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Alert

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

Health and Air Quality

US EPA Resource Helps Schools Reduce Exposure to Traffic Related Air Pollutants

The U.S. Environmental Protection Agency (EPA) released a document to give schools and parents ideas on how to reduce childrens' exposure to traffic-related air pollution. When schools are located close to busy roads, students can be exposed to unhealthy levels of air pollution. The new document, *Best Practices for Reducing Near-Road Pollution Exposure at Schools,* offers strategies for limiting exposure, including ventilation and filtration, school siting and layout decisions, anti-idling policies, bus fleet upgrades, sound walls, vegetative barriers, and other actions staff can take.

"Our children are especially vulnerable to air pollution, which can damage their growing lungs," said Jared Blumenfeld, EPA's Regional Administrator for the Pacific Southwest. "This new report gives school officials and parents multiple ways to limit their students' exposures to the pollutants from traffic."

Children are sensitive because their respiratory systems are not fully developed, and they are more active and breathe more rapidly than adults. Children are also more likely than adults to have asthma. In particular, low income and minority children are disproportionately impacted by asthma and are more likely to live and attend school near major roadways.

The document also contains a school ventilation checklist and links to additional resources for achieving clean, green, and healthy school environments. EPA created this document in response to interest from parents, schools, and public health advocates who have been requesting help to reduce traffic-related air pollution exposure.

Nearly 17,000 U.S. schools are located within 1/10th of a mile of a major road. In California, more than 400,000 children are in schools where heavy traffic may influence air quality. While the EPA has achieved major successes in reducing common pollutants by roughly 99% from cars and trucks since the creation of the Clean Air Act, schools may still be located in areas where air pollution levels are elevated.

The recommendations of the report range from costly building and HVAC upgrades to relatively low cost active transportation programs that have the added benefits of promoting activity for students.

For more information or to download the report, please visit: http://www2.epa.gov/schools/best-practices-reducing-near-road-air-pollution-exposure-schools.

Save the Date

Saturday,
April 16, 2016

Clean Air Council 5K for Clean Air
Location of Event:
Eakins Oval
Philadelphia Museum of Art

Register at:
www5krunforcleanair.org

Thursday,
April 21, 2016

DVRPC 2016 Competitive CMAQ Program for Pennsylvania Application Period Closes

For More Information Visit:
www.dvrpc.org/CMAQ

Air Quality Information

Study Finds that Charging Electric Vehicles at Night May Increase Air Emissions

Charging electric vehicles late at night, when demand is low and electricity is cheapest to generate, is a strategy preferred by electric grid operators. However, Carnegie Mellon University researchers found that this strategy produces substantially higher greenhouse gas emissions and air pollution than simply charging as soon as the driver returns home.

In a study published in the journal *Environmental Research Letters*, Jeremy Michalek, a professor of engineering and public policy and mechanical engineering, and his colleagues modeled the PJM power transmission region, which includes Washington, D.C., Philadelphia, Pittsburgh, Cincinnati, and Chicago.

"We looked at how power plant operations would change in response to electric vehicle charging load, and we modeled emissions from those plants and their downwind air pollution consequences for human health and the environment," Michalek explained. "We found that charging late at night reduces power generation costs by a quarter to a third, largely by shifting to cheaper coal-fired power plants. But the extra emissions released as a result can cause 50 percent higher costs to human health and the environment."

According to the study, coal-fired power plants often operate below full capacity at night, so they are available to be dispatched in response to new nighttime load, like electric vehicle charging. These coal-fired power plants produce sulfur dioxide, which is the largest single source of cost to human health resulting from electric vehicle charging.

In a separate study, published in the journal *Environmental Science & Technology*, Michalek and colleagues looked at greenhouse gas emissions from electric vehicle charging across the United States.

"In nearly all U.S. regions, charging later at night increases greenhouse gas emissions," he said.

Michalek said the picture could change in the future, as many coal-fired power plants are expected to retire in response to recent regulation. "As coal is phased out and the grid becomes cleaner, the emissions implications of charging at night will be mitigated," he said, "and the benefits of late-night charging for the electricity grid may be good reasons to delay charging."

According to Michalek, the recent Supreme Court decision to halt the Clean Power Plan while it undergoes litigation could delay the shift away from coal.

"For now, if you live in a coal-heavy region like the Chicago, Washington, D.C., or Philadelphia area, delaying charging until late at night can cause more harm than good."

For more information on the CMU studies, please visit:
www.cmu.edu/news/stories/archives/2016/february/charging-cars-at-night.html.

EPA Announces $26 Million Nationwide to Reduce Diesel Air Emissions

The U.S. Environmental Protection Agency (EPA) today announced the availability of $26 million in grant funding to establish clean diesel projects aimed at reducing emissions from the nation's existing fleet of diesel engines. Diesel-powered engines move approximately 90 percent of the nation’s freight tonnage, and today nearly all highway freight trucks, locomotives, and commercial marine vessels are powered by diesel engines.

EPA is soliciting proposals nationwide for projects that significantly reduce diesel emissions and exposure, especially from fleets operating in areas designated as having poor air quality. Priority for funding will be given to projects that engage and benefit local communities, and applicants that demonstrate their ability to promote and continue efforts to reduce emissions after the project has ended.

For more information and to access the Request for Proposals, please visit:
www.epa.gov/cleandiesel/clean-diesel-national-grants.

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