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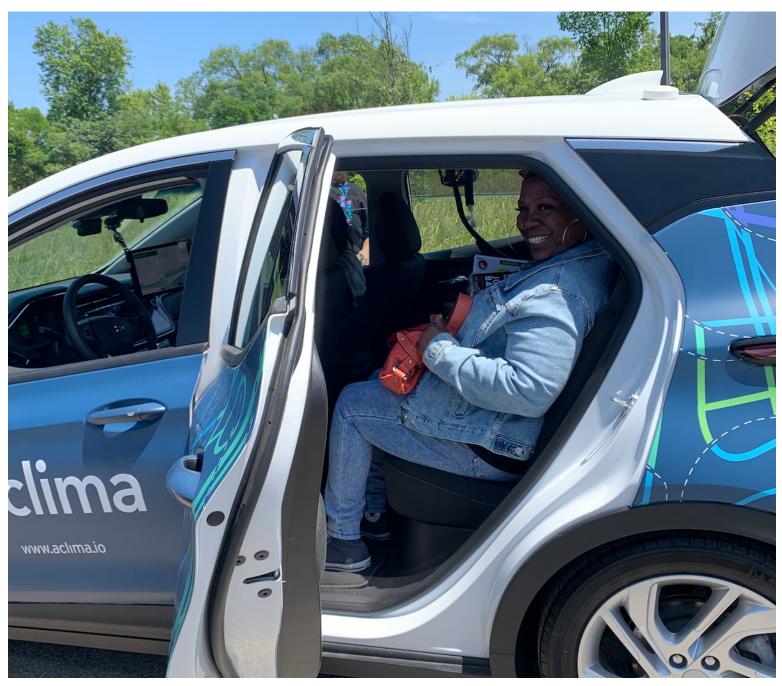
ENVIRONMENT

Pilot Study Confirms Air Pollution Hot Spots But Indicates Some Positive Signs

by **Kayla Benjamin**
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Ivy City Advisory Neighborhood Commissioner Sebrena Rhodes climbs into a car equipped with specialty air quality sensors for a ride–along following the official launch of a hyperlocal air quality monitoring pilot program in June. (Kayla Benjamin/The Washington Informer)

Way back in June, a handful of specially-equipped **air monitoring cars spent two weeks** driving around Ward 6's Buzzard Point, Ward 7's Mayfair, and Ward 5's Ivy City and Brentwood neighborhoods. Earlier this month, officials from the D.C. Department of Energy and the Environment (DOEE) **shared the results from that pilot study** at a public meeting.

The monitoring cars provided more documentation of what environmental justice advocates and researchers have known for years: air quality can differ by a lot, even within a single neighborhood. That means some people face far more exposure than others based on where they live, work or play on a regular basis.

"I wasn't [surprised]," Sebrena Rhodes, advisory neighborhood commissioner for Ivy City, said. "We already know that Ivy City has a big pollution issue."

The air quality monitoring vehicles, designed and run by climate tech company Aclima, shows what's in the air at a far more hyperlocal level than what DOEE can see with its five stationary air monitors, which collect data 24/7. The Aclima cars checked for several harmful pollutants, including nitrogen dioxide, black carbon, fine particulate matter and volatile organic chemicals. All three study areas showed some hotspots, most of which clustered around high-traffic roads.

Pollution Progress

The study's leaders emphasized that two weeks of monitoring does not provide enough data to accurately compare the results with the national standards set by the Environmental Protection Agency. However, the EPA's thresholds, known as the National Ambient Air Quality Standards, can still provide a useful benchmark.

The good news: for several of the pollutants measured, even the hotspots showed levels below the NAAQS. That includes nitrogen dioxide, a pollutant that comes from burning fossil fuels and can cause breathing issues.

"I was really surprised with how low the NO2 levels were," said Joseph Jakuta, branch chief of air quality planning at DOEE, in an interview. "The car is going to be following other cars, so it's going to be exposed to much higher levels of NO2 than a person would even a block away — and it's still seeing such low levels."

Jakuta was also pleased to see low levels of ozone, though he acknowledged that rainy weather during the two-week study period could have reduced levels somewhat. He said that ozone usually poses **D.C.'s biggest challenge** when it comes to staying in compliance with the national Clean Air Act.

The Less-Good News

The pollutant for which Aclima's measurements showed levels higher than the EPA's standards was fine particulate matter, or PM2.5. In Buzzard Point, certain segments showed levels two times higher than the NAAQS requirement. Mayfair also had sections with similarly high levels along the Anacostia Freeway.

Like NO2 and ozone, PM2.5 can come from vehicle traffic. But it also has a lot of other potential sources, such as construction or **wildfire smoke**. The smallest of particles can work their way deep into the lungs and even enter the bloodstream, **according to the EPA**; long-term PM2.5 exposure is associated with risks for

cardiovascular disease, respiratory disease and lung cancer.

Some of the pollutants measured — including cancer-causing black carbon, or soot — don't have a national standard. The Aclima cars found hotspots for the pollutant, which is a form of PM2.5, along the Anacostia Freeway in Mayfair and along New York Avenue in Brentwood and Ivy City.

Aja Ellis, an atmospheric scientist who worked on the project, said during the Nov. 16 public meeting that the soot levels measured in the study tended to match what she'd seen in other Northeast U.S. cities, though a few spots in Mayfair were on the higher side.

"The current understanding of black carbon is that there is no safe level of exposure to black carbon — anything above zero constitutes an increased risk to your health," Ellis said. "That being said, there are no places that have zero."

Rhodes, the Ivy City ANC Commissioner, said she was "disappointed" by the study's limitations, because she had hoped the cars would be able to pick up on specific chemicals that the neighborhood had not been able to measure. Ivy City currently has monitors for fine particulate matter (PM2.5) and black carbon, but the community has concerns about **possible toxins from a chemical factory** that sits in the middle of a residential area.

DOEE did **conduct a study** around the facility in 2022 but did not come to any conclusions, instead recommending that the EPA follow up. The federal agency did, with another study this past summer; the EPA's results have still not been presented publicly. Rhodes said she hopes the data for all the relevant pollutants could be collected all at once to get a better picture of the air quality.

"Right now, they're piecing it together like goulash," she said.

What's Next

DOEE plans to work with community members and leaders to decide where future Aclima projects might take place, Jakuta said.

"We do have funding allocated for this fiscal year," Jakuta said. "It's a larger amount than the previous one, so we would expect more work. It's not our big dream of [testing] the entirety of the District, every square mile, for months on end."

One of the advantages to Aclima's method of data collection is that it allows researchers to better pinpoint

specific sources by measuring multiple pollutants at once and comparing areas that are close together. For example, one area in Buzzard Point showed high levels of PM2.5 but low levels of soot. That means the PM2.5 there likely comes from a source that isn't traffic. Using similar logic, the study was able to pinpoint areas in both Ivy City/Brentwood and Mayfair where the pollution most likely stemmed from burning diesel.

Jakuta said that DOEE could use the study data to push for more stationary monitors in pollution hotspots, a strategy that could allow the agency to improve its enforcement of problems like idling.

"This data is extremely helpful for us — in some cases there are things that we expected to be problem areas, or that we knew to be, but having the data [can] really bolster some of our efforts," said Hannah Ashenafi, associate director of DOEE's Air Quality Division, during the meeting. "Monitoring is the first step, and from there, it's taking that data to be able to make data-driven actions."