



## News Releases

### News Releases from Region 04

# EPA Installing Air Monitoring Stations at Memphis Area Transit Facilities

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**ATLANTA** – Today, the U.S. Environmental Protection Agency (EPA) announces a collaborative project with the Shelby County Health Department (SCHD) and the Memphis Area Transit Authority (MATA) that is field testing newly installed, lower-cost air pollution sensor pods in the Memphis, Tennessee area. Air sensor pods have been installed at sixteen locations including seven SCHD locations and three MATA transit facilities.

EPA's CitySpace research project is field testing these air sensor monitors to understand how this emerging technology can add valuable information on air pollution patterns in neighborhoods. The sensors are being installed and data will be captured over a six month period concluding in February 2017.

“The knowledge we gain from the monitoring project will help to advance the use of these lower-cost and portable sensors in communities to learn more about air quality. We have received support and interest from Memphis residents and organizations in this project and we plan to keep the community informed about progress and results,” said Ron Williams, EPA researcher leading the development of the sensor technology being deployed.

“The Shelby County Health Department has a long-standing relationship with MATA and look forward to this new initiative to improve the air quality and environment for the community,” says Alisa Haushalter, DNP, RN, director of the Shelby County Health Department. “Good air quality is an important part of our everyday health. Helping EPA test new air monitoring equipment in Memphis will assist in informing the community about air quality and what we can do to improve it.”

John Lancaster, Director of Planning and Scheduling at MATA, agrees: “As a public transportation provider, MATA is concerned about helping assist with the reduction of air pollution in the Memphis area. This project coincides with MATA’s efforts and we view the installations of the air pollution sensor pods as another way to help improve air quality in the neighborhoods we serve.”

Seven pods were installed at active or historical air monitoring sites operated by SCHD. Two additional sensor pods will be installed at separate locations during the month of November. Sensor locations were selected based upon input from community members, local county and state organizations, predicted air pollution patterns, and by comparing sensor readings with higher-quality data from air monitors currently being used. Results from the study will be used to provide the Memphis community and scientific community a greater understanding of local air pollutant patterns.

Each monitor collects data that includes particulate matter (PM), temperature, humidity, and wind. Data will be recorded each minute and transmitted wirelessly to EPA. The sensor pods are intended to complement existing monitoring networks that will allow local air pollution patterns to be explored.

More information on the CitySpace research project can be found at:  
[https://www.epa.gov/sites/production/files/2016-08/documents/cityspace\\_fact\\_sheet\\_0.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/cityspace_fact_sheet_0.pdf)

Learn more about air sensor technology at:  
<https://www.epa.gov/air-sensor-toolbox>

Social Media: #CitySpaceMemphis

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www.epa.gov/research

# science in ACTION

INNOVATIVE RESEARCH FOR A SUSTAINABLE FUTURE

## CITYSPACE AIR SENSOR NETWORK PROJECT CONDUCTED TO TEST NEW MONITORING CAPABILITIES

### What is the CitySpace project?

The CitySpace project is a new research effort by EPA to field test new, lower-cost air pollution sensors in a mid-sized city. The goal of this project is to understand how this emerging technology can add valuable information on air pollution patterns in neighborhoods.

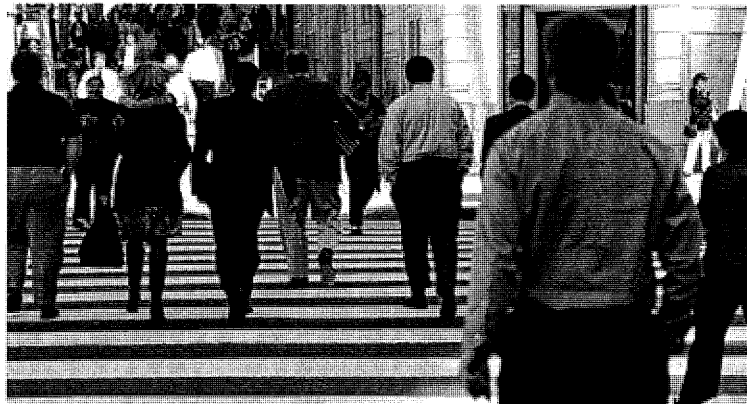
### When and where will the field study occur?

For the study, researchers plan to build approximately 20 sensor pods for deployment in the Memphis, Tenn. area. Each pod will include a particulate matter (PM) sensor as well as several meteorological sensors that measure temperature, humidity, and wind. The data recordings will occur each minute and be wirelessly transmitted using cellular communication to an EPA server.

Starting in fall 2016, the sensors will be located throughout Memphis to capture local air pollution patterns. The locations are being selected using input from community members and predicted air pollution patterns and by comparing some sensor readings with higher-quality data from air monitors used in regulation.

EPA will also coordinate with the local county and state organizations.

Once located, the sensors will remain in place for approximately six months to collect an extensive amount of data. The project is



anticipated to produce up to 30 million data values for analysis of local-scale air pollution and weather patterns.

The study results will be summarized to provide the Memphis community and scientific community a greater understanding of local air pollutant spatial patterns.

### Why do we need outdoor air monitoring in more locations?

Measuring air quality is an important step toward ensuring public health and welfare. In addition to regulatory air monitoring networks, which are stationary and provide regional data, researchers also use air sensor monitors that are more portable and enable exploration of local patterns in air pollution. For example, many researchers have conducted extensive monitoring to look at local changes in air pollution levels near

sources (e.g., highways, rail yards), sometimes with just a few hundred feet of distance from one monitoring location to another. Research studies are exploring how new technologies can be used to understand how air pollution varies at a small geographic scale in an urban or suburban setting.

### How can I learn more?

The team will reach out to the local community in the Memphis area to guide the selection of sensor locations and will provide several presentations throughout the course of the project.

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