

COUNTY OF



ALLEGHENY

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COUNTY EXECUTIVE

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

Air Monitoring Network Plan for Calendar Year 2022

January 11, 2022



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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
Section Chief, Air Monitoring

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:

- Addition of National Air Toxics Trends Station Monitoring to Lawrenceville site
 - Monitor for VOC, carbonyls, PAHs, and PM10 metals
- Addition of Photochemical Assessment Monitoring Station to Lawrenceville site
 - Monitor for hourly VOC, carbonyls, true NO₂, and hourly mixing height
- Addition of Enhanced Monitoring Plan network-wide
- Addition of T640x monitor to Lawrenceville site for continuous PM_{2.5/10/coarse} monitoring
- Removal of the sulfur dioxide monitor at Avalon site
- Removal of filter-based PM₁₀ monitors at Manchester, Liberty, and South Fayette
- Removal of North Park monitoring site (PM_{2.5} monitor)
- Removal of Lincoln monitoring site (PM₁₀ monitor)
- Removal of collocated PM_{2.5} FRM QA monitor at Lawrenceville site
- Reduced sampling frequency of collocated PM_{2.5} QA monitor at Liberty site
- Relocation of QA PM_{2.5} FRM monitor from Avalon to Parkway East site
- Relocation of hydrogen sulfide monitor from Avalon to North Braddock site
- Relocation of CO monitor from Flag Plaza to North Braddock site

- Relocation of VOC and carbonyls sampling from Flag Plaza to Lawrenceville site

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

- Addition of continuous PM_{2.5} monitors at North Braddock, Clairton, South Fayette, and Harrison sites.
- Addition of hydrogen sulfide monitoring at Clairton site.
- Addition of PM₁₀ monitoring at Lawrenceville site.
- Addition of a non-regulatory, multi-pollutant community monitoring network for Allegheny County (20-30 additional monitors).
- Redesign of the Liberty monitoring station in response to site access restrictions
- Removal of PM₁₀ monitoring from Flag Plaza
- Removal of PM₁₀ monitoring from Clairton Site
- Relocation of SO₂ monitor from South Fayette to Clairton site

PLAN APPROVAL

The air monitoring network plan for calendar year 2022 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

1) Signature:

Jayne Graham - Program Manager

2) Signature:

Dean DeLuca - Program Manager

3) Signature:

David D. Good - Monitoring Section Chief

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 2022 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 FRM, FEM, and ARM monitors that are part of SLAMS, NCORE, CSN, PAMS, and 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_{2.5} NAAQS. The EPA Regional Administrator has 120 days to approve or disapprove the plan.
3. A plan for making Photochemical Assessment Monitoring Stations (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 for O₃ 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_{2.5} 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 NO₂ monitors as near-road, area-wide, or vulnerable and susceptible population monitors.
11. The identification of any PM_{2.5} 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 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.
- **PM₁₀ Metals** using a HI-VOL PM₁₀ sampler and quartz fiber filters via EPA Compendium Method IO-3.5.

2.1.2 Photochemical Assessment Monitoring Station (PAMS)

ACHD has adopted the PAMS network design criteria as contained in 40CFR58, Appendix D, Section 5. PAMS monitoring is required at NCORE sites in Core Based Statistical Areas (CBSAs) with a population of 1,000,000 people or more. The Lawrenceville NCORE site meets the requirements for mandatory expansion to a PAMS air monitoring site. ACHD began making PAMS measurements at the NCORE location by June 1, 2021.

The PAMS monitoring season is three months long (June, July and August). PAMS measurements include:

- **Hourly Volatile Organic Compounds** using a specifically designed dual column gas chromatograph.
- **Carbonyls** using DNPH cartridge sampling via EPA Compendium Method TO-11A. Required sampling frequency is every three days at 8-hour intervals.
- **True NO₂ (continuous)** using cavity attenuated phase shift technology that eliminates interference from other oxides of nitrogen species. This monitor has USEPA equivalent method designation for ambient NO₂ monitoring.

- **Hourly Mixing Height** using a ceilometer, an instrument that employs an upward facing laser coupled with a lidar receiver to determine atmospheric mixing height on an hourly basis.
- **Meteorological Monitoring** using atmospheric pressure, precipitation, solar radiation and UV radiation sensors. Wind speed, wind direction, ambient temperature and relative humidity are also required, but are currently operated as an NCORE monitoring site requirement.

2.1.3 Enhanced Monitoring Plan (EMP)

Ozone is a regional pollutant, and Pennsylvania is part of the Ozone Transport Region (OTR), a group of northeast states from Virginia to Maine that are jointly addressing the ozone problem. As required in 40CFR58, Appendix D, Section 5(h), states in the OTR must develop an Enhanced Monitoring Plan (EMP) detailing enhanced O₃ and O₃ precursor monitoring activities to be performed. At a minimum, the EMP shall be reassessed and approved as part of the 5-year network assessments required under 40 CFR 58.10(d).

An effective EMP must involve the cooperation of the state of Pennsylvania as well as bordering states, since ozone concentrations are affected by transport and secondary atmospheric reactions. ACHD's portion of Pennsylvania's EMP includes the following:

1. Continue to operate all three existing ozone monitoring sites on a year-round basis
2. Operate the PAMS true NO₂ monitor on a year-round basis
3. Continue to operate NO₂/NO_x chemiluminescence monitor at the Harrison ozone monitoring site on a year-round basis
4. Continue year-round speciated VOC and carbonyl sampling and analysis at on a 1 in 6-day frequency
5. Operate the PAMS ceilometer on a year-round basis
6. Continue to operate PAMS meteorological sensors on a year-round basis

2.2 Monitoring Reductions

2.2.1 Avalon SO₂ Monitoring

SO₂ monitoring was discontinued on November 11th, 2020 after having demonstrated steady, low concentrations since the shutdown of the Shenango Coke Works coke battery in January of 2016. The remaining four SO₂ sites in the network provide dense coverage for the county and far exceed the number of monitors required by 40CFR58, Appendix D, Section 4.4 (see Section 8.4).

2.2.2 North Park PM_{2.5} Monitoring

The North Park site was discontinued on October 15th, 2020 after having consistently demonstrated the lowest PM_{2.5} average concentration in the network, while correlating strongly with the Avalon PM_{2.5} monitor.

2.2.3 Lincoln PM₁₀ Monitoring

The Lincoln monitoring station was discontinued on December 31, 2020 due to worsening siting conditions (vegetation overgrowth). The monitor met the removal criteria in 40 CFR §58.14(c) (see Section 3.5 below).

2.2.4 PM₁₀ Filter-Based Monitoring at Manchester, South Fayette, and Liberty Sites

Filter-based PM₁₀ monitoring was discontinued at South Fayette in July of 2020 and at Manchester on October 16th, 2020 due to low average concentrations. Primary PM₁₀ monitoring at the Liberty site was changed from filter-based to continuous after long-term comparability between the two methods was established to be satisfactory.

2.2.5 Lawrenceville Primary and Secondary PM_{2.5} FRM Sampling Frequency and Operation

The Primary PM_{2.5} FRM sampler at Lawrenceville has been reduced from daily to 1-in-3-day operation, meeting the NCore requirement at that site. The collocated, FRM PM_{2.5} QA monitor was removed from Lawrenceville in January of 2021. ACHD far exceeded the FRM collocation requirements. A new continuous PM_{2.5} FEM monitor has been designated as the secondary SLAMS PM_{2.5} monitor at that location.

2.3 Monitoring Relocations

2.3.1 Flag Plaza Carbon Monoxide, VOC, and Carbonyls

ACHD relocated the CO monitor from Flag Plaza to the North Braddock station. Flag Plaza CO monitoring was discontinued on November 3rd, 2020 after having experienced uniform low CO readings and the Department felt that the CO monitor could better serve the community at the North Braddock station. ACHD also relocated the VOC and carbonyls sampling from Flag Plaza to the Lawrenceville site for NATTS.

2.3.2 Avalon Hydrogen Sulfide

ACHD relocated hydrogen sulfide (H₂S) monitoring performed at the Avalon site to the North Braddock station. The H₂S monitoring at Avalon was discontinued on November 2nd 2020 after having demonstrated steady, low concentrations since the shutdown of the Shenango Coke Works battery in January of 2016.

2.3.3 Avalon Secondary Collocated PM_{2.5} FRM Sampler

The secondary PM_{2.5} monitor at Avalon was discontinued on October 21st, 2020 and relocated to the Parkway East site to be the secondary collocated PM_{2.5} monitor at that location. The primary PM_{2.5} monitor at both sites is still a continuous PM_{2.5} FEM monitor.

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 2022. As required by 40 CFR Part 58, §58.14(a), the Department has leveraged the results of the 2020 Network Assessment here in the 2022 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_{2.5} Monitors at North Braddock, Clairton, South Fayette and Harrison

ACHD plans place continuous PM_{2.5} FEM monitors at all remaining PM_{2.5} SLAMS sites that do not currently have continuous PM_{2.5} coverage. ACHD is already undertaking this process and plans to have the project completed before the end of 2021. The four additional continuous PM_{2.5} monitors will be designated as Special Purpose Monitors for a period of up to two years before comparability can be established between the new FEM and existing FRM monitors. During the comparability period the data from the FEM monitors will be used for AQI coverage and will appear on the daily reports and air quality dashboard. After a successful comparability period, all four continuous PM_{2.5} monitors will be candidates for designation as either a primary or secondary SLAMS PM_{2.5} monitor in the network.

3.1.2 PM₁₀ Monitoring at Lawrenceville Site

ACHD installed a new continuous particulate monitor at Lawrenceville in late 2020 that has FEM designation for PM_{2.5}, PM₁₀, and PM_{COARSE}. ACHD is proposing to designate the monitor as a primary SLAMS PM₁₀ monitor.

3.1.3 Hydrogen Sulfide Monitoring at Clairton Site

ACHD will expand continuous hydrogen sulfide (H₂S) surveillance by adding an H₂S analyzer at the Clairton monitoring station.

3.1.4 Non-Regulatory, Multi-Pollutant Community Monitoring Network

ACHD plans to expand air quality surveillance by adopting a network of low-cost, non-regulatory monitors in Allegheny County. Preliminary plans are to collect data that are of sufficient quality and quantity to support the data's intended usage through the EPA Data Quality Objective (DQO) process. A sub-network of 20-30 monitors will operate under an independent quality assurance project plan to expand general air quality surveillance to the

area. Additional focus will be in providing additional air quality surveillance to underserved Environmental Justice communities throughout Allegheny County.

3.2 Proposed Monitoring Reductions

3.2.1 Clairton PM₁₀

ACHD proposes to discontinue PM₁₀ at the Clairton site. The proposed continuous PM_{2.5} monitor at Clairton would yield more valuable data going forward. The monitor meets the removal criteria in 40 CFR §58.14(c) (see Section 3.5 below) and PM₁₀ coverage in the area would remain with the Liberty PM₁₀ monitor operating less than 4 kilometers away.

3.2.2 Flag Plaza PM₁₀

ACHD proposes to discontinue PM₁₀ at the Flag Plaza site. The monitor meets the removal criteria in 40 CFR §58.14(c) (see Section 3.5 below) and PM₁₀ coverage in the area would remain with the addition of the proposed PM₁₀ monitor at Lawrenceville operating less than 4 kilometers away.

3.3 Proposed Monitoring Relocations/Modifications

3.3.1 Sulfur Dioxide Monitoring from South Fayette to Clairton Site

ACHD proposes to relocate sulfur dioxide (SO₂) monitoring currently performed at the South Fayette station to the Clairton station. The SO₂ monitor has demonstrated steady, low concentrations over the years. Originally designated as a background/transport site for SO₂, the highest readings appear to come from sources within Allegheny County based on meteorology data. Area SO₂ 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. A SO₂ monitor at the Clairton station could provide more valuable data to the community and network overall in identifying local sources and impacts of SO₂.

3.4 Proposed Air Monitoring Site Modifications

3.4.1 Liberty Air Monitoring Station

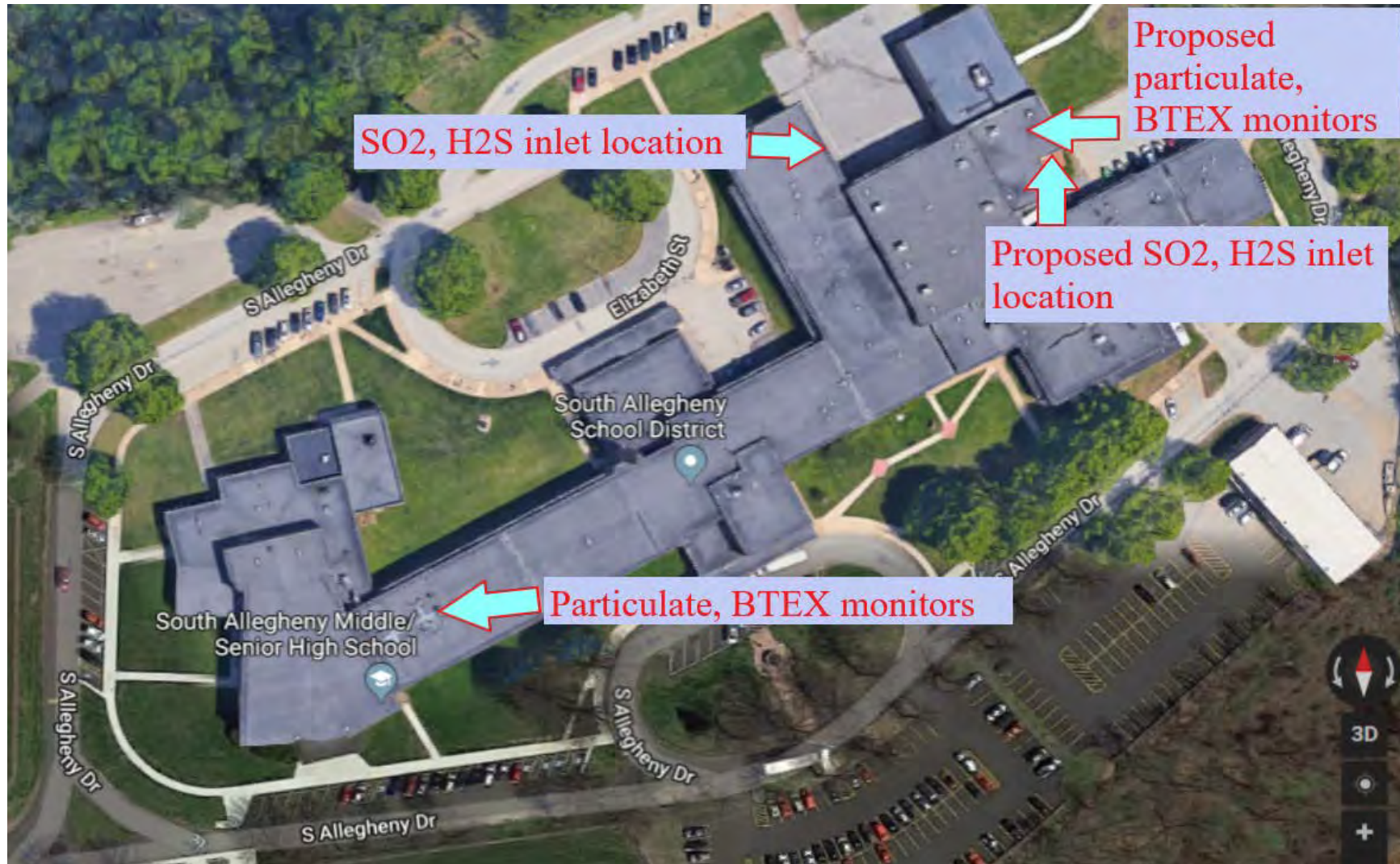
The Liberty monitoring station is located at the South Allegheny School District's High School (SASD) in Liberty Borough. Historically, the gaseous analyzers have been operated out of a supply room on the second floor of the school, while the particle monitors have been operated on the roof with access provided by an interior ladder and hatch. Access to these areas requires entry to the school and processing through the district's Raptor verification system as well as the metal detection system. During the process of renewing the letter agreement between ACHD and SASD, school officials indicated that the

monitoring site must be redesigned so that ACHD personnel will not have access to the inside of the school. This is in response to increased security policies that are being implemented by the school district.

The proposed solution is to purchase and install a small monitoring trailer (8'x12') to house the gaseous monitors, installing it on a concrete pad adjacent to the west wall of the school. The gaseous monitor probe lines will be affixed to the exterior wall of the school and the inlet funnels will be situated at least 5' above the top of the roof. A preexisting external safety ladder near the new trailer location will provide access to the roof. The particle monitors will be moved to the roof area near this exterior ladder. The roof mounted 10-meter meteorological tower will be upgraded to a new tower with a trolley system. This new tower would be mounted to a location closer to the new trailer site to facilitate a hardwired connection to the datalogger. The trolley system is an overall improvement to staff safety and requires fewer staff resources to audit and service sensors.

ACHD will complete the Liberty site modifications as soon as possible as requested by the school district. The particulate and BTEX samplers will be moved 570 feet north east. The gas monitor inlets will be moved 160 feet east south east. Gaseous monitor and particle sampler inlets will remain at the same height. (See Figure 3.2 for illustration). The Clean Air Fund request to fund the modifications to the site was approved by the Board of Health in March of 2020. Covid-19 restrictions have delayed this project throughout 2020 and into 2021.

Figure 3.4 Proposed Relocation of Liberty Air Monitors



3.5 Monitor Removal Criteria

One of the criteria that can be met for monitor removal in 40 CFR §58.14(c) specifies that “any PM_{2.5}, O₃, CO, PM₁₀, SO₂, Pb, or NO₂ SLAMS monitor which has shown attainment during the previous five years, that has a probability of less than 10 percent of exceeding 80 percent of the applicable NAAQS during the next three years based on the levels, trends, and variability observed in the past, and which is not specifically required by an attainment plan or maintenance plan.” The methodology demonstrating a less than 10 percent probability of exceeding 80 percent of the applicable NAAQS for any SLAMS monitor proposed to be removed or relocated is shown in the equation below and the results in Table 3 below.

$$X + \frac{t * s}{\sqrt{n}} < 0.8 * NAAQS$$

X is the average design value for the last 5 years

t is the student's *t* value for *n*-1 degrees of freedom at the 90% confidence level

s is the standard deviation of the design values

n is the number of records (i.e., number of design values)

NAAQS is the standard of interest

Table 3 Air Monitoring Network Summary

Site Name (AQS Number)	Pollutant	Averaging Time	Design Values					X	s	t	n	NAAQS	80% of NAAQS	90% Confidence Interval	Pass
			2016	2017	2018	2019	2020								
Lincoln (42-003-7004)	PM ₁₀	24-hr	73	85	81	72	65	75.2	7.9	2.13	5	150	120	82.7	YES
Flag Plaza (42-003-0031)	PM ₁₀	24-hr	48	49	49	42	40	45.6	4.3	2.13	5	150	120	49.7	YES
Clairton (42-003-3007)	PM ₁₀	24-hr	31	30	25	24	22	26.4	3.9	2.13	5	150	120	30.1	YES
South Fayette (42-003-0067)	SO ₂	1-hr	16	12	9	11	11	11.8	2.6	2.13	5	75	60	14.3	YES

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

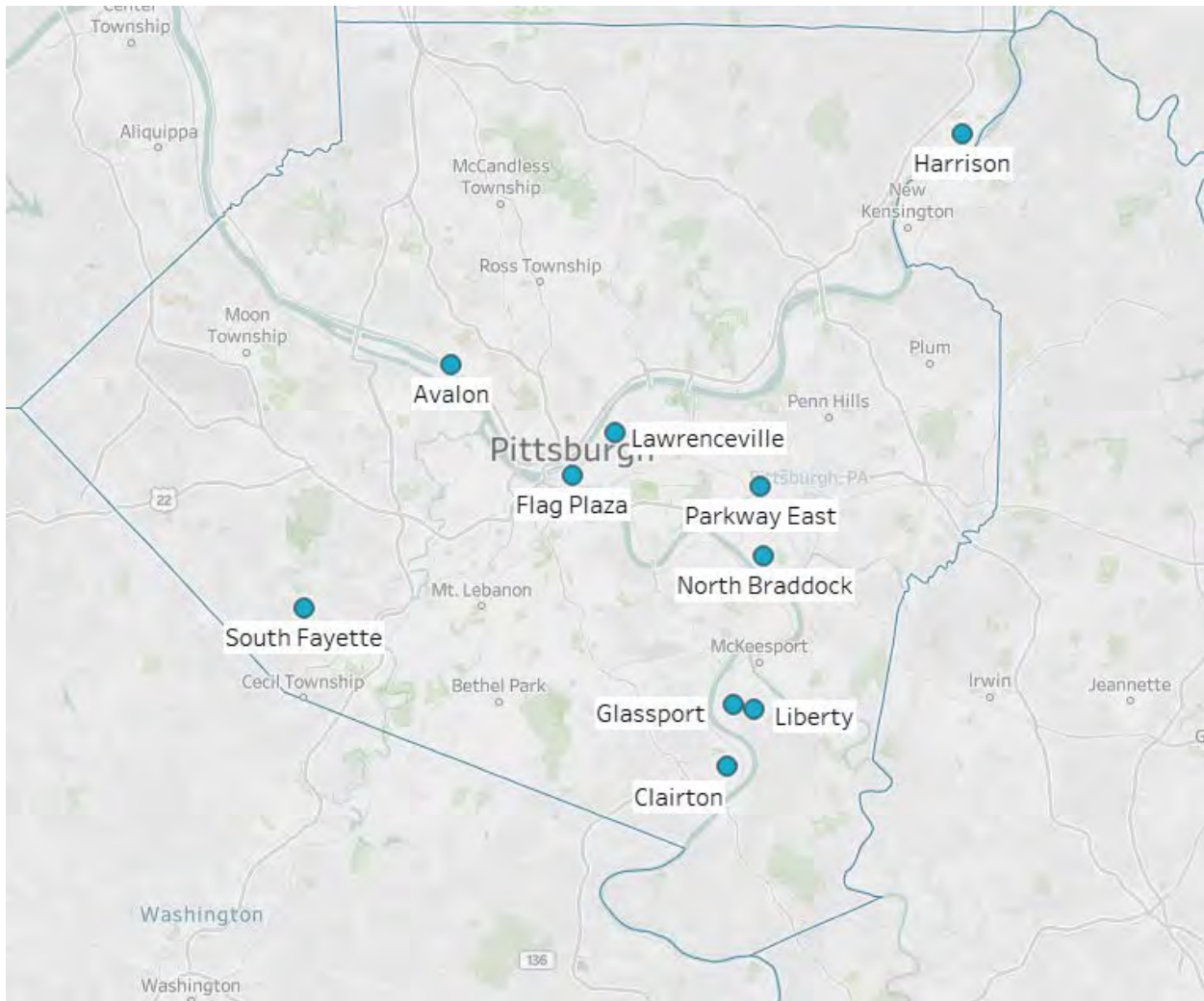


Table 4 Air Monitoring Network Summary

	SO ₂	CO	NO ₂	NO _y	O ₃	PM ₁₀	PM _{2.5}	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		C I(3)		
Clairton	C					I(6)	C I(6)		H2S
Avalon	C						C		
Flag Plaza						C			
Glassport						C			
Harrison			C		C		C I(3)		
Parkway East Near Road		CT	CT				C IQA(12)		Aeth(C)
	SO ₂	CO	NO ₂	NO _y	O ₃	PM ₁₀	PM _{2.5}	PM coarse	Air Toxic
Total (Current Network)	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

I = Intermittent or Filter-Based; C = Continuous; SPC = PM2.5 Speciation; T = Trace Level Monitor
(1), (3), (6), (12) = Sampling Frequency: (1) = daily, (3) = every 3rd day, (6) = every 6th day, (12) = every 12 th day
TO15 = SUMMA TO15; TO11 = Carbonyl TO11; Aeth = <u>Aethalometer</u> : Black Carbon, Ultraviolet PM
QA = Collocated QA monitor; N = Non-FEM monitor (Special Study, non-regulatory use); H2S = Hydrogen Sulfide
PAH = Polycyclic Aromatic Hydrocarbons; M = PM10 HAP Metals; Ch = Charcoal Tube
Yellow Shading = Planned Monitors, Not Yet Operational; Red Shading = 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 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) - Prevention of Significant Deterioration (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 SO₂, CO, NO_y, O₃, PM_{2.5}, and PM_{10-2.5} (aka PM_{coarse}, Coarse PM, or PM_c). NO_y and PM_c 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 O₃ and true NO₂. 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, PM₁₀ mass sites, PM_{2.5} mass sites, chemically-speciated PM_{2.5} sites, and O₃ 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 (2010) determined the population of the Pittsburgh MSA to be 2,356,285 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.

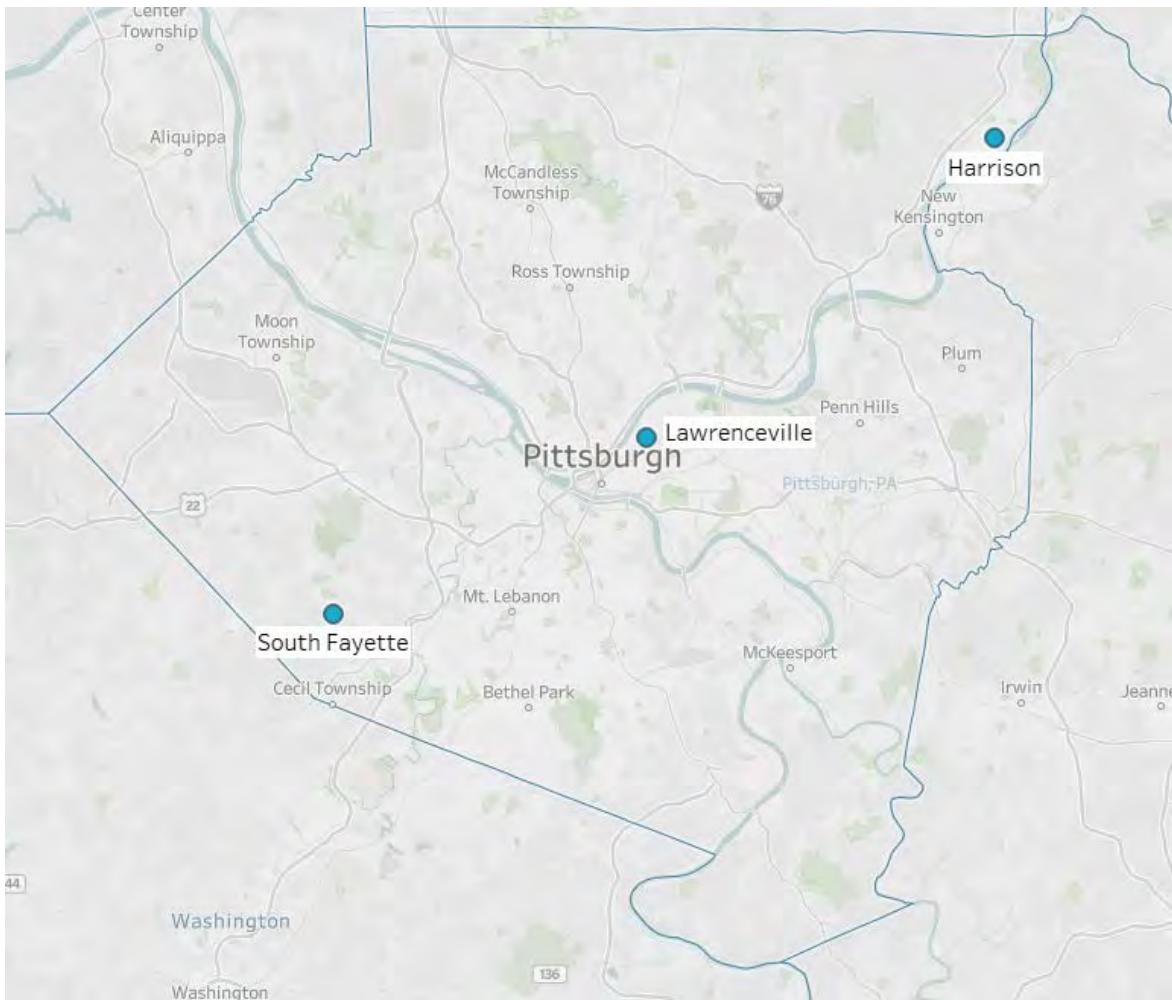
Pollutant specific design criteria for SLAMS sites are codified in 40CFR58, Appendix D, Section 4. EPA updates this document routinely in response to NAAQS revisions and in response to evolving air monitoring network objectives. SLAMS sites are intended to address specific air quality management interests, 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 (O₃) 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

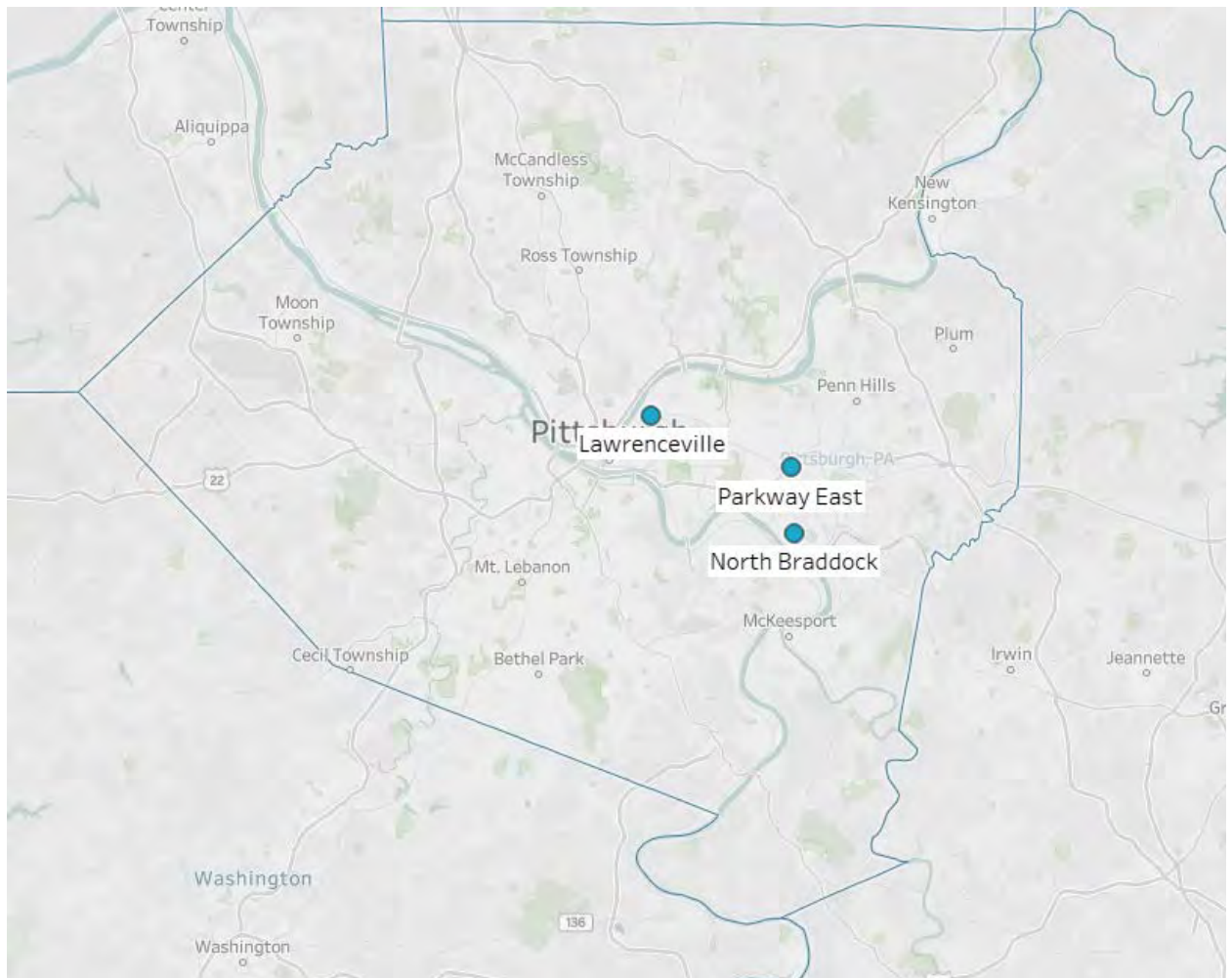


8.2 Carbon Monoxide Design Criteria

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 NO₂ 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

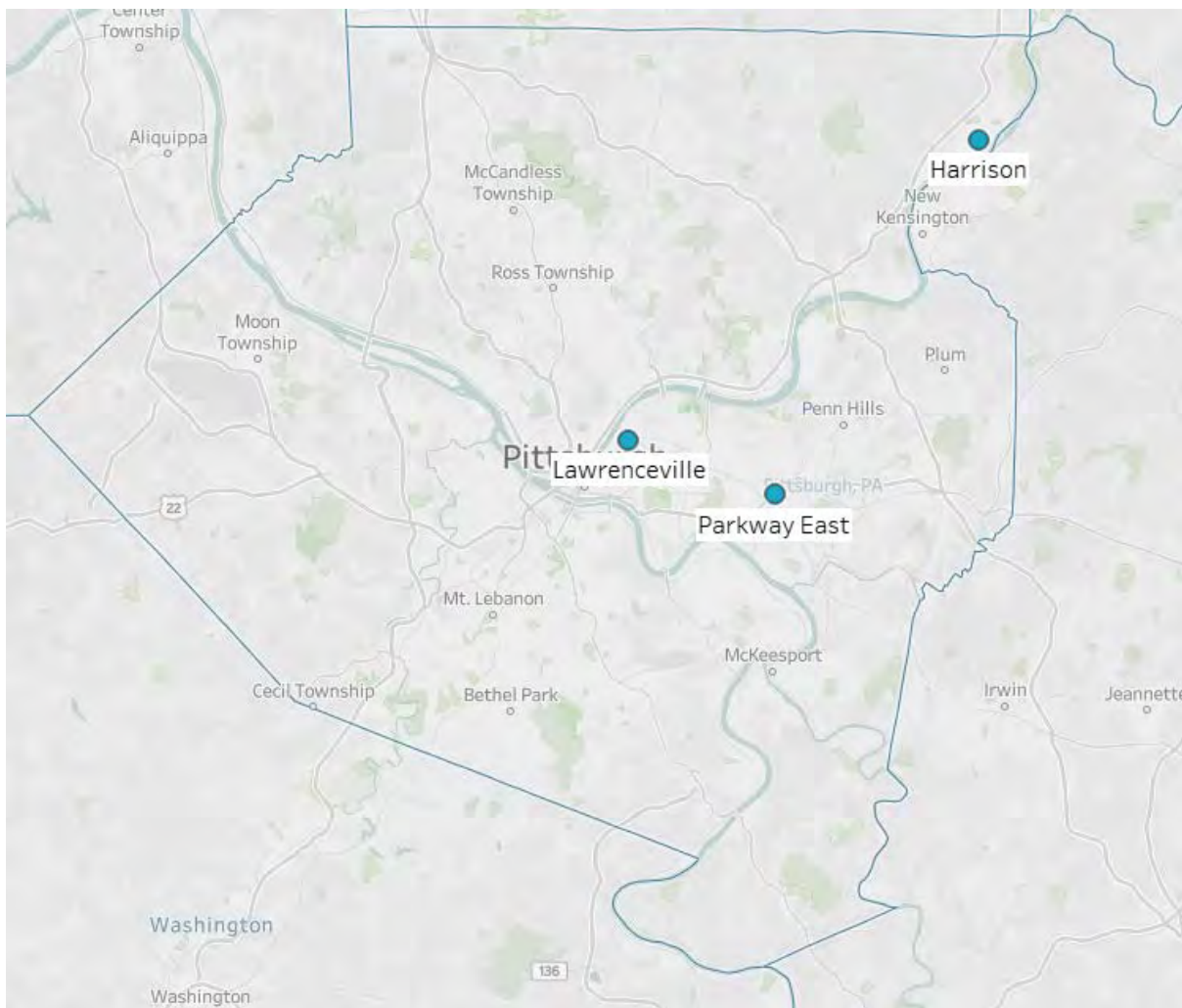


8.3 Nitrogen Dioxide Design Criteria

On January 22, 2010, EPA strengthened the health-based NAAQS for NO₂ 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 NO₂ monitoring requirements in urban areas. Applicable requirements are as follows;

- One near road NO₂ monitoring site is required in an MSA with a population $\geq 500,000$ and $< 2,500,000$ people. Near-road NO₂ monitoring characterizes the maximum expected hourly NO₂ concentration due to mobile source emissions on major roadways.
- One area wide NO₂ monitor in MSA's with a population > 1 million. The Harrison NO₂ monitor has been in operation at the current location since 02/12/2014.
- One true NO₂ monitor is required at a PAMS site. The Lawrenceville NCORE site performs measurements of true NO₂ and also NO_y to fulfill PAMS and NCORE requirements, respectively.

Figure 8.3 Nitrogen Dioxide Monitoring Map

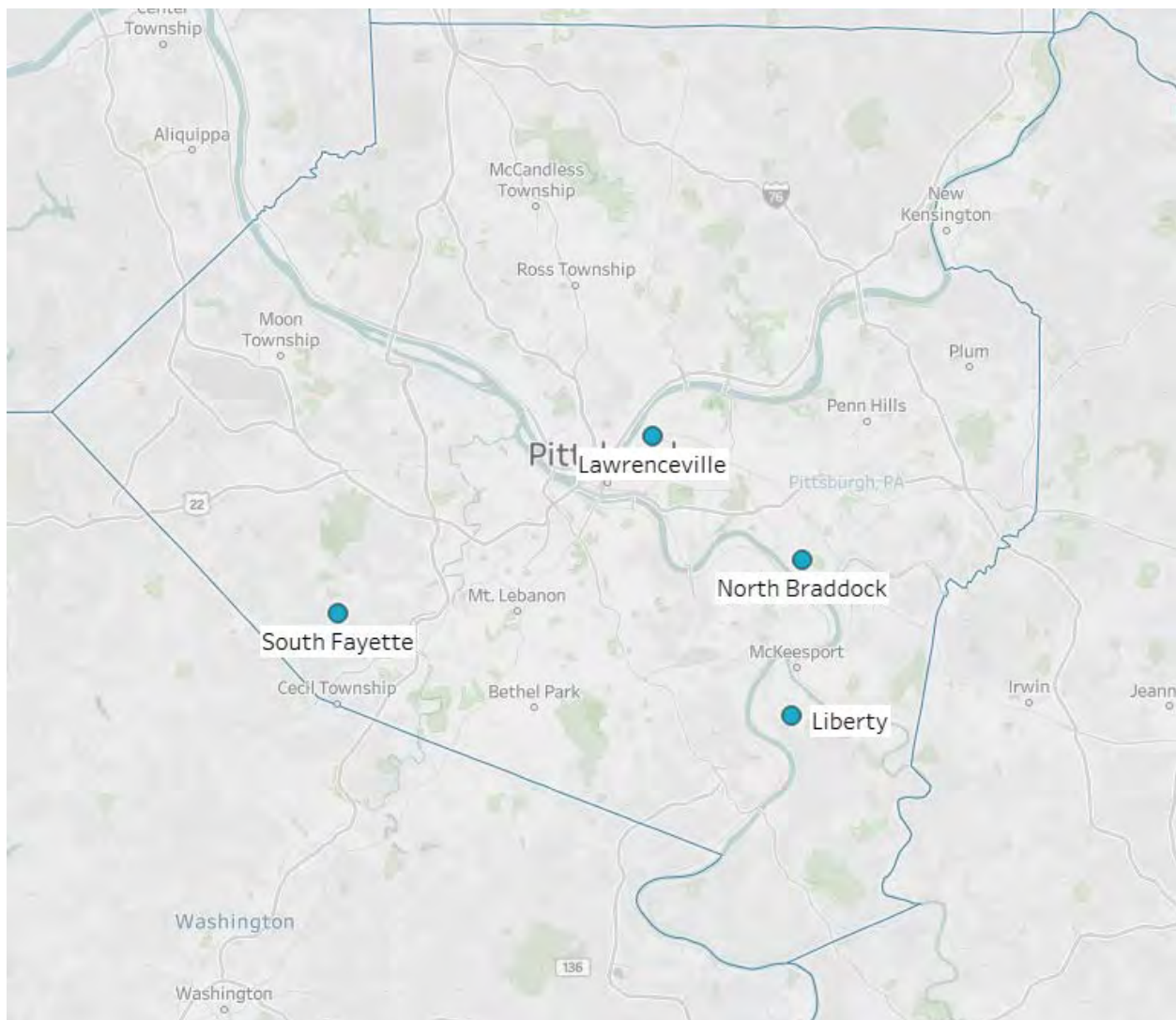


8.4 Sulfur Dioxide Design Criteria

The minimum number of required SO₂ monitors in each MSA is proportional to the product of the total amount of SO₂ 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 SO₂ emissions and 2019 census estimate for the CBSA, the PWEI is calculated at 94,101. SO₂ 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 SO₂ monitor is required within that CBSA. ACHD exceeds this minimum requirement with a total of four SO₂ monitors.
- Each NCORE station must operate an SO₂ monitor. ACHD included an SO₂ monitor as part of the initial configuration of the Lawrenceville NCORE site.

