

COUNTY OF



ALLEGHENY

**RICH FITZGERALD**  
COUNTY EXECUTIVE

**Allegheny County Health Department  
Air Quality Program  
Monitoring Section  
Pittsburgh, Pennsylvania**

---

# Air Monitoring Network Plan for Calendar Year 2023

---

December 21, 2022



DEBRA BOGEN, MD, FAAP, FABM, DIRECTOR  
**ALLEGHENY COUNTY HEALTH DEPARTMENT**  
542 FOURTH AVENUE • PITTSBURGH, PA 15219  
PHONE (412) 687-ACHD (2243) • FAX (412) 578-8325  
[WWW.ALLEGHENYCOUNTY.US/HEALTHDEPARTMENT](http://WWW.ALLEGHENYCOUNTY.US/HEALTHDEPARTMENT)



## Contents

<b>CERTIFICATION</b> .....	5
<b>EXECUTIVE SUMMARY</b> .....	6
<b>PLAN APPROVAL</b> .....	7
1.0 Annual Air Monitoring Network Plan Requirements .....	8
2.0 Changes Since the Last Air Monitoring Network Plan .....	10
2.1 Monitoring Additions.....	10
2.1.1 Continuous PM <sub>2.5</sub> FEM Monitors at North Braddock and Clairton Sites.....	10
2.1.2 PM <sub>10</sub> Monitoring at Lawrenceville Site.....	10
2.1.3 True NO <sub>2</sub> Monitoring at Harrison Site.....	10
2.1.4 Pandora Spectrometer System at Lawrenceville Site .....	10
2.2 Monitoring Reductions .....	10
2.2.1 Sulfur Dioxide Monitoring at South Fayette Site .....	10
2.2.2 PM <sub>10</sub> Monitoring at Flag Plaza Site.....	10
2.2.3 PM <sub>10</sub> Monitoring at Clairton Site.....	10
3.0 Proposed Changes to the Air Monitoring Network .....	11
3.1 Proposed Monitoring Additions.....	11
3.1.1 Continuous PM <sub>2.5</sub> Monitors at South Fayette and Harrison.....	11
3.1.2 Hydrogen Sulfide Monitoring at Clairton Site.....	11
3.1.3 True NO <sub>2</sub> Monitoring at Parkway East Site.....	11
3.1.4 Ceilometer in the Mon Valley.....	11
3.2 Proposed Monitoring Reductions .....	11
3.3 Proposed Monitoring Relocations/Modifications .....	11
3.3.1 Sulfur Dioxide Monitoring from South Fayette to Clairton Site .....	12
3.3.2 PM <sub>2.5</sub> FEM Monitoring Method Change at Avalon, Parkway East and Liberty Sites	12
3.4 Proposed Air Monitoring Site Relocations .....	12
3.4.1 Lawrenceville Monitoring Station (NCore).....	12
3.5 American Rescue Plan Direct Award .....	16
3.6 Environmental Justice Areas & Community Monitoring.....	16
4.0 Air Monitoring Network Summary .....	18
5.0 Appendix A Requirements.....	20
6.0 Appendix B Requirements.....	20

7.0 Appendix C Requirements .....	21
8.0 Appendix D Requirements.....	22
8.1 Ozone Design Criteria.....	23
8.2 Carbon Monoxide Design Criteria.....	24
8.3 Nitrogen Dioxide Design Criteria.....	25
8.4 Sulfur Dioxide Design Criteria .....	26
8.5 Lead (Pb) Design Criteria .....	27
8.6 PM <sub>10</sub> Design Criteria.....	28
8.7 Fine Particulate Matter (PM <sub>2.5</sub> ) Design Criteria .....	29
8.8 Coarse Particulate Matter Design Criteria .....	31
8.9 Meteorological Monitoring .....	31
9.0 Appendix E Requirements .....	32
10.0 Detailed Air Monitoring Site Descriptions .....	33
10.1 Lawrenceville.....	37
Lawrenceville Meteorological Sensors.....	41
10.2 Liberty.....	43
Liberty Meteorological Sensors .....	45
10.3 Glassport .....	48
10.4 North Braddock.....	51
North Braddock Meteorological Sensors.....	52
10.5 Harrison.....	55
10.6 South Fayette .....	58
10.7 Clairton .....	60
10.8 Avalon.....	63
10.9 Parkway East.....	65
Parkway East Meteorological Sensors.....	66
11.0 GLOSSARY OF TERMS AND ABBREVIATIONS .....	69
12.0 Public Comment Period .....	71
12.1 Allegheny County Health Department Press Release.....	71
12.0 Public Comment and Responses.....	72
13.1 Group Against Smog and Pollution (GASP) .....	72
13.2 Clean Air Council (“the Council”) .....	72
13.3 Allegheny County Clean Air Now (ACCAN).....	73
Appendix A: Special Study Projects.....	75

A1: Introduction..... 75

A2: Air Toxics Sampling..... 75

    A2.1 Lawrenceville National Air Toxics Trends Station (NATTS)..... 75

    A2.2 Swissvale Metals..... 75

    A2.3 Charcoal Tube Sampling..... 76

    A2.4 Hydrogen Sulfide ..... 76

A3: Settled Particulate ..... 76

A4: Mon Valley Air Toxics and Odors Study ..... 76

Appendix B: NCore Readiness Self-Assessment ..... 78

Appendix C: Full Citizen Comments..... 87

**List of Figures and Tables**

Figure 3.4.1 Fulton Street Site Location..... 13

Figure 3.4.2 Fulton Street Site Building..... 13

Figure 3.4.3 Fulton Street Site Environmental Justice Areas ..... 14

Figure 3.4.4 Historic Ozone Surveillance..... 15

Table 3 American Rescue Plan Equipment ..... 16

Figure 3.6.1 Environmental Justice (EJ) Areas in Allegheny County ..... 17

Figure 4 Air Monitoring Network Map ..... 18

Table 4 Air Monitoring Network Summary ..... 19

Figure 8.1 Ozone Monitoring Map..... 23

Figure 8.2 CO Monitoring Map..... 24

Figure 8.3 Nitrogen Dioxide Monitoring Map ..... 25

Figure 8.4 Sulfur Dioxide Monitoring Map..... 26

Figure 8.6 PM<sub>10</sub> Monitoring Map..... 28

Table 8 PM<sub>2.5</sub> Monitor Scales and Objectives ..... 29

Figure 8.7 PM<sub>2.5</sub> Monitoring Map ..... 30

Figure 8.9 Allegheny County Meteorological Map (Surface Wind Roses 2015-2019) ..... 31

Table 10 Monitoring Parameters and Methods..... 36

Figure 10.1.1 Lawrenceville Location Map..... 42

Figure 10.1.2 Lawrenceville Wind Rose (2017-2021) ..... 42

Figure 10.2.1 Liberty Location Map..... 46

Figure 10.2.2 Liberty Wind Rose (2017-2021) ..... 47

Figure 10.3.1 Glassport Location Map ..... 49

Figure 10.3.2 Liberty, Glassport and Clairton Stations Map..... 50

Figure 10.4.1 North Braddock Location Map..... 53  
Figure 10.4.2 North Braddock Wind Rose (2017-2021) ..... 54  
Figure 10.5 Harrison Location Map..... 57  
Figure 10.6 South Fayette Location Map ..... 59  
Figure 10.7 Clairton Location Map ..... 62  
Figure 10.8 Avalon Location Map..... 64  
Figure 10.9.1 Parkway East Location Map..... 67  
Figure 10.9.2 Parkway East Wind Rose (2017-2021) ..... 68

**CERTIFICATION**

To the best of my knowledge, this plan has been checked for completeness and the details presented herein are accurate, error-free, legible, and representative of the methods employed by the Allegheny County Health Department Air Quality Program Monitoring Section to measure air quality.

David D. Good  
Program Manager, Air Monitoring & Source Testing

## EXECUTIVE SUMMARY

Allegheny County Health Department - Air Quality Program - Monitoring Section (ACHD) operates an air monitoring network. Federal Regulations ([40CFR58.10](#)) require ACHD to prepare an annual monitoring network plan. ACHD must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan. Public comments received on the air monitoring plan must be included in the version submitted to EPA. All proposed additions, modifications, and discontinuations of State or Local Air Monitoring Station (SLAMS) monitors in ACHD's air monitoring network plan are subject to EPA approval.

### **The summary of air monitoring network changes since the previous approval includes:**

- Removal of sulfur dioxide monitoring at South Fayette site
- Removal of PM<sub>10</sub> monitoring from Flag Plaza site
- Removal of PM<sub>10</sub> monitoring from Clairton site
- Addition of continuous PM<sub>2.5</sub> monitoring at North Braddock and Clairton sites
- Addition of PM<sub>10</sub> monitoring at Lawrenceville site
- Addition of True NO<sub>2</sub> monitoring at Harrison site
- Addition of Pandora Spectrometer System at Lawrenceville site

### **The summary of *proposed* air monitoring network changes includes:**

- Addition of continuous PM<sub>2.5</sub> monitoring at South Fayette, and Harrison sites
- Addition of hydrogen sulfide monitoring at Clairton site
- Addition of sulfur dioxide monitoring at Clairton site
- Addition of True NO<sub>2</sub> monitoring at Parkway East site
- Addition of ceilometer to Mon Valley
- Move of Lawrenceville monitoring station (NCore) to Fulton Street in North Side

**PLAN APPROVAL**

The air monitoring network plan for calendar year 2023 is hereby recommended for approval and commits the Allegheny County Health Department, Air Quality Program to present the plan to the EPA for approval.

**Allegheny County Health Department, Air Quality Program**

Signature:

David D. Good: Program Manager – Air Monitoring and Source Testing

## 1.0 Annual Air Monitoring Network Plan Requirements

The Allegheny County Health Department, Air Quality Program, Monitoring Section has prepared the public comment version of the 2023 air monitoring network plan. In addition to the federal requirements, effort has been made to document all air monitoring performed in Allegheny County. The body of the plan focuses on the regulatory requirements for our SLAMS sites, whereas Appendix A presents information regarding monitoring activities not required by the plan. Appendix A is included in response to public comments received regarding previous network plans and provides details about the non-SLAMS special study monitoring performed in Allegheny County. All monitoring data generated by ACHD is available through a right to know request ([Open Records page](#)).

40 CFR Part 58, §58.10 contains the air monitoring network plan requirements. Each year on July 1, the plan is to be submitted to the USEPA Regional (Region III) Administrator. A summary of the applicable requirements that parallels and condenses the regulatory text follows.

§58.10 (a) requires each agency to prepare an annual plan for an air quality surveillance system that consists of a network of SLAMS monitoring stations that can include Federal Reference Method (FRM), Federal Equivalent Method (FEM), and Approved Regional Method (ARM) monitors that are part of SLAMS, National Core Monitoring Network (NCORE), Chemical Speciation Network (CSN), Photochemical Assessment Monitoring Stations (PAMS), and Special Purpose Monitoring (SPM) stations. Prior to submittal, the plan must be made available for public inspection and comment for at least 30 days. In addition, the plan shall include:

1. A statement of whether the operation of each monitor meets the requirements of Appendices A, B, C, D, and E of 40CFR58, where applicable.
2. Any proposed SLAMS network modifications, including new or discontinued monitoring sites, new determinations that data are not of sufficient quality to be compared to the NAAQS, and changes in identification of monitors as suitable or not suitable for comparison against the annual PM<sub>2.5</sub> NAAQS. The EPA Regional Administrator has 120 days to approve or disapprove the plan.
3. A plan for making PAMS measurements as required in 40CFR58, Appendix D, Paragraph 5(a). The PAMS Network Description of Appendix D may be used to meet this requirement. The plan shall provide for the required PAMS measurements to begin by June 1, 2021 (promulgated delay of 2 years from original target date of 2019).
4. An Enhanced Monitoring Plan (EMP) for ozone (O<sub>3</sub>) in accordance with the requirements of 40CFR58, Appendix D, Paragraph 5(h). The EMP shall be submitted to the EPA Regional Administrator no later than October 1, 2019. This condition was satisfied in last year's plan (EPA letter dated October 28, 2019).



§58.10 (b) requires that the plan must contain the following information for each existing and proposed site:

1. The Air Quality System (AQS) site identification number.
2. The location, including street address and geographical coordinates.
3. The sampling and analysis method(s) for each measured parameter.
4. The operating schedules for each monitor.
5. Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
6. The monitoring objective and spatial scale of representativeness for each monitor.
7. The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM<sub>2.5</sub> NAAQS (as described in §58.30).
8. The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA), or other area represented by the monitor.
9. The designation of any lead (Pb) monitors as either source-oriented or non-source-oriented (no longer applicable in Allegheny County).
10. The identification of required NO<sub>2</sub> monitors as near-road, area-wide, or vulnerable and susceptible population monitors.
11. The identification of any PM<sub>2.5</sub> FEMs and/or ARMs used in the monitoring agency's network where the data are not of sufficient quality to be compared to the NAAQS.

§58.10 (c) requires that the plan must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

§58.10 (d) The local agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in Appendix D, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby states and tribes or health effects studies. The agency must submit a copy of this 5-year assessment along with a revised annual network plan. The next assessment is due to be submitted to the EPA on July 1, 2020 (concurrent with this plan).

§58.10 (e) All proposed additions and discontinuations of SLAMS monitors in annual monitoring network plans and periodic network assessments are subject to approval according to §58.14.

## **2.0 Changes Since the Last Air Monitoring Network Plan**

### **2.1 Monitoring Additions**

#### **2.1.1 Continuous PM<sub>2.5</sub> FEM Monitors at North Braddock and Clairton Sites**

The monitors began reporting data on January 1, 2022 at North Braddock and on April 1, 2022 at Clairton. The monitors are designated as collocated SLAMS PM<sub>2.5</sub> monitors in the network and the data are reported to EPA's AQS.

#### **2.1.2 PM<sub>10</sub> Monitoring at Lawrenceville Site**

The monitor began reporting data on January 1, 2022. This monitor is designated as a primary SLAMS PM<sub>10</sub> monitor.

#### **2.1.3 True NO<sub>2</sub> Monitoring at Harrison Site**

ACHD made a method change on February 8, 2022 from chemiluminescence to cavity attenuated phase-shift spectroscopy (CAPS) for True NO<sub>2</sub> surveillance at the Harrison site.

#### **2.1.4 Pandora Spectrometer System at Lawrenceville Site**

In conjunction with EPA and NASA, a Pandora Spectrometer System was added to measure total column profiles of ozone, nitrogen dioxide, formaldehyde, and other ozone precursors in the atmosphere.

### **2.2 Monitoring Reductions**

#### **2.2.1 Sulfur Dioxide Monitoring at South Fayette Site**

SO<sub>2</sub> monitoring was discontinued from the South Fayette site on March 31<sup>st</sup>, 2022 after demonstrating steady, low concentrations over the years. Area SO<sub>2</sub> coverage for background/transport remains with the Florence site (42-125-5001) operating in Washington County by the PA DEP approximately 10 km from Allegheny County.

#### **2.2.2 PM<sub>10</sub> Monitoring at Flag Plaza Site**

PM<sub>10</sub> monitoring was discontinued from the Flag Plaza site on March 17<sup>th</sup>, 2022. Area PM<sub>10</sub> coverage is maintained with the addition of PM<sub>10</sub> monitoring at the Lawrenceville site. PM<sub>10</sub> was the only remaining pollutant monitored and the site has been discontinued.

#### **2.2.3 PM<sub>10</sub> Monitoring at Clairton Site**

PM<sub>10</sub> monitoring was discontinued from the Clairton site on March 30<sup>th</sup>, 2022. Area PM<sub>10</sub> coverage is maintained in the Mon Valley at the Liberty, Glassport and N Braddock sites.

### **3.0 Proposed Changes to the Air Monitoring Network**

The following are the proposed changes to the air monitoring network beginning at the time of this plan's approval through calendar year 2023. As required by 40 CFR Part 58, §58.14(a), the Department has leveraged the results of the 2020 Network Assessment here in the 2023 Air Monitoring Network Plan to help make objective, data-driven decisions regarding any proposed changes to the network.

#### **3.1 Proposed Monitoring Additions**

##### **3.1.1 Continuous PM<sub>2.5</sub> Monitors at South Fayette and Harrison**

ACHD plans to finish the 2022 plan for continuous PM<sub>2.5</sub> FEM monitors at all remaining PM<sub>2.5</sub> SLAMS sites that do not currently have continuous PM<sub>2.5</sub> coverage. A shortage of available staff along with technical issues delayed the completion of the project in 2021, but 2 of 4 sites are now completed. The PM<sub>2.5</sub> FEM monitors will be candidates for designation as either a primary or collocated SLAMS PM<sub>2.5</sub> monitors in the network.

##### **3.1.2 Hydrogen Sulfide Monitoring at Clairton Site**

ACHD will expand continuous hydrogen sulfide (H<sub>2</sub>S) surveillance by adding an H<sub>2</sub>S analyzer at the Clairton monitoring site after necessary upgrades and repairs are made to the station.

##### **3.1.3 True NO<sub>2</sub> Monitoring at Parkway East Site**

ACHD will undertake a method change from chemiluminescence to cavity attenuated phase-shift spectroscopy (CAPS) for True NO<sub>2</sub> surveillance at the Parkway East (near road monitoring) site. After this upgrade all three stations that monitor for nitrogen oxides will be operating under the same monitoring method.

##### **3.1.4 Ceilometer in the Mon Valley**

ACHD will install a ceilometer in the Mon Valley to measure the mixing layer height of the atmosphere. The ceilometer will be collocated with existing surface meteorology equipment.

#### **3.2 Proposed Monitoring Reductions**

None.

#### **3.3 Proposed Monitoring Relocations/Modifications**

### 3.3.1 Sulfur Dioxide Monitoring from South Fayette to Clairton Site

ACHD proposes to relocate SO<sub>2</sub> monitoring that was discontinued at the South Fayette site to the Clairton site after necessary upgrades and repairs are made to the station.

### 3.3.2 PM<sub>2.5</sub> FEM Monitoring Method Change at Avalon, Parkway East and Liberty Sites

ACHD plans replace the continuous PM<sub>2.5</sub> FEM monitors at Avalon, Parkway East, and Liberty sites with Teledyne T640 (Avalon and Parkway East) and T640x (Liberty) monitors. This will create uniformity across the network regarding PM<sub>2.5</sub> monitoring methodology for better comparisons across Allegheny County and the surrounding areas.

## 3.4 Proposed Air Monitoring Site Relocations

### 3.4.1 Lawrenceville Monitoring Station (NCore)

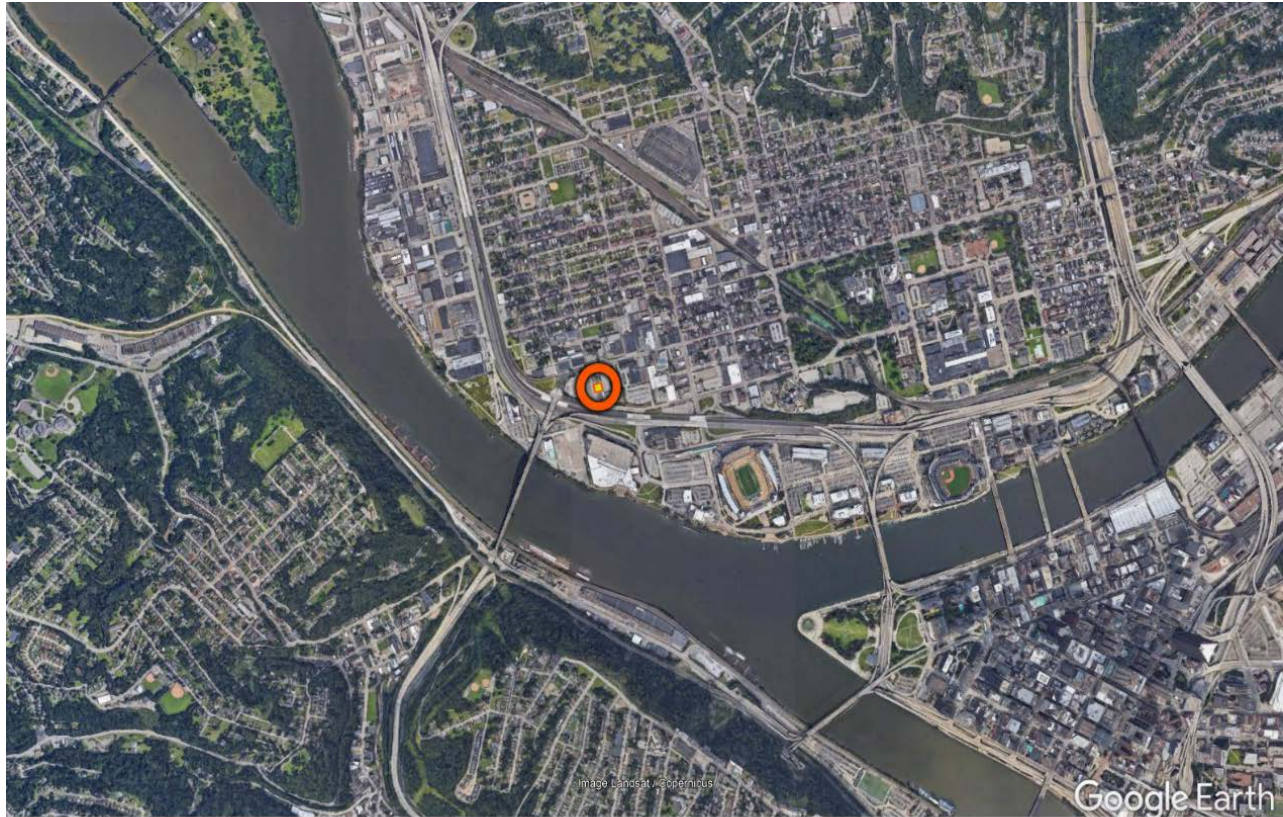
The ACHD is preparing for the eventual sale of the Clack Health Center Complex and the subsequent relocation of the offices and operations of the Air Quality Program. The Lawrenceville monitoring station that includes the NCore, PAMS, NATTS, IMPROVE, and CSN monitoring will need to be relocated. ACHD is proposing to move all the current monitoring operations at the Lawrenceville site to 836 Fulton Street in the North Side bordering Manchester (Figures 3.4.1 and 3.4.2 below). See Appendix B for detailed information on the site provided by way of the NCore Readiness Self-Assessment document.

Urban NCore stations are to be generally located at urban or neighborhood scale to provide representative concentrations of exposure expected throughout the metropolitan area. The location must meet all siting and scale criteria of 40 CFR Part 58 and be approved by the EPA Regional Administrator. Through the information contained in this document, the Department is formally requesting that approval.

The proposed site at Fulton street could meet all EPA siting and ACHD program needs. Additionally, the location of an advanced air monitoring station in Pittsburgh's Northside would greatly benefit many underserved communities in that area. The Fulton Street property is located adjacent to several Environmental Justice communities (as identified by PA DEP Environmental Justice Areas Viewer). Its location there would help the ACHD better understand environmental stressors and their effects on health outcomes (see figure 3.4.3).

Historic air quality surveillance has already occurred in this area. Sampling for Ozone (performed by the PA DEP) occurred from 1997 through 2013 at the Carnegie Science Center, which is less than 700m southeast of the proposed site (see Figure 3.4.4). Additionally, historic particulate matter sampling (performed by ACHD) occurred from 1989 through 2020 at the Manchester Elementary School approximately 700m north of the proposed site.

