloaded at: [http://www.fhwa.dot.gov/environment/climate\\_change/adaptation/ongoing\\_and\\_current\\_research/teacr/index.cfm](http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/teacr/index.cfm).

### **Climate Change Resiliency Conference Presentations Available**

Slide presentations and session recordings are available online for the First International Conference on Surface Transportation System Resilience to Climate Change and Extreme Weather Events. Organized by the Transportation Research Board (TRB), the conference was held on September 16-18, 2015, in Washington, DC. It provided transportation professionals with information on emerging best practices and state-of-the-art-research results on how to adapt surface transportation networks to the potential impacts of climate change and extreme weather events. Even if you did not register to participate in the conference you can still register online and view the recordings. Registration is free for Federal, State, Tribal, and Local Employees and can be done at: <https://www.cvent.com/events/first-international-conference-on-surface-transportation-system-resilience-to-climate-change-and-ext/registration-cba1008fb1724a6eb2edd2898f16fc91.aspx>. The recordings are available through September 2016. Many of the presentation slides are also available within the conference program on the conference webpage at: <http://onlinepubs.trb.org/onlinepubs/conferences/2015/ClimateChange/Program.pdf>. Click on the title of the individual presentation to view the slides.

### **Conference of European Directors of Roads ROADAPT Reports Available**

The Conference of European Directors of Roads (CEDR) recently posted the final products of the ROADAPT project, “Roads for today, adapted for tomorrow.” A joint research effort supported by the Netherlands, Germany, Denmark, and Norway, the primary objective of ROADAPT was to develop a preliminary risk assessment method to identify vulnerable locations in the transportation network, understand the probabilities and consequences that climate change events could have on these locations, and provide options for adaptation actions. The outcome of ROADAPT was guidelines on items such as the use of climate change projections; the application of a QuickScan on climate change risks for roads; how to perform a detailed vulnerability assessment and more. The ROADAPT guidelines are available to download at:

<http://www.cedr.fr/home/index.php?id=wwwcedreuresearchcall2012&dlpath=CEDR%20Call%202012%20Climate%20Change&cHash=b7531baf0fcaae6a738248fb6aed77b5>

## **Research**

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### **TRB Transportation Research Record Focus on Air Quality**

The Transportation Research Board recently published *Transportation Research Record: Journal of the Transportation Research Board, No. 2503*. The issue contains 17 papers related to air quality issues. The publication is available at: <http://www.trb.org/main/blurbs/173205.aspx>.

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## Transportation and Health Tool

The U.S. Department of Transportation and the Centers for Disease Control launched a new online Transportation and Health Tool that provides easy access to data that practitioners can use to examine the health impacts of transportation systems. The tool provides data on a set of 14 transportation and public health indicators available at the State, Metropolitan Statistical Area, and Census Urbanized Area levels.

The tool also describes how the transportation environment affects safety, active transportation, air quality, and connectivity to destinations. Information and resources are also available to help agencies better understand the links between transportation and health and to identify strategies to improve public health through transportation planning and policy. The tool is available at: <http://www.transportation.gov/transportation-health-tool>.

## Transportation Research Board 95th Annual Meeting in Washington, DC

The 95th annual meeting of the Transportation Research Board (TRB) will take place on January 10-14, 2016, at the Walter E. Washington Convention Center, in Washington, D.C. The program is expected to attract more than 12,000 transportation professionals from around the world. The meeting program will cover all transportation modes, with more than 5,000 presentations in nearly 750 sessions and workshops addressing topics of interest to all attendees: policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions. A number of sessions and workshops will focus on the spotlight theme Research Convergence for a Multi-Modal Future. The full 2016 program will be posted to the TRB website in November 2015. Registration is required for all attendees, including those who plan to attend any workshop, visit the exhibits, or take advantage of onsite programming and services. For more information, please visit: <http://www.trb.org/AnnualMeeting/AnnualMeeting.aspx>.