Figure 8.4 Sulfur Dioxide Monitoring Map



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.

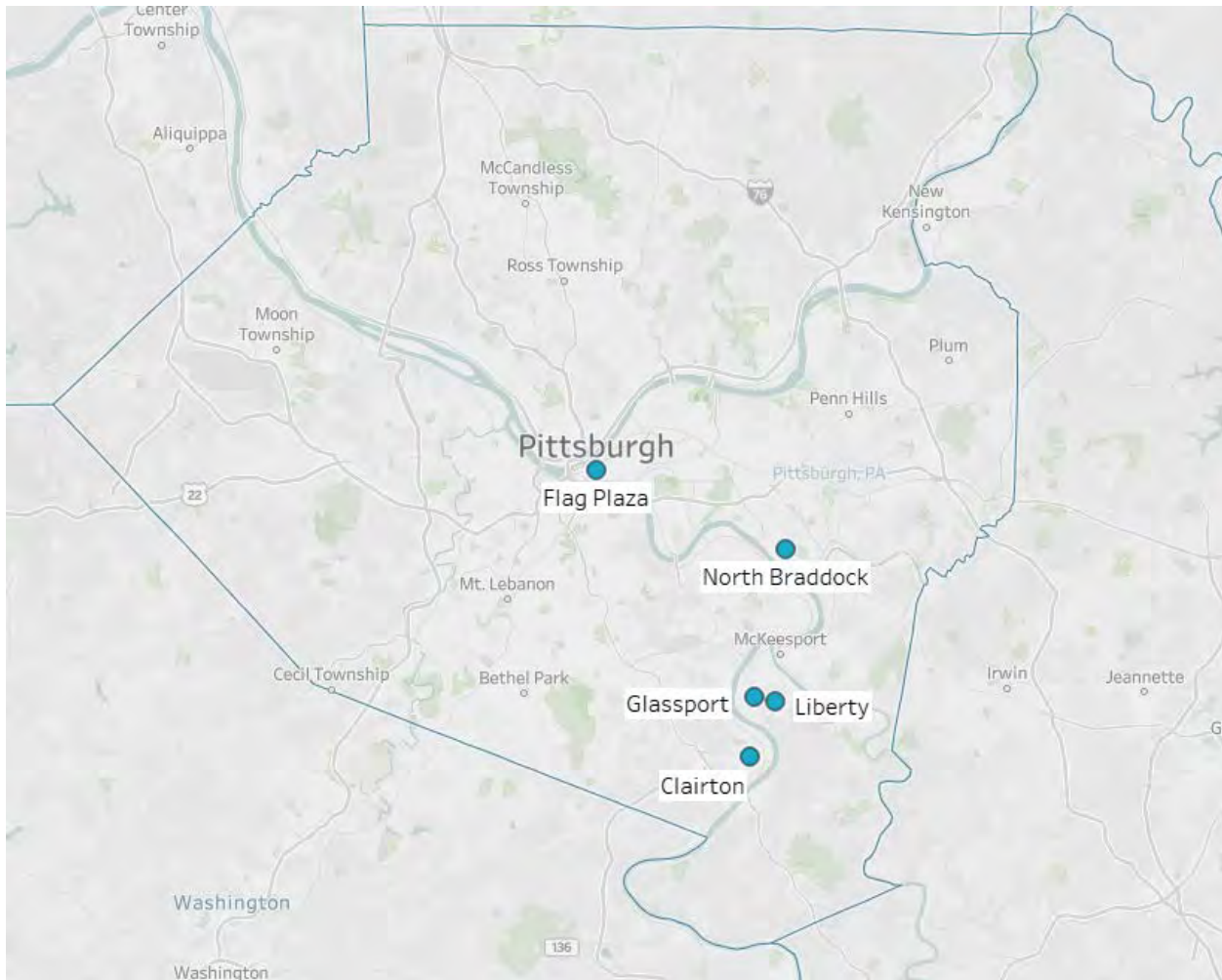
No lead monitoring is performed in Allegheny County. Bridgeville and Lawrenceville sites were discontinued as there are no point sources which emit greater than 0.5 tons per year. EPA approval of the 2018 Annual Network Plan allowed the sampling to end after 2017.

8.6 PM₁₀ Design Criteria

The number of required PM₁₀ 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 PM₁₀ concentrations well below 80% of the PM₁₀ NAAQS. Table D-4 indicates that 2 to 4 sites must monitor for PM₁₀. ACHD exceeds this requirement with 5 sites that monitor PM₁₀.

Figure 8.6 PM₁₀ Monitoring Map



8.7 Fine Particulate Matter (PM_{2.5}) Design Criteria

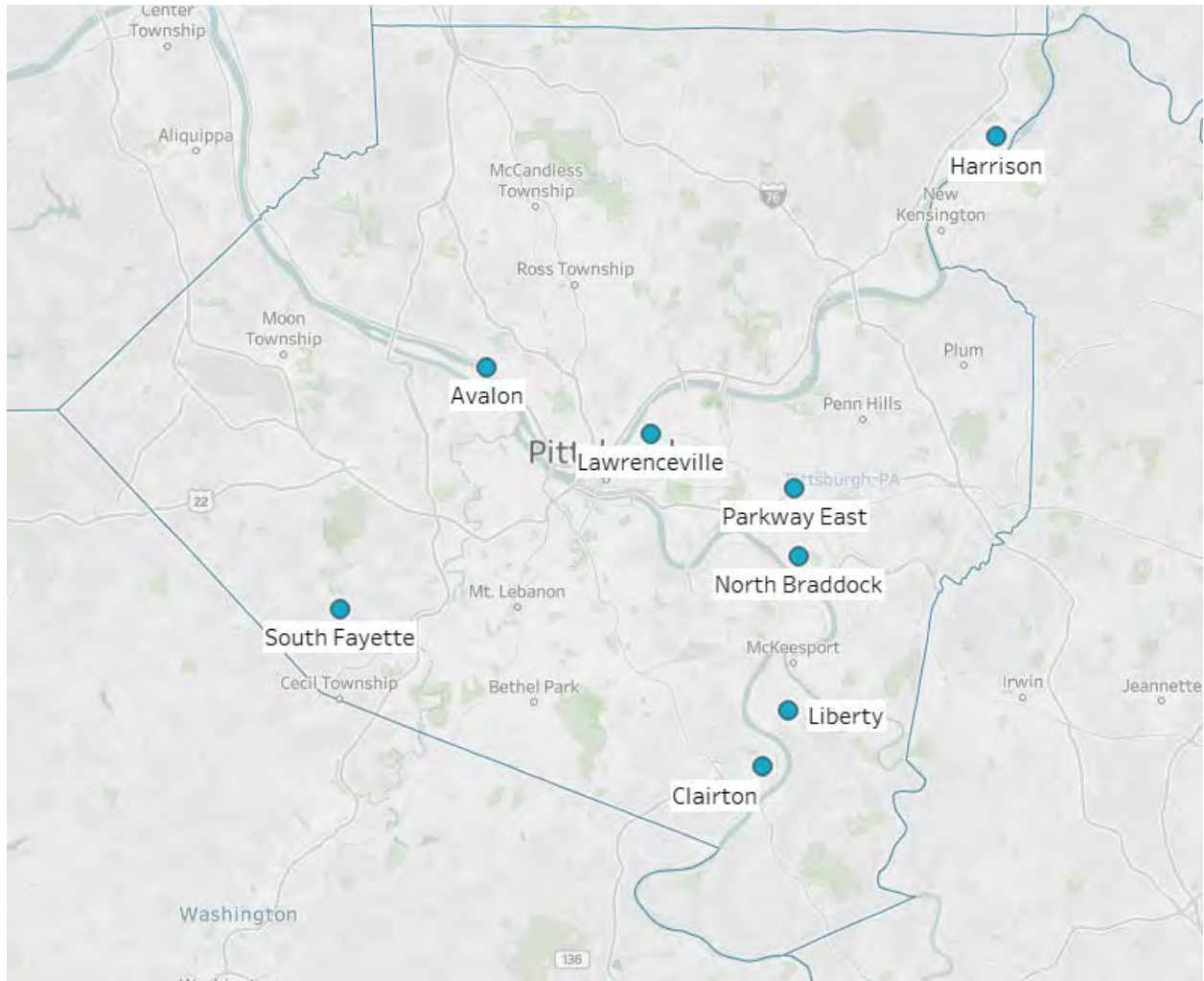
The number of required PM_{2.5} monitors in each MSA is determined by the MSA population and design value, as specified in Table D-5 of 40CFR58, Appendix D.

- Pittsburgh MSA PM_{2.5} 24 hour and annual design values are > 85% of the NAAQS, requiring a minimum of 3 PM_{2.5} sites. ACHD exceeds this requirement with 8 sites that monitor PM_{2.5}.
- Regarding FRM PM_{2.5} samplers (seven sites), a minimum of 15%, or at least one, of the PM_{2.5} 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_{2.5} FEM monitor must also operate a collocated PM_{2.5} FRM sampler (40CFR58, Appendix A). This requirement is met at the Parkway East site. Parkway East and Avalon have the same PM_{2.5} FEM model.
- At least one half of the minimum number of sites per MSA must operate continuous PM_{2.5} monitors, requiring ACHD to operate 2 continuous PM_{2.5} monitors. ACHD operates 4 continuous PM_{2.5} monitors (Liberty, Lawrenceville, Avalon, and Parkway East). See Section 10 for each site's detailed information.
- For MSA's above 1,000,000 people, at least one PM_{2.5} monitor must be at a near road site. ACHD conducts continuous PM_{2.5} 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_{2.5} Speciation Trends Network (STN). ACHD continues to conduct PM_{2.5} speciation at Liberty and Lawrenceville sites.
- Each NCORE site must monitor PM_{2.5}. ACHD satisfies this requirement at the Lawrenceville NCORE site using filter-based monitoring as well as continuous PM_{2.5} 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_{2.5} site must monitor for regional background and at least one PM_{2.5} site must monitor for regional transport. Table 8 shows the PM_{2.5} network site scales and objectives.

Table 8 PM_{2.5} 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_{2.5} Monitoring Map



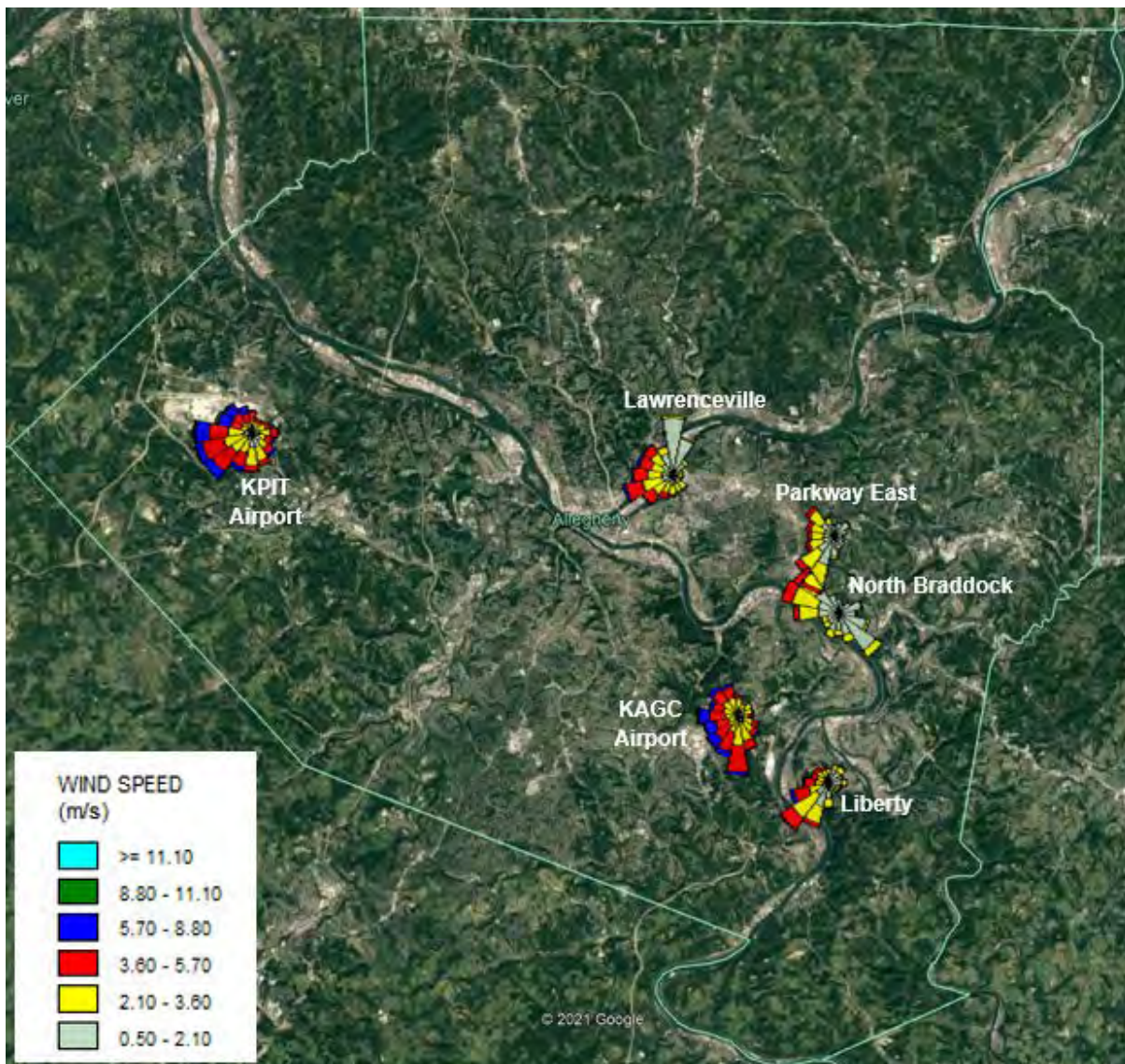
8.8 Coarse Particulate Matter Design Criteria

The only required monitors for PM_{10-2.5} 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_c.

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 _{2.5} FRM	R&P	2025	88101	145	Low Volume Sampler (filter) VSCC, very sharp cut cyclone
PM _{2.5} FEM	Thermo	5014i	88101	183	Beta Attenuation Instrumental
	Teledyne API	T640	88101	236	Broadband Spectroscopy
	Teledyne API	T640X	88101	238	Broadband Spectroscopy
PM ₁₀ FRM	Tisch	TE-6070	81102	141	High Volume Sampler (filter)
PM ₁₀ FEM	R&P	1400	81102	79	Gravimetric Instrumental (TEOM)
	Met One	1020	81102	122	Beta Attenuation Instrumental
PM _{2.5} 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 _y)	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 ₁₀ 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 th 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 _{2.5} 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 _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	Ozone	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	PM_{10-2.5} (coarse)	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	PM_{2.5} FRM	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	PM_{2.5} FEM	Appendix C Method Code	238
Network Designation	SLAMS Secondary	Probe Height	12 Meters
Purpose	QA/Collocated Monitor AQI Reporting	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	PM_{2.5} Speciation	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	Carbon Monoxide	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	Sulfur Dioxide	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	Total Reactive Oxides of Nitrogen (NO_y)	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	Nitrogen Dioxide (True NO₂)	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	PM₁₀ Metals (See Section A2.1)	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	Volatile Organic Compounds (See Section A2.1)	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	Carbonyls (See Section A2.1)	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	Polycyclic Aromatic Hydrocarbons (See Section A2.1)	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	Volatile Organic Compounds (See Section A2.1)	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	

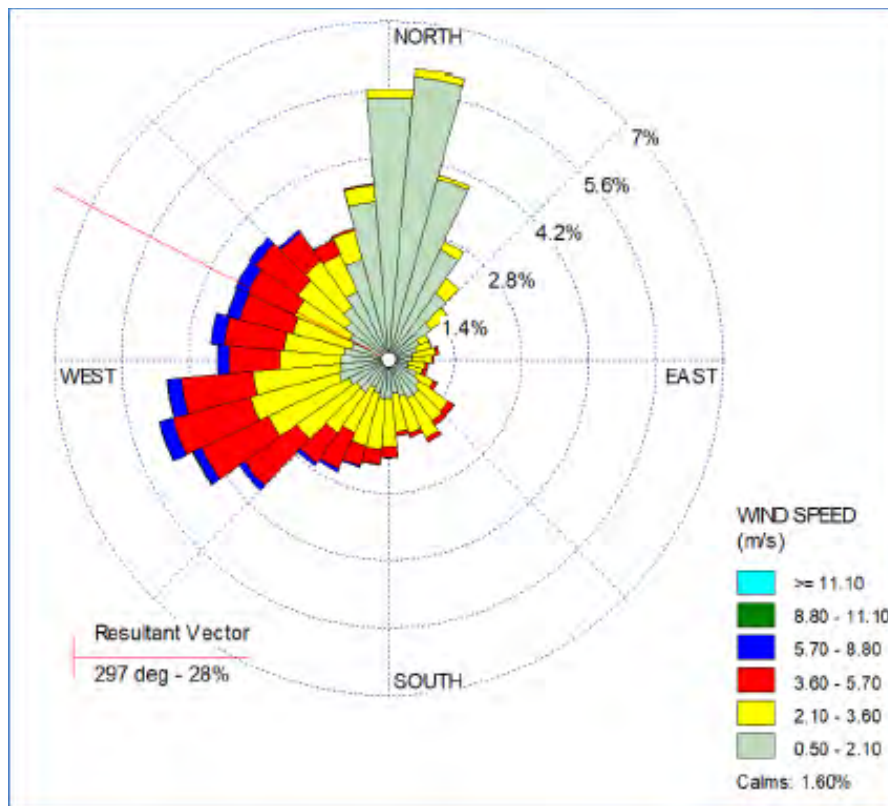
Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South	Wall	1	2 to 3 m
West			

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 (2015-2019)



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	40.323761	Longitude (W) Particulate and BTEX	-79.868151
Latitude (N) SO ₂ , H ₂ S	40.324759	Longitude (W) SO ₂ , H ₂ S	-79.867030
Comments	<p>This site is in a suburban area about 3 km 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_{2.5}, PM₁₀ and sulfur dioxide. Significant ambient levels of benzene have also been measured and documented at this site. Liberty is a core PM_{2.5} site that is used to determine compliance with national standards. See the site configuration, Figure 3.2 on Page 10.</p> <p>At the request of US Steel, telemetry devices have been installed on the PM₁₀, PM_{2.5} and SO₂ monitors that transmit continuous readings via radio signals to a location within the US Steel facility. Other transmitters are also in use: Glassport PM₁₀ monitor and North Braddock SO₂ monitor and sonic anemometer. This real-time data allows 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	PM _{2.5} FRM	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	PM _{2.5} FRM	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	PM_{2.5} FEM	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	PM₁₀ FEM	Appendix C Method Code	79
Network Designation	SLAMS Primary	Probe Height	8 Meters
Purpose	Co-located Monitor	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	PM_{2.5} Speciation	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	Sulfur Dioxide	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	Hydrogen Sulfide	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	BTEX / Sorbent Tube 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			

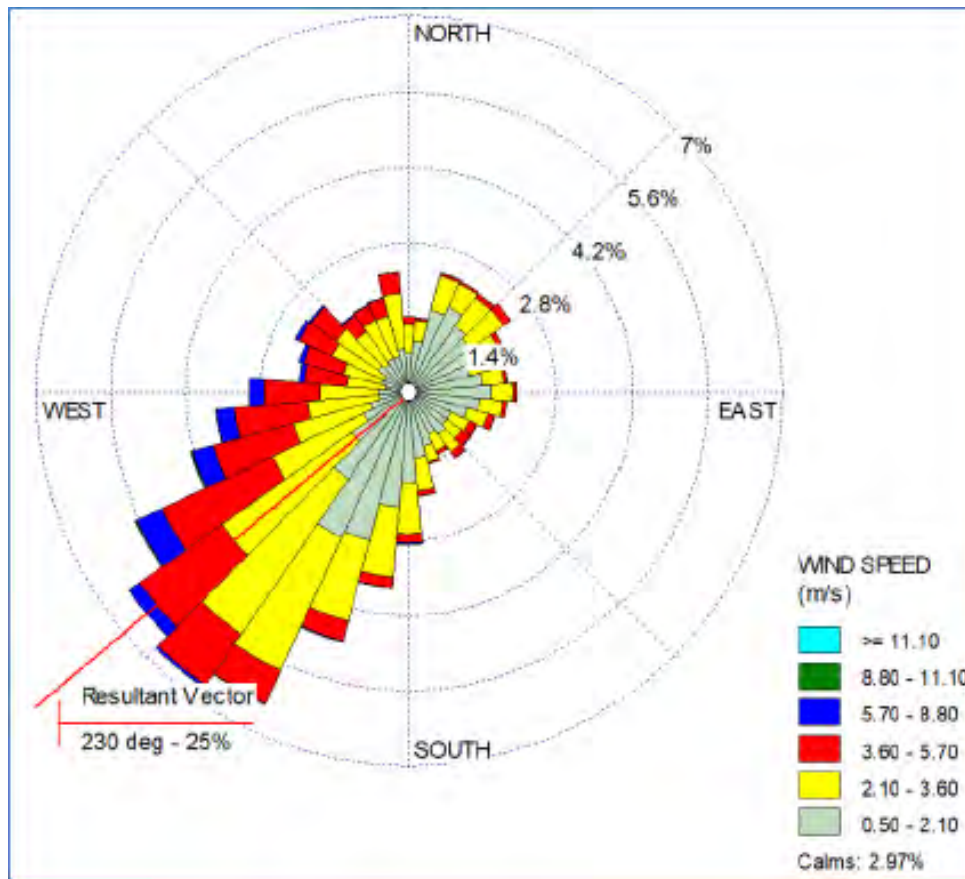
South			
West			

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 (2015-2019)



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 ₁₀ standard of 150 µg/m ³ (October 1997).		

Sensor Type	PM₁₀ FEM	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 Location 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 away from the monitoring site. North Braddock is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5} FRM	Appendix C Method Code	145
Network Designation	SLAMS	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	PM₁₀ FEM	Appendix C Method Code	122
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	Sulfur Dioxide	Appendix C Method Code	77
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	Carbon Monoxide	Appendix C Method Code	77
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	Hydrogen Sulfide	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

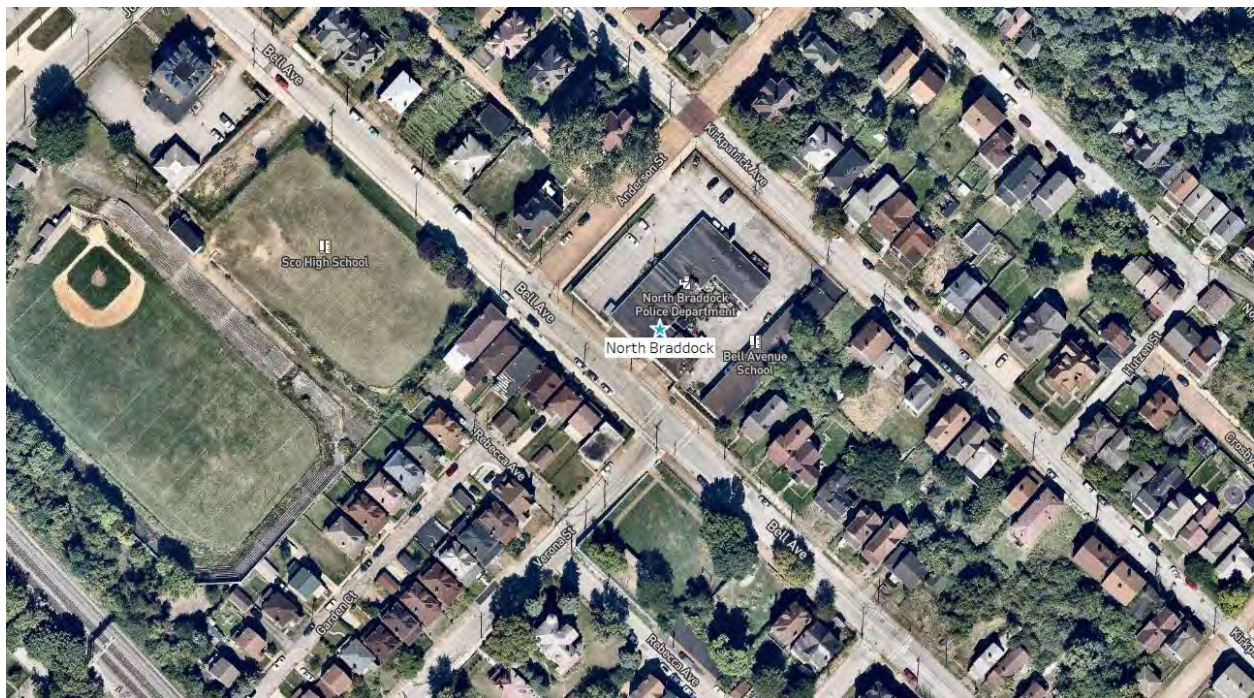
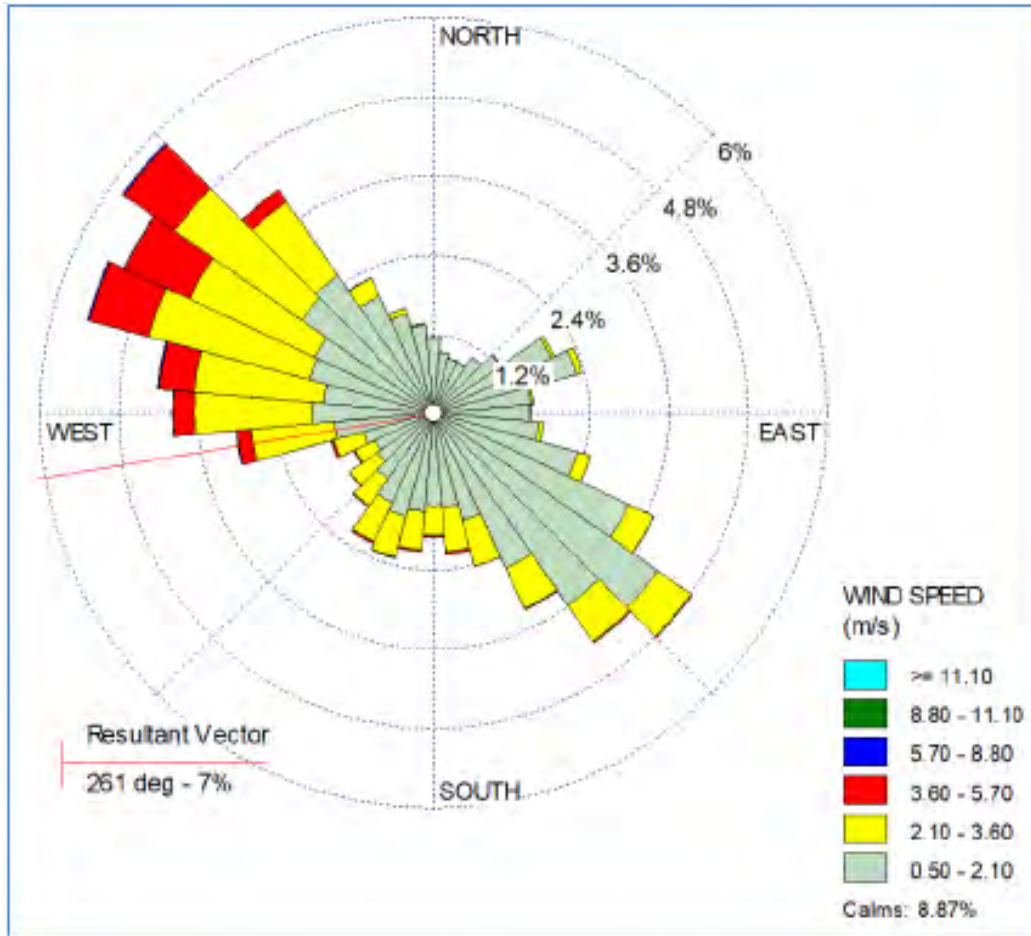


Figure 10.4.2 North Braddock Wind Rose (2015-2019)



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 _{2.5} 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.		

Sensor Type	PM_{2.5} FRM	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	Ozone	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	Oxides of Nitrogen	Appendix C Method Code	99
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 ₃ , SO ₂ and PM _{2.5} . 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 _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5} FRM	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	PM₁₀ FRM	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background
Monitor Start Date	3/27/1987	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	60
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	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background
Monitor Start Date	7/1/1980	Appendix E Siting Criteria	Yes

South Fayette, continued

Sensor Type	Ozone	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 St. 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 USX 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	PM_{2.5} FRM	Appendix C Method Code	145
Network Designation	SLAMS	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	PM₁₀ FRM	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Welfare Concerns
Monitor Start Date	4/8/1992	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 ₂ 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 ₂ DV is half the 2010 DV. Avalon is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5} FEM	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
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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 Flag Plaza

Address	Boy Scouts of America Building 1275 Bedford Avenue Pittsburgh, PA 15219		
AQS#	42-003-0031	MSA	Pittsburgh
Latitude (N)	40.443367	Longitude (W)	-79.990293
Comments	This is an urban-based site located at the Central Business District boundary limits. It is in a downwind position between the Central Business District and a densely populated environmental justice area.		

Sensor Type	PM₁₀ FEM	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	10 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	4/26/1992	Appendix E Siting Criteria	Yes

Flag Plaza Area Information

Street Name / Distance	Traffic Count (AADT)
Bedford Ave (17m)	5220 (PennDot 2015)
Rt. 579 (65m)	46,422 (PennDot 2012)
Bigelow Blvd. (105m)	20,221 (PennDot 2015)

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

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West	Building	5	130

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

Figure 10.9 Flag Plaza Location Map



10.10 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 ₂ 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 ₂ are near network maximums.		

Sensor Type	PM_{2.5} FEM	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	PM_{2.5} FRM	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	Oxides of Nitrogen (NO₂) 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	Carbon Monoxide (CO) 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	Black Carbon Monitor 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			

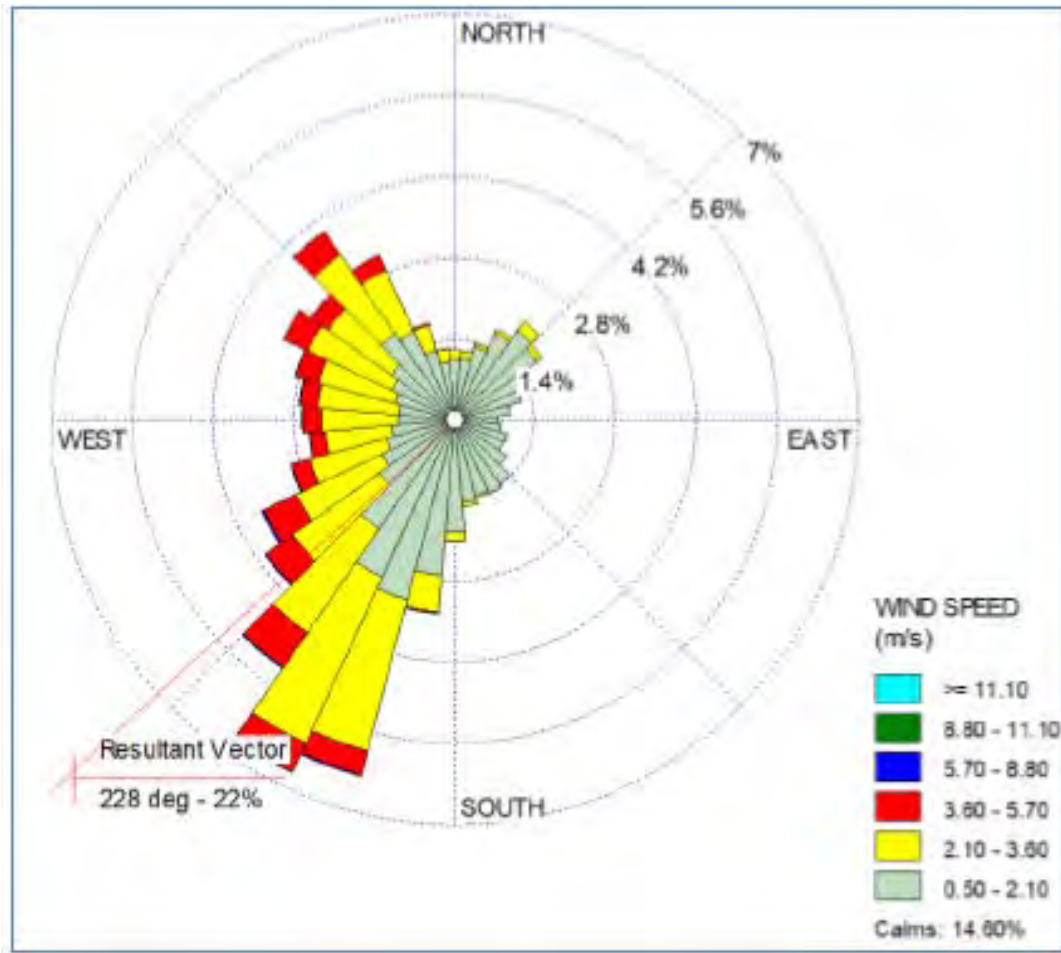
East	Trees	15	33
South			
West			

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

Figure 10.10.1 Parkway East Location Map



Figure 10.10.2 Parkway East Wind Rose (2015-2019)



11.0 GLOSSARY OF TERMS AND ABBREVIATIONS

NAAQS	National Ambient Air Quality Standards. These standards apply only to the six criteria pollutants
Criteria Pollutants	Air pollutants considered harmful to public health and the environment (carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, lead, particulate matter: PM ₁₀ , PM _{2.5})
FRM	Federal Reference Method. Primary measurement methods designated by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
FEM	Federal Equivalent Method. Secondary methods approved by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
TSP	Total Suspended Particles. TSP samplers are filter based, operate at a high flow rate and have no particle sizing device. An FRM monitoring method further analyzed for metals.
PM₁₀	All suspended particles equal to or smaller than 10 microns.
PM_{2.5}	All suspended particles equal to or smaller than 2.5 microns. Also frequently referred to as fine particulates.
PM (coarse)	All suspended particulates smaller than 10 microns but larger than 2.5 microns, also often referred to as PM _{10-2.5} . EPA has not assigned a NAAQS to this parameter as of the date of this document.
Lead (Pb)	Lead Monitoring. Laboratory analysis of TSP filters. This analysis is performed according to the federal reference method for lead monitoring.
Speciation	PM _{2.5} speciation monitor. Multiple filter-based samples which yield a breakdown of PM _{2.5} composition. Analytes include heavy metals, sulfates, nitrates and various species of carbon. Analysis is conducted by the US EPA national contract lab.
Aethalometer	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.
Benzene	C ₆ H ₆ . A six-carbon aromatic ring known to be a carcinogen. Emitted by mobile and industrial sources in Allegheny County.
PAMS	Photochemical Assessment Monitoring Stations
VSCC	Very Sharp Cut Cyclone. A particulate sizing device for use with PM _{2.5} FRM and FEM monitors. The VSCC is commonly used to accomplish the final PM _{2.5} size cut in low flow (16.7 lpm), continuous particulate monitors.
CO	Carbon Monoxide. Measured using a continuous automated analyzer.
SO₂	Sulfur Dioxide. Measured using a continuous automated analyzer.
NO_x	Oxides of nitrogen, including nitric oxide and nitrogen dioxide. Measured using a continuous automated analyzer.

NO_y	Total reactive nitrogen. A collective name for oxidized forms of nitrogen in the atmosphere such as nitric oxide (NO), nitrogen dioxide (NO ₂), nitric acid (HNO ₃), and numerous short lived and reactive organic nitrates (but not NH ₃). These compounds play important roles in atmospheric ozone and ultra-fine particle formation.
O₃	Ozone. Measured using a continuous automated analyzer.
NCore	National Core Monitoring Network, consisting of multi-pollutant ambient air monitoring sites, and specializing in PM _{2.5} and associated precursor gases.
SLAMS	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.
Near Road	Monitoring site designed to measure peak exposure to roadway emissions. Required monitoring parameters are NO ₂ , CO and PM _{2.5} . Installation of near road monitoring sites were required by revisions to the NO ₂ NAAQS during 2010.
SPM	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.
TEOM	(Tapered Element Oscillating Microbalance) this technology is used by the Thermo-Scientific model 1400ab continuous particulate monitor, which has FEM designation for PM ₁₀ measurement. This monitor is also used as a PM _{2.5} non-regulatory monitor (e.g., AQI purposes) by adding a VSCC.
BAM	Beta Attenuation Monitor. This technology is used by the Met One BAM1020 and the Thermo Scientific 5014i continuous particulate monitors, both which have FEM designation for PM ₁₀ measurement and for PM _{2.5} measurement with the addition of a VSCC.
Sonic Anemometer	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.
AADT	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 for each count.
TO15	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.
TO11	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

12.0 Public Comment Period

This network review will be available for public comment beginning on July 9, 2021. Comments can be made by e-mail and conventional mail until the close of business on August 9, 2021. All comments received as well as ACHD responses will be included in the final version submitted to EPA Region III.

Submit comments by e-mail → David.Good@AlleghenyCounty.US

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

12.1 Allegheny County Health Department Press Release

The Allegheny County Health Department issued a press release on July 9, 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.

13.0 Public Comment and Responses

13.1 Group Against Smog and Pollution (GASP)

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

- 1. ACHD must expand and improve its public outreach and education efforts regarding air quality.**

Response: The Department continues to make efforts to expand and improve public outreach and education efforts throughout Allegheny County - specifically in Environmental Justice communities. These efforts include, but are not limited to, expanding the usage of Allegheny Alerts for rapid air quality communication to citizens in affected communities, a redesigned Air Quality Forecast and Dispersion Outlook report, and a centralized complaint system tracking until completion for citizens in GovQA. Additional efforts to expand and improve public outreach have been made through the hiring of a new public health information officer and also an environmental health communications specialist. The Department also made improvements to the website dashboard and expects to make additional improvements and educational features for the public.

- 2. The AQI, NowCast, and ACHD's Air Quality Dashboard all utilize different mathematical formulae to calculate an "AQI" value for PM_{2.5}; this cannot be harmonized with Appendix D or the Clean Air Act.**

Response: The Department submits monitored data as required to the EPA, which is utilized to calculate Air Quality Index (AQI) values for Allegheny County. This information is readily available to the public on the AirNow platform. AirNow and many other tools available use Nowcast, an algorithm that predicts what a day's overall PM_{2.5} score will be. Conversely, the Department's dashboard only reports data that have already been recorded, rather than forecasting future values. The official PM_{2.5} AQI for a day cannot be calculated until the following day due to it being defined as a "midnight-to-midnight" reading across 24 hours each day. The forecasted PM_{2.5} AQI for each day is performed by the Pennsylvania Department of Environmental Protection and included in the Air Quality Forecast and Dispersion Outlook Report provided by the Department on working days.

- 3. 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 on ways to provide the public easier access to both monitored criteria and non-criteria pollutants.

- 4. ACHD should consider messaging, outreach, and education to address low-cost monitoring and internet sources of air quality information and working with Pa DEP to standardize air quality data reporting.**

Response: The Department will consider the comment, but it is beyond the scope of the annual air monitoring network plan.

5. **The Draft Plan must be amended to greater detail regarding the Mon Valley Air Toxics and Odors Study.**

Response: The section was amended to provide some additional details regarding the sampling study.

6. **Allegheny County officials and ACHD must clarify the future of ACHD's Lawrenceville monitoring site.**

Response: 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.

13.2 Clean Air Council (“the Council”)

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

1. **The Department should incorporate specific environmental justice considerations into the air monitoring network plan.**

Response: The Air Monitoring Network Plan draft listed several efforts the Department has taken and is undertaking in environmental justice communities such as increasing continuous PM_{2.5} monitoring, additional carbon monoxide, sulfur dioxide and hydrogen sulfide monitoring in the Mon Valley, and special studies for air toxics and odors in the Mon Valley. Additionally, and as noted in the document, the Department is planning to expand air quality surveillance in environmental justice communities through the adoption of low-cost air sensors.

2. **The Department should expand monitoring for air toxics in the Mon Valley. There is nothing in the regulations that compels air toxics monitoring to take place at Lawrenceville, as opposed to another monitor.**

Response: Please see response to comment no. 13.1.5. The coupling of the National Air Toxics Trends Station (NATTS) and Photochemical Assessment Monitoring (PAMS) programs with the NCore site at Lawrenceville was determined in conjunction with the EPA for the aims of those respective programs. The Department will continue to consider additional air toxics surveillance as resources and personnel become available.