**Figure 3.4.1 Fulton Street Site Location**



**Figure 3.4.2 Fulton Street Site Building**



Figure 3.4.3 Fulton Street Site Environmental Justice Areas

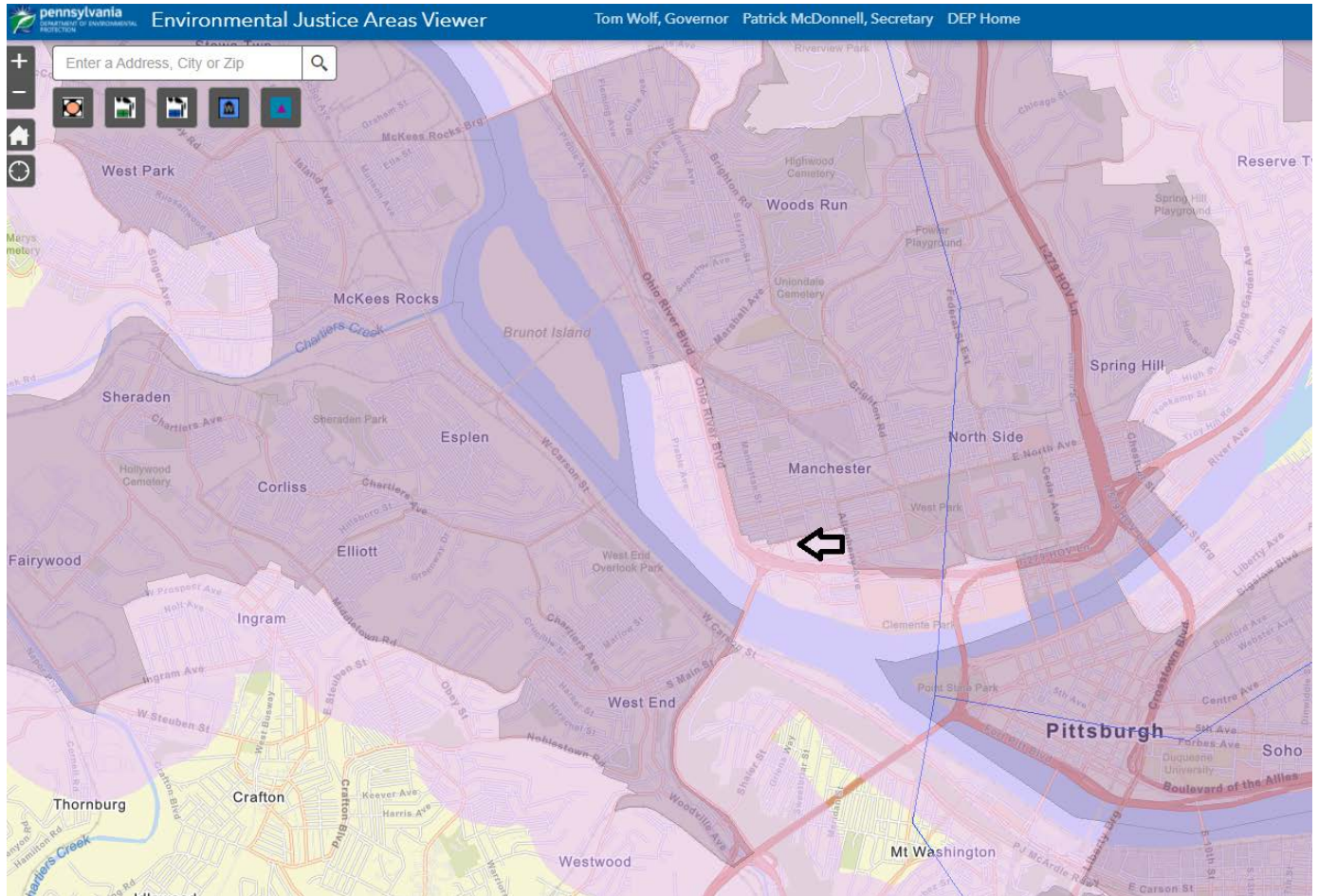
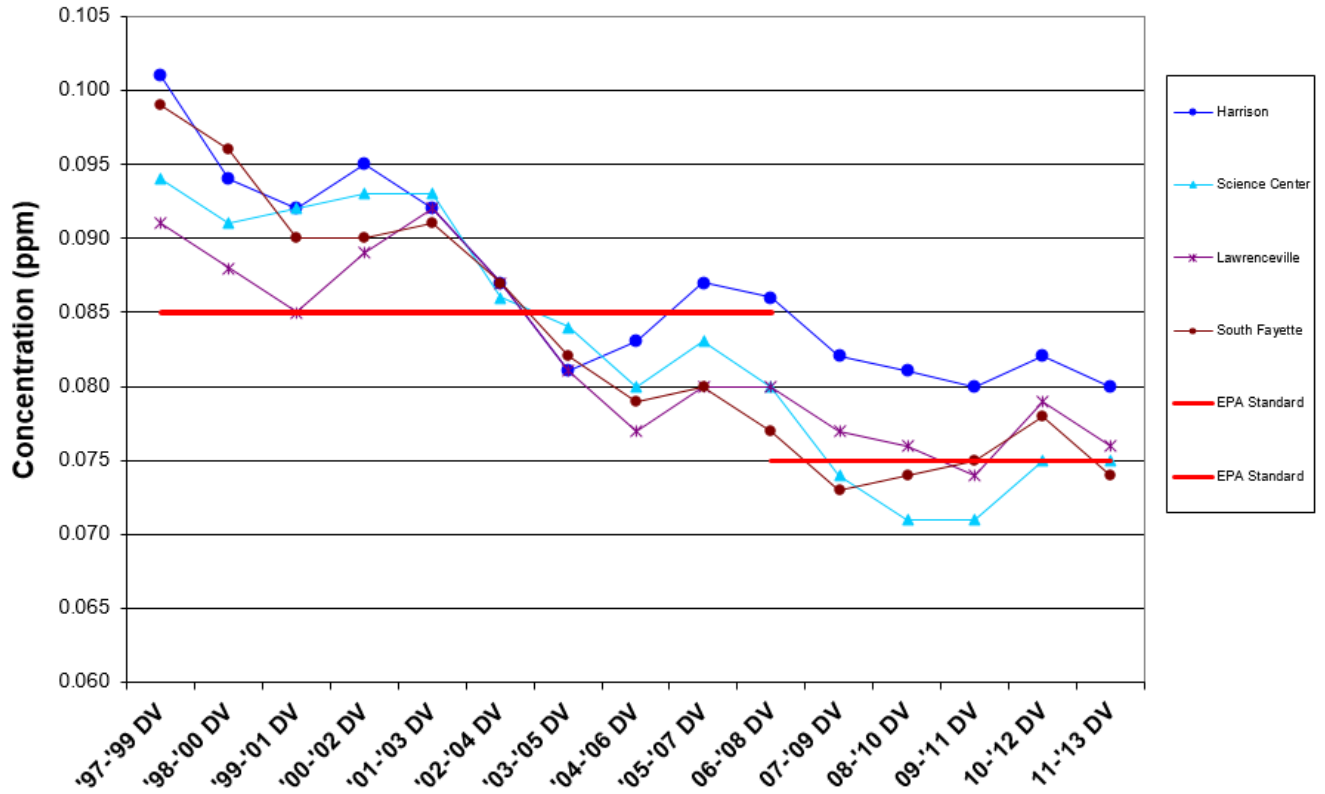


Figure 3.4.4 Historic Ozone Surveillance

SW PA 8-Hour Ozone Design Values, 1997-2013



### 3.5 American Rescue Plan Direct Award

On July 7, 2021, EPA announced that it will make \$50 million in American Rescue Plan (ARP) funding available to improve ambient air quality monitoring for communities across the United States. After careful review of Allegheny County's air monitoring network and the numerous Environmental Justice Communities it serves, the Department was awarded \$289K by the EPA to purchase new equipment for continuous monitoring of PM<sub>2.5</sub> and other criteria pollutants. The approved equipment and locations are listed in Table 3 below. All equipment is expected to be received in Q1 of 2023.

**Table 3 American Rescue Plan Equipment**

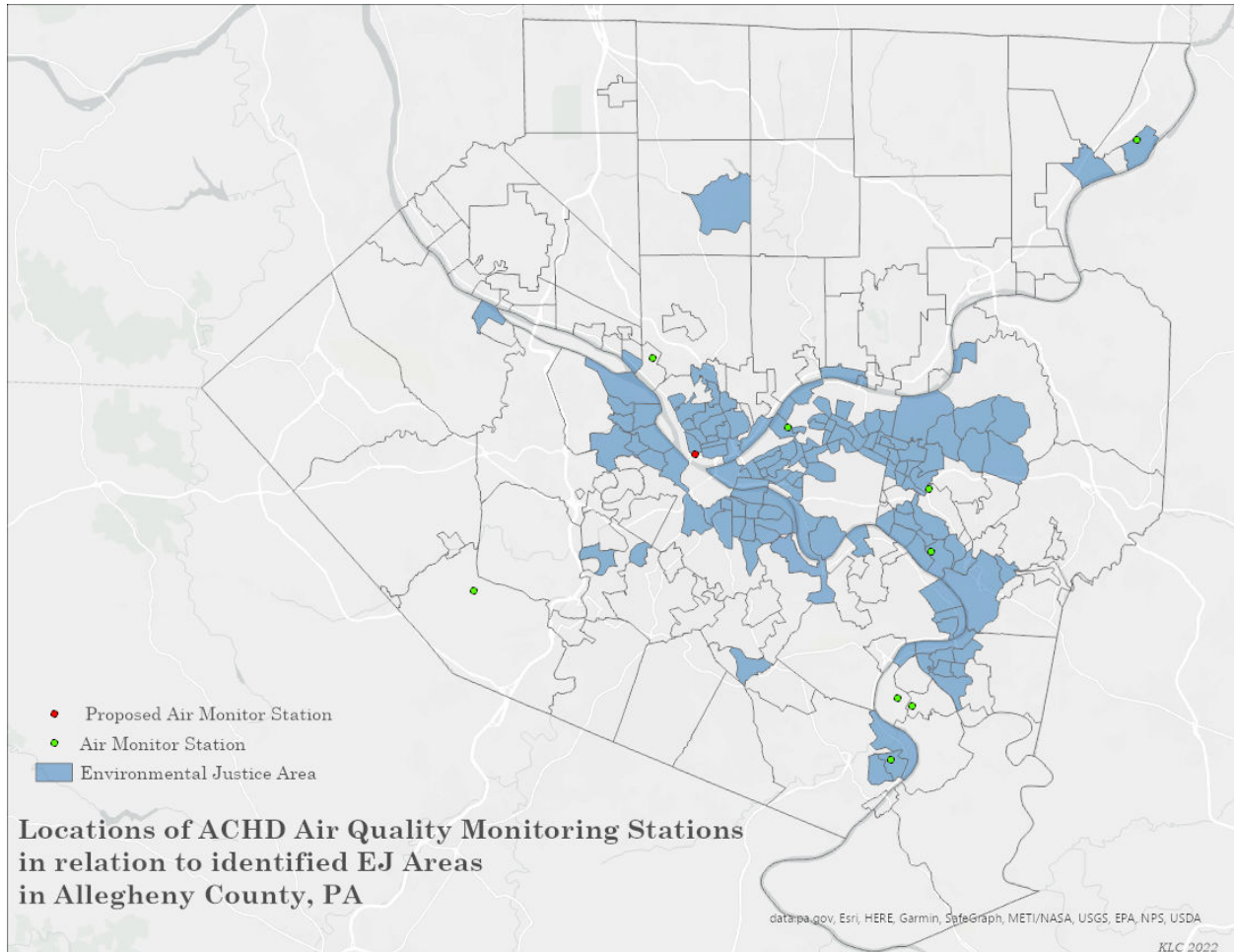
AQS Number	Description of Equipment	Location	Purpose	Environmental Justice Community (Y/N?)
420030067	Teledyne T640	South Fayette	Continuous PM <sub>2.5</sub>	N
420033007	Teledyne T640	Clairton	Continuous PM <sub>2.5</sub>	Y
420031008	Teledyne T640x	Harrison	Continuous PM <sub>2.5</sub>	Y
420031301	Teledyne T640x	North Braddock	Continuous PM <sub>2.5</sub>	Y
420030008	Teledyne T700U	Lawrenceville	Gas Calibration	Y
420031376	Teledyne T700U	Parkway East	Gas Calibration	Y
420031301	Teledyne T700U	North Braddock	Gas Calibration	Y
420031376	Teledyne N500	Parkway East	NO <sub>2</sub>	Y
420031301	Teledyne N100	North Braddock	SO <sub>2</sub>	Y
420033007	Teledyne N100	Clairton	SO <sub>2</sub>	Y
420030008	Teledyne N100	Lawrenceville	SO <sub>2</sub>	Y
420031301	Teledyne N300	North Braddock	CO	Y
420030008	Teledyne N300	Lawrenceville	CO	Y
420031376	Teledyne N300	Parkway East	CO	Y

### 3.6 Environmental Justice Areas & Community Monitoring

Except for the South Fayette monitoring station, all ACHD air monitoring stations are located either inside of or directly adjacent to communities that are identified as Environmental Justice Areas by the PA DEP Environmental Justice Areas Viewer (see figure 3.6.1 below). As per to approved 2022 Annual Network Plan, the Department is currently field-testing low-cost sensors for potential use as supplemental monitoring in Environmental Justice Communities throughout Allegheny County. After thorough field testing of Purple Air PA-II-FLEX sensors, the Department will provide the monitored area with correction factors to properly calibrate citizen-owned sensors to the closest continuous (regulatory) PM<sub>2.5</sub> monitor. After adequate data quality is demonstrated, the Department will begin to deploy low-cost sensors into Environmental Justice Communities and potentially other locations in Allegheny County.



**Figure 3.6.1 Environmental Justice (EJ) Areas in Allegheny County**



## 4.0 Air Monitoring Network Summary

Figure 4 and Table 4 are provided as overviews of the air monitoring network and presented here to show at a glance the numbers and general types of air monitors currently maintained by the Air Quality Program as well as the general location of each fixed monitoring site. To view live and recent data for all continuous monitors listed in the table, see the Air Quality Program website;

<https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Air-Quality.aspx>

**Figure 4 Air Monitoring Network Map**



**Table 4 Air Monitoring Network Summary**

	SO <sub>2</sub>	CO	NO <sub>2</sub>	NO <sub>y</sub>	O <sub>3</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM coarse	Air Toxics
Lawrenceville NCORE	CT	CT	C	CT	C	C	C I(3), SPC(3)	C	TO15(6) TO11(6) PAH M
Liberty	CT					C	C I(1), IQA(12) SPC(6)		Ch H2S
North Braddock	C	CT				C	C I(3)		H2S
South Fayette					C		C I(3)		
Clairton	C						C I(6)		H2S
Avalon							C		
Glassport						C			
Harrison			C		C		C I(3)		
Parkway East Near Road		CT	CT				C IQA(12)		Aeth(C)
	SO <sub>2</sub>	CO	NO <sub>2</sub>	NO <sub>y</sub>	O <sub>3</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM coarse	Air Toxic
<b>Total (Current Network)</b>	C = 3 CT = 2	CT = 3	C = 1 CT = 1	CT = 1	C = 3	C = 5 I = 4 IQA = 1	C = 4 CN = 1 I = 7 IQA = 3 SPC = 2	C = 1	I = 2 C = 1

**Tabular Summary Key**

<b>I</b> = Intermittent or Filter-Based; <b>C</b> = Continuous; <b>SPC</b> = PM <sub>2.5</sub> Speciation; <b>T</b> = Trace Level Monitor
<b>(1), (3), (6), (12)</b> = Sampling Frequency: <b>(1)</b> = daily, <b>(3)</b> = every 3rd day, <b>(6)</b> = every 6th day, <b>(12)</b> = every 12 <sup>th</sup> day
<b>TO15</b> = SUMMA TO15; <b>TO11</b> = Carbonyl TO11; <b>Aeth</b> = <a href="#">Aethalometer</a> : Black Carbon, Ultraviolet PM
<b>QA</b> = Collocated QA monitor; <b>N</b> = Non-FEM monitor (Special Study, non-regulatory use); <b>H2S</b> = Hydrogen Sulfide
<b>PAH</b> = Polycyclic Aromatic Hydrocarbons; <b>M</b> = PM10 HAP Metals; <b>Ch</b> = Charcoal Tube
<b>Yellow Shading</b> = Planned Monitors, Not Yet Operational; <b>Red Shading</b> = Candidate for Discontinuation/Relocation

## 5.0 Appendix A Requirements

40CFR58, Appendix A specifies the minimum quality system requirements applicable to SLAMS and other monitor types whose data are intended to be used to determine compliance with the NAAQS. ACHD is the Primary Quality Assurance Organization (PQAO) for this data set. A PQAO is also responsible for demonstrating data quality. ACHD has developed a quality system that is described and approved in quality management plans (QMP) and quality assurance project plans (QAPP). The purpose of these documents is to ensure that the monitoring results provide data of adequate quality for the intended monitoring objectives.

ACHD performs the requisite measurement quality checks that are used to assess data quality. ACHD also performs an internal second level audit as an added measure of the data quality. Data from these checks is submitted to the AQS within the same time frame as routinely-collected ambient concentration data. In addition to performing QA and QC checks, ACHD participates in external performance evaluation programs (which are independent assessments) and technical systems audit conducted by the EPA.

Regarding all data generated by the criteria pollutant monitors described in this network review, no later than May 1 of each year, ACHD submits a letter certifying accuracy and reliability of each previous calendar year's criteria air pollutant monitoring data reported to AQS to the Mid Atlantic Regional Administrator in hard copy. An electronic copy of this information will also be sent to the Mid-Atlantic Region Associate Director, Office of Air Monitoring and Planning.

ACHD's data certification will contain all required reports and will be accompanied with a statement from a responsible official who certifies that;

- All ambient concentration data and quality assurance data have been reported to the AQS database.
- The ambient data are accurate to the best of his or her knowledge taking into consideration all applicable quality assurance findings.

## 6.0 Appendix B Requirements

40CFR58, Appendix B specifies the minimum quality assurance requirements for the control and assessment of the quality of the ambient air monitoring data submitted to a Prevention of Significant Deterioration (PSD) reviewing authority or the EPA by an organization operating an air monitoring station, or network of stations, operated to comply with Part 51 New Source Review (NSR) - PSD.

At present, Appendix B requirements are not applicable since there is no PSD monitoring performed by ACHD nor performed by an external PSD PQAO within the county.

## 7.0 Appendix C Requirements

40CFR58, Appendix C specifies the criteria pollutant monitoring methods (manual methods or automated analyzers) which must be used in SLAMS, NCORE stations (a subset of SLAMS) and PAMS (to be located at the NCORE site and considered to be another subset of SLAMS).

All criteria pollutant monitoring methods in the air monitoring network used for making NAAQS decisions at a SLAMS site are reference (FRM) or equivalent (FEM) methods. The FRM or FEM designation acceptance tests are performed by the manufacturer in accordance with the requirements of 40CFR50 and 40CFR53.

Methods employed at the Lawrenceville NCORE multipollutant site are either reference or equivalent methods. NCORE multipollutant parameters include SO<sub>2</sub>, CO, NO<sub>y</sub>, O<sub>3</sub>, PM<sub>2.5</sub>, and PM<sub>10-2.5</sub> (aka PM<sub>coarse</sub>, Coarse PM, or PM<sub>c</sub>). NO<sub>y</sub> and PM<sub>c</sub> do not have an associated NAAQS.

Methods to be employed at the proposed Lawrenceville PAMS site will be either reference or equivalent methods (where applicable). PAMS FEM monitoring parameters include O<sub>3</sub> and true NO<sub>2</sub>. PAMS monitoring which do not have FEM nor FRM designation include methods for meteorological measurements and speciated VOC monitoring methodologies which are specified in PAMS guidance documents.

- Meteorological monitoring guidance is provided in QA Handbook, Volume IV - Meteorological Measurements found at <https://www3.epa.gov/ttn/amtic/qalist.html>.
- The Compendium of Methods for the Determination of Toxic Organic (<https://www3.epa.gov/ttn/amtic/airtox.html#compendium>) can be found on EPA's website. Carbonyl sampling and analysis is based upon TO-11A and the automated gas chromatography method is based upon TO-15.

## 8.0 Appendix D Requirements

40CFR58, Appendix D describes monitoring objectives and general criteria to be applied in establishing the required SLAMS ambient air quality monitoring stations and for choosing general locations for additional monitoring sites. Appendix D also describes specific requirements for the number and location of FRM, FEM, and ARM sites for specific pollutants, NCORE multipollutant sites, PM<sub>10</sub> mass sites, PM<sub>2.5</sub> mass sites, chemically-speciated PM<sub>2.5</sub> sites, and O<sub>3</sub> precursor measurement sites (PAMS). These criteria are used by EPA to evaluate the adequacy of the ACHD monitoring network.

The ACHD monitoring network provides air pollution data to the public in a timely manner, supports compliance with ambient air quality standards and emissions strategy development and supports air pollution research studies. The location of the monitors in the network were chosen to correctly match the spatial scale represented by the sample of monitored air with the spatial scale most appropriate for the monitoring site type, air pollutant to be measured and the monitoring objective.

General monitoring requirements are based on population density of the monitoring area. For Allegheny County, the Pittsburgh MSA (metropolitan statistical area) is referenced. The latest census (2020) determined the population of the Pittsburgh MSA to be 2,370,930 people. Some monitoring requirements are also based on individual pollutant design values, which are concentrations derived from past data generated by SLAMS monitors in Allegheny County. Air Quality Design Values (DV) referenced in this section are based on tables available at:

<http://www.epa.gov/airtrends/values.html>

Each state is required to operate at least one NCORE site. States may delegate this requirement to a local agency. The NCORE location is leveraged with other multipollutant air monitoring sites including the proposed PAMS site, CSN monitoring and monitoring performed by academia. Site leveraging includes using the same monitoring platform and equipment to meet the objectives of the variety of programs where possible and advantageous.

Pollutant specific design criteria for SLAMS sites are codified in 40CFR58, Appendix D, Section 4. EPA updates this document routinely in response to NAAQS revisions and in response to evolving air monitoring network objectives. SLAMS sites are intended to address specific air quality management interests, and as such, are frequently single-pollutant measurement sites. The following sections parallel the CFR citations and provide the current, applicable requirements for each criteria pollutant.

## 8.1 Ozone Design Criteria

Ozone (O<sub>3</sub>) monitoring requirements are determined by the MSA population and ozone design value, as specified in Table D-2 of 40CFR58, Appendix D.

- Based on the population of the Pittsburgh MSA and the latest ozone design value, which is greater than 85% of the ozone NAAQS, ACHD is required to operate two ozone monitors. ACHD satisfies this requirement by operating three ozone monitors.
- Each NCORE site must operate an ozone monitor. ACHD satisfies this requirement by operating an ozone monitor at the Lawrenceville NCORE site.
- Within an ozone network, at least one ozone site for each MSA must be designed to record the maximum concentration for that metropolitan area. The maximum concentration monitor site should be selected in a direction from the city that is most likely to observe the highest ozone concentrations, more specifically, downwind during periods of photochemical activity. The Harrison monitor is assigned this designation.

**Figure 8.1 Ozone Monitoring Map**



## 8.2 Carbon Monoxide Design Criteria

EPA revised the minimum monitoring requirements for carbon monoxide (CO) on August 12, 2011 (40CFR58, Appendix D). Applicable requirements are;

- One CO monitor is required to be collocated with a near road NO<sub>2</sub> monitor in urban areas having a population of 1 million or more. ACHD included a CO monitor in the initial configuration of the Parkway East Near Road monitoring site, which was operational on 09/01/2014.
- One CO monitor is required at each NCORE site. ACHD has operated a trace level CO monitor at the Lawrenceville NCORE site since 4/1/2010.
- ACHD operates an additional CO monitor at the North Braddock site.

**Figure 8.2 CO Monitoring Map**





### 8.3 Nitrogen Dioxide Design Criteria

On January 22, 2010, EPA strengthened the health-based NAAQS for NO<sub>2</sub> by setting a new 1-hour NAAQS at 100 ppb. The existing annual average NAAQS of 53 ppb was retained. In addition, EPA revised the NO<sub>2</sub> monitoring requirements in urban areas. Applicable requirements are as follows;

- One near road NO<sub>2</sub> monitoring site is required in an MSA with a population  $\geq 500,000$  and  $< 2,500,000$  people. Near-road NO<sub>2</sub> monitoring characterizes the maximum expected hourly NO<sub>2</sub> concentration due to mobile source emissions on major roadways.
- One area wide NO<sub>2</sub> monitor in MSA's with a population  $> 1$  million. The Harrison NO<sub>2</sub> monitor has been in operation at the current location since 02/12/2014.
- One true NO<sub>2</sub> monitor is required at a PAMS site. The Lawrenceville NCORE site performs measurements of true NO<sub>2</sub> and also NO<sub>y</sub> to fulfill PAMS and NCORE requirements, respectively.

**Figure 8.3 Nitrogen Dioxide Monitoring Map**



## 8.4 Sulfur Dioxide Design Criteria

The minimum number of required SO<sub>2</sub> monitors in each MSA is proportional to the product of the total amount of SO<sub>2</sub> emissions in the CBSA and its population as specified in 40CFR58, Appendix D, Section 4.4. The resulting value is defined as the Population Weighted Emissions Index (PWEI). Using the ACHD 2017 emission inventory aggregate SO<sub>2</sub> emissions and 2019 census estimate for the CBSA, the PWEI is calculated at 94,101. SO<sub>2</sub> requirements are as follows;

- For any MSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO<sub>2</sub> monitor is required within that CBSA. ACHD exceeds this minimum requirement with a total of three SO<sub>2</sub> monitors and an upcoming fourth monitor to be installed at the Clairton site in 2022.
- Each NCORE station must operate an SO<sub>2</sub> monitor. ACHD included an SO<sub>2</sub> monitor as part of the initial configuration of the Lawrenceville NCORE site.

**Figure 8.4 Sulfur Dioxide Monitoring Map**



\* Clairton SO<sub>2</sub> monitor to be installed in 2022

### 8.5 Lead (Pb) Design Criteria

40CFR58, Appendix D, Paragraph 4.5 states that local agencies are required to conduct ambient air Pb monitoring near Pb sources which are expected to or have been shown to contribute to a maximum Pb concentration in ambient air in excess of the NAAQS, considering the logistics and potential for population exposure. At a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more tons per year and from each airport which emits 1.0 or more tons per year based on either the most recent National Emission Inventory (<http://www.epa.gov/ttn/chief/einformation.html>) or other scientifically justifiable methods and data (such as improved emissions factors or site-specific data) taking into account logistics and the potential for population exposure.

No lead monitoring is performed in Allegheny County. Bridgeville and Lawrenceville sites were discontinued as there are no point sources which emit greater than 0.5 tons per year. EPA approval of the 2018 Annual Network Plan allowed the sampling to end after 2017.

## 8.6 PM<sub>10</sub> Design Criteria

The number of required PM<sub>10</sub> monitors in each MSA is determined by the MSA population and design value, as specified in Table D-4 of Appendix D to 40CFR58.

- The Pittsburgh MSA has ambient PM<sub>10</sub> concentrations well below 80% of the PM<sub>10</sub> NAAQS. Table D-4 indicates that 2 to 4 sites must monitor for PM<sub>10</sub>. ACHD meets this requirement with 4 sites that monitor PM<sub>10</sub>.

