June/July 2016

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

Quantitative Mobile Source Air Toxics Analysis Case Studies Completed

The FHWA recently completed development of five case studies highlighting how project sponsors approached various aspects of modeling Mobile Source Air Toxics (MSAT) emissions estimates at the project level, including the affected network and MOVES inputs. The case studies are: Atlanta Northwest Corridor, Buffalo Gateway Connections, California State Route 57/60 Confluence, Illinois Elgin O'Hare-West Bypass, and St. Paul I-94 Auxiliary Lanes. Quantitative MSAT analysis is performed to fulfill National Environmental Policy Act (NEPA) requirements and uses U.S. EPA's MOVES emissions model and EMFAC in California. The reports are available at http://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/.

FHWA Selects Green Infrastructure Research Projects

The FHWA announced the selection of five State Departments of Transportation (DOTs) and a Federal Lands Management Agency to conduct pilot projects to analyze the potential for nature-based solutions to protect coastal roads from climate change impacts such as sea level rise and storm surge flooding. The diverse set of projects covers the Gulf, Atlantic, and West Coasts. Each pilot will document its findings in a final report describing conceptual designs for the nature-based solutions considered, the level of protection and environmental benefits the features offer, permitting requirements, up-front and maintenance costs, and challenges and solutions encountered during the pilot that could be instructive to other transportation agencies. The pilots form part of a larger FHWA Strategic Initiatives project to provide transportation professionals with guidance on designing and implementing nature-based solutions to climate change impacts as part of transportation project planning, design, construction, and maintenance. The project will produce an implementation guide and sponsor peer exchanges. For more information, please visit http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/green_infrastructure/pilots.cfm or contact Tina Hodges at Tina.Hodges@dot.gov or (202) 366-4287.

U.S. DOT Issues Planning Final Rule

On May 27, 2016, the FHWA and FTA issued the final rule to update the regulations governing the development of metropolitan transportation plans (MTP) and programs for urbanized areas, long-range

statewide transportation plans and programs, and the congestion management process. The changes reflect the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. The MAP-21 continues many provisions related to transportation planning from prior laws; however, it introduces transformational changes and adds some new provisions. The FAST Act makes minor edits to existing provisions. The changes make the regulations consistent with current statutory requirements and implement the following: a new mandate for State DOTs and metropolitan planning organizations (MPOs) to take a performance-based approach to planning and programming; a new emphasis on the non-metropolitan transportation planning process, by requiring States to have a higher level of involvement with non-metropolitan local officials and providing a process for the creation of regional transportation planning organizations (RTPOs); a structural change to the membership of the larger MPOs; a new framework for voluntary scenario planning; new authority for the integration of the planning and environmental review processes; and a process for programmatic mitigation plans. The rule took effect on June 27, 2016. For more information, please visit: https://www.gpo.gov/fdsys/pkg/FR-2016-05-27/pdf/2016-11964.pdf.

FHWA Seeks 2017 Environmental Excellence Award Nominations

FHWA's biennial Environmental Excellence Awards (EEA) program recognizes outstanding initiatives that incorporate environmental stewardship into the project planning and development processes. The 2017 EEA program will honor agencies and individuals that exceed required environmental compliance for transportation projects; facilitate partnerships to promote environmental stewardship; and develop environmentally sensitive transportation innovations. EEA categories for 2017 are grouped under Natural Environment, Human Environment, and Organization and Process Innovation. The Natural Environment categories include Air Quality and GHG Emissions, Climate Change Adaptation and Resilience, and Environmental Leadership. For more details on these categories please visit http://www.fhwa.dot.gov/environment/environmental_excellence_awards/eea_2017/

All award nominations must be submitted through the online submission form available on the FHWA Environmental Review Toolkit. The nomination period is August 1, 2016, through September 15, 2016. The program awardees will be announced on Earth Day (April 22, 2017) and recognized by the FHWA at an awards ceremony in the summer of 2017. Please contact EEAwardsNomination@dot.gov with any questions related to the 2017 program or application process.

