



Group Against Smog and Pollution

We work to improve air quality to ensure human, environmental, and economic health.



What do we know?

Pittsburgh ranks as one of the top 10 most polluted cities in the nation in regard to year-round particle pollution

Allegheny County ranks in the top 2% of counties in the U.S. for cancer risk from air pollution

From 2014-2016, four regional air monitors registered particulate matter (PM_{2.5}) concentrations worse than 90% of the U.S.

In 2016, seven out of 10 monitors in the Pittsburgh region had PM_{2.5} levels in the worst 25% in the nation.

Why do we care?

Air pollution makes people sick, shortens lives, and negatively impacts quality of life.

People and companies may not want to move to a region with poor air quality?

Young people may not want to stay in a city, find a job, raise a family that has poor air quality?

Air Pollution is a Significant U.S. Public Health Concern







Environmental Health Scientists Continue to Study Air Pollution and Human Health

2,894 Publications on "Air Pollution and Human Health" in PubMed since 2016



Topic Area	# of Publications	Maturity of Field
Central Nervous System	119	New
Birth Outcomes	287	Growing
Cardiovascular	432	Growing
Cancer	407	Stable
Respiratory	727	Stable
Other	922	

Carbon
Monoxide

Lead

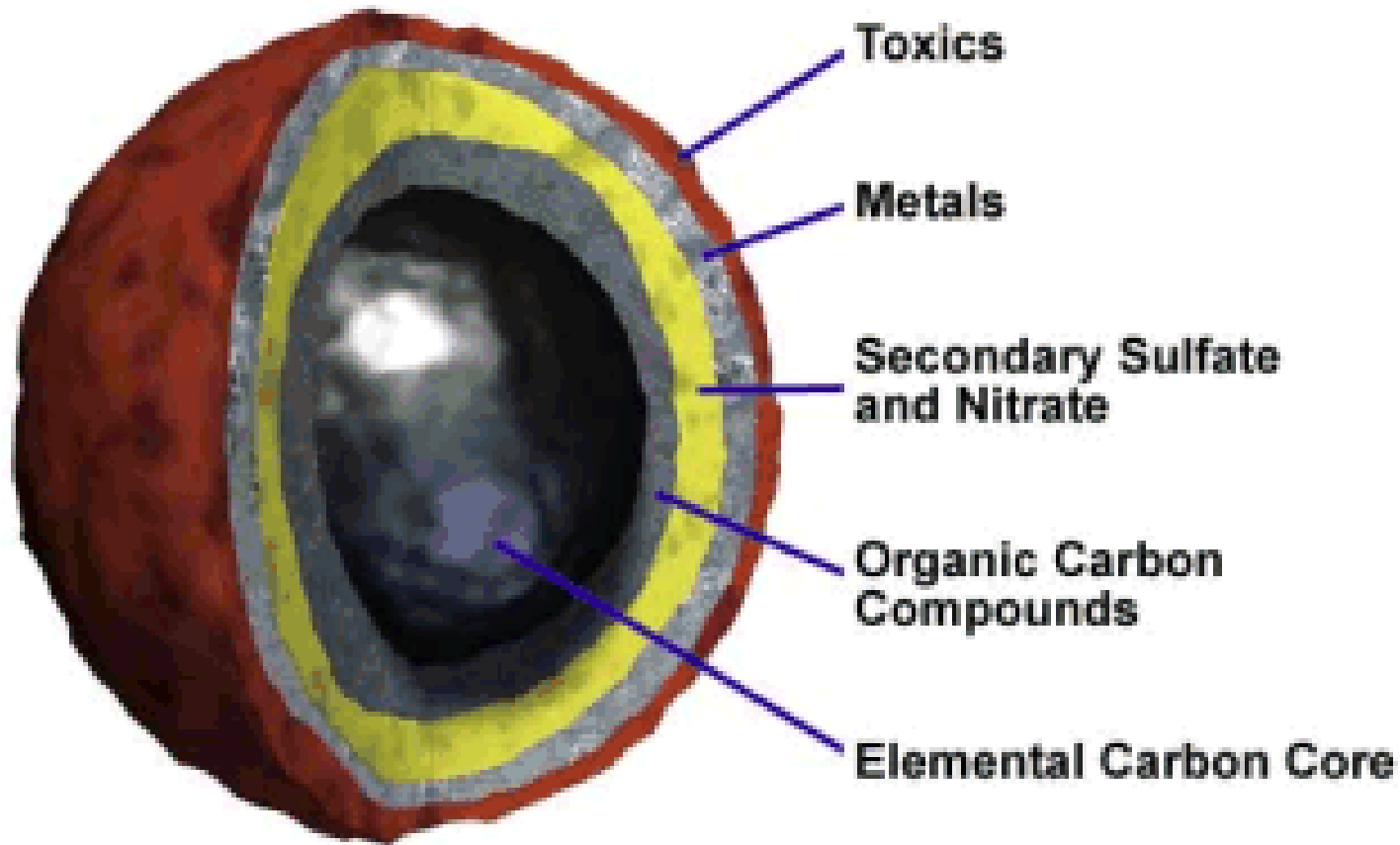
Nitrogen
Dioxide

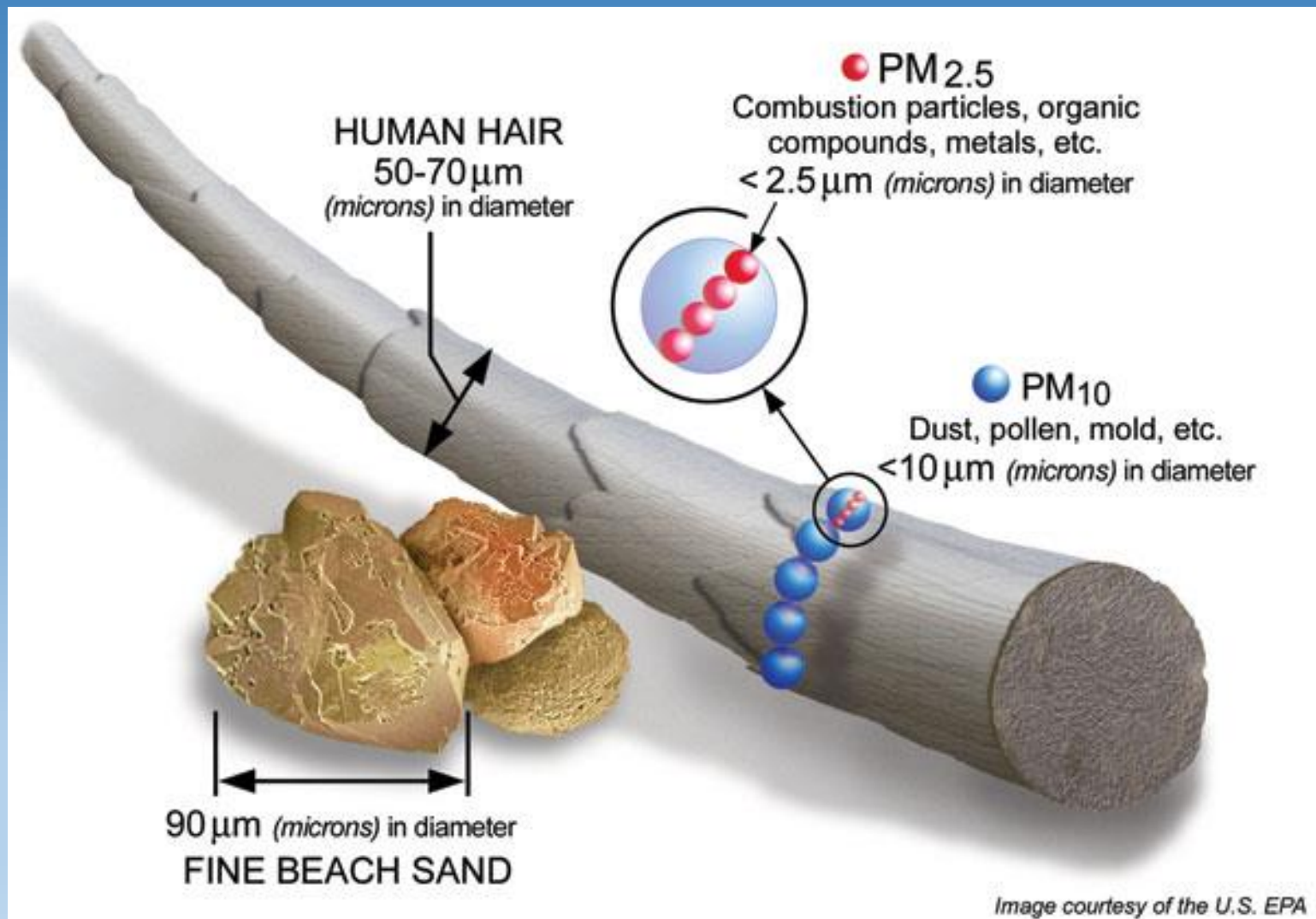
Ozone

Particulate
Matter

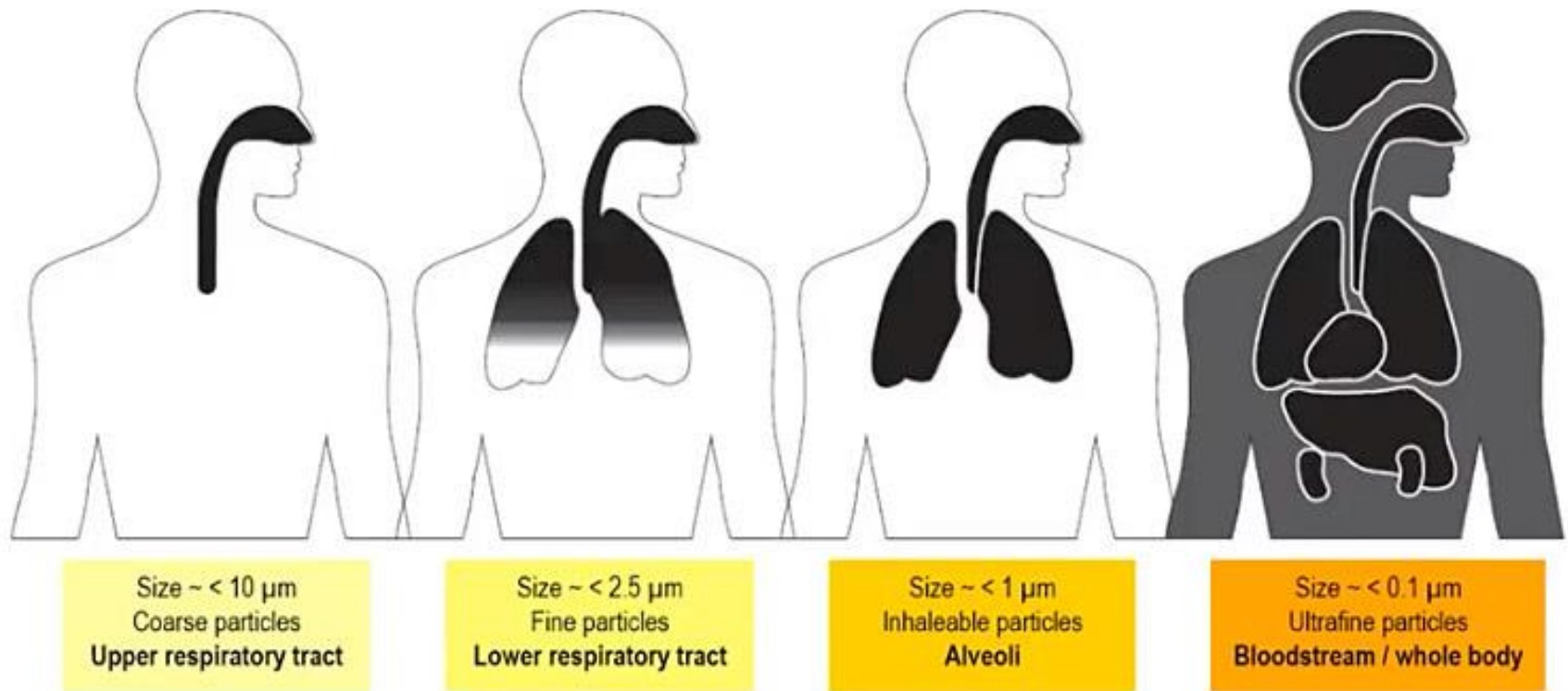
Sulfur
Dioxide

What is particulate matter (PM)?