**Figure 8.6 PM<sub>10</sub> Monitoring Map**



**8.7 Fine Particulate Matter (PM<sub>2.5</sub>) Design Criteria**

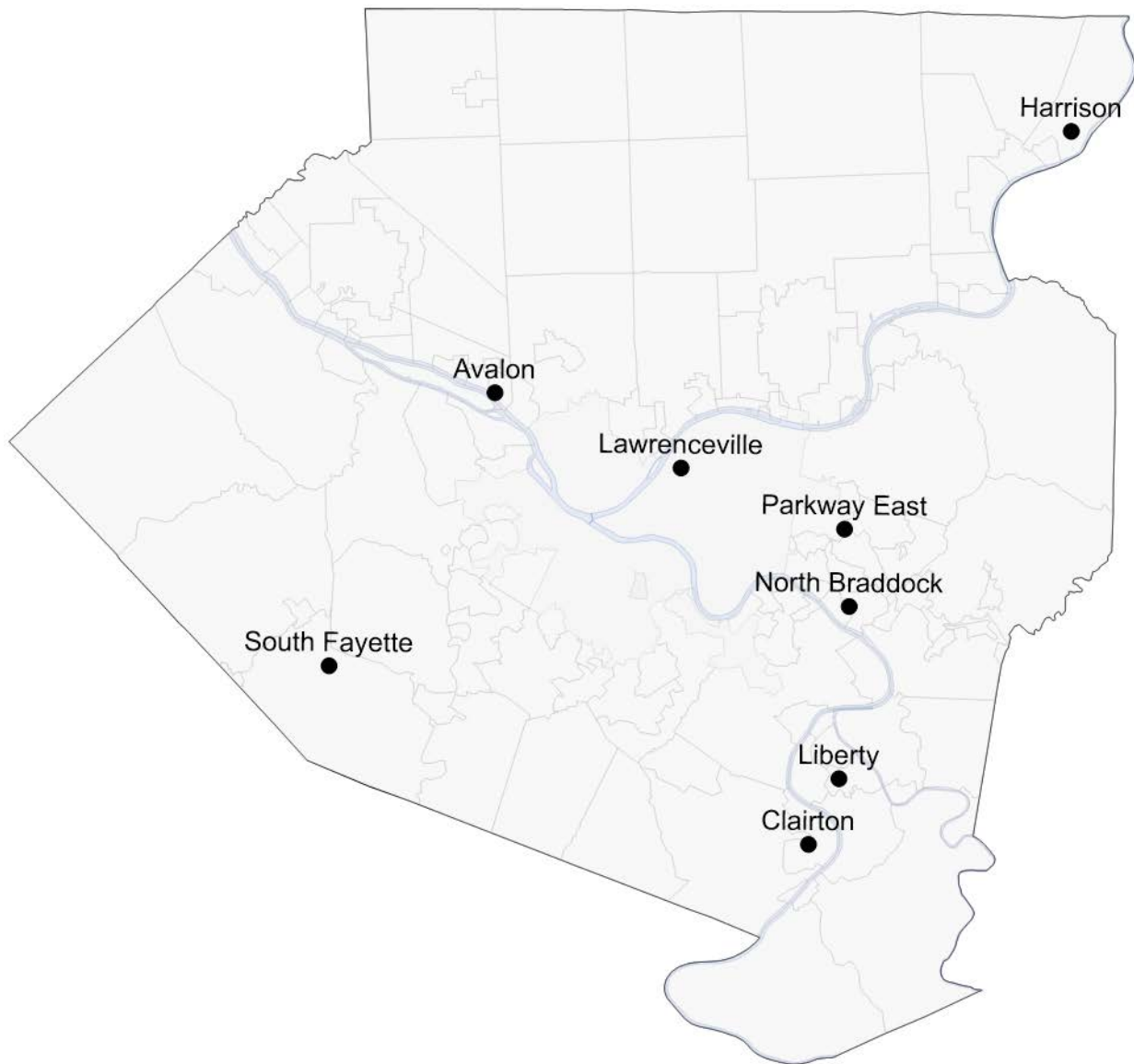
The number of required PM<sub>2.5</sub> monitors in each MSA is determined by the MSA population and design value, as specified in Table D-5 of 40CFR58, Appendix D.

- Pittsburgh MSA PM<sub>2.5</sub> 24 hour and annual design values are > 85% of the NAAQS, requiring a minimum of 3 PM<sub>2.5</sub> sites. ACHD exceeds this requirement with 8 sites that monitor PM<sub>2.5</sub>.
- Regarding FRM PM<sub>2.5</sub> samplers (seven sites), a minimum of 15%, or at least one, of the PM<sub>2.5</sub> monitoring sites must be collocated (rounded to one). ACHD meets this requirement by having collocated monitors at the Liberty site.
- At least one site (15% is required) that features a primary PM<sub>2.5</sub> FEM monitor must also operate a collocated PM<sub>2.5</sub> FRM sampler (40CFR58, Appendix A). This requirement is met at the Parkway East site. Parkway East and Avalon have the same PM<sub>2.5</sub> FEM model.
- At least one half of the minimum number of sites per MSA must operate continuous PM<sub>2.5</sub> monitors, requiring ACHD to operate 2 continuous PM<sub>2.5</sub> monitors. ACHD operates 6 continuous PM<sub>2.5</sub> monitors (Liberty, Lawrenceville, Avalon, Parkway East, Clairton, and North Braddock). See Section 10 for each site’s detailed information.
- For MSA’s above 1,000,000 people, at least one PM<sub>2.5</sub> monitor must be at a near road site. ACHD conducts continuous PM<sub>2.5</sub> monitoring at the Parkway East near road site.
- Each monitoring agency shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the PM<sub>2.5</sub> Speciation Trends Network (STN). ACHD continues to conduct PM<sub>2.5</sub> speciation at Liberty and Lawrenceville sites.
- Each NCORE site must monitor PM<sub>2.5</sub>. ACHD satisfies this requirement at the Lawrenceville NCORE site using filter-based monitoring as well as continuous PM<sub>2.5</sub> FEM monitoring.
- The required monitoring sites must be located to represent area-wide air quality. These will typically be either neighborhood or urban scale, although micro or middle scale may be appropriate in some urban areas. At least one monitoring site must be neighborhood scale or greater in an area of expected maximum concentration and one site must be sited in an area of poor air quality. At least one PM<sub>2.5</sub> site must monitor for regional background and at least one PM<sub>2.5</sub> site must monitor for regional transport. Table 8 shows the PM<sub>2.5</sub> network site scales and objectives.

**Table 8 PM<sub>2.5</sub> Monitor Scales and Objectives**

Site Name	Measurement Scale	Monitor Objective
Lawrenceville	Urban	Population Exposure
Liberty	Neighborhood	Population Exposure, Highest Concentration
North Braddock	Neighborhood	Population Exposure
Harrison Township	Neighborhood	Population Exposure
South Fayette	Neighborhood	Population Exposure, Regional Transport, Regional Background
Clairton	Neighborhood	Population Exposure, Welfare concerns
Avalon	Neighborhood	Population Exposure
Parkway East Near Road	Microscale	Population Exposure, Source Oriented

**Figure 8.7 PM<sub>2.5</sub> Monitoring Map**



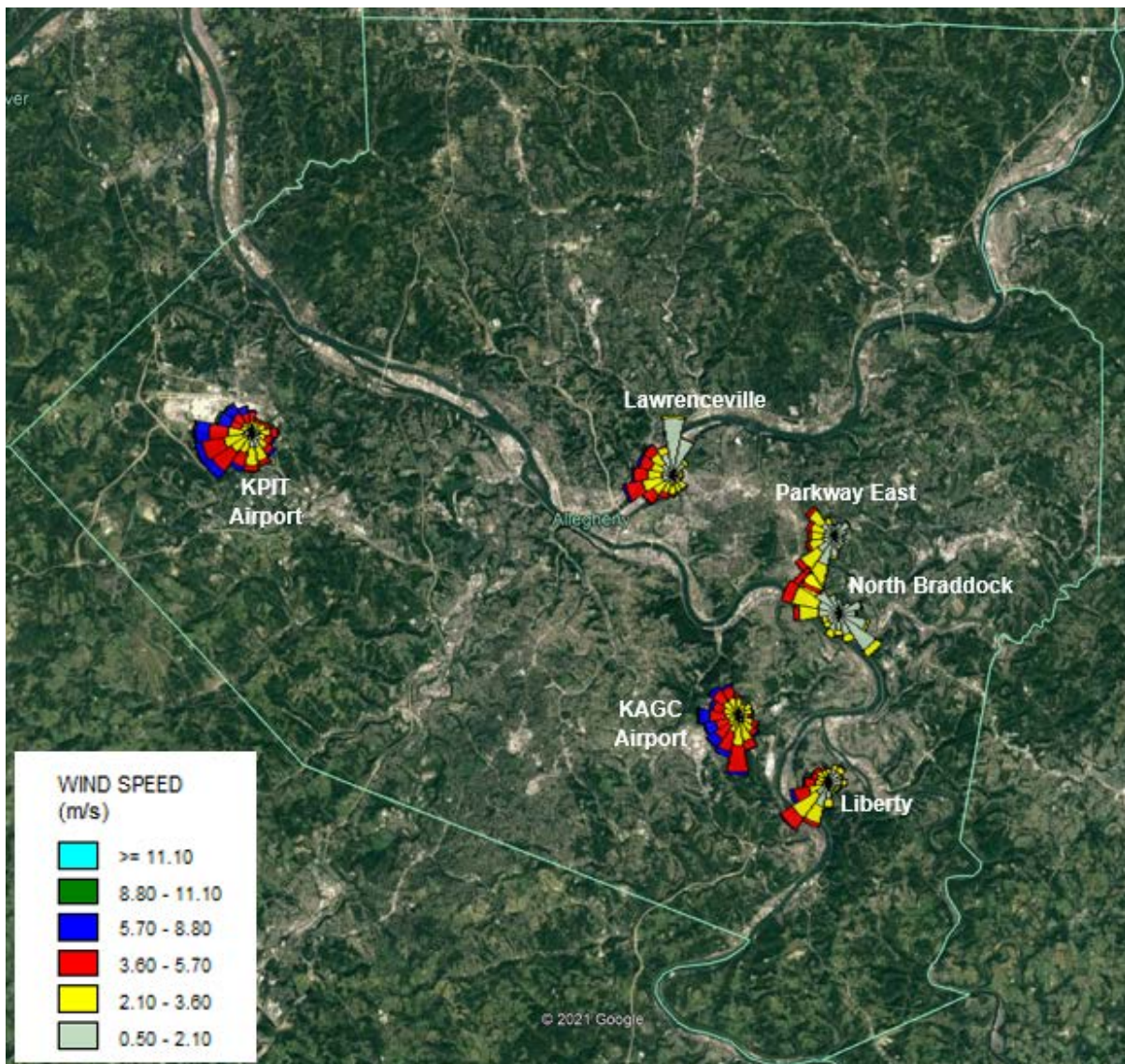
### 8.8 Coarse Particulate Matter Design Criteria

The only required monitors for PM<sub>10-2.5</sub> are those required at NCORE Stations. Note that no NAAQS exists for coarse particulate matter. Coarse PM monitoring at the Lawrenceville NCORE site employs a Teledyne T640X mass monitor that uses scattered light spectrometry. The unit has designation as an approved FEM for PM<sub>c</sub>.

### 8.9 Meteorological Monitoring

The meteorological stations can show unique wind patterns at the different local sites and can be useful for modeling, source culpability, and other studies. Only two of the local sites, Lawrenceville and Parkway East, are required to have meteorological measurements as part of national networks.

**Figure 8.9 Allegheny County Meteorological Map (Surface Wind Roses 2015-2019)**



## 9.0 Appendix E Requirements

40CFR58, Appendix E contains specific location criteria applicable to SLAMS, NCORE, and PAMS ambient air quality monitoring probes, inlets and optical paths after the general location has been selected based on the monitoring objectives and spatial scale of representation discussed in Appendix D. Adherence to these siting criteria is necessary to ensure the uniform collection of compatible and comparable air quality data.

Appendix E specifies probe and monitoring path siting criteria for ambient air quality monitoring. The key components of Appendix E include the following:

- Horizontal and Vertical Placement
- Spacing from Minor Sources
- Spacing from Obstructions
- Spacing from Trees
- Spacing from Roadways
- Cumulative Interferences on a Monitoring Path
- Maximum Monitoring Path Length
- Probe Material and Pollutant Sample Residence Time
- Waiver Provisions.

Discussion of Appendix E requirements will be contained in the next section.



## 10.0 Detailed Air Monitoring Site Descriptions

The following air monitoring network description discusses each monitoring site in detail. The first information block is labeled with the site name. Inside of the block is listed site specific information as follows:

- **Street Address**
- **AQS #** - unique 9-digit number used to identify the state, county and site in the AQS data base
- **Municipality** - where site is located
- **MSA** - Metropolitan Statistical Area
- **Latitude (N), Longitude (W)** - Site coordinates, given in WGS84 datum coordinates
- **Comments** - Specific site information of importance

The next blocks are designed to list details of each monitor at the site. Each monitor present at the time of the review is assigned its own block. The following information is listed:

**Sensor Type** - The name of the pollutant measured by the sampler and to provide further detail, FEM or FRM designation.

**Sensor Network Designation** - The name of the designated network:

- SLAMS - State or Local Ambient Air Monitoring Station that has EPA reference or equivalent method designation, including Primary, Secondary or Tertiary level of importance, where more than one sensor type is at the site. Waiver provisions.
- OTHER - Monitor that does not have EPA designated reference or equivalent status.

**Sensor Purpose Description** - The purpose of the sensor:

- Population Exposure, such as the Air Quality Index
- Regulatory Compliance with Federal or State regulation
- Research/Scientific Monitoring
- Specific Location Characterization
- Quality Assurance (Collocated)

**Sample Frequency** - Specifies how often a sample is taken.

- Continuous (also referred to as “Hourly”) - operates 24/7; applies predominately to gaseous analyzers, although some particulate samplers (TEOM, BAM, Aethalometer) operate continuously.
- Daily - a discrete sample is taken every day; applies to manual method particulate or toxics samplers.
  - Every Third Day - Manual method samplers that run every third day.
  - Every Sixth Day - Manual method or toxics samplers that run every sixth day.
  - Every Twelfth Day - Manual method QA samplers that run every twelfth day.

**Appendix A QA Assessment** - A “YES” indicates the sensor is maintained in accordance with the Quality Assurance (QA) requirements specified in 40CFR58, Appendix A.

**Monitor Start Date** - Specifies the start date for the current AQS pollutant parameter code. Note that AQS method codes may change, usually due to a change of manufacturer or monitor model employed at the site.

**Appendix C Monitoring Classification** - Each ambient air monitor is classified using the EPA “List of Designated Reference and Equivalent Methods”:

- Reference Method - a method of sampling that is specified in 40CFR53.
- Equivalent Method - a method that is designated as equivalent to the reference method, in accordance with 40CFR53 and 40CFR50.
- Automated - after sampling, the analysis results are available immediately.
- Manual - after sampling, a separate analysis at a laboratory is necessary.
- N/A - appears where there is no reference or equivalent method.

**Appendix C Monitoring Method** - Each ambient air monitor is classified by a specific method number.

**Monitoring Method Description** - Table 10 provides details about each type of sampler and analyzer utilized in the air monitoring network.

**Probe Height** - Distance from ground level that ambient air is sampled. 40CFR58, Appendix E lists acceptable probe heights for individual measurement parameters and spatial scales.

**Residence Time** - The amount of time that ambient air remains in contact with a probe line or manifold, considering total manifold and probe line inner volume and monitor flow rate. Residence time is applicable to reactive gas monitors that use probe lines or manifolds to deliver ambient air to the monitor. Section 7.2.1 of the QA Handbook Volume II recommends a probe residence time of ten seconds or less as optimal and over 20 seconds as unacceptable due to sample concentration loss at higher residence times.

**Appendix D Design Criteria** - Appendix D requires a certain number of samplers per geographic area. A “YES” indicates that the number of monitors in that area meets or exceeds the requirement of 40CFR58, Appendix D.

**Appendix D Scale** - The specific “spatial scales of representation” describes the physical dimensions of the air parcel around the monitoring station throughout which actual pollutant concentrations are reasonably similar.

- Microscale - Areas with dimensions up to about 100 meters.
- Middle scale - Areas with dimensions from 100 meters to 0.5 kilometers.
- Neighborhood - Areas with dimensions from 0.5 to 4.0 kilometers and uniform land use.
- Urban scale - Areas with dimensions from 4 to 50 kilometers.
- Regional - Areas with dimensions ranging from tens to hundreds of kilometers and usually a rural area of reasonably homogeneous geography without large sources.
- National and Global Scales - Measurement scales that represent concentrations characterizing the nation and the globe.

**Appendix D Objective** - Describes the purpose/objective for monitoring at a site.

- Extreme Downwind
- General/Background Concentration
- Highest Concentration
- Maximum Ozone Concentration
- Maximum Precursor Emissions
- Population Exposure
- Regional Transport
- Source Oriented
- Quality Assurance
- Welfare Related

**Appendix E Siting Criteria** - Describes certain criteria applicable to ambient air quality sampling probes and monitoring paths, such as distances from trees, obstructions, traffic lanes, etc. A “YES” indicates that the sensor at the given site meets or exceeds the requirements of 40CFR58, Appendix E.

**Table 10 Monitoring Parameters and Methods**

Parameter	Mfg	Model #	Parameter Code	Method Code	Description
PM <sub>2.5</sub> FRM	R&P	2025	88101	145	Low Volume Sampler (filter) VSCC, very sharp cut cyclone
PM <sub>2.5</sub> FEM	Thermo	5014i	88101	183	Beta Attenuation Instrumental
	Teledyne API	T640	88101	236	Broadband Spectroscopy
	Teledyne API	T640X	88101	238	Broadband Spectroscopy
PM <sub>10</sub> FRM	Tisch	TE-6070	81102	141	High Volume Sampler (filter)
PM <sub>10</sub> FEM	R&P	1400	81102	79	Gravimetric Instrumental (TEOM)
	Teledyne API	T640X	81102	239	Beta Attenuation Instrumental
PM <sub>2.5</sub> Speciation	Met One SASS	SASS	multiple	812	Trace metals, Sulfate, Nitrate
	URG	3000N	multiple	812	Organic/Inorganic Carbon
PM coarse	Teledyne API	T640X	86101	240	Broadband Spectroscopy
Carbon Monoxide	TAPI	300A/E	42101	93	Gas Filter Correlation
Carbon Monoxide (trace)	TAPI	300 EU	42101	593	Gas Filter Correlation
Carbon Monoxide (trace)	Thermo	48i-TLE	42101	554	Gas Filter Correlation
Nitrogen Dioxide	TAPI	200A/E	42602	99	Chemiluminescence
Nitrogen Dioxide (trace)	TAPI	200EU	42602	599	Chemiluminescence
Nitrogen Dioxide (true)	Teledyne API	N500	42602	256	Cavity-Attenuated Phase-Shift (CAPS) spectroscopy
Reactive Oxides of Nitrogen (NO <sub>y</sub> )	TAPI	200EU/501	42600	699	Chemiluminescence
Sulfur Dioxide	Thermo	43i	42401	60	Ultra Violet Fluorescence
	TAPI	100E	42401	77	Ultra Violet Fluorescence
Sulfur Dioxide (trace)	Teledyne API	100EU / 100U	42401	600	Pulsed Fluorescence
Ozone	Thermo	49	44201	47	Ultraviolet Absorption
Black Carbon	TAPI	633	84313	894	Aethalometer Instrumental
Air Toxics (VOC)	ATEC	2200	multiple	150	6-liter SS canister / TO-15 lab analysis
AIR Toxics (Carbonyl)	ATEC	2200/8000	multiple	102	DNPH cartridge / TO-11 lab analysis
Air Toxics (PM <sub>10</sub> Metals)	Tisch	TE-6070	Multiple		High Volume Sampler (filter)
Air Toxics (PAHs)	Tisch	TE-1000	Multiple		High Volume Sampler (PUF)
Air Toxics (hourly VOC)	CAS	Chromatotec AirmOzone	Multiple		Auto-Gas Chromatograph w/ Flame Ionization Detection
Mixing Height	Vaisala	CL-51	Multiple		High Range Ceilometer
Wind Speed/Direction	Met One	50.5	61103/61104	061	Sonic Anemometer
Rainfall	Met One	375	65102	013	Tipping bucket
Relative Humidity	Met One	083E	62201	061	Electronic RH Sensor
Solar / UV Radiation	Met One	094-1/6676	63301/63302	011	Electronic Sensors
Ambient Temperature	Met One	083E	62101	061	Electronic Temperature Sensor

### 10.1 Lawrenceville

Address	Allegheny County Health Department 301 39 <sup>th</sup> Street, Building 7 Pittsburgh, PA 15201		
AQS#	42-003-0008	MSA	Pittsburgh
Latitude (N)	40.465420	Longitude (W)	-79.960757
Comments	This is a population-based, community-oriented monitoring site that is an urban area downwind of Central Business District. The Lawrenceville monitoring site was selected as a PM <sub>2.5</sub> National Trends Site, later as an NCORE site and as the proposed PAMS site in 2019. The most significant local pollution is generated from mobile sources, but light industry scattered throughout the area is also a contributing factor. Lawrenceville is a core PM <sub>2.5</sub> site that is used to determine compliance with national standards.		

Sensor Type	<b>Ozone</b>	Appendix C Method Code	47
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 4.9 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1978	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>10-2.5</sub> (coarse)</b>	Appendix C Method Code	240
Network Designation	Other / (NCORE)	Probe Height	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2011	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Primary	Probe Height	12 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every 3 Days	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	02/23/1999	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	238
Network Designation	SLAMS Secondary	Probe Height	12 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	08/07/2015	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>10</sub> FEM</b>	Appendix C Method Code	239
Network Designation	SLAMS Primary	Probe Height	12 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	01/01/2022	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> Speciation</b>	Appendix C Method Code	812
Network Designation	Other (CSN)	Probe Height (m)	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Not Assigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Unknown
Monitor Start Date	6/30/2001	Appendix E Siting Criteria	Yes

Sensor Type	<b>Carbon Monoxide</b>	Appendix C Method Code	593
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 8.9 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2010	Appendix E Siting Criteria	Yes

Sensor Type	<b>Sulfur Dioxide</b>	Appendix C Method Code	600
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 13.5 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2010	Appendix E Siting Criteria	Yes

Sensor Type	<b>Total Reactive Oxides of Nitrogen (NO<sub>y</sub>)</b>	Appendix C Method Code	699
Network Designation	Other (NCORE)	Probe Height Residence Time	12 Meters 13.1 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/2/2010	Appendix E Siting Criteria	Yes

Sensor Type	<b>Nitrogen Dioxide (True NO<sub>2</sub>)</b>	Appendix C Method Code	256
Network Designation	Other (Photochemical Assessment Monitoring Station)	Probe Height Residence Time	12 Meters 13.1 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date		Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>10</sub> Metals (See Section A2.1)</b>	Appendix C Method Code	N/A
Network Designation	Other (National Air Toxics Trends Station)	Probe Height Residence Time	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Every Six days	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	8/19/2020	Appendix E Siting Criteria	Yes

Sensor Type	<b>Volatile Organic Compounds (See Section A2.1)</b>	Appendix C Method Code	N/A
Network Designation	Other (National Air Toxics Trends Station)	Probe Height Residence Time	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Every Six days	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	8/19/2020	Appendix E Siting Criteria	Yes

Sensor Type	<b>Carbonyls</b>	Appendix C Method Code	N/A
Network Designation	Other (NATTS: year-round) Other (PAMS 6/1 – 8/31)	Probe Height Residence Time	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Every Six days (NATTS) Every Three days (PAMS)	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	8/19/2020	Appendix E Siting Criteria	Yes

Sensor Type	<b>Polycyclic Aromatic Hydrocarbons</b>	Appendix C Method Code	N/A
Network Designation	Other (National Air Toxics Trends Station)	Probe Height Residence Time	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Every Six days	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	8/19/2020	Appendix E Siting Criteria	Yes

Sensor Type	<b>Volatile Organic Compounds</b>	Appendix C Method Code	N/A
Network Designation	Other (Photochemical Assessment Monitoring Station)	Probe Height Residence Time	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Hourly during PAMS season (June 1 – August 31)	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	6/1/2021	Appendix E Siting Criteria	Yes



**Lawrenceville Meteorological Sensors**

- Wind Speed / Wind Direction
- Solar Radiation
- Total UV Radiation
- Solar Radiation
- Relative humidity
- Rain/Snow amounts
- Ambient Temperature
- Mixing Height (ceilometer)

**Lawrenceville Area Information**

Street Name		Traffic Count (AADT)
39th Street (20 m)		Unavailable
Penn Avenue (86 m)		7,785 (PennDot 2015)
Butler Street (343 m)		7,371 (PennDot 2014)
Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)	
North	Residential	
East	Residential	
South	Residential	
West	Residential	

