Clean Fuels Program Advisory Group

February 2, 2011

Dean Saito, Manager, On-Road Mobile Source

South Coast Air Quality Management District

Light- and Medium-Duty Vehicles

- Sources and Emissions

- Expanding Voluntary Vehicle Retirement

- In-Use Emissions
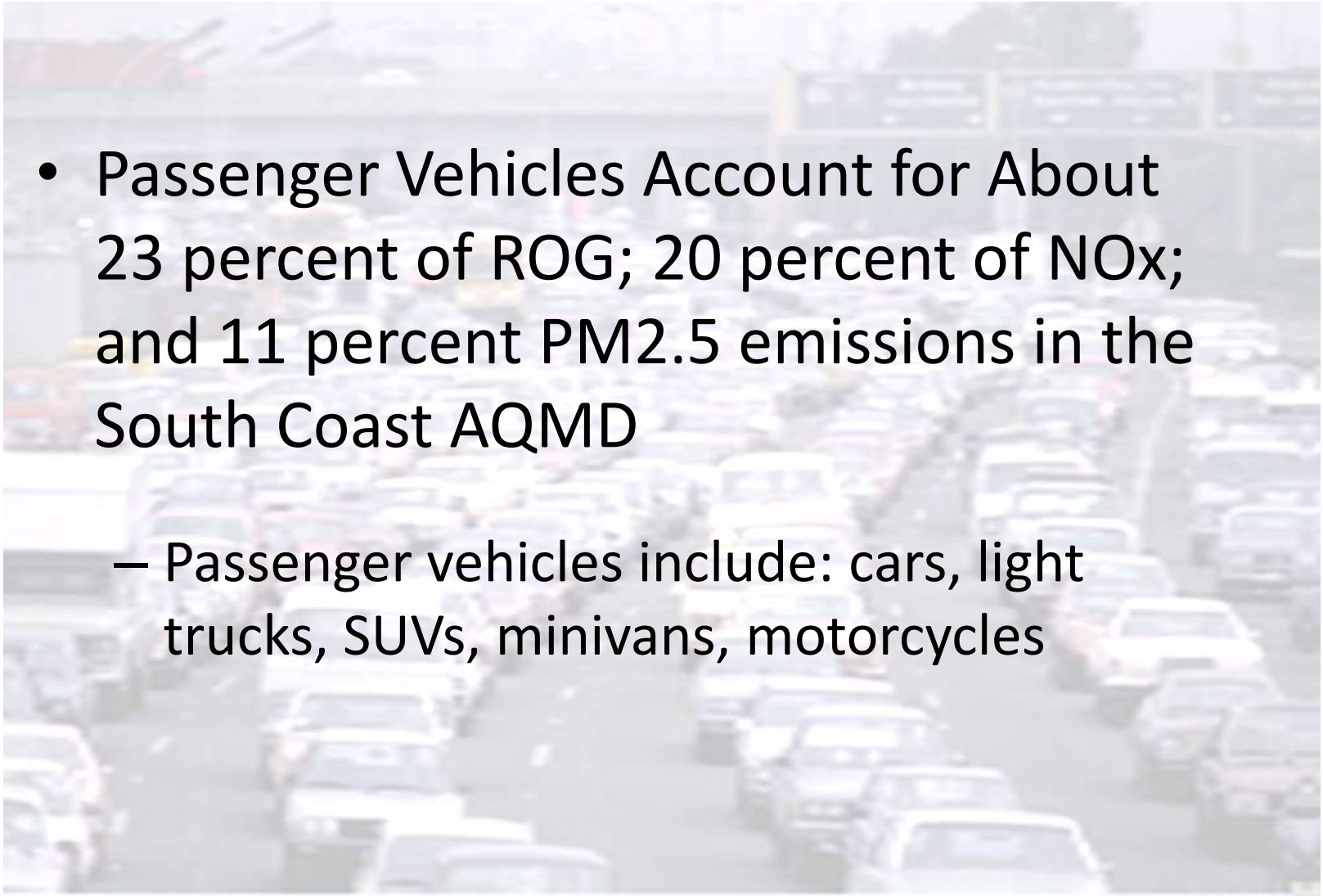
- Remote On-Board Diagnostics
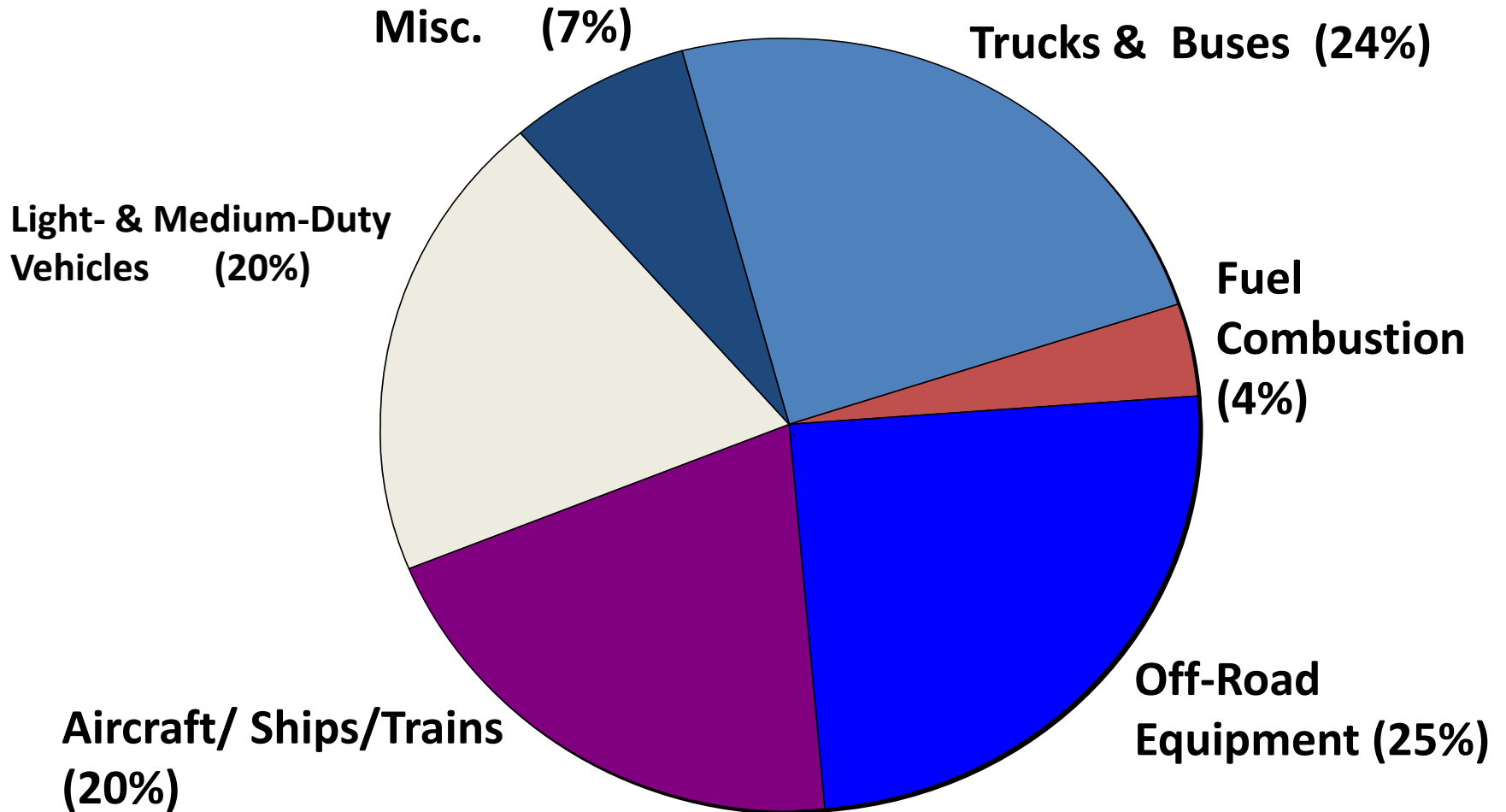
Definitions