3. **Because the relocated monitor for sulfur dioxide at Clairton would be a background monitor, the Department should install an additional monitor north of the Clairton Coke Works to pick up sulfur dioxide plumes moving to the north.**

Response: As stated in the draft document, area SO₂ coverage for background/transport remains with the Florence site (42-125-5001) operating in Washington County by the PA DEP, not at the proposed Clairton site. The Clairton site is an established, population-oriented monitoring station and the entire network would be strengthened by additional air quality surveillance performed there. SO₂ surveillance had been previously performed at locations north of Clairton Coke Works such as Glassport and West Mifflin. Modeling demonstrations using historical SO₂ data from those sites and others have shown that the current monitoring sites at Liberty and North Braddock are the highest impacted sites in Allegheny County for SO₂.

4. **Because the prevailing wind direction is parallel to I-376 at the near-road monitor for nitrogen dioxide at Parkway East, the Department should gather additional monitoring data at other locations to confirm if siting is appropriate.**

Response: The siting of the Parkway East monitoring station was determined to be appropriate by the EPA and continues to meet the network objectives for microscale near-road monitoring. It is not possible to monitor in every cardinal direction due to practical constraints such as available land, topography, access to electricity, and limited resources.

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.

6. **The Department should monitor sulfur dioxide and other air pollutants in the southeastern corner of Allegheny county.**

Response: Please see responses to comment nos. 1 and 3. The Department currently operates several air monitoring stations in the southern and southeastern sectors of the county. The latest Five-Year Network Assessment (performed in 2020) concluded that the current monitoring network provides adequate and representative coverage for the population of Allegheny county. Future efforts that are in the realm of hyperlocal monitoring, or to increase the overall density of air quality surveillance might be better addressed through the adoption of a low-cost sensor network working in conjunction with established regulatory air monitoring sensors. The establishment of new monitoring stations outside of Allegheny County is beyond the scope of this document, as the Department only has jurisdiction over air quality surveillance within Allegheny county.

7. **The Department should monitor nitrogen oxides (NO_x) in the Mon Valley.**

Response: The Department is adding year-round True NO₂ surveillance at the Lawrenceville NCore monitoring station. Additional NO₂ 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.

8. **The Department should install a SLAMS monitor for Lead near the Edgar Thomson Facility in Braddock.**

Response: The Department adheres to the Lead (Pb) Design Criteria in 40 CFR, part 58 Appendix D, Section 4.5. The emissions inventory database does not identify any sources currently operating in Allegheny County as meeting the threshold for additional lead surveillance. A re-evaluation of potential emissions at the Edgar Thompson Facility is beyond the scope of this document. That withstanding, the Department is performing additional metals surveillance at the North Braddock monitoring station and other locations.

9. **The Department should provide evidence that stratospheric intrusion has been responsible for elevated levels of ozone at the South Fayette monitor.**

Response: The language speculating the cause of elevated overnight concentrations of ozone (compared to other ozone monitors in Allegheny county) at the South Fayette monitoring station has been removed.

10. **The Department should provide more detail regarding how it intends to expand the non-regulatory monitoring network to supplement the regulatory monitoring network.**

Response: The expansion of non-regulatory monitoring via low-cost sensors is only in the preliminary planning phase currently, which is why no further details were provided. As the project progresses it will be discussed further in subcommittee meetings such as the Criteria Pollutant/Monitoring subcommittee with further input sought from community members.

11. **In the text of the proposed plan, the Department should explain how it uses the air monitoring network to determine reporting and forecasting for the air quality index (AQI).**

Response: Please response to comment no. 13.1.2.

13.3 Allegheny County Clean Air Now (ACCAN)

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

1. **ACCAN requests that the Health Department include in the 2022 Air Monitoring Plan a special study project to conduct a comprehensive air toxics and odor study in the Neville Island area.**

Response: Please see response to comment no. 13.2.5. The Department is looking into additional air toxics surveillance in the Neville Island area.

2. **ACCAN requests that the Health Department include in the 2022 Air Monitoring Plan a special study project to conduct an air toxics study at Metalico Pittsburgh scrap metal recycling center, located on Neville Island**

Response: Please see response to comment nos. 13.2.5 and 13.3.1 above.

3. **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 O₃ 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

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.

13.4 Clean Water Action (CWA)

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

- 1. CWA is greatly concerned about the proposed relocation of monitoring equipment at the Liberty monitoring site. As the primary monitoring location for the Mon Valley, this site is critical to the community in providing accurate local air quality information. While the new locations may not cause significant changes in monitored levels of pollutants, ACHD has provided no documentation that would indicate that any analysis has been conducted to provide any assurance to the community that the new locations would provide similar monitoring results to the current locations.**

Response: Choices for relocation are extremely limited, as the school property has little free space, while placing a shelter near or beyond the property boundary is not possible due to the rugged topography surrounding the school property. The offered location is seen as the best available choice under the current circumstances. Alternative locations are off school property and would represent a much longer relocation distance. New location complies with the minimum monitoring, quality assurance, methodology, and siting requirements of 40 CFR part 58. Additionally, the proposed relocation of monitors on the South Allegheny High School property is expected to have minimal effects on the monitoring results. The new location is well within the middle scale, at nearly identical elevation and site characteristics. The SO₂ monitor location is currently about 460 feet away from the PM_{2.5} location, and monitors show similar behavior for primary pollutant concentrations on an instantaneous (minute) basis.

- 2. Overall, there is a need for more community-based monitoring of PM_{2.5} in the Mon Valley.**

Response: Please see response to comment no. 13.2.1 regarding the expansion of air quality surveillance in the Mon Valley and other locations. The Department will continue to evaluate potential new monitoring sites and possible network reconfigurations going forward.

- 3. CWA strongly supports ACHD's effort to put in place a continuous PM_{2.5} monitor at North Braddock that has long been needed for the community... Given the Environmental Justice communities in the area, we would urge ACHD to make a priority of this monitor addition.**

Response: The Department appreciates the supportive comment.

- 4. While the Parkway East monitor is clearly established to monitor mobile source emissions, for some time it has also clearly provided further downwind ambient air data tracking the impacts of U.S. Steel facilities, particularly the Edgar Thompson Plant in Braddock. We would suggest that ACHD find an additional location for this function, as suggested above in our overall comments regarding the need for better PM_{2.5} monitoring.**

Response: Please see responses to comment nos. 13.2.1 and 13.4.2 regarding the expansion of air quality surveillance in the Mon Valley. The Department will continue

to evaluate potential new monitoring sites and possible network reconfigurations going forward.

5. **CWA supports the general concept that ACHD is proposing in establishing a Community Monitoring Network, especially the focus on Environmental Justice communities that have not always received sufficient air quality monitoring.**

Response: The Department appreciates the supportive comment and will work with community partners in establishing some of these monitoring locations.

13.5 University of Pittsburgh School of Public Health

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

1. **The Flag Plaza monitor is too high up the hill to monitor the real-world situation of the downtown air. They need a street level monitor downtown to pick up the diesel particulate matter.**

Response: A previous special study funded by the Department evaluated diesel particulate matter concentrations in the downtown corridor. The Department is considering future surveillance efforts of diesel particulate matter around Allegheny county, including the downtown area.

2. **Addition of National Air Toxics Trends Station Monitoring site to monitor VOC, carbonyls, PAHs, and PM metals is in large part a good idea and represents an addition to monitoring activities within the county. At the national level this program is designed to collect data on temporal trends on pollutant subtypes not usually routinely measured yet have emerging importance in possible health effects. However, locating such activities to a single site in Allegheny County might be problematic.**

Response: Please see response to comment no. 13.2.2. The Department is undertaking other air toxics surveillance projects around Allegheny county, including in the Mon Valley.

3. **I do not think removing the SO₂ monitor from the South Fayette site is a good idea, however, placing an additional one at Clairton is, as this is probably a major site not currently covered in close proximity. The data from the South Fayette site provides necessary reference information with which to gauge changes observed at Mon Valley sites. It allows clear discrimination of local contributions vs. regional transport.**

Response: Please see response to comment no. 13.2.3.

4. **The addition of a low-cost, non-regulatory multi-pollutant community monitoring network is an excellent addition to the plan. However, ACHD should be urged to earnestly consider community input on the location of these monitors and engage in robust public and transparent dialogue about setting up the network. This process can take advantage of existing community knowledge and concerns that may not be**

obvious to ACHD and will simultaneously provide an opportunity to educate the public on AQ issues.

Response: Please see response to comment no. 13.4.5. The Department appreciates the supportive comment.

13.6 Communities First Sewickley Valley (C1)

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

1. **While the Shell Appalachia facility is not located in Allegheny County, the emissions from the cracker have the potential to impact Allegheny County communities. As evidenced by the wind rose in Figure 3 below, a substantial portion of the time the winds will direct the emissions from this facility into the county.**

Response: The facility is under the jurisdiction of the Pennsylvania Department of Environmental Protection (DEP) and their Air Quality program – including air monitoring. ACHD believes that potential pollution levels in Allegheny County will be minimal, and pose little to no threat to the health of Allegheny County residents based on dispersion modeling performed by the Department. However, ACHD will continue to evaluate the facility whenever new information is available or operational changes occur that result in the potential for increased emissions. The impacts from the facility were summarized in a 2017 document the Department issued located here: https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2017-Proposed-Cracker-Plant-Impacts-on-Allegheny-County.pdf

2. **One suggestion C1 is making is the addition of an ozone monitor to the Avalon monitoring location.**

Response: Please see response to comment no. 13.3.3.

3. **We applaud ACHD’s plan to add a “non-regulatory, multi-pollutant community monitoring network”. We believe that this can substantially increase our understanding of the various nuances, such as the river valley effect noted above, that make pollution impacts in the county location specific. Because we believe that this initiative has such high potential we would ask that ACHD provide additional information on how this program will be rolled out.**

Response: Please see response to comment no. 13.4.5. The Department appreciates the supportive comment.

4. **Specific to this non-regulatory, multi-pollutant community monitoring network we strongly recommend ACHD consider placing VOC monitors in the Ohio River valley downstream of the Avalon station (which would be upwind relative to the Avalon monitor as influenced by the cracker).**

Response: Please see response to comment no. 13.2.10.

5. **With respect to this non-regulatory monitoring effort we ask that ACHD consider how to incorporate data from existing “citizen science” monitoring efforts.**

Response: This comment is beyond the scope of this document.

6. **Moving beyond the continuous monitoring provided by some of the PM and VOC monitors available commercially, C1 would like to encourage ACHD to expand its sampling program using Summa canisters, adsorption tubes and other collection methods to identify individual organic compounds and metal species.**

Response: The Department is evaluating future air toxics surveillance as resources and personnel become available - including the Ohio River region of Allegheny County. The Department will continue to evaluate potential new monitoring sites and possible network reconfigurations going forward.

7. **Our final comment is relative to ACHD notation in the description of the South Fayette monitoring station that suggests that some of the higher ozone readings seen at the site might be the result of stratospheric intrusion.**

Response: Please see response to comment no. 13.2.9.

13.7 Cathy and Chris Lodge Et al.

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

1. **Too few Allegheny County monitors exist downwind of the massive Marcellus Shale development in neighboring Washington County. Of those that exist, we feel they are placed in areas that are not properly capturing the true picture of the air pollution in Allegheny County. We request that more monitors not less be strategically located downwind of where the heaviest natural gas drilling and processing is occurring.**

Response: As resources become available the Department will investigate for the presence of elevated air emissions near the western border of Allegheny county. Previous special studies of oil and gas air monitoring performed by the Department can be found here: <https://www.alleghenycounty.us/Health-Department/Programs/Special-Initiatives/Oil-and-Gas-Extraction-Monitoring/Oil-and-Gas-Extraction.aspx>

2. **We urge ACHD to continue all monitoring at the South Fayette station and to include VOC monitoring. We also urge ACHD to add a monitoring station which includes VOC monitoring in the Imperial, Allegheny County area.**

Response: Please see responses to comment nos. 13.2.3. and 13.7.1.

13.8 Allegheny County Resident

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

- 1. Particulate, BTEX, sulfur dioxide and hydrogen sulfide are being moved from one end of the South Allegheny Middle/Senior High School to the other. The present location does not appear to have obstructions and is on the area of the building with a relatively clear path to the dominant wind direction. The dominant wind direction appears to be from the southwest to west direction. In the new location, there appears to be an elevated part of the building near the monitors with numerous air handling stations in the path of the dominant wind direction or other directions.**

Response: Please see response to comment no. 13.4.1. The probe inlet location will comply with all EPA siting requirements.

- 2. It is appreciated that additional monitoring that will be done for hydrogen sulfide, to understand its sources and make much needed and necessary improvements.**

Response: The Department appreciates the supportive comment.

- 3. Take into account communities, and their need for monitors, that are close to pollution sources originating in Allegheny County.**

Response: The Department only has jurisdiction over air quality surveillance in Allegheny county.

- 4. Areas with significant pollution sources from the oil and gas industry build out need to have more monitoring.**

Response: Please see response to comment no. 13.7.1.

- 5. Environmental justice communities need to be identified and given greater consideration for monitoring since they are likely to bear the cumulative effects of multiple sources of air pollution.**

Response: Please see response to comment no. 13.2.1

- 6. Climactic and topographical issues relating to air stagnation and movement need to be considered and extra monitoring added to these vulnerable areas.**

Response: The Department will continue to enhance its surface meteorology network. More recent additions such as the inclusion of a ceilometer, Sodar RASS and other advanced instrumentation is being pursued.

- 7. Continuous monitoring should be considered in areas where the effects of air pollution from many sources converge.**

Response: Please see response to comment no. 13.4.2

- 8. The health and safety of all residents living near Allegheny County, as well as its residents, should be the first consideration in your revised plan.**

Response: The Department agrees and feels that the changes proposed will provide more robust environmental data to evaluate from.

- 9. They (ACHD) only monitor a small portion of Allegheny County. None of them monitor the pollution being produced or dumped in the southernmost or northernmost portions of the county.**

Response: Please see response to comment no. 13.2.1 regarding the expansion of air quality surveillance in the Mon Valley. The Department will continue to evaluate potential new monitoring sites and possible network reconfigurations going forward.

- 10. Facilities should be required to have significant curtailment of operations up to and including complete shut-down of operations during periods of inversion and poor air quality as measured by the certified monitors.**

Response: This comment is beyond the scope of this document. Please refer to the Mon Valley Air Pollution Episode rule: https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Programs/Air_Quality/SIPs/97-SIP-Rev-Article-XXI-Mon-Valley-Air-Pollution-Episode-Regulation.pdf

- 11. I urge the Allegheny County Health Department to implement the 2022 Air Monitoring Network Plan with additional proposals to do more monitoring in all of the areas affected and potentially affected by the “Toxic Ten” largest in Allegheny County.**

Response: Please see response to comment no. 13.8.9.

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: HAP Metals Sampling

A2.1 Lawrenceville NCORE Site Metals

From 2013 through August of 2020, HAP metals were measured at the Lawrenceville NCORE site on a routine basis. This sampling was replaced in August 2020 by PM10 metals sampling for the NATTS program.

A2.2 Lawrenceville Toxic Metals Study

A special study was initiated on 04/30/2011 in Lawrenceville in response to public concern about local exposure to toxic metals potentially being released into the community by a local foundry. Activities at this industrial site include an electric arc furnace and a steel foundry that casts railcar couplings. ACHD conducts air sampling on plant property using a USEPA reference method PM₁₀ sampler and high purity quartz filters. Sampling is conducted every three days and each sample operates for 24 hours at 40 cfm. The filter is analyzed by a contracted laboratory for manganese, lead and total chromium. Updated reports are available on the ACHD webpage. The Department is planning to discontinue this study as there was never any intention for this study to span 10 consecutive years. Annual average metals concentrations do not encroach upon any health standards and the proximity of NATTS metals sampling less than 1.5 kilometers from this site makes these data redundant.

A2.3 Kopp Glass 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 PM₁₀ 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 on June 14, 2020.

A3: Volatile Organic Compound (VOC) Sampling

A3.1 Charcoal Tube Sampling

Charcoal tube sampling is used by ACHD routinely to measure ambient concentrations of targeted VOCs. 24-hour average samples are collected at Liberty every three days. Charcoal tube sampling was discontinued after December 2018 at the Avalon site due to uniform low results. Sampling was commenced on an every-three-day sampling schedule at the West Mifflin temporary sulfur dioxide monitoring location during February 2019 and ended in December 2019.

Sampling is accomplished 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). Charcoal tube samples are also collected by field staff using battery powered personal samplers for shorter durations and higher flow rates during community investigations, usually in response to citizen odor complaints. Data is available upon request.

A3.2 Benzo[a]pyrene Monitoring

Benzo[a]pyrene is a polycyclic aromatic hydrocarbon that is a known human carcinogen and is potentially emitted by the metallurgical coking industry. ACHD currently monitors for this compound using an in-house developed method, analyzing PM₁₀ high volume quartz filter samples using high pressure liquid chromatography (HPLC). PM₁₀ filters from the Liberty air monitoring site are analyzed for benzo[a]pyrene since this site is impacted by emissions from the Clairton Coke Works. With the addition of benzo[a]pyrene monitoring at Lawrenceville as part of the NATTS program, the Lawrenceville data can be used for background comparison. Data is available upon request.

A4: 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 H₂S 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 H₂S 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 planned using portable hydrogen sulfide analyzers in and around the Mon Valley.

A5: Settled Particulate

Total settled particulate, also commonly referred to as dustfall, 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 five 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/cm²/month, 30-day average not to exceed 1.5 mg/cm²/month). Data is available upon request.

A6: 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), PM₁₀ metals and hydrogen sulfide (H₂S) 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 additional sampling has commenced as new equipment needed for the study has become available. The full study of concurrent sampling will last one year in duration.

Appendix B: Full Citizen Comments

- 13.1, GASP – Page 91
- 13.2, Clean Air Council – Page 99
- 13.3, ACCAN – Page 154
- 13.4, CWA – Page 156
- 13.5, Pitt – Page 160
- 13.6, C1 – Page 162
- 13.7, Lodge et Al. – Page 169
- 13.8, Allegheny County Resident – Page 193

**COMMENTS OF THE GROUP AGAINST SMOG AND POLLUTION (“GASP”)
REGARDING THE ALLEGHENY COUNTY HEALTH DEPARTMENT’S (“ACHD”)
DRAFT AIR MONITORING NETWORK PLAN FOR CALENDAR YEAR 2022**

The Clean Air Act (“CAA”) requires each State Implementation Plan (“SIP”) to “provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to ... monitor, compile, and analyze data on ambient air quality.”¹ Regulations promulgated thereunder specify “requirements for measuring ambient air quality and for reporting ambient air quality data and related information.”² These regulations include design criteria for “[m]inimum ambient air quality monitoring network requirements used to provide support to the [SIPs], national air quality assessments, and policy decisions.”³

State and local air pollution control agencies must submit to the EPA “Regional Administrator an annual monitoring network plan which shall provide for the documentation of the establishment and maintenance of an air quality surveillance system.”⁴ In accordance with 40 C.F.R. § 58.10, ACHD made its Air Monitoring Network Plan for Calendar Year 2022 (“Plan” or “Draft Plan”) available for public inspection on July 9, 2021.⁵ Based on review of the Draft Plan, GASP offers the following comments.

I. ACHD must expand and improve its public outreach and education efforts regarding air quality.

One of the “three basic monitoring objectives” for ambient air monitoring networks is to “[p]rovide air pollution data to the general public in a timely manner.”⁶ The applicable

¹ 42 U.S.C. § 7410(a)(2)(B).

² 40 C.F.R. § 58.2(a).

³ 40 C.F.R. § 58.2(a)(5).

⁴ 40 C.F.R. § 58.10(a)(1).

⁵ *Draft Plan*, at § 12.1.

⁶ 40 C.F.R. Part 58, App. D § 1.1.

regulations do not list specific methods that air pollution control agencies must follow to fulfill this requirement,⁷ but that agencies must develop such an outreach strategy is written into the Clean Air Act itself:

Each [SIP] shall contain measures which will be effective to notify the public during any calendar [year] on a regular basis of instances or areas in which any national primary ambient air quality standard is exceeded or was exceeded during any portion of the preceding calendar year to advise the public of the health hazards associated with such pollution, and to enhance public awareness of the measures which can be taken to prevent such standards from being exceeded and the ways in which the public can participate in regulatory and other efforts to improve air quality.⁸

“Historically, State and local agencies have used primarily the AQI, or other [air quality indices], to provide general information to the public about air quality and its relationship to public health.”⁹ When conceived in 1999, the AQI was innovative insofar as it created a single, national, uniform means of providing “accurate, timely, and easily understandable information about daily levels of pollution.”¹⁰ Unfortunately, 20 years of advancements in data communications, air quality monitoring technology, and the health sciences’ understanding of air pollution’s adverse impacts have left the AQI’s daily index value well behind the times.

As a community organization, GASP has observed the advent of EPA’s NowCast, Purple Air monitors and other internet sources publishing “real-time” air quality information, and ACHD’s own expansion of air quality monitoring are creating immense confusion among the public concerning air quality. To fulfill its Clean Air Act duties noted above, ACHD must

⁷ The only guidance in Part 58 appears to be simply: “Data can be presented to the public in a number of attractive ways including through air quality maps, newspapers, Internet sites, and as part of weather forecasts and public advisories.” 40 C.F.R. Part 58, App. D § 1.1(a).

⁸ 42 U.S.C. § 7427.

⁹ Air Quality Index Reporting, 64 Fed. Reg. 42,530, 42,531 (Aug. 4, 1999).

¹⁰ National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65,292, 65,366 (Oct 26, 2015).

address the following circumstances impeding the public’s understanding of air quality and possibly increasing the public’s exposure to airborne pollutants.

- a. **The AQI, NowCast, and ACHD’s Air Quality Dashboard all utilize different mathematical formulae to calculate an “AQI” value for PM_{2.5}; this cannot be harmonized with Appendix D or the Clean Air Act.**

A 1976 study conducted by EPA “found that the 55 urban areas in the U.S. and Canada reporting [some type of] index of air quality used 14 different indices, in conjunction with different cautionary messages, such that in essence 55 different indices were being used to report air quality.”¹¹ EPA’s development of and reporting requirements for the modern AQI had the distinct advantage of sending “a clear and consistent message to the public by providing nationally uniform information on air quality.”¹² Sadly, the value of this approach appears to have been lost.

As explained in Appendix G to 40 C.F.R. Part 58, the “AQI” is required to be part of a “daily report,” but reporting is only required 5 days per week.¹³ The calculations for the AQI are based on the averaging times of the National Ambient Air Quality Standards (“NAAQS”).¹⁴ In this format, the AQI values serve the goals of standardization and simplicity but the reporting is of a wholly backward-looking value.

From a public health perspective, yesterday’s news is only one part of the picture. When the current AQI program was established in 1999, EPA noted “[c]ommenters from State and local agencies encouraged us to develop any approaches to revising the AQI in consultation with them, specifically in the areas of sharing real-time monitoring data, risk communication with the

¹¹ Air Quality Index Reporting, 64 Fed. Reg. 42,530, 42,531 (Aug. 4, 1999)

¹² *Id.*

¹³ 40 C.F.R. Part 58, App. G §§ 3, 7.

¹⁴ 40 C.F.R. Part 58, App. G § 12.

public, and coordination of a national program.”¹⁵ EPA also noted that Clean Air Scientific Advisory Council members recommended “that an expanded air pollution warning system be initiated so that sensitive individuals can take appropriate ‘exposure avoidance’ behavior.”¹⁶ In spite of these unambiguous calls to use AQI values and messaging in a forward-looking application to protect public health, current regulations state air pollution control agencies, “should forecast the AQI to provide timely air quality information to the public, but this is not required.”¹⁷ In fact, EPA has suggested “all other AQI-related activities—including real-time ozone and particle pollution reporting, next-day air quality forecasting and action days—are voluntary and are carried out at the discretion of state, local and tribal air agencies.”¹⁸

Under such tepid guidance, EPA should not be surprised to find – as it did in 1976 – that air pollution control agencies have developed different forecasting and real-time-reporting methods have developed. Even worse, the term “AQI” is used for many of them.

To highlight the confusion, consider PM_{2.5} reporting in Allegheny County. A concerned resident might find a forecasted AQI for a given day. That forecast is based on the expected full-day value. During that day, EPA’s NowCast might show a higher or lower value based on the algorithm it uses.¹⁹ Further complicating matters, ACHD’s Air Quality Dashboard reports the AQI for PM_{2.5} on a strict rolling 24-hour basis.²⁰ In this scenario, a resident seeking to minimize exposure to PM_{2.5} might not appreciate how hourly fluctuations are not reflected in an averaged,

¹⁵ Air Quality Index Reporting, 64 Fed. Reg. 42,530, 42,532 (Aug. 4, 1999).

¹⁶ *Id.*

¹⁷ 40 C.F.R. Part 58, App. G § 11.

¹⁸ National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65,292, 65,366 (Oct 26, 2015).

¹⁹ AirNow, *How is the NowCast algorithm used to report current air quality?*, https://usepa.servicenowservices.com/airnow?id=kb_article_view&sys_id=fed0037b1b62545040a1a7dbe54bcbd4.

²⁰ ACHD, *Allegheny County Air Quality*, <https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Air-Quality.aspx>.

full-day value, rely somewhat more accurately on the weighted 12-hr math of the NowCast, and then be absolutely baffled by a rolling 24-hour value differing with the NowCast.

Neither ACHD nor EPA could sanely state this situation serves the public's best interest. For all of the advancements made in the past 20 years that allow more accurate data to be shared faster with wider audiences, ACHD and EPA simply must do better to ensure communications and outreach "advise the public of the health hazards associated with [air] pollution" effectively and accurately.

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

ACHD's commitment to expanding air quality monitoring over the past two years has been impressive. As far as those expansions include monitoring of criteria pollutants, the existing public outreach methods – as hopefully modified per the points noted above – will likely suffice. Unfortunately, the AQI as an outreach tool is limited to pollutants for which the EPA has set a NAAQS.

When ACHD has conducted prior Special Study Projects of non-AQI pollutants, the reports generated have often been thorough but without a consistent update schedule. Given the significant expansion of monitoring proposed in the Draft Plan for the Mon Valley Air Toxics and Odors Study – a project with significant public interest – and the expanded PAMS monitoring, a thorough but irregular schedule for updating the public will not suffice. Given the numerous studies and data collected on non-NAAQS pollutants, ACHD must develop an approach to ensure data and results are provided to the general public in a timely manner.

- c. **ACHD should consider messaging, outreach, and education to address low-cost monitoring and internet sources of air quality information and working with Pa DEP to standardize air quality data reporting.**

In keeping with the plea for better outreach set forth at the beginning of this section, GASP believes that the various sources of air quality data across the internet are contributing to public confusion over air quality. Understanding that the internet at large and Pa DEP are not within ACHD's sphere of control, GASP believes that ACHD still can play a role by exercising its duty to protect public health through education. In that respect, some sort of communications policy or outreach materials that explain the various sources of air quality data, why agencies might report values differently, and the roles the public plays in would be beneficial.

II. The Draft Plan must be amended to greater detail regarding the Mon Valley Air Toxics and Odors Study.

As noted above, GASP strongly supports ACHD's commitment to expanding air quality monitoring. In particular, GASP has no complaints as to stated aims and likely methods for conducting the Mon Valley Air Toxics and Odors Study. That said, the reported details of the study as they appear in the Draft Plan must be expanded.

Simply put, the public cannot provide meaningful comments when details of a proposal are incomplete. From notes of prior public meetings held by ACHD, GASP staff are reasonably sure the PM₁₀ metals will be sampled at the existing North Braddock site, but that detail is not listed in the Draft Plan.²¹ In addition, locations, sampling schedules, and most of the criteria required under 40 C.F.R. § 58.10(b) are not in the Draft Plan. While that could be said for many of the special monitoring projects ACHD has, the Mon Valley Air Toxics and Odors Study is

²¹ *Draft Plan*, at § A6.

significantly larger in scale. Even if ACHD determines Section 58.10(b) is inapplicable, ACHD should provide the public with a greater level of detail than currently exists in the Draft Plan.

III. Allegheny County officials and ACHD must clarify the future of ACHD's Lawrenceville monitoring site.

EPA requires that annual monitoring network plans contain “[a]ny proposals to remove or move a monitoring station within a period of 18 months following plan submittal.”²² In spite of local community groups engaging in activities aimed at “visioning” future uses for the current Lawrenceville monitoring site, neither the County nor ACHD have made any statement on the matter. By omitting any mention of moving the site in the Draft Plan, ACHD must confirm that for at least the next 18 months, the status quo will remain.

²² 40 C.F.R. § 58.10(b)(5).



Allegheny County Health Department

Air Monitoring Network Plan for Calendar Year 2022

August 9, 2021

**Written Comments by Clean Air Council,
Environmental Integrity Project,
CREATE Lab, Carnegie Mellon University
Protect PT (Penn-Trafford),
Mountain Watershed Association,
PennFuture, and
Environmental Health Project**

via e-mail: david.good@alleghenycounty.us

Clean Air Council (“the Council”) submits these written comments on behalf of itself, Environmental Integrity Project, CREATE Lab, Carnegie Mellon University, Protect PT (Penn-Trafford), Mountain Watershed Association, PennFuture, and Environmental Health Project regarding the Allegheny County Health Department’s proposed Air Monitoring Network Plan for Calendar Year 2022, dated July 9, 2021 (“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.

The Environmental Integrity Project (“EIP”) is a 19-year-old, nonpartisan, 501(c)(3) nonprofit organization dedicated to enforcing environmental laws and strengthening policy to protect public health and the environment. EIP has several dedicated staff in Pennsylvania working to improve air quality in Pennsylvania.

The Community Robotics, Education and Technology Empowerment Lab (CREATE Lab) at Carnegie Mellon is an ongoing experiment in a new model for university-community relations. This new model is called a Community Lab because it privileges sustained relationships above and beyond the technology innovation and knowledge-building processes, balancing technology invention with cultural transformation, and technical literacy with issue driven advocacy.

Protect PT (Penn-Trafford) is a nonprofit organization dedicated to ensuring residents' safety, security, and quality of life by engaging in education and advocacy to protect the economic, environmental, and legal rights of the people in Westmoreland and Allegheny counties.

The Mountain Watershed Association, home of the Youghiogheny Riverkeeper, is a community-based non-profit organization concerned with the protection, preservation, and restoration of the Indian Creek and greater Youghiogheny River watersheds.

PennFuture is a Pennsylvania-statewide environmental organization dedicated to leading the transition to a clean energy economy in Pennsylvania and beyond. PennFuture strives to protect our air, water and land, and to empower citizens to build sustainable communities for future generations. A main focus of PennFuture's work is to improve and protect air quality across Pennsylvania through public outreach and education, advocacy, and litigation.

EHP is a nonprofit public health organization that assists and supports residents of Southwestern Pennsylvania and beyond who believe their health has been, or could be, impacted by unconventional oil and gas development. Since 2011 EHP has provided frontline communities with timely monitoring, interpretation, and guidance, while engaging diverse stakeholders, including health professionals, researchers, community organizers, and public servants.

In June 2021, the Department published a press release setting a deadline of August 9, 2021 at 4:30 pm for the submission of comments. *See* Press Release, July 9, 2021, [Health Department Seeks Comment on Annual Air Monitoring Network Plan](#). The Council submits these comments on the Proposed Plan located here: https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2022%20ANP%202021.6.16%20-%20DRAFT.pdf.

List of Comments

1. The Department Should Incorporate Specific Environmental Justice Considerations into the Air Monitoring Network Plan.
2. The Department Should Expand Monitoring for Air Toxics in the Mon Valley.
3. Because the Relocated Monitor for Sulfur Dioxide at Clairton Would Be a Background Monitor, the Department Should Install an Additional Monitor North of the Clairton Coke Works to Pick Up Sulfur Dioxide Plumes Moving to the North.
4. Because the Prevailing Wind Direction is Parallel to I-376 at the Near-Road Monitor for Nitrogen Dioxide at Parkway East, the Department Should Gather Additional Monitoring Data at Other Locations to Confirm if Siting is Appropriate.
5. The Department Should Monitor Volatile Organic Compounds On and Near Neville Island.
6. The Department Should Monitor Sulfur Dioxide and Other Air Pollutants in the Southeastern Corner of Allegheny County.
7. The Department Should Monitor Nitrogen Oxides (NO_x) in the Mon Valley.
8. The Department Should Install a SLAMS Monitor for Lead Near the Edgar Thomson Facility in Braddock.
9. The Department Should Provide Evidence that Stratospheric Intrusion Has Been Responsible for Elevated Levels of Ozone at the South Fayette Monitor.
10. The Department Should Provide More Detail Regarding How it Intends to Expand the Non-Regulatory Monitoring Network to Supplement the Regulatory Monitoring Network.
11. In the Text of the Proposed Plan, the Department Should Explain How it Uses the Air Monitoring Network to Determine Reporting and Forecasting for the Air Quality Index (AQI).

List of Attachments

Attachment 1	City of Philadelphia, Air Management Services, 2021-2022 Air Monitoring Network Plan (July 1, 2021) (draft) (excerpts)
Attachment 2	Allegheny County Health Department’s 2020 Air Monitoring Network Plan (excerpts), pages 85, 93, <i>available at</i> https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2021-ANP.pdf
Attachment 3	U.S. Geological Survey, US Topo (The National Map), Ambridge Quadrangle Pennsylvania, 7.5-Minute Series (excerpt), <i>available at</i> https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02
Attachment 4	U.S. Geological Survey, US Topo (The National Map), Emsworth Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series (excerpt), <i>available at</i> https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02
Attachment 5	U.S. Geological Survey, US Topo (The National Map), Pittsburgh West Quadrangle Pennsylvania – Allegheny County, 7.5-Minute Series (excerpt), <i>available at</i> https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02
Attachment 6	Environmental Health Project, Modeled Relative Average and Maximum Airborne Pollutant Levels from the Westmoreland Power Station (2021) (based on the running of the NOAA High-Resolution Rapid Refresh Atmospheric Model)
Attachment 7	Email from Fred Bickerton to Allegheny County Health Department (July 9, 2019)
Attachment 8	Indiana 2022 Ambient Air Monitoring Network Plan (July 1, 2021)
Attachment 9	Indiana Department of Environmental Management, Emissions Summary Data, https://www.in.gov/idem/airquality/reporting/emissions-summary-data/ (click “XLXS”)
Attachment 10	Michigan Department of Environment, Great Lakes, and Energy, Annual Ambient Air Monitoring Network Review (July 1, 2021)
Attachment 11	Memorandum, Donna Lee Jones, U.S. Environmental Protection Agency, Development of Emissions Estimates for Fugitive or Intermittent HAP Emission Sources for an Example II&S Facility for input to the RTR Risk Assessment (May 1, 2020)
Attachment 12	Comments of Clean Air Council on Proposed Air Pollution Episode Regulations (June 9, 2021)

Maps Showing Locations of Monitors

10.1 Lawrenceville (40.465420, - 79.960757)	(all identified pollutants)	https://www.google.com/maps/@40.4652158,-79.9611557,60a,35y,54.18h,45.03t/data=!3m1!1e3
10.2 Liberty (40.323761, - 79.868151)	(particulate and BTEX), (PM10, PM2.5, air toxics)	https://www.google.com/maps/place/Washington+Blvd,+McKeesport,+PA+15133/@40.3236501,-79.8683618,97m/data=!3m1!1e3!4m3!1m7!3m6!1s0x0:0x0!2zNDDCsDE5Jz11LjUiTiA3OcKwNTInMDUuMyJX!3b1!8m2!3d40.323761!4d-79.868151!3m4!1s0x8834e5a44c46199f:0xe2a58bb4c5052ad!8m2!3d40.3245662!4d-79.8666121
10.2 Liberty (40.324759, - 79.867030)	(SO2, H2S)	https://www.google.com/maps/place/40%C2%B019'29.1%22N+79%C2%B052'01.3%22W/@40.3244178,-79.8677523,191m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.324759!4d-79.86703
10.3 Glassport (40.326008, - 79.881703)	(PM10)	https://www.google.com/maps/place/40%C2%B019'33.6%22N+79%C2%B052'54.1%22W/@40.3256147,-79.8819374,62a,35y,45.03t/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.326008!4d-79.881703
10.4 North Braddock (40.402328, - 79.860973)	(SO2, CO, PM10, PM2.5, air toxics)	https://www.google.com/maps/place/40%C2%B024'08.4%22N+79%C2%B051'39.5%22W/@40.4022979,-79.8610681,46m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.402328!4d-79.860973
10.5 Harrison (40.617488, - 79.727664)	(NO2, O3, PM2.5)	https://www.google.com/maps/place/40%C2%B037'03.0%22N+79%C2%B043'39.6%22W/@40.6174879,-79.7279364,96m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.617488!4d-79.727664
10.6 South Fayette (40.375644, - 80.169943),	(SO2, O3, PM2.5)	https://www.google.com/maps/place/40%C2%B022'32.3%22N+80%C2%B010'11.8%22W/@40.3756156,-80.1701114,50m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.375644!4d-80.169943

10.7 Clairton (40.294341, - 79.885331)	(SO2, PM10, PM2.5, air toxics)	https://www.google.com/maps/place/40%C2%B017'39.6%22N+79%C2%B053'07.2%22W/@40.2944037,-79.8857199,132m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.294341!4d-79.885331
10.8 Avalon (40.499767, - 80.071337)	(SO2, PM2.5)	https://www.google.com/maps/place/40%C2%B029'59.2%22N+80%C2%B004'16.8%22W/@40.499767,-80.071513,46m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.499767!4d-80.071337
10.9 Flag Plaza (40.443367, - 79.990293)	(PM10)	https://www.google.com/maps/place/40%C2%B026'36.1%22N+79%C2%B059'25.1%22W/@40.4432823,-79.990567,86m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.443367!4d-79.990293
10.10 Parkway East (40.437430, - 79.863572)	(CO, NO2, PM2.5, air toxics)	https://www.google.com/maps/place/40%C2%B026'14.8%22N+79%C2%B051'48.9%22W/@40.4374027,-79.8638804,47m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.43743!4d-79.863572

Source: Proposed Plan, page 19 (Table 4 Air Monitoring Network Summary), sections relating to individual monitoring sites

Comments

1. The Department Should Incorporate Specific Environmental Justice Considerations into the Air Monitoring Network Plan.

During the past year following the social unrest over social injustice last summer, there has been a lot of talk about environmental justice. But this has not transformed into meaningful action by state and local air pollution control agencies. The proposed plan makes only vague and passing references to environmental justice, without providing specific information how this will be addressed in the air monitoring network. *See e.g.*, Proposed Plan, page 14, Section 3.1.4 (“[a]dditional focus will be in providing additional air quality surveillance to underserved Environmental Justice communities throughout Allegheny County”).

In contrast, the proposed air monitoring network plan for Air Management Services for the City of Philadelphia goes further by stating that the City of Philadelphia received an award of a grant from EPA for air toxics monitoring:

In October 2020, *AMS received an EPA grant award for Community-Scale Air Toxics Ambient Monitoring* (RFP Number: EPA-OAR-OAQPS-20-05). This project will focus on monitoring the top seven air toxics in Philadelphia: formaldehyde, benzene, carbon tetrachloride, naphthalene, acetaldehyde, 1,3-butadiene, and ethylene oxide.

See Attachment 1 -- City of Philadelphia, Air Management Services, 2021-2022 Air Monitoring Network Plan (July 1, 2021) (draft), page 64 (“2020 Community-Scale Air Toxics Ambient Monitoring Grant Project Summary”) (bold italics added for emphasis). Information about this EPA grant is available on the Internet. *See* U.S Environmental Protection Agency, Community-Scale Air Toxics Ambient Monitoring - Closed Announcement FY 2020, Back to Air Grants and Funding, Request for Applications (RFA #: EPA-OAR-OAQPS-20-05), <https://www.epa.gov/grants/community-scale-air-toxics-ambient-monitoring-closed-announcement-fy-2020>. The closing date for this grant was May 1, 2020.

The Department should revise its Proposed Plan to discuss what efforts it has undertaken to strengthen its air monitoring network through a grant under that program, of which the City of Philadelphia was a beneficiary.

In addition, there is an opportunity for strengthening the air monitoring network under the American Rescue Plan of 2021, which was signed by President Biden on March 11, 2021. Congress approved a total of \$100 million for the EPA to address health outcome disparities from pollution and the COVID-19 pandemic:

SEC. 6002. FUNDING FOR POLLUTION AND DISPARATE IMPACTS OF THE COVID-19 PANDEMIC.

