

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

Executive Summary

Diesel exposure is an acute problem in Multnomah County. There is no safe level of exposure to diesel particulate matter (PM). Multnomah County has the highest exposure rate to diesel exhaust in Oregon and is in the 95th percentile nationally according to the U.S. Environmental Protection Agency (EPA) National Air Toxics Assessment (NATA) data. School children who ride in older diesel school buses that lack pollution controls have a 4% increased likelihood of developing cancer due to diesel PM in their lifetime. Research shows that reducing exposure to diesel PM increases children's lung function, decreases biomarkers for asthma, and decreases absenteeism. This investment purchases electric school buses in Multnomah County school districts that are already engaged in fleet electrification projects.

Program Summary

Although no areas of Multnomah County have safe levels of diesel pollution, the pollution “hot-spots” are in neighborhoods with higher proportions of residents who are people of color. The disproportionate exposure to diesel mirrors health disparities in the community, particularly asthma, cardiovascular disease, low birth-weights and more recently morbidity and mortality related to COVID-19. Children are especially vulnerable to air pollution because their lungs are still in the developmental phase and they breathe, on average, 50% more air per pound of body weight than adults. School children who ride on older diesel school buses that lack pollution controls have a 4% increased likelihood of developing cancer due to diesel particulate matter in their lifetime. In addition, exposure to diesel exhaust enhances allergic response, can induce new allergies to airborne allergens, and exacerbate asthma. Studies show that diesel exhaust gets caught in the school bus cabin, increasing children’s exposure. Although bus commutes only comprise a fraction of a child’s day, the bus ride can represent up to 1/3 of a child’s daily diesel pollution exposure. A recent study in Washington State found that children riding on cleaner school buses reduced a marker for inflammation in the lungs by 16 percent over the whole group, and 20-31 percent among children with asthma, depending on the severity of their disease. Moreover, children riding on cleaner buses had a 6-8% reduction in the risk of absenteeism. Cleaner buses means healthier kids who are more ready to learn.

The County will identify a school districts that have access to other sources of funding for school bus electrification. This will be accomplished through collaboration with Portland General Electric, which offers a variety of incentives for fleet electrification, the Department of Environmental Quality that administers clean fleet incentives, and the school district. By leveraging existing school bus electrification projects, the County can maximize the funds to purchase new buses instead of allocating resources to charging infrastructure. To further maximize funds, the County will pay for the incremental cost of an electric bus over the cost of a conventional diesel powered bus, the remainder of the cost will be reimbursed from the state. In addition, the County will focus on school district owned and operated equipment to make sure these investments stay in Multnomah County. Finally, the County will ask the school district(s) to replace their oldest buses with these funds to help ensure that health benefits are maximized.

Performance Measures

Measure Type	Primary Measure	FY21 Actual	FY22 Budgeted	FY22 Estimate	FY23 Offer
Output	Number of school buses replaced*	N/A	N/A	N/A	2
Outcome	Lifetime Cost Effectiveness (\$/short ton reduced) for diesel particulate matter**	N/A	N/A	N/A	\$62.9 Million

Performance Measures Descriptions

*The estimated incremental cost of replacing a diesel bus with an all electric bus is \$250,000, so a total of two buses will be replaced. **Calculated using EPA Diesel Emissions Quantifier and assumes replacement of a model year 2010 diesel powered bus.

Legal / Contractual Obligation

Revenue/Expense Detail

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Explanation of Revenues

State of Oregon - American Rescue Plan (ARP) funding - \$500,000

Significant Program Changes

Last Year this program was:

This program offer falls under the County's Public Health Emergency Response ARP Priority Area.