

# **2016 State Strategy for the State Implementation Plan**

**Public Workshop to Discuss Potential Changes to  
the Heavy-Duty Engine and Vehicle Emission  
Standards, Test Procedures, Warranty, and Other  
Related Heavy-Duty Programs**

**November 3, 2016**

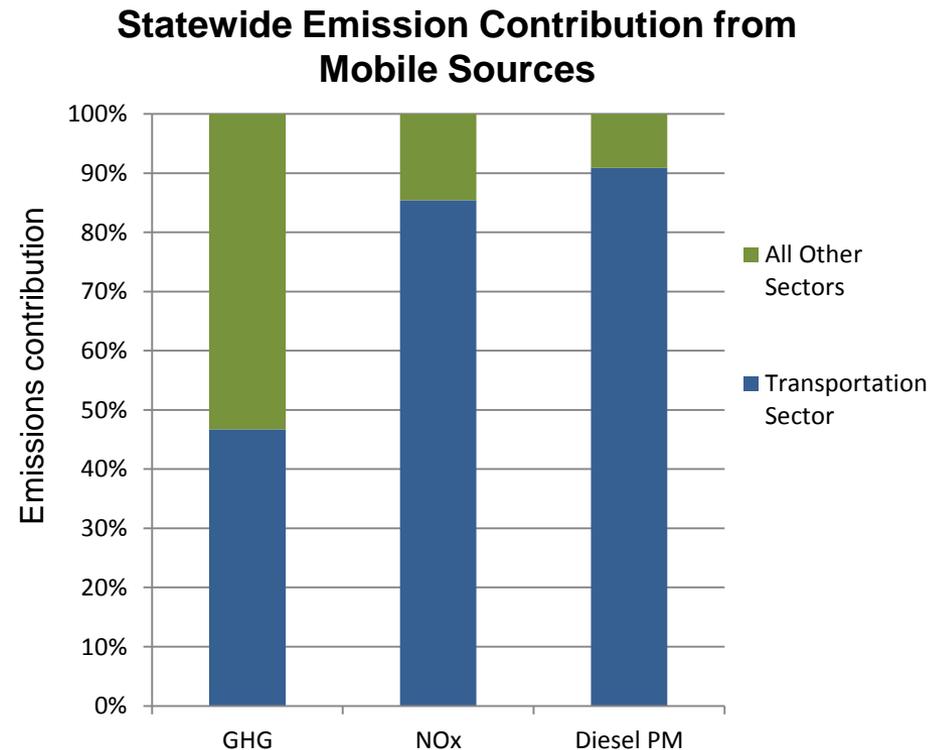
**Diamond Bar, California**

California Environmental Protection Agency

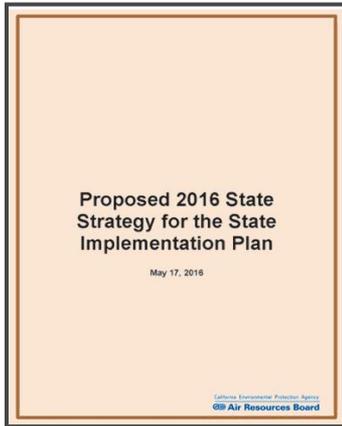
 **Air Resources Board**

# Mobile Source Reductions are Key

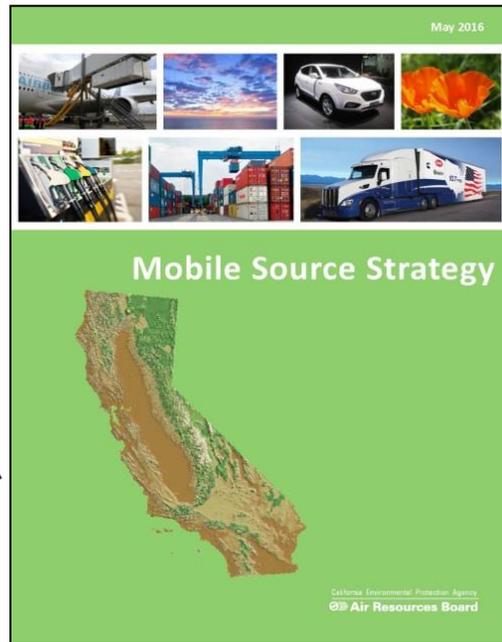
- ▶ Largest contributor to smog-forming, greenhouse gas, and diesel PM emissions
  - 80 percent of smog-forming NOx
  - 50 percent of greenhouse gases
  - 90 percent of toxic diesel PM
- ▶ Integrated planning to meet multiple goals



