

Summary of the On-Road Inputs to the 2014 NEIv2

On-road mobile sources include emissions from motorized vehicles that are normally operated on public roadways. This includes passenger cars, motorcycles, minivans, sport-utility vehicles, light-duty trucks, heavy-duty trucks, and buses. The sector includes emissions generated from parking areas as well as emissions while the vehicles are moving. The sector also includes “hoteling” emissions, which refers to the time spent idling in a diesel long-haul combination truck during federally-mandated rest periods of long-haul trips.

The EPA made several substantial improvements in default data for the 2014v2 NEI that include new 2014 vehicle populations and fleet characteristics, as well as new default vehicle speed distributions and relative hourly and day type VMT distributions at the local level from the IHS Database in an EPA sponsored study. In addition, other changes in 2014v2 included new CDB submittals (526 databases) and changes to the representative county groups based on the new 2014 age distribution data from the CRC A115 study by ERG.

2014 National Emissions Inventory, version 2 Technical Support Document July 2018, Chapter 6 Onroad Mobile – All Vehicles and Refueling can be found at https://www.epa.gov/sites/production/files/2018-07/documents/nei2014v2_tsd_05jul2018.pdf (you have to copy and paste the link into you browser).

Comment Memos from Reviewing Agencies:

Comment:

“CARB is considering whether the precise results from our EMFAC model, rather than MOBILE, should be used for regional haze modeling because mobile emissions are the largest of our anthropogenic precursor inventories.”

Analysis: For the NEI, EPA uses emissions data provided by CARB for on-road, non-road, CMV, and rail.

Comment:

Colorado looked at the vehicle age distributions used for the NEIv2 and found that they are skewed older than State data based on vehicle registration data.

Analysis: EPA states that there are a number of complexities regarding how age distributions are computed. This is what is being investigated in CRC A115 to see if the methods can be improved. However, this improvement may only affect the modeling platforms for later years, and there may be no improvement for 2014.

Comment:

“Washoe County did submit local MOVES model input data, however during their review, they did not see that the input data was submitted, only the emission output of the MOVES model run.”

Analysis: States that submitted data should check the representative county CDBs posted here:

ftp://newftp.epa.gov/air/nei/2014/doc/2014v2_supportingdata/onroad/ 2014NEIv2_repCounty_CDBs_seeded_26sep17.zip. These files are MySQL database files which must be extracted to the “Data” subdirectory of MySQL in C:\ProgramData in order to access them in MySQL. The ftp link above also contains other inputs such as activity data (speed, vmt and hotelling data)

“[2014v2_supportingdata/onroad/2014v2_onroad_activity_final.zip](#)”). To generate the MOVES emission rates for counties in each state across the U.S., the EPA used an automated process to run MOVES to produce emission factors by temperature and speed for a set of “representative counties,” to which every other county could be mapped. These counties and the counties they are used to represent are shown in the map below. A description of the data in the ftp site linked above can be found in Table 6-7: “Onroad Mobile data file references for the 2014 NEI” of the NEIv2 TSD discussed on the first page.

New Colorado Comment:

Colorado has found in <https://drive.google.com/drive/folders/1dupQ3M4kyj1iFdTSjAzor1Dyhu57Hglf> README_2014_2015_2016_v7.2_platform_package_for_MJOs.txt the following:

“For the onroad sector, a CFPRO is provided in the ancillary_inputs/ge_dat_*_other.zip package. This CFPRO zeroes out refueling emissions in 52 Colorado counties. We zero out these emissions to prevent a double count with the ptnonipm sector, since that sector includes refueling emissions in these counties. The portion of this CFPRO pertaining to Diesel PM is only relevant for multipollutant modeling (e.g. NATA).”

Analysis: Colorado believes that the using the point source data for refueling does not adequately account for the effect of Federal on-board emission controls for this category, and that the MOVES refueling emissions should be used instead of the point source stage 2 refueling emissions. This is the way the modeling inventory for the Colorado Ozone SIP was done.

