

# STATUS REPORT ON THE ADVANCED CLEAN CARS PROGRAM

Sacramento, California  
October 24, 2013

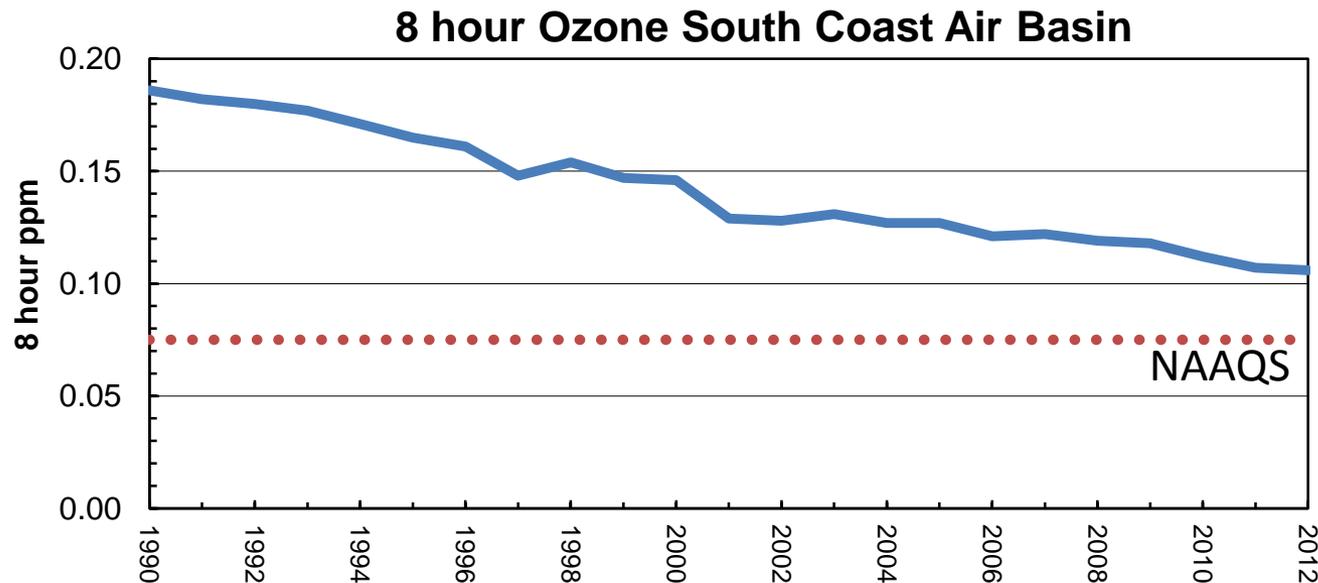
# Overview

- Background
- Next Steps
- ZEV Implementation
- Status of ZEV Infrastructure

# Meeting Criteria Pollutant Goals

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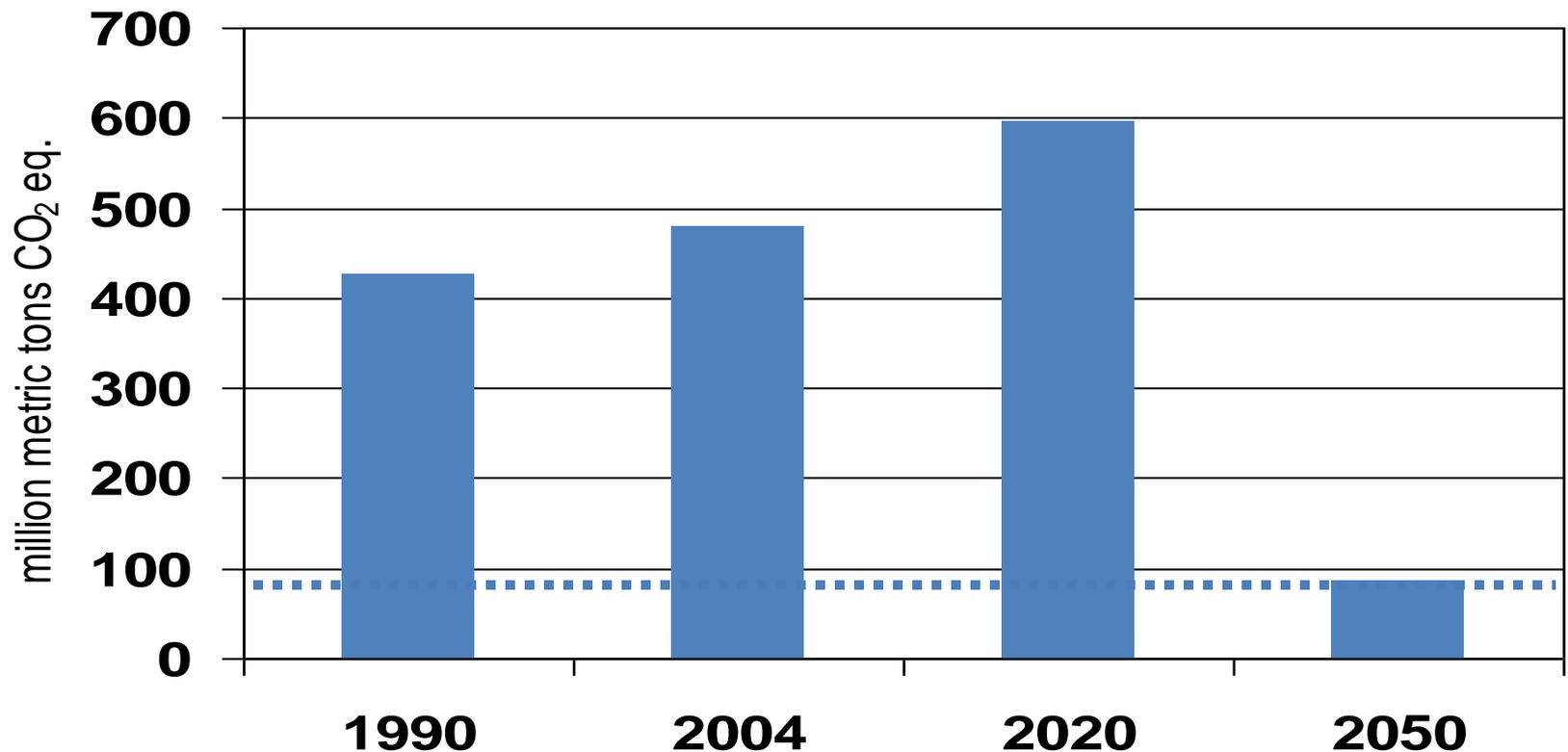
- Continued progress towards ozone attainment
- Reduce localized exposure
  - PM, toxics