U.S. EPA Updated MOVES GHG Estimation Guidance

The U.S. EPA revised the MOVES greenhouse gas (GHG) guidance to bring it up to date with MOVES2014/MOVES2014a. This technical guidance describes how to use MOVES to estimate GHG emissions from onroad vehicles to create inventories, or to estimate total energy consumption from onroad vehicles. EPA has updated the previous November 2012 guidance to reflect the latest MOVES model, and replaces the previous guidance. This guidance does not create a federal GHG analysis requirement but provides recommendations for using MOVES to conduct such an analysis, either voluntarily or as a result of a state or local requirement. It's now available at: https://www.epa.gov/otaq/stateresources/documents/420b16059.pdf.

Revision to the Near-Road NO_2 Minimum Monitoring Requirements NPRM

On May 16, 2016, the U.S. EPA proposed revisions to the minimum monitoring requirements for near-road nitrogen dioxide (NO_2) monitoring by removing the existing requirements for near-road NO_2 monitoring stations in Core Based Statistical Areas (CBSAs) having populations between 500,000 and 1,000,000 persons, that were due by January 1, 2017. Current near-road NO_2 monitoring data indicate air quality levels in the near-road environment are well below the National Ambient Air Quality Standards (NAAQS) for the oxides of nitrogen. In light of this information, and due to the relationship between population, traffic, and expected NO_2 concentrations in the near-road environment, it is anticipated that measured near-road NO_2 concentrations in the relatively smaller CBSAs would exhibit similar, and more likely, lower concentrations, than what is being measured in larger urban areas. For more information, see https://www.gpo.gov/fdsys/pkg/FR-2016-05-16/pdf/2016-11507.pdf.

U.S. EPA References California Air Resource Board's *Project-Level Handbook* When Using EMFAC2014 for Project Level Hot-Spot Analysis

In California, for completing quantitative hot-spot analyses, either EMFAC2011 or EMFAC2014 can be used until December 14, 2017, when the EMFAC2014 grace period will end. Project sponsors using EMFAC2011 can find guidance in Section 5 of U.S. EPA's Transportation Conformity Guidance for Quantitative Hot-spot Analysis in PM2.5 and PM10 Nonattainment and Maintenance Areas. The guidance also includes examples of using EMFAC2011 in Appendices G and H. Project sponsors using EMFAC2014 can find guidance in Section 5.2 of the *PM Hot-spot Guidance* for characterizing a project in terms of links, and otherwise should refer to CARB's *Project-Level Handbook*. The remainder of Section 5 and Appendices G and H do not apply for using EMFAC2014, but all other sections of EPA's hot-spot guidance are relevant. For more information, see https://www3.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#pm-hotspot.

Additional Climate Change Resilience Pilot Reports Published

The FHWA posted one more climate change resilience pilot report and several more pilot report case study summaries that describe approaches for conducting climate change and extreme weather vulnerability assessments of transportation infrastructure and analyze options for adapting and improving resiliency. The studies were conducted by transportation agencies across the country and funded in part by the FHWA.

The Tennessee Department of Transportation released the final report on *Assessing the Vulnerability of Tennessee Transportation Assets to Extreme Weather*. The study involved performance of five basic tasks: developing an inventory of transportation assets; identifying those assets considered critical to transportation system operation; determining extreme weather scenarios to which critical transportation assets may be exposed; assessing the impacts to these assets should an extreme weather scenario occur; and combining this information into an overall measure of vulnerability. The final report can be downloaded at: http://www.fhwa.dot.gov/environment/climate_change/adaptation/resilience_pilots/2013-2015_pilots/tennessee/index.cfm.

FHWA Publishes *Renewable Energy Generation in the Highway Right-of-Way*

On May 19, 2016, the FHWA Office of Planning, Environment, & Realty published a detailed report on *Renewable Energy Generation in the Highway Right-of-Way* (FHWA-HEP-16-052). State DOTs are

increasingly exploring the use of highway right-of-way (ROW) to accommodate renewable energy technologies. The ample lands DOTs manage are often close to electrical loads and have sometimes already been disturbed, potentially making these properties ideal locations for renewable energy applications. The publication contains key information, potential business models, federal regulatory requirements, applicable state rules, regulations, and policies, potential funding sources, and a program checklist for alternative uses of the ROW. The report can be viewed and downloaded at http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/row/index.cfm.

