# High Emitter Repair or Scrap (HEROS) Program

Technology Forum
Car Scrapping and Repair Programs
Diamond Bar, CA

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# High Emitter Repair or Scrap Program (HEROS)

- Assembly Bill 923
- Moyer Funded
  - Subject to cost effectiveness threshold of $14,300/ton of pollutants reduced
- Voluntary Participation
- High Emitter Identification Via Remote Sensing

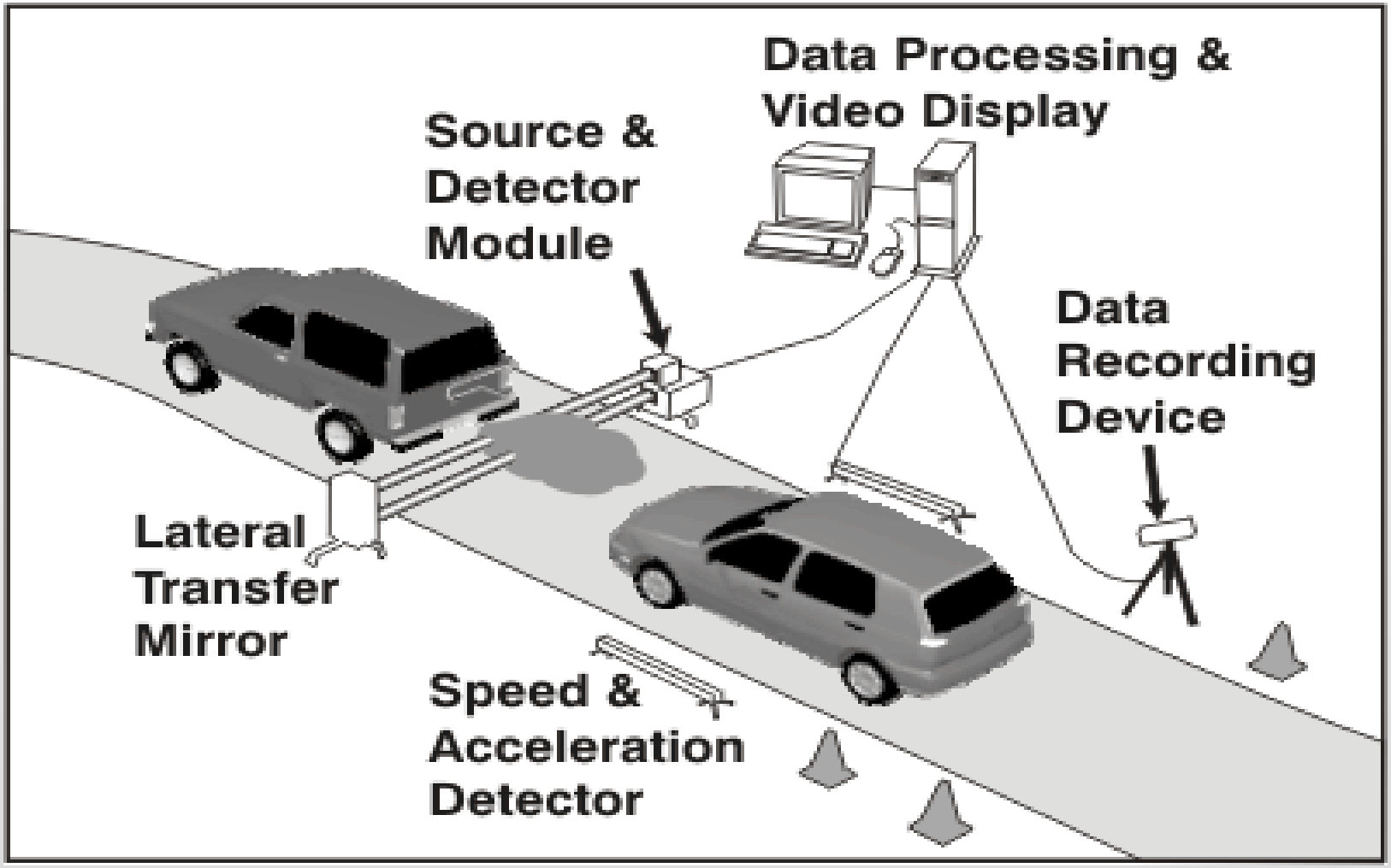
# HEROS Overview

- Approved by the Board in February 2006
- Program Components
  - Remote sensing
  - Database development
  - Outreach to and solicitation of vehicle owners
  - Confirmatory smog test
  - Repair or scrapping of high emitting vehicles
- $4 Million Budget
- Contractors: ESP, FCCC, and Pick-Your-Part