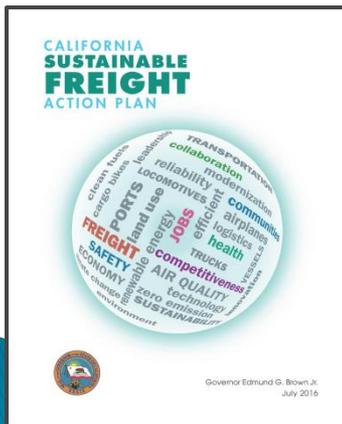
# Mobile Source Strategy Framework for Multiple Plans



Criteria Pollutants



GHG Emissions



Toxic Risk Reduction

Black Carbon Emissions



# What is the SIP?

- ▶ Required by Clean Air Act
- ▶ Framework for meeting air quality standards
- ▶ Technical foundation for control strategy
- ▶ Legal commitment to achieve emission levels needed for attainment
  - Action on new measures according to implementation schedule
  - Aggregate emission reductions by specific dates
- ▶ Becomes enforceable upon EPA approval

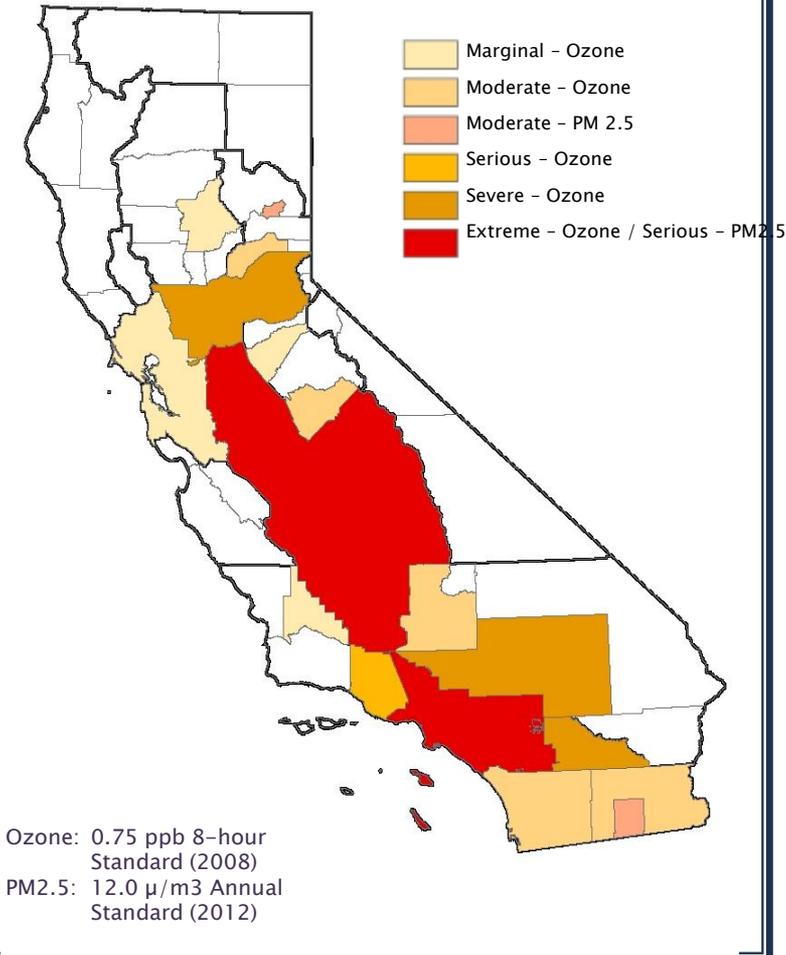
# Components of the SIP



# Define the Challenge

Air  
Quality  
Data

Nonattainment Areas in California  
Ozone and PM2.5

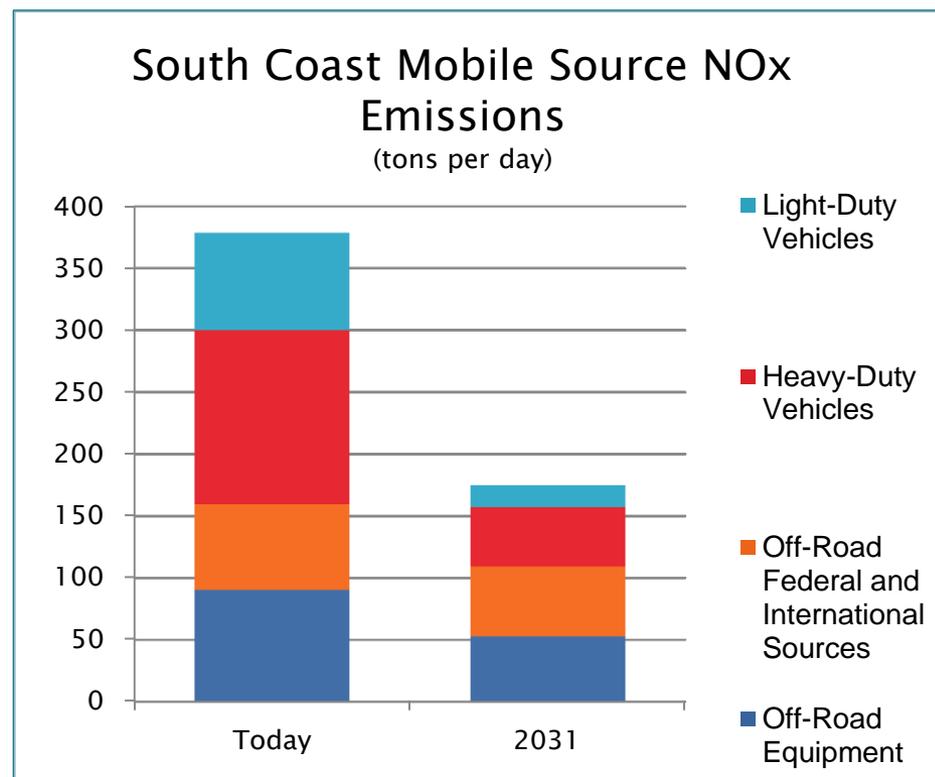


- Over 12 million Californians breathe unhealthy air
- Most areas expected to attain standards by 2026
- Key challenges:
  - South Coast ozone
  - San Joaquin Valley PM2.5

# Identify Key Sources

## Emissions Inventory

- ▶ Comprehensive accounting of emissions
- ▶ Current program NOx benefits by 2031
  - Mobile source emissions reduced over 50 percent
  - Heavy-duty truck emissions reduced by nearly 70 percent
- ▶ Heavy-duty trucks and federal sources remain largest contributors



# Incorporates Latest Science



Air Quality  
Modeling

- ▶ Based on decades of research, field studies, peer reviews
- ▶ SIP modeling follows latest EPA guidance
- ▶ Defines attainment needs and demonstrates need for deep NOx reductions
  - 80 percent NOx reductions needed by 2031 in South Coast
  - Current control program provides for ozone attainment in the San Joaquin Valley

