



# **Fleet Rule for Transit Agencies Public Workshop**

**Dec 2, 2003 - El Monte**

**Dec 3, 2003 - Sacramento**

**California Environmental Protection Agency**



**Air Resources Board**

# Outline of Today's Presentation

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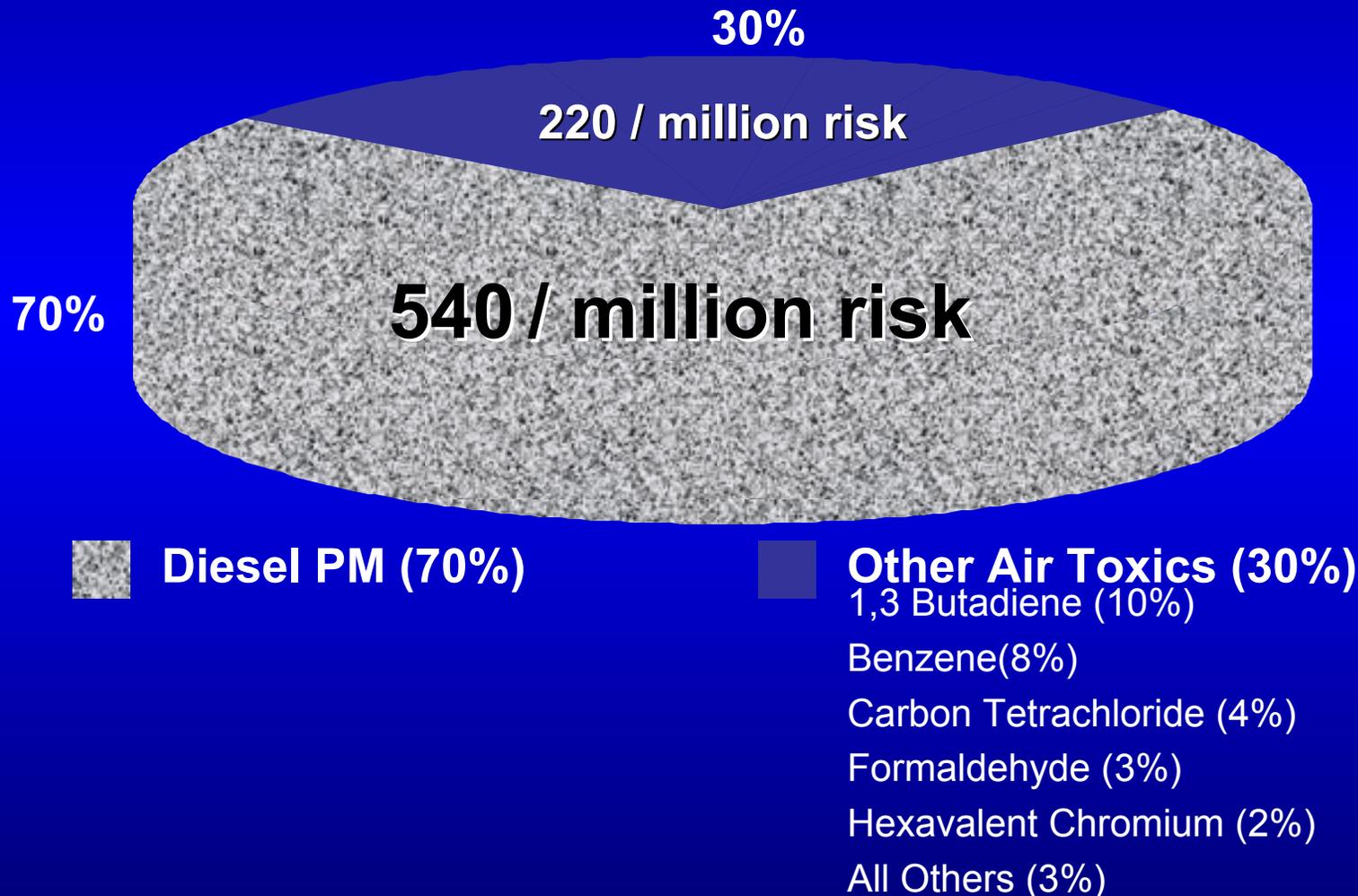
- Background
- Regulatory Proposal
- Zero Emission Bus Program
- Non-Urban Bus Survey

