

**FHWA Resource Center Training:
Introduction to MOVES4 for NEPA, SIP, and Regional Conformity
Emissions Analysis
LADCO Region – May 20-23**

Course Length: Approximately 16 hours in four half/day sessions

The purpose of this training is to provide attendees with an overview of EPA's MOVES4 mobile source emissions model. We will cover 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 GHG, conformity (regional and project-level), and NEPA analyses. The intended audience are those who use (or expect to use) MOVES or those who will be reviewing MOVES-based analyses.

Who should attend: The workshop is intended for those who will be involved with the development of NEPA, SIP, and regional conformity emissions estimates or will be reviewing of such analyses. Participants must bring their own laptops with MOVES4 installed. The model is available from EPA's website: <https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves#download>

Tentative Agenda

May 20

1pm-2:30pm(all times CST) – Module 1: Introduction to MOVES

- What is an emissions inventory?
- What is MOVES4 and when is it used?
- MOVES overview – brief history, regulatory uses, and modeling capabilities
- Modeling options – scales of analysis and rates/inventory approaches

2:30pm-5:00pm – Module 2: Getting acquainted with MOVES

- Introduction to using MOVES at the “default” scale
- Developing a Runspec and running MOVES
- Using the summary reported to review results
- Exercise – calculating an inventory for an example scenario

May 21

1:00pm-5:00pm – Module 3: Using MOVES for SIP/Regional Conformity

- Developing a County scale MOVES RunSpec
 - Building a county-scale MOVES RunSpec to produce an emissions inventory, including EPA recommendations for each panel
- Entering data using the County Data Manager (CDM)
 - What is the CDM and how does it work?
 - Description/recommendations for each table in the MOVES input database

- Using the AVFT tool - exercise
- Running MOVES (Executing the RunSpec)
 - Class exercise: Run MOVES for the example scenario
- Reviewing results in summary reporter

May 22

1:00pm-3:00pm – **Module 4: Using MOVES for NEPA Emissions Burden Analysis**

- Developing a county-scale RunSpec for an individual project
- Entering data using the County Data Manager (CDM)
- Running MOVES (Executing the RunSpec)
- Class exercise: Run MOVES for the project scenario
- Understanding and documenting the results

3:00pm-5:00pm – **Module 5: Processing MOVES Output**

- Describe what is contained in the MOVES output tables
- Review MOVES inputs with HeidiSQL
- View and manipulate MOVES output using HeidiSQL queries
- Process results from Day 2 and 3 exercises

May 23

1:00pm-2:30pm – **Module 6: On-your-own MOVES4 exercise** (office hours – we will reconvene at 2:30pm to review results)

2:30pm-3:00pm – **Module 7: Review and best practices**

- How to manage files
- How to QA MOVES Runspecs and input/output DBs
- Common errors
- How to package and send MOVES runs

3:00pm-3:30pm – **Module 8: MOVES Project Scale**

- What are the uses for the MOVES project scale?
- Examining the different options for defining vehicle activity

3:30pm-4:00pm – **Module 9: MOVES Rates Mode**

- Uses, advantages, and considerations for rates approach
- General strategy for building “look-up table” using MOVES inputs

4:00pm-5:00pm – **Module 10: Nonroad Emissions**

- Overview of MOVES-nonroad

**Note: There will be 10 minute breaks taken as needed during each day’s sessions*