



**Program #10018C - School Kids Breathing Easy: Preventing Exposure to Toxins by Fixing Dirty Diesel School Buses** 6/30/2016

**Department:** Nondepartmental **Program Contact:** John Wasiutynski  
**Program Offer Type:** Innovative/New Program **Program Offer Stage:** As Adopted  
**Related Programs:**  
**Program Characteristics:** One-Time-Only Request

**Executive Summary**

School Children in Multnomah County ride over 1.5 million miles a year in dirty diesel buses. Children are particularly vulnerable to diesel pollution, and those that travel to school on clean buses miss fewer school days and have improved lung function. This program offer will leverage over \$600,000 in federal funding to retrofit 48 school buses in the David Douglas and Centennial School Districts, and help to reduce the pollution from dirty diesel buses by up to 95%.

**Program Summary**

The problem of diesel Particulate Matter (PM) exposure is particularly acute in Multnomah County. Multnomah County has the 4th highest exposure rate to diesel exhaust of all United States' counties. Exposure to diesel engine exhaust causes cancer, increases the risk of heart attack, stroke, and cardiovascular disease, exacerbates asthma and can lead to low-weight and preterm births.

All Multnomah County residents are exposed to a dangerous level of diesel pollution. In some areas, however, like near transportation corridors or rail yards, levels of diesel pollution are over 8,000 times the California health benchmark. In 2014, the Multnomah County Department of Health conducted a study of racial and ethnic health disparities and found that communities of color are exposed to levels of diesel pollution 2-3 times higher than their white counterparts. The levels of diesel pollution in Multnomah County result in significant public health impacts. A snapshot of annual impacts include: 91 Premature deaths; 70 non-fatal heart attacks; 13,273 work loss days.

Children are especially vulnerable to diesel PM because their lungs are still in the developmental phase and they breathe, on average, 50 percent more air per pound of body weight than adults. For school aged children, riding on the school bus can be a significant exposure route for diesel PM. A California Air Resources Board study found that increased exposures from commuting by school bus were estimated to increase a child's lifetime cancer risk due to diesel PM by approximately 4%. School children riding on cleaner buses also miss fewer school days and have increased lung function. Sadly, however, school Children in Multnomah County ride over 1.5 million miles a year in dirty diesel buses.

Fortunately there are solutions available. Because of federal regulations, newer school buses are fitted with pollution controls that reduce toxic emissions by 99%. But because federal rules only apply to new engines, it is left to states to address older and dirtier engines still in use. Approximately 68% of school buses in East County have older diesel engines. This program offer will leverage over \$600,000 in federal funding to retrofit 48 school buses in the David Douglas and Centennial School Districts, and help to reduce the pollution from those buses by up to 95%. There is an \$86,000 annual monetized public health return on investment.

**Performance Measures**

Measure Type	Primary Measure	FY15 Actual	FY16 Purchased	FY16 Estimate	FY17 Offer
Output	Number of pre-model year 2007 school buses retrofitted.	N/A	N/A	N/A	48
Outcome	Annual monetized public health benefit calculated using the EPA diesel emission quantifier.	N/A	N/A	N/A	\$86,000
Output	Annual tons of diesel particulate matter pollution reduced.	N/A	N/A	N/A	0.8

**Performance Measures Descriptions**

This program will be aimed at Centennial and David Douglas School Districts. These school districts are among the most diverse in the state with high proportions of students qualifying for free and reduced lunches. Because the program is aimed at communities already burdened by environmental health factors, the calculated public health return on investment is likely a conservative estimate.

Revenue/Expense Detail

	Proposed General Fund	Proposed Other Funds	Proposed General Fund	Proposed Other Funds
Program Expenses	2016	2016	2017	2017
Contractual Services	\$0	\$0	\$73,954	\$0
<b>Total GF/non-GF</b>	<b>\$0</b>	<b>\$0</b>	<b>\$73,954</b>	<b>\$0</b>
<b>Program Total:</b>	<b>\$0</b>		<b>\$73,954</b>	
Program FTE	0.00	0.00	0.00	0.00

Program Revenues				
<b>Total Revenue</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

Explanation of Revenues

Significant Program Changes

Last Year this program was:

Although this is a new program, it would build off of the County's experience with diesel retrofits and clean diesel contracting. In 2009, the Office of Sustainability worked with the City of Portland, County Fleet Services, and DCM to retrofit existing county equipment. A study conducted by the Office of Sustainability project and the Health Department on the impact of clean diesel contracting at the East County Courthouse found that for every \$1 invested in retrofiring equipment there was \$10 in public health benefit.