dvrpc | May 2016

Alert

Alert is a monthly update on transportation and air quality planning activities in the Delaware Valley.

Transportation and Air Quality

EPA Diesel Emissions Reductions Grants Yield Health and Air Quality Benefits

Clean diesel grants aimed at cleaning up old diesel engines have greatly improved public health by cutting harmful pollution that causes premature deaths, asthma attacks, and missed school and workdays, according to a new report by the U.S. Environmental Protection Agency (EPA). Since its start in 2008, the Diesel Emission Reduction Act (DERA) program has significantly improved air quality for communities across the country by retrofitting and replacing older diesel engines.

Diesel exhaust significantly contributes to the formation of dangerous soot and smog, and is likely to increase the risk of cancer. Nationally, DERA program funding has helped clean up approximately 335,200 tons of nitrogen oxides (NO_x) and 14,700 tons of particulate matter (PM), which are linked to a range of respiratory ailments and premature death. The program has also saved 450 million gallons of fuel and prevented 4.8 million tons of carbon dioxide (CO_2) emissions – equivalent to the annual CO_2 emissions from more than 900,000 cars. EPA estimates that clean diesel funding generates up to $13 of public health benefits for every $1 spent on diesel projects.

Operating throughout our transportation system today, over 10 million older diesel engines built before 2008, need to be replaced or repowered to reduce air pollutants. While some of these will be retired over time, many will remain in use, polluting America's air for the next 20 years. DERA grants and rebates are gradually replacing legacy engines with cleaner diesel engines. Priority is given to fleets in regions with disproportionate amounts of diesel pollution, such as those near ports and rail yards.

DERA funding rounds generally occur on an annual basis, with the application period being open in the spring and awards being announced in the fall. The grants are administered by the EPA regions with New Jersey being in EPA Region II, and Pennsylvania being in Region III.

The current DERA funding round for 2016 closed for applications in April. The Mid-Atlantic Regional Air Management Association (MARAMA) submitted a DERA application to replace diesel dray trucks that service the ports in southeast Pennsylvania and northern Delaware. Should that application be successful, DVRPC will be assisting MARAMA to solicit vehicles for replacement by raising awareness of the program with fleets that serve ports in the region. Funding award announcements are expected in October 2016.

DERA funded grants and information on the program can be viewed at: www.epa.gov/cleandiesel.

Save the Date

Thursday,
May 24, 2016

Public Workshop: Connections 2045 Greater Philadelphia Future Forces

5:30 – 7:30 pm
Location of Meeting:
WHYY Public Media Commons
150 North 6th Street
Philadelphia, PA

Tuesday,
June, 21 2015

Public Meeting: FY 2017 PA TIP, Connections 2040 Long-Range Plan Amendments, and Conformity Determination for TIPs and Plan
4:00 – 6:00 pm
Location of Meeting:
DVRPC Conference Center
8th Floor

Health and Air Quality

Studies Link Neighborhood Vegetation to Better Health Outcomes

A new study of a quarter-million Miami-Dade County Medicare beneficiaries showed that higher levels of neighborhood greenness, including trees, grass and other vegetation, were linked to a significant reduction in the rate of chronic illnesses, particularly in low-to-middle income neighborhoods. Led by researchers at the University of Miami, Department of Public Health Sciences at the Miller School of Medicine, and the School of Architecture, the study showed that higher greenness was linked to significantly lower rates of diabetes, hypertension, and high cholesterol, as well as fewer chronic health conditions.

The findings, published in April by the *American Journal of Preventive Medicine*, are based on 2010-2011 health data reported for approximately 250,000 Miami-Dade Medicare beneficiaries over age 65, and a measure of vegetative presence based on NASA satellite imagery. The study was the first of its kind to examine block-level greenness and its relationship to health outcomes in older adults, and the first to measure the impact of greenness on specific cardio-metabolic diseases.

Study findings revealed that higher levels of greenness on the blocks where the study's Medicare recipients reside, is associated with a significantly lower chronic disease risk for the residents of high greenness blocks, including a 14 percent risk reduction for diabetes, a 13 percent reduction for hypertension, and a 10 percent reduction for lipid disorders.

In a second and unrelated study, published in the journal *Environmental Health Perspectives*, researchers found that mothers who live in neighborhoods with plenty of grass, trees, or other green vegetation are more likely to deliver at full term and their babies are born at higher weights, compared to mothers who live in urban areas that aren't as green. The findings held up even when results were adjusted for factors such as neighborhood income, exposure to air pollution, noise, and neighborhood walkability, according to researchers at Oregon State University and the University of British Columbia.

The study included more than 64,000 births, and researchers found that very pre-term births were 20 percent lower and moderate pre-term births were 13 percent lower for infants whose mothers lived in greener neighborhoods. They also found that fewer infants from greener neighborhoods were considered small for their gestational age. Babies from the greener neighborhoods weighed 45 grams more at birth than infants from less green neighborhoods.

The study establishes an important link between residential "greenness" and birth outcomes that could have significant implications for public health, said Perry Hystad, an environmental epidemiologist in the College of Public Health and Human Sciences at Oregon State University.

These studies' findings suggest extensive potential for parks, open space, and streetscape design in the United States to impact public health in strategic planning. The research adds to a growing body of evidence that exposure to higher levels of greenness is associated with better health outcomes, by reducing stress, local air pollution, humidity and heat island impacts, and encouraging physical activity, social interaction and community cohesion.

For more information on the articles:

- *Neighborhood Greenness and Chronic Health Conditions in Medicare Beneficiaries*, and
- *Residential Greenness and Birth Outcomes: Evaluating the Influence of Spatially Correlated Built-Environment Factors.*

please visit: www.sciencedaily.com/releases/2016/04/160421171345.htm and www.sciencedaily.com/releases/2014/09/140904131645.htm respectively.

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