# Meeting Greenhouse Gas Goals

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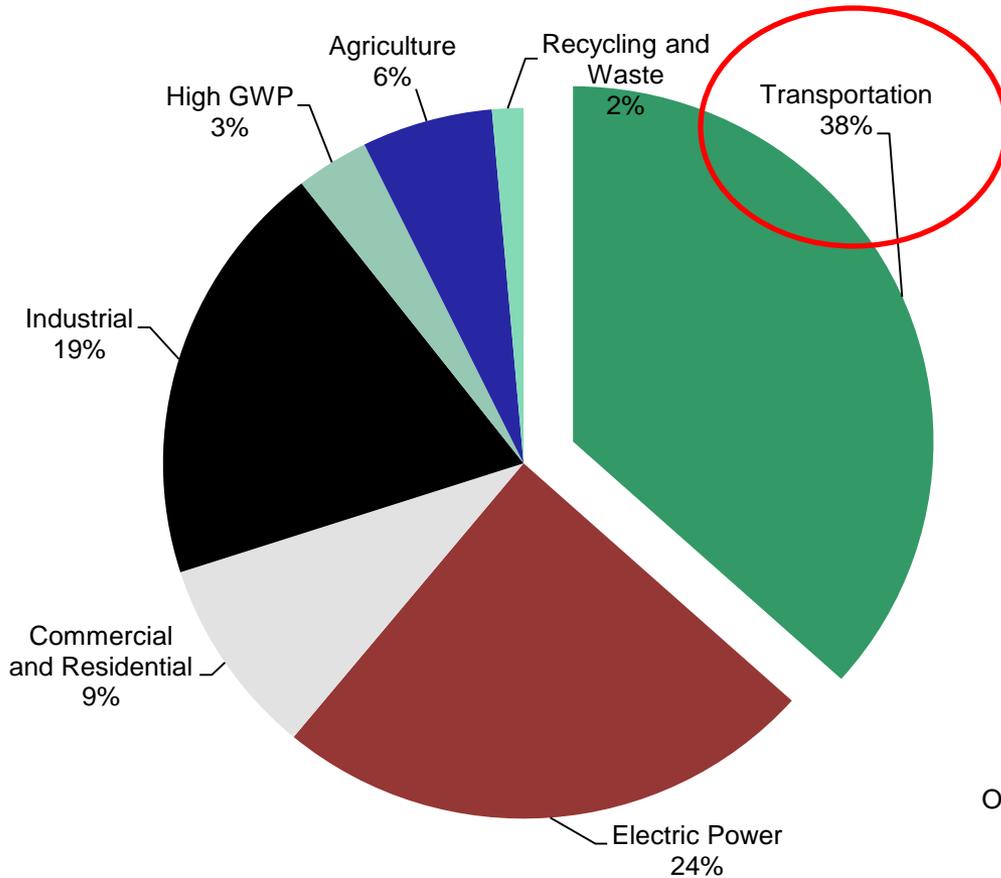
- Goal: 80% below 1990 levels by 2050



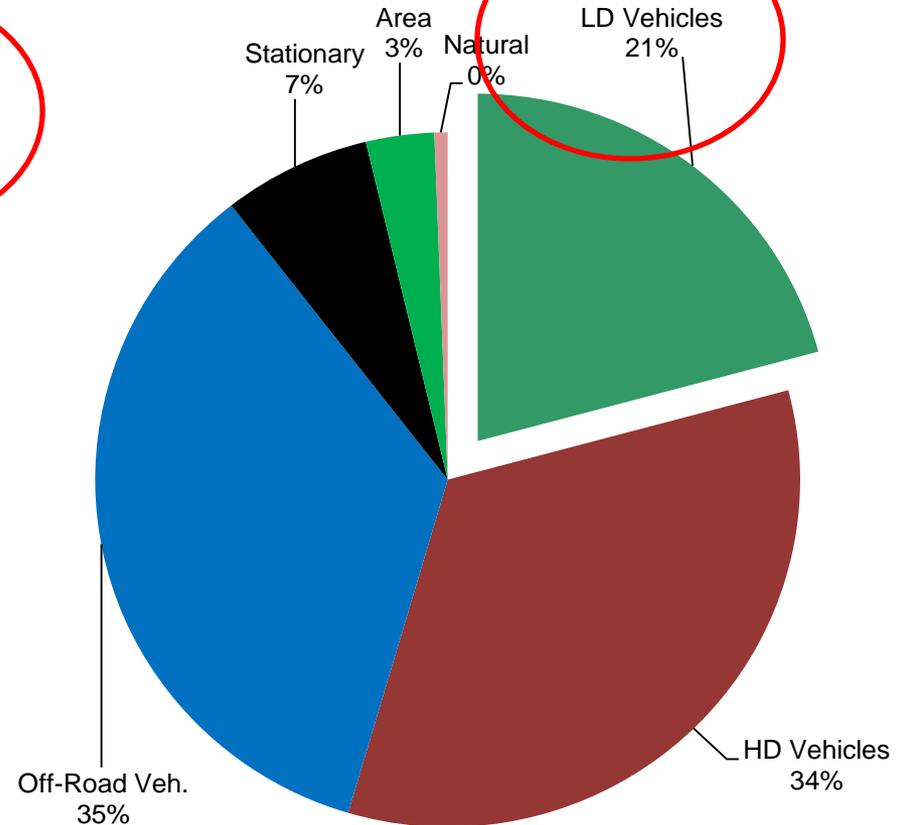
# Transportation's Contribution to California Emissions