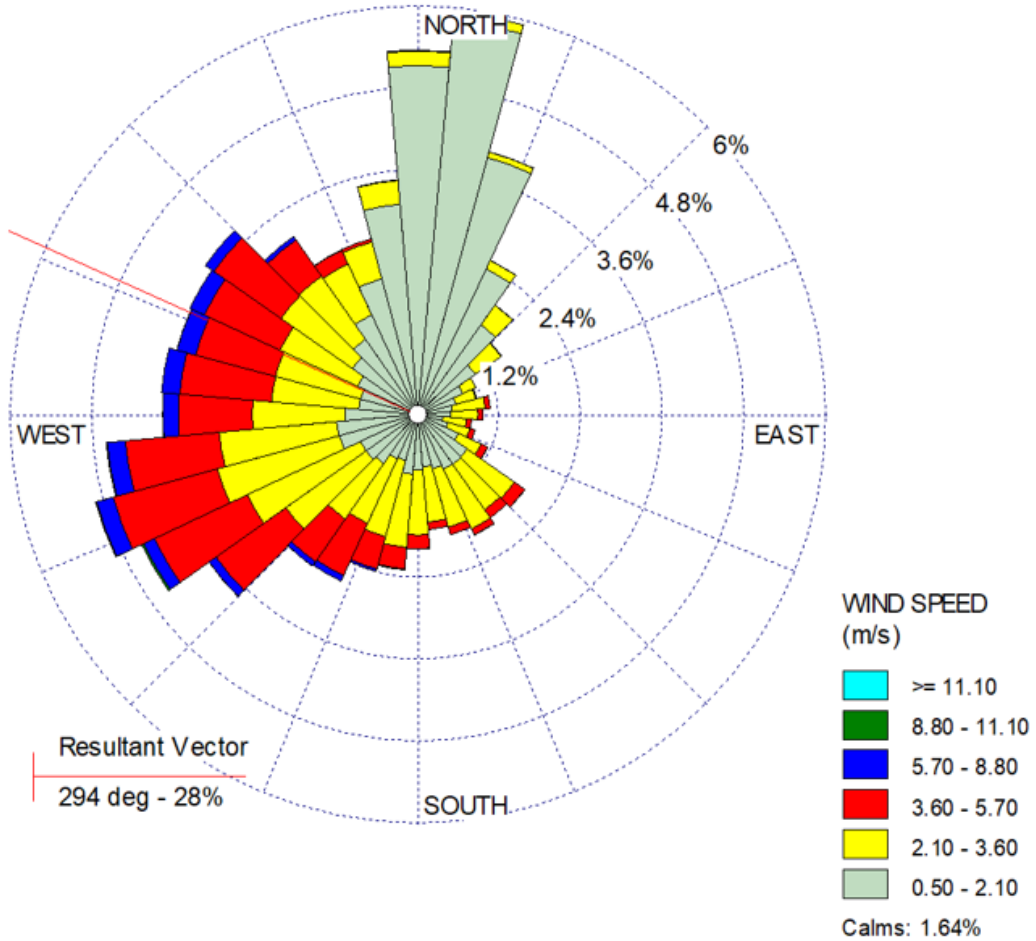
Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South	Wall	1	2 to 3 m
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Flat
South		Flat
West		Flat

Figure 10.1.1 Lawrenceville Location Map



Figure 10.1.2 Lawrenceville Wind Rose (2017-2021)



**10.2 Liberty**

Address	South Allegheny High School 2743 Washington Blvd McKeesport, PA 15133		
AQS#	42-003-0064	MSA	Pittsburgh
Latitude (N) Particulate and BTEX	<b>40.323761</b>	Longitude (W) Particulate and BTEX	<b>-79.868151</b>
Latitude (N) SO <sub>2</sub> , H <sub>2</sub> S	<b>40.324759</b>	Longitude (W) SO <sub>2</sub> , H <sub>2</sub> S	<b>-79.867030</b>
Comments	<p>This site is in a suburban area about 3 km north-northeast (and primarily downwind) of the US Steel Clairton Coke Works. The area around this monitoring site has a long history of higher than average levels of PM<sub>2.5</sub>, PM<sub>10</sub> and sulfur dioxide. Significant ambient levels of benzene have also been measured and documented at this site. Liberty is a core PM<sub>2.5</sub> site that is used to determine compliance with national standards.</p> <p>At the request of US Steel, telemetry devices have been installed on the PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> monitors that transmit continuous readings via radio signals to a location within the US Steel facility. Other transmitters are also in use: Glassport PM<sub>10</sub> monitor and North Braddock SO<sub>2</sub> monitor and sonic anemometer. This real-time data allows the opportunity for US Steel to minimize fugitive emissions and to adjust production levels to keep particulate levels and gaseous emissions within allowable ambient levels in downwind communities.</p>		

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Primary	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Daily	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/23/1999	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Secondary	Probe Height	8 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every Twelve Days	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Quality Assurance
Monitor Start Date	1/1/2005	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	183
Network Designation	SLAMS Tertiary	Probe Height	8 meters
Purpose	QA/Co-located Monitor AQI Reporting	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Neighborhood, Highest Concentration
Monitor Start Date	11/01/2017	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>10</sub> FEM</b>	Appendix C Method Code	79
Network Designation	SLAMS Primary	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1992	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> Speciation</b>	Appendix C Method Code	Multiple
Network Designation	Other (CSN)	Probe Height	8 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Unassigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	10/6/2003	Appendix E Siting Criteria	Yes

Sensor Type	<b>Sulfur Dioxide</b>	Appendix C Method Code	600
Network Designation	SLAMS	Probe Height Residence Time	8 Meters 11.5 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1969	Appendix E Siting Criteria	Yes

Sensor Type	<b>Hydrogen Sulfide</b>	Appendix C Method Code	N/A
Network Designation	Special Purpose monitor	Probe Height Residence Time	8 Meters 11.5 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Hourly	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	1/1/1981	Appendix E Siting Criteria	Yes

Sensor Type	<b>BTEX / Sorbent Tube</b> See Section A3.1	Appendix C Method Code	N/A
Network Designation	Special Purpose Monitor	Probe Height Residence Time	8 Meters 3.1 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Every Three Days	Appendix D Scale	Undetermined
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	2/1/2014	Appendix E Siting Criteria	Yes

**Liberty Meteorological Sensors**

- Wind Speed / Wind Direction
- Ambient Temperature

**Liberty Area Information**

Street Name	Traffic Count (AADT)
Washington Blvd. (283 m)	2080 (PennDot 2013)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			

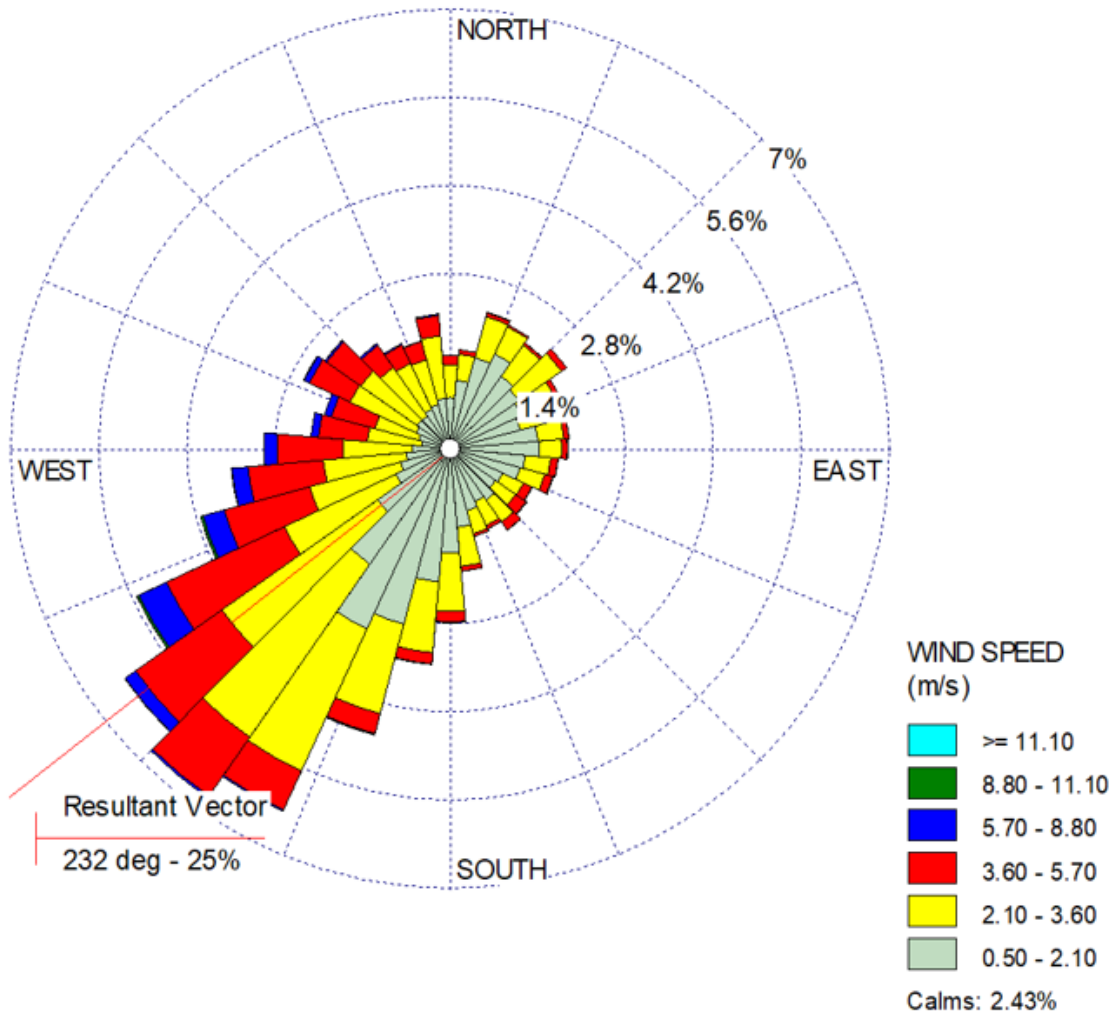
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Valley	Rough
East		Rolling
South	Valley	Rolling
West		Rolling

**Figure 10.2.1 Liberty Location Map**



Figure 10.2.2 Liberty Wind Rose (2017-2021)



**10.3 Glassport**

Address	Water Tower on High Street Glassport, PA 15045		
AQS#	42-003-3006	MSA	Pittsburgh
Latitude (N)	40.326008	Longitude (W)	-79.881703
Comments	Located in a residential area, this site is population oriented and is impacted by the US Steel Clairton Coke Works, the Irvin Works and other sources in the Monongahela river valley. Glassport High Street is the site of the County’s last documented exceedance of the federal 24-hour PM <sub>10</sub> standard of 150 µg/m <sup>3</sup> (October 1997).		

Sensor Type	<b>PM<sub>10</sub> FEM</b>	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	2 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/6/1995	Appendix E Siting Criteria	Yes

**Glassport Area Information**

Street Name	Traffic Count (AADT)
High Street (8m)	Unavailable
Scenic Street (53m)	Unavailable
Washington Blvd (140m)	2080 (PennDot 2013)
Pacific Ave. (202m)	4450 (PennDot 2012)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North	Water Tower	25	9
East			
South			
West			

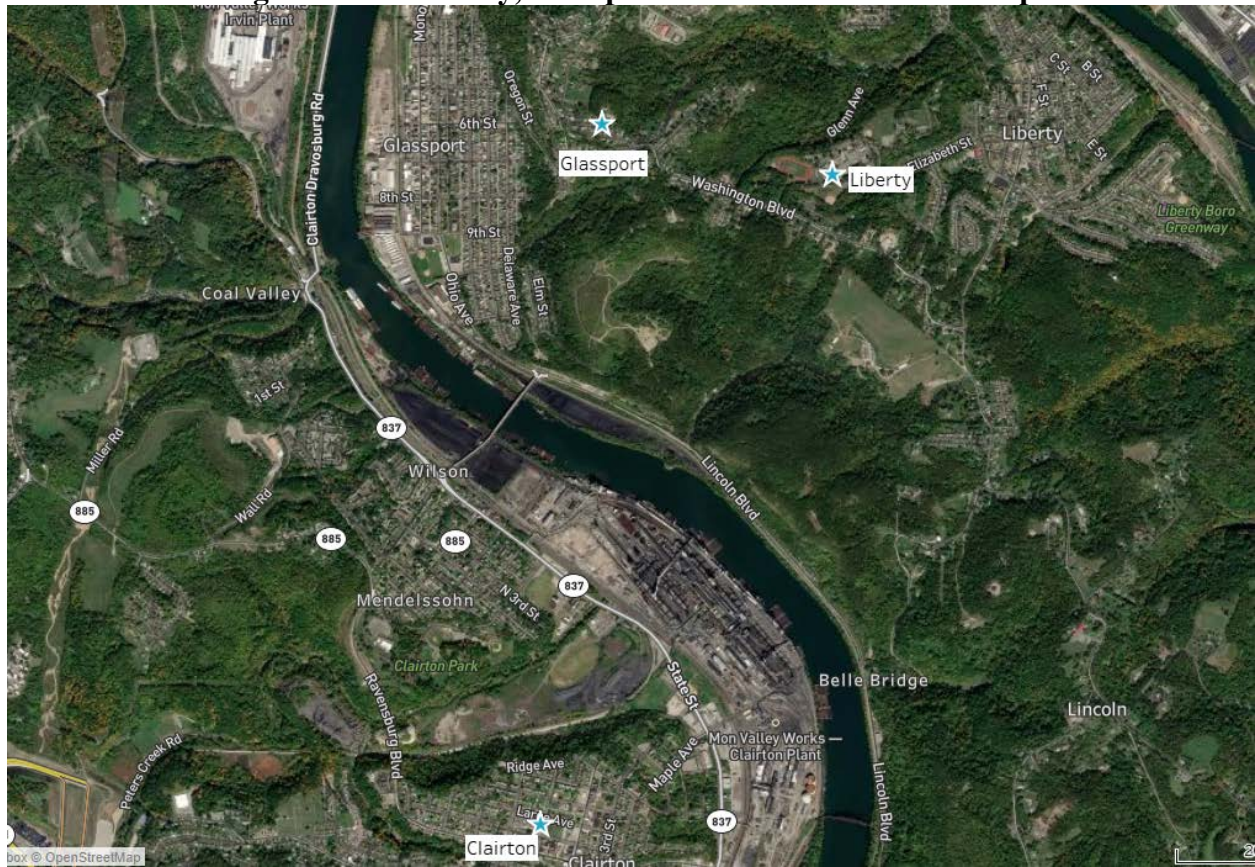


Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Flat
South		Flat
West		Flat

**Figure 10.3.1 Glassport Location Map**



Figure 10.3.2 Liberty, Glassport and Clairton Stations Map



**10.4 North Braddock**

Address	North Braddock Borough Building 600 Anderson Street Braddock, PA 15104		
AQS#	42-003-1301	MSA	Pittsburgh
Latitude (N)	40.402328	Longitude (W)	-79.860973
Comments	This suburban site is population oriented. The area around this site is impacted by the US Steel Edgar Thomson Works, which is a basic steel production facility located about 1.5 km south-southwest from the monitoring site. North Braddock is a core PM <sub>2.5</sub> site that is used to determine compliance with national standards.		

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Primary	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/30/1999	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	238
Network Designation	SLAMS Secondary	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2022	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>10</sub> FEM</b>	Appendix C Method Code	239
Network Designation	SLAMS	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2011	Appendix E Siting Criteria	Yes

Sensor Type	<b>Sulfur Dioxide</b>	Appendix C Method Code	600
Network Designation	SLAMS	Probe Height Residence Time	7 Meters 14.4 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Highest Concentration
Monitor Start Date	1/1/2014	Appendix E Siting Criteria	Yes

Sensor Type	<b>Carbon Monoxide</b>	Appendix C Method Code	93
Network Designation	SLAMS	Probe Height Residence Time	7 Meters 14.4 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date		Appendix E Siting Criteria	Yes

Sensor Type	<b>Hydrogen Sulfide</b>	Appendix C Method Code	N/A
Network Designation	Special Purpose monitor	Probe Height Residence Time	7 Meters 11.5 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	N/A
Sample Frequency	Hourly	Appendix D Scale	N/A
Appendix A QA Assessment	N/A	Appendix D Objectives	N/A
Monitor Start Date	12/9/2020	Appendix E Siting Criteria	Yes

**North Braddock Meteorological Sensors**

- Wind Speed / Wind Direction
- Ambient Temperature

**North Braddock Area Information**

Street Name	Traffic Count (AADT)
Bell Avenue (13 m)	2882 (PennDot 2012)
Anderson St. (40 m)	Unavailable
Braddock Ave. (370 m)	6349 (PennDot 2015)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential, Industry
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Hills	Rolling
East	Hills	Rolling
South	River	Rolling
West		Rolling

Figure 10.4.1 North Braddock Location Map

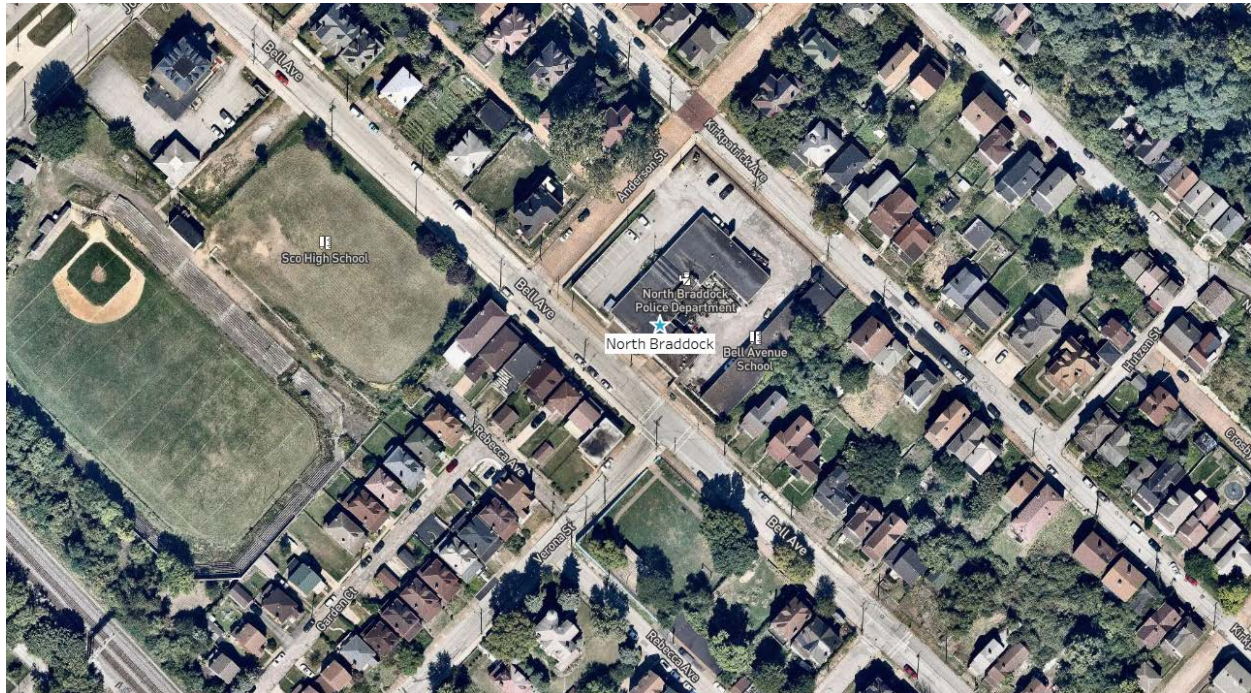
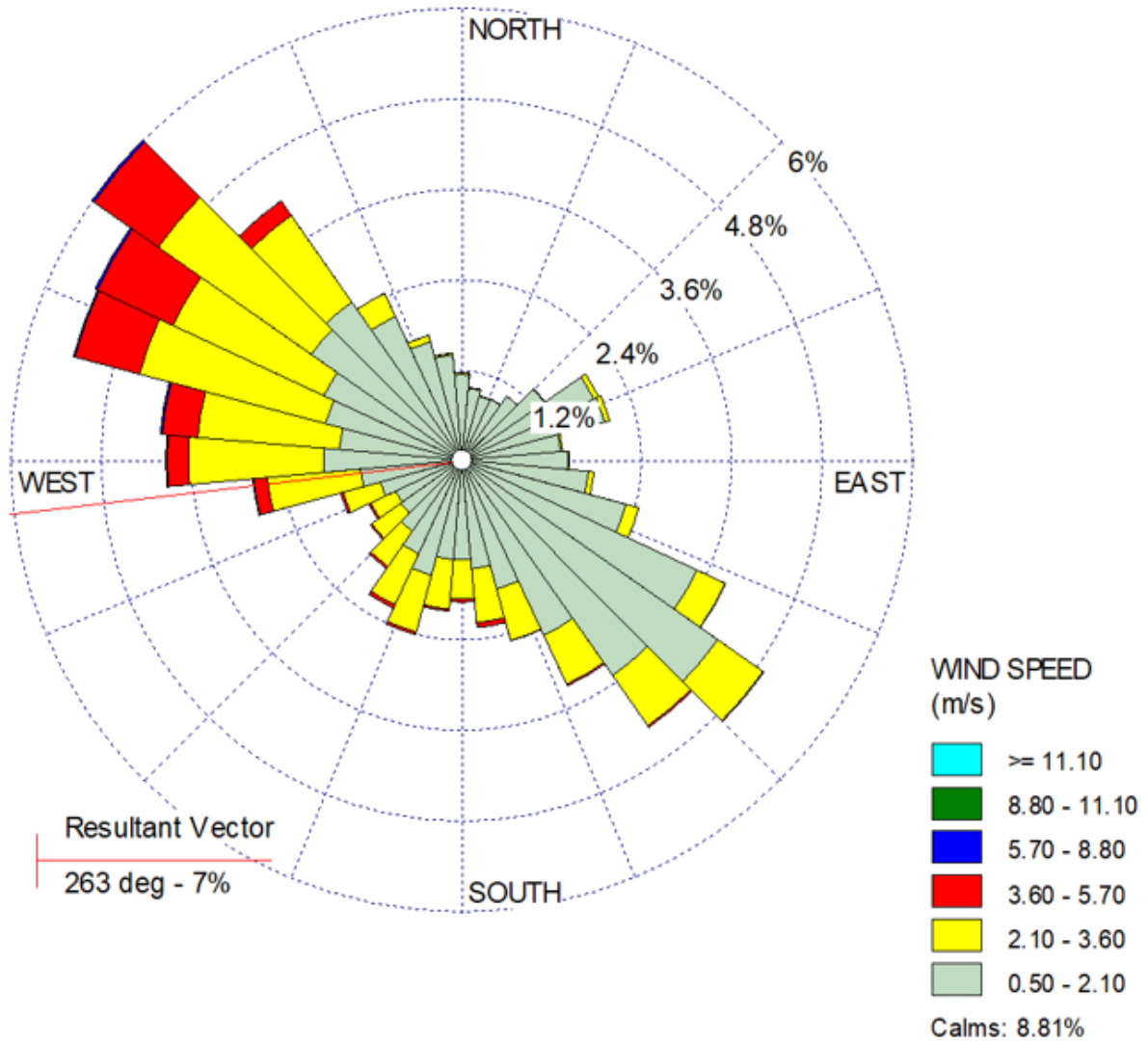


Figure 10.4.2 North Braddock Wind Rose (2017-2021)



**10.5 Harrison**

Address	Highlands Senior High School 1500 Pacific Avenue Natrona Heights, PA 15065		
AQS#	42-003-1008	MSA	Pittsburgh
Latitude (N)	40.617488	Longitude (W)	-79.727664
Comments	This suburban site is population-based and community oriented. This is a core PM <sub>2.5</sub> site used to determine compliance with national standards. This ozone monitoring site is positioned downwind of the Pittsburgh Central Business District and is expected to demonstrate maximum ozone concentrations. The nitrogen oxides monitor adds significant value to the ozone data and was upgraded to read True NO <sub>2</sub> concentrations in 2022.		

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	2/13/1999	Appendix E Siting Criteria	Yes

Sensor Type	<b>Ozone</b>	Appendix C Method Code	47
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 4.9 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Highest Concentration
Monitor Start Date	2/12/2014	Appendix E Siting Criteria	yes

Sensor Type	<b>Oxides of Nitrogen + True NO<sub>2</sub></b>	Appendix C Method Code	256
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 14.7 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	2/12/2014	Appendix E Siting Criteria	Yes

**Harrison Area Information**

Street Name / Distance	Traffic Count (AADT)
Idaho Ave (31m)	Unavailable
Pacific Ave (103m)	Unavailable
Freeport Road (326 m)	8018 (PennDot 2008)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Industrial

Direction	Obstructions	Height (m)	Distance (m)
North	Wall	3	20
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Rough
South	Valley	Rough
West	Valley	Rolling



Figure 10.5 Harrison Location Map



**10.6 South Fayette**

Address	South Fayette Elementary School 3640 Old Oakdale Road McDonald, PA 15057		
AQS#	42-003-0067	MSA	Pittsburgh
Latitude (N)	40.375644	Longitude (W)	-80.169943
Comments	This suburban site is population-based and is the regional transport site for O <sub>3</sub> and PM <sub>2.5</sub> . Located in the western portion of the county, this site monitors pollution levels entering the County on prevailing winds. South Fayette is a core PM <sub>2.5</sub> site that is used to determine compliance with national standards.		

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Regional Transport, Upwind Background
Monitor Start Date	1/1/1995	Appendix E Siting Criteria	Yes

Sensor Type	<b>Ozone</b>	Appendix C Method Code	47
Network Designation	SLAMS	Probe Height Residence Time	8 Meters 5.3 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Regional
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background, Regional Transport
Monitor Start Date	1/1/1980	Appendix E Siting Criteria	Yes

**South Fayette Area Information**

Street Name / Distance	Traffic Count (AADT)
Old Oakdale Rd. (142m)	Unavailable
Cannon Gate Dr. (377m)	Unavailable
Battle Ridge Rd. (554m)	5194 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Agriculture
West	Agriculture

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Rolling
East		Rolling
South		Rolling
West		Rolling

**Figure 10.6 South Fayette Location Map**



**10.7 Clairton**

Address	Clairton Education Center 501 Waddell Avenue Clairton, PA 15025		
AQS#	42-003-3007	MSA	Pittsburgh
Latitude (N)	40.294341	Longitude (W)	-79.885331
Comments	This is a population-oriented, suburban site that is located within an environmental justice area. Site selection was based on this location being within the Monongahela Valley and generally upwind of the USS Clairton Coke Works. During times of temperature inversions and atypical wind direction, the coke works and other sources in the Monongahela River valley impact this site.		