(a) IN GENERAL.—In addition to amounts otherwise available, there is appropriated to the Environmental Protection Agency for fiscal year 2021, out of any money in the Treasury not otherwise appropriated, \$100,000,000, to remain available until expended, to address health outcome disparities from pollution and the COVID-19 pandemic, of which—

(1) \$50,000,000, shall be for grants, contracts, and other agency activities that identify and address disproportionate environmental or public health harms and risks in minority populations or low-income populations under—

(A) section 103(b) of the Clean Air Act ([42 U.S.C. 7403\(b\)](#));

(B) section 1442 of the Safe Drinking Water Act ([42 U.S.C. 300j-1](#));

(C) section 104(k)(7)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ([42 U.S.C. 9604\(k\)\(7\)\(A\)](#)); and

(D) sections 791 through 797 of the Energy Policy Act of 2005 ([42 U.S.C. 16131](#) through 16137); and

(2) \$50,000,000 shall be for grants and activities authorized under subsections (a) through (c) of section 103 of the Clean Air Act ([42 U.S.C. 7403](#)) and grants and activities authorized under section 105 of such Act ([42 U.S.C. 7405](#)).

(b) ADMINISTRATION OF FUNDS.—

(1) Of the funds made available pursuant to subsection (a)(1), the Administrator shall reserve 2 percent for administrative costs necessary to carry out activities funded pursuant to such subsection.

(2) Of the funds made available pursuant to subsection (a)(2), the Administrator shall reserve 5 percent for activities funded pursuant to such subsection other than grants.

See American Rescue Plan of 2021, Section 6002, <https://www.congress.gov/bill/117th-congress/house-bill/1319/text>. There are two parts to this, both of which have implications for the air monitoring network.

First, under Section 6002(a) EPA has announced the availability of \$50 million in grants for environmental justice. See U.S. EPA, EPA Announces \$50 Million to Fund Environmental Justice Initiatives Under the American Rescue Plan (June 25, 2021), <https://www.epa.gov/newsreleases/epa-announces-50-million-fund-environmental-justice-initiatives-under-american-rescue>. In this announcement, EPA identifies at least 14 environmental justice-focused projects already contemplated throughout the country. None of those projects is in Pennsylvania. See *id.*

Second, under Section 6002(b) EPA has announced the availability of \$50 million in grants for enhanced air quality monitoring. See U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC), American Rescue Plan, *Improving Ambient Air Quality Monitoring to Address Health Outcome Disparities* (July 7, 2021), <https://www.epa.gov/amtic/american-rescue-plan>.

Given all the talk in the past year about environmental justice and all the money being made available by EPA, there does not appear to be any reason why the Department should not also integrate environmental justice considerations into its proposed air monitoring network.

The Department should revise the Proposed Plan to discuss specifically how it will work to take advantage of these opportunities to strengthen its air monitoring network and address environmental justice.

2. The Department Should Expand Monitoring for Air Toxics in the Mon Valley.

The Department's monitoring for air toxics is done primarily at the Lawrenceville site (an NCore site). *See* Proposed Plan, page 19 (Table 4 Air Monitoring Network Summary) (identifying monitors for TO15(6), TO11(6), PAH, and M). Additional monitoring is also done at Liberty (Ch H2S), North Braddock (H2S), Clairton (H2S), and Parkway East (Aeth(C)).¹ *See id.* Given the nature and extent of air pollution in the Mon Valley, the Department should perform monitoring for these and other air toxics in the Mon Valley as well.

There is nothing in the regulations that compels air toxics monitoring to take place at Lawrenceville, as opposed to another monitor. Coordination at the NCore site is only appropriate if it is advantageous:

The NCore locations should be leveraged with other multipollutant air monitoring sites including PAMS sites, National Air Toxics Trends Stations (NATTS) sites, CASTNET sites, and STN sites. Site leveraging includes using the same monitoring platform and equipment to meet the objectives of the variety of programs where possible and advantageous.

See 40 CFR part 58, Appendix D, Section 3.1(a) (bold italics added for emphasis). *See also* Proposed Rule, 71 Fed. Reg. 2710, 2730 (January 17, 2006) (“The multipollutant NCore stations should be collocated, ***when appropriate***, with other multipollutant air monitoring stations including PAMS, National Air Toxic Trends Station (NATTS) sites, and the PM2.5 chemical Speciation Trends Network (STN) sites”), <https://www.federalregister.gov/documents/2006/01/17/06-179/revisions-to-ambient-air-monitoring-regulations> (bold italics added for emphasis).

Since August 19, 2020, the Department has maintained one sensor that samples volatile organic compounds once every six days, a second sensor that samples carbonyls once every six days, and a third sensor that samples polyaromatic hydrocarbons once every six days. *See id.*, pages 39-40. Since June 1, 2021, it has maintained a fourth sensor that samples volatile organic compounds hourly during PAMS season, apparently to address ozone. *See id.*, page 40. The Department should undertake similar monitoring in the Mon Valley. Presumably, the cost of additional monitoring would not be significant, since the sampling involves the use of canisters.

The Department should provide greater ease of access to data results for air toxics studies. The Department merely repeats that “[d]ata is available upon request,” *See* Proposed Plan, page 75 (A3.1 Charcoal Tube Sampling for Avalon and West Mifflin), 76 (A3.2 Benzo[a]pyrene Monitoring at Lawrenceville), 76-77 (A5: Settled Particulate at Natrona Heights (x2), Collier Township and Braddock).

¹ The aethalometer measures black carbon, not air toxics per se. *See id.*, pages 69, 72 (defining an aethalometer as “[a] continuous monitor designed to measure diesel mobile emissions by quantifying black carbon particles....”).

As for hydrogen sulfide, the temporary availability of data for about one week on the Department's website is insufficient. *See id.*, page 76 (A4: Hydrogen Sulfide) ("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 public should not be put to the task of making a right-to-know request for these data. There is no reason why the Department cannot create a webpage dedicated for this purpose. The Department already maintains a webpage for air toxics monitoring at the Swissvale site. *See* ACHD Monitoring Air Toxics in Swissvale, <https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Swissvale-Air-Toxics-Metals-Study.aspx>.

3. **Because the Relocated Monitor for Sulfur Dioxide at Clairton Would Be a Background Monitor, the Department Should Install an Additional Monitor North of the Clairton Coke Works to Pick Up Sulfur Dioxide Plumes Moving to the North.**

Last year, the Department discontinued a sulfur dioxide monitor at the Avalon site. *See* Proposed Plan, page 11, Section 2.2.1 (“SO₂ monitoring was discontinued on November 11th, 2020 after having demonstrated steady, low concentrations since the shutdown of the Shenango Coke Works coke battery in January of 2016”). The Department should relocate the discontinued sulfur dioxide monitor at the Avalon site to a new site to be located north of the Clairton Coke Works, to address noticeable plumes of pollution downwind to the north of the Clairton Coke Works.

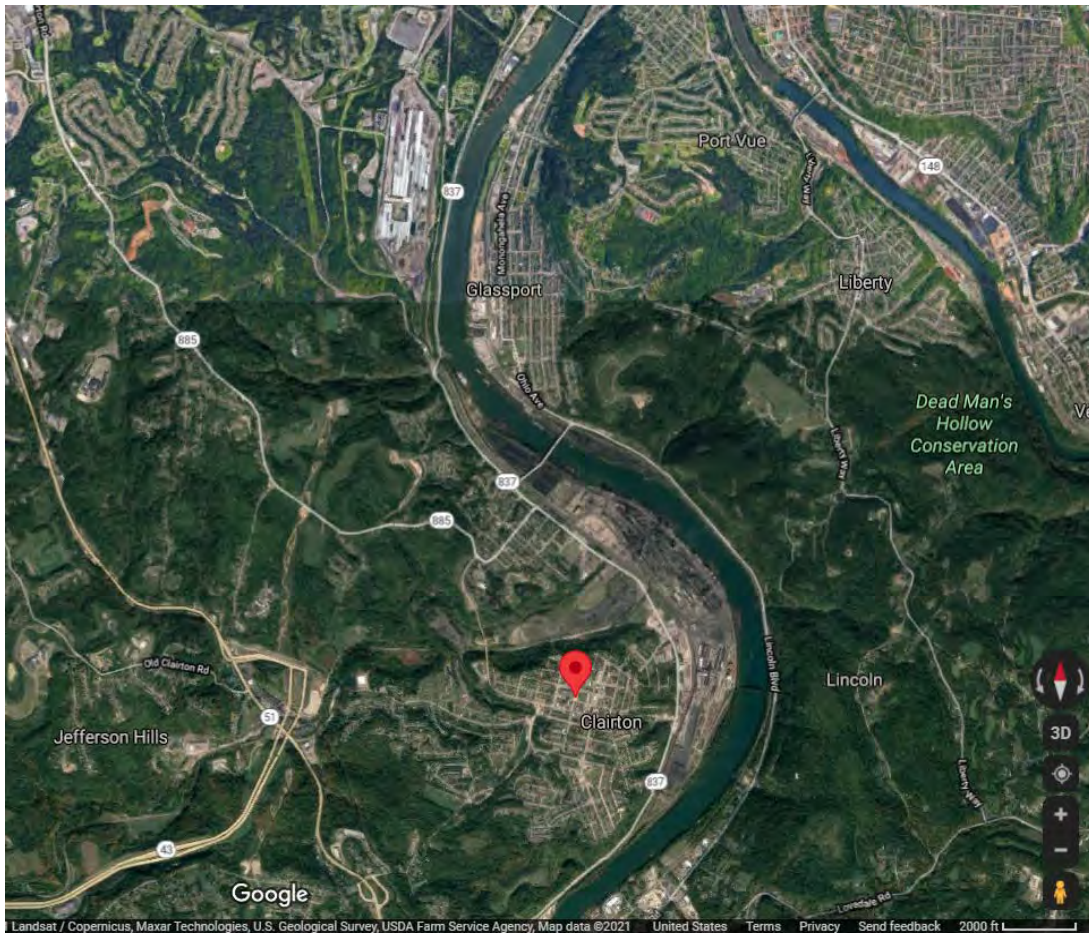
To be sure, the Department is already proposing to discontinue a sulfur dioxide monitor at the South Fayette site and relocate it to the Clairton site. *See* Proposed Plan, page 14, Section 3.3.1 (“ACHD proposes to relocate sulfur dioxide (SO₂) monitoring currently performed at the South Fayette station to the Clairton station”). But this would not address the northerly plumes.

The sulfur dioxide monitor at South Fayette was intended to be a background monitor, not a monitor for pollutants from particular facilities. *See id.* (“Originally designated as a background/transport site for SO₂, the highest readings appear to come from sources within Allegheny County based on meteorology data.”). Moreover, the Clairton monitor is also a background monitor:

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 USX 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.

See Proposed Plan, page 61, Section 10.7 (Clairton) (bold italics added for emphasis). The site of the Clairton monitor was chosen precisely because it is upwind, rather than downwind of the Clairton Coke Works.

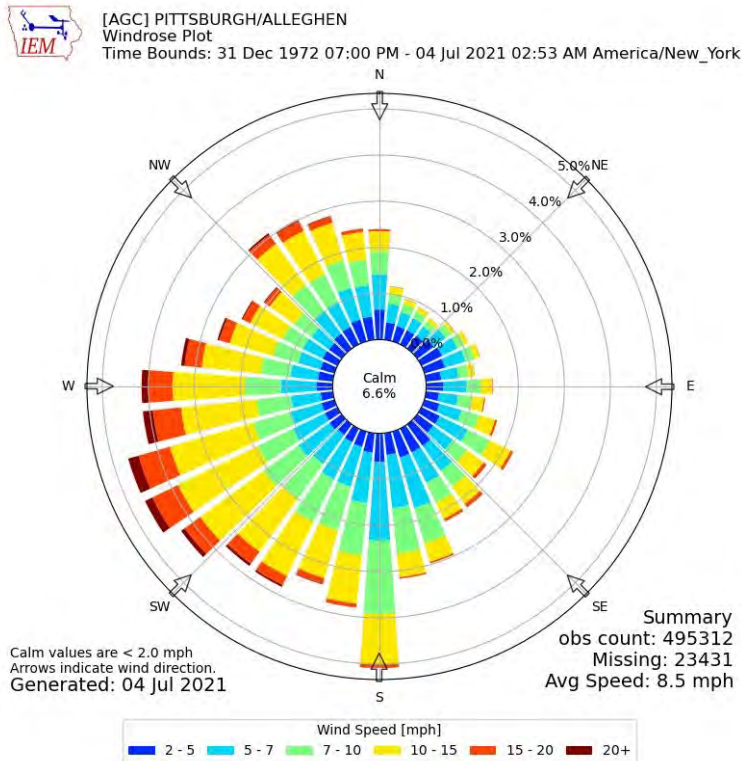
Indeed, a Google Map demonstrates that the Clairton monitor is located to the southwest (upwind) of the Clairton Coke Works:



See Google Map,

<https://www.google.com/maps/place/40%C2%B017'39.6%22N+79%C2%B053'07.2%22W/@40.314354,-79.9414599,8474m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.294341!4d-79.885331> (image downloaded on August 4, 2021); see also Proposed Plan, page 61, Section 10.7 (Clairton) (setting forth coordinates of 40.294341, -79.885331).

The long-term wind rose for Pittsburgh/Allegheny County Airport (located in West Mifflin) demonstrates a propensity of prevailing winds to blow from the Clairton monitor to the Clairton Coke Works:



See https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=AGC&network=PA_ASOS.

The presence of other sulfur dioxide monitors in the Mon Valley does not preclude the installation of an additional monitor. The regulatory formula for the number of sulfur dioxide monitors is only a minimum, not a maximum. See 40 C.F.R. part 58, Appendix D, Section 4.4.1 (“State and, where appropriate, local agencies must operate a minimum number of required SO₂ monitoring sites as described below.”).

In fact, the regulations contemplate a state air permitting agency going above and beyond minimal requirements by installing monitors to address “susceptible and vulnerable populations”:

4.4.3 Regional Administrator Required Monitoring.

(a) The Regional Administrator may require additional SO₂ monitoring stations above the minimum number of monitors required in 4.4.2 of this part, where the minimum monitoring requirements are not sufficient to meet monitoring objectives. ***The Regional Administrator may require, at his/her discretion, additional monitors in situations where an area has the potential to have concentrations that may violate or contribute to the violation of the NAAQS, in areas impacted by sources which are not conducive to modeling, or in locations with susceptible and vulnerable populations, which are not monitored under the minimum monitoring provisions described above. The Regional***

Administrator and the responsible State or local air monitoring agency shall work together to design and/or maintain the most appropriate SO₂ network to provide sufficient data to meet monitoring objectives.

See 40 C.F.R. part 58, Appendix D, Section 4.4.3 (bold italics added for emphasis). The Department should voluntarily provide additional monitoring for sulfur dioxide before waiting for someone to make a request to EPA to require this under Section 4.4.3 of the regulations.

There are very good reasons for installing additional sulfur dioxide monitors in the Mon Valley. Together, the three U.S. Steel facilities reported emissions of 6,770 tons of sulfur dioxide in 2019:

Year		County		Facility Name	NAICS Code	NAICS Desc	NAICS Category	Permit Number	Source Type	Pollutant	Emission Amt(In Tons)
2019	Allegheny	US STEEL CORP/IRVIN PLT	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0996816-32	Combustion Unit	SOX	2836.51480		
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0996816-35	Combustion Unit	SOX	2406.41960		
		USS CORP/EDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0996816-34	Combustion Unit	SOX	1100.82100		
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0996816-35	Process	SOX	260.22180		
		USS CORP/EDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0996816-34	Process	SOX	166.74180		

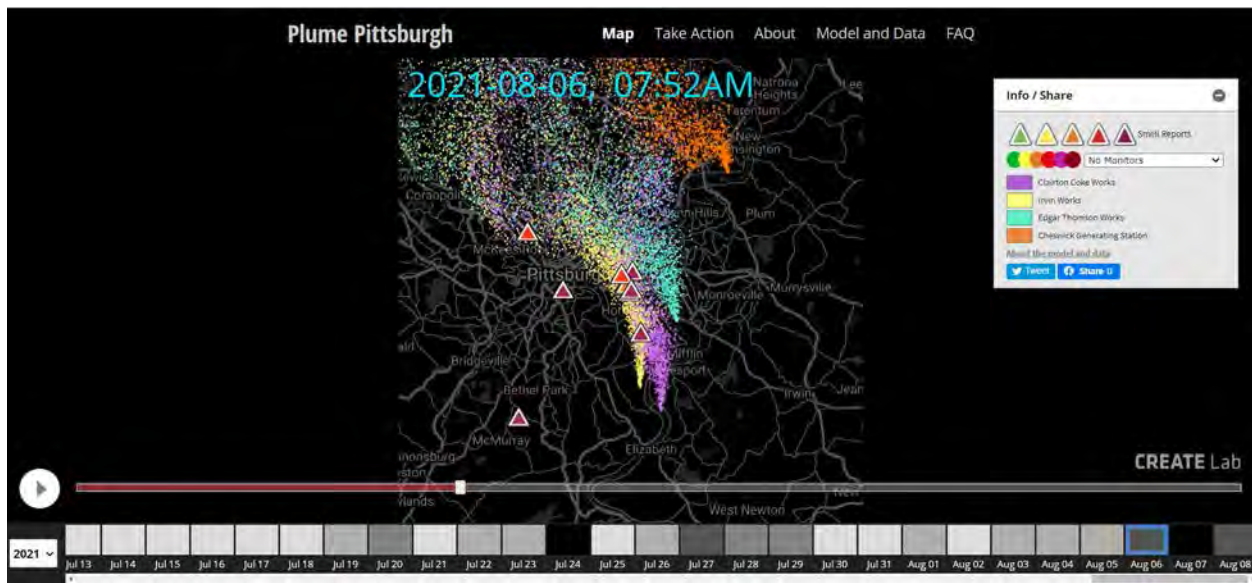
See [http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air Emissions Report](http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report) (image downloaded August 4, 2021). This figure included 2,836 tons from the Irvin Works, 2,666 tons from the Clairton Coke Works, and 1,267 tons from the Edgar Thomson Works.

Although that year was worse than normal because the company was operating in violation of its Title V permits for over three months without proper controls for sulfur dioxide, the “normal” is not very good either. In 2018, the three U.S. Steel facilities reported emissions of 3,524 tons of sulfur dioxide:

pennsylvania DEPARTMENT OF ENVIRONMENTAL PROTECTION		BUREAU OF AIR QUALITY Air Emission Report					03-AUG-21 04.00 AM Last Refresh Time		
Year	County	Facility Name	NAICS Code	NAICS Desc	NAICS Category	Permit Number	Source Type	Pollutant	Emission Amt(In Tons)
2018	Allegheny	USS CORFIEDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998816-34	Combustion Unit	SOX	1233.59990
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998816-35	Combustion Unit	SOX	1195.36190
		US STEEL COR/IRVIN FLT	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998816-32	Combustion Unit	SOX	611.43870
		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998816-35	Process	SOX	306.37300
		USS CORFIEDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998816-34	Process	SOX	186.03470

See http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report (image downloaded August 4, 2021). This figure included 1,491 tons from the Clairton Coke Works, 1,421 tons from the Edgar Thomson Works, and 611 tons from the Irvin Works.

While the prevailing wind direction is from the southwest to the northeast, there is a curious tendency for plumes of sulfur dioxide and other air pollutants to travel toward the north. This can be seen from a model of the dispersion of air pollutants from the three US Steel facilities from Plume PGH, produced by the Carnegie Mellon University CREATE Lab. The modeled pollution paths demonstrate how emissions maintain significant concentration in the air miles from the source due to the unique topography of the area.



The northerly plume from the Clairton Coke Works and Irvin Works in the snipped screenshot above can be seen from this video simulation for August 6, 2021: <https://plumepgh.org/index.html?date=2021-08-06> (last accessed August 8, 2021). The program can be run for different days of the year, by toggling along the bar at the bottom of the screen.

This animated demonstration is a model for sulfur dioxide pollution:

3. Which sources are shown and why?

Our model shows the **four largest emitters of SO₂** and other sulfur oxides in Allegheny County, which correlates strongly with

smell reports and also health impacts. See the [self-reported air emissions inventory](#) for these four sources. In 2018, these four sources produced 99% of all declared Sulfur oxides in the Allegheny County emissions inventory, 99% of Polycyclic Aromatic Hydrocarbons, and 67% of all PM2.5 declared in the same inventory. There are a number of smaller pollution sources not shown that can also correlate with smell reports and monitor values and impact health.

Plume Pittsburgh, Frequently Asked Questions, <https://plumepgh.org/resources.html>.

In running the model for dates during the month of July 2021, it is apparent that there were noticeable plumes of sulfur dioxide moving toward the north from the Clairton Coke Works on the following dates: July 1, 4, 5, 7, 9, 10, 11, 12, 13, 15, 16, 17, 20, 23, 24, 26, 27, 28, 29, 31. Accordingly, the Department should install a monitor for sulfur dioxide to reflect the plumes from these facilities moving toward the north.

4. **Because the Prevailing Wind Direction is Parallel to I-376 at the Near-Road Monitor for Nitrogen Dioxide at Parkway East, the Department Should Gather Additional Monitoring Data at Other Locations to Confirm if Siting is Appropriate.**

The Department maintains one near-road monitor for nitrogen dioxide, located at Parkway East. *See* Proposed Plan, pages 68-71, Section 10.10. But it does not provide the data in the Proposed Plan or in the 2020 Five-Year Assessment to substantiate the siting of this monitor in this precise location. Given the nature of prevailing winds, it is not clear whether maximum concentrations may be obtained on the current southern side of the highway or on the northern side of the highway.

For populations over 1,000,000, the regulations require the installation of at least one near-road monitor for nitrogen oxides “to monitor a location of expected maximum hourly concentrations”:

4.3.2 Requirement for Near-road NO₂ Monitors

(a) Within the NO₂ network, there must be one microscale near-road NO₂ monitoring station in each CBSA with a population of 1,000,000 or more persons ***to monitor a location of expected maximum hourly concentrations sited near a major road with high AADT counts*** as specified in paragraph 4.3.2(a)(1) of this appendix.

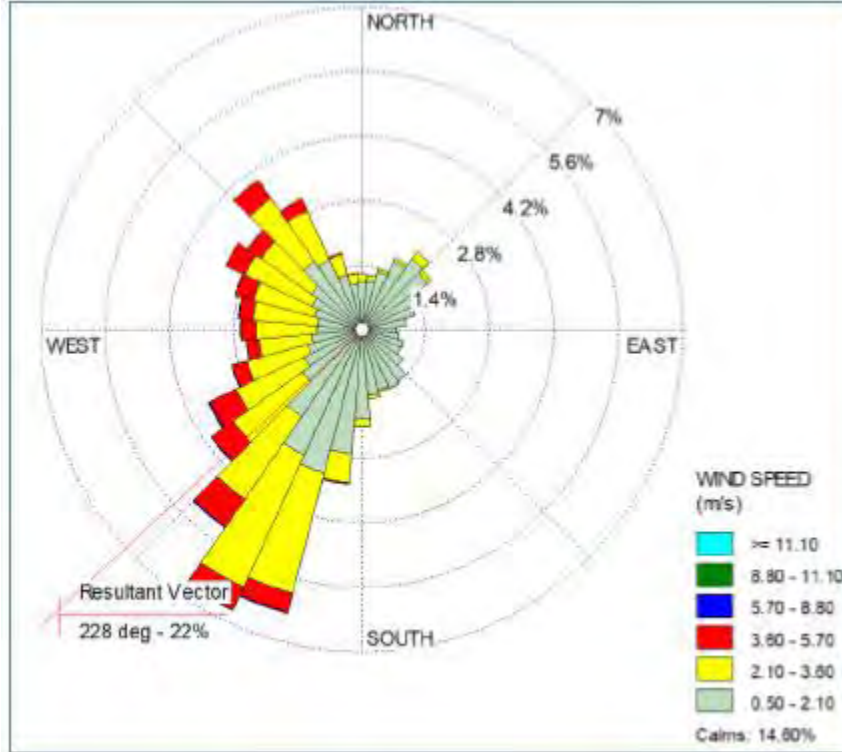
See 40 C.F.R. part 58, Appendix D, Section 4.3.2 (bold italics added for emphasis); *see also* 40 C.F.R. part 58, Appendix D, Section 4.3.5(a)(1) (“near-road NO₂ monitoring stations are required to be within 50 meters of target road segments in order to measure expected peak concentrations”).

The wind rose provided by the Department suggests that the monitor might be located on the wrong side of I-376. The prevailing wind (from a southwest to southeast direction) is roughly parallel to the highway. This can be seen by comparing the “Resultant Vector” highlighted by the Department and visually inserting that wedge along the side of the highway on the previous page:

Figure 10.10.1 Parkway East Location Map



Figure 10.10.2 Parkway East Wind Rose (2015-2019)



See Proposed Plan, page 70 (Figure 10.10.1 Parkway East Location Map), 71 (Figure 10.10.2 Parkway East Wind Rose (2015-2019)). To be sure, the wind rose indicates that some wind would blow over the highway and toward the monitor -- but that would not be the prevailing wind.

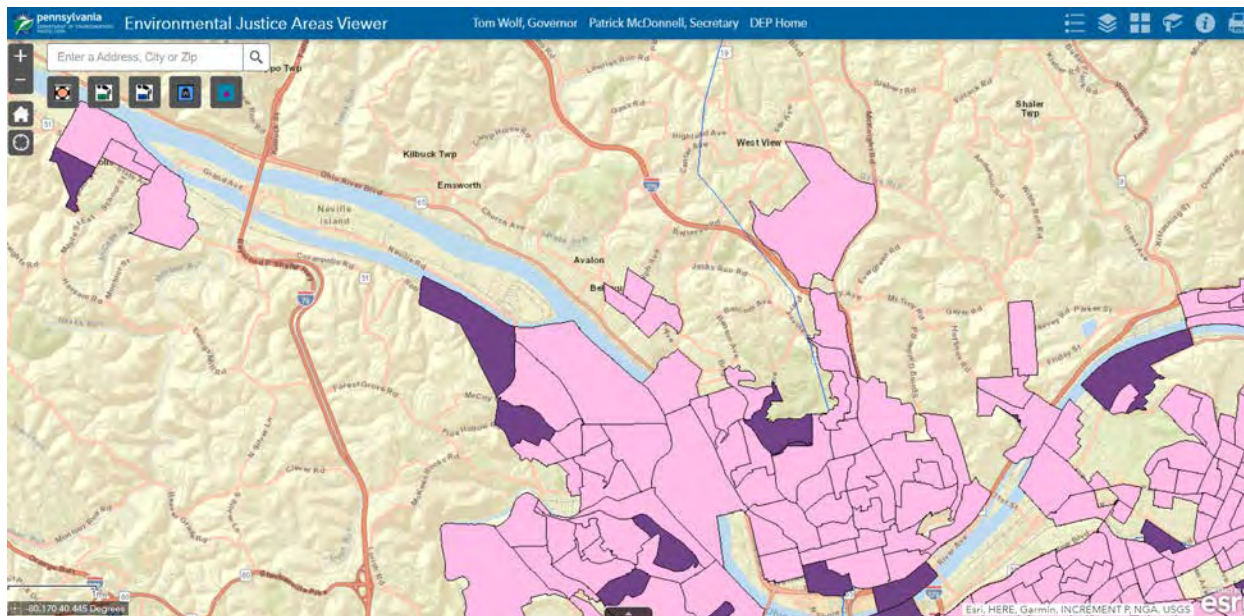
The Department should attempt to remedy this by installing another near-road monitor on the other side of I-376, and consider the data in conjunction with data at the existing monitor.

5. The Department Should Monitor Volatile Organic Compounds On and Near Neville Island.

With the Department having discontinued monitoring for sulfur dioxide and hydrogen sulfide at the Avalon, the only remaining sensor is a sensor for fine particulates. *See Proposed Plan, pages 11-13, 19, 64.* 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 August 3, 2021). With the Department proposing to relocate the PM10 monitor for Flag Plaza, the only remaining monitor serving these areas would be the monitor for fine particulates at the Avalon Site. (There is no monitor for volatile organic compounds at either Avalon or Flag Plaza).

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 48 tpy in 2019:

1. Neville Island Terminals (18 tpy of volatile organic compounds):

Year		County	Client Name	Facility Name	NAICS Code	NAICS Desc	NAICS Cate...	Pollutant	Emission Amt(In Tons)
2019	Allegany		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	VOC	18.30270
			NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	Toluene	0.27220
			NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	Hexane	0.27130
			NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	Benzene	0.15140
			NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	2,2,4-Trimethylpentane	0.13750
			NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/NEVILLE ISLAND TERM	424710	Petroleum Bulk Stations and Terminals	Wholesale Trade	m-Xylene	0.11070

See http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report (image downloaded August 4, 2021).

2. Lindy Paving (13 tpy of volatile organic compounds):

Year		County	Client Name	Facility Name	NAICS Code	NAICS Desc	Pollutant	Emission Amt(In Tons)
2019	Allegany		LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Carbon Dioxide	10940.54243
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Total Suspended Pa...	287.88860
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	CO	22.21040
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	VOC	13.56280
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	NOX	9.50600
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	PM10	6.05360
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Methane	3.93700
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	PM2.5	1.56830
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Particulate Matter, C...	1.39350
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	SOX	1.11640
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Formaldehyde	1.01650
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Hexane	0.30170
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Benzene	0.12760
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Xylenes (Isomers An...	0.03280
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Ethyl Benzene	0.02480
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Ethylbenzene	0.02450
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Toluene	0.01840
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Ammonia	0.00320
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Nitrous Oxide	0.00220
			LINDY PAVING INC	LINDY PAVING INC/NEVILLE ISLAND	324121	Asphalt Paving Mixture and Block Manufacturing	Lead	0.00040

See id.

3. Gottlieb (10 tpy of volatile organic compounds):

Year		County	Client Name	Facility Name	NAICS Code	NAICS Desc	Pollutant	Emission Amt(In Tons)
2019	Allegany		GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Carbon Dioxide	1337.89040
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Carbon Dioxide	765.00000
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	CO	18.50460
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	NOX	17.28600
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	VOC	10.04410
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Total Suspended Pa...	9.36000
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	SOX	17.2370
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	PM10	10.7120
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	NOX	6.6390
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	CO	0.53410
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	PM2.5	0.40480
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Hydrochloric Acid	0.06390
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	VOC	0.03600
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Methane	0.02620
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Hexane	0.02000
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Hydrogen Fluoride (...)	0.02000
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Methane	0.01440
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Hexane	0.01140
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Ammonia	0.00650
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	SOX	0.00380
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Particulate Matter, C...	0.00380
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Nitrous Oxide	0.00250
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Particulate Matter, C...	0.00200
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Nitrous Oxide	0.00140
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	PM10	0.00130
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Formaldehyde	0.00080
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	PM2.5	0.00070
			GOTTLIEB INC	GOTTLIEB INC/NEVILLE ISLAND	331314	Secondary Smelting and Alloying of Aluminum	Formaldehyde	0.00050

See id.

4. Metallico (7 tpy of volatile organic compounds):

Year		County	Client Name	Facility Name	NAICS Code	NAICS Desc	Pollutant	Emission Amt(In Tons)
2019	Allegheny	METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	Carbon Dioxide	41.70000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	NOX	0.10000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	SOX	0.30000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	Hazardous Air Pollutants	0.20000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	Particulate Matter, Condensable	5.80000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	PM10	5.80000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	PM2.5	5.80000	
		METALICO NEVILLE INC	METALICO NEVILLE ISLAND	423930	Recyclable Material Merchant Wholesalers	VOC	7.70000	

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 52 tpy in 2019:

1. Coraopolis Terminals (31 tpy of volatile organic compounds):

Year		County	Client Name	Facility Name	NAICS Code	NAICS Desc	Pollutant	Emission Amt(In Tons)
2019	Allegheny	NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Carbon Dioxide	176.38020	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	VOC	31.69720	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Carbon Dioxide	4.42430	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Toluene	0.58790	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Hexane	0.48840	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	m-Xylene	0.34630	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Benzene	0.26680	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	2,2,4-Trimethylpentane	0.21670	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	NOX	0.14680	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	CO	0.12330	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Polycyclic Organic Matter	0.01350	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	PM10	0.01120	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	PM2.5	0.01120	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	SOX	0.00850	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Particulate Matter, Condensable	0.00840	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	VOC	0.00810	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	NOX	0.00390	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Methane	0.00330	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Total Suspended Particulate	0.00280	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	CO	0.00100	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	SOX	0.00090	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	PM10	0.00050	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Total Suspended Particulate	0.00040	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Nitrous Oxide	0.00030	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Particulate Matter, Condensable	0.00030	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	PM2.5	0.00030	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Ammonia	0.00020	
		NEVILLE ISLAND TERM DE LLC	PGH TERM CORP/CORAOPOLIS TE...	424710	Petroleum Bulk Stations and Terminals	Methane	0.00020	

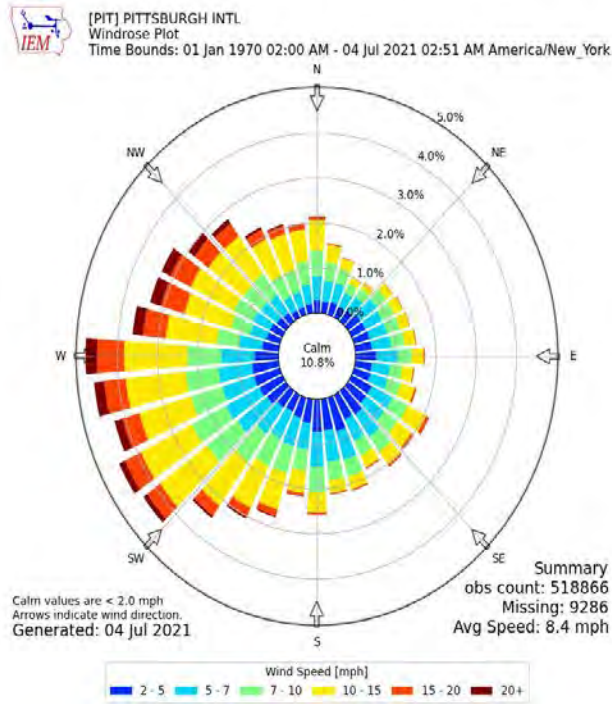
See id.

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

		BUREAU OF AIR QUALITY Air Emission Report				03-AUG-21 04:00 AM Last Refresh Time	
Year	County	Client Name	Facility Name	NAICS Code	NAICS Desc	Pollutant	Emission Amt(In Tons)
2019	Allegheny	ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Carbon Dioxide	9947.14550
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	VOC	20.85450
DEP Reg... All	NAICS All	ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	NOx	8.55350
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	CO	3.99220
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Carbon Dioxide	6.68850
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Methanol	2.16230
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	PM10	1.97750
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	PM2.5	1.74970
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	VOC	0.73480
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Particulate Matter, Condensable	0.47190
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Total Suspended Particulate	0.24300
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	NOx	0.21950
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Methane	0.20030
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	PM10	0.18540
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	PM2.5	0.18540
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Lead	0.16900
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Toluene	0.16030
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Naphthalene	0.15020
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Glycol Ethers	0.12430
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Xylenes (Isomers And Mixture)	0.08760
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Trichloroethylene	0.07190
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	SOx	0.06300
		ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	CO	0.04840
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Methylene Chloride (Dichloromethane)	0.03650		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Nitrous Oxide	0.02150		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	1,2-Ethanedithiol	0.01820		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Styrene	0.01660		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Ethyl Benzene	0.01580		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Total Suspended Particulate	0.01280		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Methane	0.00390		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	SOx	0.00230		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	0.00190		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Nitrous Oxide	0.00090		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Particulate Matter, Condensable	0.00030		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Ethylene Dichloride (1,2-Dichloroethane)	0.00010		
ALLEGHENY CNTY AIRPORT AUTH	ALLEGHENY CNTY AIRPORT AUTH/...	481111	Scheduled Passenger Air Transportation	Hexane	0.00010		

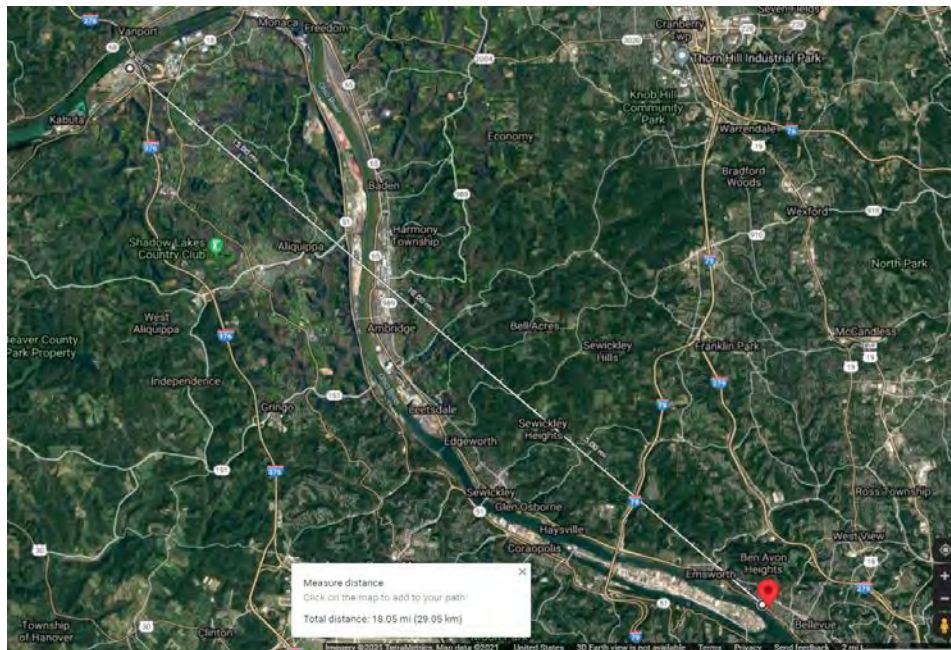
See id.

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.

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. (Actual emissions data are not available because the facility has not commenced operations).

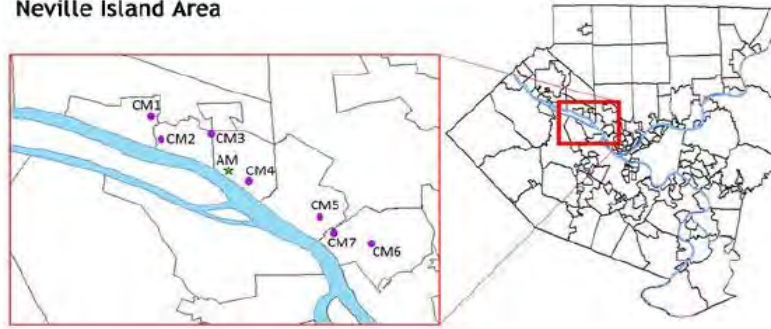
Last year, the Department rejected the request by Allegheny County Clean Air Now (ACCAN) for the installation of monitors for volatile organic compounds. See Attachment 2 -- Allegheny County Health Department's 2020 Air Monitoring Network Plan (highlighted excerpts), pages 85, 93, available at https://alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Resources/Data_and_Reporting/Air_Quality_Reports/2021-ANP.pdf. 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.

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



- Community monitor
- ★ ACHD Avalon monitor

Monitor Placement

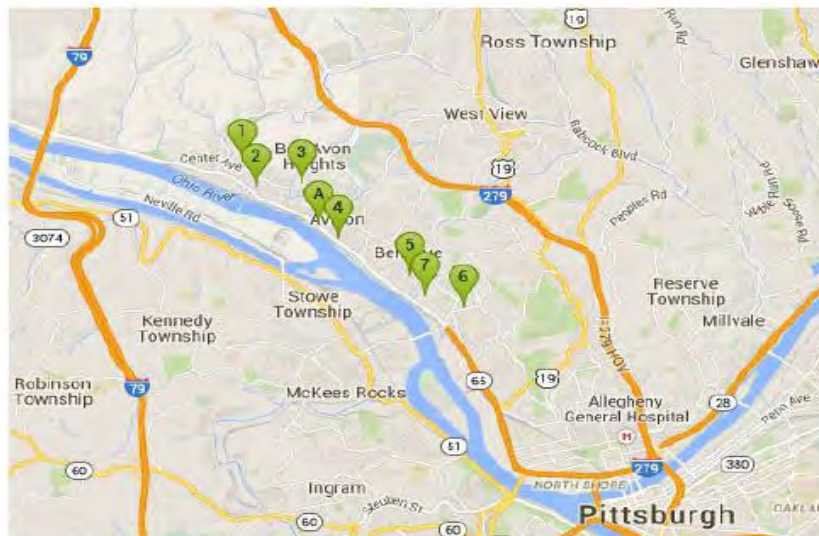
Neville Island Area Air Toxics Study

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. This may also be shown on another map in this report:

Data / Lab Analysis Tables

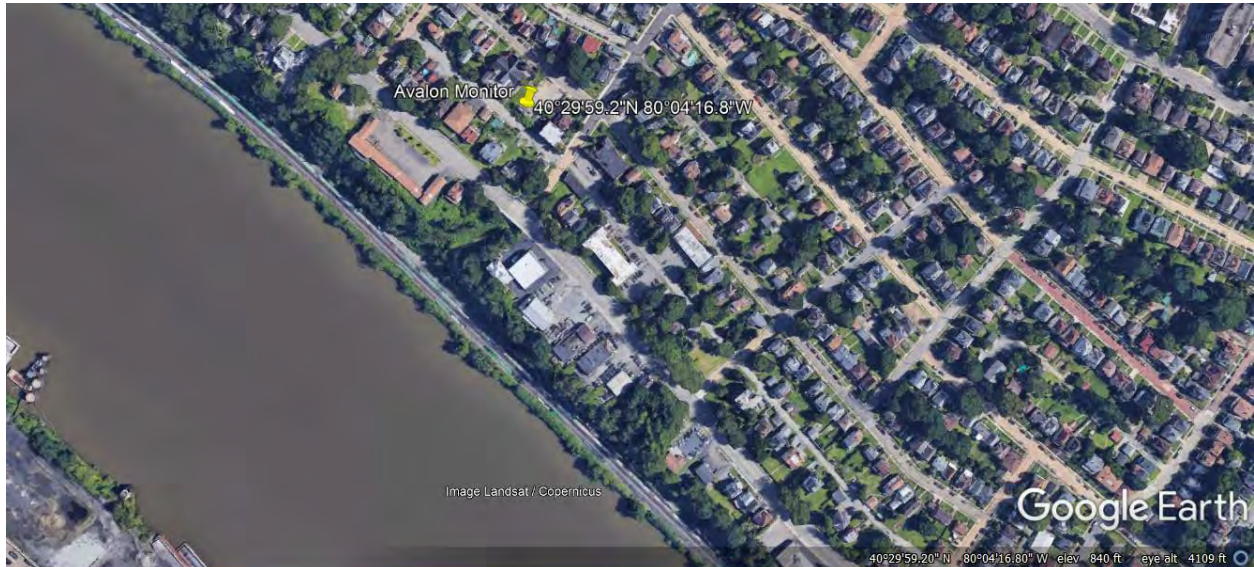
Below is a map indicating the various monitoring stations. Values for each of the focus pollutants are listed by table on the following pages for each of the monitoring locations.