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## Greenhouse Gas Emissions



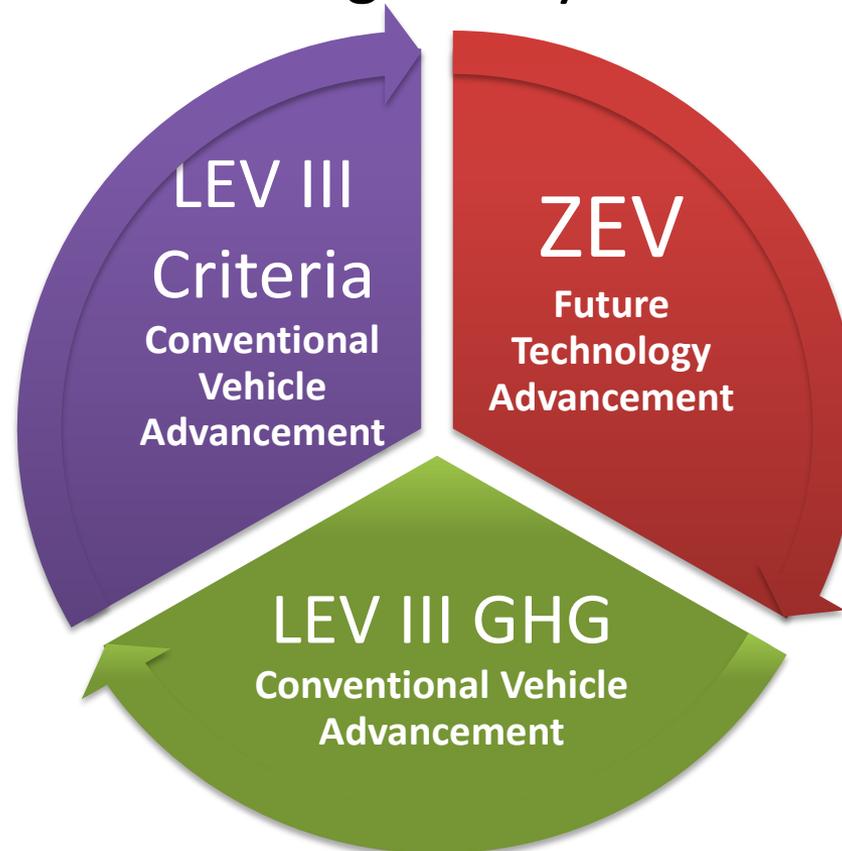
## NOx Emissions



# Advanced Clean Cars (ACC)

Advanced Clean Cars

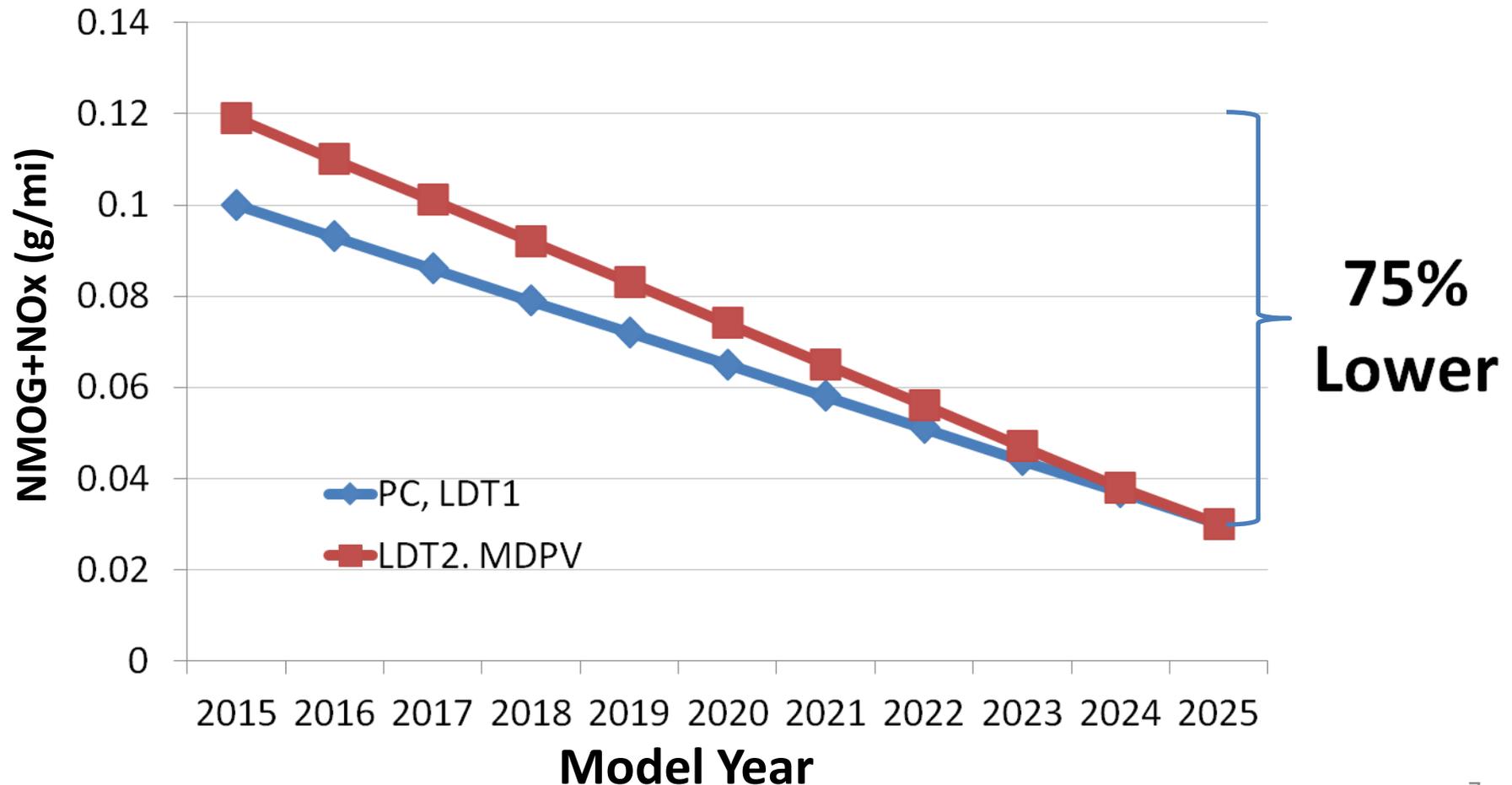
Multi-pronged approach to meeting mid- and long-term emission reductions from light duty vehicles