## Reminders

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### FHWA Posted MOVES for NEPA MSAT Quantitative Analysis Frequently Asked Questions

This FHWA technical assistance document provides information on how FHWA recommends project sponsors can use MOVES for NEPA MSAT quantitative analysis including: a) defining the scope of MOVES work; b) gathering input data; and c) post-processing results. These are insights based on FHWA's experience in conducting quantitative MSAT analysis. The interim guidance should continue to be referenced for questions about the type of MSAT analysis needed. The FAQs are available at [http://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/moves\\_msat\\_faq.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/moves_msat_faq.cfm). For more information contact Victoria Martinez at [victoria.martinez@dot.gov](mailto:victoria.martinez@dot.gov) or (787) 771-2524.

### Proposed Appendix W Rulemaking: Replacement of CALINE3 Comment Period

The comment period for U.S. EPA's proposal to revise the Guideline on Air Quality Models closed on October 27, 2015. The U.S. EPA proposed replacing CALINE3 with AERMOD as the preferred model for determining near-field impacts for emissions from mobile sources, including PM<sub>2.5</sub>, PM<sub>10</sub>, and CO hot-spot analyses. The proposed rule was published in the Federal Register on July 29, 2015 (80 FR 45340). Supporting documentation, including a Technical Support Document addressing the application of AERMOD for mobile sources and proposed model code, was Docket (ID No. EPA-HQ-OAR-2015-0310 at [www.regulations.gov](http://www.regulations.gov)), and the 11th Conference on Air Quality Models website. For more

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information, including a copy of the proposal, a fact sheet, and EPA contact information, see <http://www.epa.gov/ttn/scram/11thmodconf.htm>.

### **The 2008 Ozone NAAQS Proposed Rule Making for Marginal Areas**

On August 27, 2015, the U.S. EPA proposed three separate determinations related to the 36 areas that are currently classified as “Marginal” for the 2008 ozone National Ambient Air Quality Standards (NAAQS). The first proposed to determine that 17 areas attained the 2008 ozone NAAQS by the applicable attainment date of July 20, 2015. The second proposed to grant 1-year attainment date extensions for eight areas on the basis that the requirements for such extensions under the Clean Air Act have been met. Third, the EPA is proposing to determine that 11 areas failed to attain the 2008 ozone NAAQS by the applicable attainment date of July 20, 2015, and that they are not eligible for an extension, and to reclassify these areas as “Moderate” for the 2008 ozone NAAQS. Once reclassified as Moderate, states must submit State Implementation Plan (SIP) revisions that meet the statutory and regulatory requirements that apply to 2008 ozone NAAQS nonattainment areas classified as Moderate. Note that in areas that receive an extension or are bumped up, their “attainment year” for the purposes of meeting the budget test (40 CFR 93.118(d)(2)) under the conformity regulation would change for conformity determinations made after the effective date for the final attainment date extension or reclassification. The proposed rule is available at <http://www.gpo.gov/fdsys/pkg/FR-2015-08-27/html/2015-21196.htm>.

### ***It All Adds Up to Cleaner Air Website***

The FHWA currently is in the process of updating the *It All Adds Up to Cleaner Air* website ([http://www.fhwa.dot.gov/environment/air\\_quality/it\\_all\\_adds\\_up/](http://www.fhwa.dot.gov/environment/air_quality/it_all_adds_up/)) and refreshing it with new materials. The agency would like to hear about successful programs and exemplary materials to include on the website. *It All Adds Up to Cleaner Air* is a public education and partnership-building initiative developed by several federal agencies for the purpose of informing the public about the impact of their transportation choices on traffic congestion and air quality. Organizations that use *It All Adds Up* enjoy access to free customizable materials, including advertisements, billboards, and television public service announcements. Tutorials in the Education Center assist with planning, implementing, and evaluating an air quality campaign. Please contact Victoria Martinez at [Victoria.Martinez@dot.gov](mailto:Victoria.Martinez@dot.gov) or (787) 771-2524 for more information.