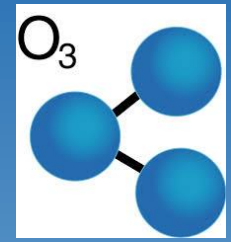


Health impacts of particulate matter



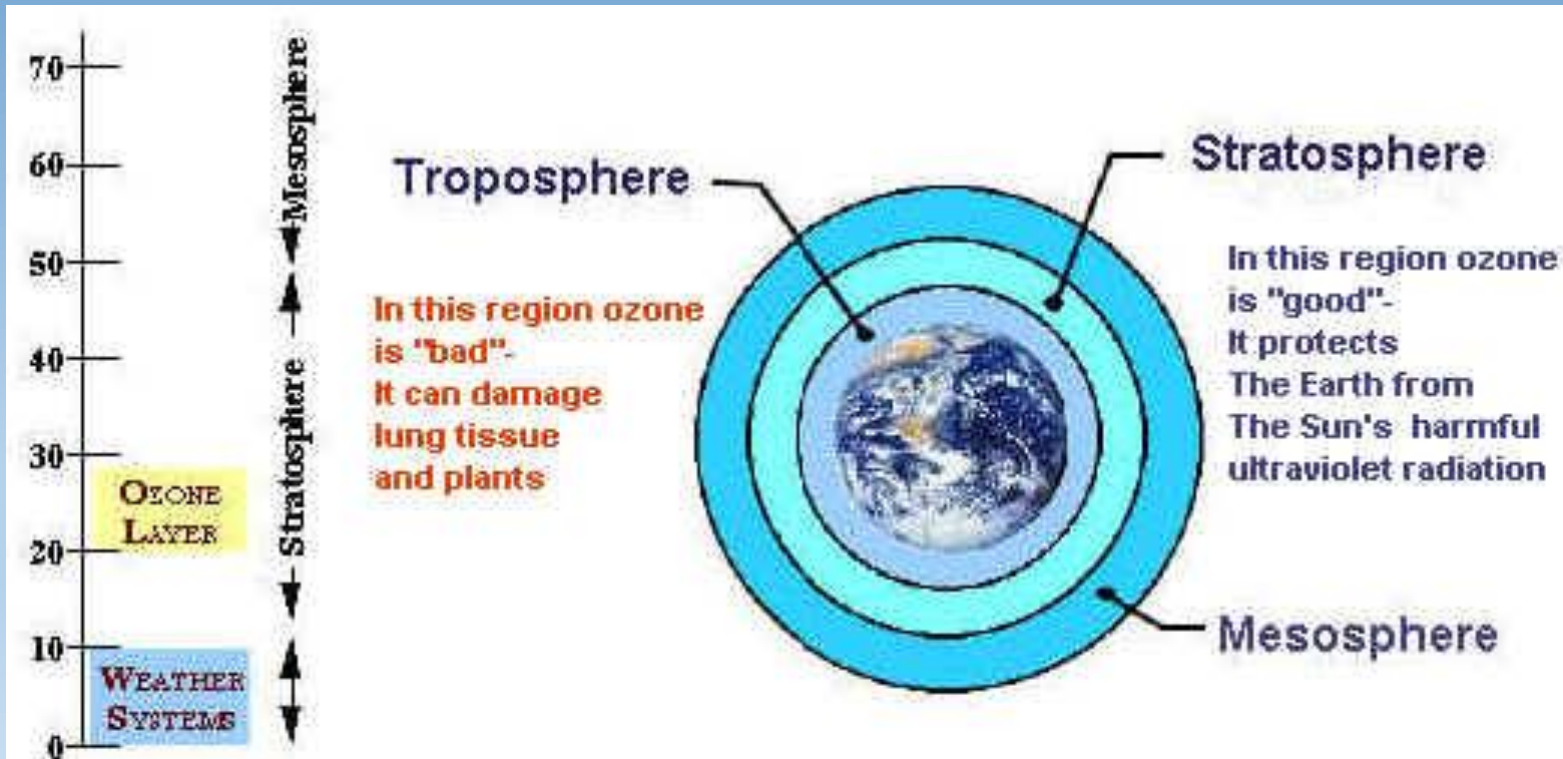
Sources of particulate matter



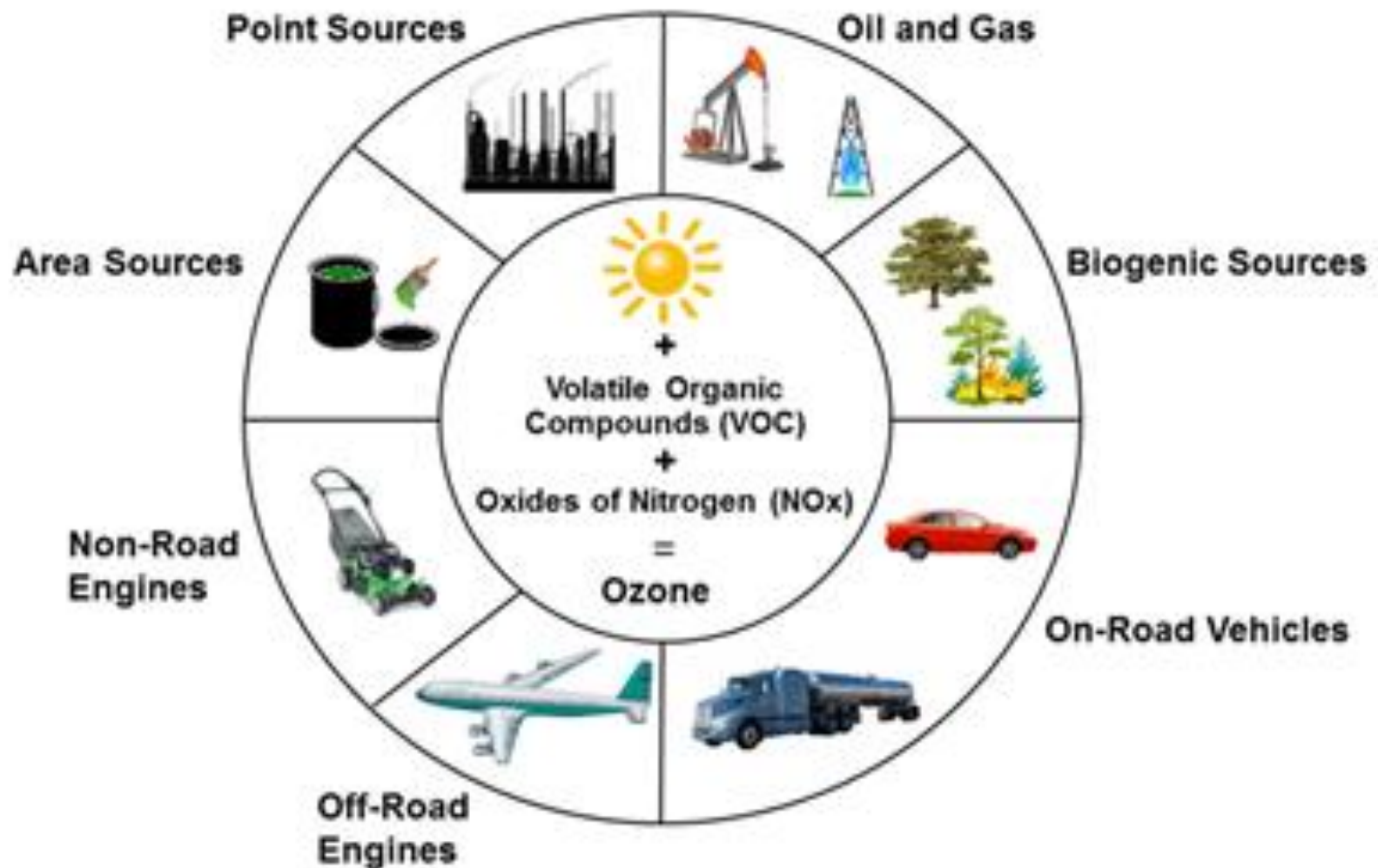


Ozone

Depending on the molecule's elevation, it can either be crucial in preventing skin cancer or it can exacerbate asthma, reduce respiratory efficiency, and scar lung tissue.