# ACC Criteria Pollutant Standards

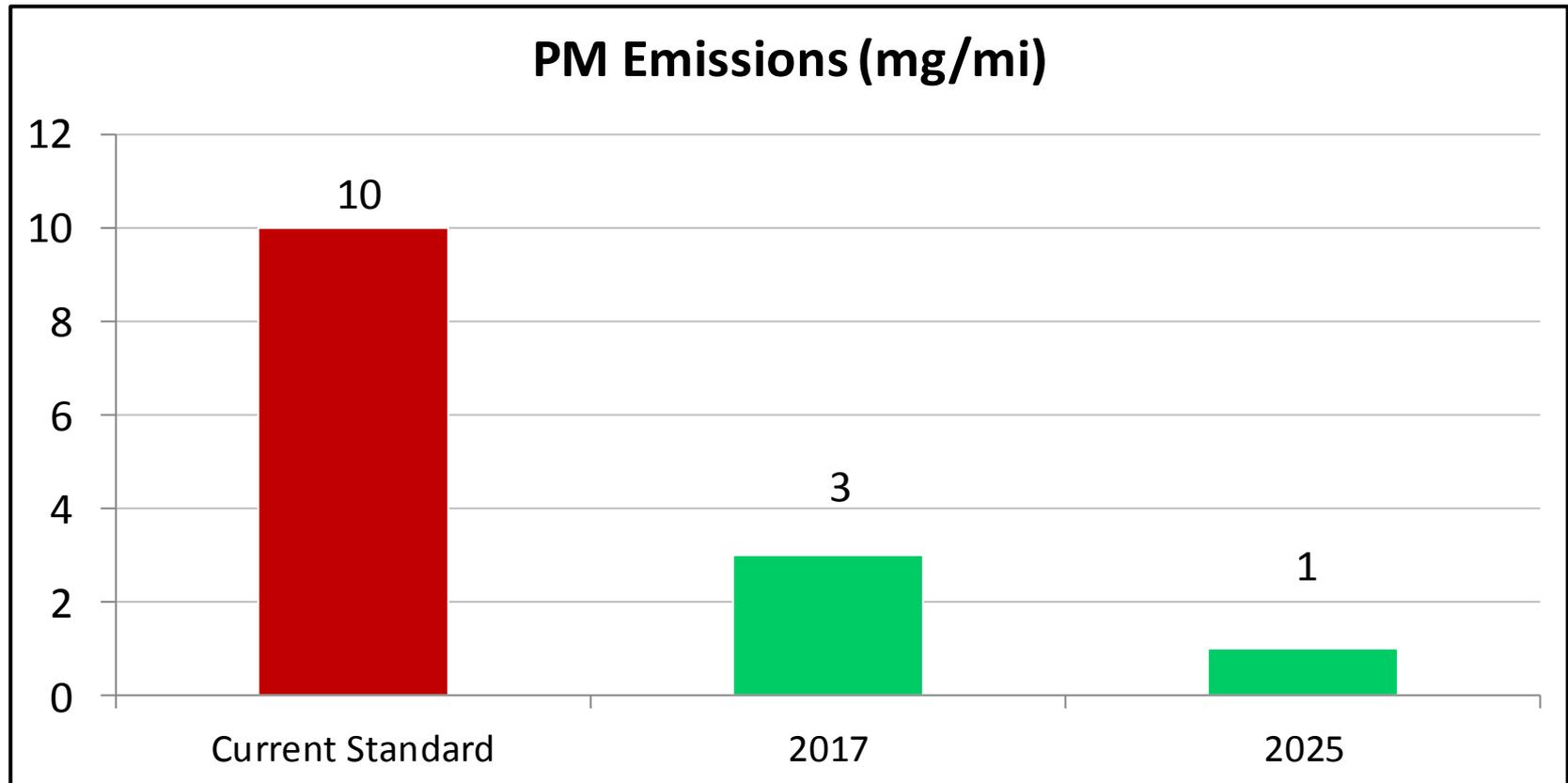
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150,000-mile New Vehicle Fleet Average Emissions



# ACC Particulate Matter Standards

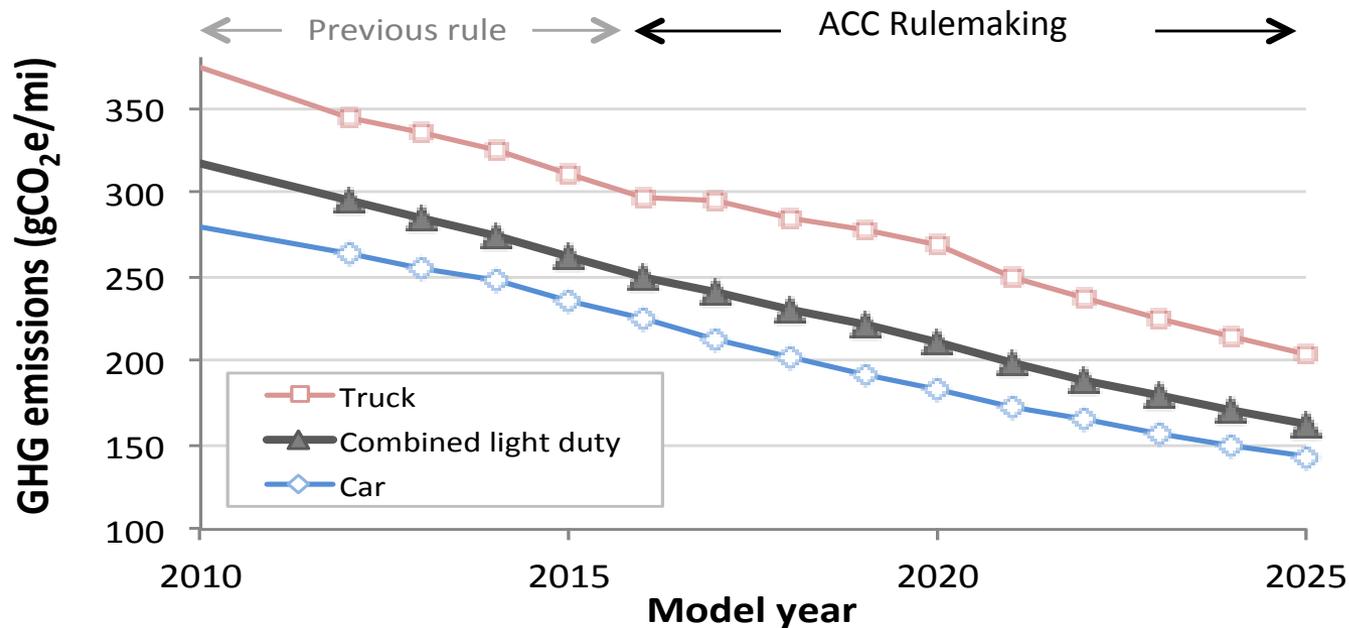
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# ACC GHG Standards