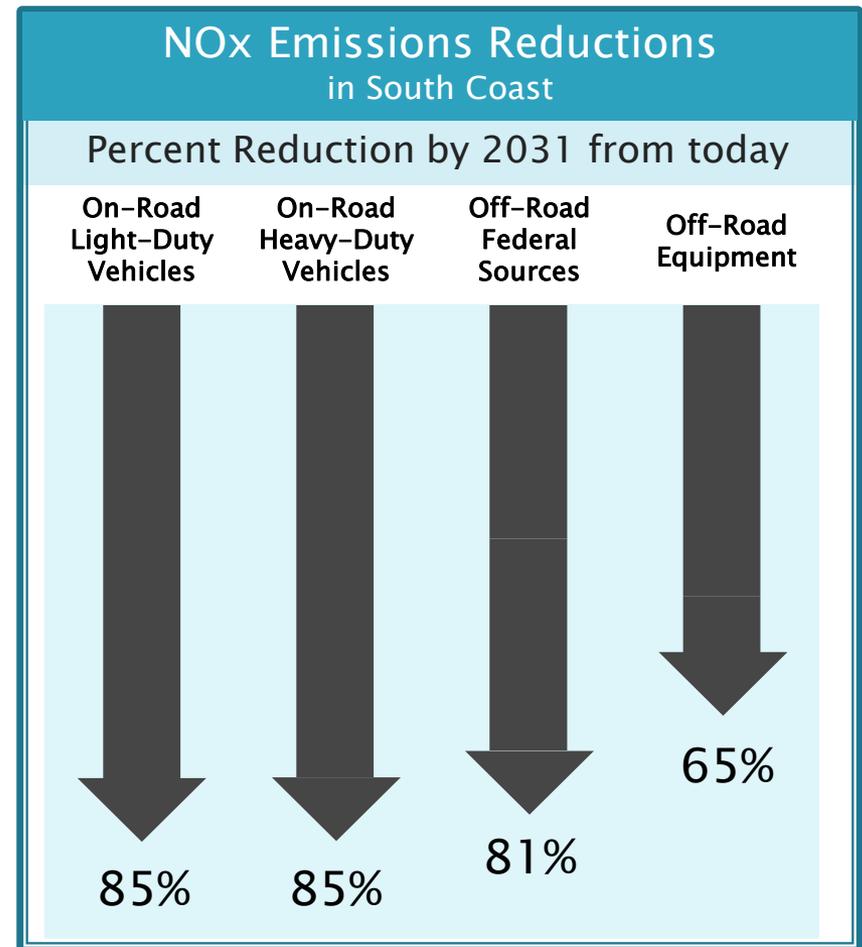
# Today's Technologies

- Comprehensive review of technology status and feasibility
- Next generation of advanced technologies and fuels is here
  - Light-Duty ZEV commercialization well underway
  - Low-NOx truck engine has been certified
  - Heavy-duty zero emission technologies being demonstrated

# Proposed Strategy



- Comprehensive set of actions for mobile sources and consumer products
- Reductions from current control program and new measures
- ARB's commitment to achieve reductions needed for attainment



# Mobile Source Actions

- ✓ **Establish cleaner engine standards**
- ✓ Increase penetration of zero emission technologies
- ✓ **Ensure emission control durability**
- ✓ Expand use of cleaner fuels
- ✓ Conduct pilot studies to demonstrate new technologies
- ✓ Incentivize deployment of cleanest technologies

# Heavy-Duty Trucks

## Establish Cleaner Engine Standards

- ▶ Establish new engine standards effectively 90 percent cleaner than today's standards
- ▶ Provide certification flexibility and ensure in-use performance and emission control durability
- ▶ Federal action essential to address interstate trucks operating in California

# Proposed SIP Measure

- ▶ On-road heavy-duty low-NOx engine standard
- ▶ State and federal actions by 2019
- ▶ California implementation to begin in 2023

	South Coast	San Joaquin Valley	Statewide
<i>Expected NOx Emission Reductions in 2031 (tpd)</i>			
<b>California Action</b>	5	7	24
<b>Federal Action</b>	7	8	28
<b>Total</b>	12	15	52

# Other Truck Actions

- ▶ Certification flexibility for Innovative technologies
- ▶ Zero emission technology in targeted applications
- ▶ Ensure in-use emission performance level
- ▶ Incentives to Ensure sufficient penetration of **cleanest** technologies to meet attainment needs

# SIP Next Steps

- ▶ State SIP Strategy addresses mobile sources, fuels, and consumer products
- ▶ Board will consider SIP Strategy in March 2017
- ▶ Staff will initiate actions for proposed measures
- ▶ After Board approval, SIPs submitted to EPA

# Contact Information

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