OZONE FORMATION



Optimum conditions for the formation of ozone include high temperatures and low winds.
Sections are not to scale and are for illustrative purposes only.

Ground level ozone



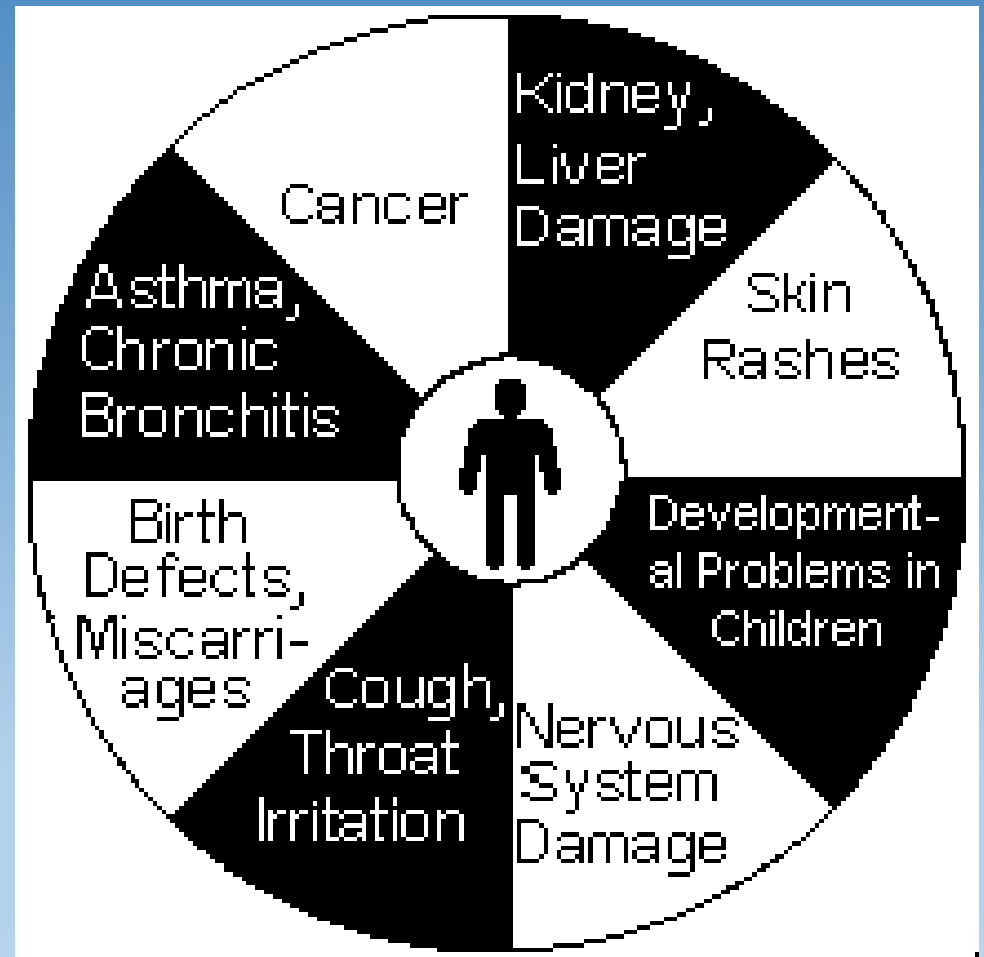
Sulfur Dioxide



- Sulfur dioxide is a gas. It is invisible and has a nasty, sharp smell. It reacts easily with other substances to form harmful compounds, such as sulfuric acid, sulfurous acid and sulfate particles.
- Sulfur dioxide affects human health when it is breathed in. It irritates the nose, throat, and airways to cause coughing, wheezing, shortness of breath, or a tight feeling around the chest.

Top Air Toxics in our region

- Diesel particulate matter
- Formaldehyde
- Benzene (including benzene from gasoline)
- Coke oven emissions
- Carbon tetrachloride
- Acetaldehyde
- Arsenic compounds (inorganic, including arsine)
- Chromium compounds
- 1, 3-Butadiene



Air pollution & your lungs



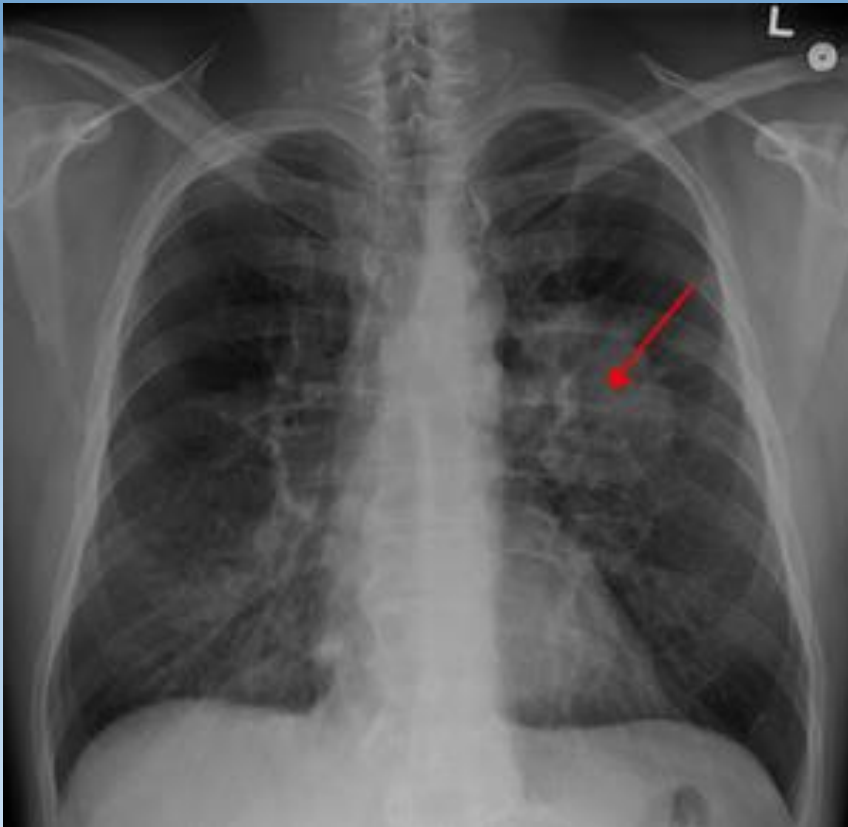
Asthma



Air pollution and cardiovascular health



Cancer



Brain Health



Especially vulnerable



BREATHE PROJECT

The Air We Share

Our Air Ranks in the Dirtiest 7.2% of U.S. Cities

Click to Select City ▼

Select a city from the dropdown on the right to compare our air.