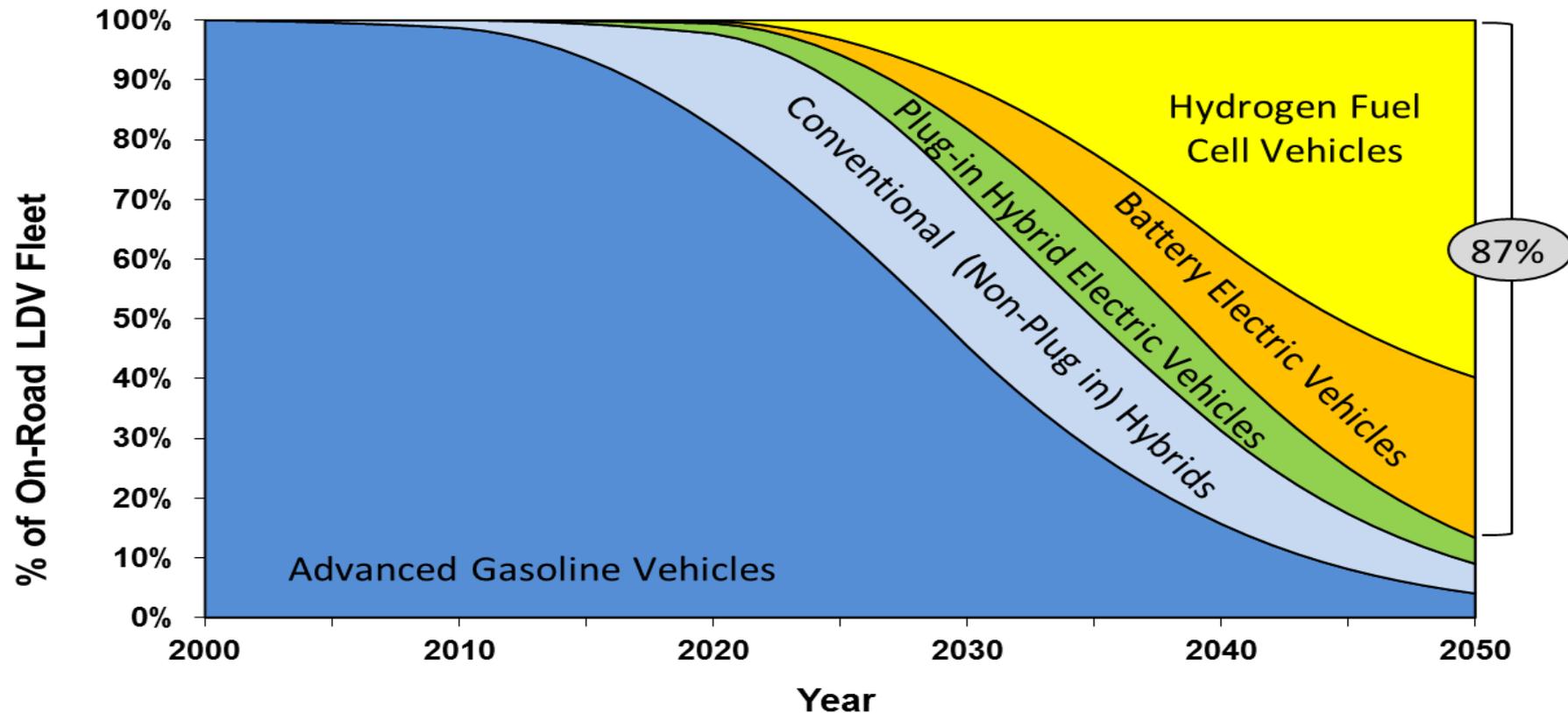
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- Standard: 166 gCO<sub>2</sub>e/mile in 2025
  - GHG reduction of 4.6%/year for 2017-2025 model years
  - GHG reduction of 34% from 2016 to 2025



