



Welcome to Lehigh Valley Breathes October update! As of October 25, there are now have 15 PurpleAir monitors installed and reporting. You can see their locations on the Shiny App [here](#). We are working diligently to get all of the monitors installed this Fall.

The project design has been completed, which is what governs the positioning of the monitors. It's a fairly complex procedure. Because one of the project objectives is to identify possible PM 2.5 "hot spots," it's important that we have a variety of locations with differentiated characteristics so that we can compare the data we collect to the characteristics of the location to analyze which of the characteristics may be contributing to a hot spot. What follows is an explanation of those characteristics and how they inform the choice of locations.

There are eleven categories of location, and we are trying to position at least two monitors in each location.

Location Based on Traffic and Distance from Highway in Urban Corridor

1. Non-Proximate to Highway – Low Traffic (residential)
2. Non-Proximate to Highway – High Traffic (residential or central business district(CBD))
3. Proximate to Highway – Low Traffic (residential)
4. Proximate to Highway – High Traffic (residential or CBD)

Location Based on Rural Traffic and Distance from Non-Highway Road

5. Proximate to Road – Lower Traffic
 6. Proximate to Road – Higher Traffic
 7. Non-Proximate to Road – Lower Traffic
- **Non-Proximate to Road – High Traffic – ** this type of location does not exist

Location Based on Distance from Warehouse in Rural and Urban Areas

8. Urban Corridor – Proximate to Warehouse
9. Urban Corridor – Non-Proximate to Warehouse
10. Rural – Proximate to Warehouse
11. Rural – Non-Proximate to Warehouse

You can see why it gets complicated to categorize all the sites we've been offered and see which ones make the best fit for each category.

Let's look a little deeper at what those category descriptions mean.

High Traffic (Res or CBD): An area that is in a Residential (Res) or Central Business District (CBD) that is also bordering a major roadway, such as MacArthur Blvd., 412/3rd Street in South Bethlehem, or the area of 378 (running from the Hill-to-Hill Bridge over South Mountain).

Higher Traffic (rural): Characterizes a rural road or street with more truck traffic than a “Lower Traffic” (rural) area.

Low Traffic (residential): An area that is residential and not bordering a major roadway such as MacArthur Blvd., or 412/3rd Street in South Bethlehem.

Lower Traffic (rural): Characterizes a rural road or street with less truck traffic than a “Higher Traffic” (rural) area.

Proximate to Highway: Within 150 meters of a major highway (e.g. 22, 78, 33 in the Lehigh Valley); i.e. a highway that has more than 2500 truck trips a day.

Proximate to Road: Within 150 meters of a road or street in a rural area.

Proximate to Warehouse: Within 150 meters of a warehouse that is part of a “major industrial park,” defined (by Lehigh Valley Planning Commission) as an industrial park that is 50 acres or larger.

Non-Proximate to Highway: Farther than 150 meters from a major highway.

Non-Proximate to Road: Farther than 150 meters from a road or street in a rural area.

Non-Proximate to Warehouse: Farther than 150 meters from a warehouse that is part of a “major industrial park,” defined (by LVPC) as an industrial park that is 50 acres or larger.

Rural: Areas of the Lehigh Valley that are outside the Urban Corridor and that also tend to have less population density than suburban areas.

Urban Corridor: Broadly defined as the area between and surrounding the major highways (78, 22, 33) running through the Lehigh Valley where there is higher population density and/or commercial development. The areas surrounding all three kinds of corridors (i.e. Major Corridors, Regional Highways, and High Frequency Bus Service) on [this map](#) covers what we consider to be the Urban Corridor for the *LVBreathes* Project.

Thank You

We’d like to offer a big shout-out to Stan Rugis and Brian Hartner of the Lehigh County staff for their assistance in identifying additional sites in Lehigh County. They’ve been a huge help!

See You Next Month

We’ll be back again in November with more updated info. These updates will be posted on this webpage the last week of each month.

If you would prefer to receive the updates by email, you can request to be added to the email list at lvbreathes@gmail.com

Breathe easy!