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

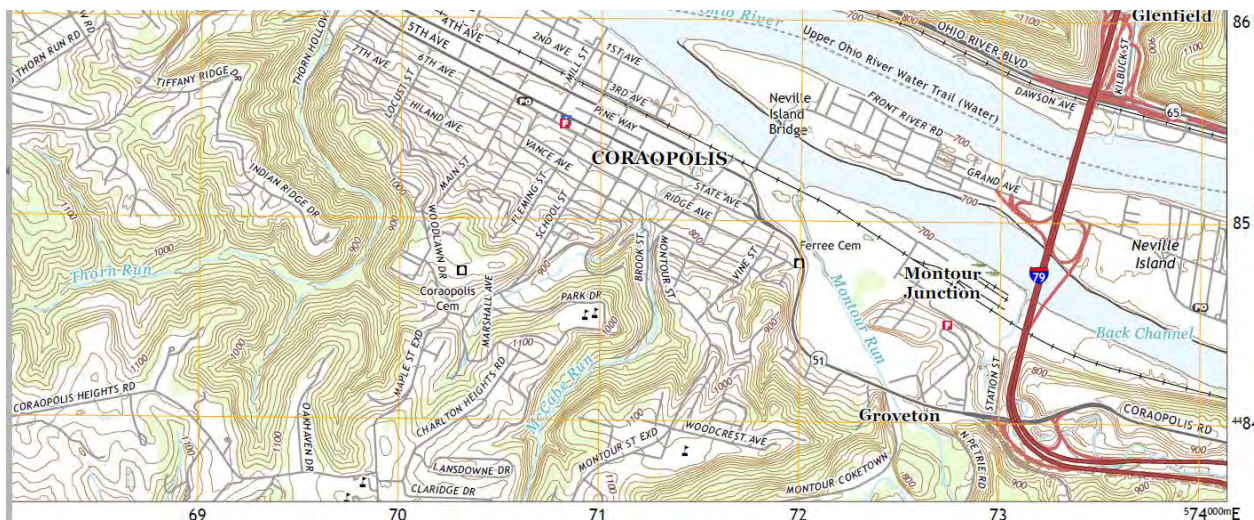
Second, the Department did not conduct monitoring for all volatile organic compounds. Rather, it limited its monitoring to seven hazardous air pollutants (benzene, toluene, ethylbenzene, xylenes, naphthalene, styrene, and n-hexane). *See id.*, pages 4, 12-33 (data tables). Presumably, the motivation 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:

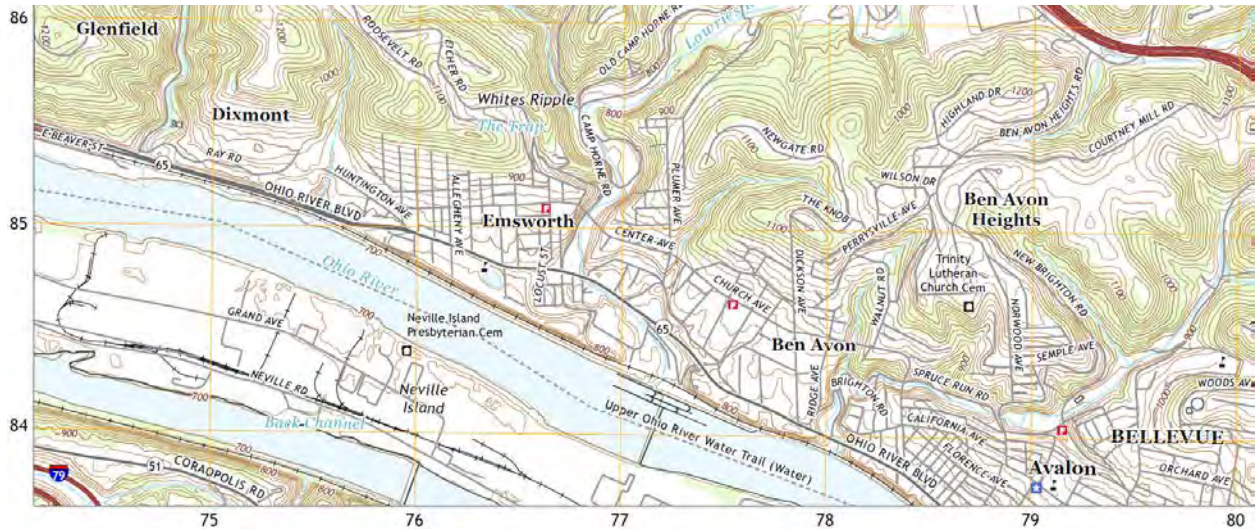


See Google Earth map of Location and Elevation of Avalon Monitor, prepared by Clean Air Council, August 8, 2021 (based on coordinates 40.499767, -80.071337 provided on page 64 of the Proposed Plan; elevation of 840 ft is noted at the bottom of the image).

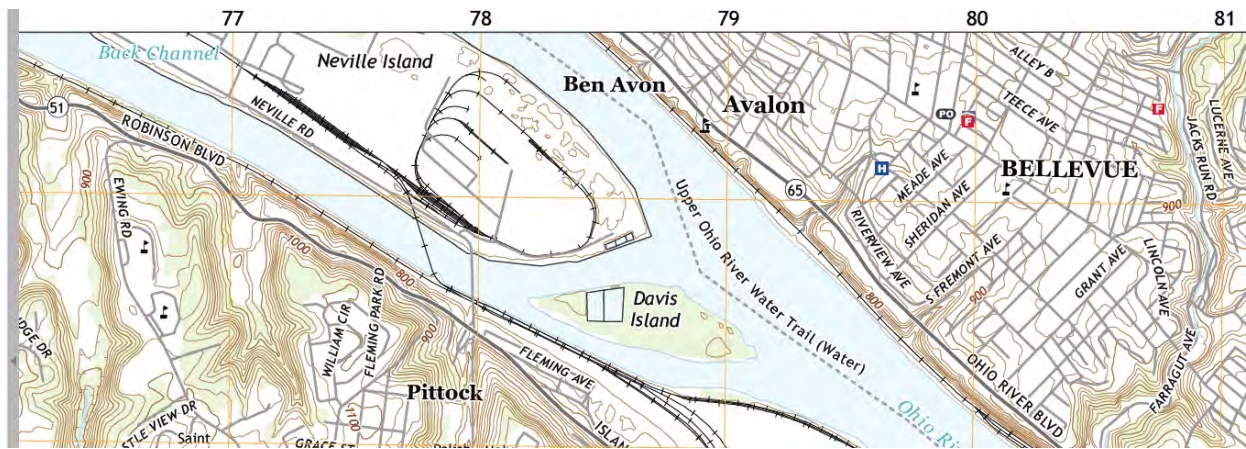
In contrast, topographic maps show elevations on Neville Island as low as 700 feet:



See Attachment 3 -- 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 4 -- 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 5 -- 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 2 -- Allegheny County Health Department's 2020 Air Monitoring Network Plan, page 85 (bold italics added for emphasis).

6. The Department Should Monitor Sulfur Dioxide and Other Air Pollutants in the Southeastern Corner of Allegheny County.

There is a large gap in the monitoring network in the southeastern corner of Allegheny County. The gap is highlighted by a recent application by Allegheny Energy Center, LLC (Invenergy) to the Allegheny County Health Department for a permit under the Prevention of Significant Deterioration program. Positioned less than one thousand feet from the county line, the proposed plant would not only increase pollution for the local community within the county, but also release pollution into environmental justice areas on the other side of the county line, outside the jurisdiction of Allegheny County.

According to the regulations, “[t]he goal in locating monitors is 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.” See 40 C.F.R. part 58, Appendix D, Section 1.2(a) (“Spatial Scales”). The “spatial scale of representativeness is described in terms of the physical dimensions of the air parcel nearest to a monitoring site throughout which actual pollutant concentrations are reasonably similar.” *Id.*, Section 1.2(b).

Moreover, it is a premise of the regulatory framework that air quality monitors will provide data that are representative of conditions in the area:

(1) Urban NCore stations are to be generally located at urban or neighborhood scale ***to provide representative concentrations of exposure expected throughout the metropolitan area***; however, a middle-scale site may be acceptable in cases ***where the site can represent many such locations throughout a metropolitan area***.

(2) Rural NCore stations are to be located to the maximum extent practicable at a regional or larger scale away from any large local emission source, ***so that they represent ambient concentrations over an extensive area***.

See 40 C.F.R. part 58, Appendix D, Section 3(d)(2) (bold italics added for emphasis).

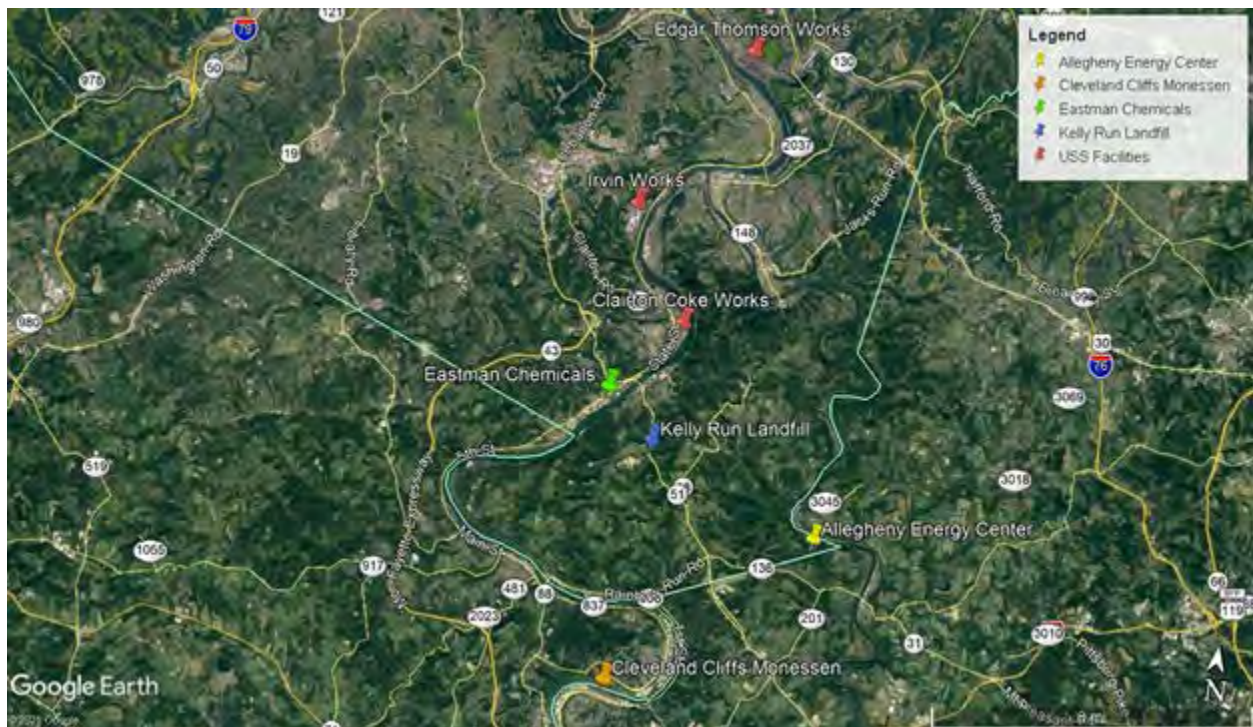
In addition, if the data are not representative of ambient air quality, they may not be useful for determining whether standards are being met. Data may be compared with the national ambient air quality standards only if they are representative of areawide air quality. See 40 C.F.R. §58.30 (Special considerations for data comparisons to the NAAQS).

A number of heavily polluting facilities are located in Allegheny County upwind of the proposed project, to the northwest, west, and southwest. These include the following facilities:

1. Clairton Coke Works in Clairton (coke manufacturing facility located approximately 6 miles to the northwest),


2. Edgar Thomson Works in Braddock (steel manufacturing facility located approximately 12 miles to the northwest),
3. Irvin Works in West Mifflin (steel finishing facility located approximately 9 miles to the northwest),
4. Cleveland Cliffs facility in Monessen (coke manufacturing facility located approximately 6 miles to the southwest),
5. Eastman Chemicals facility in West Elizabeth (chemicals manufacturing facility located approximately 6 miles to the northwest), and
6. Kelly Run Sanitary Landfill in Elizabeth Township (landfill located approximately 5 miles to the west).

The following map shows all these facilities:




These facilities already present significant amounts of emissions:


Clairton:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04:00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Allegheny	roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	30650.17300	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	2771.90450	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	604.94500	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Process	PM10	424.44440	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Process	PM2.5	283.83500	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Process	Particulate Matter, Condensable	203.95940	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM10	88.02380	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Process	NOX	79.92990	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Combustion Unit	Particulate Matter, Condensable	76.24100	
		roalloy Manufacturing	25-099818-35	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM2.5	75.10430	


Braddock:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04:00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Allegheny	roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	10238.96820	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	282.24860	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	134.04930	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Process	PM10	102.35870	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	Particulate Matter, Condensable	55.37720	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Process	PM2.5	54.25340	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Process	NOX	37.00860	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM10	25.12130	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM2.5	19.40340	
		roalloy Manufacturing	25-099818-34	NA	AEP - Air Emission Plant	NA	Process	Particulate Matter, Condensable	0.18910	


Irvin:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04:00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Allegheny	roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	826.44170	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	37.28850	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM10	20.80380	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Combustion Unit	Particulate Matter, Condensable	16.34170	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM2.5	15.83760	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Process	PM10	7.93810	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Process	PM2.5	7.79050	
		roalloy Manufacturing	25-099818-32	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	4.12240	


Cleveland-Cliffs:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04.00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Westmorel...	Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	1211.42880	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Process	NOX	335.70000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	70.10000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Process	PM10	48.50000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Process	PM2.5	41.50000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Process	Particulate Matter, Condensable	27.70000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	3.54020	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	Particulate Matter, Condensable	3.50000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM10	2.80000	
		Products Manufacturing	25-1850170-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM2.5	2.80000	

Eastman:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04.00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Allegheny	Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Process	NOX	22.23480	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	16.03440	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Process	PM10	8.04430	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Process	PM2.5	6.37820	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Combustion Unit	Particulate Matter, Condensable	1.75950	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM10	0.58850	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Combustion Unit	PM2.5	0.58350	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	0.58840	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Process	Particulate Matter, Condensable	0.01960	
		Resin Manufacturing	51-0023450-3	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	0.00650	

Kelly Run Sanitary Landfill:

		BUREAU OF AIR QUALITY Air Emission Report							08-JUN-21 04.00 AM Last Refresh Time	
Year	County	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)	
2019	Allegheny	Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Process	Total Suspended Particulate	738.92120	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Process	NOX	4.44000	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Process	PM10	2.30100	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Process	PM2.5	2.30100	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Process	Particulate Matter, Condensable	0.77000	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	NOX	0.03000	
		Waste Management and Remediation Services	25-1899999-1	NA	AEP - Air Emission Plant	NA	Combustion Unit	Total Suspended Particulate	0.00190	

See PA Department of Environmental Protection, Air Emission Reports, http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report. These are not the only harmful emissions from these facilities. The screenshots above only include emissions of Total Suspended Particulates, PM10, PM2.5, PM (condensable), and NOx. For example, it does not include sulfur dioxide and it does not include hazardous air pollutants.

Referring again to the modeling program Plume Pittsburgh produced by the CREATE Lab of Carnegie Mellon University, it is clear that air pollution regularly travels from the Clairton Coke Works and the Edgar Thomson Works to the southeastern corner of Allegheny County. In running the model for the month of July 2021, there were noticeable and regular plumes of sulfur dioxide and other emissions from the Clairton Coke Works and the Irvin Works toward the southeast corner of Allegheny County on the following dates: July 1, 2, 3, 4, 7, 9, 10, 13, 18, 19, 20, 21, 22, 24, 26, 27, 28, 30, 31.

One of the environmental justice areas is located in Sutersville, Westmoreland County, less than one mile to the north, across the Youghiogheny River. The other is located in West Newton, Westmoreland County, less than two miles to the east, also across the Youghiogheny River:



See Department of Environmental Protection, <https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c> (pink areas are environmental justice areas).

The location of the proposed project is shown by the yellow tack on the following Google Earth map:



See also Google Map,

[https://www.google.com/maps/place/40%C2%B013'28.7%22N+79%C2%B047'45.4%22W/@40.2246498,-79.8135749,6236m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.22465!4d-79.7959444, \(79°47' 45.40\"W, 40°13' 28.74\"N\).](https://www.google.com/maps/place/40%C2%B013'28.7%22N+79%C2%B047'45.4%22W/@40.2246498,-79.8135749,6236m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0!8m2!3d40.22465!4d-79.7959444, (79°47' 45.40\)

It should be noted that in all of Westmoreland County, there is only one monitor -- located in Greensburg, which addresses PM_{2.5}, ozone, and VOCs. See Proposed Plan, pages 9-10, D-22 (information on monitor for Greensburg, No. 11). The Department should expand the air monitoring network within Westmoreland County to pick up air pollution in the western part of the county. With a large number of very large stationary sources of air pollution in southeastern Allegheny County (and one proposed in Allegheny County that would be very close to the county border), there is a gap in the air monitoring network in Westmoreland County.

The running of an atmospheric model of the National Oceanic and Atmospheric Administration underscores concerns about the gap in the monitoring network in western Westmoreland County. See Attachment 6 -- Environmental Health Project, Modeled Relative Average and Maximum Airborne Pollutant Levels from the Westmoreland Power Station (2021) (based on the running of the NOAA HYSPLIT air dispersion model using NOAA High-Resolution Rapid Refresh atmospheric data). This map shows the modeled average and maximum impact of primary air pollutants from the Westmoreland Power Station (Tenaska) over two years. The meteorological data used covered March 1, 2019 – May 1, 2021. Modeling was conducted assuming constant emissions uniformly distributed across 25-50m above ground level at 40.175549, -79.697014. The Environmental Justice communities of West Newton and Sutersville are among the locations with the highest percentages of the maximum hourly concentration of pollution from that facility. This is additional evidence of the need for

monitoring along the Youghiogheny River Valley and particularly for these environmental justice communities.

The Department should accept responsibility for monitoring for air pollution caused by its own sources in Allegheny County and traveling to Westmoreland County, where the neighboring county has an insufficient monitoring network. In another context, the Department has affirmatively relied on the existence of a monitor outside Allegheny County as providing some degree of benefit for Allegheny County. It has pointed to the sulfur dioxide monitor at the Florence Site in support of its proposal to discontinue the sulfur dioxide monitor at South Fayette. *See Proposed Plan, page 14, Section 3.3.1* (“Area SO₂ 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.”). If the Department should benefit from neighboring air pollution networks, it should also be burdened by their deficiencies.

The Department should also consider the written comments of Cathy Lodge and a number of other residents in Southwestern Pennsylvania on the Proposed Plan (submitted separately to the Department), setting forth concerns regarding gaps in the air monitoring network within Allegheny County, considering sources of air emissions outside the county.

Therefore, there are actually two problems posed by the application for the PSD permit. First, the Department proposes to allow the construction of another source of air pollution in southeastern Allegheny County, which currently does not have any monitors. Second, the proposed construction would export air pollution to a neighboring county, in which there is also an existing gap in the monitoring network.

For these reasons, residents appropriately raised concerns about the application for the proposed Invenergy facility in this location. *See Attachment 7 -- Email from Fred Bickerton to Allegheny County Health Department (July 9, 2019)* (expressing concerns about air quality impacts from proposed facility and other facilities). The concern for cumulative impacts applies to both criteria pollutants and hazardous air pollutants.

The Department should not refuse to address this gap under the rationale that it is the problem of another agency. It did this in the context of the proposed air pollution episode regulations:

[Department’s Summary of Comment #20 by Christopher D. Ahlers, Clean Air Council:]

The Department should revise the proposed regulations to account for receptors outside Allegheny County receiving pollution from sources within Allegheny County. A prominent concern involves the pending application for an installation permit for a natural gas-fired power plant for Allegheny Energy Center, in the southeast corner of the county. ***The Department should revise the proposed regulations to account for receptors outside the Mon Valley that***

would suffer from air pollution episodes resulting from pollution from sources within the Mon Valley.

[Department's Response:]

This is beyond the scope of the proposed regulation, to protect citizens within Allegheny County.

See Allegheny County Health Department, Mon Valley Episode Rule Comment/Response, dated July 2, 2021 (bold italics added for emphasis). It would not be persuasive for the Department to repeat that assertion in response to the present comment on the proposed air monitoring network plan, because the Department has an obligation to its own residents within the southeastern portion of Allegheny County to provide an effective air monitoring network for them.

In the Proposed Plan, the Department should strengthen the air monitoring network to accommodate the impacts of these multiple sources operating in southeastern Allegheny County.

7. The Department Should Monitor Nitrogen Oxides (NO_x) in the Mon Valley.

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.

The Department apparently 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 37, 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 55, 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.”), page 68, Section 10.10 (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 NO₂ 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 NO₂ concentrations:

4.3.3 Requirement for Area-wide NO₂ Monitoring

(a) ***Within the NO₂ 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 NO₂ concentrations representing the neighborhood or larger spatial scales.*** PAMS sites collecting NO₂ data that are situated in an area of expected high NO₂ concentrations at the neighborhood or larger spatial scale may be used to satisfy this minimum monitoring requirement when the NO₂ 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 NO₂ monitoring stations. CBSA populations shall be based on the latest available census figures.

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 NO₂ monitoring network design, known as the area-wide monitoring component, ***be sited to characterize the highest expected NO₂ 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 at the Lawrenceville site, rather than at some location in the Mon Valley near the Clairton Coke Works, Irvin Works, or Edgar Thomson Works. The Department may be legally required to install a monitor at a location other than Lawrenceville.

Indeed, the emissions of nitrogen oxides from the three U.S. Steel facilities is tremendous. In 2019, total emissions were 2,851 tpy for Clairton Coke Works, 625 tpy for Irvin Works, and 299 tpy for the Edgar Thomson Works:

Year		County	Facility Name	NAICS Code	NAICS Desc	NAICS Category	Permit Number	Source Type	Pollutant	Emission Amt(In Tons)
2019	Allegheny		USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998316-35	Combustion Unit	NOX	2771.90460
			US STEEL CORP/IRVIN PLT	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998316-32	Combustion Unit	NOX	625.44170
			USS CORP/EDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998316-34	Combustion Unit	NOX	262.24850
			USS/CLAIRTON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998316-35	Process	NOX	79.92390
			USS CORP/EDGAR THOMSON WORKS	331110	Iron and Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0998316-34	Process	NOX	37.00690

See http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air_Emissions_Report.

By comparison, emissions of nitrogen oxides from the Cheswick Generating Station were 850 tons in 2019 – less than one third of emissions from the Clairton Coke Works:

Year		County	Client Name	Facility Name	NAICS ...	NAICS Desc	Source Type	Pollutant	Emission Amt(In Tons)
2019	Allegheny		GENON POWER MIDWEST LP	NRG MIDWEST LR/CHESWICK	221112	Fossil Fuel Electric Power Generation	Combustion Unit	NOX	850.31250

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 three times emissions from the Cheswick Generating Station. Yet there is a monitor for nitrogen oxides near the Cheswick Generating Station (Harrison site), but not in the Mon Valley.

It should also be noted that the Cheswick Generating Station is expected to be retired by April 1, 2022:

GenOn Holdings, LLC Announces Extension of Retirement of Avon Lake and Cheswick Power Plants

Units total 1,192 MW in Ohio and Pennsylvania

(Houston, Texas, July 15, 2021)

In June 2021, GenOn Holdings, LLC (GenOn) announced that it had initiated the process to permanently retire its 627MW Avon Lake Generating Station located in Avon Lake, OH and its 565MW Cheswick Generating Station located in Springdale, PA and anticipated retirement of the plants by September 15, 2021. GenOn now anticipates retiring Avon Lake and Cheswick Stations on April 1, 2022.

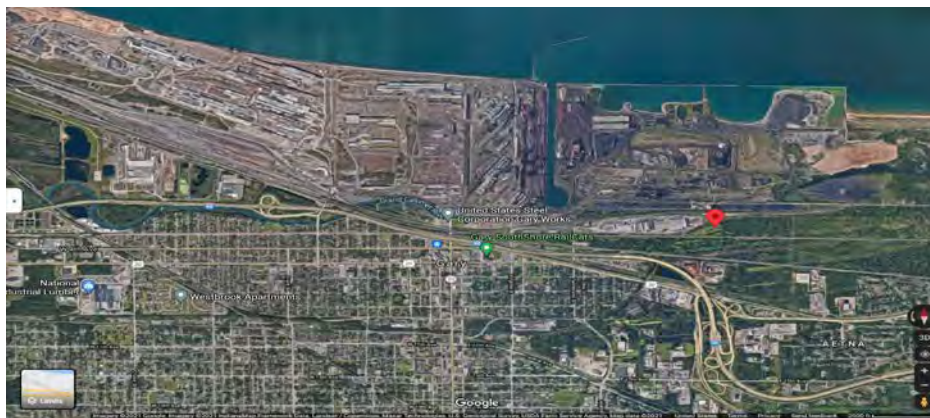
GenOn is a competitive independent power producer that, following the retirement of these units, will own approximately 7,285 MW of electric generation facilities located in Pennsylvania, New York, New Jersey, Maryland, Ohio, and California.

For more information on this topic, please contact Daniel D. McDevitt, Executive Vice President and General Counsel at GeneralCounsel@GenOn.com.

See Press Release, *GenOn Holdings, LLC Announces Extension of Retirement of Avon Lake and Cheswick Power Plants*, <https://www.genon.com/genon-news/genon-holdings-llc-announces-extension-of-retirement-of-avon-lake-and-cheswick-power-plants> (image downloaded on August 8, 2021).

Other states maintain 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 8 -- Indiana 2022 Ambient Air Monitoring Network Plan (July 1, 2021) (excerpts), page 32. The Department should do this voluntarily without waiting for a request to be made to EPA to require this.

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

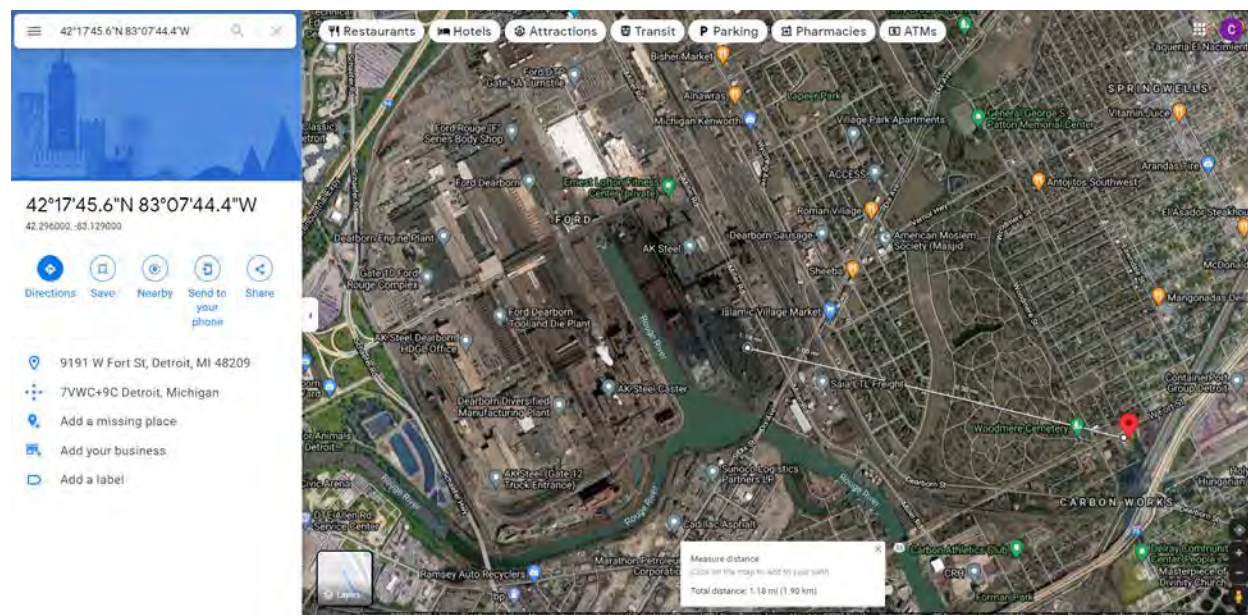


See Google Map, <https://www.google.com/maps/place/41%C2%B036'23.6%22N+87%C2%B018'18.1%22W/@41>

[.6065634,-87.3225299,6080m/data=!3m1!1e3!4m5!3m4!1s0x0:0x0:8m2!3d41.606563!4d-87.305015](https://www.google.com/maps/place/42.296144,-87.305015/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 8 -- Indiana 2022 Ambient Air Monitoring Network Plan (excerpts), page 34, Table 4 – Oxides of Nitrogen (NO, NO₂, NO_y) Monitoring Network (setting forth coordinates of 41.606563, -87.305015 for the Gary - IITRI NO_x monitor).

Interestingly, the amount of emissions of nitrogen oxides from the Gary Works in 2019 was 2,771.061 tons -- about one hundred tons less than emissions of nitrogen oxides from the Clairton Coke Works. *See* Attachment 9 -- Indiana Department of Environmental Management, Emissions Summary Data, <https://www.in.gov/idem/airquality/reporting/emissions-summary-data/> (click “XLXS”). But Indiana has a NO_x 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 10 -- Michigan Department of Environment, Great Lakes, and Energy, Annual Ambient Air Monitoring Network Review (July 1, 2021), page 66 (Table 22: Michigan’s NO₂ and NO_y Monitoring Network) (setting forth coordinates of 42.296 -83.129 for the Trinity monitor at 9191 W. Fort St.), https://www.michigan.gov/documents/egle/egle-aqd-amu-draft-2022-air-monitoring-network-review_725292_7.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. It is fine for the Department to keep a nitrogen oxide monitor near its office in Lawrenceville, but it should monitor nitrogen oxide in the Mon Valley as well.

8. The Department Should Install a SLAMS Monitor for Lead Near the Edgar Thomson Facility in Braddock.

The Allegheny County Health Department does not conduct any monitoring for lead:

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.

See Proposed Plan, page 28, Section 8.5 (bold italics added for emphasis). But EPA estimates that fugitive emissions of lead at an example integrated iron and steel facility are 13 tons per year, which is greater than the 0.5 tpy threshold for requiring a lead monitor. As an oversight agency for air quality, the Department should require the Allegheny County Health Department to install a lead monitor in order to measure lead in the community neighboring this facility.

The Allegheny County Health Department's apparent rationale is that there is no point source with emissions of lead greater than 0.5 tons per year:

4.5 Lead (Pb) Design Criteria. (a) State and, where appropriate, 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, taking into account 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.

See 40 C.F.R. part 58, Appendix D, Section 4.5 (bold italics added for emphasis), <https://www.govinfo.gov/content/pkg/CFR-2020-title40-vol6/pdf/CFR-2020-title40-vol6-part58.pdf>. Indeed, on the 2017 National Emissions Inventory, the Edgar Thomson facility reported lead emissions of only 400.6 lb/yr. See <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data#dataq>. This is consistent with the 400 lb. reported by the Edgar Thomson facility on the air emissions inventory of the Department:

Year		County		S Desc	NAICS Category	Permit Number	Spud Date	Facility Type	Compression Station Type	Source Type	Pollutant	Emission Amt(In Tons)
All	Allegheny	nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00240	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.21840	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00600	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.21380	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00350	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.19800	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00930	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.15950	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00870	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.14300	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00130	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.20000	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00100	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.20010	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00100	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.23240	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00800	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.27510	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Combustion Unit	NA	Lead	0.00410	
		nd Steel Mills and Ferroalloy Manufacturing	Manufacturing	25-0999819-34	NA	AEP - Air Emission Plant	NA	Process	NA	Lead	0.02140	

See Pennsylvania Department of Environmental Protection, Air Emissions Inventory, [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) (showing reported emissions of lead from combustion units and processes for the years 2010-2019, with emissions from processes varying around 0.2 tpy, or 400 lb/yr, and emissions from combustion units being less than this figure). But the 0.2 tpy or 400 lb/yr figure apparently includes only stack emissions, and not fugitive emissions.

For years, EPA has been conducting a technology review for the Integrated Iron & Steel sector under Section 112 of the Clean Air Act. See U.S. EPA, National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing, <https://www.regulations.gov/docket/EPA-HQ-OAR-2002-0083/document>. As a part of that review, EPA has applied emissions factors to estimate the amount of emissions of hazardous air pollutants, including lead. According to EPA, there are approximately 13 tpy of fugitive lead emissions from the Blast Oxygen Process Furnace (BOPF) shop. Together with the reported emissions of 0.2 tpy from the Edgar Thomson facility, these fugitive emissions put the facility over the 0.5 tpy threshold for requiring a SLAMS monitor for lead.

The following is the analysis of EPA. First, EPA estimates emissions of unmeasured fugitive or intermittent particulate matter (UFIP). The estimate for UFIP for the example Integrated Iron & Steel facility is 1,596 tpy:

Table 3. Estimated PM Emissions for Seven UFIP Sources at the Example II&S Facility

UFIP Source	PM Emissions ^a (TPY)		
	Per Unit ^b	Total Facility ^c	
		Point+UFIP Sources ^d	UFIP Sources Only ^e
BOPF Shop Fugitives	--	1,214	1,146
Blast Furnace Casthouse Fugitives	--	256	230
Blast Furnace Bell Leaks	--	16	No change
Slag Handling & Storage	--	172	No change
Beaching of Iron (4 units)	0.067	0.27	No change
Blast Furnace Unplanned Openings (4 units)	4.9	20	No change
Blast Furnace Planned Openings (4 units)	3.2	13	No change
Total		1,690	1,596

^a Emissions are calculated by multiplying the emission factor by the activity factor and converting the emissions in pounds to tons (2000 lb/ton) where needed.

^b These emissions were calculated per unit and multiplied by the number of units to produce the facility total.

^c Entries are rounded.

^d Data from "All Emission Sources," were estimated from the UFIP emission factors, which included PM emissions from point source control devices as well as UFIP sources. Therefore, to eliminate double counting in the risk modeling of the Example Facility for PM-related HAP emissions from control devices at the BOPF Shop and Blast Furnace Casthouse, the total PM estimated from emission factors was reduced by the PM emissions measured at point source control devices during source testing for the RTR, at 26 and 68 TPY, respectively.

See Attachment 11 -- Memorandum, Donna Lee Jones, U.S. Environmental Protection Agency, Development of Emissions Estimates for Fugitive or Intermittent HAP Emission Sources for an Example II&S Facility for input to the RTR Risk Assessment (May 1, 2020), page 6 of 22 (orange highlighting added for emphasis), <https://www.regulations.gov/document/EPA-HQ-OAR-2002-0083-0956>.

Then EPA develops emissions factors for different hazardous air pollutants for different activities, derived from stack testing:

4.0 DEVELOPMENT OF HAP EMISSION ESTIMATES FOR UFIP

The HAP emissions for UFIP were estimated from PM emissions as described above and HAP/PM ratios primarily developed from point source II&S test data from 2011 (EPA, 2018) used in the preliminary risk estimate. Table 4 shows which process units in the 2011 test data were used to estimate HAP/PM ratios for the UFIP sources. The HAP/PM ratios for six of the seven UFIP sources were developed from the 2011 test data for either the BOPF or the Blast Furnace. The HAP/PM ratios for these UFIP sources were expected to be similar to the HAP/PM ratios for the point source units because the UFIP emissions originate from these point sources.

Id., page 10 of 22 (orange highlighting added for emphasis).

EPA has developed emissions factors for lead for at least three activities. First, there is an emissions factor for lead for the BOPF:

Table 5. HAP/PM Ratios from Stack Testing of BOPFs at the Example H&S Facility (EPA, 2018)

HAP	HAP/PM Ratio
Antimony	2.1E-04
Arsenic	5.8E-05
Beryllium	5.0E-06
Cadmium	7.4E-04
Chromium III	5.2E-04
Chromium VI	4.8E-04
Cobalt	6.2E-05
Lead	8.2E-03
Manganese	2.0E-02
Mercury	1.2E-03
Nickel	9.0E-04
Selenium	3.3E-05
Sum HAP/PM Ratios	3.2E-02
Average HAP/PM Ratio	2.7E-03

Id., page 11 of 22.

Second, there is an emissions factor for lead for the Blast Furnaces:

Table 6. HAP/PM Ratios from Stack Testing at Blast Furnaces at the Example H&S Facility (EPA, 2018)

HAP	HAP/PM Ratio
Antimony	7.2E-04
Arsenic	1.8E-02
Beryllium	2.6E-05
Cadmium	2.1E-04
Chromium	9.4E-03
Chromium VI	7.3E-05
Cobalt	1.7E-04
Lead	8.5E-04
Manganese	5.4E-03
Mercury	2.2E-04
Nickel	2.5E-03
Selenium	5.3E-05
Sum HAP/PM Ratios	3.7E-02
Average HAP/PM Ratio	3.1E-03

Id., page 11 of 22.

Third, there is an emissions factor for lead for the slag pits:

Table 8. Estimated HAP/PM Ratios for Slag Pits

HAP	HAP/PM Ratio	Data Source	
		Literature Only ^a	Scaling Factor ^b
Antimony	1.2E-05		√
Arsenic	3.0E-04		√
Beryllium	4.3E-07		√
Cadmium	3.6E-06		√
Chromium III	5.0E-05	√ ^d	
Chromium VI	3.8E-07	√ ^d	
Cobalt	2.9E-06		√
Lead	2.0E-05	√	
Manganese	3.0E-03	√	
Mercury	3.7E-06		√
Nickel	8.0E-04	√	
Selenium	8.9E-07		√
Sum HAP/PM Ratios	4.2E-03		
Average HAP/PM Ratio	3.0E-04		

^a EPA, 1977.

^b HAP/PM ratios were estimated in some cases by scaling down the Blast Furnace HAP/PM ratios from the 2011 test data (EPA, 2018) using a *scaling factor* developed from the average of the Slag HAP/PM ratios for four HAP in the literature (EPA, 1977) as compared to the HAP/PM ratios in the 2011 test data for Blast Furnaces (EPA, 2018), equal to 59, as shown in **Table 7**.

^c EPA, 2018.

^d Speciated using the total chromium HAP/PM factor (EPA, 1977) and chromium speciation from the 2011 Blast Furnace test data (EPA, 2018), as follows: Cr III (99.2 percent), Cr-VI (0.8 percent).

Id., page 13 of 22.