# HEROS Goals / Incentives

- **Goals**
  - 1 million unique vehicle RSD readings
  - 3,000 to 5,000 vehicles voluntary participation
- **Vehicle Repair Assistance - $500 Per Vehicle**
- **Vehicle Retirement - $1,000 Per Vehicle**
- **Low Income Eligible Consumers**
  - Documentation of low emission vehicle or cleaner replacement vehicle
  - Additional $1,000 incentive

# Remote Sensing – Mobile Sources



# Background – HEROS Phase I

- Process
  - ID Potential High Emitters
  - Filter for Moyer Eligibility
  - Mail Invitation Letters
  - Appointments Scheduled Via Call Center
  - Confirmatory Smog Check Test
    - Eligible for Scrap or Possibly Repair if Vehicle Fails


1

ESP

DMV Data Matched to License Plates

2

FCCC

3

Verify Photos Match
DMV's Vehicle Descriptions

4


DMV Vehicle Description Doesn't Match Photo

Not Registered Continuously for Previous 24 Months*


Within 6 Months


Within 90 Days

Not Registered in Air Basin

* Limited Exceptions Allowed Under Carl Moyer Guidelines

# 2007 High Emitter Rates

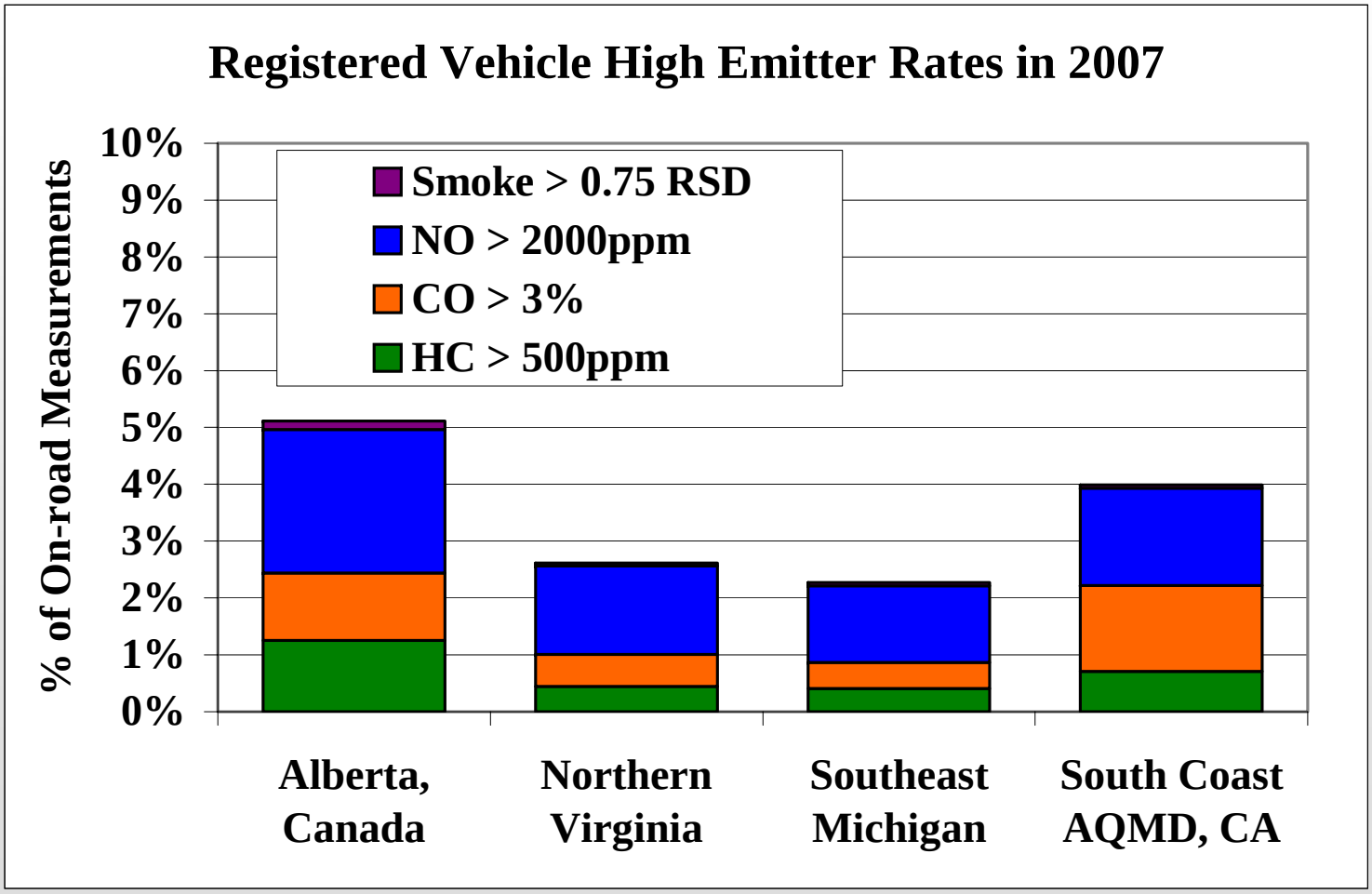
## Percent of Measurements

| | (No I/M) Alberta | Virginia Non-I/M | Virginia I/M | (No I/M) Michigan | SC AQMD |
|---|---|---|---|---|---|
| HC > 500ppm | 1.3% | 0.7% | 0.4% | 0.4% | 0.7% |
| CO > 3% | 1.2% | 0.9% | 0.6% | 0.5% | 1.5% |
| NO > 2000ppm | 2.5% | 2.6% | 1.6% | 1.4% | 1.7% |
| Smoke > 0.75 RSD | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% |
| Combined | 4.6% | 3.9% | 2.5% | 2.0% | 3.6% |