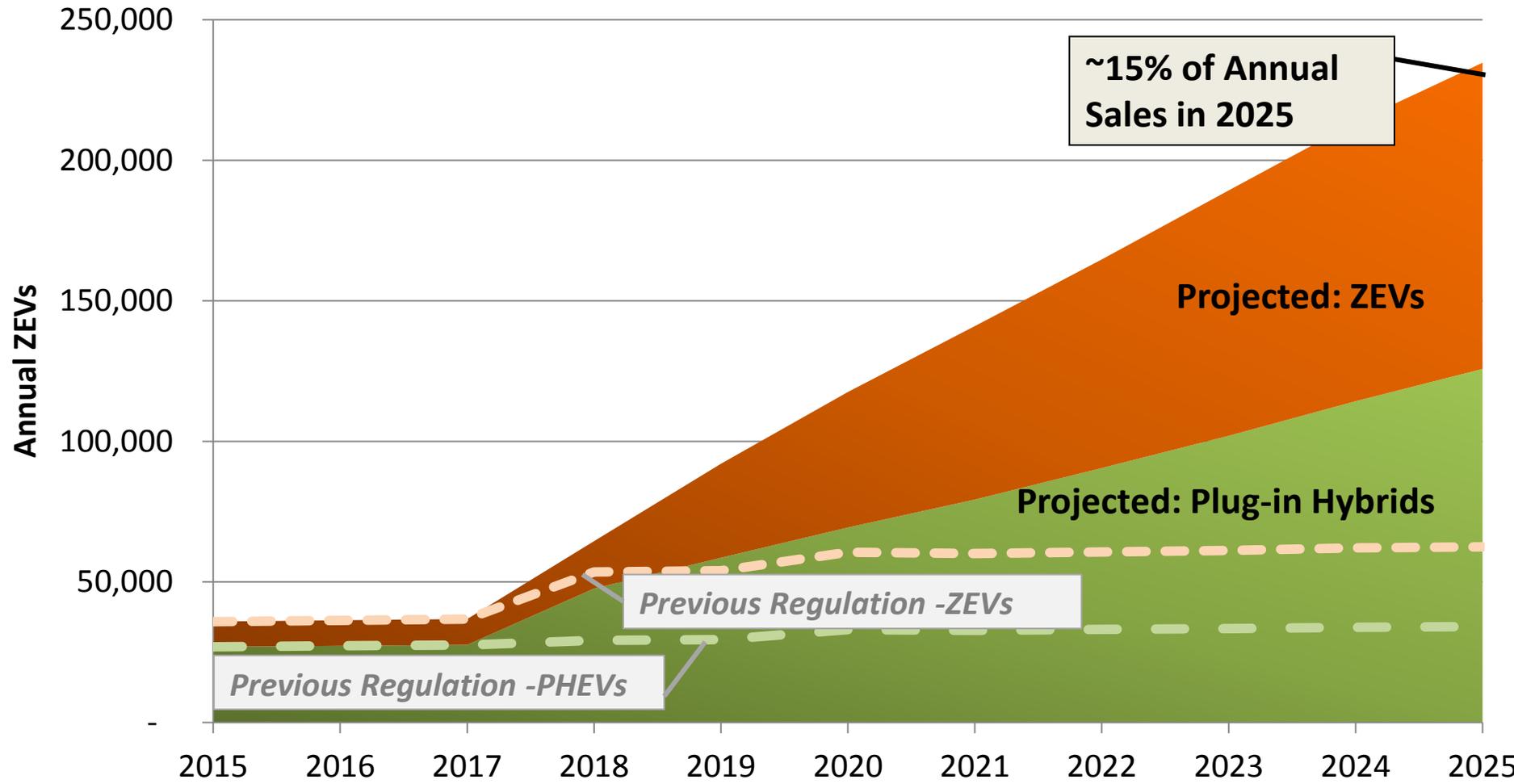
# Meeting 2050 GHG Goals

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- ZEVs represent 87% of in-use fleet by 2050

# Example Implementation of ZEV Requirements



# ACC Timeline

- Summer 2011: Vehicle OEMs agree to proposed national GHG standards
  - 3-agency (ARB, EPA, NHTSA) midterm review required
- Jan. 2012: Board adopts ACC for Calif.
- Oct. 2012: EPA/NHTSA adopt national standards
- Nov. 2012: Board approves update to ACC with provision for nationwide compliance

# **Next Steps**

# ACC Midterm Review

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## 1. National GHG program

- Joint review with EPA, NHTSA, and ARB
- Re-assess appropriateness of 2022-2025 GHG standards

## 2. California PM standards

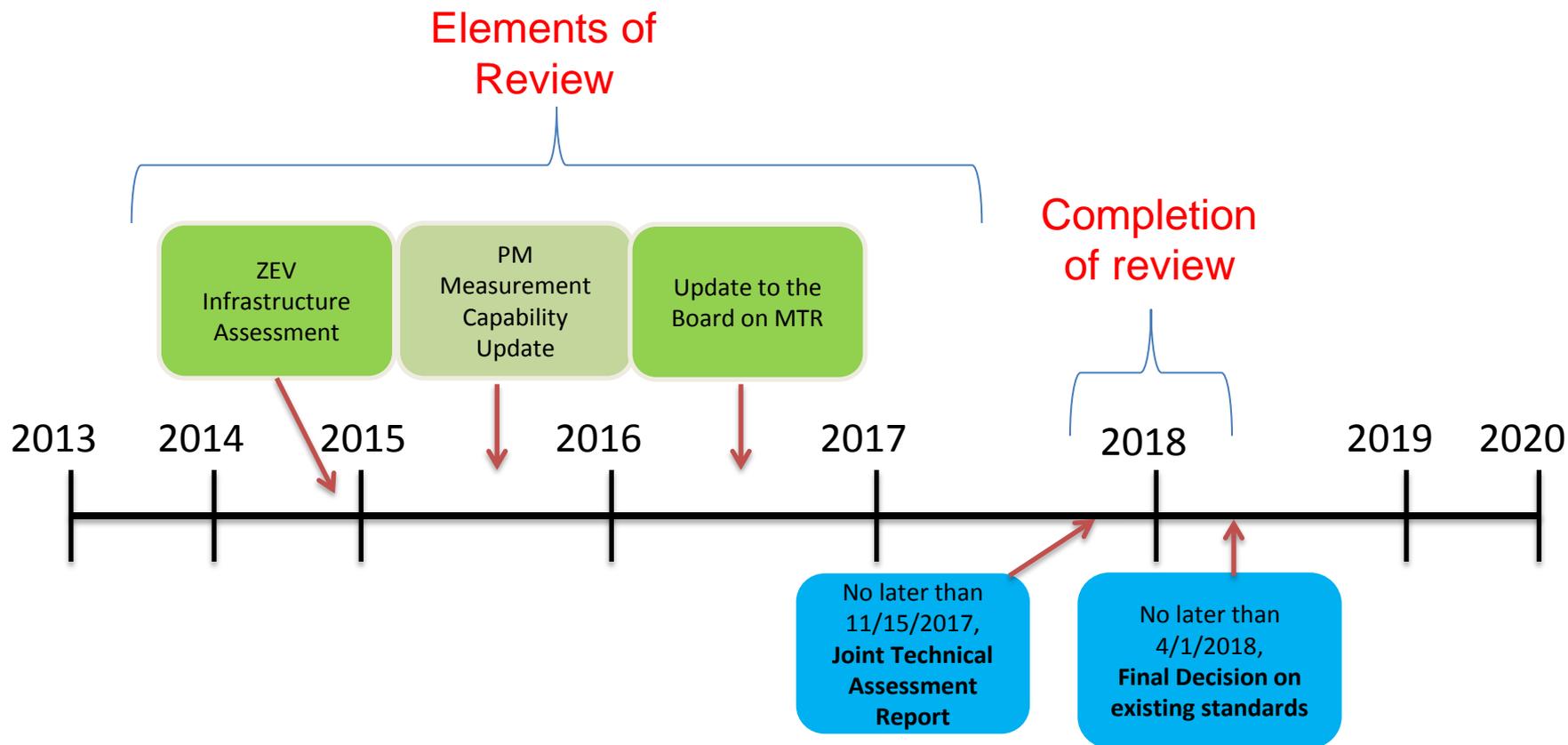
- Confirm measurement capability at low levels
- Re-assess appropriateness of 2025-2028 standards
  - Including technical feasibility and implementation year