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Primary	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days Waiver Provision	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Welfare Concerns
Monitor Start Date	1/1/2001	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	236
Network Designation	SLAMS Secondary	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Welfare Concerns
Monitor Start Date	4/2/2022	Appendix E Siting Criteria	Yes

**Clairton Area Information**

Street Name / Distance	Traffic Count (AADT)
Large Ave (29m)	Unavailable
Waddell Ave. (64m)	Unavailable
6th St. (144m)	Unavailable
Saint Clair Ave. (158m)	1763 (PennDot 2012)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Commercial
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	valley	rolling
East	valley	rolling
South		flat
West	valley	rolling

Figure 10.7 Clairton Location Map



**10.8 Avalon**

Address	520 Orchard Ave. Avalon, PA 15202		
AQS#	42-003-0002	MSA	Pittsburgh
Latitude (N)	40.499767	Longitude (W)	-80.071337
Comments	This is a population-oriented, suburban site previously impacted by the PM and SO <sub>2</sub> coke battery emissions. Many odor and air pollution complaints were from communities near this monitoring site. However, the coke work battery permanently ceased operations in 2016. As a result, the 2016 1-hour SO <sub>2</sub> DV is half the 2010 DV. Avalon is a core PM <sub>2.5</sub> site that is used to determine compliance with national standards.		

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	183
Network Designation	SLAMS (Primary)	Probe Height	5 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2017	Appendix E Siting Criteria	Yes

**Avalon Area Information**

Street Name / Distance	Traffic Count (AADT)
Spruce St. (7m)	Unavailable
Orchard Ave. (33m)	Unavailable
South Birmingham Ave. (50m)	Unavailable
Ohio River Blvd. (59m)	14,140 (PennDot 2012)

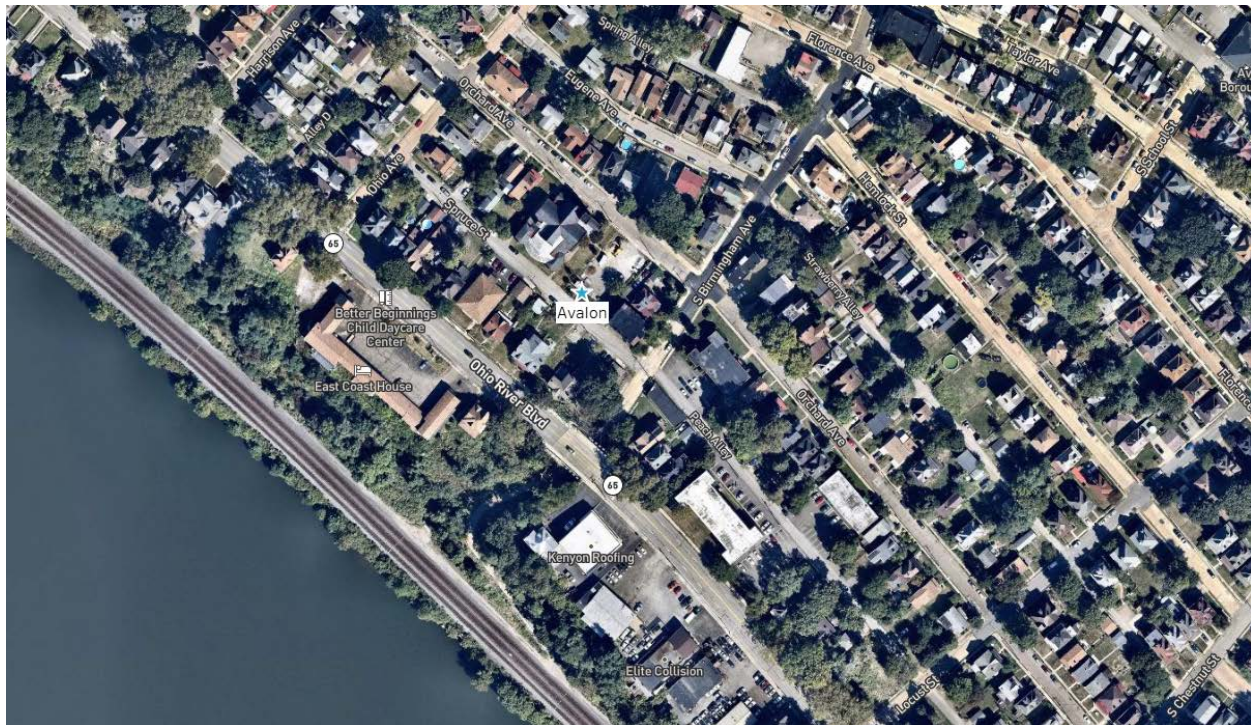
Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Commercial
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North	Building	2	30
East	Building	4	20
South	Building	3	43

West	Building	4	15
------	----------	---	----

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Hill	Rolling
East		Flat
South	River	Flat
West		Flat

Figure 10.8 Avalon Location Map





**10.9 Parkway East**

Address	Hosanna House Event Center 400 Sherwood Road Pittsburgh, PA 15221		
AQS#	42-003-1376	MSA	Pittsburgh
Latitude (N)	40.437430	Longitude (W)	-79.863572
Comments	This site was installed to comply with NO <sub>2</sub> design criteria. Monitor inlets sample air at 18 meters from the nearest traffic lane of Route 376 (Parkway East). This location was approved by EPA as a near road monitoring site that measures population exposure to roadway emissions. Concentration data for CO and NO <sub>2</sub> are near network maximums.		

Sensor Type	<b>PM<sub>2.5</sub> FEM</b>	Appendix C Method Code	183
Network Designation	SLAMS	Probe Height	4 meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Source Oriented
Monitor Start Date	1/1/2016	Appendix E Siting Criteria	Yes

Sensor Type	<b>PM<sub>2.5</sub> FRM</b>	Appendix C Method Code	145
Network Designation	SLAMS Secondary	Probe Height	4 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every Twelve Days	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Quality Assurance
Monitor Start Date	1/10/2021	Appendix E Siting Criteria	Yes

Sensor Type	<b>Oxides of Nitrogen (NO<sub>2</sub>)</b> Trace Level	Appendix C Method Code	599
Network Designation	SLAMS	Probe Height Residence Time	3 Meters 5.3 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

Sensor Type	<b>Carbon Monoxide (CO)</b> Trace Level	Appendix C Method Code	593
Network Designation	SLAMS	Probe Height Residence Time	3 Meters 3.4 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

Sensor Type	<b>Black Carbon Monitor</b> 7-channel Aethalometer	Appendix C Method Code	894
Network Designation	Other	Probe Height (m)	4 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

**Parkway East Meteorological Sensors**

- Wind Speed / Wind Direction
- Relative Humidity
- Ambient Temperature

**Parkway East Area Information**

Street Name / Distance	Traffic Count (AADT)
Penn Lincoln Parkway, Rt. I-376 (18 m)	75,971 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			

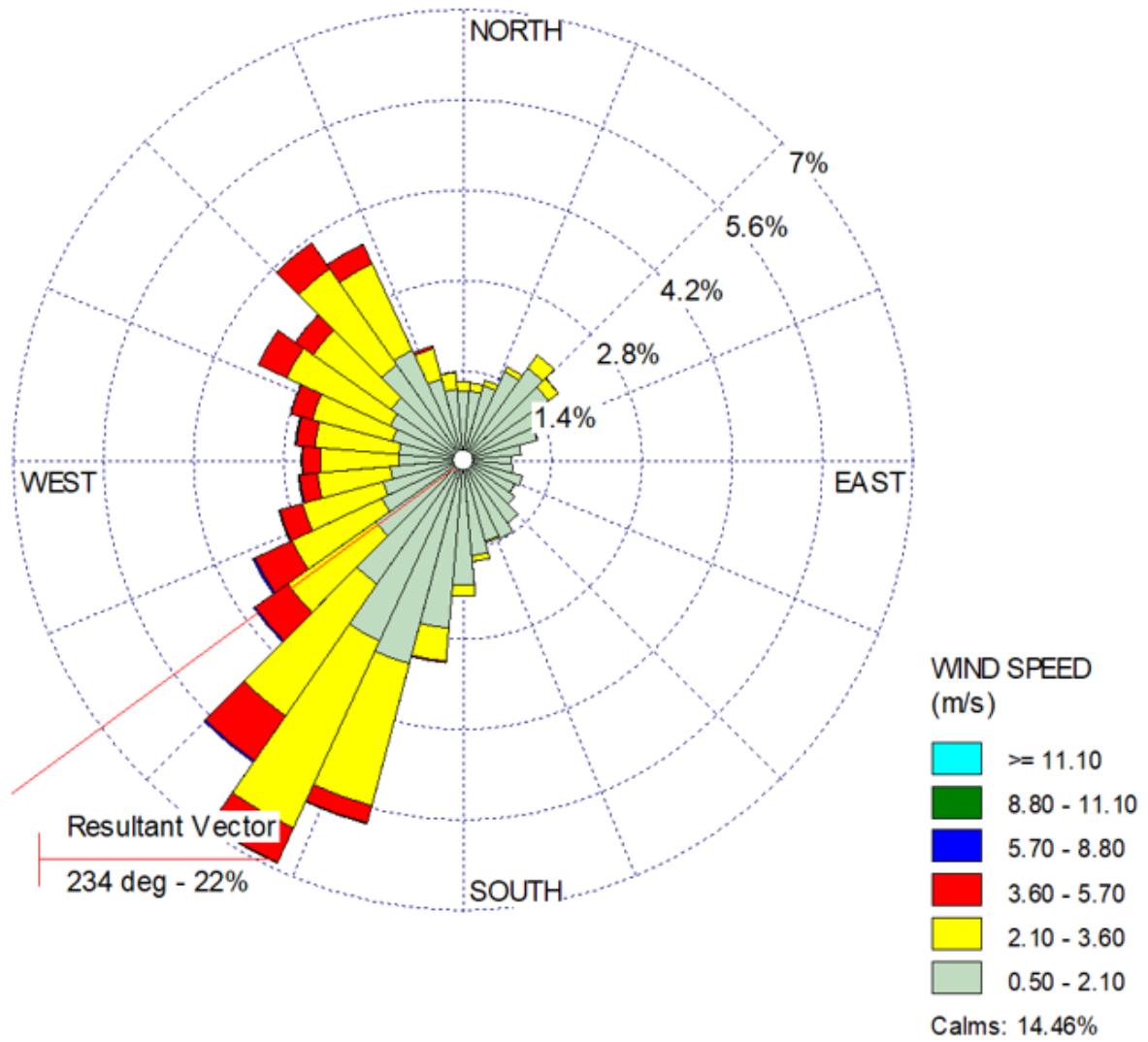
East	Trees	15	33
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Rolling
East	Hill	Rough
South		Rolling
West		Rolling

**Figure 10.9.1 Parkway East Location Map**



Figure 10.9.2 Parkway East Wind Rose (2017-2021)



## 11.0 GLOSSARY OF TERMS AND ABBREVIATIONS

<b>AADT</b>	Annual Average Daily Traffic count. This is the unit of measure used in this report to indicate vehicular traffic density as received from Penn Dot (Pennsylvania Department of Transportation) and represents the daily two-way traffic count averaged over a calendar year for the indicated roadway segment. The year that the data was collected is included.
<b>Aethalometer</b>	A continuous monitor designed to measure diesel mobile emissions by quantifying black carbon particles. This is a research instrument and does not determine compliance with NAAQS.
<b>BAM</b>	Beta Attenuation Monitor. This technology is used the Thermo Scientific 5014i continuous particulate monitors, which have FEM designation for PM <sub>2.5</sub> measurement with the addition of a VSCC.
<b>Benzene</b>	C <sub>6</sub> H <sub>6</sub> . A six-carbon aromatic ring known to be a carcinogen. Emitted by mobile and industrial sources in Allegheny County.
<b>CO</b>	Carbon Monoxide. Measured using a continuous automated analyzer.
<b>Criteria Pollutants</b>	Air pollutants considered harmful to public health and the environment (carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, lead, particulate matter: PM <sub>10</sub> , PM <sub>2.5</sub> )
<b>FEM</b>	Federal Equivalent Method. Secondary methods approved by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
<b>FRM</b>	Federal Reference Method. Primary measurement methods designated by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
<b>Lead (Pb)</b>	Lead Monitoring. Laboratory analysis of Total Suspended Particle filters. This analysis is performed according to the federal reference method for lead monitoring.
<b>NAAQS</b>	National Ambient Air Quality Standards. These standards apply only to the six criteria pollutants
<b>NATTS</b>	National Air Toxics Trends Station. Air monitoring program to assess nationwide air toxics trends. The ACHD Lawrenceville station became a NATTS site in 2020.
<b>NCore</b>	National Core Monitoring Network, consisting of multi-pollutant ambient air monitoring sites, and specializing in PM <sub>2.5</sub> and associated precursor gases.
<b>Near Road</b>	Monitoring site designed to measure peak exposure to roadway emissions. Required monitoring parameters are NO <sub>2</sub> , CO, and PM <sub>2.5</sub> . Installation of near road monitoring sites were required by revisions to the NO <sub>2</sub> NAAQS during 2010.
<b>NO<sub>x</sub></b>	Oxides of nitrogen, including nitric oxide and nitrogen dioxide. Measured using a continuous automated analyzer.
<b>NO<sub>y</sub></b>	Total reactive nitrogen. A collective name for oxidized forms of nitrogen in the atmosphere such as nitric oxide (NO), nitrogen dioxide (NO <sub>2</sub> ), nitric acid (HNO <sub>3</sub> ), and numerous short lived and reactive organic nitrates (but <b>not</b> NH <sub>3</sub> ). These compounds play important roles in atmospheric ozone and ultra-fine particle formation.
<b>O<sub>3</sub></b>	Ozone. Measured using a continuous automated analyzer.

<b>PAMS</b>	Photochemical Assessment Monitoring Stations
<b>PM<sub>10</sub></b>	All suspended particles equal to or smaller than 10 microns.
<b>PM<sub>2.5</sub></b>	All suspended particles equal to or smaller than 2.5 microns. Also frequently referred to as fine particulates.
<b>PM (coarse)</b>	All suspended particulates smaller than 10 microns but larger than 2.5 microns, also often referred to as PM <sub>10-2.5</sub> . EPA has not assigned a NAAQS to this parameter as of the date of this document.
<b>SLAMS</b>	State or Local Air Monitoring Stations Network. The SLAMS make up the ambient air quality monitoring sites that are operated by State or local agencies for the primary purpose of comparison to the National Ambient Air Quality Standards (NAAQS), but may serve other purposes. The SLAMS network includes stations classified as NCore, PAMS, and Speciation, and formerly categorized as NAMS, and does not include Special Purpose Monitors (SPM) and other monitors used for non-regulatory or industrial monitoring purposes.
<b>SO<sub>2</sub></b>	Sulfur Dioxide. Measured using a continuous automated analyzer.
<b>Sonic Anemometer</b>	A method to measure wind speed and wind direction that uses ultrasonic sound waves to precisely measure wind speed and wind direction. This method features much better accuracy, sensitivity and longevity as compared to the traditional “cup and vane” wind sensing method. The sonic anemometers utilized by the department are heated to avoid ice accumulation on the sensors.
<b>Speciation</b>	PM <sub>2.5</sub> speciation monitor. Multiple filter-based samples which yield a breakdown of PM <sub>2.5</sub> composition. Analytes include heavy metals, sulfates, nitrates and various species of carbon. Analysis is conducted by the US EPA national contract lab.
<b>SPM</b>	Special Purpose Monitor. An SPM is defined as any network monitor that the agency has designated as a special purpose monitor in its annual monitoring network plan and in AQS. SPMs do not count when showing compliance with the minimum requirements for the number and siting of monitors of various types.
<b>TEOM</b>	(Tapered Element Oscillating Microbalance) this technology is used by the Thermo-Scientific model 1400ab continuous particulate monitor, which has FEM designation for PM <sub>10</sub> measurement.
<b>TO11</b>	An EPA compendium method for air toxics sampling. Operated every 6 days for 24 hours, the sample is collected into a 2,4-DNPH (dinitrophenylhydrazine) cartridge and is analyzed by Eastern Research Group Laboratory. This procedure has been written specifically for the sampling and analysis of formaldehyde, the most important carbonyl that participates in ozone formation. However, the analysis also yields acetone, propionaldehyde, acetaldehyde, benzaldehyde, methyl ethyl ketone and methyl isobutyl ketone results
<b>TO15</b>	An EPA compendium method for air toxics sampling. Operated every 6 days for 24 hours, the sample is collected into a special prepared stainless-steel canister and is then sent to the laboratory for analysis. The analysis tests for 62 volatile organic compounds.
<b>VSCC</b>	Very Sharp Cut Cyclone. A particulate sizing device for use with PM <sub>2.5</sub> FRM and FEM monitors. The VSCC is commonly used to accomplish the final PM <sub>2.5</sub> size cut in low flow (16.7 lpm), continuous particulate monitors.

## 12.0 Public Comment Period

This network review was available for public comment beginning on May 10, 2022. Comments were made by e-mail and conventional mail until the close of business on June 9, 2022. All comments received as well as ACHD responses were included in the final version submitted to EPA Region III.

Submit comments by e-mail → [David.Good@AlleghenyCounty.US](mailto:David.Good@AlleghenyCounty.US)

Submit comments by conventional mail → **David D. Good**  
**301 39<sup>th</sup> Street, Building 7**  
**Pittsburgh, PA 15201**

### 12.1 Allegheny County Health Department Press Release

The Allegheny County Health Department issued a press release on May 10, 2022 to inform the public of the annual network plan comment period. The press release provides a web link to the draft annual network plan and explains how to submit written comments during the comment period. A copy of the press release is located at the end of this document.

## 12.0 Public Comment and Responses

### 13.1 Group Against Smog and Pollution (GASP)

(See the full comment document as received in Appendix B)

**1. ACHD officials must explain the reason(s) for relocating ACHD’s NCore Site.**

**Response:** ACHD is relocating the NCore site because the property currently allotted to the Environmental Health Bureau will not be available for use in the near future. Allegheny County, in conjunction with the Lawrenceville community, has determined that redevelopment of the Clack Campus is in the best interest of the community. Although ACHD has identified potential sites for the relocation of operations currently located at the Clack Campus, no lease has yet been finalized. Additionally, ACHD had not determined that departure of its operation from the Clack Campus will create barriers or cause interruptions to any services provided by the programs housed there, including Air Quality.

**2. ACHD must examine the costs and benefits of relocating the NCore Site, then make that information public.**

**Response:** See response to Comment No. 13.1.1.

**3. Assuming relocation of the NCore Site proceeds, ACHD must make and disclose plans for minimizing potential impacts and gauging outcomes.**

**Response:** In consideration of this comment and other comments received, the Department will commit to, at a minimum, operating a continuous PM2.5 monitor in Lawrenceville (as close as practical to the existing NCore site) as part of a special study to compare with PM2.5 concentrations at the new NCore site for a period of up to 2 years.

**4. ACHD must develop a consistent, clear method for sharing air quality data generated as part of special studies (non-AQI data) with the public.**

**Response:** The Department agrees with the comment and is working with other County programs to provide a database for sampler data from special studies. It is expected that this project, and other enhancements to the air quality dashboard will be completed in 2023.

### 13.2 Clean Air Council (“the Council”)

(See the full comment document as received in Appendix B)



1. **The Department should conduct monitoring for volatile organic compounds on and near Neville Island.**

**Response:** The Department is considering additional air toxics surveillance in the Neville Island area. The Department has previously dedicated significant resources and personnel to VOC surveillance at the Avalon station downwind of Neville Island that included regular canister sampling performed via EPA's TO-15 compendium method and BTEX sampling via coconut charcoal tubes. An additional 2-year study using passive VOC sampling took place from 2015-2017, which coincided with the operation and then shutdown of the Shenango Coke Works in 2016. The Department is partnering with Carnegie Mellon University and their mobile air sampling campaign(s) to better determine optimal air toxics sampling methods and locations around Neville Island.

2. **The Department should monitor nitrogen oxides in the Mon Valley.**

**Response:** In consideration of this comment the Department will, as part of a special study, conduct nitrogen oxides surveillance in the Mon Valley starting in Q2 of 2023. The Department is acquiring a spare True NO2 monitor in Q1 of 2023 and will operate the unit as a "working spare" at the Liberty monitoring station provided the availability of the monitor. Based on those data acquired the Department will determine if permanent nitrogen oxides surveillance in the Mon Valley is warranted.

3. **The Department should retain additional monitoring in the Lawrenceville community, at the same time that it relocates monitors to a new office in the Manchester neighborhood.**

**Response:** Please response to comment no. 13.1.3.

### 13.3 Allegheny County Clean Air Now (ACCAN)

(See the full comment document as received in Appendix B)

1. **ACCAN requests an air toxics and odor study in the Neville Island area.**

**Response:** Please see response to comment no. 13.2.1.

2. **In addition to the PM 2.5 monitors which ACHD will continue to have at Avalon, ACCAN requests that the wind speed/direction monitor be reinstalled and also requests that VOC and Ozone monitors be installed there. There are many industries on Neville Island that emit VOCs.**

**Response:** Ozone is generally considered to be a regional pollutant due to its formation mechanism and its ability to be transported over long distances. The ozone monitoring requirements are determined by the MSA population and ozone design value (specified in Table D-2 of 40CFR58, Appendix D), which require Allegheny County to operate a minimum of two ozone monitors. Regarding site selection of ozone monitoring,

according to Appendix D, Section 4.1: "...maximum concentration monitor site should be selected in a direction from the city that is most likely to observe the highest O<sub>3</sub> concentrations, more specifically, downwind during periods of photochemical activity. In many cases, these maximum concentration sites will be located 10 to 30 miles or more downwind from the urban areas." Additionally, no new ozone monitoring sites were recommended by the 2020 5-Year Network Assessment. The Department has no plans to add an additional ozone monitoring site to the network at this time.

The Department acknowledges the quantity of VOC point source emissions on or around Neville Island. However, VOC monitoring at the Avalon site was discontinued in December 2018 due to low uniform results. A more extensive air toxics study that measured for VOC was performed around Neville Island between 2015 and 2017. The results of that study are posted on the website here: [https://alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/Neville-Area-Air-Toxics-Study.pdf](https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/Neville-Area-Air-Toxics-Study.pdf)

The Department will consider reconstructing the meteorological tower that houses the wind speed/direction sensors at the Avalon monitoring station if siting and resources permit.

## Appendix A: Special Study Projects

### A1: Introduction

ACHD frequently conducts investigations and studies using techniques that produce quantifiable results by methods that may not be classified by the USEPA as approved reference or equivalent methods. Often these investigations originate as responses to citizen concerns or complaints. This section briefly describes special studies that are currently ongoing or have been discontinued within the past year. Data from these studies is not submitted to the AQS database, however much of it is available for review on the ACHD webpage or through a right to know request ([Open Records page](#)).

### A2: Air Toxics Sampling

#### A2.1 Lawrenceville National Air Toxics Trends Station (NATTS)

The National Air Toxics Trends Station (NATTS) program was developed by the EPA to fulfill the need for long-term hazardous air pollutants (HAP) monitoring data of consistent quality. The Lawrenceville NCORE site was selected by the EPA for inclusion into the NATTS program and began operations in August of 2020. The NATTS monitoring is year-round on a 1 in 6-day sampling frequency. NATTS sampling includes:

- **Volatile Organic Compounds** using SUMMA canister sampling via EPA Compendium Method TO-15.
- **Carbonyls** using DNPH cartridge sampling via EPA Compendium Method TO-11A.
- **Polycyclic Aromatic Hydrocarbons** using glass cartridge PUF sampling via EPA Compendium Method TO-13A.
- **PM<sub>10</sub> Metals** using a HI-VOL PM<sub>10</sub> sampler and quartz fiber filters via EPA Compendium Method IO-3.5.

#### A2.2 Swissvale Metals

Upon request by the USEPA, this study was conducted from April 1, 2017 through October 13, 2017 on the property of Kopp Glass, located in Swissvale PA. The initial sampler was located to the northwest of the plant, approximately 283 feet from the main stack to determine emissions of HAP metals during normal operating conditions at the plant. An additional sampler was added on July 30, 2017 and was located to the east southeast of the plant and 205 feet from the main stack. Both samplers were configured to collect PM<sub>10</sub> filter samples over a 24-hour period. The exposed samples, along with all relevant flow and sample volume data, were shipped to the EPA contract laboratory (ERG) for analysis by ICP-MS for various HAP metals including Cd, Pb, Co, Mn, Se, As and Cr. The Department began a follow-up study in the nearby community from June 14, 2020 through June 15, 2021. More information about the two studies can be found here:

<https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Swissvale-Air-Toxics-Metals-Study.aspx>

### **A2.3 Charcoal Tube Sampling**

Charcoal tube sampling is used by ACHD to measure ambient concentrations of targeted VOCs. 24-hour average samples are collected at Liberty every three days. Sampling is performed using sampling pumps calibrated to 1 liter per minute. Each tube is exposed for 24 hours, from midnight to midnight. The exposed sorbent tubes are sent to the Allegheny County Medical Examiner's Laboratory for analysis by a GC/FID method for benzene, ethyl benzene, toluene, and xylenes (BTEX). Data is available upon request.

### **A2.4 Hydrogen Sulfide**

Hydrogen Sulfide is an odorous compound that has a very low odor threshold concentration. Expectedly, numerous ongoing community odor complaints are common near industries that release hydrogen sulfide. Traditionally, ACHD has measured H<sub>2</sub>S at monitoring sites impacted by the metallurgical coking industry. Hydrogen sulfide is routinely and continuously measured at the Liberty and North Braddock air monitoring sites. Recent hourly hydrogen sulfide data is available on the Air Quality Program's portion of the ACHD website and historic data is available to the public upon request. The Department references ambient H<sub>2</sub>S standards as listed in the Pennsylvania Code, Title 25, Chapter 131.3 (24-hour average not to exceed 0.005 ppm, 1-hour average not to exceed 0.1 ppm). Additional hydrogen sulfide surveillance is performed using portable hydrogen sulfide analyzers in and around the Mon Valley.