- Light-Duty < 6,000 lbs. GVWR
  - Passenger Vehicles, Light-Duty Trucks, SUVs, Motorcycles
  - Natural Gas, E85, Gasoline, Diesel
  - Hybrid, Electric, PHEV, Fuel Cell
- Medium-Duty 6,000 lbs. < GVWR < 14,000 lbs.
  - MD Trucks
  - LHD Trucks
  - Natural Gas, E85, Gasoline, Diesel

Sources and Emissions

- Passenger Vehicles Account for About 23 percent of ROG; 20 percent of NOx; and 11 percent PM2.5 emissions in the South Coast AQMD

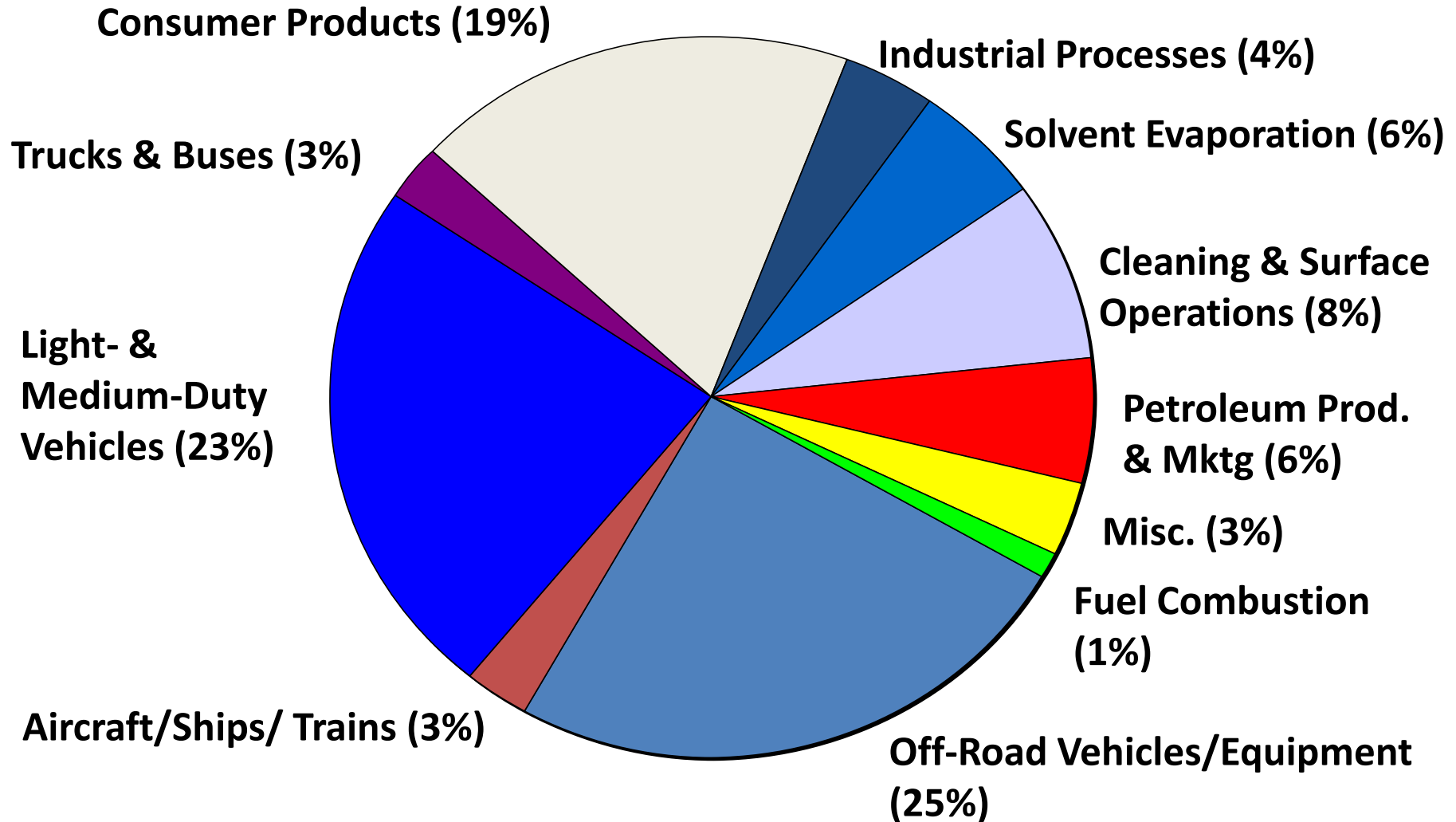 – Passenger vehicles include: cars, light trucks, SUVs, minivans, motorcycles

