

MOBILE6

EPA's Highway Vehicle Emissions Model



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What Is MOBILE6?

- Tool for predicting HC, CO & NO_x from cars, trucks and motorcycles under various conditions
 - calendar year, fuel, vehicle activity, I/M,
- Used for SIPs, Conformity, NEPA, TRENDS, EPA rulemakings
- Replacement for current MOBILE5

Current Status



- Draft model is complete
- Early draft released to 3 states, DOT, and contractor for pilot testing
- Draft model is now available to state & local governments.
- Final release expected in June.

Why is M6 better than M5?

- New and improved data
 - e.g. in-use deterioration of newer technology
- Updated understanding of emissions
- New regulations since 1992
- Additional user options
- More user friendly input and output
- Thorough stakeholder and peer review

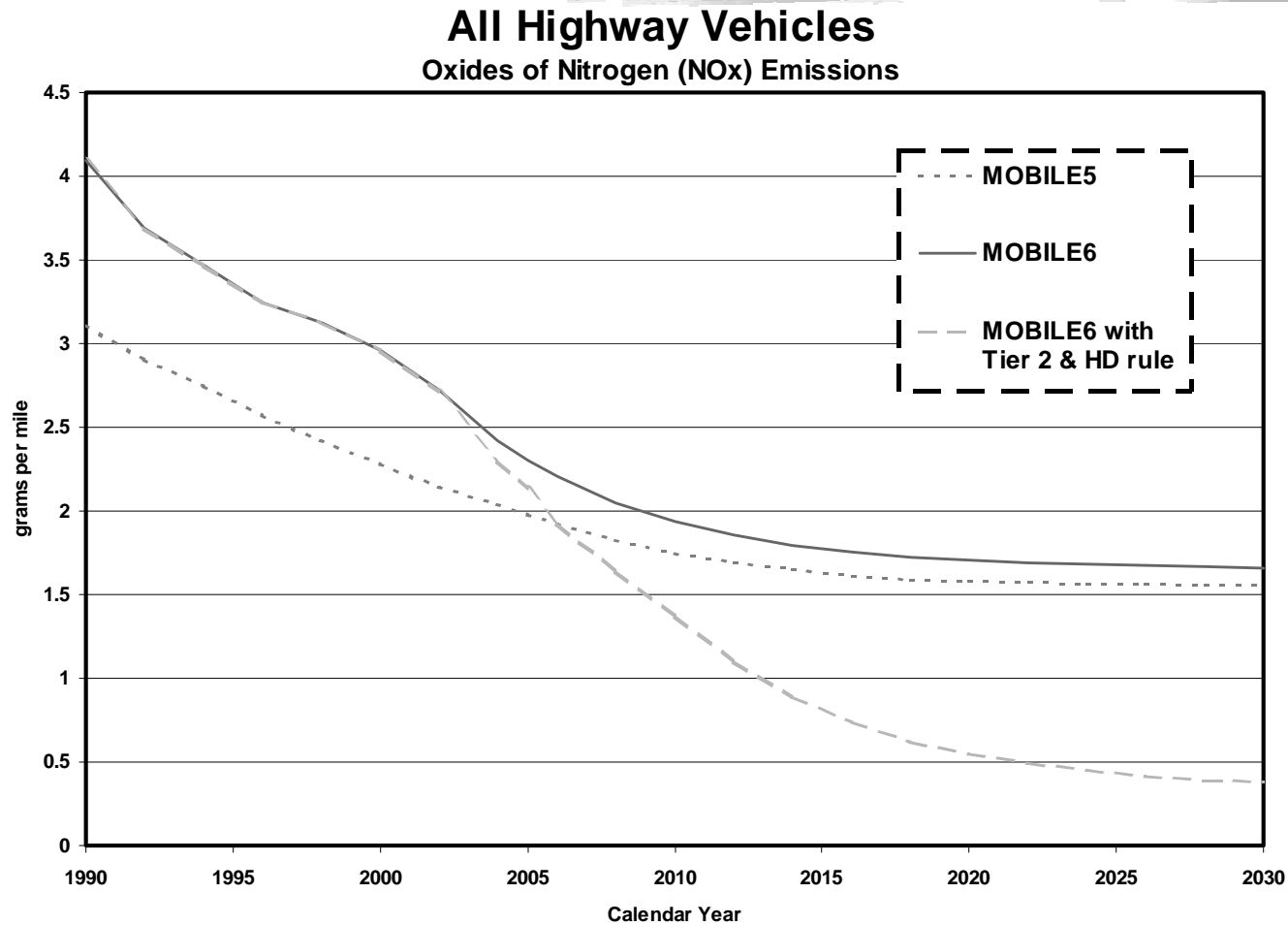
M5 Vs. M6

How Do the Numbers Differ?