## **Training Opportunities**

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### **National Transit Institute Offers Upcoming Course on Conformity**

The National Transit Institute (NTI) has scheduled an upcoming training course related to air quality, sustainability, and environmental issues. The course is Introduction to Transportation Conformity and presents basic information about conformity requirements and the relationship of the transportation and air quality planning processes in order to prepare agency staff (federal, state and local) to participate in interagency consultation and work effectively in resolving conformity issues. The course is in Sacramento, California, on December 14-16, 2015. For course information and registration, please visit <http://www.ntionline.com/>.



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## National Highway Institute Offers Upcoming NEPA Course

The National Highway Institute (NHI) has scheduled three comprehensive, three-day, instructor-led courses on NEPA and the Transportation Decision-making Process. The first is on November 4-6, 2015, in Montgomery, Alabama, the next one is December 8-10, 2015, in Baton Rouge, Louisiana, and the third workshop is December 15-17, 2015, in Trenton, New Jersey. The course examines how the framework of laws, regulations, policies, and guidance integrate social, environmental, and economic factors in making transportation project decisions that are in the best overall public interest. The target audience for this course includes FHWA, state departments of transportation (including consultants acting on behalf of the State), Federal and State environmental resource agencies, local governments, and metropolitan planning organizations who participate in the transportation decision-making process. For course and registration information, please visit

[https://www.nhi.fhwa.dot.gov/training/course\\_search.aspx?tab=0&key=NEPA&sf=0&course\\_no=142005](https://www.nhi.fhwa.dot.gov/training/course_search.aspx?tab=0&key=NEPA&sf=0&course_no=142005).

## EPA Posts MOVES2014 Training Course Material

The U.S. EPA posted updated training materials for the MOVES2014 two-day hands-on training course at [www.epa.gov/otaq/models/moves/training.htm#2](http://www.epa.gov/otaq/models/moves/training.htm#2). On the same webpage, the U.S. EPA has also posted an abbreviated version of the MOVES2014 course materials used as a one-day training course. MOVES users who did not attend a previous hands-on training session can use the “MOVES2014 Training Materials” as a self-taught course.

## MySQL Training for MOVES Model Users

Two training opportunities are available for MOVES model users. A three-hour webinar provides an introduction to MySQL Query Browser and MOVES interface. A six-hour training over two days will enable users to do MySQL programming and to write his/her own MySQL scripts and to manipulate MySQL databases including MOVES input and outputs. For more information or to schedule training, please contact John Byun at [Joon.Byun@dot.gov](mailto:Joon.Byun@dot.gov) or Paul Heishman at [Paul.Heishman@dot.gov](mailto:Paul.Heishman@dot.gov).

## Web-based Training Courses Available

A variety of web-based training opportunities are accessible via the FHWA Conformity Website, at [http://www.fhwa.dot.gov/environment/air\\_quality/conformity/training/](http://www.fhwa.dot.gov/environment/air_quality/conformity/training/). Training includes Air Quality Planning, Transportation Conformity, and others. Please contact Karen Perritt at [Karen.Perritt@dot.gov](mailto:Karen.Perritt@dot.gov) or (202) 366-9066 with any questions or comments.

## FHWA Resource Center Training Activities

FHWA’s Resource Center Air Quality Technical Services Team is available to offer MOVES training, and information is available at the [Resource Center website](#).

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## Contacts

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### **[FHWA Resource Center Air Quality Team](#)**

Past issues of the *Air Quality and Transportation Conformity Highlights* are available on FHWA's website: [http://www.fhwa.dot.gov/environment/air\\_quality/conformity/highlights/](http://www.fhwa.dot.gov/environment/air_quality/conformity/highlights/). Past issues of the *Transportation and Climate Change Newsletter* are available on FHWA's website: [http://www.fhwa.dot.gov/environment/climate\\_change/newsletter/](http://www.fhwa.dot.gov/environment/climate_change/newsletter/).

If you would like to be notified by email when a new issue of the *Air Quality and Climate Change Highlights* becomes available, please sign up [here](#).

Please e-mail [Victoria.Martinez@dot.gov](mailto:Victoria.Martinez@dot.gov) with any suggestions for future issues.