

# California Smog Check and Vehicle Retirement Programs

## Update

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- **Overview** – Smog Check
- **Smog Check Program** – What is changing
- **Vehicle Retirement** – What have we observed
- **Challenges**

# California's Smog Check Program

- **World leader**
  - Riverside demo (1975) of automated dyno testing
  - LA centralized change-of-ownership program (1979-84)
  - Developed computerized test equipment for decentralized (garage-based) program
    - BAR-74, BAR-84, BAR-90, & BAR-97 equipment
    - Large scale electronic data transmission and database
- **Largest program in nation**
  - 7,000 stations; 15,000 technicians
  - State-of-the-art enforcement capabilities

# Smog Check

## Significant Emission Reductions

Program	Emission Reduction <sup>1</sup>	Year
<b>SMOG CHECK</b>	<b>308</b>	2010
LEV 3	<b>98</b>	2035
Truck and bus retrofit rule	<b>88</b>	2023
Heavy diesel 2010 NOx standard, vs 2004	<b>209</b>	2020
Heavy diesel OBD	<b>41</b>	2020
Carl Moyer	<b>23</b>	Avg. over 12 yrs.

<sup>1</sup> NOX, ROG or both in tons per day

# Over Time, Smog Check Lost Its Leadership Edge

- **Statute overly prescriptive (43 pages)**
  - Stifled innovation and change
- **Technological innovation stalled**
- **2009 study showed performance suffered**
  - 19% of passing vehicles should have failed
  - 49% of failed vehicles not properly repaired
  - Fraud and incompetence in smog stations
  - 70 tons per day emissions lost
- **In response, Legislature enacted AB 2289 in 2010**

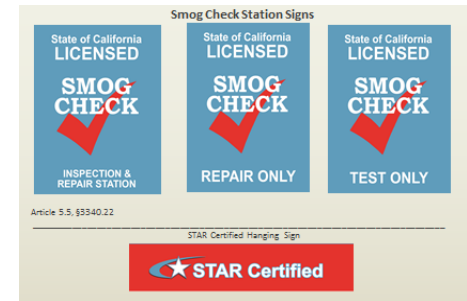
# Improvements in Response to AB 2289

- **Implement a performance based certification program called “STAR”**
  - Rates both stations and technicians based on historical inspection data
  - Stations must achieve and maintain high performance in order to inspect older and high emitting vehicles (about 3.5 million directed per year)
  - STAR begins January 1, 2013
- **Annual program performance report to public**
  - Compare to 2009 report by Sierra Research

# Improvements in Response to AB 2289

- **2000 and newer vehicles no longer require tailpipe test**
  - Quicker test, low cost equipment, improved data collection
  - Consumer inspection cost should drop as a result (potential \$64 million annual savings to motorists)
- **Increased fine amounts**
  - From \$2,500 to \$5,000
  - In addition to stations, technicians now subject to fines
  - Civil penalties against any person who falsifies information relating to a Smog Check

