

US EPA ARCHIVE DOCUMENT

MOBILE6: EPA's New Highway Emission Factor Model

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MOBILE6 Schedule

- Finish Coding
- Test and Repair
- Release Draft (Beta) Model
- Revise Model as Needed
- Release Final Model
- Training/Complete Documentation
- Model Required

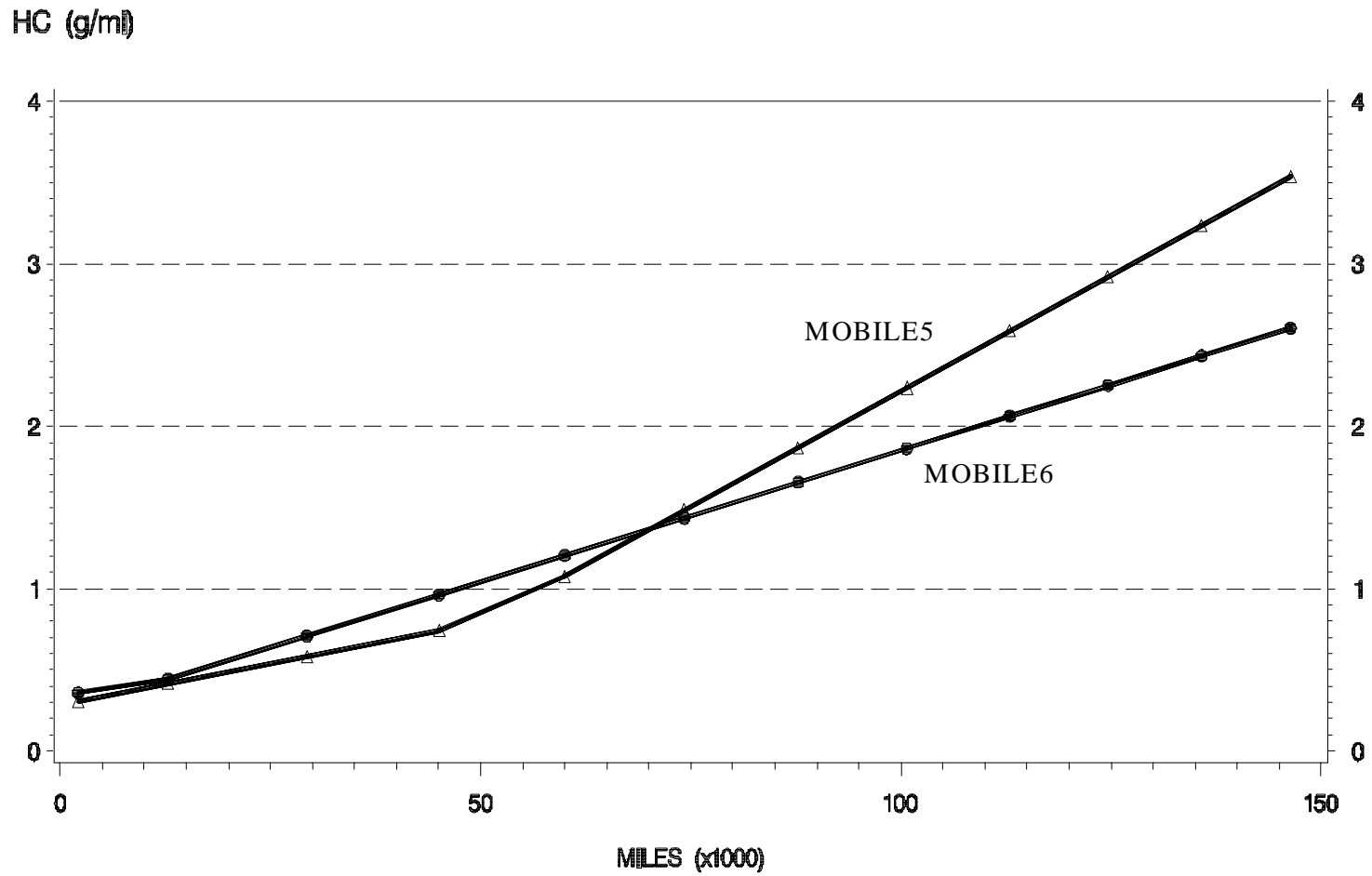
Changes for MOBILE6

- Emissions, fleet and activity data
- Structural changes
- Input and output formats
- Documentation