PITTSBURGH

7.2%

CLEANEST (100%)

NEW YORK, NY

46.9%

DIRTIEST (0%)

Percentile rank for average annual particle pollution out of 339 urban areas using U.S. EPA data from 2015 to 2017 (Clean Air Task Force, 2018).

Inform yourself. Know the sources of pollution near you. Learn when air pollution meetings and hearings are taking place and attend.

The screenshot shows a Google Maps browser window with the URL <https://www.google.com/maps/d/u/0/viewer?mid>. The browser's address bar also displays "Group Against Smog and Pollu..." and "Southwestern PA Title V Sites". The map itself is centered on the Pittsburgh area, showing various locations marked with colored pins. A sidebar on the left, titled "Southwestern PA Title V Sites", lists several locations: Mercer Lime-Branchton Plant, Seneca Landfill, Slippery Rock University, Sonneborn-Petrolia Plant, and Waste Management-Northwest Sa... Below this list are checkboxes for Beaver County (yellow) & Lawrenc..., Cambria County, Fayette County, and Greene County. The "Indiana County" checkbox is checked, and it lists several locations: Dominion Transmission--Rochester..., GE Energy--Homer City Generation, Indiana University, NRG Energy--Conemaugh Generati..., and NRG Energy--Seward Generating St... The map shows a network of roads and green areas, with labels for various towns and cities. The bottom of the screen shows a Windows taskbar with icons for various applications and the system clock displaying 3:42 PM on 4/27/2015.



- McConway and Torley Foundry in Lawrenceville
- The facility is a synthetic minor source of carbon monoxide (CO) and a minor source of many other things.
- Fence-line monitor in place since April 2011 – Lawrenceville Air Toxic Metals Study. ACHD has committed to keeping that monitor up.
- Facility received operating permit in late 2018

March 12, 2019

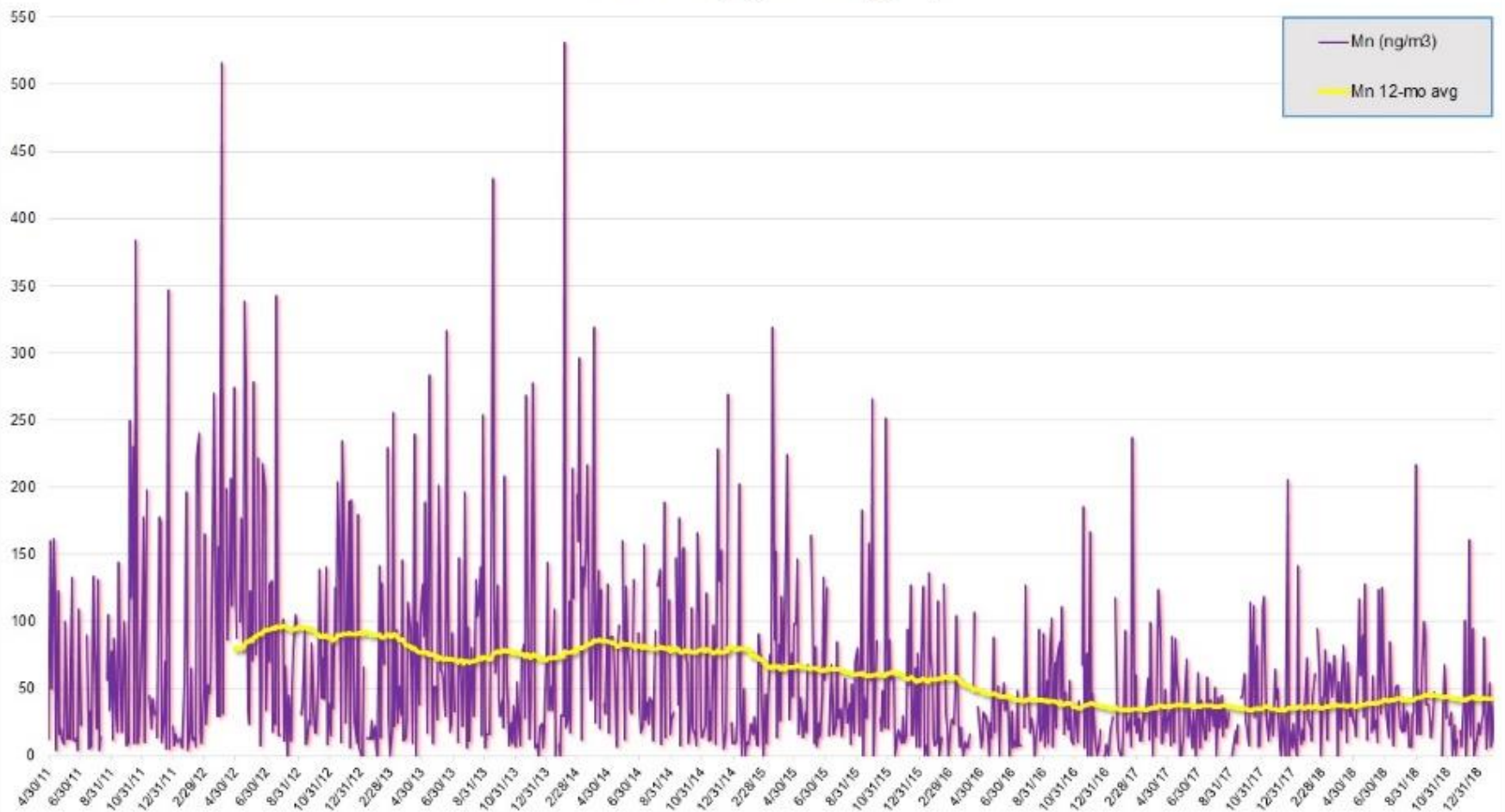
LAWRENCEVILLE TOXIC METALS STUDY

(Figure 2) Quarterly Averages and Screening Levels

Quarterly Average	Cr total (ng/m ³)	Mn (ng/m ³)	Pb (ng/m ³)
2012 Q4	15.79	80.85	10.14
2013 Q1	8.30	51.95	5.60
2013 Q2	10.65	90.86	7.74
2013 Q3	11.91	86.17	7.87
2013 Q4	8.19	56.02	4.40
2014 Q1	11.25	105.03	8.59
2014 Q2	11.04	83.34	12.18
2014 Q3	9.96	70.77	7.37
2014 Q4	9.47	64.12	7.11
2015 Q1	7.37	51.17	3.64
2015 Q2	10.06	70.45	7.75
2015 Q3	7.67	57.07	6.22
2015 Q4	7.34	47.03	4.95
2016 Q1	8.59	37.26	1.22
2016 Q2	31.26	30.89	2.74
2016 Q3	32.13	38.08	4.55
2016 Q4	32.27	38.16	4.19
2017 Q1	29.41	36.89	3.00
2017 Q2	13.15	35.84	2.42
2017 Q3	5.72	27.81	4.82
2017 Q4	5.88	41.65	5.51
2018 Q1	7.87	43.61	7.04
2018 Q2	7.92	51.35	3.90
2018 Q3	7.75	42.59	7.36
2018 Q4	5.10	32.73	1.73

ATSDR MRL Revised 2012		300	
California EPA REL Revised 2008		90	
USEPA I.R.I.S Rfc Revised 1993		50	
USEPA I.R.I.S LOAEL		50,000	
NAAQS (TSP) Revised 2008			150

Lawrenceville Toxic Metals Study
MANGANESE
Individual Sampling Results (ng/m³)



Pressure Chemical



The Pressure Chemical Co. is located at 3419 Smallman St., Pittsburgh, Allegheny County and is a synthetic minor source of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) and a minor source of all other criteria pollutants.

