

# THE AIR RESOURCES BOARD AND PROJECT LEVEL ASSESSMENT

A&WMA Mother Lode Chapter

November 6, 2013

California Air Resources Board

# ARB and Project Level Assessment

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## California is unique

- ▣ State develops mobile source inventory tools
- ▣ Reflects California's unique role under the Clean Air Act

Mobile inventories designed for SIP, regulatory development

## Project level assessment has not been major focus

- ▣ Districts and EPA, not ARB, typically determine the process for conducting project level assessment
- ▣ Districts and EPA defined how ARB tools were to be used and developed their own tools

# Conformity

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- Transportation Conformity applies
  - Regional Level
  - Project Level
- POAQC Process
  - Thresholds
    - AADT
    - Diesel Vehicles
    - Percentage of Trucks
    - LOS at congested intersections

EPA's Guidance:

<http://www.epa.gov/otaq/stateresources/transconf/policy/420b10040.pdf>

# ARB Tools and Project Level Assessment

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ARB Tools provided reporting capabilities that Districts and EPA chose to use

- ▣ EMFAC2007 emission rate outputs

OFFROAD

- ▣ OFFROAD2007 inventory reports

In some cases, different reports run from the same model could provide different answers!

# So What Happened in 2007-2010?

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## ARB Regulations Evolved

- ▣ Diesel Fleet rules required inventory evolution
- ▣ ARB greenhouse gas authority placed greater demands on previously less important parts of tools

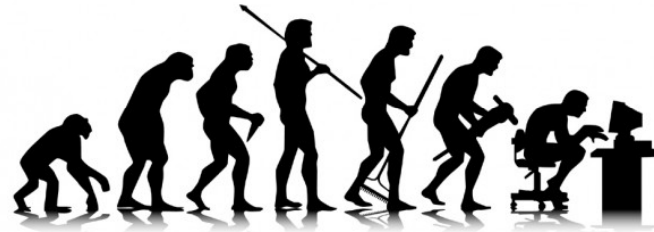
## ARB Inventory Staff Responded; Tools Evolved

- ▣ Redesigned off-road and on-road inventories that use new inputs, and match fuel sales/use data

# EMFAC Evolution: EMFAC2011

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- An intermediate step
  - Modular approach required to accommodate Truck and Bus Rule inventories not easily integrated into FORTRAN structure
    - EMFAC2011 LDV
    - EMFAC2011 HD
    - EMFAC2011 SG
    - Web Database
- ARB provided data for CalEEMOD, CT-EMFAC, etc
- Project level assessment not a concern in development



# EMFAC2011-Approval

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EPA and FHWA must approve EMFAC

- New PM Hot Spots conformity requirements made project level assessment a point of negotiation

ARB developed tools, then helped EPA develop approaches for conducting transportation conformity analyses

- Handbook for Project Level Assessment
  - Should mirror EPA guidance when released
  - Simplified vs Detailed approach
- EMFAC2011-PL for simplified approach

EPA approval required for other EMFAC-based tools

- CT-EMFAC

# Using EMFAC for Hot Spot Analysis

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- Simplified vs. Detailed approach?
  - Simplified (uses EMFAC2011-PL tool)
    - Can be used in most cases when relying on default data
  - Detailed (uses a combination of tools)
    - For cases where temperature, relative humidity, vehicle age distributions (transit fleet for park&ride), or rest and soak time data differ from the default
    - EMFAC-LDV Procedure (very similar to EMFAC2007 procedure)
    - EMFAC HD Procedure
      - EMFAC web database (emissions rate database and idling database)



# EMFAC2011-PL GUI

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- Select database type
- Select region
- Select calendar year
- Select season
- Select vehicle categories
- Select fuel type
- Select speed

**EMFAC2011-PL (Ver 1.1)**  
**Project-level Emission Rates Database**

Vehicle Category Scheme:

EMFAC2011 Vehicle Categories     EMFAC2007 Vehicle Categories

Trucks / Non-Trucks Categories     Trucks 1 / Trucks 2 / Non-Trucks Categories

Total (Fleet average)

Region type:

State     Air Basin     Air District     MPO     County     GAI

Region

CalYr

Season

Vehicle Category

Fuel Type

Speed

# Off-Road Model Evolution

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Category-specific models built in parallel with the regulations

- ▣ In-Use Off-Road
- ▣ Ocean-Going Vessels
- ▣ Commercial Harborcraft
- ▣ Cargo-Handling Equipment

Models under development

- ▣ Agricultural Equipment
- ▣ Locomotives

Data provided to CalEEMOD

# Off-Road and Project Level Assessment

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## **OREO**      Off-Road Emissions On-Line

Queryable Database of all Off-Road Emissions

- ▣ Calendar, Season, Region
- ▣ With or Without Rules
- ▣ Vehicle class, equipment type, fuel type
- ▣ Model year, horsepower group, Tier
- ▣ GHG, criteria pollutants, diesel PM

Generates .csv output

Coming in 2014

# The Future: Project Level Assessment

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## EMFAC2013

- ▣ Updated reports in one model
- ▣ Updated and expanded web database
- ▣ Much lower diesel PM from DPF equipped trucks
- ▣ Tire wear and brake wear growing in importance

## Redesigned on-road emission rates

- ▣ Modal vs Facility-specific
- ▣ Testing data for PM by soak time

## Revised OEHHA health risk assessment guidance

# EMFAC Resources Online

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EMFAC and Mobile Source Emission Inventories

<http://www.arb.ca.gov/msei/msei.htm>

*PL Handbook*

<http://www.arb.ca.gov/msei/emfac2011-pl-handbook-for-project-level-analyses-final-020713-2.pdf>

*PL - Tool*

<http://www.arb.ca.gov/msei/emfac2011-pl-ver1.1.zip>

*Web-Based Emission Database*

<http://www.arb.ca.gov/emfac/>

# Contact:

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