

# 2006 Lower-Emission School Bus Program Guidelines and Funding Allocation



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# Today's Presentation

- Program overview
- 2005-06 funding
- Guideline revisions
- Issues
- Emission benefits
- Recommendations

# Program Overview

- Goal:
  - Reduce school children's exposure to PM and NOx
- Two components:
  - New school bus purchase
  - Retrofit of in-use diesel buses

# Self-Pollution Study

- 2003 ARB sponsored study
  - Children's exposures to diesel pollutants during school bus commutes
- Self-pollution from bus's own exhaust
  - Older (pre-1987) buses worse
  - CNG and DPF equipped diesel buses significantly better

# Previous Funding

- \$76M to date
- ~500 pre-1987 school buses replaced
- ~3,000 in-use diesel buses retrofit

# California School Bus Population

- ~4,000 pre-1987 buses
- ~300 pre-1977 buses
- ~10,000 buses eligible for retrofit

# Other Funding Sources

- AB 2766
  - \$4 motor vehicle registration surcharge
- AB 923
  - Additional \$2 motor vehicle registration surcharge
  - Requires adoption by air district board
- Carl Moyer Program
  - Must meet cost effectiveness requirement
- U.S. EPA Clean School Bus USA Program
  - Competitive cost-shared grant program

# Cost Effectiveness of Retrofits

- 85% reduction in children's exposure to diesel PM for ~10% of cost of new bus

# 2005-06 Fiscal Year Funding

# 2005-06 FY Appropriation

- \$12.5M new school bus purchase
  - Replace pre-1977 buses
- \$12.5M in-use diesel bus retrofit
  - Level 3 ( $\geq 85\%$  PM reduction)
  - Produce lowest NO<sub>2</sub> across device

# Proposed Allocation

- New school bus purchase funds
  - Oldest school buses first
- Retrofit funds
  - Per capita basis
  - Nearly 1,000 retrofits

# School Bus Data

- Staff verified status of buses 1974 and older
- Estimate about 300 pre-1977 buses in public school bus fleet

# ~90 Buses Identified for Replacement All 1972 and Older Buses

<u><i>Air District Administered Program</i></u>	<b>Approx. Funding (\$ Million)*</b>	<b>Approx. # of New Buses</b>
San Joaquin Valley APCD	4.3	31
South Coast AQMD	2.1	15
Bay Area AQMD	0.6	4
San Diego County APCD	0	0
Sacramento Metropolitan AQMD	0	0
<i>Total Air District Administered Program</i>	7.0	50
<u><i>CEC Administered Program</i></u>		
<i>Total CEC Administered Program</i>	5.5	~40
<b>Total</b>	<b>12.5</b>	<b>~90</b>

# Retrofit Funding Allocated on Per Capita Basis

Air District	Approx. Funding (\$ Million)*	Approximate # of Retrofits Fundable
Bay Area	2.4	165
Mojave	0.15	10
Monterey	0.27	18
Sacramento	0.46	31
San Diego	1.1	72
San Joaquin	1.2	84
Santa Barbara	0.15	10
South Coast	5.4	375
Ventura	0.27	18
All Other Air Districts (26)	1.1	75
<b>TOTAL</b>	<b>12.5</b>	<b>858</b>

# Revisions to Guidelines

# Changes Applicable to 2005-06 FY Only

Oldest bus first replacement

- Specific limitations on retrofit funding ( $\geq 85\%$  PM reduction, lowest NO<sub>2</sub> production)
- New program timetables

# NO<sub>2</sub> Requirement

- State budget language:
  - Level 3 devices with lowest NO<sub>2</sub>
    - First priority: fund uncatalyzed Level 3 active particulate filters
    - If funds remain unspent: other Level 3 devices may be funded

# Changes Applicable to All New Bus Purchases

- Emission criteria for 2006 and 2007-09
- No match required
- Eliminate goal for 2/3 funding for alternative fueled buses
- AB 2766 funds may be used for in-use CNG school bus fuel tank replacement

# Issues

# Alternative-Fuel Goal

- Past ARB policy was 2/3 alt fuel, 1/3 diesel for new school buses
- Impractical with oldest bus first approach
- Should Board retain for future years?

# Unmet Funding Needs

- ~\$30 million to replace remaining pre-1977 MY buses
- ~\$500 million required to replace all remaining pre-1987 MY buses
- ~\$100 million to retrofit remaining eligible fleet

# Carl Moyer Fleet Modernization

- Staff convened a working group
- Three main issues:
  - Emission factors
  - Remaining useful life
  - PM weighting factor (for exposure)

# Results of Working Group

- Preliminary data indicate:
  - No change warranted to emission factors
  - A potential change in remaining life could be supported (from 5 to ~10 years)
  - An increase in PM weighting factor could be supported technically;
    - Serious policy issues need to be considered – would need to include exposure weighting for all projects
  - Additional analysis and discussion are warranted

# Emission Benefits

# Emission Reductions

- Retrofits
  - 45 to 60 tons PM over 11 years
- Bus replacement
  - 135 pounds per day NO<sub>x</sub> and 5 pounds per day PM near term reduction

# Staff Recommendation

- Approve revised Guidelines
- Approve funding allocation