Recording and Transcript of FHWA Webinar on the *Framework for Better Integrating Health into Transportation Corridor Planning* Available

A recording and transcript of the FHWA webinar on the *Framework for Better Integrating Health into Transportation Corridor Planning* is now available. The framework provides action-oriented information and step-by-step tools transportation practitioners need to incorporate health into their corridor planning process. The webinar included the background research, focus group findings, the steps and content of the Framework, and the case studies highlighting lessons learned during the corridor study testing phase. The recording of the webinar and the transcript can be accessed at http://www.fhwa.dot.gov/planning/health_in_transportation/planning_framework/.

Third Workshop in the Deployment of Alternative Vehicles and Fuel Technologies Pooled Fund Initiative

On April 18, 2016, the Texas Department of Transportation hosted the third workshop under the State Fleet Adoption of Alternative Fuel Vehicles initiative. Attendees included federal, state, and local transportation officials; Clean Cities coalition members; industry and non-profit representatives; automakers; alternative fuel suppliers; alternative fuel infrastructure providers; and local government association members. The workshop featured presentations to provide context for alternative fuel use in state fleets and breakout sessions to focus on the challenges and opportunities state DOTs face when adopting alternative fuel vehicles within their fleets. All speaker presentations are available in the *AFV Adoption in Fleets Toolkit* at http://altfueltoolkit.org/afv-adoption-in-fleets-toolkit/.

Meetings, Conferences, and Workshops

2017 TRB Annual Meeting and Transportation Research Record Call for Papers

The TRB standing committees have issued calls for papers for the 96th TRB Annual Meeting to be held January 8-12, 2017, in Washington, DC, and/or the *Transportation Research Record: Journal of the Transportation Research Board (TRR)*. The deadline to submit papers to be considered for the 2017 TRB Annual Meeting and TRR is August 1, 2016. The Annual Meeting paper submission website is now open. Prospective authors are encouraged to consult *Preparing Papers for Peer Review and Presentation at the TRB Annual Meeting*. All paper presenters at the TRB Annual Meeting are required to register for the meeting. Conference registration will open in early September. For more information about submitting papers and the 2017 TRB Conference, please visit: http://www.trb.org/main/blurbs/174265.aspx. If you have any questions about submitting a paper, please contact MyTRB@nas.edu.

2016 Transportation Planning and Air Quality Conference

The TRB is sponsoring the Transportation Planning and Air Quality Conference on August 4-5, 2016, in Minneapolis, Minnesota. The conference will focus on the theme of "The Changing Landscape of

Transportation and Air Quality: Confronting the Challenges at the Global, Regional, and Local Scales." Topics include: multimodal passenger transportation and air quality issues, greenhouse gas emissions reduction strategies, emissions and air quality impacts of alternative fuels, innovative vehicle and information technology solutions to transportation air quality, and more.
Visit http://register.extension.iastate.edu/2016tpaq for more information.

Conference on Use of Scenario Planning in Transportation Planning

The Transportation Research Board (TRB) is convening a conference on August 14-17, 2016, in Portland, Oregon, focused on practical applications of scenario planning for transportation. This event will bring together state DOT, MPO, and local agency staff, consultants, and researchers to share knowledge, experiences, and the latest research on using scenario planning approaches. This conference will build upon scenario planning research and application – particularly the TRB NCHRP Foresight series. Case studies from across transportation will be used in a variety of settings to demonstrate the use of scenarios. Interactive exercises will be used to demonstrate the application of scenarios in planning, programming, public involvement, and many other transportation arenas including climate change and freight. For more information and to register, please visit http://www.cvent.com/events/conference-on-use-of-scenario-planning-in-transportation-planning/event-summary-d917e6bd49c8456fb0a19d681b756675.aspx.

