



MOVES

EPA's Latest Mobile Model

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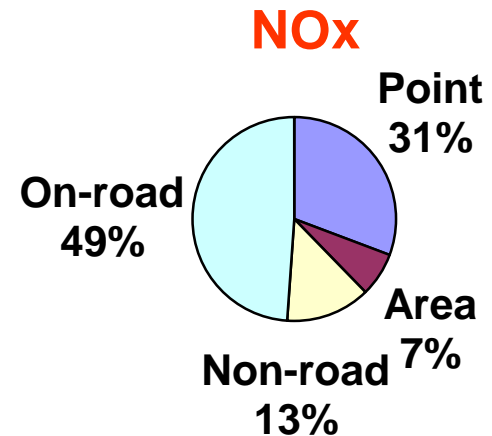
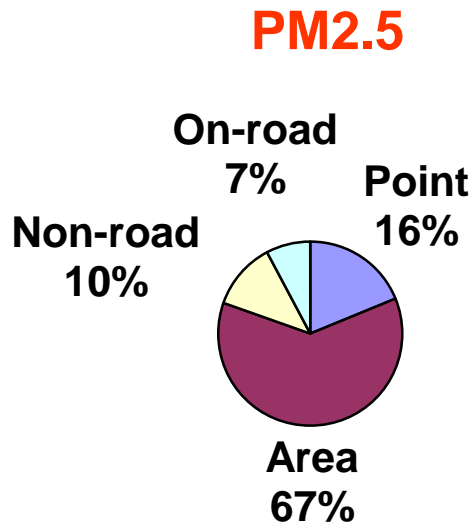
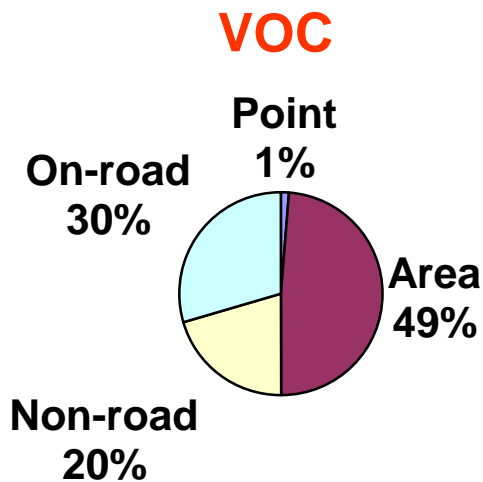
MWAQC Meeting

MWCOG

January 27, 2010

What does a Mobile Model do?

- Mobile model estimates emissions from a variety of motor vehicles such as, cars, buses, trucks, and motorcycles. Mobile emission is an important component of overall emissions inventory for Washington region



Introduction to MOVES Mobile Model

MOVES = Motor Vehicle Emission Simulator

- Final version of MOVES model (**MOVES2010**) –
December 23, 2009
- **MOVES2010** will replace current official **Mobile6.2** model

Improvement in MOVES2010

- More *accurate*, improved emissions factors
- Real-time emissions based on more realistic driving patterns.
- Older vehicles of all types analyzed in more details
- Focus on dirty heavy-duty trucks

Additional Capabilities of MOVES2010

- Complete mobile estimation model
- Estimates emissions from hybrid vehicles and new fuels (e.g., Ethanol (E85), Methanol (M85), Electricity, Hydrogen)
- Estimates emissions of greenhouse gases (CO₂, CH₄, N₂O, and CO₂ equivalent) from transportation sources besides usual criteria pollutants (e.g., VOC, NO_x, CO, and PM_{2.5})

Emissions - MOVES2010 Vs. Mobile6.2

- **National trends –**

- VOC emissions ↓
- NO_x emissions ↑
- PM emissions ↑

- **Washington, DC region trends –**

- Staff currently working on emissions comparison with MOVES2010

Results with **draft** version of MOVES:

- VOC & NO_x ↑
- PM emissions ↑

What do Higher MOVES Emissions Mean?

- Actual emissions remain the same, only their estimation has changed.
- Attainment analysis -Relative change in emissions between base and attainment years more important than absolute emissions.
- Higher NO_x and PM_{2.5} emissions mean onroad mobile sources have bigger role in attainment.

2010 8-Hour Ozone SIP Schedule

- Draft MOVES Inputs for attainment modeling (OTC) – **March 15, 2010**
- MOVES Inputs & Outputs for Draft SIP Mobile inventories – **2012**
- MOVES Inputs & Outputs for Final SIP Mobile inventories – **2013**

Conformity Schedule

- MOVES2010 release date: December 23, 2009
- Use in conformity: Any conformity analysis initiated after the expiration of 2 years since the publication of model in federal register will need to be done with MOVES2010.
- MOVES2010 not published in federal register as of now.

Next Steps

- Need for new input data development for MOVES
- Existing input data need reformatting for the new model
- MOVES Task Force
 - Discuss inputs to new model
 - Test new model with sensitivity runs
 - Finalize inputs to new model for SIP & Conformity analyses by 2012