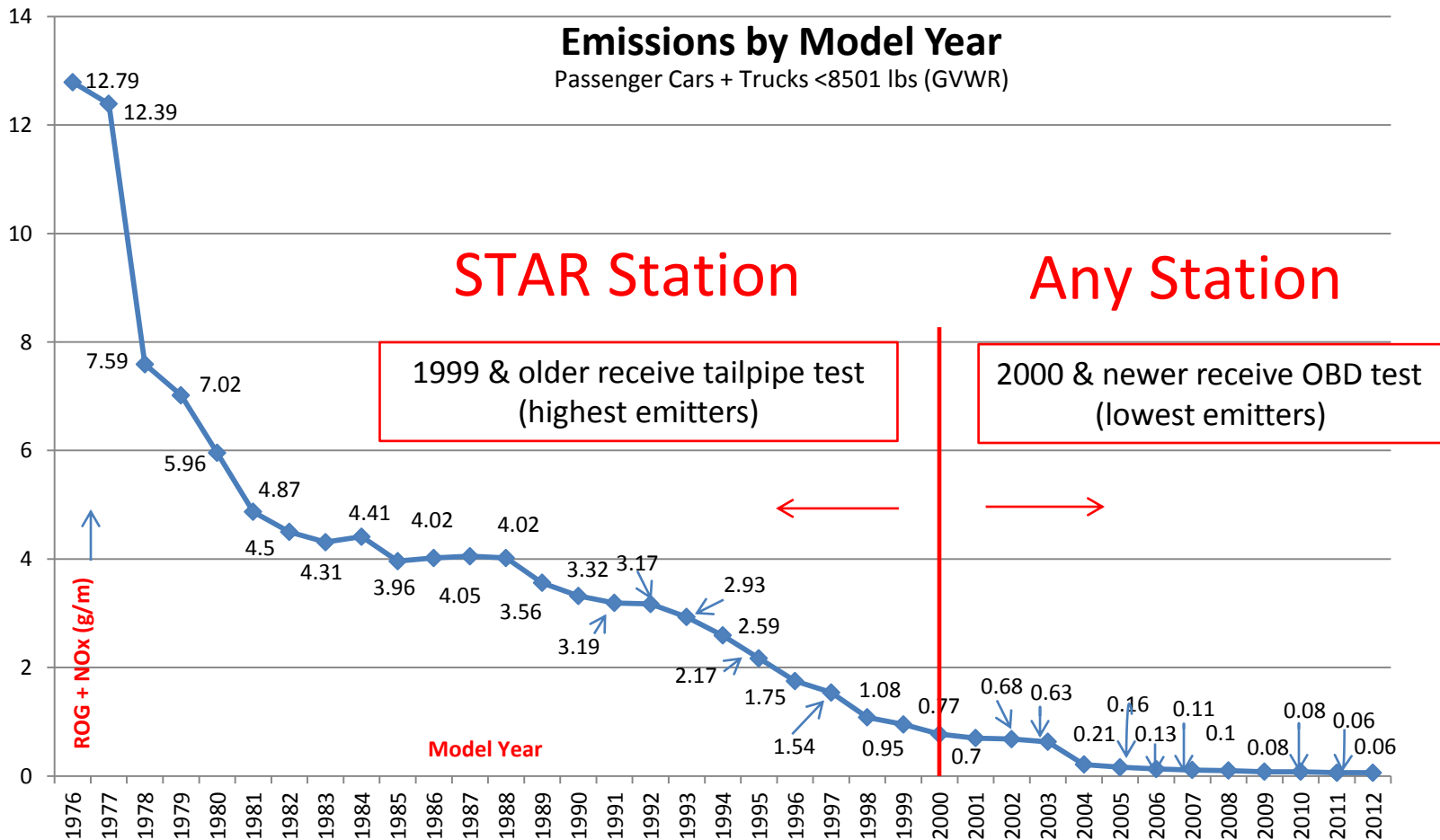
# STAR Program



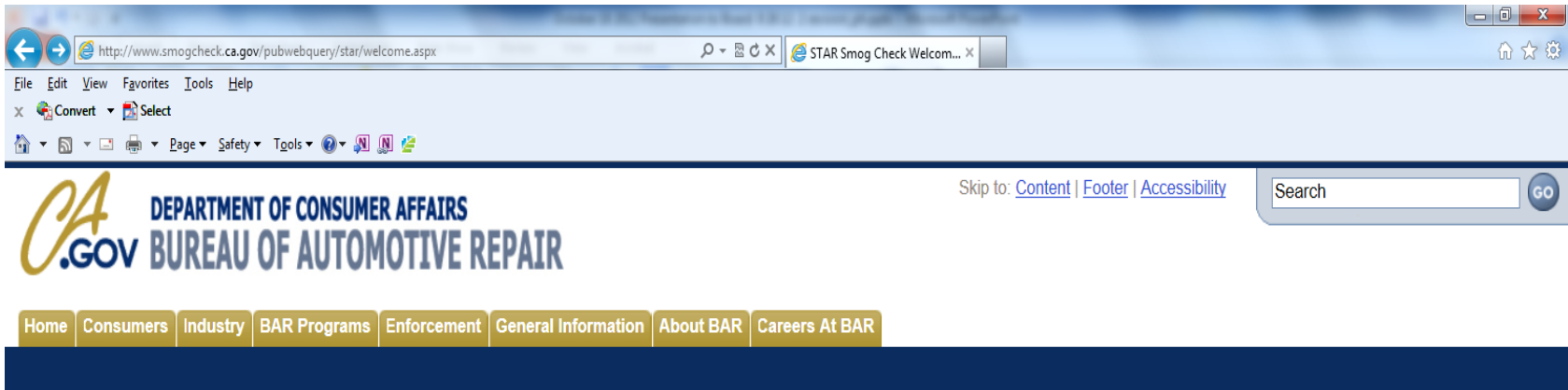
- STAR Certification based on meeting higher performance standards
- Stations disqualified if fail to meet standards
- Performance feedback provided through public Website
- Improved inspection influences better repair
- Outreach: DMV renewal notice, DMV & BAR Website information, new station signs, industry workshops