Major Contributors to NO$_x$ (2014)

Major Contributors to VOC (2014)

- Consumer Products (19%)
- Industrial Processes (4%)
- Solvent Evaporation (6%)
- Trucks & Buses (3%)
- Cleaning & Surface Operations (8%)
- Light- & Medium-Duty Vehicles (23%)
- Petroleum Prod. & Mktg (6%)
- Misc. (3%)
- Fuel Combustion (1%)
- Aircraft/Ships/ Trains (3%)
- Off-Road Vehicles/Equipment (25%)

2014 VOC – 569 tpd

Major Contributors to PM 2.5 (2014)

- Trucks & Buses (6%)
- Misc. (9%)
- Unpaved Roads (1%)
- Industrial Processes (6%)
- Light-& Medium-Duty Vehicles (11%)
- Paved Roads (19%)
- Off-Road Vehicles/Equipment (12%)
- Aircraft/Ships / Trains (6%)
- Cooking (15%)
- Fuel Combustion (6%)
- Construction & Demolition (9%)
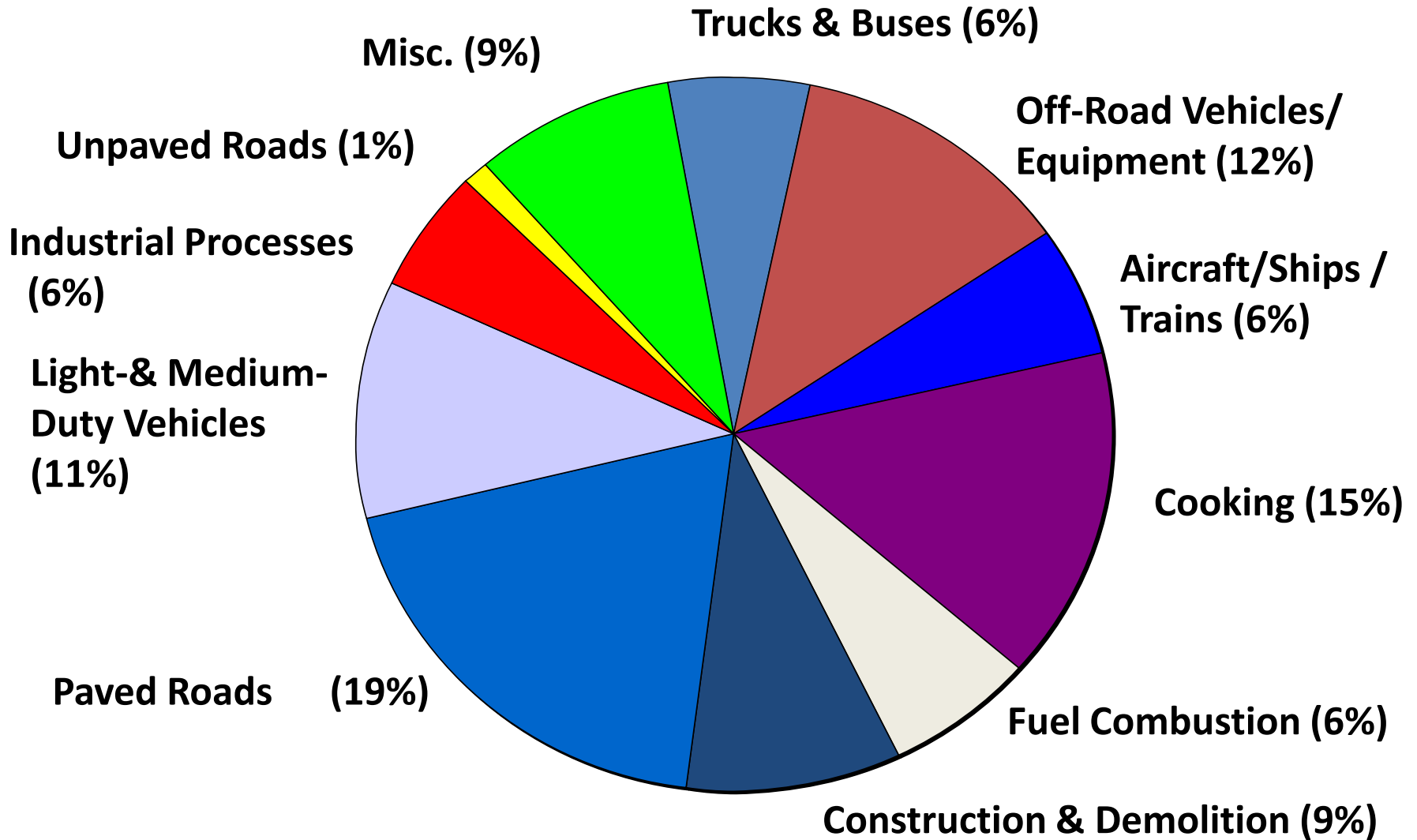
2014 PM 2.5 – 100 tpd