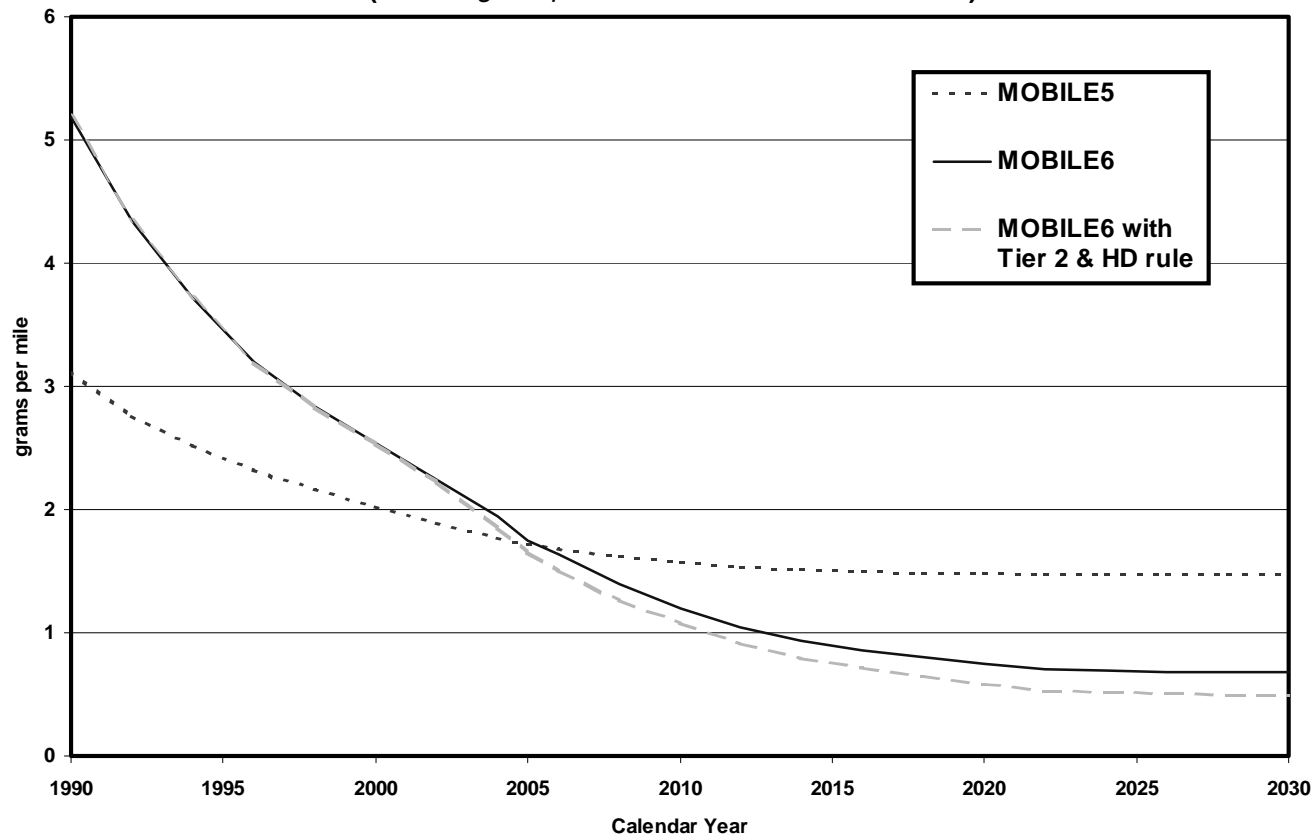
- Varies a great deal based on local conditions & assumptions, pollutant and year
- General trend:
 - M6 estimates higher than M5 in past
 - M6 estimates lower than M5 in future