## 3. California ZEV regulation

- Evaluate market response/consumer acceptance
- Re-assess ZEV requirements

# Midterm Review Timeline

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# ZEV Review Timeline

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- Why not push ahead the ZEV Review?
  - New market and consumer data needed to conduct meaningful review
  - New advanced BEVs and FCVs coming in 2015
  - ZEVs are integrated part of criteria pollutant and GHG goals
  - Planned Annual Updates to the Board

# **ZEV Implementation**

# California ZEV Action Plan

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- Executive Order Signed March 2012
  - 1.5 Million ZEVs in California by 2025
  - Infrastructure to support 1 Million ZEVs by 2020
  - 10 percent of state fleet vehicles shall be ZEVs by 2015 and 25 percent by 2020
- Action Plan finalized in February 2013
  - Multi agency plan for supporting the goals of the Executive Order
  - Focus on:
    - Public awareness and demand
    - Infrastructure
    - Fleets
    - Building ZEV industry

# ZEVs Currently Offered

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### Plug-In Hybrids



### Fuel Cell Vehicles



### Battery Electric Vehicles



# California ZEV Incentives



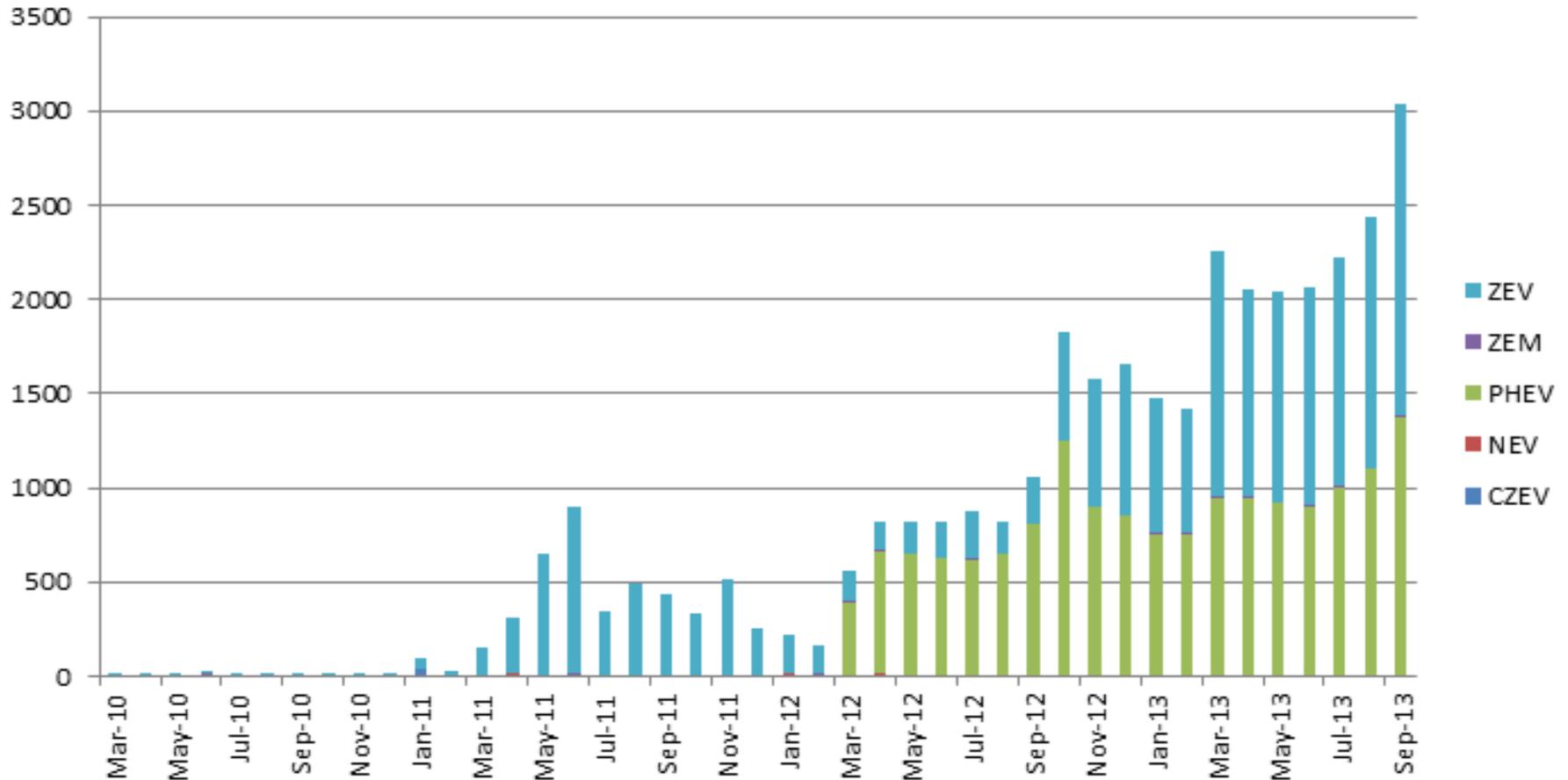
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- CVRP Rebates
  - \$2500 for Pure ZEV (Battery/Fuel Cell Electric)
  - \$1500 for PHEV (Plug-In Hybrids)
- HOV Lane Access
- Rebates for at Home Charging

# ZEV Market Growth

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## Monthly CVRP Rebates by Technology Type