# High Emitters Inspected at STAR



# STAR Web Reports



Welcome to the STAR Web page. Beginning January 2013, all stations that wish to certify directed and gross-polluting vehicles must meet specific performance standards under the proposed STAR Program. The new program is being developed in response to [AB 2289 \(Eng, Chapter 258, Statutes of 2010\)](#).

All licensed Smog Check stations and inspectors will have the ability to check their performance in meeting the new standards on this STAR Web page. The data shown on this site is intended to assist licensed Smog Check stations and inspectors in improving their performance prior to the start of the STAR Program in January 2013.

Feel free to explore and become familiar with this new page. By clicking on the hyperlink that points to the [Report Card Terms](#), you can learn more about the STAR Program. For additional information regarding the STAR Program performance measures, eligibility requirements, and definitions see the [Regulations](#) that were adopted with Smog Check industry input to establish the program. If, after reviewing this page, you still have questions about the STAR Program, see the [STAR Questions & Answers \(Q&A\)](#) posted on the Industry Home page of the BAR Web site.

We welcome your input on the STAR Web page. For suggestions on ways to improve its usefulness for Smog Check stations and inspectors, please send us an email at [BAR.IndustryHelpDesk@dca.ca.gov](mailto:BAR.IndustryHelpDesk@dca.ca.gov). As a result of your input, the STAR page may change. Thank you for taking the time to review the STAR page and for your interest in the STAR Program.

Enter Station Number:

Enter Inspector Number:

*(Enter only numerical portion of license ID)*

Enter station license number from your last inspection report, or BAR's online station locator.

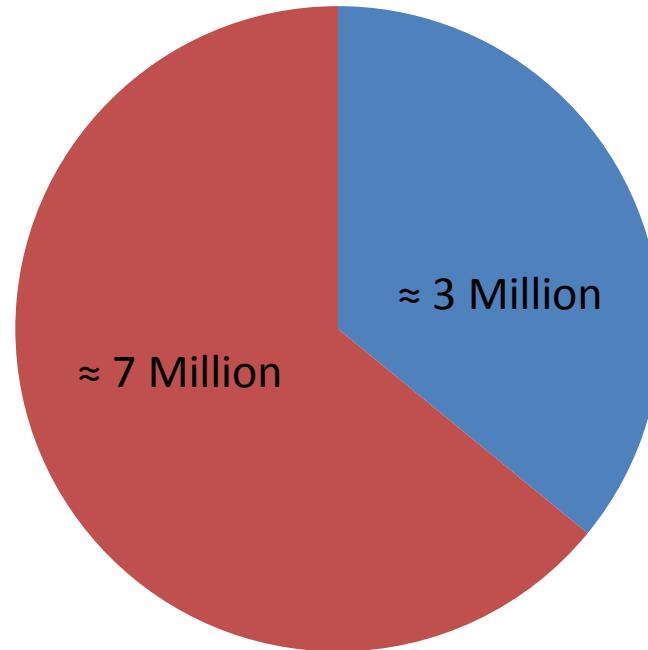
# Vehicle Inspections in 2013

## OBD Test – Any Station

- 2000 and newer Gasoline, Hybrid
- 1998 and newer Diesel

## Tailpipe Test – STAR Station

- 1999 and older Gasoline



# Tailpipe Testing

- Applies to all vehicles today
- In 2013, only applies to 1999 and older vehicles
- Expensive, proprietary equipment; long test
- All STAR stations must have this equipment
  - optional for other stations



