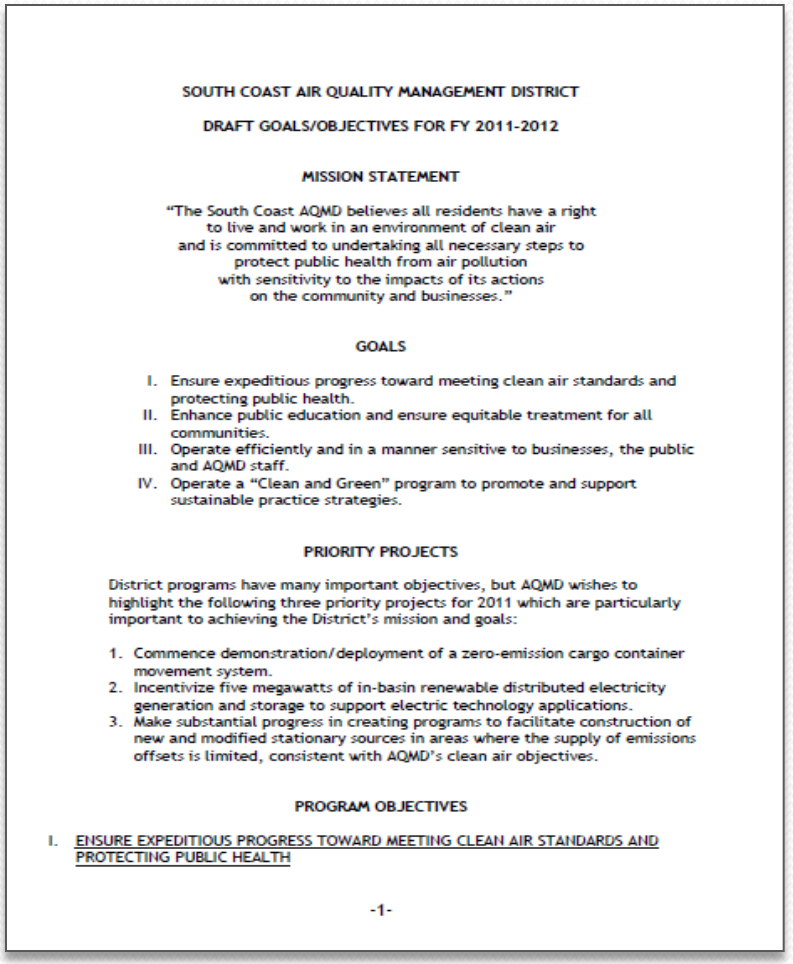
Volvo - Class 8 Plug-In Hybrid Electric Tractor

Jeff Cox

September 30, 2011

Background

- One of the Agency's top three priorities for 2011 is to initiate Zero Emissions Container Movement System Projects
- Staff has been working with Ports and providers to identify technologies



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

DRAFT GOALS/OBJECTIVES FOR FY 2011-2012

MISSION STATEMENT

"The South Coast AQMD believes all residents have a right to live and work in an environment of clean air and is committed to undertaking all necessary steps to protect public health from air pollution with sensitivity to the impacts of its actions on the community and businesses."

GOALS

I. Ensure expeditious progress toward meeting clean air standards and protecting public health.
II. Enhance public education and ensure equitable treatment for all communities.
III. Operate efficiently and in a manner sensitive to businesses, the public and AQMD staff.
IV. Operate a "Clean and Green" program to promote and support sustainable practice strategies.

PRIORITY PROJECTS

District programs have many important objectives, but AQMD wishes to highlight the following three priority projects for 2011 which are particularly important to achieving the District's mission and goals:

1. Commence demonstration/deployment of a zero-emission cargo container movement system.
2. Incentivize five megawatts of in-basin renewable distributed electricity generation and storage to support electric technology applications.
3. Make substantial progress in creating programs to facilitate construction of new and modified stationary sources in areas where the supply of emissions offsets is limited, consistent with AQMD's clean air objectives.