Northern Transportation & Air Quality Summit 2016

The Northern Transportation & Air Quality Summit 2016 will take place August 30-31, 2016, at the Baltimore Metropolitan Council (BMC) in Baltimore, Maryland. The Summit will bring together stakeholders from the transportation and air quality communities to discuss the current and upcoming regulatory environment, new technologies, and current practices. The content is geared toward practitioners in the northern and Mid-Atlantic States involved with public agencies at all levels. A host of speakers from the national and regional levels will present on key topics, best practices, and latest information vital to transportation, planning, and air quality professionals. For more information, please contact: Kevin Black (FHWA) at (410) 962-2177, Kevin.Black@dot.gov , or Sara Tomlinson (BMC) at (410) 732-0500 x1035, Stomlinson@baltometro.org.

2016 AMPO Annual Conference Registration Open

The annual conference of the Association of Metropolitan Planning Organizations (AMPO) will take place on October 25–28, 2016, in Fort Worth, Texas. The AMPO Conference brings together MPO staff, Policy Board members, federal and state employees, and consultants to share information on a variety of MPO issues. For questions related to the conference, please visit http://www.ampo.org/news-events/2016-ampo-annual-conference/.

Reminders

FHWA Notice of Proposed Rulemaking (NPRM) on Performance Measures

On April 22, 2016, the FHWA published a Notice of Proposed Rulemaking (NPRM) in the Federal Register to propose national performance management measure regulations to assess the performance of the National Highway System, Freight Movement on the Interstate System, and the Congestion Mitigation and Air Quality Improvement Program, as required by MAP-21 and the FAST Act. The two

proposed CMAQ measures address traffic congestion and on-road mobile source emissions reductions. The rule proposes travel time reliability measures for traffic congestion, while the proposed emissions reduction measure focuses on the total emissions reduced per fiscal year by all CMAQ-funded projects by criteria pollutant and applicable precursors in nonattainment and maintenance areas. The FHWA also is seeking comment on whether and how to establish a greenhouse gas emissions measure in the final rule. The FHWA is conducting a series of webinars to present the details of the proposed rulemaking. Recordings and slides from the webinars are available on the FHWA website. The public is encouraged to review the NPRM and submit comments to the rulemaking docket (FHWA-2013-0054). The comment period closes on August 20, 2016. For information on the NPRM and the webinars, please visit http://www.fhwa.dot.gov/tpm/rule/pm3_nprm.cfm.

FHWA Publishes 2016 *Transportation Air Quality Selected Facts and Figures* Brochure

The updated *Transportation Air Quality Selected Facts and Figures* brochure provides an overview of facts and figures regarding the linkages between transportation and air quality. The focus is primarily on transportation-related emissions trends, policies, technologies, and standards that effect on-road mobile sources, including automobiles, light-duty trucks, and heavy-duty trucks. The publication is a handy reference for transportation practitioners and an information resource for citizens on transportation air quality issues. The brochure is available at http://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/.

U.S. EPA Publishes Final Determinations for 2008 Ozone NAAQS Classification for 36 Areas

The U.S. EPA is taking final action on three separate and independent types of determinations for each of the 36 areas that are currently classified as "Marginal" for the 2008 ozone NAAQS. First, the U.S. EPA is determining that 17 areas attained the 2008 ozone NAAQS by the applicable attainment date of July 20, 2015. Second, the U.S. EPA is granting one-year attainment date extensions for eight areas. Third, the U.S. EPA is determining that 11 areas failed to attain the 2008 ozone NAAQS by the applicable attainment date of July 20, 2015, and thus are reclassified by operation of law as "Moderate" for the 2008 ozone NAAQS. More information on the rule can be found at https://www.federalregister.gov/articles/2016/05/04/2016-09729/determinations-of-attainment-by-the-attainment-date-extensions-of-the-attainment-date-and.

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program Cost Effectiveness Tables

In March 2016, the FHWA posted the *Cost Effectiveness Tables Summary* on its website. The summary tables provide a broad range of project cost-effectiveness values for CMAQ-eligible project types. The tables are intended to assist states, MPOs, and other project sponsors make the most efficient use of their CMAQ dollars in reducing on-road vehicle emissions and traffic congestion. The tables are available at http://www.fhwa.dot.gov/environment/air_quality/cmaq/reference/cost_effectiveness_tables/index.cfm. For more information, please contact Mark Glaze at Mark.Glaze@dot.gov or (202) 366-4053.