### **A3: Settled Particulate**

Total settled particulate, also commonly referred to as dust fall, is collected and quantified in various locations in Allegheny County using ASTM method D 1793, which yields monthly average concentrations. This simple method is employed in response to complaints of heavy dust deposits in communities. Currently four collectors are maintained at Natrona Heights (x2), Collier Township and Braddock. The Department references settled particulate standards as listed in the Pennsylvania Code, Title 25, Chapter 131.3 (12-month average not to exceed 0.8 mg/cm<sup>2</sup>/month, 30-day average not to exceed 1.5 mg/cm<sup>2</sup>/month). Data is available upon request.

### **A4: Mon Valley Air Toxics and Odors Study**

The ACHD Mon Valley area air toxics and odors study includes a comprehensive assessment of volatile organic compounds (VOCs), PM<sub>10</sub> metals and hydrogen sulfide (H<sub>2</sub>S) in the Mon Valley. The goals of this ambient air study are: (1) to determine the spatial patterns and trends of select air toxics emissions and odors (e.g. hydrogen sulfide) in the Mon Valley, and (2) to characterize community air toxic concentrations to assist in analysis of health impacts and development of risk reduction strategies. The ambient air monitoring consists of a combination of active and passive sampling methodologies to measure species of known concern, and potentially identify others whose impact has not previously been known or quantified. 16 locations in the Mon Valley include 4 established air monitoring stations and 12 additional locations for VOC sampling. Metals

surveillance began in October of 2020 while VOC and H<sub>2</sub>S sampling began in June of 2021. The full concurrent sampling will take place through 2022.

## **Appendix B: NCore Readiness Self-Assessment**



**NCore Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

	<b>Item</b>	<b>Criteria</b>	<b>Status</b>	<b>Next Steps</b>
9	Network leveraging	Collocation with other networks encouraged: STN__ Supplemental CSN__ NATTS __ CASTNET __ IMPROVE __ NADP __ PAMS __ Other __	All of NCore, CSN (STN), NATTS, IMPROVE and PAMS would be moved to this site.	
10	Applicable site fields updated in AQS including coordinates	Consider setting additional monitor type to “Proposed NCore” (station should also be categorized as SLAMS).	We would do this upon approval of site by EPA OAQPS	
<b>LOGISTICAL CONSIDERATIONS</b>				
11	Site access	Access for at least five years is suggested.	Yes, this site would also be the location of the ACHD Air Monitoring Program and associate personnel.	
12	Power requirements and availability	200A service suggested. 240vac service typically needed for a/c. Key power outlets protected by UPS units.	We have permission to design this site (including electrical upgrades) as needed. UPS would be utilized.	
13	Telecommunications	Minimum dial-up service. Broadband service suggested for polling of 1-minute data.	Broadband would be utilized.	
14	A/C cooling capacity	Minimum 18,000BTU a/c capacity.	We have permission to design this site (including HVAC) as needed. Gas analyzers would be housed indoors.	
15	Interior space	Sufficient for minimum of two 19” inner dimension, 6’ tall instrument racks and related equipment and	Site far exceeds the minimum requirements.	



**NCore Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

	Item	Criteria	Status	Next Steps
		accessories, or equivalent shelf space.		
16	Exterior space (roof and accompanying platforms)	Allow for: a) 1m spacing of low-volume PM sampler inlets – up to seven* required plus PEP audit sampler. b) 1m spacing between low-volume PM sampler inlets and gas manifold cane or Teflon tubing. Facilitate usage of TTP audit vehicle or trailer.	Site far exceeds the minimum requirements. Rooftop will be utilized for samplers.	
17	10m tower compatibility	Required for meteorological equipment, NOy converter. Room to drop tower for calibrations and audits.	Site far exceeds the minimum requirements. Rooftop will be utilized for meteorology tower.	

\*Notes

1. PM2.5 FRM sampler
2. PM10c FRM sampler for PM10-2.5 mass (dichotomous sampler could substitute for #1 and #2 if future FRM/FEMs available) or PM10-2.5 continuous
3. PM2.5 continuous sampler (does not have to be FEM/ARM )
4. PM2.5 speciation sampler (CSN or IMPROVE)
5. URG sampler for carbon channel (PM2.5 speciation) if using CSN samplers
6. Sampler for PM10-2.5 speciation (unless dichotomous sampler or PM2.5 speciation sampler (spare channels) is used)
7. URG sampler for PM10 carbon speciation (speculative need for PM10-2.5 carbon speciation by difference)

**NCORE Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

**B. REQUIRED PARAMETER/METHODOLOGICAL EVALUATION**

- d. Proposed NCore Station #1    \_\_\_NEW SITE                  \_\_\_EXISTING SITE AQS # \_\_\_\_\_
- e. Proposed NCore Station #2    \_\_\_NEW SITE                  \_\_\_EXISTING SITE AQS # \_\_\_\_\_
- f. Proposed NCore Station #3    \_\_\_NEW SITE                  \_\_\_EXISTING SITE AQS # \_\_\_\_\_

	Parameter	Existing Measurements		Future Measurements		Notes
		Sampling Began	Method	Date Expected	New or Relocated	
1	Ozone	1/1/1978	47	TBD	Relocated	Year-round operation (not seasonal)
2	Sulfur dioxide	4/1/2010	600	TBD	Relocated	High sensitivity
3	Carbon monoxide	4/1/2010	593	TBD	Relocated	High sensitivity
4	Nitrogen oxides (NOy)*	4/2/2010	699	TBD	Relocated	High sensitivity External converter mounted at 10m
5	PM2.5 mass	2/23/1999	145	TBD	Relocated	1-in-3 day FRM/FEM integrated
6	PM2.5 continuous	8/7/2015	238	TBD	Relocated	FEM or ARM preferred but not required
7	PM2.5 speciation	6/30/2001	812	TBD	Relocated	1-in-3 day (Met One & URG 3000N samplers) or IMPROVE
8	PM10-2.5 mass	4/1/2011	240	TBD	Relocated	Integrated samplers (FRM difference or dichot) or continuous monitor

**NCore Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

	Parameter	Existing Measurements		Future Measurements		Notes
		Sampling Began	Method	Date Expected	New or Relocated	
9	PM10-2.5 speciation	N/A				Details to be provided later (2008) on sampling requirements.
10	Wind speed and direction**	2010	061	TBD	Relocated	At 10 m
11	Ambient temperature**	2010	061	TBD	Relocated	At 2 m
12	Relative humidity**	2010	061	TBD	Relocated	At 2 m
13	Optional – Vertical wind speed, solar radiation, precipitation, barometric pressure, delta-T for 2-10m.	2011 2018	013 011	TBD	Relocated	
14	Optional – Ammonia and nitric acid	N/A				Pilot project using denuders scheduled for 2008-2009.

Notes

\* Although the measurement of NO<sub>y</sub> is required in support of a number of monitoring objectives, available commercial instruments may indicate little difference in their measurement of NO<sub>y</sub> compared to the conventional measurement of NO<sub>x</sub>, particularly in areas with relatively fresh sources of nitrogen emissions. Therefore, in areas with negligible expected difference between NO<sub>y</sub> and NO<sub>x</sub> measured concentrations, the Administrator may allow for waivers that permit high-sensitivity NO<sub>x</sub> monitoring to be substituted for the required NO<sub>y</sub> monitoring at applicable NCore sites.

\*\* EPA recognizes that, in some cases, the physical location of the NCore site may not be suitable for representative meteorological measurements due to the site's physical surroundings. It is also possible that nearby meteorological measurements may be able to fulfill this data need. In these cases, the requirement for meteorological monitoring can be waived by the Administrator.

**NCORE Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

**C. SUPPORTING EQUIPMENT EVALUATION**

- a. Proposed NCore Station #1    \_\_\_NEW SITE                    \_\_\_EXISTING SITE AQS # \_\_\_\_\_
- b. Proposed NCore Station #2    \_\_\_NEW SITE                    \_\_\_EXISTING SITE AQS # \_\_\_\_\_
- c. Proposed NCore Station #3    \_\_\_NEW SITE                    \_\_\_EXISTING SITE AQS # \_\_\_\_\_

Item	Criteria	Status	Next Steps	
1	Calibrator (field)	Suitable for trace-level dilutions, see Appendix A audit concentrations. Capable of automated QC checks. Internal O3 generator – photometer preferred.	Teledyne-API 700	
2	Calibrator (lab or field)	Suitable for generation of MDL-level concentrations	Teledyne T750	
3	Zero Air Source	Compliant with TAD recommendations. Ultra-pure air cylinder recommended for occasional comparison to zero air source. Capacity for 20+ LPM of dilution air.	Teledyne T701H	
4	Data acquisition system	Digital-capable system	Agilaire 8832, 8872	
5	Gas cylinder standards	Suitable for trace-level dilutions, see Appendix A audit concentrations, EPA Protocol certifications. Special low-level standards needed for MDL concentrations (CO, SO2, NOy)	Yes	
6	Meteorological calibration devices	Provide NIST traceability of required meteorological parameters.	Yes	
7	Sampling manifold	Per Appendix E. Residence time <20 seconds, only glass or Teflon materials, probe and monitor inlets acceptable heights.	Yes	

**NCore Readiness Self-Assessment for State/local/Tribal Agencies**

**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

8	Auditing equipment	Independent calibrator, zero air source and gas standards compatible with trace level specifications. Independent meteorological and flow standards, if not already available.	Yes	
---	--------------------	--	-----	--

**NCORE Readiness Self-Assessment for State/local/Tribal Agencies**  
**Agency Name: Allegheny County Health Department Date Prepared 10/19/2021 By David D. Good**

**D. ORGANIZATIONAL FACTORS**

	<b>Item</b>	<b>Criteria</b>	<b>Status</b>	<b>Next Steps</b>
1	Training considerations	Key monitoring personnel have attended OAQPS provided monitoring workshops or equivalent training.	Yes	
2	Monitoring station documentation	NCORE station(s) described in Annual Monitoring Network Plan.	Existing site documented. Proposed relocated site would be described in 2022 Network Plan before move.	Discuss siting with health researchers and other data stakeholders.
3	Section 103 funds received and obligated for equipment purchases		Yes	Work with EPA Regional contacts.

## **Appendix C: Full Citizen Comments**

13.1, GASP – Page 88

13.2, Clean Air Council – Page 92

13.3, ACCAN – Page 113

**COMMENTS OF THE GROUP AGAINST SMOG AND POLLUTION  
REGARDING THE ALLEGHENY COUNTY HEALTH DEPARTMENT'S  
DRAFT AIR MONITORING NETWORK PLAN FOR CALENDAR YEAR 2023**

The Allegheny County Health Department (“ACHD”) Air Quality Program (“Program” or “AQP”) published its Air Monitoring Network Plan for Calendar Year 2023 (“Draft Plan” or “2023 Plan”) for public comment on May 10, 2022.<sup>1</sup> The Group Against Smog and Pollution (“GASP”) has reviewed the Draft Plan and provides the following comments.

**I. NCore Site Relocation**

For the reasons detailed below, GASP opposes relocation of the ACHD Air Quality Program’s NCore, PAMS, NATTS, IMPROVE, and CSN monitoring sites (collectively “NCore Site”). Our opposition to the move stems from what appears to be a lack of foresight, transparency, and analysis surrounding the proposed move. The reason(s) for, cost(s) of, and benefit(s) of the move are neither public nor clear. This approach fosters distrust and fundamentally thwarts the public’s ability to provide meaningful, informed comments.

*a. ACHD officials must explain the reason(s) for relocating ACHD’s NCore Site.*

For the time being, ACHD’s NCore Site is located in Building 7 of the Clack Campus, a 5.2-acre parcel of land donated to Allegheny County in 1957 “in order to enable the [then newly established] Allegheny County Health Department to perform public health services.”<sup>2</sup> EPA AQS data show air quality monitoring began on this site in 1978, though it appears the majority of monitoring activities began in 2001.<sup>3</sup> With decades of data, no lease to upset continuity, and free parking, this location – outwardly – appears to be an ideal location for an NCore Site.

GASP first learned of the potential for the County to sell the Clack Campus from a community redevelopment group in the City of Pittsburgh’s Lawrenceville neighborhood in April 2021.<sup>4</sup> The news seemed noteworthy but given the factors above and lack of actual redevelopment plans it was not a source of great concern.

ACHD published its draft Air Monitoring Network Plan for Calendar Year 2022<sup>5</sup> for public comment in July 2021. The draft did not list a potential relocation of the NCore Site in

---

<sup>1</sup> <https://www.alleghenycounty.us/News/2022/Health-Department-2022/6442477908.aspx>

<sup>2</sup> See Allegheny County Department of Real Estate: Deed Book 3619, pages 49 – 53; Assessment Lot and Block Number 49-K-62.

<sup>3</sup> See “Monitoring Listing” spreadsheet at [https://aqs.epa.gov/aqsweb/airdata/download\\_files.html](https://aqs.epa.gov/aqsweb/airdata/download_files.html) (AQS site number 420030008).

<sup>4</sup> <http://www.lunited.org/clackworkshops1/>

<sup>5</sup> [https://www.alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf](https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf)



that document's Proposed Changes to the Air Monitoring Network section, but GASP nonetheless raised the issue in our comments to the 2022 Plan. ACHD replied:

The Department is working with the EPA to determine a potential new monitoring station that could replace the Lawrenceville site if it is required to be moved. The Department will provide more information on any potential moves when any become available.<sup>6</sup>

This felt as though it came out of left field. There did not appear to be any need, impetus, or basis for the massive undertaking of relocating the NCore Site. Further, it was troubling that the initial news of a potential change at the Clack Campus did not come from ACHD.

At an April 2022 public meeting ACHD staff announced the County planned to sell the Clack Campus and that all Health Department programs with offices at the Clack Campus – including the Air Quality Program – would be relocated. This was the first public acknowledgement of the NCore Site relocation plan moving forward.

Section 3.4.1 of ACHD's 2023 Plan adds additional details regarding what appears to be the best possible new NCore Site should the relocation proceed, but more fundamental questions like, "why is ACHD undertaking this massive effort in the first place?" and, "did decision-makers understand or examine impacts of the decision?" have been skipped entirely. To provide anything approaching informed, meaningful comments, the public must have this sort of information. Without it, the public is being asked to comment on a proposal about which very little is known and that – in light of the opening paragraph to this section – appears to be wholly irrational.

*b. ACHD must examine the costs and benefits of relocating the NCore Site, then make that information public.*

Air quality monitoring is vital to public health. The data collected inform the public, support scientific research, and gauge compliance with federal air quality standards.<sup>7</sup> Abandoning the Clack Campus will be a very significant alteration to Air Quality Program operations. Interruptions to services or new barriers to those services created by the move could have an adverse impact on public health. Yet, it is not clear that ACHD conducted any analysis of the impacts of its decision to relocate the NCore Site. This – again – prevents the public from offering meaningful comments on the proposed action.

Importantly, the criticism here stems from the lack of effort and transparency, not a predetermination that the relocation will only cause harm. There might very well be benefits to both public health and ACHD operations. Unfortunately, that is impossible to know unless ACHD provides the information. Accordingly, ACHD must – at a minimum – examine and report on:

---

<sup>6</sup> 2022 Plan (Jan. 11, 2022), at 77.

<sup>7</sup> See 40 C.F.R. Part 58, App. D § 1.1.

- i. Existing workload interruptions and impact on staff capacity to conduct its existing, critical, core (monitoring) tasks while tending to relocation tasks
- ii. Future efficiencies gained if any
- iii. Lease costs and potential future costs incurred if a repeat of this process arises due to lease disputes
- iv. Quantifiable benefits to Northside communities
- v. Specialized moving and set-up costs for delicate instrumentation
- vi. Improvements in monitoring technology and capacity at new facility
- vii. Adverse impacts on research, studies, etc., due to loss of monitoring site continuity (statistical comparability)
- viii. New research opportunities at a new location and or with newer facilities
- ix. Workflow effects on locating the monitoring staff geographically distant from other AQP operations

c. *Assuming relocation of the NCore Site proceeds, ACHD must make and disclose plans for minimizing potential impacts and gauging outcomes.*

Ideally, ACHD would undertake the strongly suggested analysis in the prior section and then, if the relocation proceeds, create a plan for public review addressing potential pitfalls or add those details to the Draft Plan. Even without an extensive analysis, GASP has identified three topics that should receive attention and at least be addressed in the Draft Plan Section 3.4.1:

- i. The Draft Plan notes that historic ozone and particulate matter monitoring occurred near to the Fulton Street site. The Draft Plan does not explain the significance of these statements but by implication they appear to address options for statistical comparability analysis. ACHD must plan to address the implications of comparability (differences, reasons, etc.), specifically from a public outreach perspective. Undoubtedly this is an issue for NAAQS compliance determinations and research studies. However, outside the technical and mathematical solutions, ACHD should ensure any changes can be explained simply for people used to seeing certain values of certain pollutants at the Clack Campus (Lawrenceville) location.
- ii. To address comparability, ACHD should consider locating monitors ahead of the final move at the Fulton Street site or leaving monitors at the Clack Campus behind after the move to better quantify differences. The Fulton Street site's closer proximity to downtown and interstate traffic seems likely to impact data and all available tools ACHD can deploy to detect details of that difference would be in keeping with the Appendix D goals. To some extent, it could itself be a special study.

- iii. The Draft Plan stated that locating the NCore Site in the Northside “would greatly benefit many underserved communities in that area.” We disagree, strongly but partially. ACHD’s recent efforts to expand air quality monitoring in many underserved communities in the Mon Valley have been outstanding (barring some delays in publish study data (see below)). Greater information and increased enforcement efforts have benefitted the community. However, we believe those benefits came about due to a combination of additional monitoring *along with* a commitment to engage with the local community(ies) and a plan of action to target (monitor for) pollutants of concern. Thus, ACHD should not hold out the mere relocation of a monitoring station to an underserved community alone as a benefit. However, we strongly agree additional monitoring is an important first step to providing a community benefit. If ACHD continues with the relocation, as part of the relocation plan, ACHD must commit to plan for exactly how the relocation will benefit the community.

## **II. Public Engagement Issues**

In comments on prior years’ Annual Network Plans, GASP has raised several issues regarding ACHD increasing access to information. One issue – especially regarding the above-mentioned Mon Valley monitoring – does not appear to have been addressed over the past year. Accordingly, please explain ACHD’s planned efforts in the coming year to address a consistent, clear method for sharing air quality data generated as part of special studies (non-AQI data) with the public.



**Allegheny County Health Department**

**Air Monitoring Network Plan for Calendar Year 2023**

**June 9, 2022**

**Written Comments by Clean Air Council**

*via e-mail:* [david.good@alleghenycounty.us](mailto:david.good@alleghenycounty.us)

Clean Air Council (“the Council”) submits these written comments regarding the Allegheny County Health Department’s proposed Air Monitoring Network Plan for Calendar Year 2023, dated May 10, 2022 (“Proposed Plan”).

The Council is a non-profit environmental health organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania, 19103. The Council also maintains an office in Pittsburgh. The Council has been working to protect everyone’s right to a clean environment for over 50 years. The Council has members throughout the Commonwealth who support its mission.

In May 2022, the Department published a press release setting a deadline of 4:30 p.m. on June 9, 2022 for the submission of comments. The Council submits these comments on the Proposed Plan located here: <https://www.alleghenycounty.us/Health-Department/Resources/Data-and-Reporting/Air-Quality-Reports/Air-Quality-Reports-and-Studies.aspx>.

### List of Attachments

<b>Attachment 1</b>	Allegheny County Health Department’s 2020 Air Monitoring Network Plan (excerpts), pages 85, 93, <i>available at</i> <a href="https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2021-ANP.pdf">https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2021-ANP.pdf</a>
<b>Attachment 2</b>	U.S. Geological Survey, US Topo (The National Map), Ambridge Quadrangle Pennsylvania, 7.5-Minute Series (excerpt), <i>available at</i> <a href="https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02">https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02</a>
<b>Attachment 3</b>	U.S. Geological Survey, US Topo (The National Map), Emsworth Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series (excerpt), <i>available at</i> <a href="https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02">https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02</a>
<b>Attachment 4</b>	U.S. Geological Survey, US Topo (The National Map), Pittsburgh West Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series (excerpt), <i>available at</i> <a href="https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02">https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02</a>
<b>Attachment 5</b>	Indiana 2023 Ambient Air Monitoring Network Plan (July 1, 2022)
<b>Attachment 6</b>	Indiana Department of Environmental Management, Emissions Summary Data, <a href="https://www.in.gov/idem/airquality/reporting/emissions-summary-data/">https://www.in.gov/idem/airquality/reporting/emissions-summary-data/</a> (click “XLXS”)
<b>Attachment 7</b>	Michigan Department of Environment, Great Lakes, and Energy, Annual Ambient Air Monitoring Network Review (July 1, 2021)

## Comments

### **1. The Department Should Conduct Monitoring for Volatile Organic Compounds On and Near Neville Island.**

Last year, the Council and other organizations submitted a comment that the Department should conduct monitoring for volatile organic compounds on and near Neville Island. In response, the Department stated that it was considering doing so:

#### **5. The Department should monitor volatile organic compounds on and near Neville Island.**

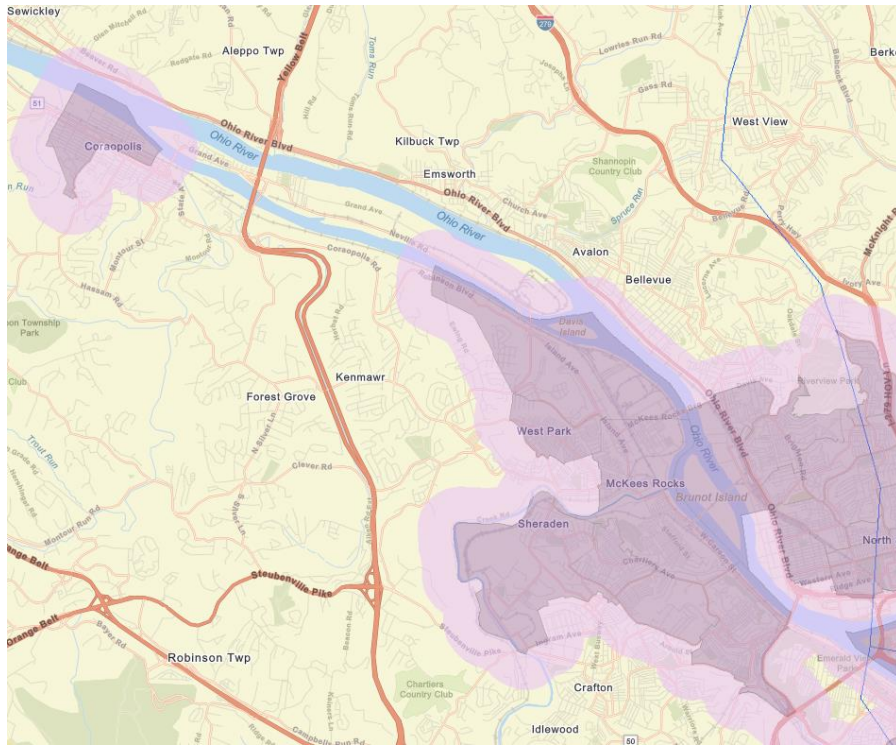
**Response:** The Department is considering additional air toxics surveillance in the Neville Island area. Previous VOC surveillance at the Avalon station downwind of Neville Island included regular canister sampling performed via EPA's TO-15 compendium method and BTEX sampling via coconut charcoal tubes. A 2-year study using passive VOC sampling took place from 2015-2017 and coincided with the shutdown on Shenango Coke Works in 2016.

See Allegheny County Health Department, Air Monitoring Network Plan for Calendar Year 2022 (January 11, 2021), Response to Comments, page 98.

[https://www.alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf](https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf) (highlighting added for emphasis). But there is nothing in the Proposed Plan that speaks to monitoring for volatile organic compounds on and near Neville Island. There has been a longstanding need for such air monitoring. The monitoring that the Department performed in 2015-2017 was deficient, and five years have passed since that time. Because there is a continuing need for such monitoring, the Council is repeating and revising its comment from last year.

There are a number of good reasons for the Department to undertake monitoring for volatile organic compounds on or near Neville Island. Neville Island is a densely populated area with a population of about 1,044. See U.S. Census Bureau, Annual Estimates of the Resident Population for Minor Civil Divisions, by County: April 1, 2010 to July 1, 2019, <https://www.census.gov/data/datasets/time-series/demo/popest/2010s-total-cities-and-towns.html> (estimating population of 1,044 in 2019, in spreadsheet for Pennsylvania).

There are a number of environmental justice areas to the southwest in Coraopolis and to the southeast:




See PA Environmental Justice Viewer, <https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c> (image downloaded June 8, 2022).

It is true that the Department now proposes to move the NCORE station from Lawrenceville to 836 Fulton Street (in the Manchester neighborhood), and the Lawrenceville monitor has monitored for volatile organic compounds in the past. *See Proposed Plan*, pages 12, 38. But monitoring for volatile organic compounds in the Manchester neighborhood would not suffice for air toxics monitoring for Neville Island. Moreover, that monitor would be nestled to the east and north of PA 65 (a state road running from north to south, and then curving to the east), picking up emissions from that transportation corridor and other local emissions. As discussed below, the air toxics monitoring that was conducted by the Department in 2015-2017 to the northeast of Neville Island was deficient. An NCORE station further to the east of those deficient monitoring locations would not compensate for the deficiencies.


There are a number of sources of volatile organic compounds on Neville Island even after the closure of the Shenango coke facility. According to the Department of Environmental Protection, reported emissions of volatile organic compounds exceeded 47 tpy in 2020:

1. Neville Island Terminals (at least 19 tpy of volatile organic compounds):

		BUREAU OF AIR QUALITY Air Emission Report						07-JUN-22 04.01 AM Last Refresh Time		
Year	County	Municipality	DEP Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)
2020	Allegheny	eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	VOC	19.39510
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	Hexane	0.30230
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	Toluene	0.28150
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	Benzene	0.19920
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	2,2,4-Trimethylpentane	0.14090
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	m-Xylene	0.10230
		eville	SouthWest	213478	NEVILLE ISLAND TERM DE	PGH TERM CORPINEVILLE ISLAND TERM	424710	Process	Polycyclic Organic Matter	0.00900

See [http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air Emissions Report](http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report) (image downloaded June 8, 2022).