Existing Programs

- Aggressive Emission Standards for New Light- & Medium-Duty Vehicles

- Smog Check for Light- and Medium-Duty Vehicles

- Accelerated Fleet Turnover

- On-Board Diagnostics

In-Use Emissions

- Reducing In-Use Emissions Critical

- How To Effectively Accelerate Vehicle Turnover?

- SIP Commitments for South Coast in 2014:
    - AQMD High Emitter Repair or Scrap (HEROS)
        - 1.4 TPD ROG   0.9 TPD NOx
    - State's Expanded Vehicle Retirement Program
        - 2.8 TPD ROG   2.4 TPD NOx

Upcoming Vehicle Scrap & Replacement Incentive Programs in South Coast

- Approved by Board in December of 2010

  - Phase II AQMD High Emitter Repair or Scrap (HEROS)

  - Vehicle Replacement Vouchers AB 118 Enhanced Fleet Modernization Program (EFMP)

  - Coordination with Unocal Settlement Program

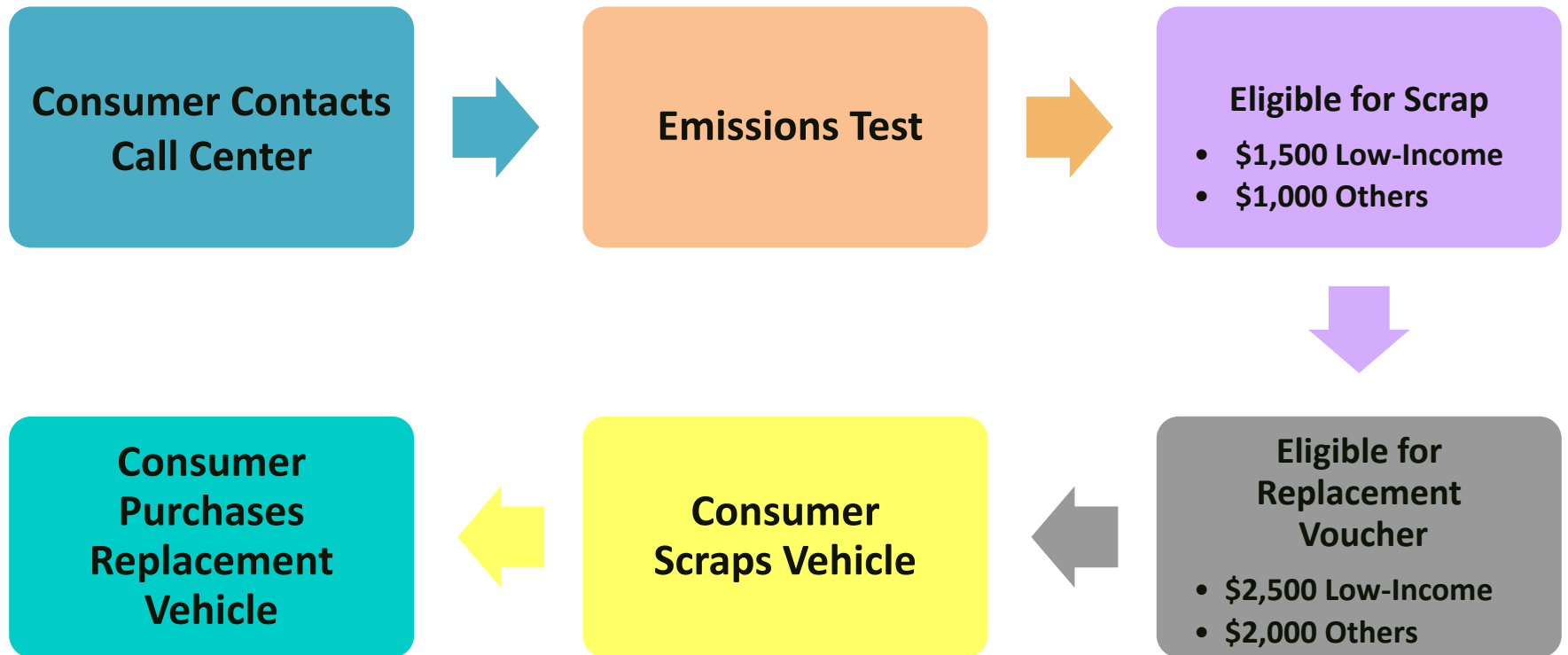- Unique Opportunity to Leverage & Coordinate Among the Three Programs