## Average On-Road Emissions

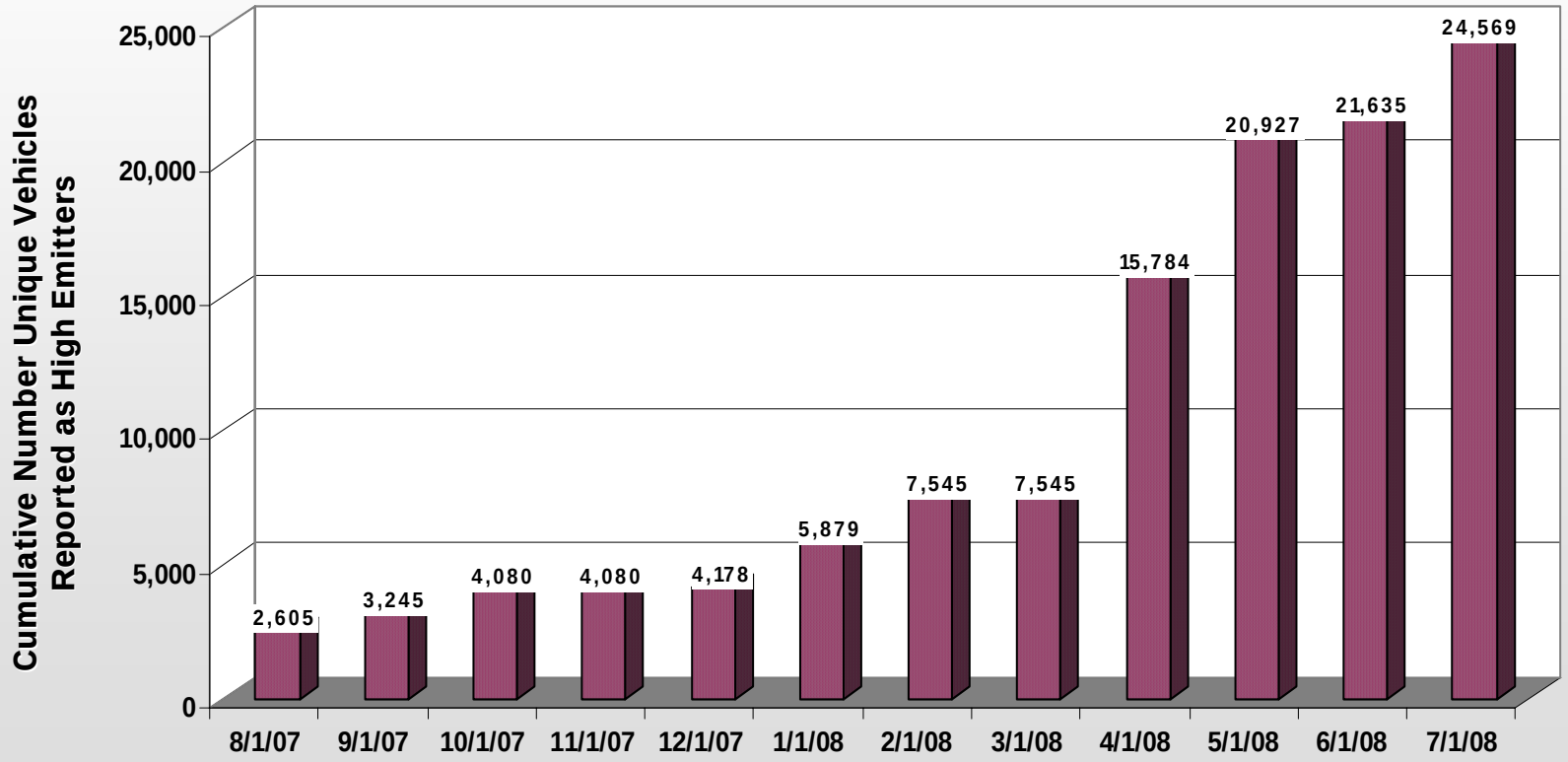
| | (No I/M) Alberta | Virginia Non-I/M | Virginia I/M | (No I/M) Michigan | SC AQMD |
|---|---|---|---|---|---|
| Average HC ppm | 48 | 27 | 20 | 16 | 34 |
| Average CO % | 0.18 | 0.15 | 0.12 | 0.11 | 0.19 |
| Average NO ppm | 250 | 262 | 208 | 158 | 229 |
| UV Smoke RSD | 0.027 | 0.015 | 0.010 | 0.015 | 0.016 |

# 2007 High Emitter Rates




**Alberta, Canada & Michigan – No I/M** **Northern Virginia has I/M Similar to California's**

# Remote Sensing Data



# Actions Considered to Enhance Program Participation

- **Increase Number of Tests Performed**
  - Solicited participation from larger percentage of high emitters
  - Opened referee stations for Saturday appointments
  - Added Gold Shield stations to program
  - Developed follow-up process for no-shows
- **Considered Increasing Funding Cap for Repair and Scrap**

# Actions to Enhance Program Participation (Continued)

- **Improve Marketing of Program**
  - Additional solicitation for confirmed high emitters that have not repaired or scrapped
  - Improve solicitation letters
  - Contact potential participants by phone
- **Identify High-Emitting Vehicles By Other Means**
  - Repair / scrapping events (e.g. leaf blower)
  - Smoking vehicle database

# Follow-Up Activity

- **Pendings**
  - **Calls  made to 242 participants, reached 200**
  - **79 vehicles scrapped or repaired (49 scrapped, 30 repaired)**
- **No-Shows (FCCC - Call Center)**
  - **Calls made to each no-show, 473**
- **Non-Responsives**
  - **Calls made to 903 people, reached 522**
  - **31 appointments schedule**