2. Lindy Paving (at least 12 tpy of volatile organic compounds):

		BUREAU OF AIR QUALITY Air Emission Report						07-JUN-22 04.01 AM Last Refresh Time		
Year	County	Municipality	DEP Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)
2020	Allegheny	SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Carbon Dioxide		9,999.78350
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Total Suspended Particulate		241.59100
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	CO		20.28460
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	VOC		12.41640
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	NOX		8.79130
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	PM10		4.61040
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Methane		3.59460
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	PM2.5		1.41900
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Particulate Matter, Condensable		1.27240
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	SOX		1.01840
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Formaldehyde		0.92800
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Hexane		0.27540
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Benzene		0.11670
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Xylenes (isomers And Mixture)		0.02990
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Ethyl Benzene		0.02250
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Ethylbenzene		0.02250
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Toluene		0.01500
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Ammonia		0.00320
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Nitrous Oxide		0.00220
		SouthWest	27190	LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Process	Lead		0.00040

See *id.*




3. Gottlieb (at least 8 tpy of volatile organic compounds):

		BUREAU OF AIR QUALITY Air Emission Report						07-JUN-22 04.01 AM Last Refresh Time	
Year	County	DEP Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)
2020	Allegheny	SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Carbon Dioxide	1,175.93590
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Carbon Dioxide	771.00000
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	CO	15,542.10
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	NOX	14,527.80
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	VOC	8,417.40
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Total Suspended Particulate	7,800.00
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	SOX	1,444.40
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	NOX	0.94100
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	PM10	0.58760
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	CO	0.53850
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	PM2.5	0.33900
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Hydrochloric Acid	0.05350
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	VOC	0.03530
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Methane	0.02220
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Hexane	0.01760
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Hydrogen Fluoride (Hydrofluoric Acid)	0.01670
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Methane	0.01450
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Hexane	0.01150
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Ammonia	0.00460
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	SOX	0.00380
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Ammonia	0.00310
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Particulate Matter, Condensable	0.00310
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Nitrous Oxide	0.00220
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Particulate Matter, Condensable	0.00210
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Nitrous Oxide	0.00150
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	PM10	0.00130
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	PM2.5	0.00070
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Process	Formaldehyde	0.00070
		SouthWest	210590	GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Combustion Unit	Formaldehyde	0.00050

See id.

4. Metallico (at least 8 tpy of volatile organic compounds):

		BUREAU OF AIR QUALITY Air Emission Report						07-JUN-22 04.01 AM Last Refresh Time	
Year	County	DEP Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)
2020	Allegheny	SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	Carbon Dioxide	41,700.00
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	VOC	8,200.00
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	Particulate Matter, Condensable	6,800.00
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	PM10	6,800.00
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	PM2.5	6,800.00
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	SOX	0.30000
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	Hazardous Air Pollutants	0.20000
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	NOX	0.10000
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	PM10	0.02230
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	PM2.5	0.02230
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	CO	0.00900
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	VOC	0.00230
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Combustion Unit	Ammonia	0.00140
		SouthWest	265000	METALICO NEVILLE INC	METALICO/NEVILLE ISLAND	423930	Process	Lead	0.00030

See id.

In addition, there are significant sources of volatile organic compounds in Coraopolis, which lies to the west of Neville Island. According to the Department of Environmental Protection's air emissions inventory, reported emissions of volatile organic compounds exceeded 55 tpy in 2020:

1. Coraopolis Terminals (34 tpy of volatile organic compounds):

Year		County		BUREAU OF AIR QUALITY Air Emission Report							07-JUN-22 04.01 AM Last Refresh Time	
Year	County	Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)			
2020	Allegheny	S	213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Carbon Dioxide	178.35890			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	VOC	34.48070			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Carbon Dioxide	17.19140			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Toluene	0.53710			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Hexane	0.53590			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Benzene	0.26680			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	m-Xylene	0.25920			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	2,2,4-Trimethylpentane	0.24700			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	NOX	0.14880			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	CO	0.12330			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	VOC	0.03300			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	SOX	0.02280			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Polycyclic Organic Matter	0.01570			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	NOX	0.01530			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Particulate Matter, Condensable	0.00840			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	VOC	0.00810			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Ammonia	0.00470			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	CO	0.00330			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Methane	0.00300			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	PM10	0.00280			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	PM2.5	0.00230			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Total Suspended Particulate	0.00280			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Hexane	0.00250			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	PM10	0.00180			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Total Suspended Particulate	0.00150			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	PM2.5	0.00120			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Particulate Matter, Condensable	0.00100			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	SOX	0.00090			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Methane	0.00070			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Ammonia	0.00060			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Combustion Unit	Nitrous Oxide	0.00030			
			213478	NEVILLE ISLAND TERM DE	PGH TERM CORP/CORAOPOLIS TERM	424710	Process	Nitrous Oxide	0.00010			

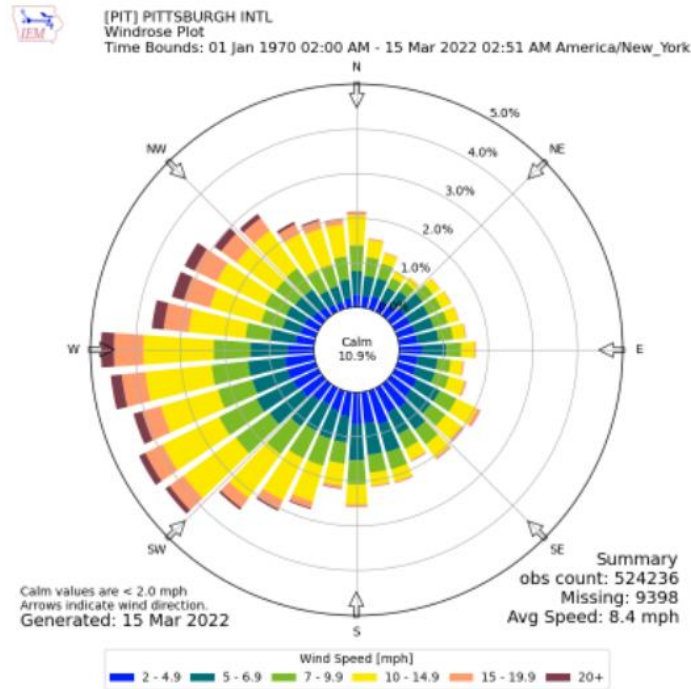
See id.

2. Pittsburgh International Airport (21 tpy of volatile organic compounds):

Year		County		BUREAU OF AIR QUALITY Air Emission Report							07-JUN-22 04.01 AM Last Refresh Time	
Year	County	Region	Client ID	Client Name	Facility Name	NAICS Code	Source Type	Pollutant	Emission Amt(In Tons)			
2020	Allegheny	West	90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Carbon Dioxide	9.878.99580			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	VOC	20.31070			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	NOX	8.23700			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Carbon Dioxide	6.75730			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	CO	6.73900			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Methanol	5.02460			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	PM10	2.02280			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	PM2.5	1.74510			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	VOC	0.80300			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Particulate Matter, Condensable	0.45440			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Total Suspended Particulate	0.23500			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	NOX	0.19490			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Methane	0.16480			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	PM10	0.16050			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	PM2.5	0.16050			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Lead	0.14550			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Trichloroethylene	0.11100			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Naphthalene	0.09570			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	SOX	0.05100			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Toluene	0.05010			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	CO	0.04420			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Glycol Ethers	0.02370			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Combustion Unit	Nitrous Oxide	0.02100			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Xylenes (Isomers And Mixture)	0.02050			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Total Suspended Particulate	0.01280			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	1,2-Ethanedithiol	0.00810			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Ethyl Benzene	0.00580			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Methylene Chloride (Dichloromethane)	0.00330			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Methane	0.00310			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	SOX	0.00290			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Styrene	0.00180			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	0.00160			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Hexane	0.00090			
			90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Tetrachloroethylene (Perchloroethylene)	0.00090			
90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Nitrous Oxide	0.00050						
90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Particulate Matter, Condensable	0.00030						
90176	ALLEGHENY CNTY AIRPO...	ALLEGHENY CNTY AIRPORT AUTH/PGH I...	481111	Process	Ethylene Dichloride (1,2-Dichloroethane)	0.00010						

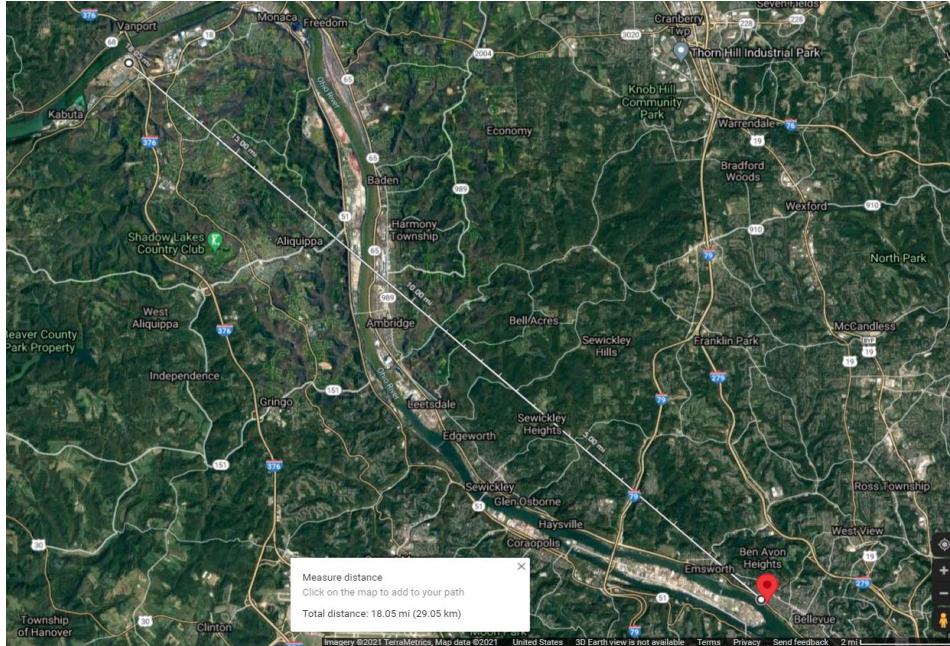
See id.

The long-term wind rose for Pittsburgh International Airport demonstrates a propensity of prevailing winds to blow from Coraopolis to Neville Island:



See [https://mesonet.agron.iastate.edu/sites/windrose.phtml?network=PA\\_ASOS&station=PIT](https://mesonet.agron.iastate.edu/sites/windrose.phtml?network=PA_ASOS&station=PIT).

While located a greater distance away (18 miles to the northwest), the Shell ethane cracker has an emissions limitation for volatile organic compounds that far exceeds the emissions of all these other facilities:



See Google Map,

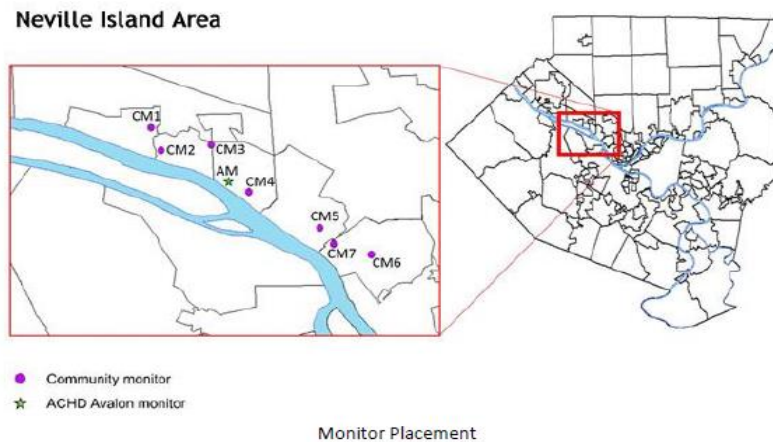
<https://www.google.com/maps/place/40%C2%B029'59.2%22N+80%C2%B004'16.8%22W/@40.5963721,-80.2881382,24697m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.499767!4d-80.071337> (image retrieved on August 2, 2021). That facility has an annual emissions limit of 516.2 tpy for VOC and 32.0 tpy for hazardous air pollutants. See Plan Approval No. 04-00740C, dated February 18, 2021, Condition #005, page 16, [https://files.dep.state.pa.us/RegionalResources/SWRO/SWROPortalFiles/Shell/2.18.21/PA-04-00740C\\_Permit.pdf](https://files.dep.state.pa.us/RegionalResources/SWRO/SWROPortalFiles/Shell/2.18.21/PA-04-00740C_Permit.pdf).

Nearly two years ago, the Department rejected a request by Allegheny County Clean Air Now (ACCAN) for the installation of monitors for volatile organic compounds. See Attachment 1 -- Allegheny County Health Department, Air Monitoring Network Plan for 2021 (July 1, 2020) (highlighted excerpts), pages 85, 93, available at [https://alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/2021-ANP.pdf](https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2021-ANP.pdf). The rationale was that the Department had already performed an air toxics study, and that the results were low:

***The Department acknowledges the quantity of VOC point source emissions on or around Neville Island. However, VOC monitoring at the Avalon site was discontinued in December 2018 due to low uniform results. The Department does not plan on resuming VOC monitoring at the Avalon site at this time. A more extensive air toxics study that measured for VOC was performed around Neville Island between 2015 and 2017. The results of that study are posted on the website here: [https://alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/Neville-Area-Air-Toxics-Study.pdf](https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/Neville-Area-Air-Toxics-Study.pdf).***

*Id.*, page 85 (bold italics added for emphasis). But this rationale is not sufficient, for several reasons.

First of all, the Department never actually installed a monitor in Neville Island. Rather, the Department installed monitors in an array surrounding the location of the existing Avalon monitor on the north bank of the Ohio River:



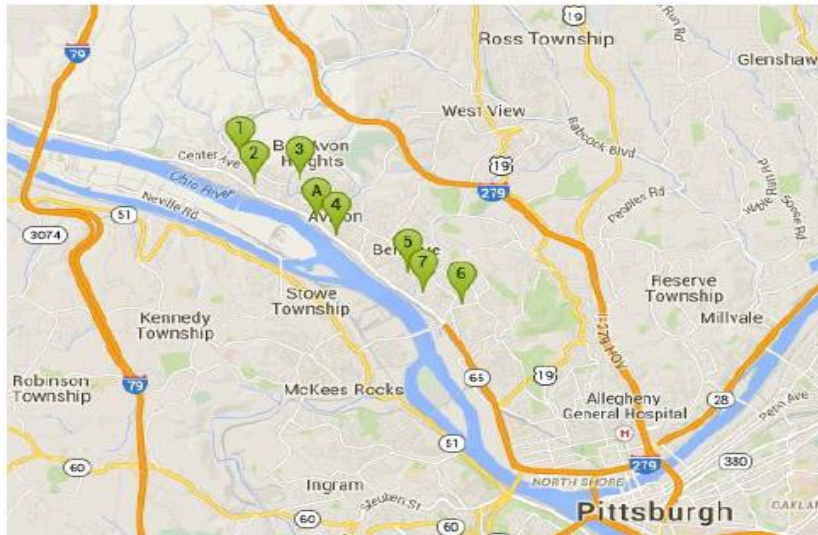
Neville Island Area Air Toxics Study

4

See Allegheny County Health Department, Neville Island Area Air Toxics Study Monitoring and Health Outcomes, page 4 (April 2015), [https://alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/Neville-Area-Air-Toxics-Study.pdf](https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/Neville-Area-Air-Toxics-Study.pdf). This may also be shown on another map in this report:

### Data / Lab Analysis Tables

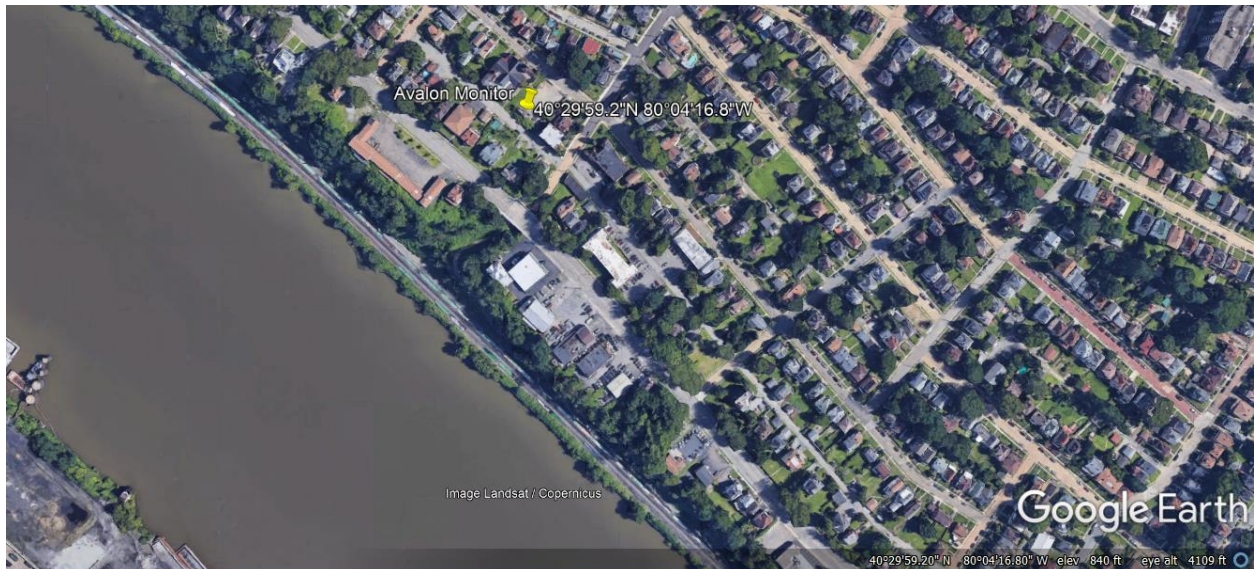
Below is a map indicating the various monitoring stations. Values for each of the focus pollutants are listed by table on the following pages for each of the monitoring locations.



*See id.*, page 9. From these maps, it is clear that monitors were not placed on the southern bank of the Ohio River, either.

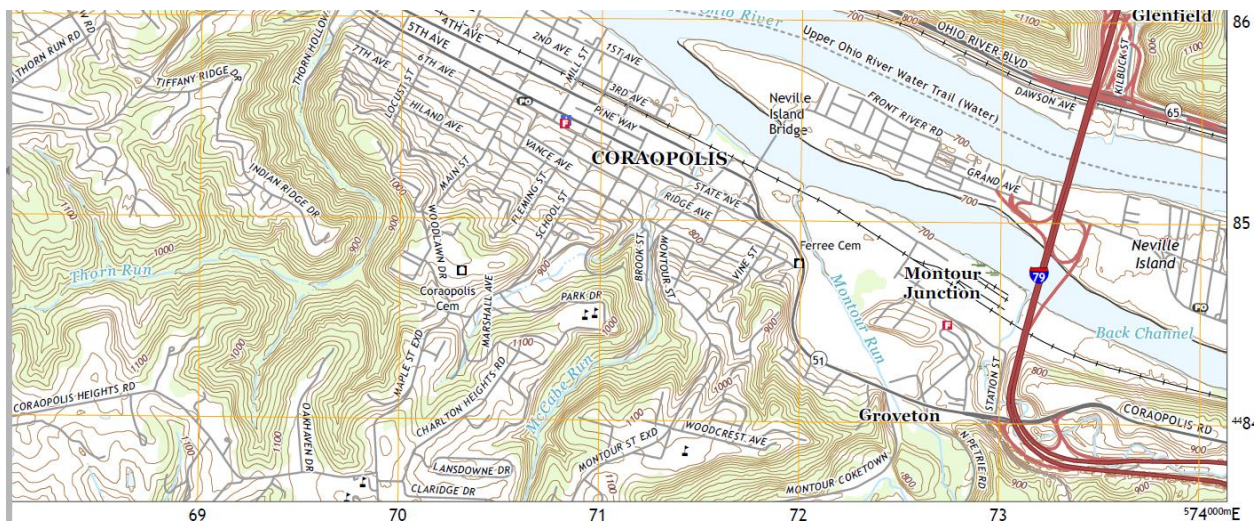
Second, the Department did not conduct monitoring for all volatile organic compounds. Rather, it limited its monitoring to seven hazardous air pollutants (benzene, toluene, ethylbenzene, xylenes, naphthalene, styrene, and n-hexane). *See id.*, pages 4, 12-33 (data tables). Presumably, the motivation for this study was the existence of the Shenango coke facility, which has now been closed for several years. But the context has now changed.

Third, the monitors on the north shore of the Ohio River were also located at elevations greater than the elevations on Neville Island. This is evident from topographical maps. The monitor at Avalon is located at an elevation of about 840 feet:

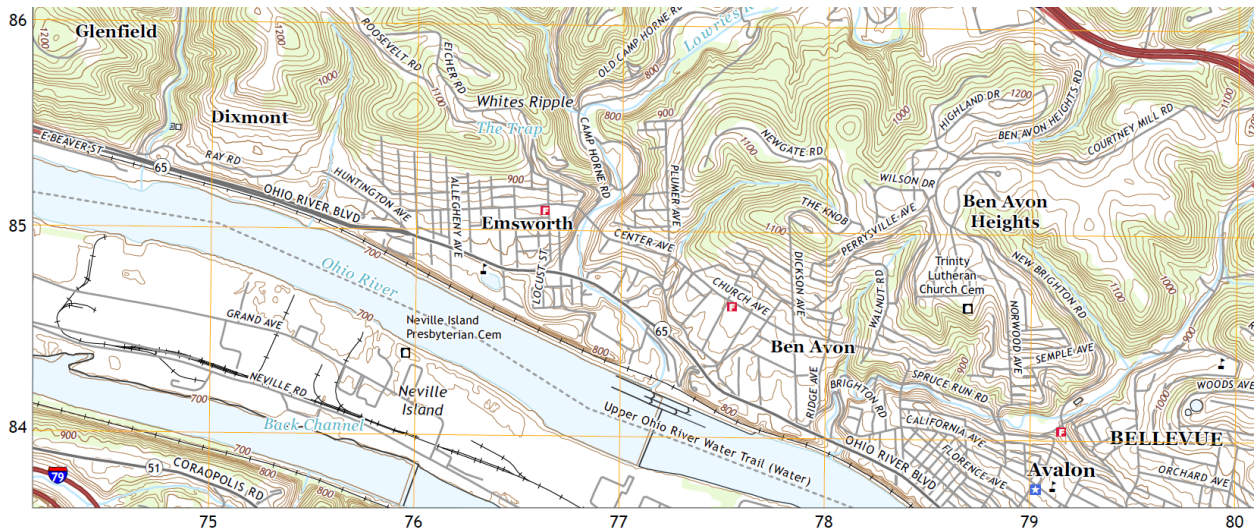


See Google Earth map of Location and Elevation of Avalon Monitor, prepared by Clean Air Council, August 8, 2021 (based on coordinates 40.499767, -80.071337 provided on page 64 of the Proposed Plan; elevation of 840 ft is noted at the bottom of the image).

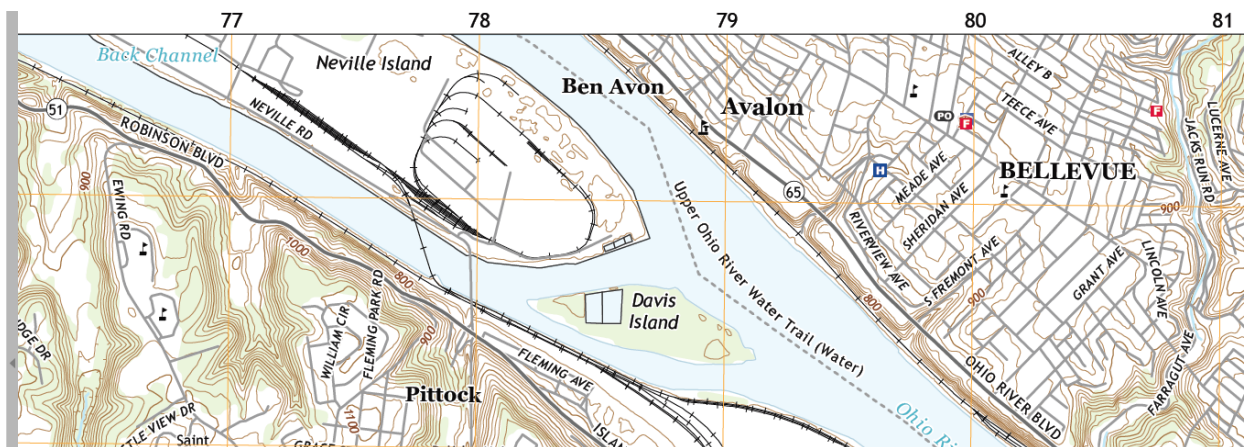
In contrast, topographic maps show elevations on Neville Island as low as 700 feet:



See Attachment 2 -- U.S. Geological Survey, US Topo (The National Map), Ambridge Quadrangle Pennsylvania, 7.5-Minute Series, available at <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02>.



See Attachment 3 -- U.S. Geological Survey, US Topo (The National Map), Emsworth Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series, available at <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02>.



See Attachment 4 -- U.S. Geological Survey, US Topo (The National Map), Pittsburgh West Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series, available at <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02>. (The scale (1: 24,000) and contour interval (20 feet) are the same for all three maps).

The Department should take a fresh look at monitoring for hydrocarbons on and near Neville Island, given the change in circumstances involving the closure of the Shenango facility and the permitting of the ethane cracker. In addition to conducting monitoring for hazardous air pollutants as was done in the past study, it should consider volatile organic compounds broadly. It should not limit the geographical location of monitors to one limited area on the northern bank of the Ohio River, and should install monitors on Neville Island and on the southern bank.