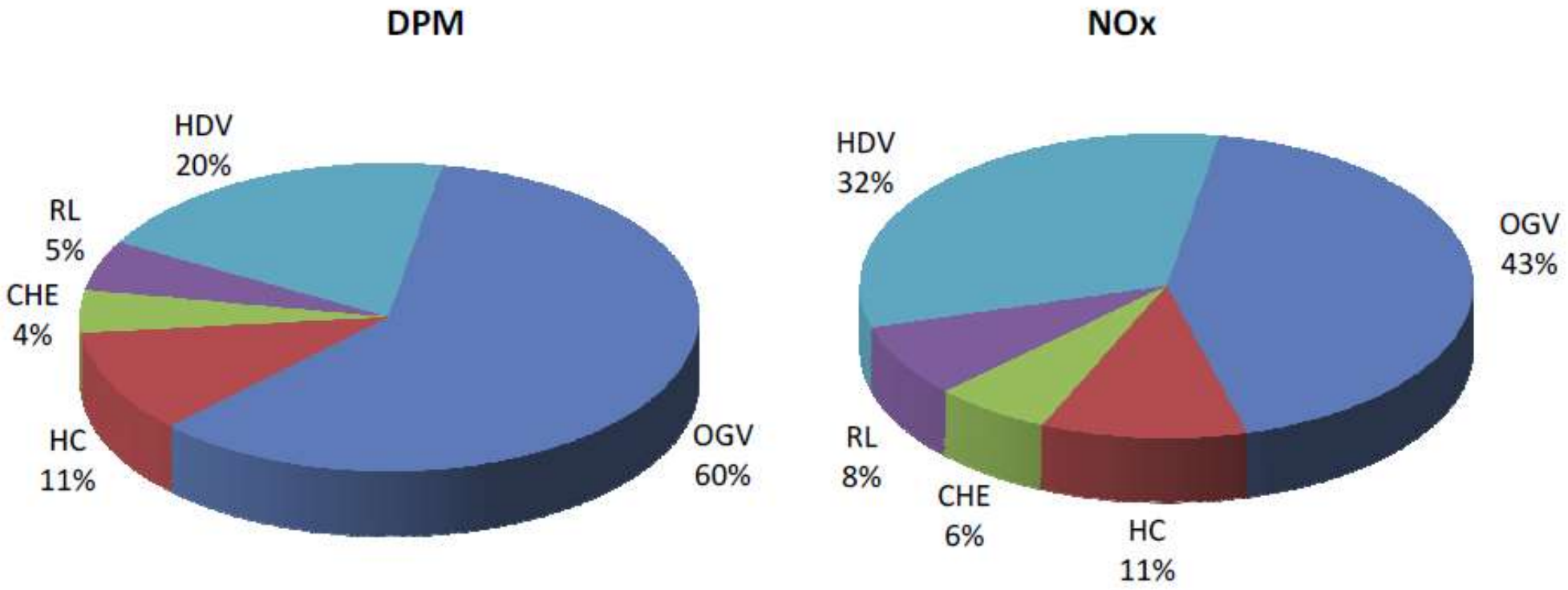
PROGRAM OBJECTIVES

I. ENSURE EXPEDITIOUS PROGRESS TOWARD MEETING CLEAN AIR STANDARDS AND PROTECTING PUBLIC HEALTH

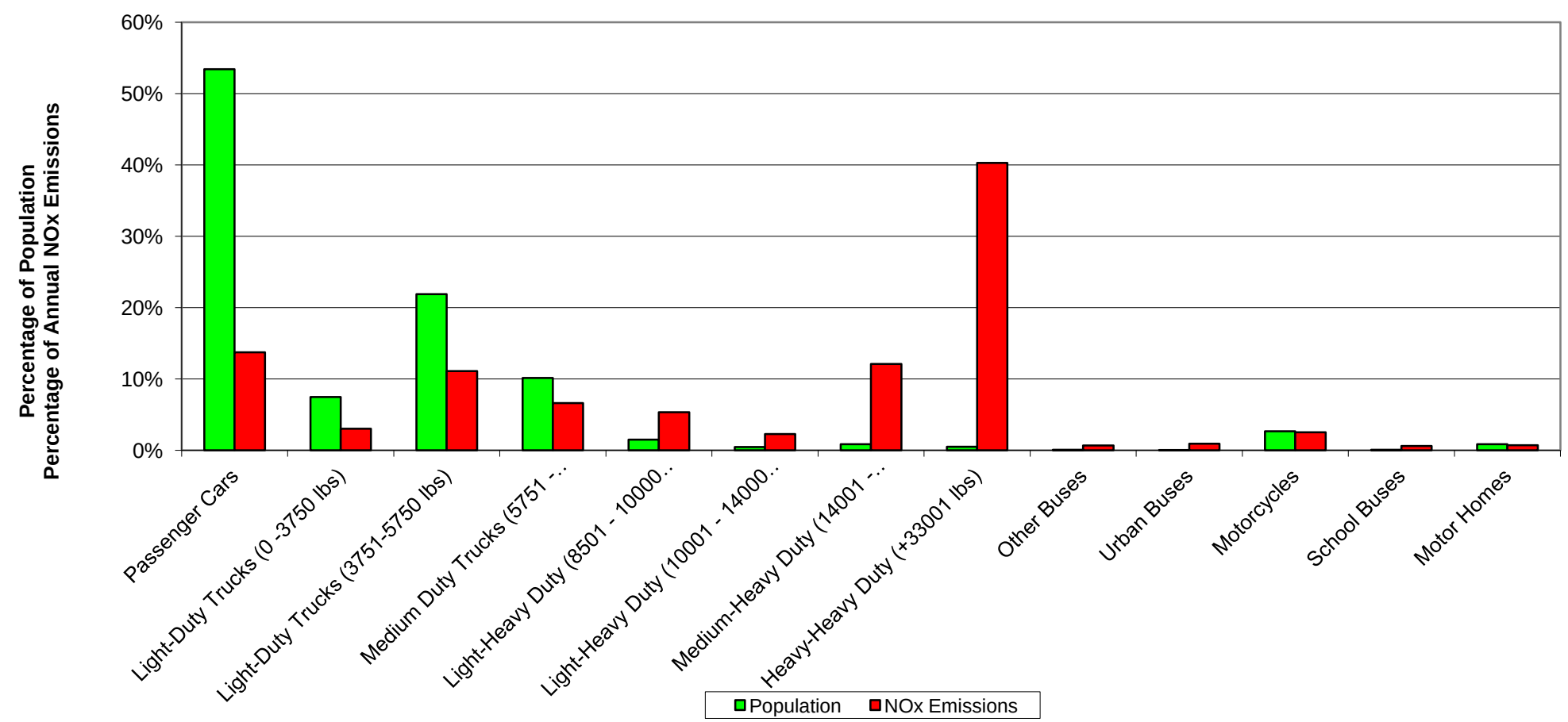
-1-

Emissions

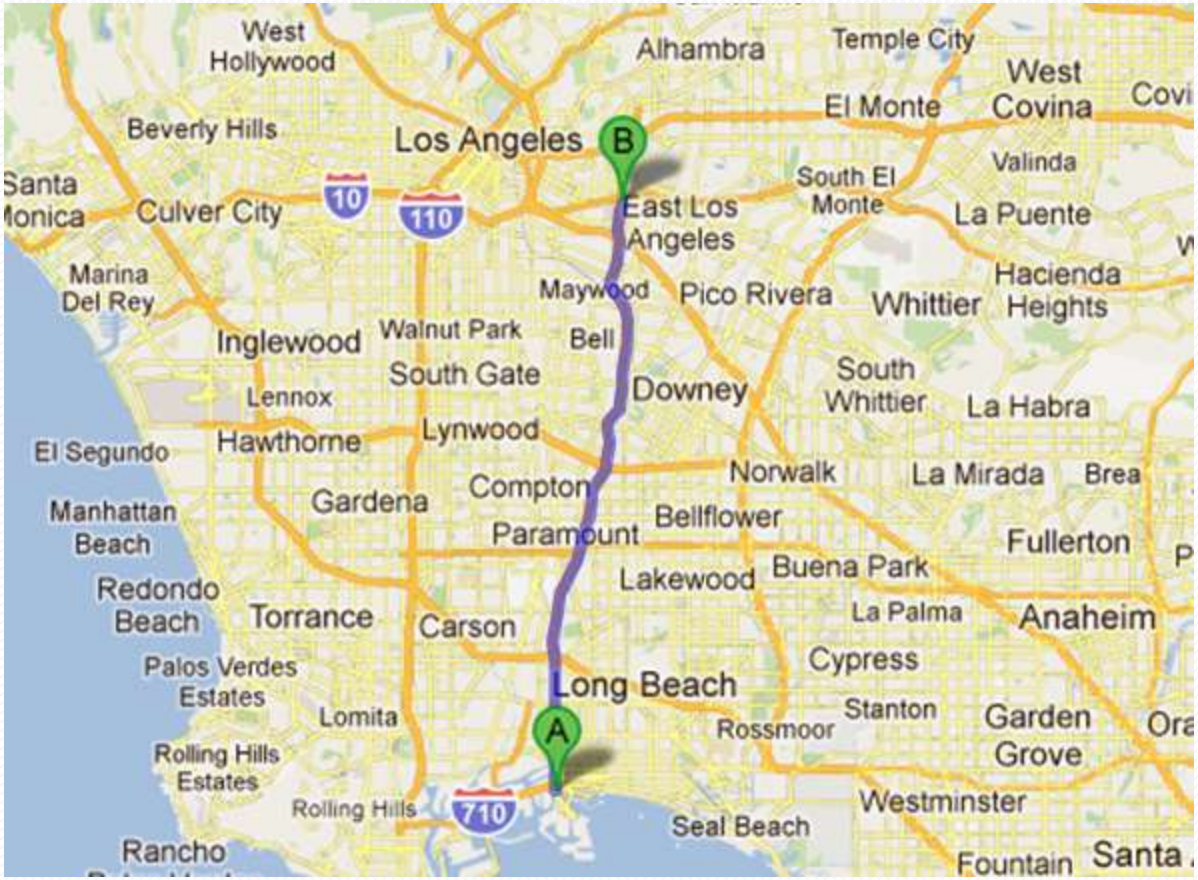
Figure 1: 2009 DPM and NOx Emissions by Port Source Contribution



Emissions Contribution & Population



I710 Electrified Corridor



Volvo Project Proposal

- Develop a class 8 prototype parallel hybrid in drayage and regional delivery application
- Engine downsizing in heavy haul applications
- Plug-in & charging technology to enable short distance zero emission driving

Technology

- Pre-transmission hybrid electric
- Grid-charged electrical energy storage
- Electrified engine accessories
- Regenerative braking
- Diesel engine downsizing
- Further potential evolution to a wayside power connection

Vehicle Attributes & Benefits

- Demonstration of an HEV with commercial potential
- Initial HEV has the potential for a reasonable payback to the end user
- HEV adoption develops the EV supply chain
- Potential for wayside connectability

Questions