



Progress Report on the Development of MOBILE6

CRC

March 18, 1996

Development of MOBILE6

- ❖ **Schedule**
- ❖ **Process**
- ❖ **Areas of interest**
- ❖ **New information**

Schedule for MOBILE6

- ❖ **Mesh with OTAG and SIP processes**
- ❖ **Implementation schedule for the NAAQS revisions**
- ❖ **Probable window - between Fall, 97 and July, 98**

The Process

- ❖ **Expanded participation**
 - ❖ **User workshop**
 - ❖ **FACA work group**
- ❖ **More review**
- ❖ **More coordination with CARB**

User Needs Workshop

- ❖ **Workshop - summer of 1994**
- ❖ **Transportation and air quality planners**
- ❖ **Asked to brainstorm issues and prioritize**
- ❖ **Primarily technical issues**

Issues - Users

- ❖ **Flexibility**
 - ❖ **Model multiple / hybrid IM programs**
- ❖ **Idle emission estimates for intersection modeling**
- ❖ **Peer review of the model procedures**
- ❖ **Dependency on average speed**
- ❖ **Mileage accumulations / registration distributions for national default**
- ❖ **Separate running from start emissions**
- ❖ **Model validation**

Technical Advisory Subcommittee

- ❖ **Mobile source subcommittee of Clean Air Act Advisory Committee**
- ❖ **Subgroup that supports modeling - Modeling Work Group**

Modeling Work Group

- ❖ **Charter**
 - ❖ **Review technical data, publications, EPA products**
 - ❖ **Provide input on modeling methodologies**
- ❖ **Participants - 20 members representing states, industry, academia, public interest groups, EPA**

Modeling Work Group - Activities

- ❖ **Model validation statement**
- ❖ **Review procedures recommendation**
- ❖ **MOBILE update tasks**

Model Validation Statement

- ❖ **Objective:**
- ❖ **Recommend appropriate model validation procedures**
- ❖ **Expected completion by Sept 96**

Model Review Procedures

- ❖ **Objective:**
- ❖ **Draft recommended procedures for obtaining review of analysis, methodologies, etc. that support the model and new revisions of the model**
- ❖ **Expected completion by Sept 96**

MOBILE Update Tasks

- ❖ **Objectives:**
 - ❖ **Help set priorities for potential tasks to update MOBILE**
 - ❖ **Search out available research on highest priority tasks**
 - ❖ **Potentially provide analyses, recommendations on methodology**
- ❖ **Ongoing effort**
- ❖ **About 20 activities ranked high**

Areas of Current Interest

- ❖ **Non-FTP effects**
- ❖ **High mileage deterioration**
- ❖ **LEV emissions**
- ❖ **OBD effects**
- ❖ **Real world evap effects**
- ❖ **More fuel effect parameters**

Desired Features

- ❖ **Separate trip start emissions**
- ❖ **Detailed/flexible control program inputs (I/M)**
- ❖ **Simpler user interface**
- ❖ **Future - modal model**

High Ranking MOBILE6 Projects

- ❖ **Exhaust Emissions**
 - ❖ **Modeling of non-FTP emission impacts**
 - ❖ **Review high mileage deterioration rates**
 - ❖ **Modeling California LEVs with consistent I/M credits**
 - ❖ **Impact of onboard diagnostics (OBD) with or without I/M**

High Ranking MOBILE6 Projects

- ❖ **Evap Emissions**
 - ❖ **Incorporate effects of new evap tests procedure**
 - ❖ **Use real time diurnal data in MOBILE model**
 - ❖ **Impact of onboard diagnostics (OBD) with or without I/M**

High Ranking MOBILE6 Projects

❖ IM Modeling

- ❖ Develop IM credits for pre-1981 vehicles, remote sensing device programs, and OBD
- ❖ Include the effect of OBD on emitter category growth rates and IM identification rates

❖ Fuel Effects

- ❖ Incorporate the complex model in the MOBILE model

High Ranking MOBILE6 Projects

- ❖ **Reevaluate age distribution and mileage accumulation rates**
- ❖ **Separate trip start emissions from running emissions**
- ❖ **Develop a modal emissions model for the future**
- ❖ **Provide options for trips per day and average time between trips emissions**
- ❖ **Investigate validation of the model**
- ❖ **Expand particulate data on in-use vehicle**
- ❖ **Review needs for non-road model**

New Information

- ❖ **New testing information**
- ❖ **Contracted analyses/studies**

Recent Testing Activities

- ❖ **Real time diurnal**
- ❖ **Hot soak**
- ❖ **Canister characterization**
- ❖ **Small amount of OBD testing**
- ❖ **Bag 4 or non-FTP testing**
- ❖ **Driving cycle data at higher speeds**
- ❖ **Trip frequency and patterns**

Contracted Analytical Studies

❖ Completed work

- ❖ Determine effect of RVP and higher temp on exhaust emissions
- ❖ Develop methodology for utilizing IM240 data in development of basic emission rates
- ❖ Develop methodology for generating representative driving cycles

Contracted Analytical Studies

- ❖ **In progress**
 - ❖ **Determine national estimates of age, mileage distributions**
 - ❖ **Determine future technology fractions**
- ❖ **Future work if funding available**
 - ❖ **Update HDV g/bhp-hr to mile conversions**
 - ❖ **Develop new speed correction factors**
 - ❖ **Update evap modeling**

Likely MOBILE6 Features

- ❖ **Recalculated basic emission rates**
- ❖ **New evaporative emission rates**
- ❖ **Detailed fuel parameter effects**
- ❖ **Trip characteristics**

MOBILE5b

- ❖ **Final reformulated gasoline**
- ❖ **Onboard refueling phase-in**
- ❖ **Detergent gasoline effects**
- ❖ **Initial “Bag 4” effects**
- ❖ **Hybrid I/M options**