A renewal of their permit is out for public comment until March 26, 2019. GASPs are reviewing.

Meet Allegheny County's TOXIC TEN

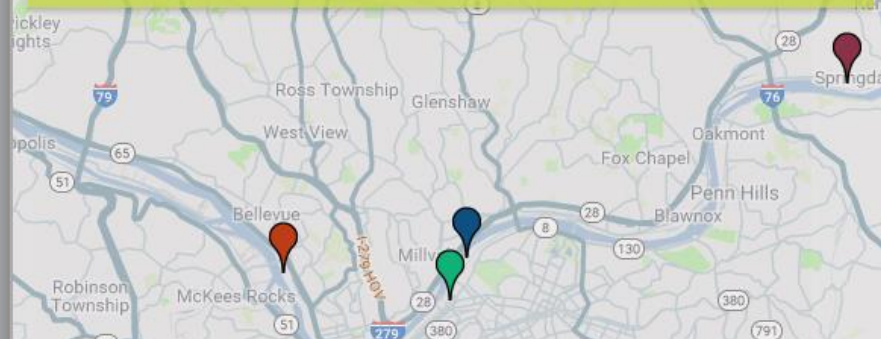


Pressure Chemical Company

Pressure Chemical Company is the eighth-most toxic active air polluter in Allegheny County (originally tenth-most toxic, this facility moved up the list with the closure of the Koppers Inc. Clairton Tar Plant in late 2016). There are 167,600 residents within three miles of this chemical manufacturer, which is located in Lawrenceville, one of the most densely populated neighborhoods in Pittsburgh.

Find the Toxic Ten Polluter Nearest You

Use a ZIP, street address or location name ("Heinz Field")



Sunoco

- Title V permit renewal date is 12/30/2015.
- ACHD says Title V permit currently in draft.

The facility is a major source of Volatile Organic Compounds (VOCs) and a minor source of Particulate matter (PM), Particulate Matter < 10 microns in diameter (PM-10), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Carbon Monoxide (CO) and Hazardous Air Pollutants (HAPs) as defined in section 2101.20 of Article XXI.

**Diesel
Particulate
Matter is one of
the greatest
inhaled air
toxics cancer
risk in the
region.**





What is the Pennsylvania law?

- ▶ On-road diesel vehicles can only idle 5 minutes in an hour.
- ▶ Buses can idle for up to 15 minutes during a 60-minute period but **only when passengers are aboard.**
- ▶ Owners and operators of locations where these vehicles load or unload must erect and maintain idling restriction signs.

Report excessive idling to PA Department of Environmental Protection and/or police.

Why cleaning up diesel is critical

- Many health impacts associated with exposure to diesel emissions
- Occupational exposure
- Like an asphalt road, the black carbon found in diesel exhaust absorbs sunlight and heats up the atmosphere.



Pittsburgh Clean Construction Diesel Operations legislation

- Legislation amended and passed in July 2016
- Went into affect October 1, 2016.
- First city project to include clean construction specs. will break ground in May in Duck Hollow



Regulatory Agencies



Environmental Protection Agency (EPA)

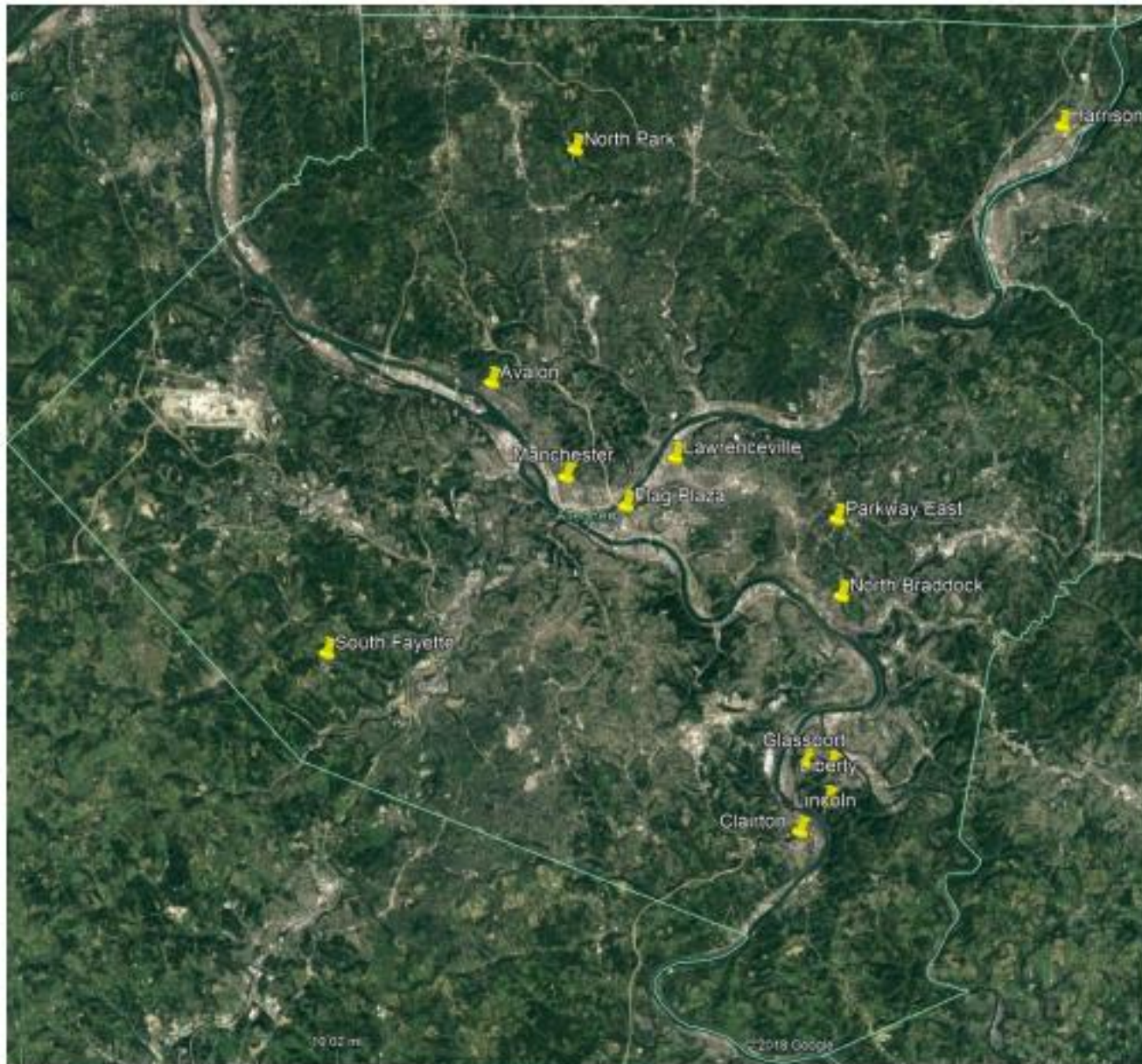
- Implement Clean Air Act through Rulemaking
- Set standards for Air Quality
- Funds States/Locals to implement Rules & Meet Standards
- Responsible for technology to measure pollution