# Other Program Enhancements

- **Incorporate CARB Pilot Study for PM Emissions**
  - **To quantify PM reductions**
  - **To evaluate portable PM measuring devices for possible use during smog check**
- **Collect Emissions Test Data on All-Wheel and 4-Wheel Drive Vehicles**
- **Evaluate Feasibility of Repair & Scrapping Program for Medium-Duty Vehicles**

# Results

- Voluntary Program
- Phase I – Low Participation Rate
- > 25,000 Potential High Emitters Identified Through Remote Sensing on Freeways
- > 15,000 Invitation Letters Mailed
- ~ 1,200 Vehicles Tested
- 375 Vehicles Repaired or Scrapped

# Results (Continued)

- Identified Significant Number Potential High Emitters → More than 25,000
- ~ 40% Disqualified
- Few Participants Proceeded to Have Confirmatory Smog Check Test (8%)
- 31% of Vehicles Receiving Confirmatory Test Were Repaired or Scrapped

# Emission Reductions / Cost-Effectiveness

| | As of 10/30/08 | Based on the Plan |
|---|---|---|
| Vehicles Repaired/Retired | 370 | 370 |
| Emission Reductions (tons) | 28.1 | 21.7-27.9 |
| Cost-effectiveness * (dollars per ton) | $15,100 | $9,600-$10,300 |

* Direct Cost Only

# Results (Continued)

- April 2007 through July 2008
- Achieved Identification of Dirtiest 2% of Vehicle Fleet
- State Budget Impasse Shut Down Referee Program
- Need for Reassessment of Program

# HEROS Program Assessment

- Valley CAN Program – Event Driven
- AQIP Lawnmower Exchange Program – Prescreening Concept
- Evaluate Aspects of Both Programs to Incorporate into HEROS Program
- Achieve Higher Participation by Pre-Screening Consumers Interested in Reducing Vehicle Emissions and Pre-Screen for Compliance with Moyer Requirements

# Proposed HEROS Phase II

- Higher Participation Rate is Critical
- Target → 3,000 High-Emitters Scrapped or Repaired
- Phase II Cost-Effectiveness Threshold of $16,000 per Ton of Pollutants Reduced (20 X PM Reduced)

# Task 1:
# Marketing/Outreach Activities

- **Draw-In Large Number of Pre-Qualified Participants to Weekend Events**
- **Seeking Innovative Strategies***
  - **Multiple Strategies May Be Recommended to Board to Maximize Outreach**
- **Attract Participants Who Are Eager to Follow Through to Have Their High-Emitters Repaired or Retired**

*Key to Phase II

# Task 2
# Establish & Manage Call Center

- Bilingual or Multilingual
- Respond to Inquiries Generated from Outreach
- Screen Vehicles for Moyer Program Eligibility
  - Need to Be Repaired or Scrapped At Least 90 Days Before State-Mandated Smog Check
  - Registered in South Coast Air Basin Continuously within Past 24 Months*

*Some Exceptions Allowed

# Task 3:
# Conduct Weekend Events

- Permits, Security, Traffic Control, Staffing
- Emissions Screening
- Distribution of Gold Shield Station Vouchers to Screened High Emitters
- Arrange for Gold Shield Reps to Schedule Appointments for Smog Check Tests

# Task 4
# Data Tracking/Collection/Analysis

- Use HEROS I Database and Web Application Software
- Provide AQMD Access to All Aspect of Database (input, output with export capabilities)
- Real Time Status of All Significant Program Related Activities

# Task 5
# Vehicle Testing/Repair/Scrapping

- **Gold Shield Stations**
  - Procure Testing and Repair Services
  - Oversee Evaluation of Eligibility for Repair and Scrap (follow Moyer Guidelines)
  - Authorizations, Oversight, Tracking, Invoicing, & Payments for Testing, Repairs, and Diagnoses
- **Target**
  - 4,500 to 5,600 smog check tests
  - 3,000 repairs and scraps

# Proposed HEROS II Program Schedule

- RFP Released December 2008
- Proposals Due February 2009
- Anticipate Starting Early Summer 2009