Tailpipe  
Emissions  
Measurement

Fuel Cap Tester

Dynamometer  
(treadmill)

Fuel Tank Tester  
(LPFET)

# OBD Testing In Lieu of Tailpipe (Program Benefits)

- **New inspection equipment will communicate with newer vehicles and collect much more data**
  - Software resides on BAR Server (pass/fail standards)
  - Vehicle ID (VIN number) prevents fraudulent vehicle substitution (clean plugging)
  - Vehicle ID (software number) detects aftermarket performance tampering (street racers)

## Current Equipment

1. Limited data
2. Few vehicles



## New Equipment

1. More data
2. More vehicles

# New OBD Testing

- Only for 2000 and newer vehicles -- beginning 2013
- Low cost, off-the-shelf equipment; short test
- Motorist savings via lower inspection cost
- All STAR stations must have this equipment



# **Improving Smog Check is Only Part of the Solution**

**In California's older vehicle population  
emissions per mile increase rapidly as  
vehicles age**

**A 20 year-old vehicle produces over 30 times the Smog-  
forming emissions per mile as a 5 year-old vehicle**

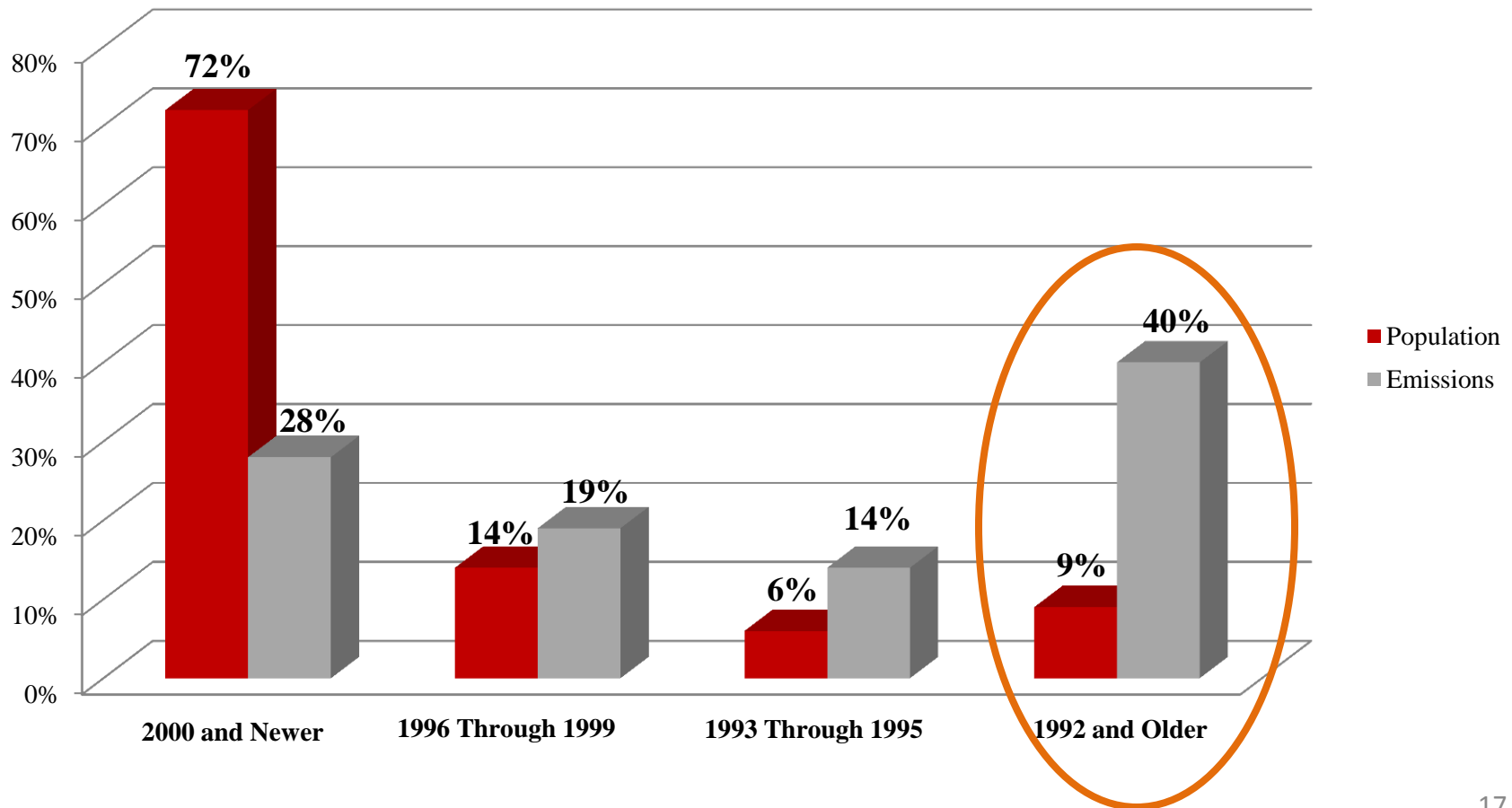
# Why Accelerate Vehicle Retirement?

