

TCEQ MOBILE EMISSIONS ASSESSMENT TOOL (MAT)

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Background

- Tool for managing and manipulating detailed on-road mobile source inventory data
- Web-based access
- Currently hosted at ERG (can be re-located)
- Current work assignment updates earlier utility (MOBILE6.2, QA and Reporting functions)

Primary Functions

- Import and Store Inventories and Supporting Data
- QA Inventories
- Create and Run MOBILE6.2 files
- Perform Sensitivity Analyses at the Link Level
- Apply Administrative System Controls

Advantages

- Central Repository for emissions inventory and related data (e.g., MOBILE files, VMT)
- Organized Storage of data for easy reference and retrieval
- Uniformity of files and report outputs (NIF2.0, photochemical model inputs)
- Easy Access to summary data (read-only)
- Controlled Access to data *manipulation* and processing

Advantages cont'd

- Broad Applicability, for a number of different inventory types (SIP, ROP, Conformity, others)
- Facilitates Calculations for QA and sensitivity analyses
- Improved Accuracy and Precision relative to 24-hour, road type level analyses. And *much faster* than traditional link-level work ups.
- Improved Record Keeping for QA and SIP analyses

What's Inside?

- Cold-Fusion5 Web Interface
- ORACLE8.06 database
- MOBILE6.2 server
- Visual Basic processing

Import and Store Inventories

- Inventory types:
 - SIP
 - Conformity
 - Rate of Progress
 - Trends
 - Periodic

Import and Store Inventories

- Inventory formats:
 - Link-level (photochemical)
 - NIF2.0
 - MOBILE6.x input files
 - MOBILE6.x external files (e.g., I/M)

Import and Store Inventories

- Supporting Data (imported by Administrator)
 - Activity (hourly link VMT)
 - “Non-inventory” tables (for QA reference)
 - Population by county and year
 - Fuel RVP by county and season
 - Control Programs by county and year (I/M, ATP)

QA Inventories

- Range / Format Checks
- Internal Consistency Checks (e.g., VMT mix)
- Comparison with Reference Values (e.g., Control Program Characteristics)
- Independent Calculations (e.g., w/ 24-hr speeds)

Create MOBILE6.2 Input Files

- Create from scratch w/ MOBILE defaults
- Modify stored baseline file
- Limited automation for external files (e.g., registration distributions, I/M)
- Innumerable opportunities for sensitivity analyses:
 - I/M programs
 - Fuel programs
 - Vehicle standards
 - Others

Run MOBILE6.2

- MOBILE model generates emission factors for 28 vehicle types by hour for 14 speed bins (HAP and PM options available)
- Combine w/ hourly link-VMT data to obtain g/hr
- Summary reports available for view / download
- Option for link-level output for photochemical modeling

What it Can't Do

- Cannot fully automate QA process
- Cannot generate “official” emissions inventories
- Database is not “self-updating”
- Cannot guard against inappropriate use (by itself)