



Planned Updates for the Next Version of MOVES

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What is MOVES?

- EPA's MOtor Vehicle Emission Simulator
- Estimates emissions & energy use for:
 - Onroad vehicles & nonroad equipment
 - Engine running/working, engine starting, idling, evaporative, etc.
 - Criteria pollutants, GHGs, air toxics
 - National, county, or project scale
- Used by:
 - EPA
 - State, regional, and local governments
 - Academics & policy analysts



MOVES: Current Version

MOVES2014

- Second official major release (Oct. 2014)
- Replaced MOVES2010 for use in SIPs & conformity
- Included new EPA regulations:
 - LD GHG 2017-2025, HD GHG Phase 1, and Tier 3
- Updated with the latest data on fuel effects, emission rates and activity for onroad vehicles
- Incorporated NONROAD model into MOVES

MOVES2014a*

- Released in November 2015
- No significant change in onroad criteria pollutant emissions
- Added the capability to estimate VOCs and toxics from nonroad equipment
- Included new data and features
- Corrected bugs

* Minor release

Upcoming Release of Minor Update - MOVES2014b

- Planning a minor update for summer 2018: **MOVES2014b**
- Will not change onroad inventories
- Improves nonroad emission estimates
 - NR engine population growth rates, NR Tier 4 emission rates, sulfur levels of NR diesel fuels
- EPA is now testing and quantifying net impacts compared to MOVES2014a
- For updates, subscribe to EPA-MOBILENEWS listserv



Next Major Version of MOVES

- Next major version of MOVES to include
 - New data based on latest test programs and analyses
 - Latest vehicle population and activity data
 - Newer rules (e.g. Heavy-Duty Greenhouse Gas Phase 2)
 - Improved functionality and performance
 - Additional features
- Peer reviewed draft reports available
- Timing of release
 - TBD, but 2019 at the earliest
- Impact on emissions is unclear at this time



Updating Emissions

- Updating estimates for:
 - Heavy-duty: Criteria pollutant & GHG emissions
 - 2007/2010+ heavy-duty diesel running and starts (PM/gaseous)
 - Extended idle and auxiliary power units
 - CNG for most sourcetypes
 - Light-duty particulate matter -- including new GDI data
 - Impact of parking time on start emissions
 - Humidity adjustments
 - Temperature adjustments for LD PM running
 - Improved pollutant speciation, including methane



Adding New Vehicle Activity Inputs

- Starts
 - Telematics data provides improved data on start activity for both light-duty and heavy-duty
 - Updating MOVES to incorporate improved activity defaults
 - Providing more options for user activity inputs



Adding New Vehicle Activity Inputs Cont.

- Off-network Idle
 - MOVES2014 accounts for idle activity that is part of the driving cycle
 - Additional idle happens, “off-network”
 - Telematics data provides improved data on idle activity for both light-duty and heavy-duty
 - Updating MOVES to account for this idle time and allow user activity inputs



Additional Vehicle Population & Activity Updates

- Historical and projection data for national VMT and vehicle populations
- National age distributions
- Hotelling activity
- Vehicle weights and other characteristics



Other Planned Changes

- Updating default fuel characteristics
- Extending model to cover calendar years to 2060
- Removing ramps as a separate road type
- Updating “chemical mechanisms” used to generate the emission species used in air quality modeling
- Reducing model run time



MOVES Training

- Three sessions of MOVES 2-Day Hands-on Training Course offered this year:
 - April 24-25 – Atlanta, GA
 - May 15-16 – Research Triangle Park, NC
 - June 19-20 – Ann Arbor, MI
- Will be posting information of new Project Level Training for Quantitative PM Hotspot soon
- Will offer webinar-based training on changes in MOVES2014b after release



Resources

- For more information, see the MOVES web page: www.epa.gov/moves
- Download model and guidance: www.epa.gov/moves/moves2014a-latest-version-motor-vehicle-emission-simulator-moves
- Presentations on proposals for next major release of MOVES: www.epa.gov/moves/moves-model-review-work-group
- MOVES training: www.epa.gov/moves/moves-training-sessions
- Send questions about MOVES to: mobile@epa.gov