MOBILE6 Vs. MOBILE5



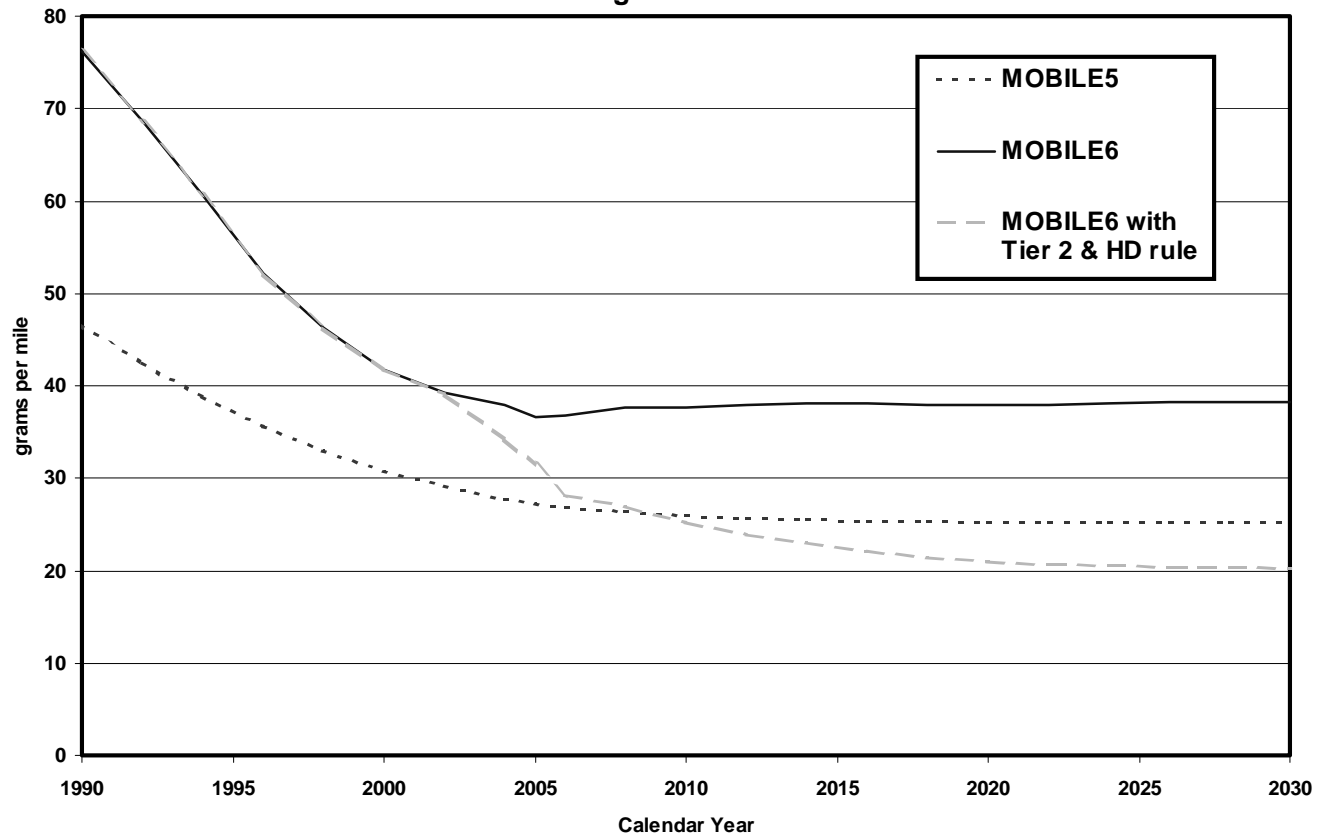
MOBILE6 Vs. MOBILE5

All Highway Vehicles
Volatile Organic Compounds (VOC) Emissions
(Including Evaporative and Exhaust Emissions)



MOBILE6 Vs. MOBILE5

All Highway Vehicles
Carbon Monoxide (CO) Emissions
at 20 Degrees Fahrenheit



M6 Vs. M5 Why Higher in Past, Lower in Future?



Higher

- Acceleration and AC
- Sulfur on catalysts
- HD NOx excess
- More older vehicles
- Less oxy CO benefit
- More SUVs
- Etc.

Lower

- SFTP rule
- Tier 2
- HD NOx consent decree
- Better durability of control technology
- HD 2007 rule
- Etc.

Pilot Testing Draft Model



- Limited model distribution.
 - OTAQ and OAQPS
 - EPA Regions
 - DOT
 - Contractor and State runs.
- Understanding that results are confidential and subject to change.
- Results are limited and rough.

Pilot Test Results



- Generally, M6 provides higher past emissions than M5
 - There are some exceptions.
- Generally, future emissions are lower with M6.
 - CO is sometimes an exception. We believe some M5 CO estimates were much too low.

Limited Draft Release



- EPA has agreed to limited 90-day draft preview to state and local agencies.
- Purpose is to allow these agencies to have a first cut at:
 - Understanding local model results and implications
 - Reviewing and commenting on SIP policy and guidance
 - Identifying user support needs

Life After MOBILE6



M6.1 Add particulates

M6.2 Add toxics

M6.3 Add greenhouse gases

M6.0 Validation

New Generation Model A fresh start!