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Alert

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

Air Quality and Transportation

UC-Davis Study Shows Impacts of COVID-19 Pandemic on Travel Modes

A survey conducted by researchers at the *Institute of Transportation Studies* at the University of California, Davis (UC-Davis) between April and July 2020 reveals that since the onset of the nationwide pandemic, overall travel is down from 2019 levels as stay-at-home orders took effect and the overall economy slowed. The study also revealed that as states began to re-open, more people are returning to travel by car at the expense of public transportation, ridesharing, and transportation-on-demand services.

Researchers at UC-Davis have conducted mobility surveys of approximately 3,500 respondents from California in 2018, 3,300 respondents from eight major US cities in 2019, and 1,400 online respondents from the United States in 2020. The surveys provide in-depth information about the respondents' households, travel patterns, opinions of land-use controls, and attitudes towards different modes of travel. The ongoing research allows the survey team to compare pre-pandemic responses to the 2020 dataset. The researchers have also conducted extensive follow-up interviews to compare changing attitudes toward travel following the onset of the pandemic.

The researchers report that 35 percent of the respondents reported using less public transportation and relying more on driving a private car. The survey respondents also report less willingness to adopt a lifestyle that includes limited car use or relying on multiple modes for transportation. Follow-up questions to the survey seem to indicate that this preference for driving alone or with close family members over shared modes is a direct result of social distancing recommendations and fear of COVID-19 transmission.

Survey respondents did report a drastic increase in telecommuting. Pre-pandemic, only 8 percent of respondents reported telecommuting everyday regardless of income. These numbers jumped to 50 percent of high-income respondents and 20 percent of low-income respondents during the pandemic. The number of people who walked everyday increased in the 2020 survey from 10 percent pre-pandemic to 16 percent during the pandemic.

The UC-Davis survey affirms a number of expected impacts of the COVID-19 pandemic on national travel patterns but also raises some policy issues about the future of mobility as the nation's economy improves and people return to work. The survey highlights the income divide between the options to telework for higher income individuals with access to high-quality internet, office equipment, and software at home and lower income households whose work may not be compatible with working from home in addition to the technological barriers.

Save the Date

September 17 and September 30, 2020

Applying for Transportation Alternatives (TA) Set-aside Program in New Jersey Online Session For information on the TA funding program, please visit:

www.eventbrite.com/e/applying-for-transportation-alternatives-set-aside-grants-tickets-115526028461

Monday October 26, 2020 Deadline for Applications for FHWA Commuter Authority Rail Safety Improvement (CARSI) Grants

For information on the program, please visit:

www.grants.gov

The survey results also raise alarms about funding for public transportation as people are increasingly concerned about the safety of shared rides and communal transportation. Finally, as people return to more travel by car, the need to move towards low or no-emission vehicles becomes more important to offset the pollution from increased vehicle miles traveled by single occupancy vehicles.

The researchers intend to conduct follow-up surveys in 2021 to meaure the long-term impacts of the pandemic on national travel patterns. The reserarch methods and results are available at: https://postcovid19mobility.ucdavis.edu/

Air Quality and Health

The American Heart Association Reports the Benefits of Exercise Even in Areas with High Air Pollution

The risk-benefit relationship between air pollution and physical activity is an important public concern because more than 91% of people worldwide live in areas where air quality does not meet World Health Organization (WHO) guidelines.

In July 2020, the American Heart Association published a study in the publication *Circulation*, that indicates that people who regularly exercise tend to have a lower risk of high blood pressure, even if they live in areas where air pollution is relatively high.

"Extended outdoor activity in urban areas increases the intake of air pollutants, which can worsen the harmful health effects of air pollution," said study author Xiang Qian Lao, Ph.D., an associate professor at the Jockey Club School of Public Health and Primary Care at The Chinese University of Hong Kong in Shatin, Hong Kong. "While we found that high physical activity combined with lower air pollution exposure was linked to lower risk of high blood pressure, physical activity continued to have a protective effect even when people were exposed to high pollution levels. The message is that physical activity, even in polluted air, is an important high blood pressure prevention strategy."

Researchers studied more than 140,000 non-hypertensive adults in Taiwan and followed them for an average of 5 years. Researchers classified the weekly physical activity levels of each adult as inactive, moderately active, or highly active. Researchers also classified level of exposure to fine particulate matter ($PM_{2.5}$) as low, moderate, and high. The researchers found that regardless of air pollution levels, people who exercised more had a lower high-blood pressure risk.

Dr. Russell V. Luepker, M.D., M.S., a volunteer expert for the American Heart Association said, "This study confirms our understanding of the role of physical activity in the prevention of cardiovascular diseases including hypertension. It also reminds us of the importance of air pollution in the development of cardiovascular diseases. The link between pollution and cardiovascular diseases may include the development of hypertension along with other factors associated with particulate matter in air pollution."

In the United States, the US Environmental Protection Agency (EPA) provides a daily air quality forcast that advises the public when they should limit strenuous outdoor activities due to air pollution. The EPA's Air Quality Index (AQI) follows the Centers for Disease Control (CDC) guidelines for air pollution and exercise, and reflects the importance of physical activity. CDC guidelines stress the importance of balancing physical activity with exposing oneself to air pollution and recommends that on high pollution days, Code Orange or Red on the AQI, people should limit their exposure to air pollution by exercising for shorter periods, reducing exercise intensity, or exercising indoors.

To learn more about the CDC guidelines for air pollution and exercise, please visit: https://www.cdc.gov/air/infographics/protect-yourself-from-air-pollution-during-physical-activity.htm.

The American Heart Association Research paper is available at: https://newsroom.heart.org/news/regular-exercise-helps-prevent-high-blood-pressure-even-in-areas-of-high-air-pollution?preview=c55d

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

DVRPC, 8th Floor
190 N. Independence Mall West
Philadelphia, PA 19106-1520
Phone: 215.592.1800 | **Fax:** 215.592.9125 | **Web:** www.dvrpc.org

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