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**BACKGROUND**

# 70% of Air Toxic Risk is From Diesels

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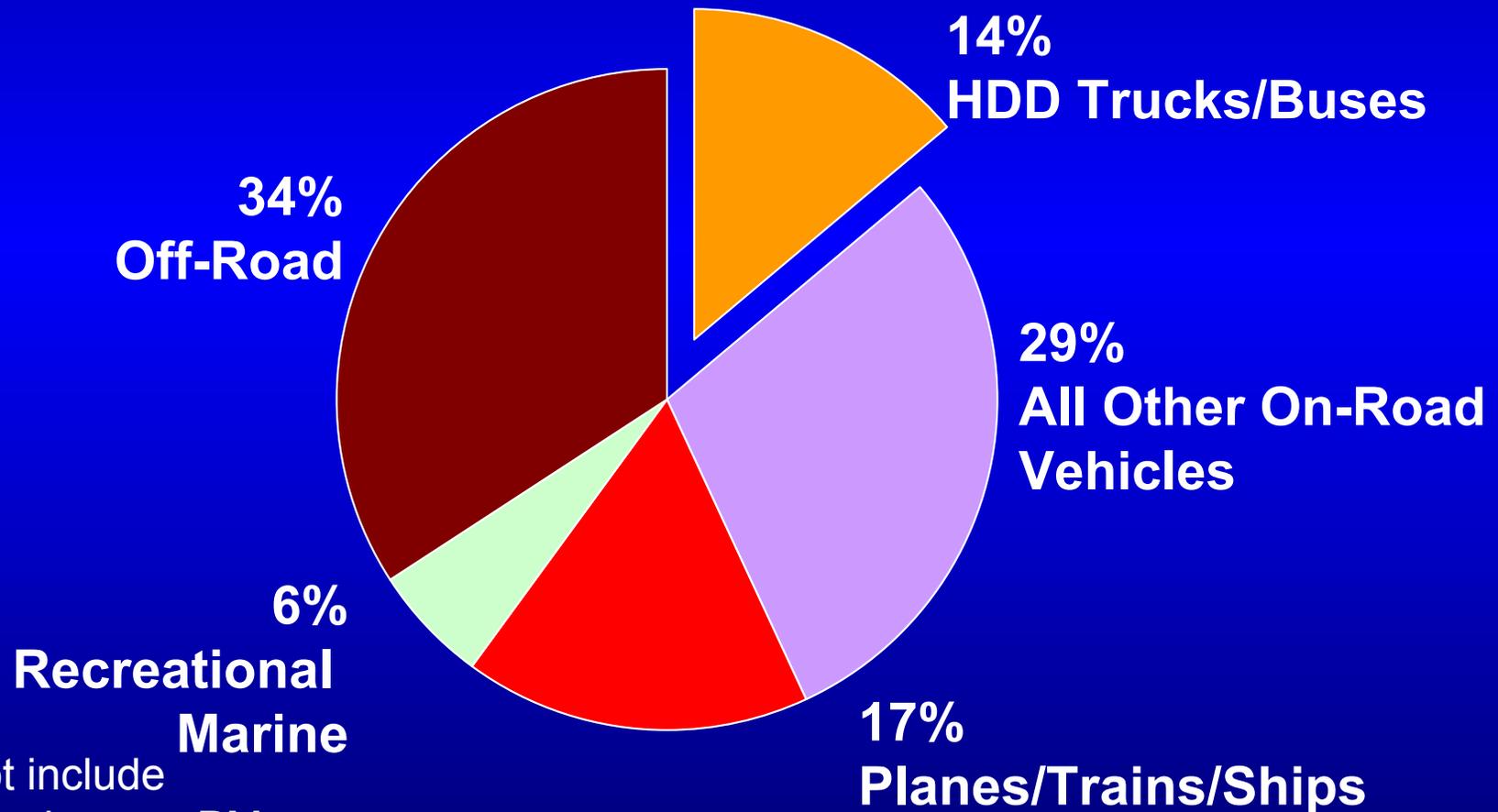
# Health Impacts of Diesels in California

