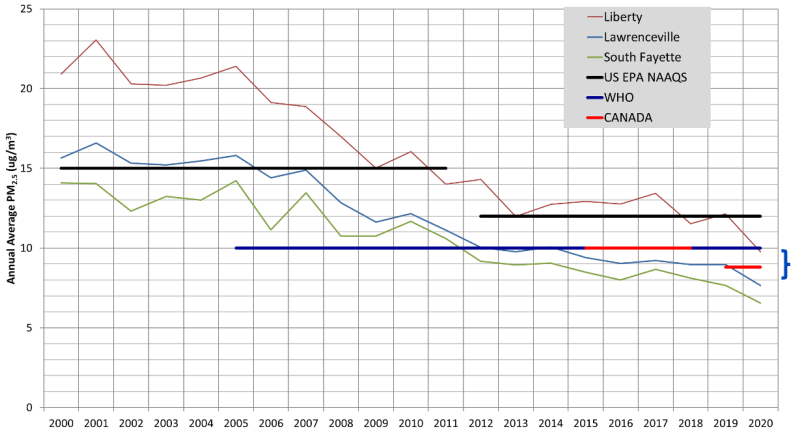
Air Quality Presentations Summary
Grassroots Town Hall Meeting, July 28, 2021

John Graham, Ph.D., Senior Scientist, Clean Air Task Force

Annual Average PM2.5 in Allegheny County

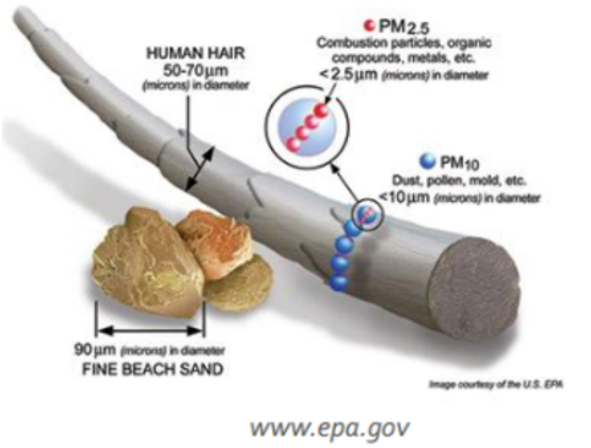


In 2020, EPA Staff Recommended a revised standard in from 8 to 10 ug/m3.

- Revisions in NAAQS over the next several years could place the county in violation of standards for both PM and Ozone.
- Non-monitored pollutants or locations may have harmful levels that have gone undetected.
- Air Pollution in Allegheny County has improved over the last two decades

- Allegheny County fails to meet the SO2 hourly NAAQS, met the PM2.5 standard for the first time in 2018-20 and continues to have harmful ozone episodes
- Many locations across the county experience poor and peak pollution levels
- PM and SO2 levels in the county are generally worse than other places east of the Rocky Mountains.

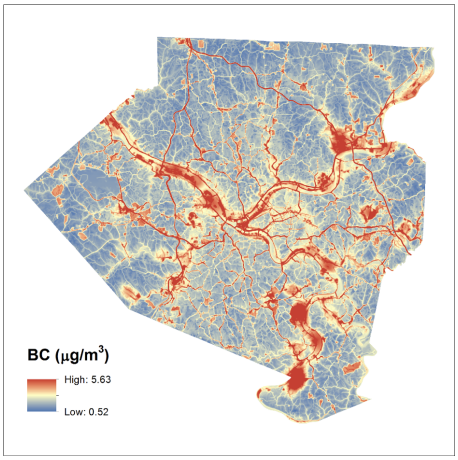
Dr. Deborah Gentile, MD, Medical Director, Community Partners in Asthma Care



- Recent medical studies confirm adverse health effects of air pollution in Allegheny County:
  - Asthma prevalence of 22.4% among predominately minority and poor children residing near point sources of air pollution
  - 70% exposed to annual PM2.5 levels greater than WHO limit of 10 ug/m3
  - Increased asthma symptoms and rescue medication use and near doubling of out-patient and emergency room visits following Clairton Coke Works fire on 12/24/2018.

- Short and long-term PM2.5 exposure causes mortality and cardiovascular effects (heart attack, stroke, arrhythmias).
- Short-term SO2 exposure causes respiratory effects, particularly asthma.
- Short and long-term PM2.5 is likely to cause respiratory effects (asthma, COPD, infections).
- Long-term PM2.5 is likely to cause cancer and nervous system effects (dementia).
- Newer studies with larger populations report adverse health effects below current standards
- Recommendations are to 1) reduce short-term PM2.5 standard from 35 to 25-30 ug/m3 over 24 hours; 2) decrease long-term PM2.5 standard from 12 to 8-10 ug/m3 annually.

Albert Presto, Ph.D., Associate Research Professor, Department of Mechanical Engineering, Carnegie Mellon University and Center for Atmospheric Particle Studies (CAPS)



- Allegheny County has a unique wealth of hyper-local air quality data
- We can use this data to better understand:
  - Emissions from and impacts of major and minor sources
  - Human exposures to air pollution
  - Environmental injustices
- Environmental Justice (EJ) tracts were 4 to 25 times more likely to be in the highest quartile of exposure compared to the lowest quartile for Black Carbon and NO_2, respectively.

Responses to Council Members' Key Questions about Allegheny County's Air Quality:

- When one looks at U. S. counties whose AQ averages exceeded the 12ug/m3 annual average back in 2009-11 (including Allegheny County) and compare how they fared in the 2018 – 2020 period, every upwind county from Allegheny County had a greater reduction in absolute and percent reduction of PM 2.5 than Allegheny County did.
- Allegheny County had a 24% improvement over this period; however, all of the upwind counties performed better (49% - 28% improvement).
- The air transported into the county was 4.2 ug/m3 better in 2018-2020 than 2009 - 2011, yet the reduction observed in Allegheny County was only 2.9 ug/m3 better.
- Allegheny County's local pollution source emissions slowed their decline relative to other counties for a portion of the past decade, delaying local PM 2.5 improvements.