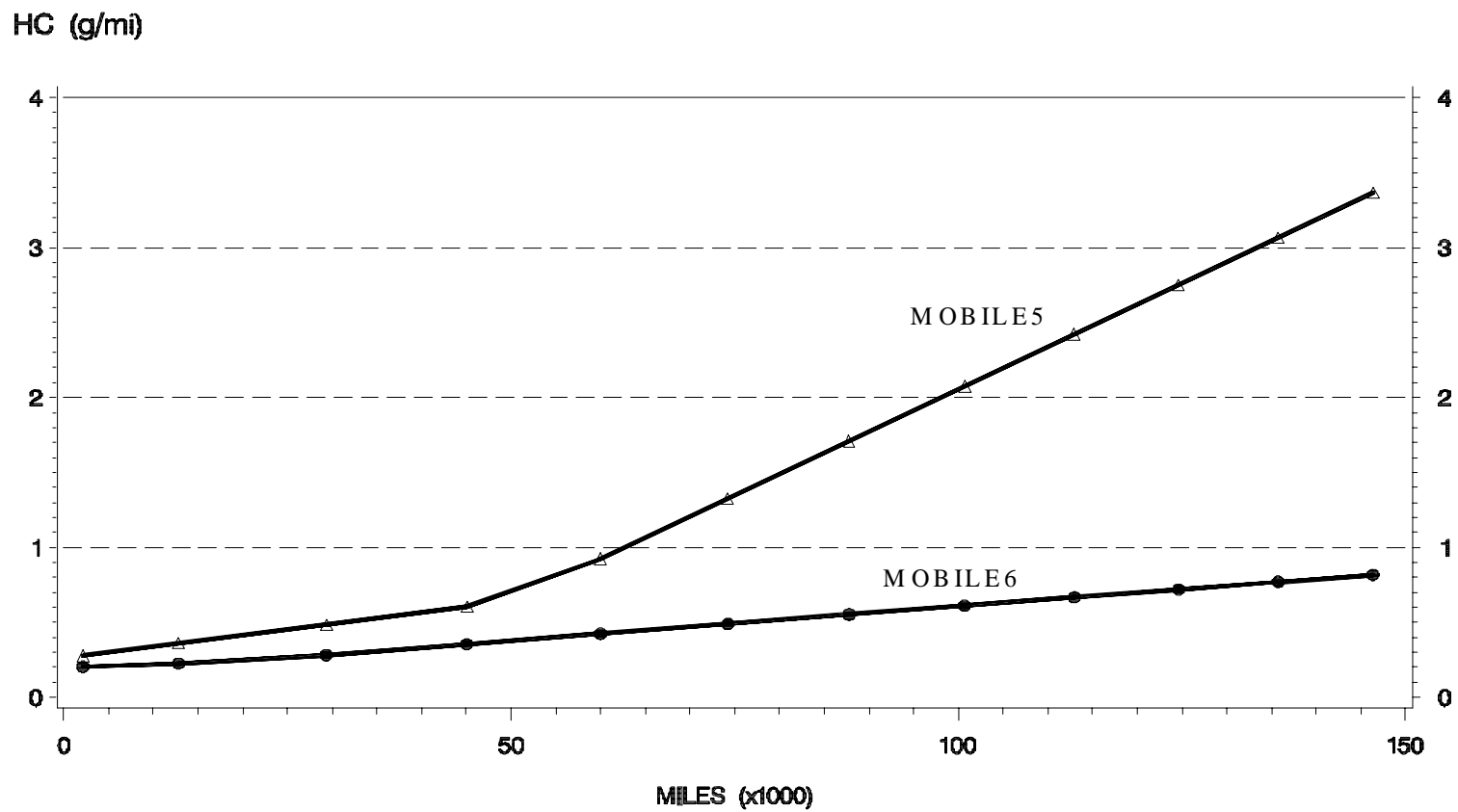
Basic Exhaust Emissions

- Update in-use deterioration estimates for light duty cars and trucks.
- New emission standards (LD and HD)

FTP COMPARISON OF MOBILE5 and PROPOSED MOBILE6 HC EMISSION FACTORS
1981 MODEL YEAR CARS



FTP COMPARISON OF MOBILE5 and PROPOSED MOBILE6 HC EMISSION FACTORS 1992 MODEL YEAR CARS



Light Duty Speed and Off-Cycle Effects

- New in-use driving cycles
- Facility-based speed corrections
- Air conditioning effects
- Effects of the Supplemental FTP rule

Effects of Fuel Composition

- Updated effects of oxygenated fuels on CO emissions
- Explicit effects of sulfur on exhaust emissions
 - including long-term and irreversibility effects.
- Explicit modeling of natural gas vehicles

Heavy Duty Emissions

- New emission standards
- New conversion factors
- Will be adjusted for HD NO_x excess

Changes to Evaporative HC

- New activity data and data on frequency of problem vehicles.
- Liquid leaker emissions added for hot soak, running loss, diurnal and resting loss.
- Diurnals and resting loss based on new real-time and multi-day data
- Hot soak revised at low RVPs
- New method for evap I/M calculations

Fleet Characterization

- New national average mileage accumulation estimates
- New national average registration (age) distributions
- New national vehicle class counts

Vehicle Activity

- New trip length estimates
- Engine start soak time distributions
- Diurnal soak time distributions
- Trip start and trip ends
- VMT by hour of day, facility, speed

Structural Changes

- Separation of start and running
- Calculation by hour
- Additional vehicle sub-classes
 - LDGV, LDDV
 - LDGT 1-4, LDDT 12, 34
 - HDGV 2b-8b, HDDV 2b-8b
 - MC
 - HDGB, HDDB-S, HDDB-T

Labeled Input and External Input Files

- Eliminates the need for “control” flags
- Reduces the amount of required input
- Expanded use of user-supplied comments
- External Files for:
 - Registration Distributions
 - In-use program descriptions
 - Local activity data

Modified Output Formats

- Eliminate most existing options
- Descriptive (120 column) output
- Electronic (tab delimited) “database” output

Database Output Fields

- File
- Run
- Scenario
- Vehicle Type
- Pollutant
- Hour
- Age
- Facility (Roadway) Type
- Emission Type
- Grams per mile
- Grams per hour
- Starts
- Ends
- Miles
- Miles per Gallon
- Hourly VMT fraction
- Facility VMT fraction
- Registration Distribution
- Vehicle Count
- Ambient Temperature
- Diurnal Temperature

Stakeholder and Peer Review

- Extensive documentation
- Expanded formal peer review
- Stakeholder review
- MOBILE Workshops
- EPA list server
- **<http://www.epa.gov/otaq/m6.htm>**