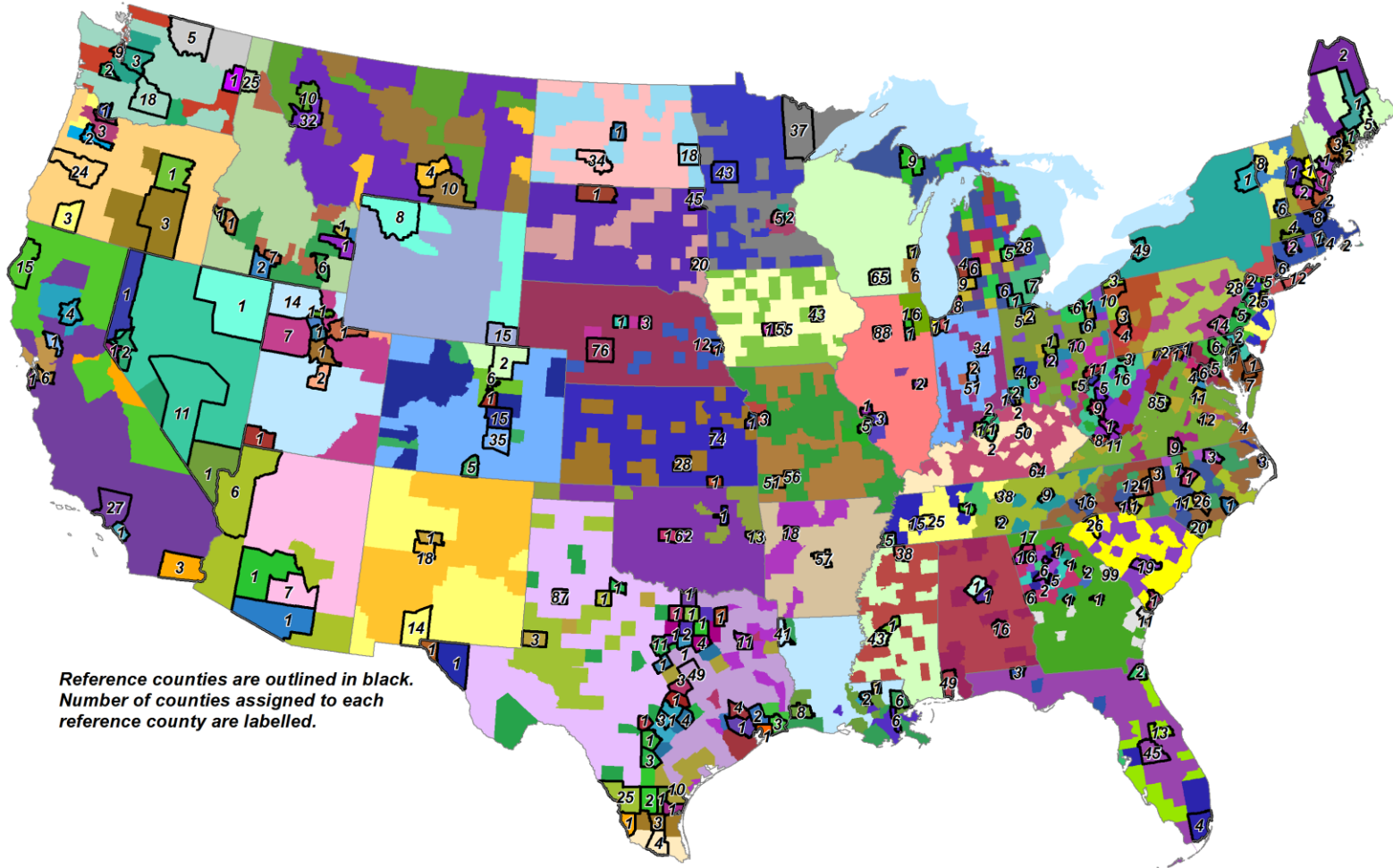
Overview of MOVES input submissions:

Table 6-1 MOVES2014a CBD tables

Table Name/ State/County	Description of Content	Alaska	Arizona (Maricopa)	Arizona (Pima)	Idaho	Nevada (Clark)	Nevada (Washoe)	New Mexico (Bernalillo)	Oregon	Utah	Washington
avft	Fuel type fractions	29	1	1	44					29	1
avgspeeddistribution	Average speed distributions		1	1	44		1			29	
countyyear	Description of the county		1						36		
dayvmtfraction	Fractions to distribute VMT between day types		1	1	44		1				39
fuelformulation	Fuel properties		1				1				
fuelsupply	Fuel differences by month of year		1				1		36		1
fuelusagefraction	Fraction of the time that E85 vs. gasoline is used in flex fuel engine vehicles						1				1
hotellinghours	total hoteling hours								36		
hourvmtfraction	Fractions to distribute VMT across hours in a day		1	1	44	1	1				39

hpmsvtypeyear	VMT input by HPMS vehicle group, as annual total	29	1	1	44	1		1	36	29	39
imcoverage	Description of the inspection and maintenance program	1	1	1	2	1	1		6	29	5
monthvmtfraction	Fractions to distribute VMT across 12 months of the year		1	1	44	1					39
roadtype	Fraction of highway driving time spent on ramps									29	
roadtypedistribution	Fractions to distribute VMT across the road types	29	1	1	44	1	1			29	39
sourcetypeagedistribution	Distribution of vehicle population by age	29	1	1	44	1	1	1	36	29	39
sourcetypedayvmt	VMT input by source use type, month, and day type						1				
sourcetypeyear	Vehicle populations	29	1	1	44	1		1	36	29	39

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Reference counties are outlined in black.
 Number of counties assigned to each
 reference county are labelled.

Reference County Groups 2014 V2