Allegheny County Health Department Air Program (and PA Department of Environmental Protection in counties outside of Allegheny & Philadelphia)

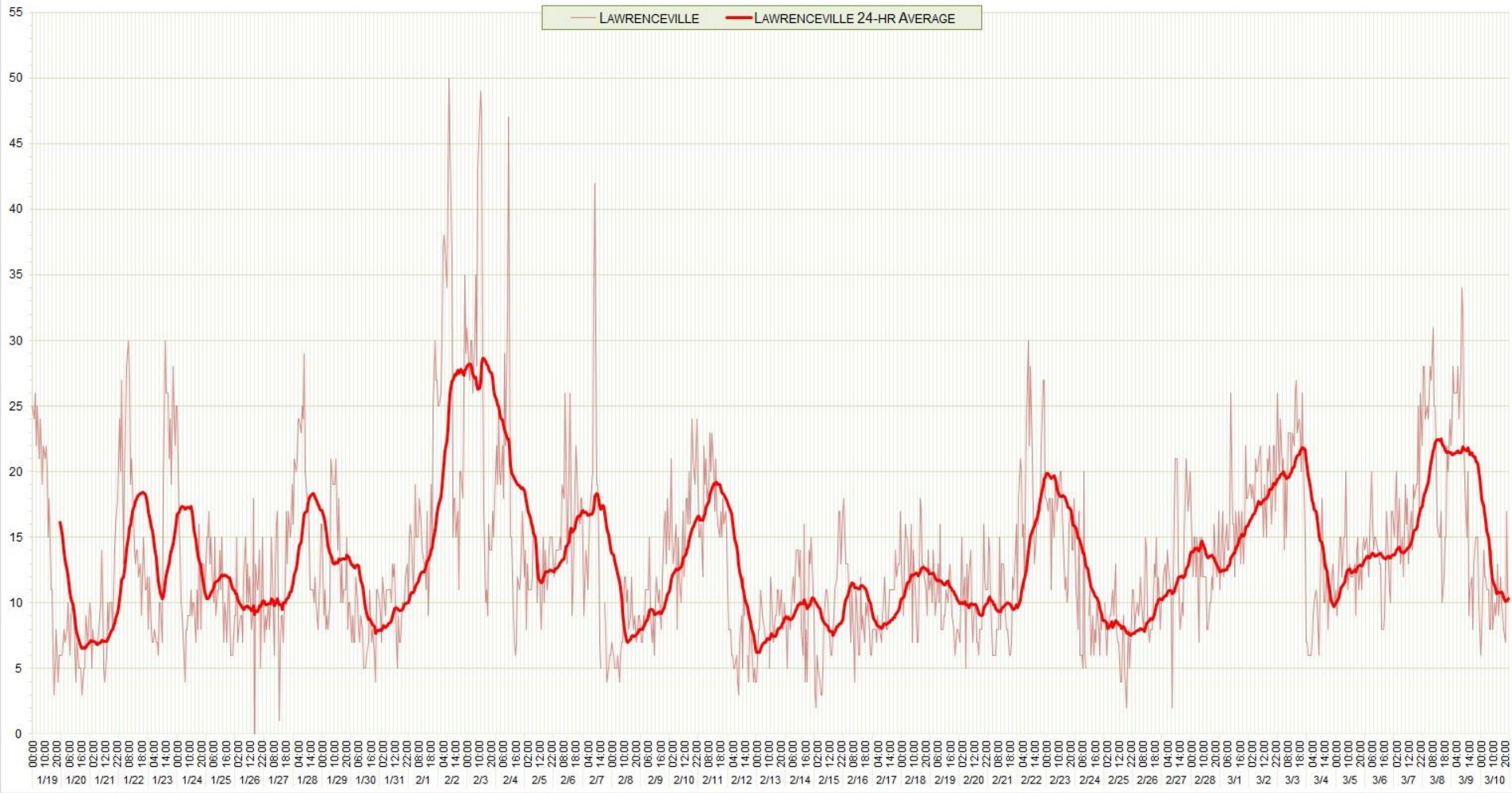
- Measure Air Quality
- Regulate and Permit Pollution Sources
- Implement Federal Rules
- Develop Plans to Meet NAAQS
- Track Emissions