These three emissions factors for lead were then multiplied by 1,596 tpy of UFIP, to arrive at emissions of lead for the example Integrated Iron & Steel facility:

To estimate the amount of HAP for each UFIP, the PM estimates in **Table 3** were multiplied by the HAP/PM ratios for each HAP shown in **Tables 5, 6, or 8**, as appropriate, to produce an estimate of annual HAP emissions for the seven UFIP sources, as shown in **Table 9**, for each HAP. For modeling purposes, HAP emissions were apportioned to each process unit in one of two ways. For HAP/PM emission factors that were expressed in total TPY iron or steel produced, the PM and HAP were apportioned to each unit by its portion of total production. For Blast Furnace Casthouse Fugitives and Blast Furnace leaks, the apportioning was as follows between the Blast Furnaces at the Example facility: BF-4, 21 percent, BF- 6, 19 percent, BF-8, 20 percent, and BF-14, 40 percent. For the BOPF, the apportioning was as follows between the BOPFs at the Example facility: BOPF #1, 44 percent (North stack, 22 percent, South stack, 22 percent); QBOPF #2, 56 percent (East stack, 28 percent, West stack, 28 percent). **Table 10** shows the UFIP emissions combined with the point source emissions for the II&S Example Plant, by HAP. **Table 11** shows the UFIP and point source emissions by emissions unit.

Id., page 12 of 22.

The result is a total of 13 tpy of lead for the example Integrated Iron & Steel facility -- just for the BOPF shop -- and less than 1 tpy for all other units:

Table 9. Estimated HAP Emissions for Seven UFIP Sources at the Example I&S Facility

HAP	HAP Emissions (TPY)							Total HAP
	BOPF Shop	BF Casthouse	BF Beaching	BF Leaks	BF Unplanned Openings	BF Planned Openings	Slag Pits	
Antimony	0.25	0.16	0.00019	0.0086	0.014	0.0092	0.0017	0.45
Arsenic	0.094	4.0	0.0047	0.21	0.35	0.22	0.041	5.0
Beryllium	0.0080	0.0059	0.0000068	0.00031	0.00051	0.00033	0.000060	0.015
Cadmium	1.1	0.048	0.000056	0.0025	0.0042	0.0027	0.00049	1.2
Chromium	1.2	2.2	0.0025	0.11	0.19	0.12	0.0069	3.8
<i>Chromium VI</i>	<i>0.40</i>	<i>0.017</i>	<i>0.000019</i>	<i>0.00087</i>	<i>0.0014</i>	<i>0.00093</i>	<i>0.000053</i>	<i>0.42</i>
Cobalt	0.10	0.039	0.000045	0.0020	0.0033	0.0022	0.00039	0.15
Lead	13	0.20	0.00023	0.010	0.017	0.011	0.0028	13
Manganese	21	1.2	0.0014	0.065	0.11	0.069	0.41	23
Mercury	1.4	0.050	0.000078	0.0026	0.0043	0.0028	0.00051	1.5
Nickel	0.86	0.59	0.00068	0.031	0.050	0.033	0.11	1.7
Selenium	0.052	0.012	0.000014	0.00064	0.0010	0.00068	0.00012	0.067
Total HAP	39	8.6	0.0099	0.45	0.74	0.48	0.58	50

Note: *Chromium VI* values are displayed on a separate row for information purposes only and are included in the Chromium (Total) row values also. Total HAP includes only Chromium (Total), therefore summing data in the columns will not equal the totals.

See *id.*, page 14 of 22.

Based on the emissions of lead of 13 tpy from the example Integrated Iron & Steel facility, the Department should install a SLAMS monitor for lead near the Edgar Thomson facility. The Department should not ignore EPA's work on this subject and simply rely on data on stack emissions reported by the Edgar Thomson facility.

9. The Department Should Provide Evidence that Stratospheric Intrusion Has Been Responsible for Elevated Levels of Ozone at the South Fayette Monitor.

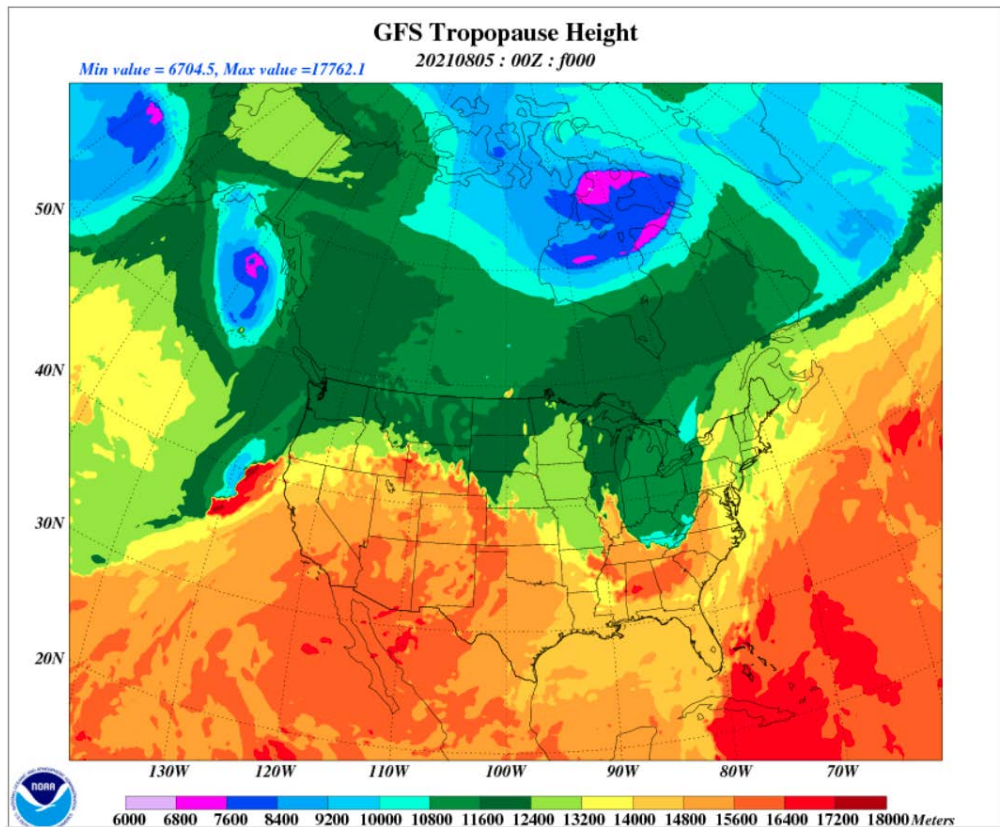
In the section of the plan relating to the South Fayette monitor, the Department attributes elevated levels of ozone at this monitor to “stratospheric intrusion.” See Proposed Plan, page 58, Section 10.1.6 (“[t]he elevation of this site might suggest that elevated overnight ozone concentrations (atypical) are due to stratospheric intrusion”). The Department should provide evidence in support of this assertion.

According to Google Earth, the South Fayette monitor is located only about 1288 feet above sea level:



See Google Earth map of Location and Elevation of South Fayette Monitor, prepared by Clean Air Council, August 8, 2021 (based on coordinates 40.375644, -80.169943 provided on page 58 of the Proposed Plan; elevation of 1288 ft is noted at the bottom of the image).

In contrast, the tropopause (the line between the troposphere and the stratosphere) is normally somewhere around 10,000 meters above the surface:



See NOAA/National Weather Service, Stratospheric Intrusion Monitoring, https://www.cpc.ncep.noaa.gov/products/stratosphere/strat_int/ (indicating a tropopause altitude in the range of 10,800-11,600 meters, denoted by the pine green shading in the map).

This image was downloaded on August 5, 2021 from the hyperlink “F001” in the “Tropopause Height” row in the following table on this same webpage:

NCEP/GFS Analyses and Forecasts											
	Forecast Hours										
	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
Height 2 PVU	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
PV on 320K	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
Tropopause Height	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
Total Ozone	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 100 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 150 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 200 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 250 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 300 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 350 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120
O3MR 400 hPa	f000	f012	f024	f036	f048	f060	f072	f084	f096	f108	f120

See *id.*

In its response to comments, the Department should discuss any evidence that might explain elevated levels of ozone at the South Fayette monitor in the past, identifying particulate dates when stratospheric intrusion is alleged to have occurred.

10. The Department Should Provide More Detail Regarding How it Intends to Expand the Non-Regulatory Monitoring Network to Supplement the Regulatory Monitoring Network.

The Department has stated an intention to expand the non-regulatory monitoring network:

3.1.4 Non-Regulatory, Multi-Pollutant Community Monitoring Network

ACHD plans to expand air quality surveillance by adopting a network of low-cost, non-regulatory monitors in Allegheny County. Preliminary plans are to collect data that are of sufficient quality and quantity to support the data's intended usage through the EPA Data Quality Objective (DQO) process. A sub-network of 20-30 monitors will operate under an independent quality assurance project plan to expand general air quality surveillance to the area. Additional focus will be in providing additional air quality surveillance to underserved Environmental Justice communities throughout Allegheny County.

See Proposed Plan, pages 13-14 (bold italics added for emphasis). But the Department does not state where such monitors would be located or how the locations would be selected. The Department should provide such information in the context of the plan now, rather than leaving it up to some uncertain time in the future.

The Council largely supports the development of a low-cost air monitoring network or a distributed air monitoring network that can be used to fill in the gaps of the official network. This could help to expand data on air quality that could be used to improve the positioning of official monitors and the expansion of the existing network. Low-cost monitoring could be used as a tool for expanding knowledge of air quality in areas that are not currently being monitored. The Council acknowledges the limitations of these monitors in comparison with the official monitoring stations.

There are compelling reasons for gathering additional information and data on the trajectory of air pollutants in the county, particularly in the Mon Valley. The Department should provide an analysis of how low-cost monitoring could be used in practice to supplement and improve the air monitoring network throughout the county. In doing so, it should identify locations of need, air pollutants of concern, and how non-regulatory monitors would address gaps in the network.

11. In the Text of the Proposed Plan, the Department Should Explain How it Uses the Air Monitoring Network to Determine Reporting and Forecasting for the Air Quality Index (AQI).

Although data from the air monitoring network are used for reporting the Air Quality Index (AQI), the Proposed Plan does not include any meaningful discussion of how this works in Pennsylvania. The Department should revise the Proposed Plan to explain how this works in detail, addressing whether it relies on data alone, undertakes forecasting, or uses any discretionary factors.

Because Pittsburgh has a population over 350,000, the Department is required to report AQI data to EPA. *See* 40 C.F.R. part 58, Appendix G, Section 3 (“3. Must I Report the AQI? You must report the AQI daily if yours is a metropolitan statistical area (MSA) with a population over 350,000.”).

There are different ways for determining the AQI -- with and without forecasting. *See* 40 C.F.R. part 58, Appendix G, Section 11 (“Do I Have to Forecast the AQI? You should forecast the AQI to provide timely air quality information to the public, but this is not required.”); *see also* Technical Assistance Document for the Reporting of Daily Air Quality – the Air Quality Index (AQI), (EPA 454/B-18-007, September 2018 (discussing required reporting and voluntary reporting), <https://www.airnow.gov/sites/default/files/2020-05/aqi-technical-assistance-document-sept2018.pdf>. It is not clear which method is used by the Department.

The Department identifies the Lawrenceville monitor and the Liberty monitors as fine particulate monitors that are used for AQI reporting. *See* Proposed Plan, pages 38 (Lawrenceville), 44 (Liberty). The Department intends to do the same for new continuous FEM monitors at North Braddock, Clairton, South Fayette and Harrison. *See id.*, page 13, Section 3.3.1. But this says nothing about whether the Department simply relies on data for the previous day, uses forecasting, or uses discretionary factors.

This has become more important now that the Allegheny County Health Department has proposed air pollution episode regulations that would involve new procedures for notifying the public about days when there are elevated levels of fine particulates. Based on available information, it is not clear that the proposal to declare a warning based on a day with an exceedance of the daily standard of 35 micrograms per cubic meter is anything more than the reporting of an orange day for fine particulates. *See* Attachment 12 -- Comments of Clean Air Council on Proposed Air Pollution Episode Regulations, dated June 9, 2021, pages 7-8. The Department should clarify whether there are any other considerations involved in declaring a warning.

The Department should revise the Proposed Plan to provide a detailed explanation regarding how the reporting of AQI data is performed for fine particulates and ozone.

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



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From: [Good, David](#)
To: [AQReports](#)
Subject: Fwd: Comments on the Air Monitoring Network Plan for Calendar Year 2022
Date: Sunday, August 8, 2021 7:31:02 PM
Attachments: [ACCAN Dr. Bogen Monitor Letter with Endorsements Final 3-3-2021-kg.docx](#)
[Board resolution for ACHD monitoring request - executed.pdf](#)
[Air Toxics Request with article.pdf](#)

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From: Angelo Taranto <ataranto39@gmail.com>
Sent: Sunday, August 8, 2021 7:00:00 PM
To: Good, David <David.Good@AlleghenyCounty.US>
Cc: Karen Grzywinski <k.a.b.grzy@gmail.com>
Subject: Comments on the Air Monitoring Network Plan for Calendar Year 2022

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.

Hi David,

On behalf of Allegheny County Clean Air Now (ACCAN), I am submitting comments on ACHD's Air Monitoring Network Plan for Calendar Year 2022. Our comments relate to our previous requests for two separate Special Study Projects in ACCAN's airshed and a third request that reiterates comments that we submitted for the 2021 Air Monitoring Network Plan.

1. 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.

ACCAN requests that the Health Department include in the 2022 Air Monitoring Plan a special study project to conduct a comprehensive air toxics and odor study in the Neville Island area. The ACCAN Board has passed the attached Resolution to formally petition ACHD for a Neville Island and Surrounding Communities Air Toxics and Odor Study. 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 in the Neville Island area in 2022 after the enhanced monitoring project in the Mon Valley is completed. We are requesting the same type of monitoring that the Department is doing in the Mon Valley.**
- b. That ACHD begin planning for this monitoring in 2021 and that they include ACCAN in the planning.**
- c. That ACHD deploy some monitors at spot locations in 2021 based, in part, on data from the ACCAN monitoring network. 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. Our attorney, Tim Fitchett with Fair Shake Environmental Legal Services, sent the attached letter, on ACCAN's behalf, to Dr. Bogen requesting that the Allegheny County Health Department (ACHD) perform an air toxics study at Metalico Pittsburgh scrap

metal recycling center, located on Neville Island at 3100 Grand Ave., Pittsburgh, PA 15225. Relating to the request in that letter, here are our comments.

ACCAN requests that the Health Department include in the 2022 Air Monitoring Plan a special study project to conduct an air toxics study at Metalico Pittsburgh scrap metal recycling center, located on Neville Island at 3100 Grand Ave., Pittsburgh, PA 15225. We believe that an air toxics study would go a long way to confirm or deny whether Metalico has been violating its permit. Given the sheer number of complaints submitted by residents and ACCAN's members and the intolerability of the emissions that reach Emsworth and neighboring communities, Metalico deserves to be held to account.

We request that this study be undertaken as soon as possible and that ACCAN be included in the planning of the study.

3. We submitted the following comments for the 2021 Air Monitoring Plan. We are resubmitting them for the 2022 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. ACCAN continues to monitor those industries and having monitors at the ACHD's Avalon site provides useful information.. 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.

Thank you for considering our comments on the 2022 Air Monitoring Plan. We know that the ACHD is committed to reducing the air pollution in Allegheny County and appreciate your efforts taken to date.

Sincerely,

Angelo Taranto, Secretary/Treasurer, ACCAN



August 9, 2021

David D. Good
Air Quality Program
Allegheny County Health Department

Sent via email to: David.Good@alleghenycounty.us

Dear Mr. Good,

I am submitting these comments regarding the proposed Allegheny County Health Department's Monitoring Network Plan, dated July 9, 2021 on behalf of Clean Water Action's over 8,000 members in Allegheny County including many residents of the Mon Valley. We are greatly concerned for the health and well being of our members, many of whom are greatly impacted by poor air quality.

Overall Clean Water Action (CWA) is making comments on the proposed Monitoring Network Plan in an effort to improve ACHD's monitoring program to better protect public health in Allegheny County. We hope you will take these comments as starting points for these improvement efforts, and we believe that ACHD has either the existing resources to enact them, or can take advantage of new monitoring resources that EPA is making available, such as increased monitoring in Environmental Justice communities.

CWA's comments on ACHD's draft Monitoring Network Plan are as follows:

Liberty PM2.5 Monitor Relocation should be quality controlled

CWA is greatly concerned about the proposed relocation of monitoring equipment at the Liberty monitoring site. As the primary monitoring location for the Mon Valley, this site is critical to the community in providing accurate local air quality information. While the new locations may not cause significant changes in monitored levels of pollutants, ACHD has provided no documentation that would indicate that any analysis has been conducted to provide any assurance to the community that the new locations would provide similar monitoring results to the current locations.

CWA would request that prior to putting the new locations into effect, ACHD should have co-located PM2.5 monitors at the current and proposed new locations in order to provide verification that there is

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not significant differences between the monitoring locations. Running co-located monitors simultaneously for a period of time is a logical quality control step, and we urge ACHD to adopt this approach prior to dismantling the current monitoring location. The list of monitors current deployed at Liberty indicates that ACHD has the resources to conduct such work.

We would remind ACHD that its current PM2.5 SIP relies on an analysis that makes use of the fact that the current monitoring location has a modeling grid line that runs through the monitoring location, and that it predicts a future outcome of exactly 12.0 ug/m³, the current annual standard. Small changes in monitoring location could result in a changed outcome for these modeled calculations.

Need for broader PM2.5 monitoring

Overall, there is a need for more community based monitoring of PM2.5 in the Mon Valley. A number of our following comments relate to this overall concern. By a large amount the two major U.S. Steel facilities, the Clairton Coke Works and the Edgar Thompson Plant, are the largest single sources of PM2.5 in Allegheny County and deserve increased monitoring to provide a better understanding of the community impact of their emissions, both to better warn the public of the potential and real time health threats, and to determine if there are broader PM2.5 exceedances than is currently known. The violation history of these plants in particular speaks to the need for increased monitoring nearby.

One overall suggestion is that ACHD consider as part of the special project to increase monitoring of hydrogen sulfide, VOCs, and air toxics in a variety of Mon Valley locations, to include some co-located PM2.5 monitoring to these sites, perhaps utilizing initial data collected on other pollutants. H₂S ambient levels in particular are also almost entirely emitted by U.S. Steel locations and are likely to track PM2.5 levels in a particular location.

More specifically, we see a need for exploring, at least temporarily, PM2.5 monitoring in places such as Duquesne, West Mifflin, Wilksburg, Swissvale, or Hazelwood to better understand the potential health impact in the Mon Valley and adjacent communities. A number of these communities are Environmental Justice communities that have lacked air quality monitoring despite the long standing threat of these nearby large emission sources. While the wind direction rose at Liberty does have a strong tilt towards winds from the southwest, other wind roses at the Allegheny County airport, North Braddock, and Parkway East, indicate strong components from directly South to Southeast. This data is backed up strongly by community complaints over recent years.

Support for a Continuous PM2.5 monitor in North Braddock

CWA strongly supports ACHD's effort to put in place a continuous PM2.5 monitor at North Braddock that has long been needed for the community there to have real time information about health threatening

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pollution from the U.S. Steel Edgar Thompson plant. Given the Environmental Justice communities in the area, we would urge ACHD to make a priority of this monitor addition.

Concerns about Continuous PM2.5 monitor in Clairton

However, CWA would like to raise some concerns about the proposed continuous PM2.5 monitor in Clairton, given that ACHD characterizes the location as 'generally upwind' of U.S. Steel's Clairton Coke Works. We question the value of operating an immediately upwind monitor in Clairton, when the community needs a monitor that provides them with more information about the large industrial source they are living with. A continuous PM2.5 monitor in Clairton would be valuable, but we would urge that it be put more adjacent to the coke works in order to provide the community with more useful information that they can act on. We would note that while the Parkway East monitor is required to be quite close to the source it is monitoring (18 meters), this standard is not applied to monitoring of industrial sources.

Parkway East Monitoring Station

While the Parkway East monitor is clearly established to monitor mobile source emissions, for some time it has also clearly provided further downwind ambient air data tracking the impacts of U.S. Steel facilities, particularly the Edgar Thompson Plant in Braddock. We would suggest that ACHD find an additional location for this function, as suggested above in our overall comments regarding the need for better PM2.5 monitoring.

Non-Regulatory, Multi-Pollutant Community Monitoring Network

CWA supports the general concept that ACHD is proposing in establishing a Community Monitoring Network, especially the focus on Environmental Justice communities that have not always received sufficient air quality monitoring. ACHD's description of this project is too brief and general to provide any further comment on ACHD's plans. We would urge ACHD to work with community partners, especially in Environmental Justice communities, to listen to air quality concerns in order to provide the most impactful support for locations of these community based monitors. Public participation will be a critical component to the success of such a project.

Thank you for your time and attention to these comments, and we look forward to your reply. Please direct any correspondence regarding these comments to marnowitt@cleanwater.org or to the Pittsburgh office address listed below.

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Sincerely,

A handwritten signature in black ink that reads "Myron Arnowitt". The signature is written in a cursive, flowing style.

Myron Arnowitt
Pennsylvania Director

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Pitt Public Health Summarized Comments on the ACHD Air Monitoring Report August 4, 2021

1. The Flag Plaza (Downtown) is placed on or next to the Boy Scott building. Across the street from where the igloo used to be. I think they placed there because they did not want anyone to tamper with or steal the equipment. It is too high up the hill to monitor the real-world situation of the downtown air. They need a street level monitor downtown to pick up the diesel particulate matter. That said it is the Clairton monitor that is most often reading levels above the air quality standards.
2. Addition of NAT Trends Station Monitoring site to monitor VOC, carbonyls, PAHs, and PM metals is in large part a good idea and represents an addition to monitoring activities within the county. At the national level this program is designed to collect data on temporal trends on pollutant subtypes not usually routinely measured yet have emerging importance in possible health effects. However, locating such activities to a single site in Allegheny County might be problematic. One can acknowledge that proposed citing to Lawrenceville is adequate to capture the trends in our urban area at-large for national comparison. On the other hand, industrial regions in Mon Valley may be more severely impacted as is known for a variety of other pollutants. PAHs and PM-derived metals are clearly associated with steelmaking and coke-processing. It would also be useful to compare VOCS and carbonyls in terms of proximity to these industries. Therefore, to not include similar NATTS monitoring at a Mon Valley site such as Glassport, Braddock, or the like seems like a missed opportunity and sends a message of caring about those communities.
3. I do not think removing the SO₂ monitor from the South Fayette site is a good idea, however, placing an additional one at Clairton is, as this a probably a major site not currently covered in close proximity. The data from the South Fayette site provides necessary reference information with which to gauge changes observed at Mon Valley sites. It allows clear discrimination of local contributions vs. regional transport. SO₂ concentrations can fluctuate widely over short time periods. For example, only by comparison to South Fayette could data from Liberty monitor be used to more specifically assign ambient elevations of SO₂ to the pollution-control breach following the fire at Clairton Coke works (Brywa-Hill et al., 2021). This does not seem to be an overall cost saving measure as the plan states removal of SO₂ monitor from Avalon (which is justified with closing of Shenango Coke works) and relocation of South Fayette monitor to Clairton. Why can't Avalon simply be relocated to Clairton and leave South Fayette in place?
4. The addition of a low-cost, non-regulatory multi-pollutant community monitoring network is an excellent addition to the plan. This idea represents the increasing recognition that air pollutant exposures are more granular on a spatial scale than can be adequately covered in an expensive regulatory monitoring network. Expansion of low-cost community monitoring is a recent priority for US EPA and excellent examples have emerged in California, Lexington, KY, and elsewhere. However, ACHD should be urged

to earnestly consider community input on the location of these monitors and engage in robust public and transparent dialogue about setting up the network. This process can take advantage of existing community knowledge and concerns that may not be obvious to ACHD and will simultaneously provide an opportunity to educate the public on AQ issues. In fact, ACHD may consider partnering with various academic institutions to help facilitate these conversations and help with data quality control, presentation, and interpretation. (For example, the 2 existing (Homewood, the Hill) and 1 future (Hazelwood) community engagement centers at the University of Pittsburgh may provide suitable citing locations with which to catalyze these activities.



1435 Bedford Avenue, Pittsburgh PA 1521 | communities1sewickley@gmail.com | communitiesfirstsewickleyvalley.org

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

Re: Communities First Sewickley Valley Comments on the 2022 Air Monitoring Network Plan

Dear Mr. Good,

Communities First, Sewickley Valley (C1) appreciates the opportunity to provide comment on the Allegheny County Health Department's (ACHD) proposed Air Monitoring Network Plan (AMNP) for 2022.

Communities First is a group of concerned citizens committed to protecting the health, safety and environment in the Sewickley Valley. Our focus is on the impact the Shell Polymers ethane "cracker" plant and the role the spreading petrochemical-plastics industry will have on our communities.

We know that our region continues to suffer from some of the worst air quality in the entire United States, as noted year after year in the American Lung Association's "State of the Air" annual reports. We are concerned about the impact this poor air quality continues to have on our health and well-being, particularly for those suffering from pediatric and adult asthma, chronic obstructive pulmonary disease and other respiratory ailments, and cardiovascular disease—all exacerbated by the bad air in our region. The Shell Appalachia facility will be another major polluter in the airshed.

As indicated in our mission statement, C1 is focused on impacts from the Shell ethane cracker complex that will, by most accounts, begin production and hence emission in 2022. Our review of the 2022 AMNP has revealed, among other things, a noticeable lack of monitoring assets capable of assessing the impact of this new, major pollution source.

(Continued on page 2)

As is graphically evident in Figure 1 below, ACHD has committed substantial monitoring resources to the USS complex in southeast Allegheny County. This is appropriate given that the USS Clairton Works has a demonstrated adverse impact on the citizens living near it. However, when you add the relative magnitude of the VOC emissions from Clairton and the Shell cracker (Figure 2) to the picture, the lack of monitoring assets in the northwestern portion of Allegheny County seems in need of some adjustment.

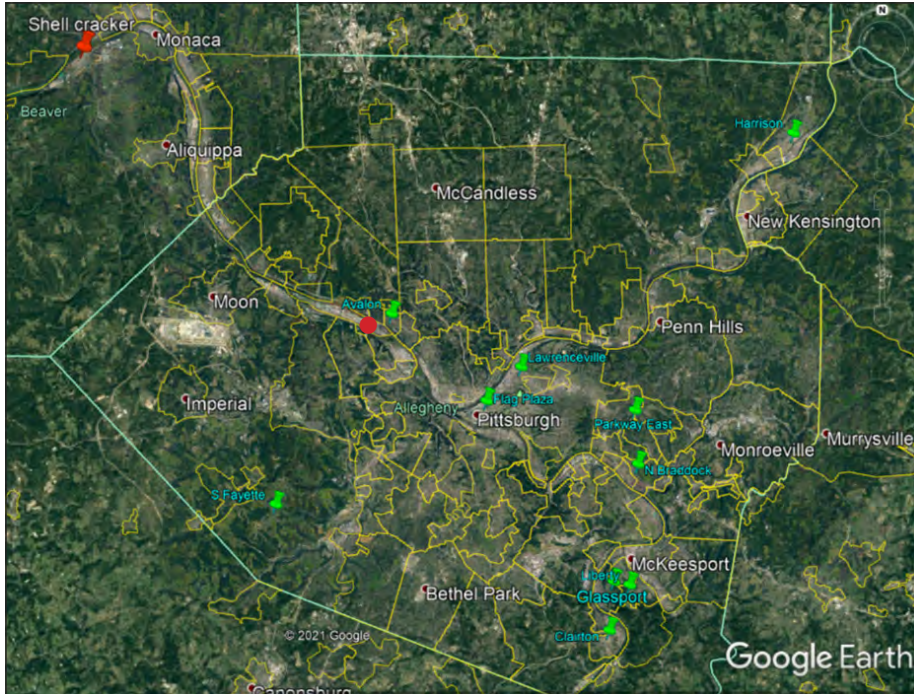


Figure 1. Shell cracker location relative to ACHD monitors

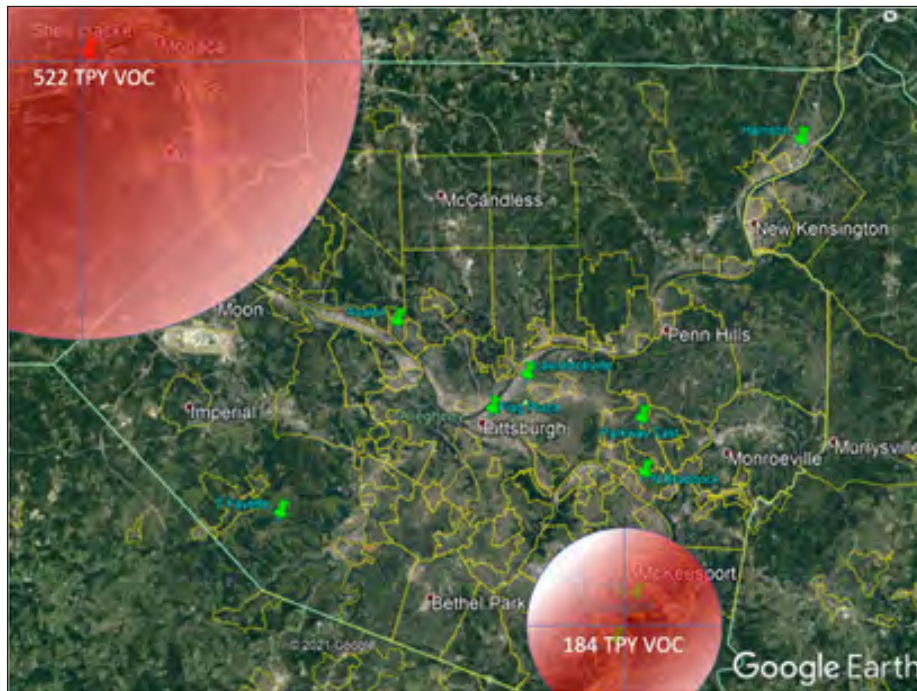


Figure 2. Relative size of Clairton and cracker VOC emissions

While the Shell Appalachia facility is not located in Allegheny County, the emissions from the cracker have the potential to impact Allegheny County communities. As evidenced by the wind rose in Figure 3 below, a substantial portion of the time the winds will direct the emissions from this facility into the county. We recognize that as part of the permitting process, Shell submitted modeling that indicated that their emissions would not cause violations of the National Ambient Air Quality Standards (NAAQS). We are not convinced, however, that that modeling adequately represented the valley topography and potential inversions that exist in this area. We understand that it well past the time to dissect the modeling that was done in the permitting effort, but actions can still be taken that will at least provide county residents monitoring information that they can use to mitigate or avoid potential health impacts.

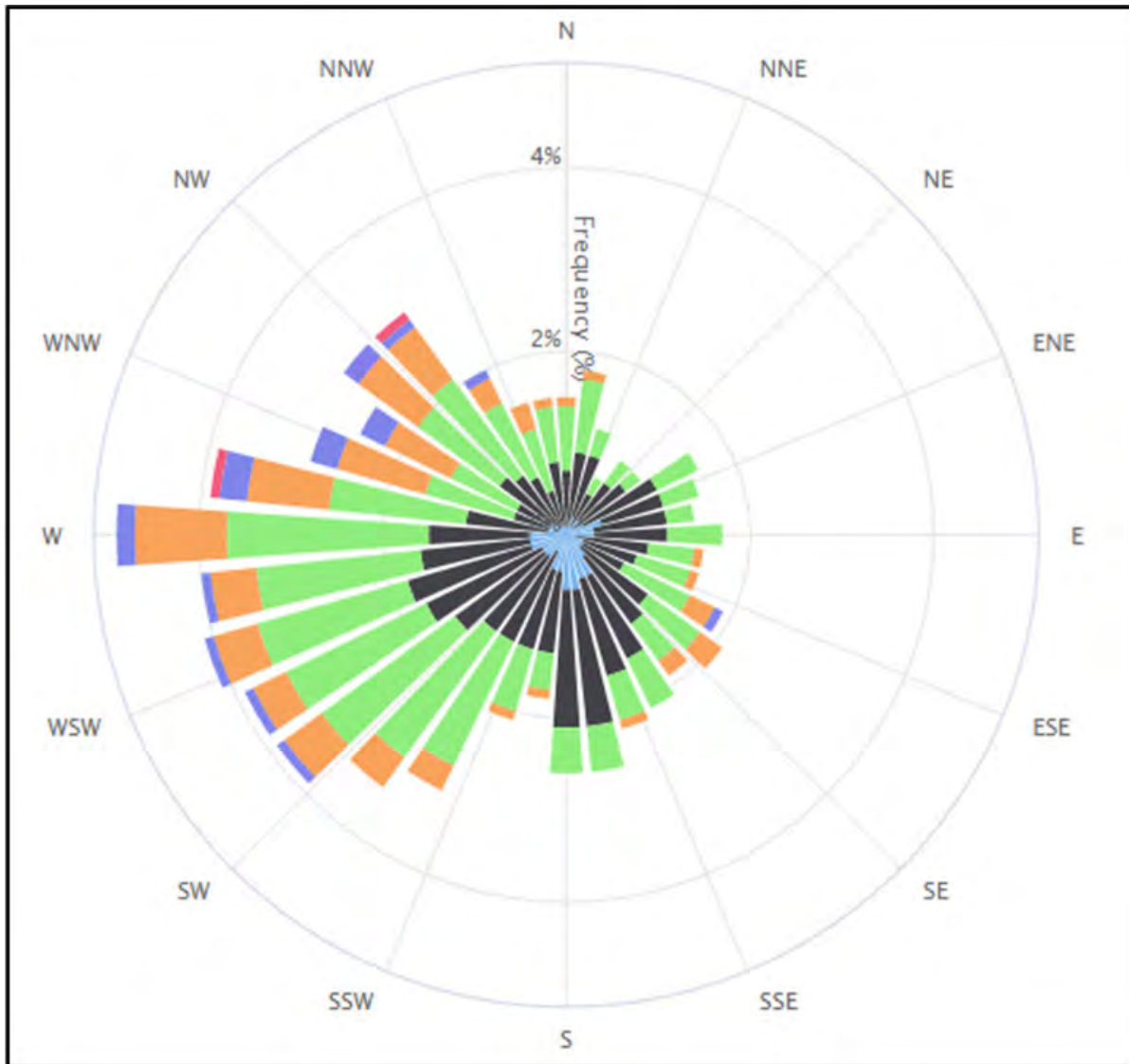


Figure 3. Wind Rose (2019 Pittsburgh International Airport)

One suggestion CI is making is the addition of an ozone monitor to the Avalon monitoring location. The Avalon site is located approximately 29 kilometers from the Shell facility at a bearing of 135°. While the wind rose suggests that regionally winds from the northwest blow a small (6%) but significant portion of the time we believe that the regional picture may not be reflective of the more localized situation. There is data suggesting that for sites in the river valleys the wind patterns are markedly affected by the confining hills. Figure 4 shows as an example a comparison of the regional (Pittsburgh International Airport) and valley wind roses (North Braddock Monitoring Station).

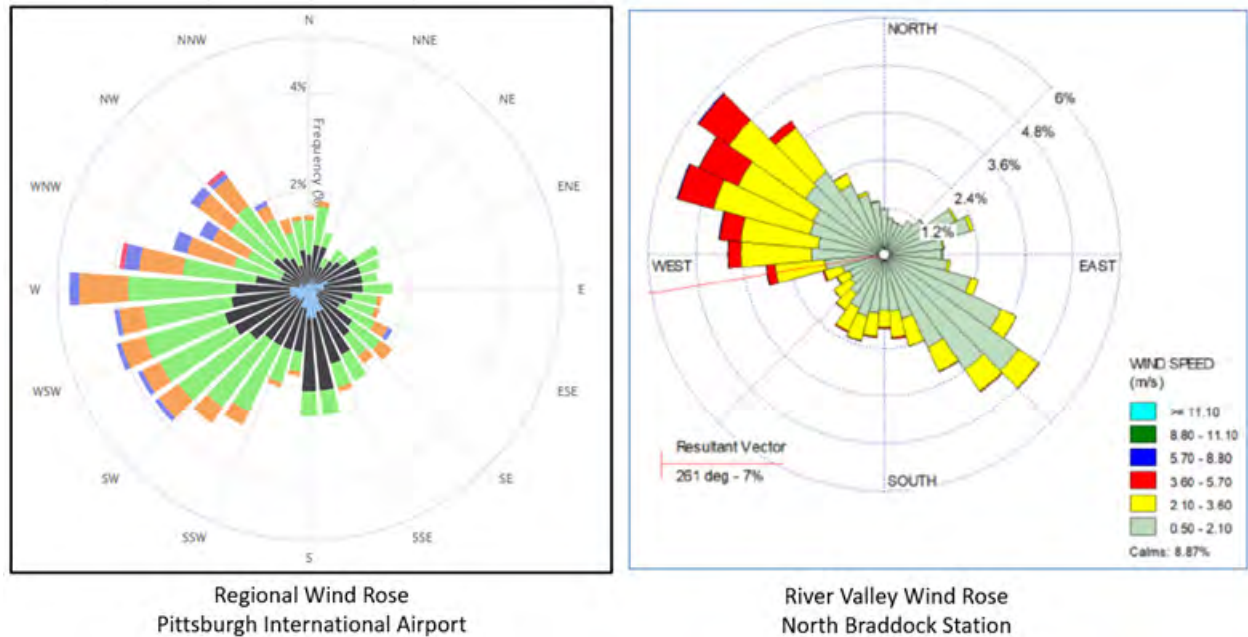


Figure 4. Comparison of Regional and Valley Winds

Locations in the river valleys will tend to have less variability because the winds are following the valley either in an upstream or downstream direction. Because the Avalon monitor is in the Ohio River valley we hypothesize it will have this type of distribution of wind directions. This factor combined with the tendency for valleys to “capture” a portion of a pollutant plume passing over them leads to a concentrating effect of any pollutants in that plume. For these reasons we believe that the addition of an ozone monitor to the Avalon station would provide a significant upgrade to the ACHD’s ability to monitor the ozone concentration in the county.

Communities First Sewickley Valley is part of a growing residents’ air monitoring network. We collaborate directly with neighboring communities and also study how the larger Pittsburgh area and Beaver County affects our air quality.

For this reason, we applaud ACHD’s plan to add a “non-regulatory, multi-pollutant community monitoring network” (p. 7, 2022 AMNP). We believe that this can substantially increase our understanding of the various nuances, such as the river valley effect noted above, that make pollution impacts in the county location specific. Because we believe that this initiative has such high potential we would ask that ACHD provide additional information on how this program will be rolled out. For example, we would like to know: what level of public input is anticipated; how will siting decisions will be made and which pollutants will be included. Ideally, we would like to see these issues addressed in the AMNP. We also recognize the timeline this document is following and ask that if inclusion in this years AMNP is not possible that ACHD provide these sorts of guidance in the coming months to any party expressing an interest in this program.

Specific to this non-regulatory, multi-pollutant community monitoring network we strongly recommend ACHD consider placing VOC monitors in the Ohio River valley downstream of the Avalon station (which would be upwind relative to the Avalon monitor as influenced by the cracker). CI operates a VOC monitor in Edgeworth Borough and this data can be provided to ACHD if it enhances your monitoring efforts.

Finally with respect to this non-regulatory monitoring effort we ask that ACHD consider how to incorporate data from existing “citizen science” monitoring efforts. For example, there are literally dozens of Purple Air monitors operating within Allegheny County. While it is possible that some of these monitors are poorly sited or unacceptable for other reasons, we believe that an effort by ACHD to augment the data gathered by both the regulatory network and the ACHD operated non-regulatory network would provide substantial benefits. Establishing criteria for acceptance of data from non-ACHD operated stations would provide some level of quality assurance while potentially expanding the data universe substantially, leading to better and more robust conclusions from any data analysis.

Moving beyond the continuous monitoring provided by some of the PM and VOC monitors available commercially, CI would like to encourage ACHD to expand its sampling program using Summa canisters, adsorption tubes and other collection methods to identify individual organic compounds and metal species. We anticipate that as the data collected by the continuous monitors becomes both more robust as well as subject to additional scrutiny it will lead inevitably to additional questions around the health impacts of the pollutants the continuous monitors are indicating are present. Particularly in the case of VOC data it is impossible to offer credible advice to citizens on the health impacts without some knowledge as to the individual compounds present as VOCs.

As noted above, CI operates a VOC monitor in the Ohio River valley (in Edgeworth Borough) and will soon add a second, most likely in Bell Acres. Our VOC monitoring work is aimed both at establishing a baseline prior to the Shell cracker coming online as well as assessing what impacts we may be seeing from the installation and operation of unconventional gas wells just over the county line in Beaver County. We have begun exploring sample collection options to elucidate the components of the VOC present. We would urge ACHD to consider amplifying our efforts by including sampling efforts in the Ohio River valley in their program. We would be glad to confer with ACHD personnel to assure that our mutual efforts are complimentary and not duplicative.

Our final comment is relative to ACHD notation in the description of the South Fayette monitoring station that suggests that some of the higher ozone readings seen at the site might be the result of stratospheric intrusion. The description states that this suspicion is based on elevation of the site. Our concern here is that there are elevations in the northwest portion of Allegheny County that equal or exceed the elevation at the South Fayette station. Our request to ACHD is to provide additional information regarding their reasoning that the elevated ozone readings at South Fayette are the result of stratospheric ozone reaching ground level. Beyond elevation, are the elevated readings associated with certain atmospheric conditions or weather patterns? While it is clearly much too early to consider ozone monitoring at some of the higher elevations in northwest Allegheny County, we wish to advance our knowledge in this regard should this need to be considered in future AMNPs.