Scrap & Replacement Incentive Programs (Continued)

- Coordination of Three Programs Transparent to Consumer
  - Common Call Center
  - Matching Incentives

- Scrap Only (No Repairs)

- Replacement Vouchers

- $3,000 for Scrap & Replacement

- $4,000 to Low-Income Eligible Participants

Consumer Flow Chart

Consumer Contacts Call Center → **Emissions Test** →

Eligible for Scrap
- $1,500 Low-Income
- $1,000 Others

↓

Eligible for Replacement Voucher
- $2,500 Low-Income
- $2,000 Others

Consumer Scraps Vehicle ←

Consumer Purchases Replacement Vehicle ←

AQMD High Emitter
Repair or Scrap (HEROS) Program

- Need to Meet Moyer Eligibility to Participate

- Phase I
  - Only Opened to High Emitters Identified By Remote Sensing
  - Up to $500 Repair; or $1,000 Scrap/ $1,000 Low-Income Replacement

- Phase II
  - Open to All High Emitters
  - Vehicle Scrap & Replacement Only (No Repairs)
  - $4,000 Low-Income Scrap & Replacement; $3,000 Others
  - Scrap of 1,350 Vehicles; Replacement of 1,000 Vehicles

AB 118 Enhanced Fleet Modernization Program

- Expansion & Enhancement of BAR's Consumer Assistance Program

- AQMD Would Administer Vehicle Replacement Vouchers for CARB/BAR

- Replacement of 1,250 High-Emitters

Coordination with Unocal Settlement Program

- Vehicle Repair, Retirement, and Replacement for Motorists Program (VRRRM)

- Would Complement HEROS by Providing:
  – Additional funding for HEROS replacement incentives
  – Scrap & replacement for HEROS-ineligible vehicles
  – Statewide funding for repairs, scrap, & replacement

- Scrap & Replacement of 1,050 Non-HEROS Vehicles; Replacement of 510 HEROS Vehicles

Benefits

Fund	Project Cost	Vehicle Retirements*	Vehicle Replacements*	Potential Reductions
AB 118 EFMP	$ 2,708,000	Through CAP**	1,250	34 Tons NOx 67 Tons ROG
Moyer/ Mercedes	$ 2,923,155	1,350 HEROS	490 HEROS	37 Tons NOx 72 Tons ROG
Unocal Settlement (VRRRM)	$ 1,050,000 $ 3,446,063	1,050 Non-HEROS	510 HEROS 1,050 Non-HEROS	29 Tons NOx 56 Tons ROG
Clean Fuels	$ 189,855	------------	------------	------------
Total	**$10,317,073**	**2,400**	**3,300**	**100 Tons NOx** **195 Tons ROG**

*Assuming 10% Low Income-Eligible   ** CAP is an Existing Statewide Consumer Assistance Program

Presenters

- Lisa Mirisola – Electric Vehicles
- Brian Choe – Fuels Testing
- Larry Watkins – Hydrogen Infrastructure