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- Annual health impacts
  - 2,900 premature deaths
  - 3,600 hospital admissions
  - 240,000 asthma attacks/respiratory symptoms
  - 600,000 lost days of work
- By comparison
  - 3,700 deaths from car accidents
  - 2,000 homicides

# Statewide Mobile Source PM10 Emissions - 2001

123 tons per day\*



\*Does not include  
tire and brakewear PM

# Diesel PM is a Toxic Air Contaminant

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- Identification
  - August 1998
- Diesel Risk Reduction Plan
  - September 2000
- Airborne Toxic Control Measures
  - Ongoing Since 2000



# Diesel Risk Reduction Plan - 2000

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- On-Road Measures
  - Solid Waste Collection Vehicles
  - Public HDV Fleets
  - Private HDV Fleets, incl. cargo fuel tankers
- Off-Road Measures
- Diesel PM Reduced 75% from 90% of Vehicles (Expected) by 2010

# SIP Measures: PM Retrofit

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- ON-ROAD HVY-DUTY-3
  - Adopt 2003-2005; Implement 2004-2010
- OFF-ROAD CI-2
  - Adopt 2004-2008; Implement 2006-2010
- ROG and NOx Reductions Accompany PM Reductions

# Proposed Rulemaking Schedule - Mobile Sources

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- Board Adoption Dates:
  - Solid Waste Collection Vehicles: Sept. 2003
  - Transit Agencies, Non-Urban Buses: 2004
  - Public On- and Off-road Vehicles: 2004
  - Private On- and Off-road Vehicles: 2005

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# **REGULATORY PROPOSAL**

# Scope

## Fleet Rule for Transit Agencies

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### ➤ Transit Agencies

- Urban bus (heavy heavy-duty engines)
  - Non-urban bus
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### Not Covered

### ➤ Public Agencies

- Shuttles: airport, universities, tourism
- Other buses: non-transit

### ➤ Private (2005)

- Charters
- Tourism

# Proposed Amendments

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- Exhaust Emission Standards
- Fleet Rule for Transit Agencies
  - Urban Buses
  - Non-Urban Buses

# Modification of 1956.1: Urban Bus Engine Certification

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- Eliminate 1956.1 (a)(12)
  - Match the National 2007 HHD Truck Engine Standards
- Allow 2007 Advanced Technology Early
  - Cap at 1.2 g/bhp-hr NO<sub>x</sub> and 0.01 g/bhp-hr PM

# Modification of 1956.1: Urban Bus Engine Certification

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- Additional Options:
  - No Modification of Engine Standards
  - Eliminate Diesel Path and Require All Alternative-Fuel Engines
  - Re-Open the Alternative NOx Strategy Exemption (13 CCR 1956.2)

# **Proposed Changes to Fleet Rule for Transit Agencies**

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- Move to New Sections
- Modify Urban Bus Definition
- Increase Flexibility in Meeting PM Reductions
- Add Non-Urban Bus Definition
- Add Non-Urban Bus NO<sub>x</sub> and PM Fleet Requirements

# New Sections

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**New Section for all in-use fleet rules:  
title 13 section 2020-2027**

1956.1 - Does Not Move

2020: Purpose and Definitions

2023.1: 1956.2 (Urban Bus)

2023.2: New Non-Urban Bus

2023.3: 1956.3 (ZEB)

2023.4: Reporting  
(urban and non-urban)

# Modify Urban Bus Definition

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- Passenger-carrying vehicle powered by a heavy heavy-duty diesel engine, or of a type normally powered by a heavy heavy-duty diesel engine, with a load capacity of fifteen (15) or more passengers and intended primarily for intra-city operation, i.e., within the confines of a city or greater metropolitan area. Urban bus operation is characterized by short rides and frequent stops.
- Delete remaining text from the definition.