Again, we thank ACHD for the opportunity to provide comment on the 2022 AMNP and commend them on their efforts to provide Allegheny County residents with information on ambient air conditions. Should ACHD wish to clarify or ask for additional information on any of the points we’ve raised we stand ready to engage and provide what we can.

Gail Murray, Director of Communications
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August 9, 2021

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

RE: Remarks for Public Comment 2022 Air Monitoring Network Plan Submitted via email to: david.good@alleghenycounty.us

We generated comments based on a Press Release, July 9, 2021, Health Department Seeks Comment on Annual Air Monitoring Network Plan.

Dear Allegheny County Health Department (ACHD):

We are Requesting More Monitors be Placed in Western Allegheny County:

Too few Allegheny County monitors exist downwind of the massive Marcellus Shale development in neighboring Washington County. Of those that exist, we feel they are placed in areas that are not properly capturing the true picture of the air pollution in Allegheny County. Currently, an air monitor is placed at South Fayette Elementary School located at 3640 Old Oakdale Road McDonald, PA 15057. ACHD is proposing to relocate South Fayette's sulfur dioxide monitor to Clairton. In addition to the air pollution blowing from Washington County, western Allegheny County receives air pollution from facilities on the eastern side of the county. **We request that more monitors not less be strategically located downwind of where the heaviest natural gas drilling and processing is occurring. This would be in the western part of Allegheny County. And we request all monitors test for volatile organic compounds (VOC) more than once every six days. Upsets happen and at times they occur in between days one and six of the sample collection for VOC therefore sampling should be done more frequently. The air monitor network plan should be expanded to include communities in the western part of Allegheny County where no monitors currently exist.**

Neighboring Washington County has three air monitors placed in Florence, Houston and Charleroi. We feel this is inadequate given the massive Marcellus Shale development happening next to Allegheny County. Emissions such as VOCs from the natural gas industry in Pennsylvania (PA) are largely self-reported in the absence of some air permitting requirements. Without monitoring requirements within permits such as those for well pads, citizens rely on regulatory agencies like ACHD to properly monitor for such pollution within their monitoring network plans. With the current ACHD monitoring network plan and the one proposed for 2022, citizens remain concerned about the massive amounts of air pollution spills into Allegheny County from its neighbors to the west as well as industries located in the eastern part of the county. Therefore, we urge ACHD to strategically add monitors along the western part of Allegheny County such as in Imperial, PA so as to capture air pollution in western sections of Allegheny County.

Concerns with the Florence monitor location:

- Pennsylvania Department of Environmental Protection (PA DEP) Florence Regional/General Background Monitor (AQS ID 421255001) is located in Hanover Township, Washington County. This monitor was placed in a rural setting for the purpose of collecting Ozone, Sulfur Dioxide and PM2.5 continuously. No VOCs are monitored at this location.
- ACHD proposes to relocate a sulfur dioxide (SO₂) monitoring at the South Fayette station to the Clairton station and rely solely on SO₂ readings from the Florence, Washington County monitor. We agree Clairton should have an SO₂ monitor. However, ACHD should keep the SO₂ monitor at the South Fayette station and not rely on the background readings from the Florence station which is located upwind of many pollution sources in Washington County that are blowing into Allegheny County.
- According to the PA DEP Annual Ambient Air Monitoring Network Plan, Florence monitoring station is located along Kings Creek Road in Hanover Township. However, the latitude and longitude in the PADEP plan locates one at the actual place of the monitor off Miller Airport Road in Hanover Township. A correction of the listed location may be necessary.
- Pollution blowing into Allegheny County from the nearby Smith Township, Washington County processing area along - Point Pleasant Road in Bulger would not be detected at the Florence monitor as this monitor is located *four miles upwind* of the emissions from the various pollution sources:
 - MarkWest Smith compressor station
 - MarkWest Harmon Creek cryogenic plant
 - Energy Transfer Rover compressor station
 - Energy Transfer Revolution cryogenic plant
 - Multiple Range Resources well pads and pigging operations

See below Google Earth image showing Florence Air Monitor to pollution sources upwind of the Allegheny County Line:



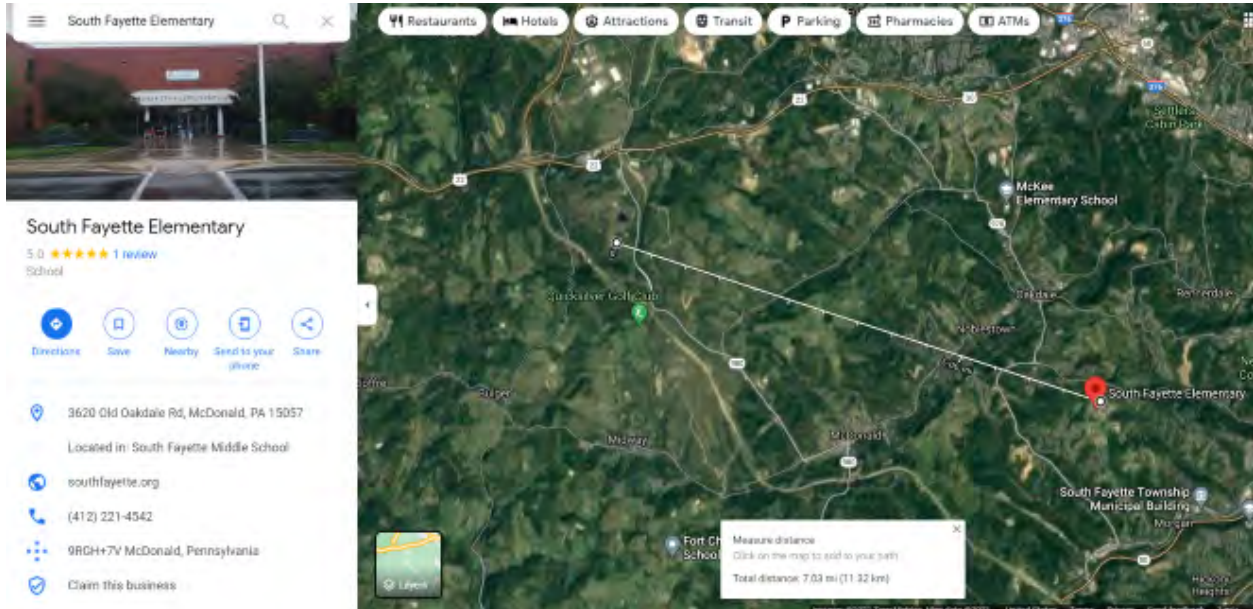
Concerns with the Houston monitor location:

- The Houston neighborhood monitor (AQS ID 421255200) is located in Chartiers Township. The monitor was placed downwind of the MarkWest Houston processing plant and monitors for Ozone, Nitrogen Dioxide and PM2.5 continuously. VOCs and Carbonyls are monitored once every six days.
- According to documents obtained from PA DEP file reviews, it has become clear that frequent flaring/upset events have been and continue to occur at these massive MarkWest and Energy Transfer cryogenic/processing plants in Smith and Chartiers Townships, Washington County.
- However, concerns about these ongoing flaring/upset events center on the fact that the Houston monitoring station is upwind of a host of shale gas operations including several well pads, an industrial rail yard facility and very large and ever-expanding compressor stations. The wind rose data from the Greater Pittsburgh International Airport indicates that pollution from the Washington County shale gas facilities would impact Allegheny County's South Hill communities including Mount Lebanon, Upper St. Clair and Bethel Park. ACHD does not have any monitors located in these communities and without such monitoring, communities could be unknowingly impacted without proper notices or effective oversight by ACHD. Instead, ACHD appears to be relying only on the South Fayette monitor station which does not test for VOCs and is slated to have its SO₂ monitor relocated. We feel this is a mistake. South Fayette station should continue to test for SO₂ and should also add VOC detection on a frequent basis.

Additional Pollution

- Recently PA DEP approved construction of a new natural gas power plant, Robinson Power Company-Beech Hollow Energy (RPC) and two dew point heaters to be located in Washington

County along the border with Allegheny County. **Air pollution from these facilities would not be detected at the Florence monitor as it sits seven miles upwind of the emissions sources. RPC would sit just over the North Fayette, Allegheny County line - less than 7 miles from the South Fayette monitoring station but upwind of the pollution sources from this proposed plant.**



[A Need to Monitor for VOCs](#)

We urge ACHD to continue all monitoring at the South Fayette station and to include VOC monitoring. We also urge ACHD to add a monitoring station which includes VOC monitoring in the Imperial, Allegheny County area which appears to be downwind of air pollution coming from the massive natural gas extraction and processing in Smith Township and the proposed RPC power plant in nearby Washington County.

Shale gas operations in Washington County include a massive infrastructure buildout with compressor stations, processing plants, pigging operations, pipelines, gathering lines and the actual fracking of unconventional gas wells. Each of these operations unknowingly expose Allegheny County residents to dangerous VOC emissions. The well pads, alone, often include several condensate tanks as well as other equipment necessary for the extraction, processing and transportation of natural gas and associated wastes. However, the true levels of VOC emissions from well pads is unknown, as those sources are not currently monitored, but are self-reported by the companies. Clear monitoring data is essential – particularly as many of these operations have been entwined within residential neighborhoods and on family farms.

An April 2020 executed Consent Assessment of Civil Penalty with Range Resources Appalachia LLC (Range) detailed violations of state regulations and the Air Pollution Control Act. For example, violations involving two well pads in two Washington County townships were detailed in that same Consent Agreement *See* PADEP Announces Agreement with Range Resources for

Air Quality Violations in Washington County, GASP Pittsburgh, April 14, 2020, available at <https://gasp-pgh.org/2020/04/14/dep-announces-agreement-with-range-resources-for-air-quality-violations-in-washington-county/>.

*“Each facility contains storage tanks and associated equipment that may emit volatile organic compounds (VOC), which the operator is required to report annually to DEP. **Range Resources exceeded the potential to emit 50-ton or more of VOC threshold that would have qualified both sites as Title V facilities and subjected each to major source permitting requirements.** Range Resources failed to apply for or receive a Title V permit. ... Generally, **the recalculated emissions were higher than previously reported. The recalculated Costanzo site’s VOC emissions exceeded 50 tons per year in 2013 and 2014.**”*

In PA it has been estimated that more than 13,000 unconventional gas wells have been fracked - with more than 1,500 in Washington County - some with likely emissions traveling into Allegheny County communities. See Fact Tracker, available at <https://www.fractracker.org/map/us/pennsylvania/pa-shale-viewer/>;

<https://www.ehn.org/fractured-harmful-chemicals-fracking-2650428324/fracking-children>

Considering the massive shale gas buildout that has and continues to occur along the border of Washington and Allegheny counties, it is important to consider - not just the well pads and their supporting infrastructure - but to also consider the large processing facilities and supporting gas plants and their additional potential to emit dangerous pollution into Allegheny County.

In an effort to more effectively monitor the increasing emissions, **we urge ACHD to also consider the over 73 tons per year of VOCs expected from just three of these facilities located upwind of the Allegheny County line as proof that a VOC monitor is necessary in the area of Imperial, PA, Allegheny County. Please note, these emissions do not include the dozens of very large compressor stations scattered around Washington County whose emissions also cross into western Allegheny County.**

Chart of Emissions from three facilities of concern in Robinson and Smith Townships:

Facility Name	NOx	VOCs	PM	CO	HAPS
Robinson Power Beech Hollow Project*	231.70 tpy	42.00 tpy	144.50 tpy	164.90 tpy	16.03 tpy
MarkWest Harmon Creek Cryogenic	28.78 tpy	21.05 tpy		46.02 tpy	1.51 tpy

Plant**					
ETC Northeast Pipeline Revolution Cryo Plant***	60.35 tpy	30.02 tpy	16.14 tpy	60.01 tpy	3.34 tpy

Table shows emissions estimates of pollutants in tons per year.

*Robinson Power Beech Hollow Project potential to emit as described in Pennsylvania Bulletin May 30, 2020 edition, available at <https://www.pacodeandbulletin.gov/secure/pabulletin/data/vol50/50-22/50-22.pdf>.

**These emissions estimates are derived from PADEP’s review memo of Mark West’s permit applications for GP-1 and GP-5 permits and an RFD issued in January of 2018. As non-Title V permits these permits impose facility-wide limits of 100 tons per year for NOx, CO, and PM, 50 tons per year for VOCs, 10 tons per year for single HAPs, and 25 tons per year for total HAP.

***These emissions estimates are derived from PADEP’s review memo of Mark West’s permit applications for GP-1 and GP-5 permits, and an RFD issued in August of 2018.

Table 7: Harmon Creek Facility-Wide Emissions^a

Source	NOx		CO		VOC		Hexane ^b		Total HAPs		GHG (CO ₂ e)
	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	tpy
Cryo Regen Heaters	0.82	3.59	0.82	3.59	0.11	0.48	3.62E-02	1.58E-01	0.04	0.17	11,874
De-Ethanizer HMO Heaters	3.30	14.44	3.30	14.44	0.44	1.95	1.45E-01	6.37E-01	0.15	0.67	47,763
Stabilizer HMO Heater	0.41	1.82	0.41	1.82	0.06	0.24	1.83E-02	8.02E-02	0.02	0.08	6,009
De-Ethanizer Regen Heater	0.23	1.01	0.23	1.01	0.03	0.14	1.02E-02	4.47E-02	0.01	0.05	3,352
Plant Flare	1.26	5.50	5.73	25.09	3.07	13.45	-	-	0.10	0.45	10,510
Emergency Generators ^c	1.07	2.41	0.23	0.05	0.04	0.01	-	-	0.01	-	167
Fugitives	-	-	-	-	0.88	3.87	-	-	0.01	0.04	47
Pigging	-	-	-	-	-	0.48	-	-	-	0.02	29
Rod Packing	-	-	-	-	0.30	1.33	-	-	0.01	0.03	45
Facility-Wide	7.10	28.78	10.72	46.02	4.94	21.95	0.21	0.92	0.36	1.51	79,795

^a Values may appear slightly inconsistent due to rounding.

^b Hexane is the highest single HAP

^c Emergency generator emissions based upon 500 hours/year

Table 11: Rev Cryo Facility-Wide Emissions^a

Source	VOC		NOx		CO		HAPs ^b		PM ₁₀ /PM _{2.5}		GHG (CO ₂ e) ^c
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	tpy
Amine Unit 1	0.81	3.54	-	-	-	-	0.05	0.24	-	-	3,174
Amine Unit 2	0.81	3.54	-	-	-	-	0.05	0.24	-	-	3,174
Tanks	0.62	3.51	-	-	-	-	0.04	0.17	-	-	-
Flare 1	-	-	39.20	1.54	178.71	7.01	-	-	-	-	2,738
Flare 2	-	-	39.20	1.54	178.71	7.01	-	-	-	-	2,738
Truck Loading Combustor	-	-	0.05	0.06	0.04	0.05	-	-	-	-	311
Amine Unit 1 Thermal Oxidizer	-	-	0.13	0.58	0.11	0.49	-	-	0.01	0.04	692
Amine Unit 2 Thermal Oxidizer	-	-	0.13	0.58	0.11	0.49	-	-	0.01	0.04	692
Rod Packing Combustor	-	-	0.06	0.27	0.05	0.22	-	-	-	0.02	313
Component Leaks	2.52	11.05	-	-	-	-	0.11	0.50	-	-	3,352
Compressor Fugitives	-	1.40	-	-	-	-	-	-	-	-	4,140
NGL Dehy Heater 1	0.03	0.15	0.62	2.70	0.52	2.27	0.01	0.05	0.05	0.21	3,191
NGL Dehy Heater 2	0.03	0.15	0.62	2.70	0.52	2.27	0.01	0.05	0.05	0.21	3,191
Regen Gas Heater 1	0.05	0.20	0.84	3.69	0.71	3.10	0.02	0.07	0.06	0.28	4,360
Regen Gas Heater 2	0.05	0.20	0.84	3.69	0.71	3.10	0.02	0.07	0.06	0.28	4,360
HMO Heater 1	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
HMO Heater 2	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
HMO Heater 3	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
HMO Heater 4	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
HMO Heater 5	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
HMO Heater 6	0.22	0.98	1.64	7.17	1.64	7.17	0.07	0.32	0.57	2.51	20,991
Pigging	-	0.43	-	-	-	-	-	0.03	-	-	68
Total	6.26	30.02	91.52	60.35	370.01	69.01	0.76	3.34	3.69	16.14	162,425

^a Values may appear slightly inconsistent due to rounding.

^b Hexane (primarily from the heaters) is the largest single HAP, 2.15 tpy.

^c Based on a June 23, 2014 United States Supreme Court decision, the Court held that EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or title V permit. The Court also held that only PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

Facilities seeking PA DEP air permits for operations in Smith and Robinson Townships, Washington County have used the Florence monitor as part of their required pollution modeling in their applications for state approval. These plants are part of the massive gas infrastructure buildout however, have been constructed downwind of the Florence monitor and too far north and upwind of the Houston and South Fayette monitors to properly detect pollution from these facilities. Because of this scenario, an accurate depiction of the air we breathe is not currently available. Once pollution is emitted from these facilities, there are no monitors capturing the pollution we are breathing. **None of the current Washington County or Allegheny County monitors are properly capturing the true air conditions in many border communities, therefore leaving significant pollution sources unmonitored.**

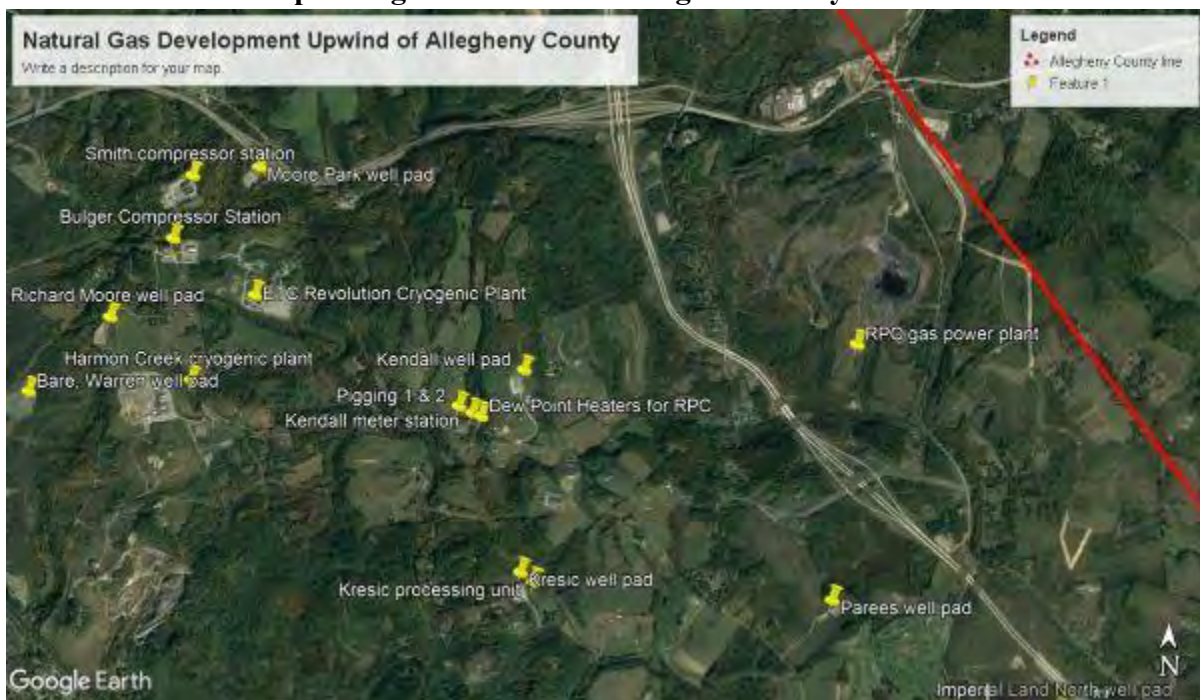
In order to ensure there is proper monitoring of the industrialized buildout in Washington County - particularly within Robinson and Smith Townships, we request a monitor be added downwind of this buildout area. And we request those monitors be updated to include monitoring for VOCs on a more frequent basis, not just once every six days. This additional monitoring is essential for those Allegheny County communities along the border with Washington County.

Request for Monitors in Western Allegheny County Communities Supporting Data

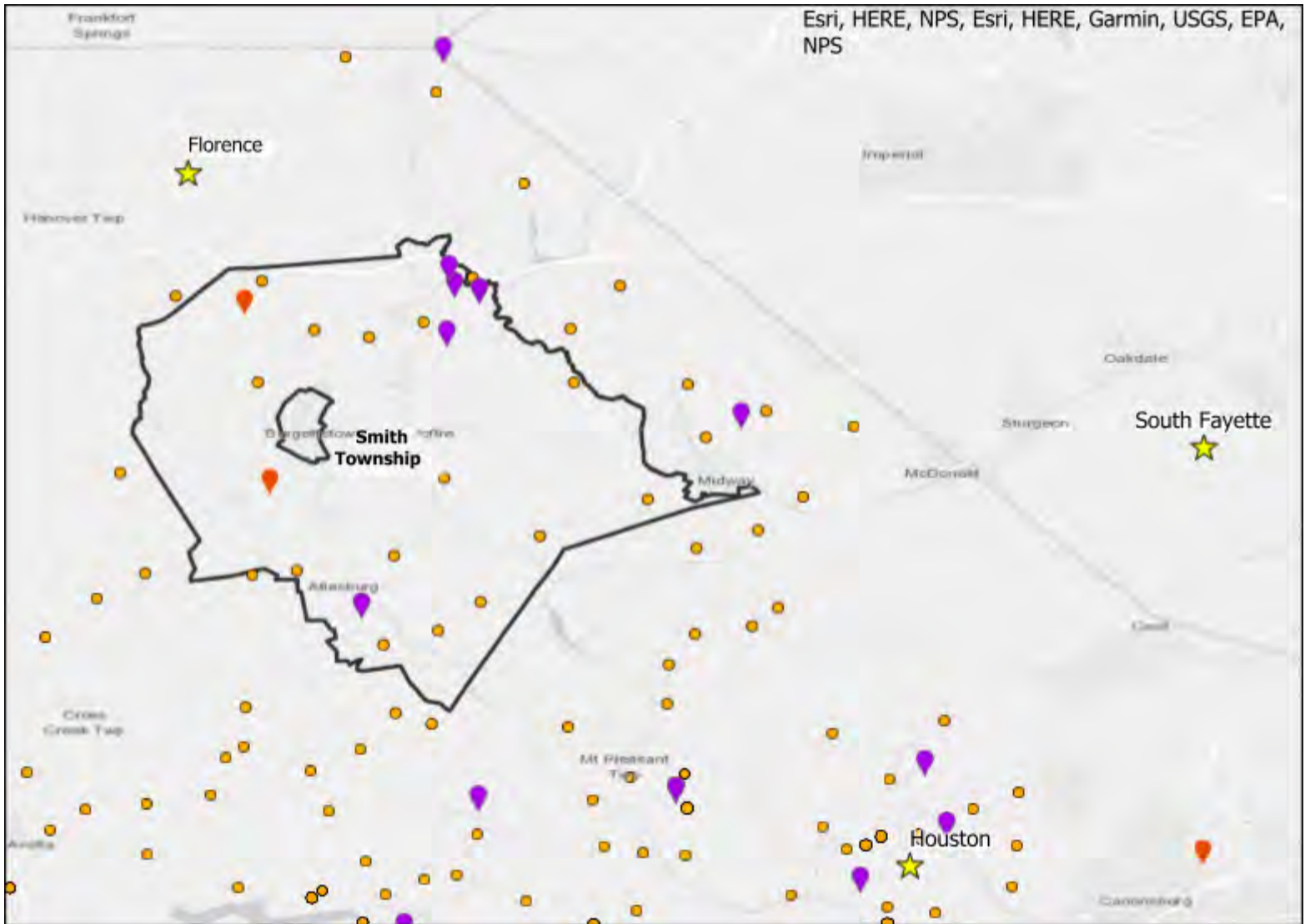
Below are three images to further make our point that ACHD needs to place more monitors near Imperial, PA, Allegheny County which is downwind of massive Marcellus shale gas development happening in neighboring Washington County:

- Google Earth image showing air pollution sources and the Allegheny County line.
- Map created by SWPA Environmental Health Project (EHP) – depicting the existing PA DEP monitors in Florence, South Fayette, and Houston.
- Wind rose showing documented wind patterns recorded at the Greater Pittsburgh International Airport in Findlay Township, PA from January 1, 2015, through December 31, 2020.

By comparing the wind rose and the noted sites of the gas infrastructure buildout included on the map, it becomes clear the existing locations of ACHD and PA DEP monitors are not accurately capturing the air pollution. **It concerns us that, at any given time, it appears the pollution attributed to the massive infrastructure buildout in Washington County’s Smith and Robinson Townships is escaping the existing monitoring by traveling between the Florence and South Fayette monitors. And that same pollution is too far upwind from the other monitoring location in Houston, PA. Therefore, we believe the placement of a new monitor in Imperial, PA, Allegheny County is needed in order to accurately capture air pollution data from the ever-expanding buildout in Washington County.**



Regulatory Monitors, Major Emitters, and Natural Gas Infrastructure in Smith Township, Washington County*

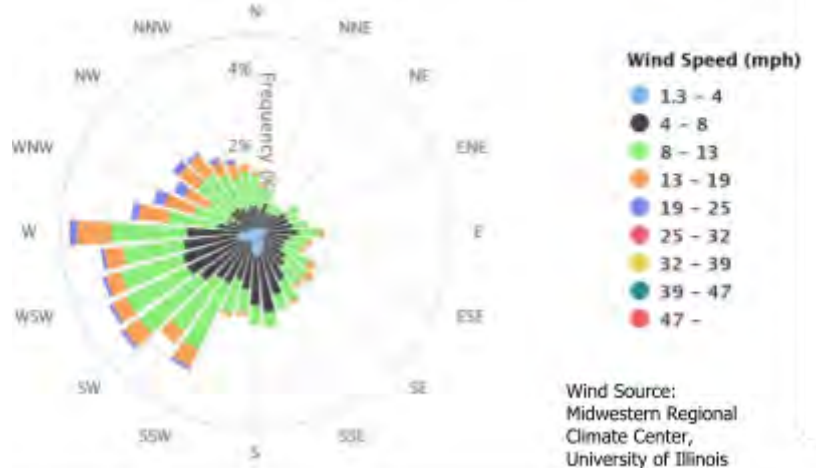


- ★ Regulatory Monitors
- 📍 Large Gas Infrastructure 📍 Title V Facility
- Active Gas Wells (2019) Smith Township
- ▭ Boundary

*This map only includes emitters within Washington County.

PITTSBURGH INTL AP (PA) Wind Rose

Jan. 1, 2015 - Dec. 31, 2020
Sub-Interval: Jan. 1 - Dec. 31, 0 - 23



Miles (scale did not transfer)

We believe there are two additional and very reliable sources also supporting our calls for more monitors properly positioned to track impacts from the massive Washington County infrastructure buildout:

1. Given the limitations in monitor placement and the concern about representativeness of these data, PADOH and ATSDR believe additional community air monitoring activities, particularly with monitoring locations that are more regularly downwind of the target emissions sources, would further advance our understanding of community public health impacts from exposures to natural gas industry emissions. As feasible, analytical methods should be used with detection limits below the most conservative health-based comparison values. Public Health Evaluation of Long-Term Air Sampling Data Collected in the Vicinity of Natural Gas Operations Washington County, PA, ATSDR and PA Department of Health (PADOH), Health Consultation, July 18, 2018, available at, https://www.atsdr.cdc.gov/HAC/pha/marcellusShale/Air_Marcellus_Shale_HC-508.pdf
2. One of the eight recommendations from the Pennsylvania Attorney General's 43rd Statewide Grand Jury report includes: "*Adding up all sources of air pollution in a given area to accurately assess air quality.*" This can better be done by broadening Allegheny County's Air Monitoring Network. See 43rd Statewide Grand Jury Finds Pennsylvania Failed to Protect Citizens During Fracking Boom, Office of Attorney General of Pennsylvania, June 25, 2020, available at, <https://www.attorneygeneral.gov/taking-action/press-releases/43rd-statewide-grand-jury-finds-pennsylvania-failed-to-protect-citizens-during-fracking-boom/>

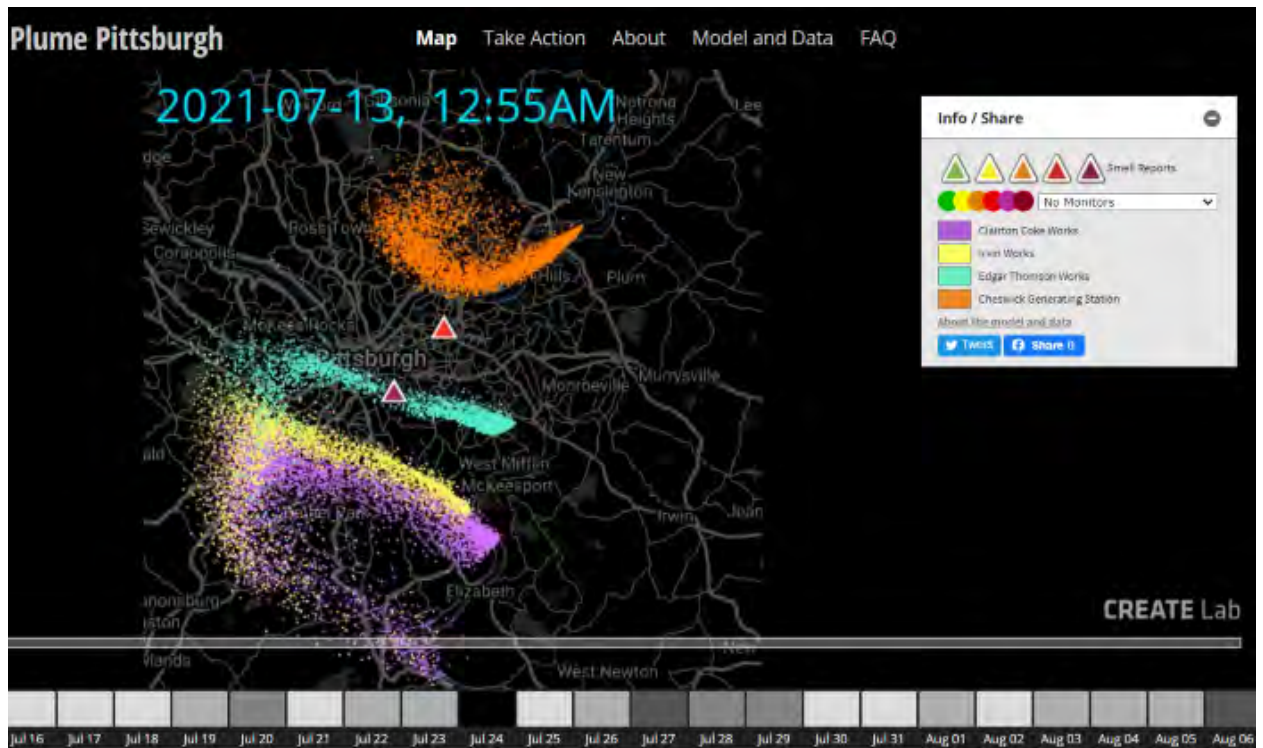
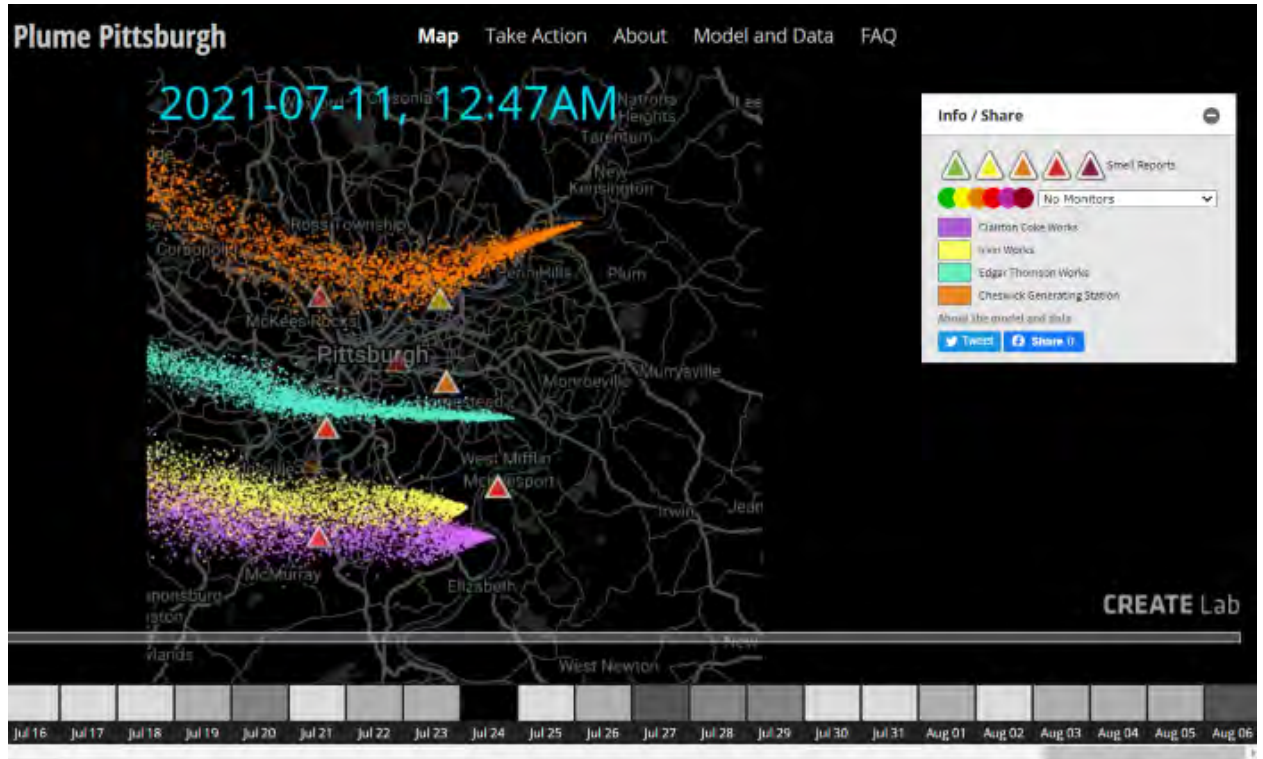
Pollution from Allegheny County

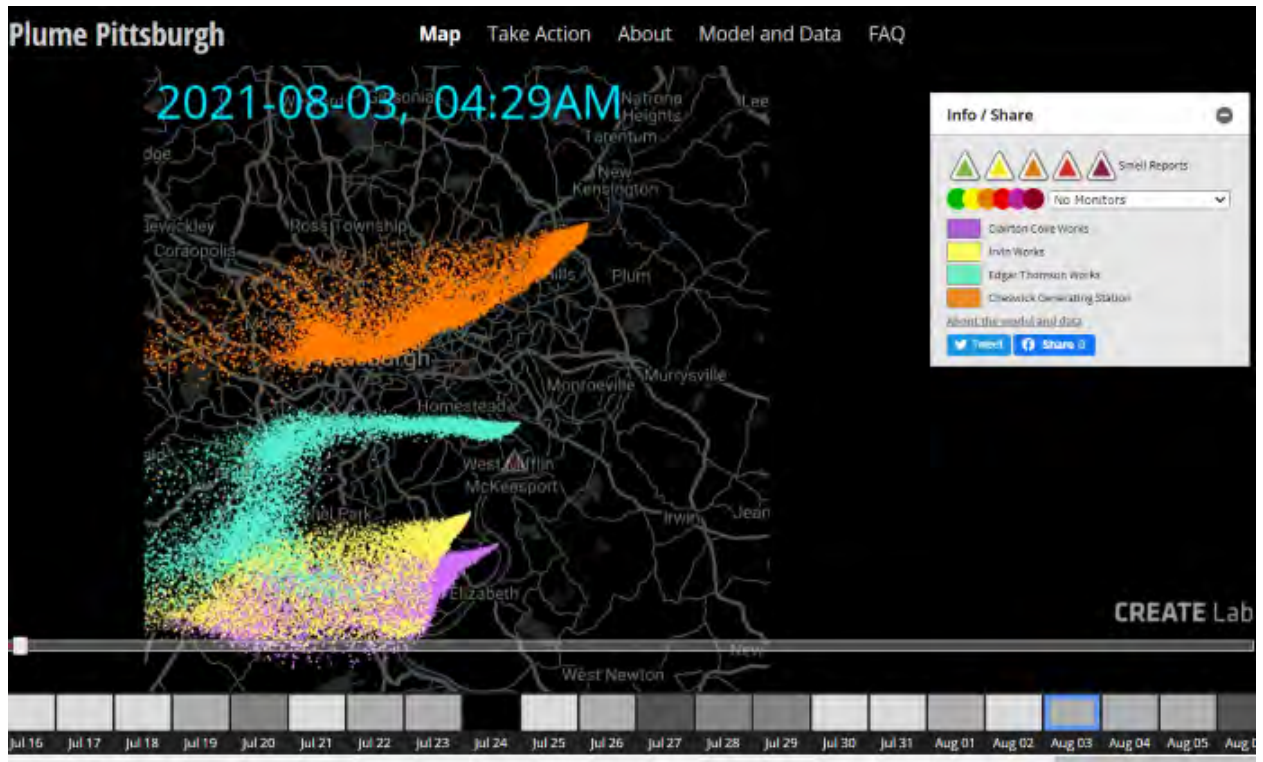
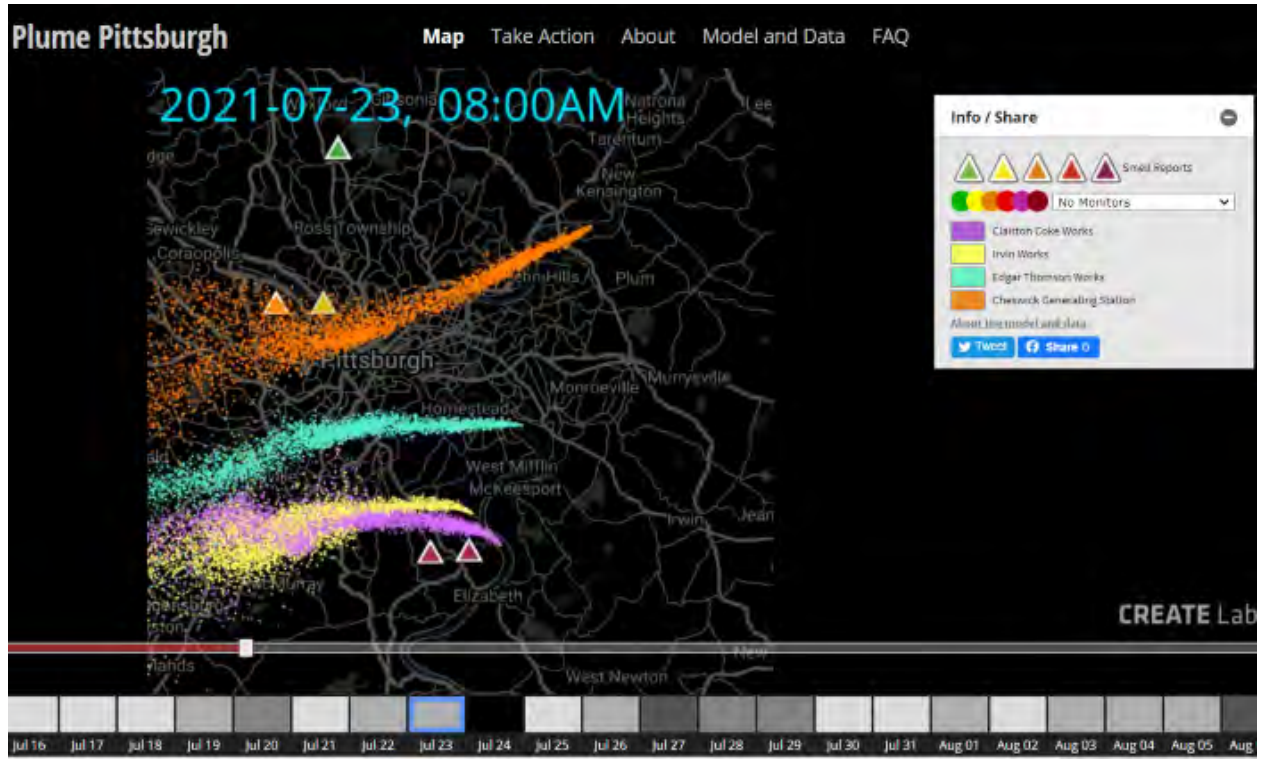
Western Allegheny County also experiences pollution from facilities located on the eastern side of the county. This can be seen by viewing pollution modeling created by Community Robotics, Education and Technology Empowerment Lab (CREATE Lab) at Carnegie Mellon: <https://plumepgh.org/about.html>

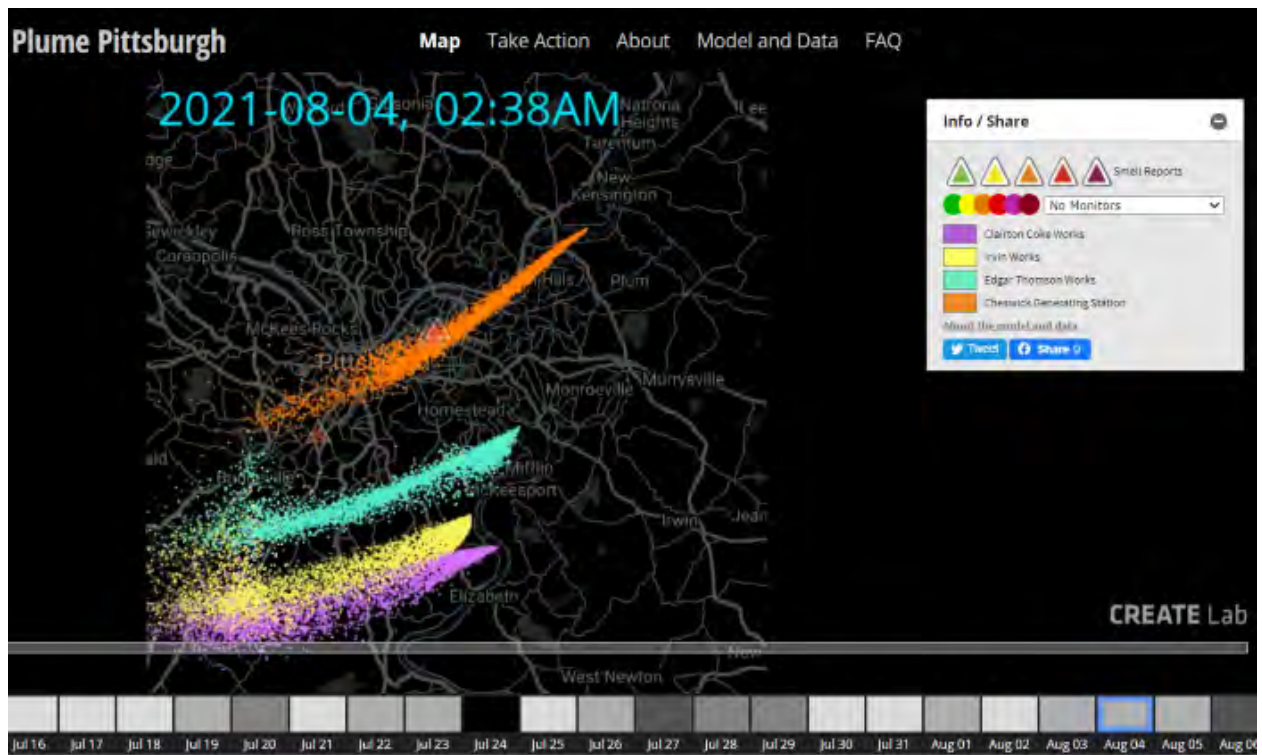
CREATE Lab's Plume Pittsburgh shows incidents of pollution plumes from four large pollution emitters located within Allegheny County. They include Clairton Coke Works, Irwin Works, Edgar Thomson Work and Cheswick Generating Station. Below are five links showing July 11, 2021-August 4, 2021 when pollution generated at these plants traveled to areas in western Allegheny County.

