

Alert

dvrpc

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



Air Quality Regulations

US EPA Decides to Retain Current Fine Particle Pollution Standard

On December 7, 2020, the U.S. Environmental Protection Agency (EPA) issued a Final Rule to retain the current National Ambient Air Quality Standard (NAAQS) for fine particulate matter (PM_{2.5}). The Clean Air Act requires the EPA to revisit the NAAQS every five years in order to review new science on the health impacts of air pollution and decide whether that new evidence supports revising the NAAQS.

PM_{2.5} pollution consists of tiny particles of microscopic materials smaller than 2.5 microns in size. These particles are classified by size but can be bits of metal, carcinogenic chemical compounds, dust, or liquid droplets. The current PM_{2.5} standard has two forms, an annual and a 24-hour standard. The annual standard was adopted in 2006 and is set at 12 micrograms per cubic meter of air (µg/m³). The 24-hour standard was adopted in 2012 and is set at 35 µg/m³.

The EPA's Clean Air Scientific Advisory Committee reviewed hundreds of peer reviewed studies on the impacts on PM_{2.5} pollution on public health and premature deaths. The committee released their report in September 2019. The scientists wrote that if the annual standard were tightened to 9 µg/m³, annual deaths associated with particle pollution would fall by about 27 percent, or 12,150 people a year. These findings did not include recent research from Harvard University linking PM_{2.5} pollution with increased COVID-19 morbidity rates.

EPA Administrator Andrew Wheeler claimed that the scientific evidence to tighten the standards was insufficient to tighten the standard and that the current standard adequately protects human health and welfare as required by the Clean Air Act.

Douglas Buffington, the deputy attorney general of West Virginia, said the rule "represents a big win for West Virginia coal." "If they had been tightening it, it could have been a huge blow to the coal industry," he said, adding, "This is only possible when you have reasonable and understanding leadership in the federal government."

Public health advocates oppose the move to retain the standard, claiming that the rule is irresponsible and ignores the science that would have required a revision of the standard to better protect public health. It is anticipated that the Biden Administration will review this decision to retain the current NAAQS and other recently adopted rules that have weakened environmental regulations in 2021.



Save the Date

**Friday
January 22, 2021**

Deadline for "Expression of Interest" for DVRPC's Travel Opportunities Funding Program

For more information, please visit:

www.dvrpc.org/top

**Friday
February 26, 2021**

Application Deadline Driving PA Forward Electric Vehicle Charging Station Rebate Program

For more information, please visit:

<http://www.depgis.state.pa.us/Dri vingPAForward>

The DVRPC region meets the current PM_{2.5} NAAQS and 2019 monitoring data shows that most of the monitors in the region have reported values below 9 µg/m³. Nationally, PM_{2.5} concentrations have been declining as tighter restrictions on power plants and diesel engines have been implemented over the last decade.

To learn more about the EPA's decision to retain the current fine particle pollution standards, please visit: <https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm>.



Air Quality and Health

Study Shows that Green Space Improves Air Quality and Cardiovascular Health

Recent research presented at the American Heart Association's *Scientific Sessions 2020* conference in November, found that increasing green space can positively impact air quality and improve cardiovascular health.

"We found that both increased greenness and increased air quality were associated with fewer deaths from heart disease," said William Aitken, M.D., a cardiology fellow with the University of Miami Miller School of Medicine.

The researchers defined greenness as the presence of trees, shrubs, and grasses. They measured an area's greenness using an Index for vegetation developed from NASA satellite imagery called the Normalized Difference Vegetative Index (NDVI). The researchers then conducted a cross-sectional study using national air quality, NASA's greenness index, and cardiovascular disease and census data from 2014-2015. The researchers measured greenness by county across the United States and compared it to national disease death rates from the Centers for Disease Control and Prevention's Interactive Atlas of Heart Disease. They also overlaid data from the EPA's air quality measurements of particulate matter for each county and the Census Bureau's information on age, race, education, and income by county.

The study found that for every 0.10 unit increase in greenness, deaths from heart diseases decreased by 13 deaths per 100,000 adults. Greenness (NDVI) values ranged from 0.00-0.80.

"We found that areas with better air quality have higher greenness, and that having higher greenness measures, in turn, is related to having a lower rate of deaths from heart disease," said Aitken, who collaborated on the research with University of Miami public health scientists.

The mechanisms for this correlation may include vegetation's ability to filter air pollution from the environment and the positive influence of green public spaces on physical activity. Both of these mechanisms have been shown to improve cardiovascular health outcomes.

"Given the potential cardiovascular benefits of higher greenness measures, it's important that dialogue about improved health and quality of life include environmental policies that support increasing greenness. Policymakers should support greenness through efforts that promote environmental justice through equitable access to green spaces, clean air, and clean water, as well as minimizing exposure to environmental hazards," he added.

These findings support earlier research conducted at the University of Louisville linking heart health with density of vegetation in neighborhoods. The University of Miami researchers hope their results encourage clinical trials using built environment interventions (e.g., tree planting to increase vegetative presence and greenness) to improve cardiovascular health.

To learn more about the impact of green space on cardiovascular health, please visit: <https://newsroom.heart.org> and search "Green Space".



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