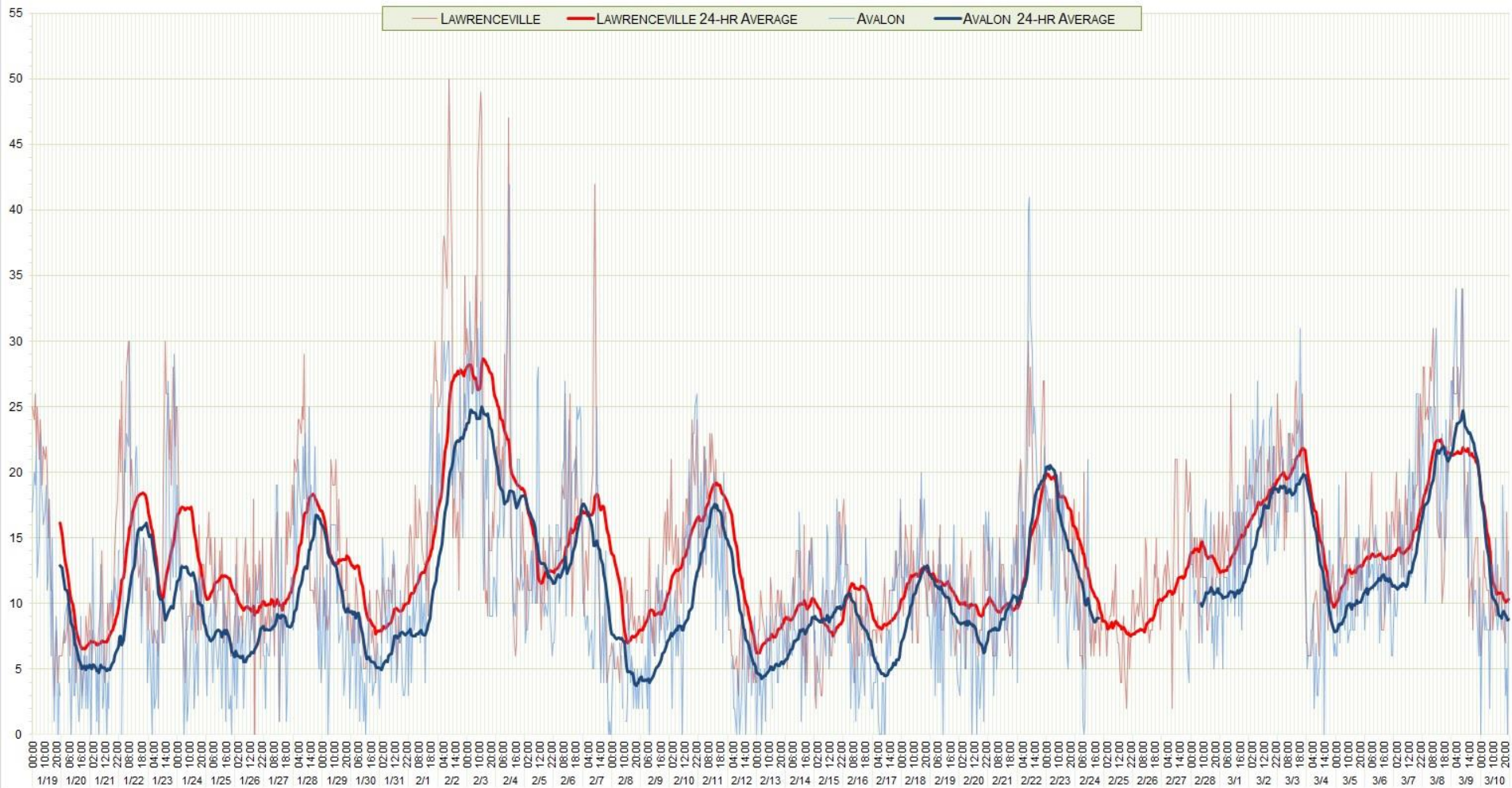
Figure 4 Air Monitoring Network Map



ACHD Hourly Ambient Air Monitor Data for PM_{2.5} (µg/m³)
January 19, 12:00a - March 10, 11:00p



ACHD Hourly Ambient Air Monitor Data for PM_{2.5} (µg/m³)
January 19, 12:00a - March 10, 11:00p



Having a bad air day?

Smell
PGH



Download and use the [Smell PGH app](#), created by Carnegie Mellon University's CREATE Lab, which allows you to report foul odors directly to the Allegheny County Health Department (ACHD)

or

Call Allegheny County Health Department (ACHD) every time you smell a foul odor or when you see thick smoke coming from industry.

(412) 687-ACHD or on-line:

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

[Login](#)[Sign up](#)[Help & Answers](#)

Sign up

Creating a profile takes just a few minutes. Remember your username and password so you can log in and change your information at any time.

* Username

Usernames must be a minimum of 4 acceptable characters. Acceptable characters are: uppercase and lowercase letters, numbers, period, dash (-), underscore (_), and at symbol (@). No other characters or symbols are permitted at this time.

* First Name

* Last Name

This is a message from Allegheny Alerts.

Wednesday, March 13, has been projected to be a poor air dispersion day across Allegheny County. Poor air dispersion traps pollutants close to the surface. There is the potential for higher than normal readings for both SO₂ and PM 2.5, which can affect sensitive populations, especially those with respiratory conditions. For more information on its impact on your health, visit: <http://bit.ly/2su7Gzj>


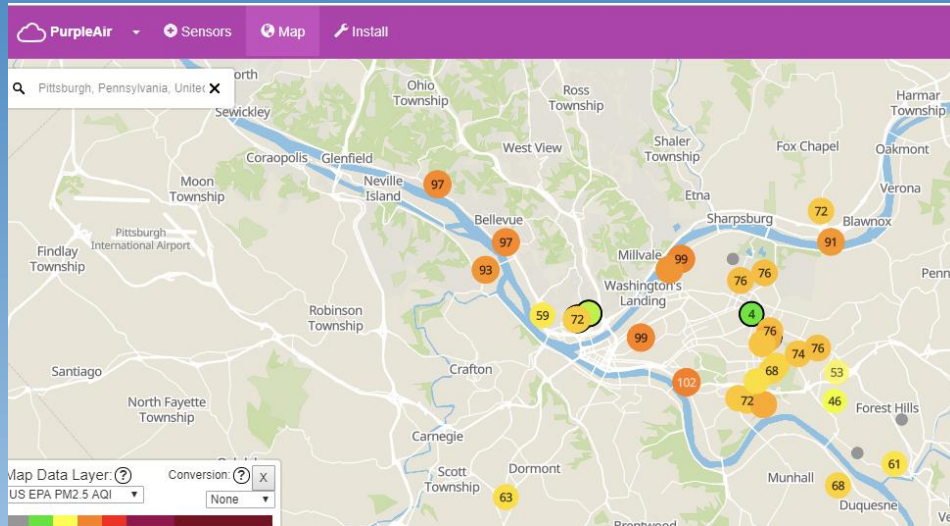
What Is That Rotten Egg Smell?



The H₂S standard has been violated on average **more than fifty times a year, over the past six years**, at the Liberty Borough monitor in the Mon Valley.

Sign our petition calling on the Allegheny County Health Department to enforce the repeatedly-violated hydrogen sulfide standard: <http://gasp-pgh.org/petition-achieve-the-hydrogen-sulfide-standard/>

Citizen Science – air monitoring



Mobile Indoor/Outdoor Air Quality Monitoring

Personal Air Monitor (PAM)

- Carbon Monoxide
- Carbon Dioxide
- Particulates (PM₁, PM_{2.5}, PM₁₀)
- Temperature, pressure, relative humidity
- Maps and graphs of data displayed on smartphone app
- Data uploaded via 3G or Wi-Fi with smartphone app
- GPS
- Full curriculum



Flow makes air quality data personal

We hear about entire cities having a pollution problem. But in reality what you breathe can change dramatically simply from one street to the next.

Flow is the intelligent device that fits into your daily life and helps you make the best air quality choices for yourself, your family, your community.

[BUY FLOW](#)

Make your voice heard



- Write letters to the editor
- Speak at public hearings – including Board of Health mtgs.
- Discuss with your city/county council person, state/federal representative, etc.
- Discuss with your friends and family
- Talk with your physician
- Do your part to reduce your own emissions
- Become a member of GASP

Get Involved and Learn More

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