This data reveals that over a period of 27 days, five of those days show pollution blowing into western Allegheny County from four pollution sources located in eastern Allegheny County.

<https://plumepgh.org/index.html?date=2021-07-11>
<https://plumepgh.org/index.html?date=2021-07-13>
<https://plumepgh.org/index.html?date=2021-07-23>
<https://plumepgh.org/index.html?date=2021-08-03>
<https://plumepgh.org/index.html?date=2021-08-04>







Residents Take Action With Help From Environmental Groups and Technology:

In January 2020, a partnership between the Environmental Integrity Project, the CREATE Lab, and Southwest Pennsylvania Environmental Health Project (EHP) deployed low-cost monitors in Smith Township and Robinson Township, Washington County. The partnership deployed both fine particulate matter and volatile organic compound (VOC) monitors to better understand the health impact of several large natural gas facilities in Smith Township.

In order to understand potential air quality risks for those living near shale gas sites, EHP was able to place low-cost monitors at several homes to detect particulate matter. Residents are now able to see if there is an increase of particulate matter exposure during flaring or fracking events near their homes.

Chronic Flaring has been a Reoccurring Problem:

- January 25, 2021, MarkWest’s Harmon Creek cryogenic plant was flaring when black smoke was also visible in the flare.
- March 7, 2021, Energy Transfer’s Revolution cryogenic plant also had black smoke visible from their flare stack. These upsets were reported by residents to the agency as well as to the National Response Center.
- On any given day, a flare is usually seen from both plants in Bulger. Sometimes the flares are massive and occur for hours or days.
- The sound from the flaring is a nuisance which residents have little to no ability to do anything about since the PADEP does not govern sound from these monstrous facilities that they permit in

- neighborhoods. Townships are incapable of mitigating the problems caused by the gas industry.
- Industry told residents that flaring would be necessary on an emergency basis only. Now we learn the truth, that flaring is a normal part of their operations, residents are just in the path of this unexpected pollution.

Low-Cost Monitoring Results During Local Flaring Events:

Residents noticed opaque black smoke coming from the MarkWest Harmon Creek and the Energy Transfer Revolution cryogenic plants near homes on January 25, 2021, at 11:30 am for a short time (15 minutes) and March 7, 2021, starting at about 8:00 am.

Using low-cost monitors deployed in Smith Township in a partnership between Environmental Integrity Project, the CREATE Lab, and Southwest Pennsylvania Environmental Health Project (EHP), residents were able to track the quantity of emissions coming from these facilities during these flaring/upset events. Starting on Saturday January 30, 2021, the baseline VOC value appears to increase at the “Robinson Township (Washington County) 3” monitor, registering at the uncharacteristically high average value of approximately 1000 ppb through April 20th, 2021, when the baseline returns to normal approximate 300 ppb levels. See Figure 4.

Prior to January 30th, 2021, there were regular, daily spikes in VOC pollution reaching into the thousands of ppb. See Figure 5.

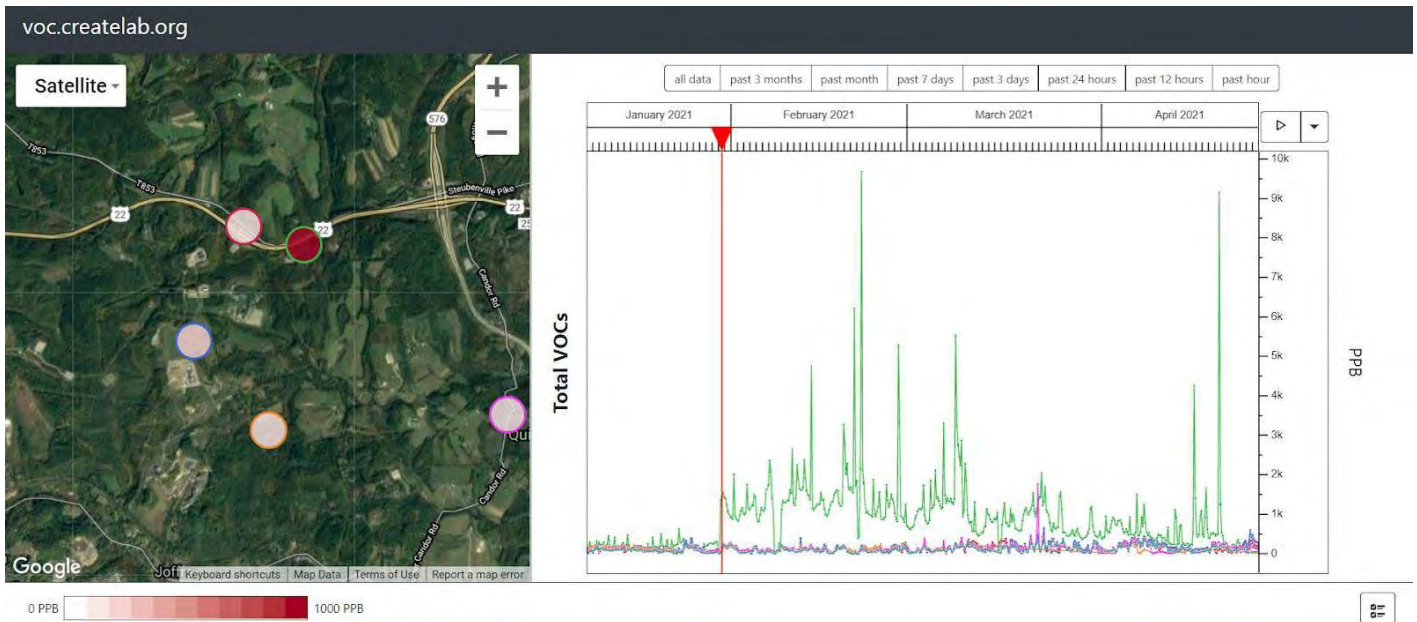


Figure 4. [Link to VOC.createlab.org](https://voc.createlab.org)

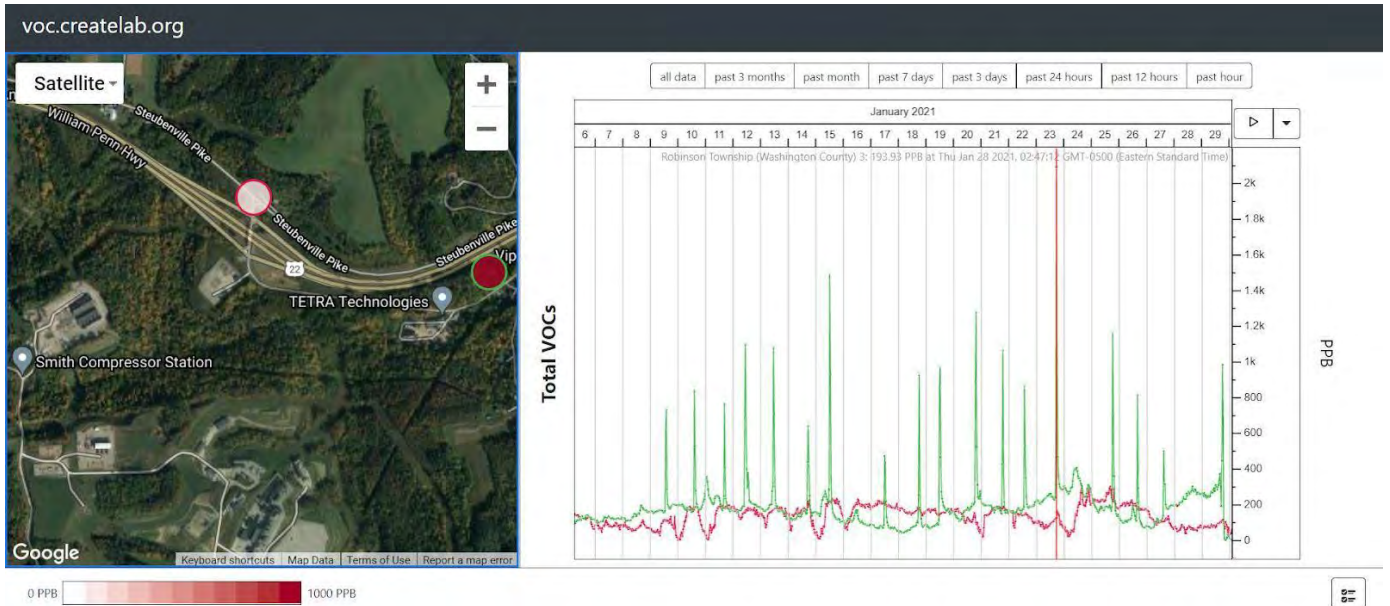
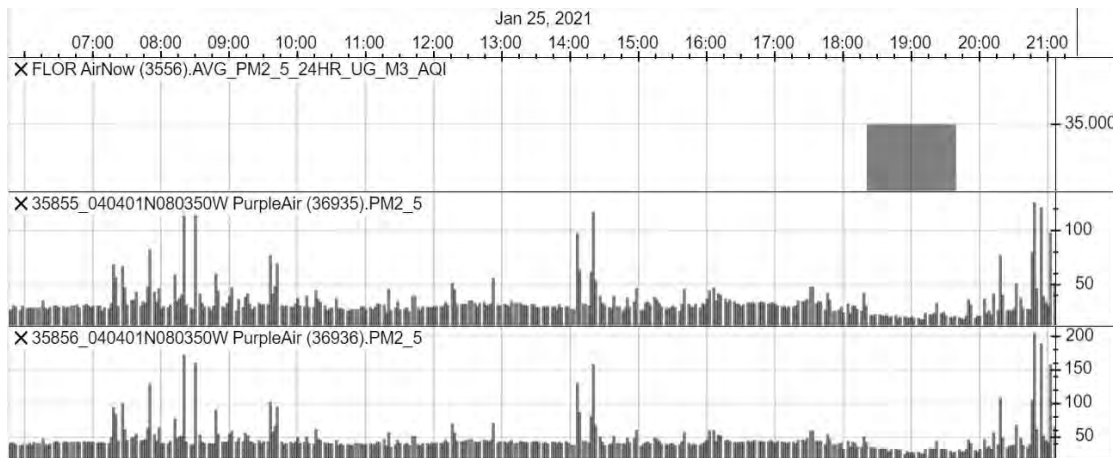


Figure 5. [Link to voc.createlab.org](http://voc.createlab.org)

Residents living near the ETC Revolution cryogenic plant have been documenting chronic flaring—the most recent episode on March 14, 2021, was the worst, yet.

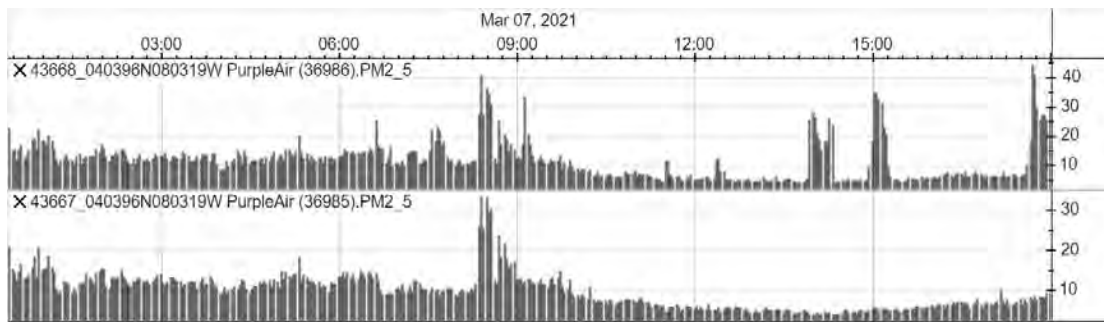


Two of the Purple Air data channels (Duran Road) showed a PM spike on January 25, 2021 after 11:30 am and an additional indication of a spike at the Florence monitor much later in the day.



See links below

March 7th also shows a morning spike corresponding on the Purple Air monitor along Meinrad Road, Robinson Township, Washington County when black emissions were observed.



Source: environmentaldata.org; available at

https://environmentaldata.org/#channels=36986.PM2_5,36985.PM2_5,36935.PM2_5,36936.PM2_5,3556.AVG_PM2_5_24HR_UG_M3_AQI&time=1614908486.680,1615309479.244&cursor=1615036978.856&plotHeight=12.000&plotAreaHeight=60.000&showFilters=true&showSettings=true&showResults=true¢er=40.47198086798843,-80.35348892211914&zoom=12

A Look at Rural Washington County Will Show You How Dramatic the Impacts are and Why Additional Monitors Make Sense:

Southwestern PA has been heavily drilled for shale formation natural gas over the past 15 years. Rural towns have gone from a history of farming to the industrialization brought by fracking!

Silos have been replaced with condensate tanks and barns replaced with compressor stations. Fences have become pipelines and pigs are not animals any longer, instead they are metal cleaning devices for pipelines that vent and/or flare pollution into the air.

Narrow country roads are clogged with diesel rigs carrying hazardous liquids and gases and Certarus trucks bringing mobile compressor stations or virtual pipelines through the sleepy neighborhoods that were not designed to handle this kind of traffic.

The town of Bulger has become home to two compressor stations, two cryogenic/fractionation plants, pipelines and pigging operations and two well pads along a one-mile strip of Point Pleasant Road. MarkWest Energy (MW) owns one of the compressor stations and one of the cryogenic/fractionation plants. Rover-Energy Transfer (ETC) owns the other compressor station and cryogenic/fractionation plant. Pipelines and pigging operations are owned by MarkWest, Sunoco Logistics and National Fuel. Well pads belong to Range Resources.

2.7 miles downwind of this sits the Allegheny County line.

Although the facilities are interconnected, they are not aggregated nor have they been deemed major operating permits requiring stricter Title V permits, which could provide the community with better monitoring and protection. Therefore, without stricter permitting as major sources, the cumulative impacts from these highly industrialized facilities are never properly measured or considered. Drive through the small, rural communities and you will see massive industrialization that has been permitted through the PA DEP – with little to no air monitoring oversight including the following, just to cite a few:

- 2.5 miles east of the MarkWest and Energy Transfer Smith processing plants is the site of a recently permitted natural gas power plant, Robinson Power Company LLC, Beech Hollow Energy (RPC). This proposal is for a 1000-megawatt natural gas-powered electric generating facility. **North Fayette, Allegheny County sits less than 5000 feet downwind of RPC.**
- Less than two miles south of the RPC site is the largest compressor complex ever permitted by the PA DEP - with two very large compressor stations known as Cibus Ranch and Imperial Land. This complex is owned and operated by MarkWest and is surrounded by five Range Resources well pads and many pig launchers and receivers and of course, pipelines owned by many companies. **North Fayette, Allegheny County sits 1.3 miles downwind of the compressor station complex.**
- Five miles south of all this massive infrastructure sits the MarkWest and Energy Transfer's massive Houston processing plants. **Ryan Homes at Lafayette Meadow housing plan in Allegheny County sits 7.5 miles downwind of this massive cryogenic/fractionation processing center. Not enough air monitors are located in Allegheny County to properly track the level of pollution that is leaving the Washington County facilities for areas downwind in Allegheny County.**

We Are Concerned for Our Health; Here Are the Reasons Why:

Since the onset of the Marcellus Shale development in 2006, residents have voiced concerns about the emissions, especially VOCs from the natural gas facilities all over Washington and neighboring counties.

Several of us have sat through public meetings listening to the gas industry's opinion that nothing is coming off the compressor stations, well pads, pigs or pipelines. Industry claims that only air and water is being vented and that flaring is a good sign that our health is being protected by this industry.

But is it really?

We now have learned over the years that pollution from the shale gas development can cause residents health problems ranging from nosebleeds and asthma to an increased risk for cancer. Just because we cannot see what is coming off the equipment, does not mean it is not there and not dangerous to our health.

- Earthworks has been documenting this very thing since 2014. They have captured images of the pollution throughout Washington County using their FLIR GasFinder 320 optical gas imaging cameras. See additional references at the end of this document.

More Evidence of Pollution Exposures Continue to Raise Concerns:

- In 2017 U.S. Environmental Protection Agency (EPA) working with the Agency for Toxic Substances Disease Registry (ATSDR) published Letter Health Consultation- ALOHA air modeling of pigging operations near homes along Fort Cherry Road, Mt. Pleasant Township, Washington County. The ATSDR worked since 2015 to conclude that neighbors were being exposed to benzene and methane during pig venting and flaring.
- In April 2018 MW, the major mid-stream company in the natural gas industry working in Washington County, settled with the U.S. Department of Justice and PA DEP for violations of the Clean Air Act and the Pennsylvania Air Pollution Control Act. This settlement allows the company to operate ambient air monitoring stations but, although this appears to be the fox watching the henhouse.
- **Pennsylvania Department of Health and ATSDR pointed out that monitoring locations needed to be placed downwind of target natural gas industry emissions sources more regularly in order to better understand the public impacts from pollution exposure. This does not appear to have happened as Washington County still only has the three monitors for the whole county. They are placed in areas that do not appear to be capturing a true picture of resident's exposure to air pollutants.**
- In 2018 over Labor Day weekend, Energy Transfer's newly built Revolution Cryogenic Plant on Point Pleasant Road began emitting huge plumes of black smoke through their massive flare. It went on for hours and was seen from miles away. Residents did not hear back from PADEP after complaints were made as though it was insignificant.

- In July 2019 the *Pittsburgh Post-Gazette* (PG) published a series of stories called the *Human Toll* which focused on the impact on human health due to airborne pollution from natural gas industry's massive development in our area. The Cibus-Imperial Compressor Station Complex and Fort Cherry School District were featured in the series as was Canonsburg and Deemston, Washington County.
- The PG cited several studies and the sixth edition of the Compendium of Scientific, Medical and Media Findings Demonstrating Risk and Harms of Fracking (Unconventional Gas and Oil Extraction) to explore shale gas industry operations and their impact on human health. A negative impact seems evident.
- Of most concern was the cases of Ewing Sarcoma and other cancers that were popping up among the youth in neighboring school districts of Fort Cherry and Canon MacMillan. These two districts share a common feature, they have massive natural gas processing by MarkWest and Energy Transfer operations near the schools. Additionally, the districts are surrounded by Range Resources gas well pads, pig launcher/receivers, pipelines, and compressor stations.
- As referenced above, in April 2020 it was reported that Range Resources-Appalachia LLC misrepresented to the state the levels of emissions coming from well pads in Mount Pleasant and Cross Creek townships of Washington County. Range's self-reported emission levels were much lower than the PA DEP discovered. These massive releases of VOCs occurred at small, low producing well pads over three years (2013, 2014, 2015). Yet, we learned about this in 2020. The current air monitors in the county are not near these well pads in Mount Pleasant and Cross Creek Townships.

How to Afford More Monitors for Allegheny County:

Pennsylvanian's deserve to know what is in their air, especially residents living downwind of facilities that produce air toxics. We recognize that monitors cost money. But this is no longer an issue given EPA's two announcements under the American Rescue Plan.

First, U.S. EPA announced \$50 million made available for environmental justice (EJ) initiatives.

- On June 25, 2021, the EPA announced that it will provide "\$50 million dollars for Environmental Justice (EJ) initiatives through funds allocated to EPA under the American Rescue Plan (ARP)." EPA Announces \$50 Million to Fund Environmental Justice Initiatives Under the American Rescue Plan, EPA, June 25, 2021, available at <https://www.epa.gov/newsreleases/epa-announces-50-million-fund-environmental-justice-initiatives-under-american-rescue#:~:text=WASHINGTON%20%28June%2025%2C%202021%29%20%E2%80%94%20The%20U.S.%20Environmental,to%20EPA%20under%20the%20American%20Rescue%20Plan%20%28ARP%29>

There are multiple areas in the western portion of Allegheny County that are identified as Environmental Justice Areas and currently have no air monitors, including areas close to Imperial and parts of McDonald Borough. See Pennsylvania Environmental Areas Viewer <https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c>

Second, EPA announced \$50 million made available to improve air quality monitoring in communities across the United States.

- On July 7, 2021, the EPA announced, “that it will make \$50 million in American Rescue Plan (ARP) funding available to improve air quality monitoring in communities across the United States...bringing the total to \$100 million in EPA funding designated by Congress to address health outcome disparities from pollution.” See EPA Announces an Additional \$50 Million Under the American Rescue Plan to Enhance Air Pollution Monitoring, EPA, July 7, 2021, available at <https://www.epa.gov/newsreleases/epa-announces-additional-50-million-under-american-rescue-plan-enhance-air-pollution>

ACHD should take advantage of these opportunities and consider securing some of these funds to purchase, install, and operate more air monitors, especially in western parts of the county which currently have no air monitors yet sit downwind of massive Marcellus shale development occurring over the county line in Washington County

Our Requests:

We request that more monitors be strategically placed as neighborhood monitors located downwind of where the heaviest drilling, processing and supporting infrastructure buildout is occurring. And we request all monitors test for VOCs more frequently than once every six days due to the fact that upsets appear to be regular occurrences, unfortunately. Upsets happen and at times they could occur in between days one and six of the sample collection for VOC at the current Houston monitoring location, therefore, sampling should be done on a more frequent basis.

Thank you.

Respectfully submitted,

Cathy and Chris Lodge
257 Meinrad Drive
Bulger, PA 15019

Jonathon Lodge and Rachel Kimberland
347 Western Ave
Oakdale, PA 15071

Bob Donnan
107 Southview Court
McMurray, PA 15317

MaryLou and Warren Bulseco
145 Friar Lane
McMurray, PA 15317

Joe and Sally Lodge
5791 Clark Ave.
Bethel Park PA 15102

Linda and James Johns
1286 Lakemont Dr
Pittsburgh, PA 15243

Heather and Joe Lodge
5843 Irishtown Road
Bethel Park, PA 15102

Toni Sidick
32 Bowen Road
McDonald, PA 15057

Dr. William V. Hough
223 Meadow Lane
Sewickley, PA 15143

Ellen Ayoob
2534 Mount Royal Road
Pittsburgh, PA 15217

Additional informational sources as references with these citizen comments:

Earthworks videos

https://www.youtube.com/watch?v=-dUr_fm7yPI&list=PL9BS7nDf-8trQ91EHSnuL7Gtzrv9S0be6&index=26

<https://www.youtube.com/watch?v=DqX2M86wMcQ&list=PL9BS7nDf-8trQ91EHSnuL7Gtzrv9S0be6&index=30>

https://www.youtube.com/watch?v=_J1prlbp45c&list=PL9BS7nDf-8trQ91EHSnuL7Gtzrv9S0be6&index=3

<https://www.youtube.com/watch?v=y59QmCUFGiM&list=PL9BS7nDf-8trQ91EHSnuL7Gtzrv9S0be6&index=28>

ATSDR Health Consultation – Pigging Concerns

https://www.atsdr.cdc.gov/HAC/pa/CarterImpoundment/CarterImpoundment_HC_%2007-

[30-2015_508.pdf](#)

Pittsburgh Post-Gazette articles:

May 14, 2019, Human Toll, Part One – <https://newsinteractive.post-gazette.com/blog/childhood-cancer-pittsburgh-pennsylvania-canon-mcmillan-pollution/>

July 18, 2019, Human Toll, Part Two – <https://newsinteractive.post-gazette.com/fracking-and-health-2/>

Air Monitoring Network Plan for Calendar year 2022

Comments

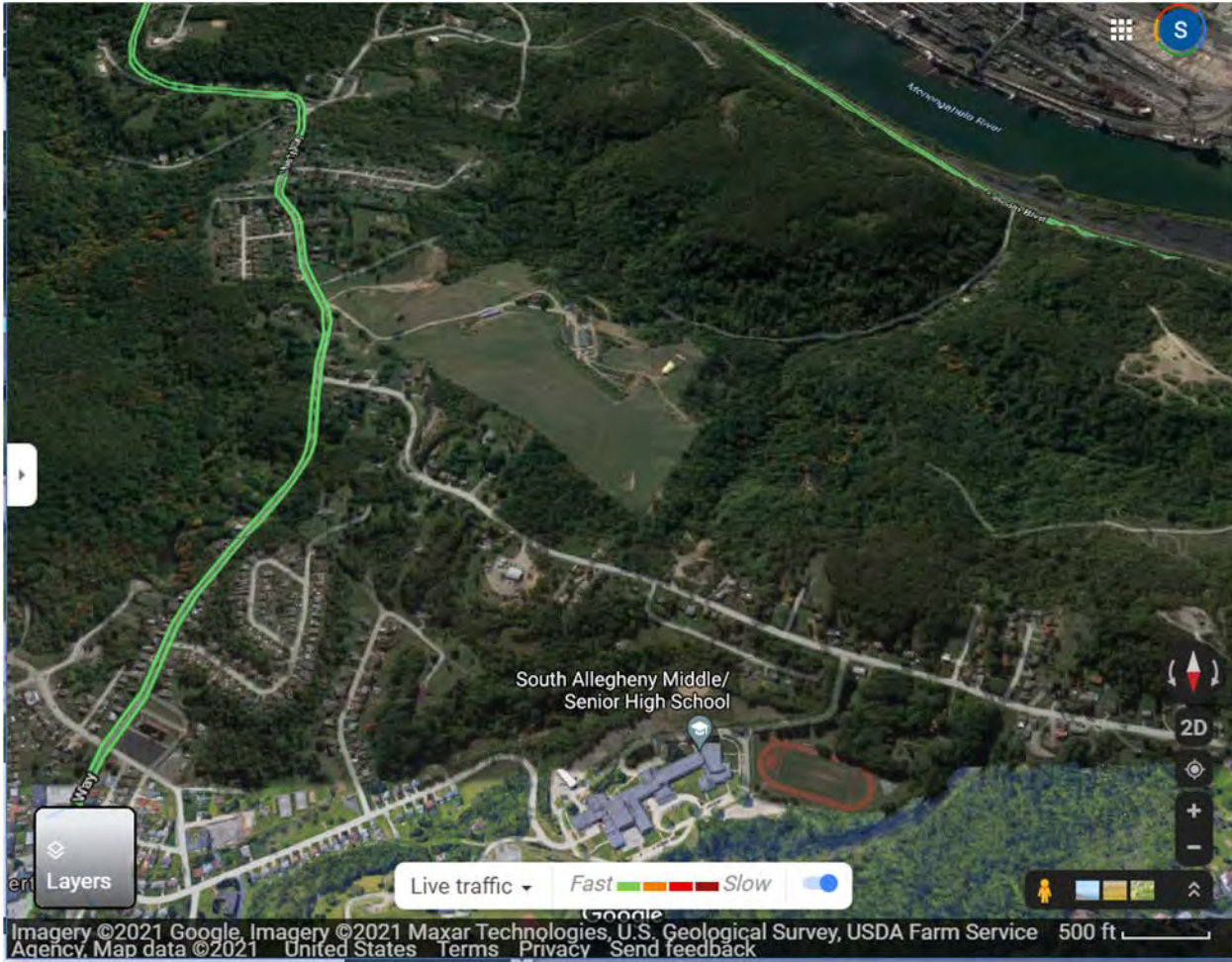
1. Liberty Monitors located at South Allegheny Middle/Senior High School

Particulate, BTEX, sulfur dioxide and hydrogen sulfide are being moved from one end of the South Allegheny Middle/Senior High School to the other. The present location does not appear to have obstructions and is on the area of the building with a relatively clear path to the dominant wind direction. The dominant wind direction appears to be from the southwest to west direction.¹ In the new location, there appears to be an elevated part of the building near the monitors with numerous air handling stations in the path of the dominant wind direction or other directions. Appendix E. 4 notes, "a probe, inlet or monitoring path must have unrestricted airflow in an arc of at least 180 degrees." See google maps picture below and page 16 of the Air Monitoring Network Plan for Calendar year 2022- matching structures of building and compass.

"Appendix E. 4 Spacing from Obstructions

(b) Generally, a probe or monitoring path located near or along a vertical wall is undesirable because air moving along the wall may be subject to possible removal mechanisms. A probe, inlet, or monitoring path must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement."

2. It is appreciated that additional monitoring that will be done for hydrogen sulfide, to understand its sources and make much needed and necessary improvements.



3. Page 43, 10.2 Liberty of the 2022 Air Monitoring Plan (small error) indicates telemetry is in use at the Lincoln monitoring site. Lincoln as has been noted is closed.

Thank you for your consideration of these comments.

Suzanne Seppi
Member of the public
140 Oakhurst Road, O’Hara Township, PA 15215

1. *Proposed Revision to the Allegheny County Portion of the Pennsylvania State Implementation Plan, Attainment Demonstration for the Allegheny, PA SO₂ Nonattainment Area 2010 Standards, page 5, May 1, 2017*

“Figure 2-2 displays a wind, pollution, and temperature rose derived from ACHD Liberty Borough continuous monitoring data from 2012 through 2014. (The Liberty monitor is located near the center of the NAA.) As indicated on the graph, the most frequent and fastest winds were generally from the SW through W directions. Concentrations of SO₂ were largest from the S through SW directions. These are directions from which local and long-range transport carries substantial amounts of SO₂ to the Liberty monitoring site from large, stationary sources.”

2022 Air Monitoring Network Plan Comments

Submitted by:

Joanne Hall
1116 High Street
West Newton, PA 15089
412-427-8962
jjhall3@comcast.net

I am a resident of West Newton, an environmental justice community, located in the Youghiogheny River valley and along the Great Allegheny Passage Trail. Even though I live in Westmoreland County, the air pollution that is created in Allegheny County has no boundaries and effects the air quality in my community. As with many communities in the Pittsburgh area, we deal with the current air pollution of the coal and steel industries, specifically the Clairton Coke Works. Like other local communities, we are now experiencing the expansion of the shale gas industry, with new natural gas fracking wells being drilled within a few miles of our town in Elizabeth Township (Allegheny County) and now the proposed Invenergy Allegheny Energy Center gas-powered, electric generating plant, also in Elizabeth Township. This power plant would be less than 1000 feet from the Allegheny County line with Westmoreland County and would increase pollution in Westmoreland County and West Newton.

Even though the ACHD does not have jurisdiction in Westmoreland County, air monitoring of pollution generated in Allegheny County should be considered, especially since West Newton is an environmental justice community. Attention must be given to adjacent communities, especially environment justice communities, when new, significant pollution sources are being permitted. The cumulative effects, being generated from so many sources, needs continuous monitoring.

The topography of western PA has always played a role in air pollution. The 1948 Donora air inversion trapped pollution in the atmosphere over the city and left people dead and many with permanent lung damage. West Newton is in a river valley. Every morning I wake up and see the fog laying in the valley that sometimes takes hours to dissipate. The recent smoke from the western fires hung in the valley so thick that the western side of town was not clearly visible from the eastern side. Air inversions are a frequent occurrence here. Climate change will make this situation worse. The ACHD has acknowledged this. In January 2020, Ronald Sugar, interim Director of the ACHD stated "We know from research that inversions are expected to get worse with climate change, we're seeing it first-hand here." The Youghiogheny River valley will be impacted by air inversions with no air monitoring in the effected towns. This must be considered in your monitoring plan.

I ask that you consider the following as your review your monitoring plan.

1. Take into account communities, and their need for monitors, that are close to pollution sources originating in Allegheny County.
2. Areas with significant pollution sources from the oil and gas industry build out need to have more monitoring.
3. Environmental justice communities need to be identified and given greater consideration for monitoring since they are likely to bear the cumulative effects of multiple sources of air pollution.
4. Climactic and topographical issues relating to air stagnation and movement need to be considered and extra monitoring added to these vulnerable areas.

5. Continuous monitoring should be considered in areas where the effects of air pollution from many sources converge.
6. The health and safety of all residents living near Allegheny County, as well as its residents, should be the first consideration in your revised plan.

I thank you for this opportunity to comment and I look forward to your answers addressing my concerns.

To: Mr. David Good
Allegheny County Health Department
Air Quality Program
301 39th Street, Pittsburgh, PA 15201
david.good@alleghenycounty.us

RE: Public Comment Allegheny County Health Department (ACHD) 2022 Annual Monitoring Network Plan

Dear Mr. Good:

I am providing comment as a lifelong resident of Southwestern Pennsylvania that has been impacted by numerous pollution sources for over 72 years. We must stop and/or significantly reduce the pollution to control and reverse the high incidents of respiratory problems and cancer caused by air pollution in our region.

The ACHD has an obligation to uphold the Pennsylvania constitution: ie: The people have a right to clean air, pure water, etc. ACHD is, despite constant disclaimers, responsible for the air quality in Allegheny County regardless of the pollution source/origin. It's time for the ACHD to take the bull by the horns and do their job.

ACHD should be setting more aggressive goals and establishing standards to bring regional air quality within real health based standards, not outdated federal standards that were meant as workplace standards or to appease the polluters.

No New Source Air Quality permits or re-issuance of existing Air Quality permits should be approved without the permittee agreeing to installation of certified air monitoring equipment, at no cost to ACHD, at strategic locations around the facility and demonstrating compliance with real health based standards.

ACHD boasts their commitment to air quality with multiple monitoring stations within the county. The only problem is that they only monitor a small portion of Allegheny County. None of them monitor the pollution being produced or dumped in the southernmost or northernmost portions of the county.

Private particulate (Purple Air) and VOC (Air viz) monitors operating in the southernmost portion of Allegheny County indicate pollution levels and patterns that ACHD needs to investigate. Based on data obtained from these low cost monitors, certified monitors should be installed to monitor pollution impacts from sources such as Arcelor Mittal in Monesson, Tenaska in Westmoreland County, Eastman Chemical in West Elizabeth/Jefferson Borough, unconventional gas wells in Elizabeth and Forward Townships, and gas compressor stations in Allegheny, Westmoreland, and Washington Counties.

Facilities should be required to have significant curtailment of operations up to and including complete shut-down of operations during periods of inversion and poor air quality as measured by the certified monitors. Facility managers and company officers need to be held personally responsible for compliance with curtailment requirements.

Penalties for non-compliance need to be significantly higher than the outdated penalty structure presently in use. Make the non-compliance hurt, it will go away.

Fred Bickerton

256 Lexington Drive

McKeesport. PA15135-3122

(412) 652-8898

From: [Good, David](#)
To: [AQReports](#)
Subject: FW: Comment on Annual Air Monitoring Network Plan
Date: Monday, August 9, 2021 7:34:00 AM

From: Scott Harrison <rscottharrison@gmail.com>
Sent: Friday, August 6, 2021 6:40 PM
To: Good, David <David.Good@AlleghenyCounty.US>
Subject: Comment on Annual Air Monitoring Network Plan

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.

Dear Mr. Good:

I'm writing to offer my comments concerning the 2022 Air Monitoring Network Plan for Allegheny County, Pennsylvania.

I am a resident of Swissvale Borough, Pennsylvania, 15218, in Allegheny County, Pennsylvania. I have included my complete residential and mailing address at the end of this email.

Since 2008, for more than thirteen years, I have lived in several different locations in both Wilkesburg and Swissvale, both individually and with my partner. Everywhere that I have lived in this time I have often experienced the consequences of high levels of air pollution. If we could afford to, we would move out of the area to somewhere that's environmentally safer.

I am a person in my late 50s who has asthma and other serious health issues and who lives on a fixed income. I struggle many days of the year with respiratory illness and complications that are greatly aggravated by major air pollution. As a resident of Swissvale, we live just short of two miles from the USS Mon Valley Works - Edgar Thomson Plant in Braddock and less the ten miles from five other major polluters. All six of these polluters are listed in the PennEnvironment Research and Policy Center's 2021 Toxic Ten list.

As a person with a master's degree who has worked more than thirty years in social services and religious organizations and who has served at-risk, impoverished, ill and disabled children, youth, seniors, and families, I have seen, time and again, how air pollution negatively impacts the lives and health of liters hundreds of residents of Allegheny County.

I urge the Allegheny County Health Department to implement the 2022 Air Monitoring Network Plan with additional proposals to do more monitoring in all of the areas affected and potentially affected by the "Toxic Ten" largest in Allegheny County (<https://toxicten.org/>).

Allegheny County officials, including those in the Allegheny County Health Department, have not

done enough to penalize major polluters in Allegheny County in recent years. With the growing impact of climate change, it's essential to all residents' current and future health that this monitoring be done as often as possible and that the ACHD and other Allegheny County, state, and federal agencies more harshly penalize the polluters of our region.

Thank you for your hard work and your consideration!

Sincerely,
Robert Scott (R. Scott) Harrison
2527 Milligan Way, Apt. 206
Swissvale Borough, PA 15218
Phone (Cell): 949.243.4339

Sent from my iPhone



ALLEGHENY COUNTY

ALWAYS INSPIRING

FOR IMMEDIATE RELEASE

July 9, 2021

Contact: Chris Togneri
Public Health Information Officer
412-578-8312 (office)
412-339-7995 (cell)
Christopher.Togneri@AlleghenyCounty.us

Health Department Seeks Comment on Annual Air Monitoring Network Plan

PITTSBURGH – The Allegheny County Health Department (ACHD) is requesting public comment on its 2022 Air Monitoring Network Plan, an annual report which provides a detailed description of how and where air pollution is monitored in Allegheny County.

The [2022 Air Monitoring Network Plan](#) is a document required by the U.S. Environmental Protection Agency (EPA). It 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 network includes the following 10 locations within the county: Avalon, Clairton, Flag Plaza (Downtown), Glassport, Harrison, Lawrenceville, Liberty, North Braddock, Parkway East (Wilkesburg) 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, PM₁₀, PM_{2.5}, and other air toxics.

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

Comments may be submitted via e-mail to 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

Comments will be accepted until 4:30 PM on Aug. 9.

###

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

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