Finally, the Department should discuss what it has done, if anything, to follow-up on its response to ACCAN’s request that the wind speed/direction monitor be reinstalled:



In consideration of this comment, ***the Department will consider reconstructing the meteorological tower that houses the wind speed/direction sensors at the Avalon site.*** However, due to siting requirements and the current condition of the shelter, the Department cannot site/construct a replacement met tower until the existing shelter is removed from the site. The targeted removal date for the shelter will depend on the EPA's review and approval of the proposals in this document. ***The Department will notify ACCAN and others if/when a replacement met station is operational.***

See Attachment 1 -- Allegheny County Health Department's 2020 Air Monitoring Network Plan, page 85 (bold italics added for emphasis).

## **2. The Department Should Monitor Nitrogen Oxides (NO<sub>x</sub>) in the Mon Valley.**

Last year, the Council and other organizations submitted a comment that the Department should install a monitor for nitrogen oxides in the Mon Valley because that is where the concentrations are expected to be the highest, as required by the federal regulations. In response, the Department stated that it would “continue to consider additional air quality surveillance as resources and personnel become available,” as if this were a policy question rather than a legal question:

### **7. The Department should monitor nitrogen oxides (NO<sub>x</sub>) in the Mon Valley.**

**Response:** The Department is adding year-round True NO<sub>2</sub> surveillance at the Lawrenceville NCore monitoring station. Additional NO<sub>2</sub> surveillance in Allegheny County will be considered but was not recommended in the latest Five-Year Network Assessment (performed in 2020). The Department will continue to consider additional air quality surveillance as resources and personnel become available.

See Air Monitoring Network Plan for Calendar Year 2022 (January 11, 2021), Response to Comments, page 79, [https://www.alleghenycounty.us/uploadedFiles/Allegheny\\_Home/Health\\_Department/Resources/Data\\_and\\_Reporting/Air\\_Quality\\_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf](https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf) (highlighting added for emphasis). But this is not a question of whether resources and personnel are available. This is a question of following the federal regulations and placing a monitor where concentrations are expected to be the highest.

The Department does not conduct monitoring for nitrogen oxides in the Mon Valley, where the three U.S. Steel facilities are located. The Department should acknowledge that nitrogen oxides are a harmful air pollutant apart from being a precursor to ozone, and that they can and should be monitored in the Mon Valley, where there are significant emissions of nitrogen oxides from heavy industry.

Apparently, the Department does not conceive of nitrogen oxides as being a large problem with stationary sources. The Department uses its three nitrogen oxide monitors only to address mobile sources, plus light industry near the Lawrenceville monitor. In addition, they appear to be tied to an ozone strategy, rather than to a strategy to address nitrogen oxide emissions in their own right. See Proposed Plan, page 35, Section 10.1 (Lawrenceville), (“The most significant local pollution is generated from mobile sources, but light industry scattered throughout the area is also a contributing factor”), page 53, Section 10.5 (Harrison) (“This ozone monitoring site is positioned downwind of the Pittsburgh Central Business District and is expected to demonstrate maximum ozone concentrations. The nitrogen oxides monitor adds significant value to the ozone data and was upgraded to read True NO<sub>2</sub> concentrations in 2022.”), page 63, Section 10.9 (Parkway East) (“This location was approved by EPA as a near road monitoring site that measures population exposure to roadway emissions. Concentration data for CO and NO<sub>2</sub> are near network maximums.”).

But nitrogen oxides are a harmful pollutant in their own right, independent of ozone. See Final Rule, 75 Fed. Reg. 6473, 6479-6483 (February 9, 2010),

<https://www.govinfo.gov/content/pkg/FR-2010-02-09/pdf/2010-1990.pdf> (setting forth public health reasons in support of national ambient air quality standards for nitrogen oxide).

For a city like Pittsburgh with a population greater than 1,000,000, the regulations require at least one area-wide monitor to monitor a location of expected highest NO<sub>2</sub> concentrations:

#### 4.3.3 Requirement for Area-wide NO<sub>2</sub> Monitoring

(a) ***Within the NO<sub>2</sub> network, there must be one monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected highest NO<sub>2</sub> concentrations representing the neighborhood or larger spatial scales.*** PAMS sites collecting NO<sub>2</sub> data that are situated in an area of expected high NO<sub>2</sub> concentrations at the neighborhood or larger spatial scale may be used to satisfy this minimum monitoring requirement when the NO<sub>2</sub> monitor is operated year round. Emission inventories and meteorological analysis should be used to identify the appropriate locations within a CBSA for locating required area-wide NO<sub>2</sub> monitoring stations. CBSA populations shall be based on the latest available census figures.

See 40 C.F.R. part 58, Appendix D, Section 4.3.3 (bold italics added for emphasis). See also Final Rule, 75 Fed. Reg. 6516, col. 1 (“We are finalizing the requirement that any sites required as part of the second tier of the NO<sub>2</sub> monitoring network design, known as the area-wide monitoring component, ***be sited to characterize the highest expected NO<sub>2</sub> concentrations at the neighborhood and larger (area-wide) spatial scales in a CBSA.***”) (bold italics added for emphasis).

Given this legal standard, the Department should provide evidence demonstrating that the highest expected nitrogen oxide concentrations are not at some location in the Mon Valley near the Clairton Coke Works, Irvin Works, or Edgar Thomson Works. As a matter of law, it appears that there should be a monitor there.

Indeed, the emissions of nitrogen oxides from the three U.S. Steel facilities is tremendous. In 2020, total emissions were at least 2,186 tpy for Clairton Coke Works, 405 tpy for Irvin Works, and 284 tpy for the Edgar Thomson Works:

Year		County		BUREAU OF AIR QUALITY Air Emission Report							07-JUN-22 04.01 AM Last Refresh Time	
2020	Allegheny	Facility Name	NAICS Code	NAICS Desc	NAICS Category	Facility Type	Source Type	Pollutant	Emission Amt(In Tons)			
DEP Regi...		NAICS										
All		All										
NAICS Category		All										
Municipality		All										
Client Name		Multiple selections										
Facility Type		All										
Source Type		All										
Pollutant		NOX										
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	AEP - Air Emission Plant	Combustion Unit	NOX	2,127.82220			
		US STEEL CORP/IRVIN PLT	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	AEP - Air Emission Plant	Combustion Unit	NOX	408.38970			
		USS CORP/EDGAR THOMSON W...	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	AEP - Air Emission Plant	Combustion Unit	NOX	243.75910			
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	AEP - Air Emission Plant	Process	NOX	58.94370			
		USS CORP/EDGAR THOMSON W...	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	AEP - Air Emission Plant	Process	NOX	41.16010			

See [http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air\\_Emissions\\_Report](http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report).

By comparison, emissions of nitrogen oxides from the Cheswick Generating Station (near the Harrison monitor) were 510 tons in 2020 – less than one-fourth of emissions from the Clairton Coke Works:

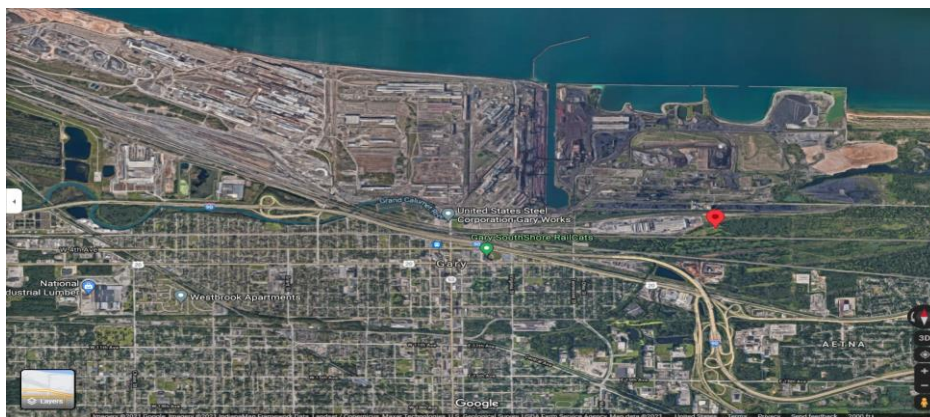
Year		County		BUREAU OF AIR QUALITY Air Emission Report							07-JUN-22 04.01 AM Last Refresh Time	
2020	Allegheny	Longitude	Facility Name	NAICS Code	NAICS Desc	NAICS Category	Facility Type	Source Type	Pollutant	Emission Amt(In Tons)		
DEP Regi...		NAICS										
All		All										
NAICS Category		All										
Municipality		Springdale										
Client Name		GENON POWER MIDWES...										
Facility Type		All										
Source Type		All										
Pollutant		NOX										
		-79.792222	NRG MIDWEST LP/CHESWICK	221112	Fossil Fuel Electric Power Generation	Utilities	AEP - Air Emission Plant	Combustion Unit	NOX	510.66320		

*See id.* Combined emissions from the Irvin Works and the Edgar Thomson Works were greater than emissions from the Cheswick Generating Station. Emissions from the Clairton Coke Works were over four times emissions from the Cheswick Generating Station. But there is a monitor for nitrogen oxides near the Cheswick Generating Station (Harrison site), but not in the Mon Valley.

Finally, it should be noted that the Cheswick Generating Station ceased operating on March 31, 2022. *See* Reid Frazier, Allegheny County’s last coal-fired power plant is closing (April 8, 2022), <https://stateimpact.npr.org/pennsylvania/2022/04/08/allegheny-countys-last-coal-fired-power-plant-is-closing/> (“Cheswick Generating Station’s last day of power generation was March 31.”).

Other states have maintained monitors for nitrogen oxide near coke facilities and other large industrial polluters. The State of Indiana has designated the Gary – IITRI (180890022) monitoring site as a Regional Administrator Required Monitor by the U.S. EPA, in order “to protect susceptible and vulnerable populations.” *See* Attachment 5 -- Indiana 2023 Ambient Air Monitoring Network Plan (July 1, 2022) (excerpts), page 32.

This map shows that the nitrogen oxides monitor is located close to the U.S. Steel facility in Gary, Indiana:

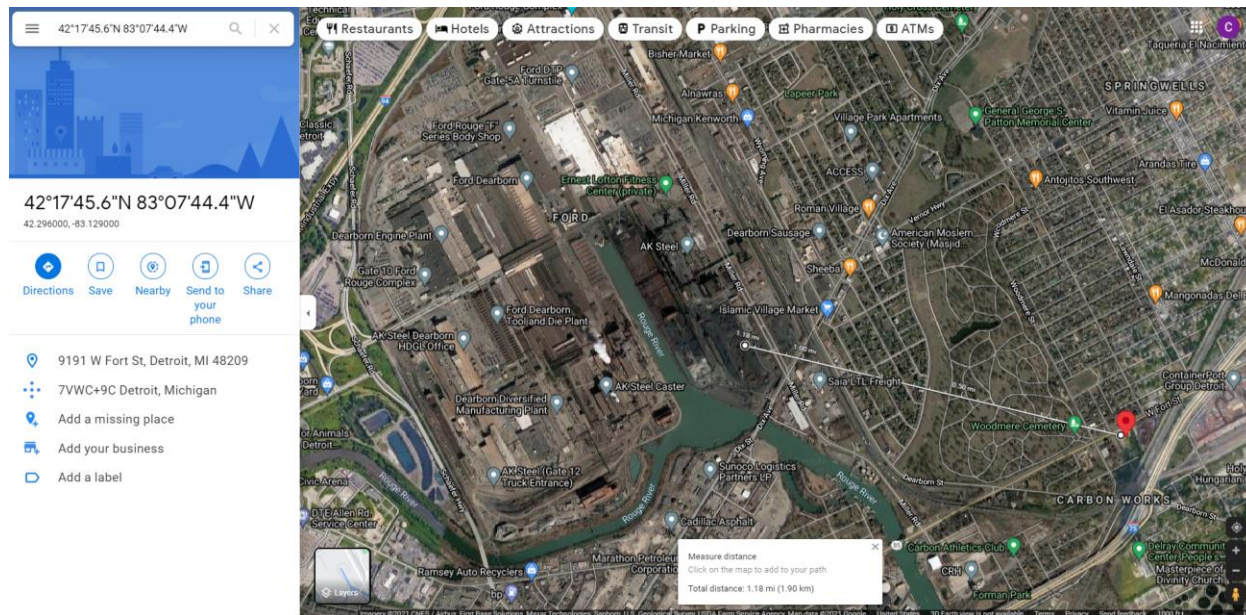


*See* Google Map, <https://www.google.com/maps/place/41%C2%B036'23.6%22N+87%C2%B018'18.1%22W/@41.6065634,-87.3225299,6080m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d41.606563!4d-87.305015> (image downloaded on August 4, 2021; red teardrop shows the monitor). *See also* Attachment 5 -- Indiana 2023 Ambient Air Monitoring Network Plan (excerpts), page 35, Table 4 – Oxides of Nitrogen (NO, NO<sub>2</sub>, NO<sub>y</sub>) Monitoring Network (setting forth coordinates of 41.606563, -87.305015 for the Gary - IITRI NO<sub>x</sub> monitor).

The amount of emissions of nitrogen oxides from the Gary Works in 2020 was 2,959 tons – which is just a little more than the nitrogen oxide emissions from the three U.S. Steel facilities in the Mon Valley (at least 2,186 tpy for Clairton Coke Works, 405 tpy for Irvin Works, and 284 tpy for the Edgar Thomson Works). *See* Attachment 6 -- Indiana Department of Environmental Management, Emissions Summary Data,

<https://www.in.gov/idem/airquality/reporting/emissions-summary-data/> (click “XLXS” for 2020). But Indiana has a NOx monitor nearby and the Department does not.

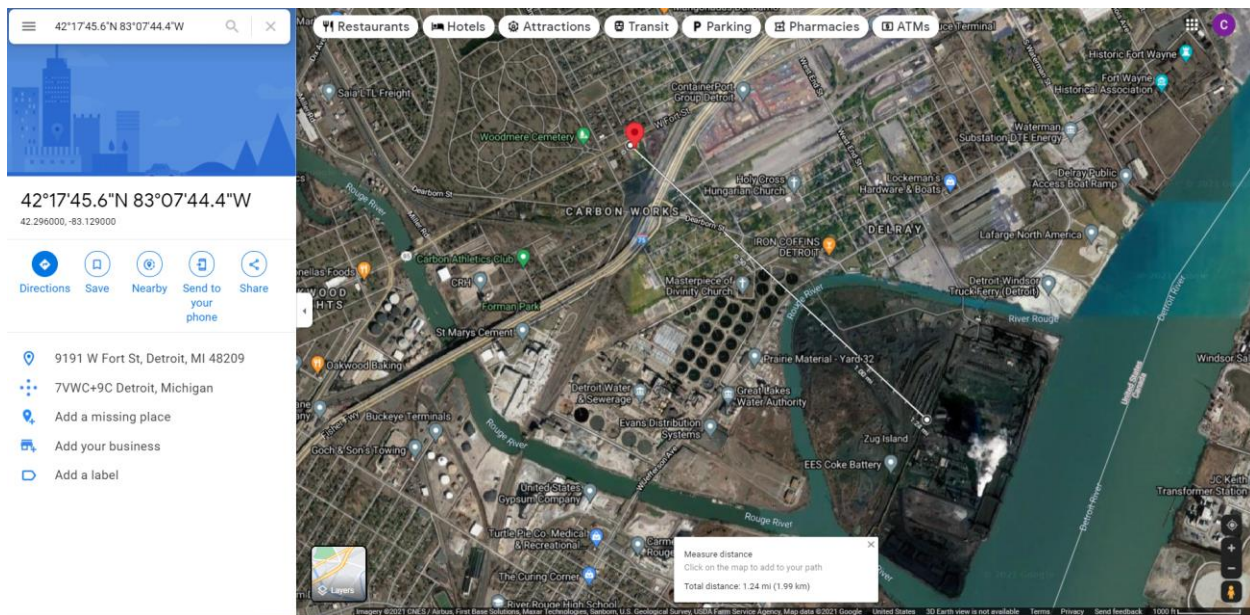
The State of Michigan has a monitor for nitrogen oxides a little over one mile from the AK Steel facility in Dearborn:



See Google Map,

<https://www.google.com/maps/place/42%C2%B017'45.6%22N+83%C2%B007'44.4%22W/@42.3014644,-83.1585465,3007m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d42.296!4d-83.129> (coordinates 42.296 -83.129 obtained from Michigan’s Annual Ambient Air Monitoring Network Review); *see also* Attachment 7 -- Michigan Department of Environment, Great Lakes, and Energy, Annual Ambient Air Monitoring Network Review (July 1, 2022), page 66 (Table 22: Michigan’s NO2 and NOY Monitoring Network) (setting forth coordinates of 42.296 -83.129 for the Trinity monitor at 9191 W. Fort St.), <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Reports/AOD/monitoring/2023-ambient-air-monitoring-network-review-draft.pdf>.

This same monitor is also located a little over mile from the EES Coke Battery facility on Zug Island:



See Google Map,

<https://www.google.com/maps/place/42%C2%B017'45.0%22N+83%C2%B007'46.0%22W/@42.2901491,-83.1393158,3007m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d42.2958333!4d-83.1294444>.

Similarly, it makes sense for the Department to install a nitrogen oxide monitor in the Mon Valley, near multiple facilities in the steel and coke industries. In fact, there does not appear to be any reason not to do so.

But again, this is not just a policy question. The Department has failed to show that has met its regulatory obligation “to monitor a location of expected highest NO<sub>2</sub> concentrations representing the neighborhood or larger spatial scales.” See 40 C.F.R. part 58, Appendix D, Section 4.3.3.

**3. The Department should retain additional monitoring in the Lawrenceville community, at the same time that it relocates existing monitors to a new office in the Manchester neighborhood.**

After conducting its work in Lawrenceville for decades, the Department is proposing to move its NCORE station from Lawrenceville to 836 Fulton Street in the Manchester neighborhood. *See* Proposed Plan, pages 12, 38. This will leave a large swath of territory in Allegheny County uncovered by the air monitoring network. Given the terrain, it is presumed that the monitor at North Braddock will not suffice to record conditions in the Lawrenceville community. Given its longstanding presence and commitment of monitors to the Lawrenceville community, the Department should continue to conduct air monitoring at that location even after it relocates the NCORE station to the Manchester neighborhood.

This would be consistent with the guidance document of the Environmental Protection Agency, which seeks variation among monitored data within an air monitoring network:

*Monitor-to-Monitor Correlation*

Concentrations measured at one monitor are compared to concentrations measured at other monitors to determine if concentrations correlate temporally. Monitor pairs with correlation coefficient values near one are highly correlated and should be ranked lower than those with correlation coefficient values near zero. **Monitors that do not correlate well with other monitors exhibit unique temporal concentration variation relative to other monitors and are likely to be important for assessing local emissions, transport, and spatial coverage.** Monitors with concentrations that correlate well (e.g.,  $r^2 > 0.75$ ) with concentrations at another monitor may be redundant. This analysis should be performed for each pollutant.

*See* Environmental Protection Agency, Ambient Air Monitoring Network Assessment Guidance, Analytical Techniques for Technical Assessments of Ambient Air Monitoring Networks (EPA-454/D-07-001 February 2007), page 3-2, <https://www.epa.gov/sites/default/files/2020-01/documents/network-assessment-guidance.pdf> (highlighting added for emphasis).

Thank you for your consideration of the comments of the Council.



---

Joseph Otis Minott, Executive Director and Chief Counsel  
Christopher D. Ahlers, Staff Attorney  
Clean Air Council  
135 S. 19th St., Suite 300  
Philadelphia, PA 19103  
Phone: (215) 567-4004 x116  
[joe\\_minott@cleanair.org](mailto:joe_minott@cleanair.org)  
[cahlers@cleanair.org](mailto:cahlers@cleanair.org)



**From:** [Angelo Taranto](#)  
**To:** [Good, David](#)  
**Cc:** [Ana Hoffman](#); [Chris Ahlers](#)  
**Date:** Thursday, June 9, 2022 4:27:56 PM  
**Attachments:** [ACCAN Dr. Bogen Monitor Letter with Endorsements Final 3-3-2021-kg.docx](#)

---

**Warning! This email was sent from an external source. Please be sure you recognize the sender and use caution when clicking on links and/or opening attachments.**

David Good, Allegheny County Health Department, Air Quality Program,

Dear David,

1. In the comments of Clean Air Council and other organizations on the 2022 Monitoring Network Plan, they said "The Department should monitor volatile organic compounds on and near Neville Island." ACHD Air Quality Program staff responded:

*5. Response: The Department is considering additional air toxics surveillance in the Neville Island area. Previous VOC surveillance at the Avalon station downwind of Neville Island included regular canister sampling performed via EPA's TO-15 compendium method and BTEX sampling via coconut charcoal tubes. A 2-year study using passive VOC sampling took place from 2015-2017 and coincided with the shutdown on Shenango Coke Works in 2016.*

Clearly the 2015-2017 sampling data are outdated, and yet we do not see the Department's consideration of additional air toxics surveillance in the Neville Island area included in the 2023 Monitoring Network Plan Draft.

**We request an Air Toxics and Odor Study in the Neville Island Area to be incorporated into the 2023 Monitoring Network Plan.**

In a March 3, 2021 letter (see attached) to ACHD Executive Director, Dr. Debra Bogen, ACCAN requested an Air Toxics and Odor Study in the Neville Island Area. Relating to the request in that letter, here are our comments, repeated from our 2022 Monitoring Network Plan comments:

**ACCAN requests that the Health Department include in the 2023 Air Monitoring Plan a special study project to conduct a comprehensive air toxics and odor study in the Neville Island area. Many other area environmental organizations strongly endorse ACCAN's request for this robust monitoring. (The list of organizations is included in the attached letter.) Our specific requests concerning additional air monitoring in our airshed are:**

- a. That ACHD commit to additional air monitoring for VOCs and Hazardous Air Pollutants in the Neville Island area in 2023.**
- b. That ACHD begin planning for this monitoring in 2023 and that they include ACCAN in the planning in regular meetings with the Air Quality Program staff.**
- c. That ACHD deploy some monitors at spot locations in 2023 based, in part, on data from the ACCAN monitoring network and our recommendations. ACCAN monitoring data is available to help identify the most useful locations for monitors.**

**ACCAN members commit to working with ACHD to provide enhanced monitoring in our airshed.**

2. We submitted the following comments for the 2021, and 2022 Air Monitoring Plan. We are resubmitting them for the 2023 Air Monitoring Plan because we believe the current PM monitor in Avalon does not meet all of the monitoring needs in the heavily industrialized Neville Island airshed.

**While the Shenango coke works has closed, there are many other pollution sources on Neville Island that generate air pollution that impacts Neville Island and neighboring communities. In 2018, we identified twenty-seven major and minor sources of air pollution either on Neville Island or in close proximity to it. In addition to the PM 2.5 monitors which ACHD will have at Avalon, ACCAN requests that the wind speed/direction monitor be reinstalled and also requests that VOC and Ozone monitors be installed there. There are many industries on Neville Island that emit VOCs.**

Sincerely,

Angelo Taranto, Secretary/Treasurer, ACCAN



# ALLEGHENY COUNTY

ALWAYS INSPIRING

**FOR IMMEDIATE RELEASE**

May 10, 2022

**Contact:** Neil Ruhland  
Public Health Information Officer  
412-578-8312 (office)  
412-339-7995 (cell)  
[Neil.Ruhland@AlleghenyCounty.us](mailto:Neil.Ruhland@AlleghenyCounty.us)

## Health Department Seeks Comment on Annual Air Monitoring Network Plan

**PITTSBURGH** – The Allegheny County Health Department (ACHD) is requesting written public comment on its draft [2023 Air Monitoring Network Plan](#), an annual report which provides a detailed description of how and where air pollution is monitored in Allegheny County.

Air Monitoring Network Plans are required by the U.S. Environmental Protection Agency (EPA). The plan provides the specific location of each monitoring station, siting criteria, monitoring methods and objectives, frequency of sampling, pollutants measured at each station and aerial photographs showing their physical location.

The 2023 plan is substantially similar to the [2022 Air Monitoring Network Plan](#) except for the proposed move to the air monitoring station from the Clack Campus to Fulton Street. A summary of all proposed changes may be found in the Executive Summary of the draft plan, beginning on page six.

The county's air monitoring network includes nine locations within the county: Avalon, Clairton, Flag Plaza, Glassport, Harrison, Lawrenceville, Liberty, North Braddock, Parkway East (Wilkinsburg) and South Fayette. One or more of the following pollutants is measured at each site: sulfur dioxide, carbon monoxide, nitrogen oxides, total reactive nitrogen, ozone, PM<sub>10</sub>, PM<sub>2.5</sub>, and air toxics.

Comments will be accepted until 4:30 p.m. on June 9, 2022, and may be submitted via e-mail to [david.good@alleghenycounty.us](mailto:david.good@alleghenycounty.us) or by mail to:

Allegheny County Health Department  
Attention: David D. Good  
Air Quality Program  
301 39th Street  
Pittsburgh, PA 15201

All correspondence must include first and last name and a complete mailing address.

For more information regarding the department's air quality efforts, visit the [Air Quality page](#) of the Health Department website.

###

Debra L. Bogen, MD, Director  
**Allegheny County Health Department – Public Information Office**  
542 Fourth Avenue | Pittsburgh, PA 15219  
Phone: 412-687-ACHD (2243) | Fax: 412-578-8325  
[www.alleghenycounty.us/healthdepartment](http://www.alleghenycounty.us/healthdepartment)

---

Follow us: [allegheny alerts](#) | [facebook](#) | [instagram](#) | [linkedin](#) | [twitter](#) | [youtube](#)