# **Alternative and Renewable Fuel and Vehicle Technology Program Investments in ZEV Infrastructure**

**California Air Resources Board Meeting  
October 24, 2013**

**Jim McKinney, Program Manager**

**Alternative and Renewable Fuel and Vehicle Technology Program**



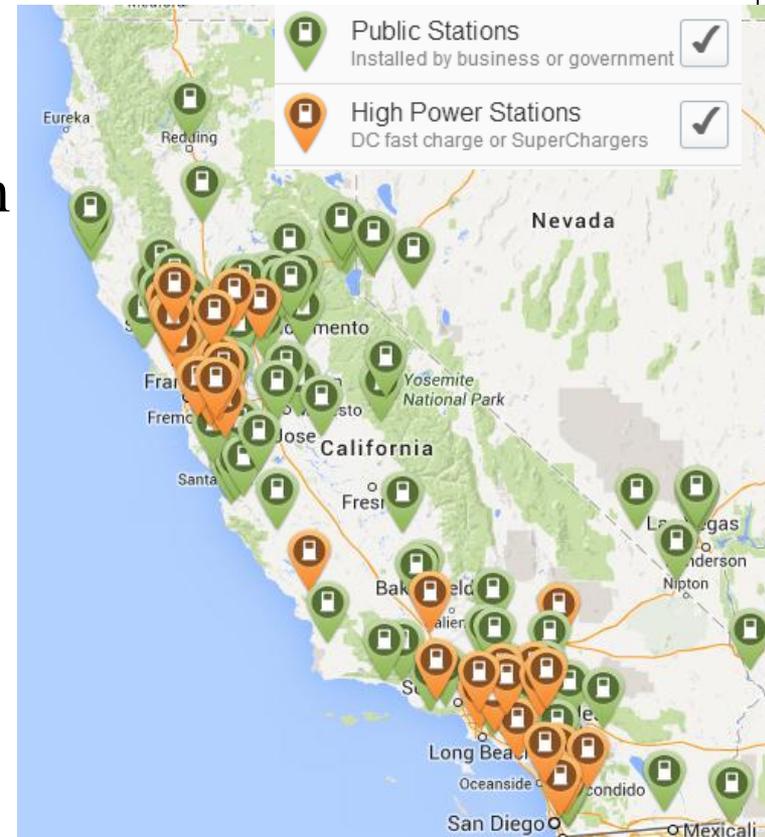
# Public Charging Infrastructure

## Existing Public Infrastructure

- Close to 1,000 Level 2 stations with over 2,800 connectors and 67 quick chargers

## Development Activities

- CEC recent awards – \$2.5M for 39 quick chargers in So Cal
- NRG settlement: \$100 million
  - 200 combo fast charge/Level 2 station (“Freedom Stations”)
  - Infrastructure for 10,000 level 2 EVSEs for multi-family housing, workplace, schools and hospitals.



Map courtesy of [plugshare.com](https://www.plugshare.com)



# EV Charger Support

EVSE Funding to Date = \$24.9 million

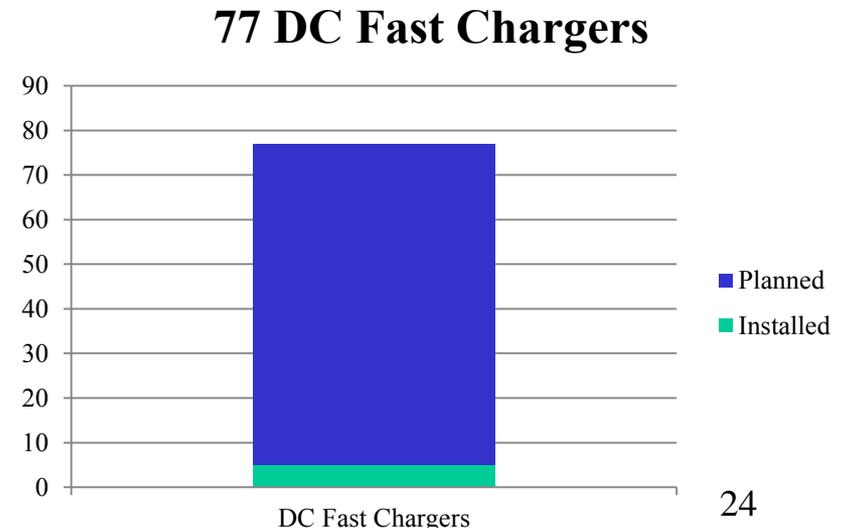
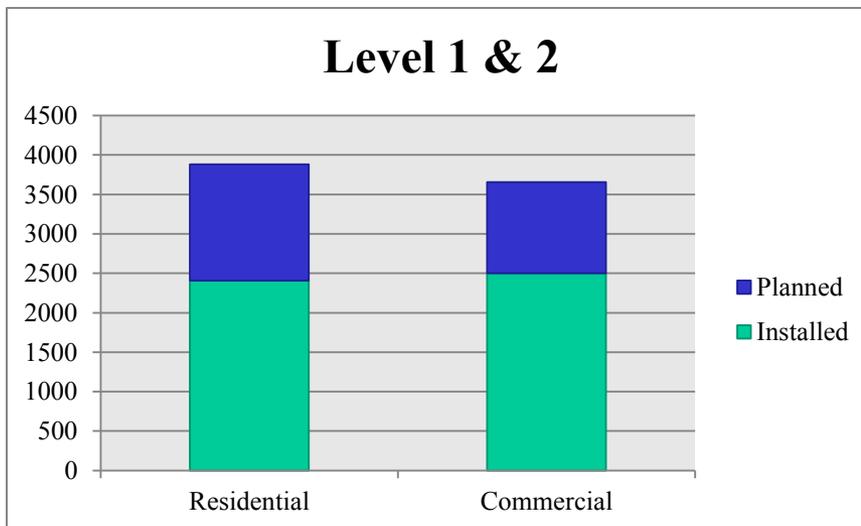
Total Funded = 7,613 level 2 & 3 charge points

Commercial = 3,096

Residential = 3,882

Workplace = 558

Plus 10 Regional Readiness  
Planning Grants = \$1.9 M





## Current EVSE Funding: \$33.6 M

### **2012-13 IP Funding = \$6 million**

- Destination, Commercial & MUDs

### **2013-14 IP Funding = \$7 million**

- Support ZEV Action Plan, State Garages

### **2014-15 IP Proposed Funding = \$15 million**

- Destination, Workplace, MUDs, Fast Charging

- Statewide Infrastructure Plan: ZEV Action Plan Item
  - NREL Draft Report in Development with Energy Commission and ARB
- ARB EV Infrastructure Needs Assessment

Regional Readiness  
Planning and  
Implementation =  
\$5.6 million



# Hydrogen Station Funding

Total Funding to Date = \$41.4 million

**17 New Stations = \$27 million**

**~ 7 Station Upgrades = \$6.7 million**

– \$30 million in next solicitation

will fund about 16 additional stations

AC Transit Fuel Cell Bus Station = \$3 million

CDFG Div of Weights and Measures = \$4 million

– Retail Dispensing Fuel Standards

UC Irvine STREET Model = \$750,000



# Multi-State ZEV MOU

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- Governors from eight “Section 177” ZEV States signing multi-state Memorandum of Understanding (MOU) to support ZEVs
  - Vermont, New York, Massachusetts, Rhode Island, Connecticut, Oregon, Maryland, California
- Outlines specific commitments to support ZEV commercialization through coordination of various state agencies