CMAQ Project Tracking and Public Access Systems Update Complete

The upgraded CMAQ Project Tracking (PTS) and Public Access (PAS) Systems is available on the FHWA website. Improvements and updates include a full program rewrite and expanded reporting

features such as increased number of reporting categories and enhanced project descriptions; simple and advanced search features; and improved bulk project upload feature. Access to the PAS is through the FHWA CMAQ webpage or the following link: https://fhwaapps.fhwa.dot.gov/cmaq_pub/. For more information, contact Mark Glaze at Mark.Glaze@dot.gov or (202) 366-4053.

MOVES2014a Grace Period ends on October 7, 2016

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. State and local agencies that have already completed significant work with MOVES2014 do not need to redo or revise that work with MOVES2014a. Because the differences between MOVES2014 and MOVES2014a are small for on-road emissions, EPA does not consider it a new emissions model for SIP and transportation conformity purposes and there will be no new grace period for either regional or project-level conformity analyses using MOVES2014a. The current MOVES2014 grace period for conformity analyses will apply to MOVES2014a as well. The two-year grace period for MOVES2014 and MOVES2014a ends on October 7, 2016. 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

EMFAC2014 Motor Vehicle Emission Factor Model for Use in the State of California

The U.S. EPA approved the EMFAC2014 emissions model for State Implementation Plan (SIP) and conformity purposes, effective December 14, 2015. The new model, which is based on new and improved data, calculates air pollution emissions factors for passenger cars, trucks, motorcycles, motor homes, and buses. The U.S. EPA established a two-year grace period before EMFAC2014 is required for the following conformity analyses: all new HC, NO_X, PM_{10}, $PM_{2.}$, and CO regional emissions analyses and all new CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses supporting project-level conformity determinations. The grace period begins on December 14, 2015, and ends on December 14, 2017. EMFAC2014 must be used for all new regional emissions analyses and carbon monoxide (CO) and particulate matter (PM_{10} and $PM_{2.5}$) hot-spot analyses for transportation conformity purposes that are started on or after December 14, 2017. Areas have the option of using the new model prior to the end of the grace period. For more information, please visit: https://www.gpo.gov/fdsys/pkg/FR-2015-12-14/html/2015-31307.htm

New Materials Needed for *It All Adds Up to Cleaner Air* Website

The FHWA would like to hear about successful programs and exemplary materials to include on the *It All Adds Up to Cleaner Air* website (http://www.fhwa.dot.gov/environment/air_quality/it_all_adds_up/). This website 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 or (787) 771-2524 for more information.

Training Opportunities

Transportation Research Board Straight to Recording for All: Air Quality Fundamentals

The Transportation Research Board recorded a series of videos in May 2016 that provide information on air quality issues. Because of the Clean Air Act of 1970 and subsequent amendments, air quality issues need to be addressed during the highway planning process. The series will help viewers understand how vehicles and highway projects impact air quality at the regional and project scales. The videos are available on-demand at no cost at http://www.trb.org/Environment/Blurbs/174465.aspx.

CMAQ 101 Training

The FHWA posted 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, please contact Emily Biondi at Emily.Biondi@dot.gov or (202) 366-9482.

Air Quality Planning Web Course Available at No Cost

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 www.nhi.fhwa.dot.gov and search Air Quality Planning or look for the specific course number. Please contact Karen Perritt at (202) 366-9066, or Karen.Perritt@dot.gov with any questions or comments.

MOVES2014 Training Course Material

The U.S. EPA posted updated training materials for the MOVES2014 two-day hands-on training course at http://www3.epa.gov/otaq/models/moves/training.htm. On the same webpage, the U.S. EPA 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 or Paul Heishman at Paul.Heishman@dot.gov.

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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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/. Past issues of the *Transportation and Climate Change Newsletter* are available on FHWA's website: http://www.fhwa.dot.gov/environment/climate_change/newsletter/.

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