- **CA has 5 times more older vehicles than the national average – over 2 million vehicles 20 years or older**
  - These vehicles account for only 6% of the miles travelled, but they produce 40% of the Smog-forming emissions
- **65% of gross polluters are 20 years or older**
  - A gross polluter is a vehicle whose emissions are about twice the pass/fail standard for a vehicle of same age
- **State Implementation Plan (SIP) Commitment**
  - Retire 50,000 vehicles in South Coast per year
  - Retire 10,000 vehicles in San Joaquin Valley per year



# Smog-Forming Emissions by Vehicle Age Group

Light Duty Vehicle Emissions in Tons Per Day, 2011



# Current Voluntary Vehicle Retirement Programs in California

- **Consumer Assistance Program (CAP)**
  - ~\$20.2M annually (AB 2128 [2004] funding)
  - Retirement only at time of Smog Check failure
  - \$1000/vehicle (\$1500 if low income)
- **Enhanced Fleet Modernization Program (EFMP)**
  - ~\$35M annually (AB 118 funding, expires 1/16)
  - Retirement at anytime for vehicles subject to Smog Check, plus
    - Pre-1976 vehicles
    - Some non-registered vehicles
  - \$1000/vehicle (\$1500 if low income)
- **All other programs combined** – including District programs
  - < 5% of all voluntary vehicle retirements
  - Settlement funds provide a potential option (e.g., VRRRM)
    - 3,200 vehicles retired and/or replaced

# 82,000 Vehicles Retired Last 2 Fiscal Years

Performance Metric		
Funding program	CAP	EFMP
Emission status of vehicles	Failed most recent test	No test required
# vehicles retired – 7/1/10 through 6/30/12	36,811	45,297
% vehicles retired -- 20 years or older	52%	50%
% gross polluters	38%	Not Known
% vehicles scrapped by low income owners	65%	68%
Public acceptance	Alternative to costly repairs	High Demand -- Funds exhausted in 9 months

# Vehicle Retirement Challenges

## Determine optimum strategy for EFMP

- EFMP may not be focused on the highest emitters or the worst non-attainment areas -- need to analyze data further; modify regulations
  - ✓ Use findings to tighten eligibility and improve cost-effectiveness
  - ✓ Outcome would be “smarter” program with increased benefits per \$ spent

## 2007 SIP Vehicle Retirement Goals not met

- Meets only 30% of South Coast commitment; 60% in San Joaquin Valley