



Welcome to spring and another Lehigh Valley Breathes update!

We were able to install more monitors in the last month. We thought you might like to see what's involved in a monitor installation. Here are a few pictures from one of our most recent installations at a home in Salisbury Township. As you can see, it's not for those with a fear of heights. (Photos courtesy of Armen Elliott Photography.)



Technical Manager Breena Holland and Project Team Member Charles Elliott discussing the location for the monitor.



Technical Manager Breena Holland installing the monitor.



Registering the monitor to the PurpleAir website.



The installed monitor.

Currently, 33 monitors are installed, although 27 are reporting to the Shiny App. That's a function of some using SD cards, as we've explained before, and some having unexpected reporting problems. One monitor developed a non-functional laser (there are two lasers in each monitor). Another one cannot connect to a hotspot. We are working on several to check out their difficulties and fix the issues.

Citizen Science

The Lehigh Valley Breathes project was designed with a large component of "citizen science" in it. If you're unfamiliar with that term, it means that the project offers opportunities for average citizens to participate in the project, contributing information and learning more about the science involved. The first step was to call for residents to volunteer locations for the monitors. We were delighted to have an enthusiastic response to that request in August and have continued to receive offers of locations ever since then as more people learn about the project. That's helpful as we fine-tune the final locations of the monitors.

This month, we'd like to share another facet of the citizen science component, the experience of one of our earliest monitor hosts, and what the monitor's presence has meant to her.

A Monitor Host Reports In

Our monitor host is a professional who, since the COVID pandemic, has been working mostly from her home, so she's around all day. During that time, she also canceled her gym membership, which means that she's been working out more outside, primarily taking lengthy walks. Unfortunately, she has to deal with moderate to severe asthma, so the air quality is important to her, especially to help her decide if an outdoor walk is a good idea or if she should stay inside and use her treadmill.

In the past, she had tried to use the air quality numbers from the Weather Channel to help her make an informed decision, but she found it frustrating. The numbers were not well correlated to where she lives, so some days, they would indicate good air, yet it would be hard to breathe. On other days, she'd stay inside based on the readings and later discover it was breathable outside. She had tried wearing a mask while walking, but that didn't solve the problem. When she heard about the project, she volunteered to monitor placement, hoping to get much more accurate and usable information. Her location turned out to be in one of the 11 categories we were looking for - an urban corridor, non-proximate to a highway, with low traffic in a residential area.

We installed her monitor in mid-July 2023, just towards the end of the time when our air quality was seriously affected by the Canadian wildfires. She found the monitor immediately useful during that difficult period, especially as the visible smokiness dissipated, but the air quality still did not move back into the healthy zone.

Since then, she has consulted the monitor regularly to determine if outdoor walking is a good idea. She mentioned that she was especially surprised by the variability in the numbers. She expected that once we were back to “normal,” and since she didn’t live near a highway, the readings would be more stable. However, looking at the readings just from the past week, we can see that although the readings hovered around 10 m/m³ through most of the week, there were two days with spikes of 31.6 and 47.6, respectively, which would be problematic for members of sensitive groups, as she is.

When asked how she felt about the monitor and the project, she replied, “It’s been good to have it. It’s been very helpful. I’m looking forward to seeing what the results of the entire project are. I’m very comfortable with having it here for a year. It’s caused no disruption.”

Thank you to our early adopter from Lehigh County. If you’d like to share your experience with an installed monitor, please drop us a line at lvbreathes@gmail.com, and we’ll get in touch. We’re happy to keep your name and location anonymous to protect your privacy.

This summer, we hope to send a survey to all of our monitor hosts asking for feedback on the project and also if they might consider closely checking and reporting the data for a short period of time as well as any unusual readings or observations they’ve had since their monitor was installed. All of this provides not just objective data but also subjective reactions to produce a well-rounded view of the air that we all have to breathe.

Until next month, breathe easy.