# Urban Bus PM Reduction Flexibility

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- Allow Transit Agencies to Meet an Average of 0.01 g/bhp-hr PM
- Applies in lieu of 85% Reduction in Final Compliance Year

# New Requirements: Non-Urban Buses

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Brings in Transit Agencies and Buses  
Not Previously Subject to Rule

- Define Non-Urban Bus
- NOx Reduction
- PM Reduction
- Reporting Requirements

# Non-Urban Bus: Proposed Definition

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- “Non-urban bus” means a passenger-carrying vehicle powered by a medium or heavy heavy-duty diesel engine, or of a type normally powered by a medium or heavy heavy-duty diesel engine; with a load capacity of fifteen or more passengers owned or operated by a transit agency; and which is not an urban bus.

# Non-Urban Bus: Proposed NOx Requirements

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- NOx Fleet Average Reduction
  - Two Step Reduction
    - 3.2 g/bhp-hr in 2007
    - 2.4 g/bhp-hr in 2010
  - Similar implementation as for Urban Buses
    - Based on Engine Certification

# Non-Urban Bus: Proposed PM Requirements

- Total PM Reduction
  - Baseline January 1, 2005
  - Same Method as for Urban Buses
  - Implementation Schedule:
    - 25% Reduction by 2007
    - 50% Reduction by 2009
    - 80% Reduction by 2011, or average of 0.01 g/bhp-hr PM

# Non-Urban Bus: Proposed Reporting Requirements

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- Reporting Requirements Mirror Existing Transit Fleet Rule
- Initial Report of Baseline Due 1/31/2006
- Annual Reports of Reductions Due Each 1/31 through 2016.

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# **NON-URBAN BUS SURVEY**

# Survey

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- Better Data = Better Inventory
- Inventory Required to Understand Emission Reductions Gained
- Survey Response Low Thus Far
  - 26 out of 68 transit agencies
- Outreach

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# **ZERO EMISSION BUS PROGRAM**

# Zero-Emission Bus Rule

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## Summary of Current Rule

- 7/1/03 - Start ZEB Demonstration Project
- 1/31/05 - Final Project Report to ARB
- 1/31/06 - ZEB status report to the Board

### **Requires 15% of purchases to be ZEB**

- 2008-15, Diesel Path
- 2010-15, Alternate Fuel Path

# Zero-Emission Bus Rule

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## Status

- ZEB demonstration 18 to 32 months behind schedule
- Bus cost greater than anticipated during February 2000 rulemaking

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**NEXT STEPS**

# Public Process

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- First Public Workshop 04/03/03
- Second Public Workshops
  - 12/2/03 - El Monte
  - 12/3/03 - Sacramento
- Comments Requested by 1/16/04
- Board Hearing 06/24/03

# COMMENTS REQUESTED

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- E-Mail To:
  - Kathleen Mead, [kmead@arb.ca.gov](mailto:kmead@arb.ca.gov)
  - Please cc: Nancy Steele,  
[nsteele@arb.ca.gov](mailto:nsteele@arb.ca.gov)
- Or Mail To: 1001 I Street, P.O. Box 2815, Sacramento, CA 95812
- Or Fax To: (916) 322 - 3923

# **Zero Emission Bus Contact**

**Gerhard Achteлик**

Staff, Lead person for Zero Emission Bus Rule

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**Get on the e-mail List Serve for all  
transit notifications**

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

list name: diesel-retrofit

# Our Goals: Clean Air

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# And Healthy Citizens