Environmental Justice in SIPs

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Recent ACHD Actions

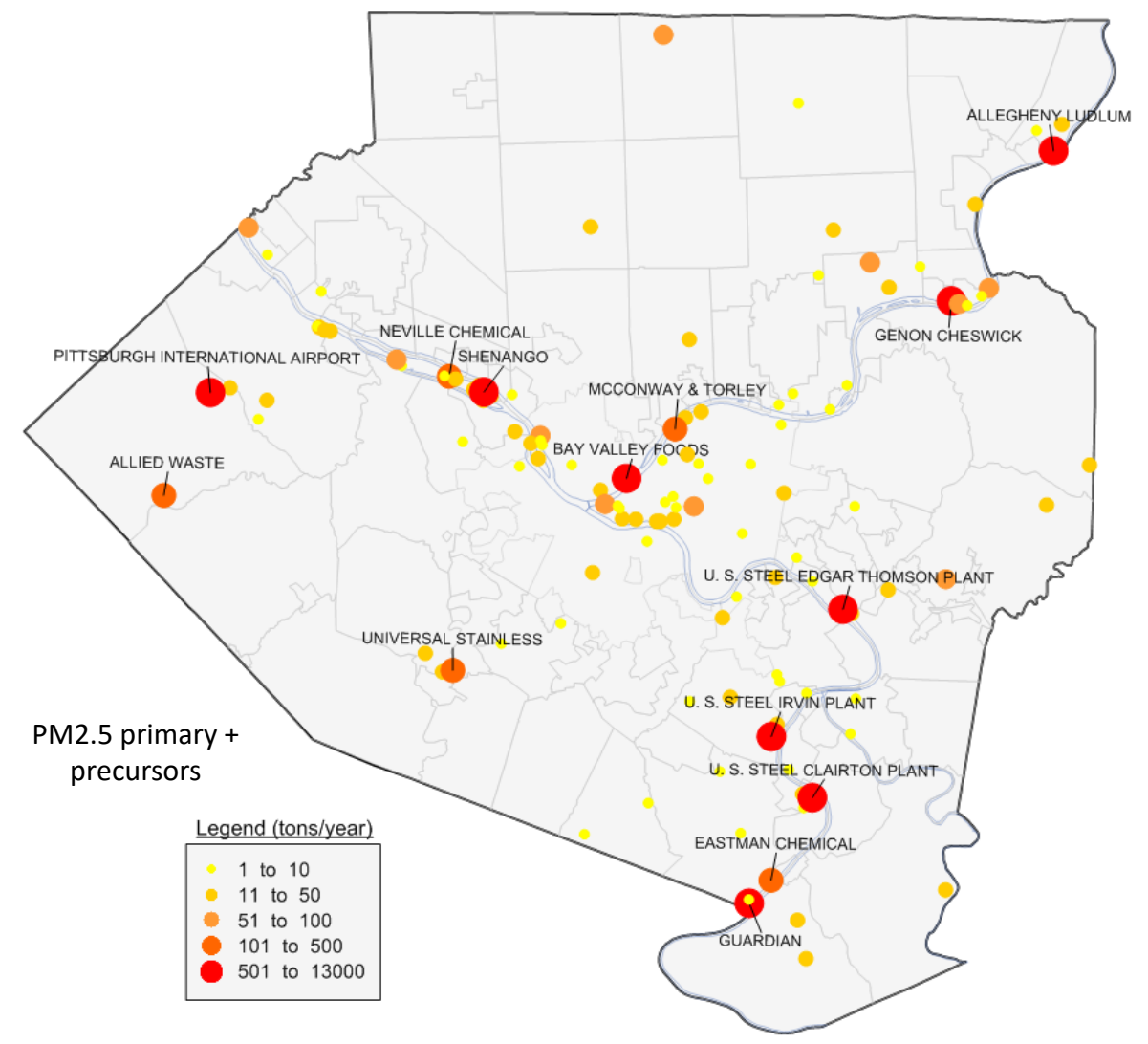
Allegheny County Health Department

- $PM_{2.5}$ Redesignation Request and Maintenance Plan (2012 NAAQS)
  - Allegheny County, PA area
  - Submitted to EPA in November 2022
  - $PM_{2.5}$ Attainment Demonstration SIP approved in 2021

- SO_2 Redesignation Request and Maintenance Plan (2010 NAAQS)
  - Allegheny, PA area (Monongahela Valley)
  - To be submitted in 2023
  - SO_2 Attainment Demonstration SIP approved in 2020

History & Geography of Pittsburgh

Allegheny County Health Department

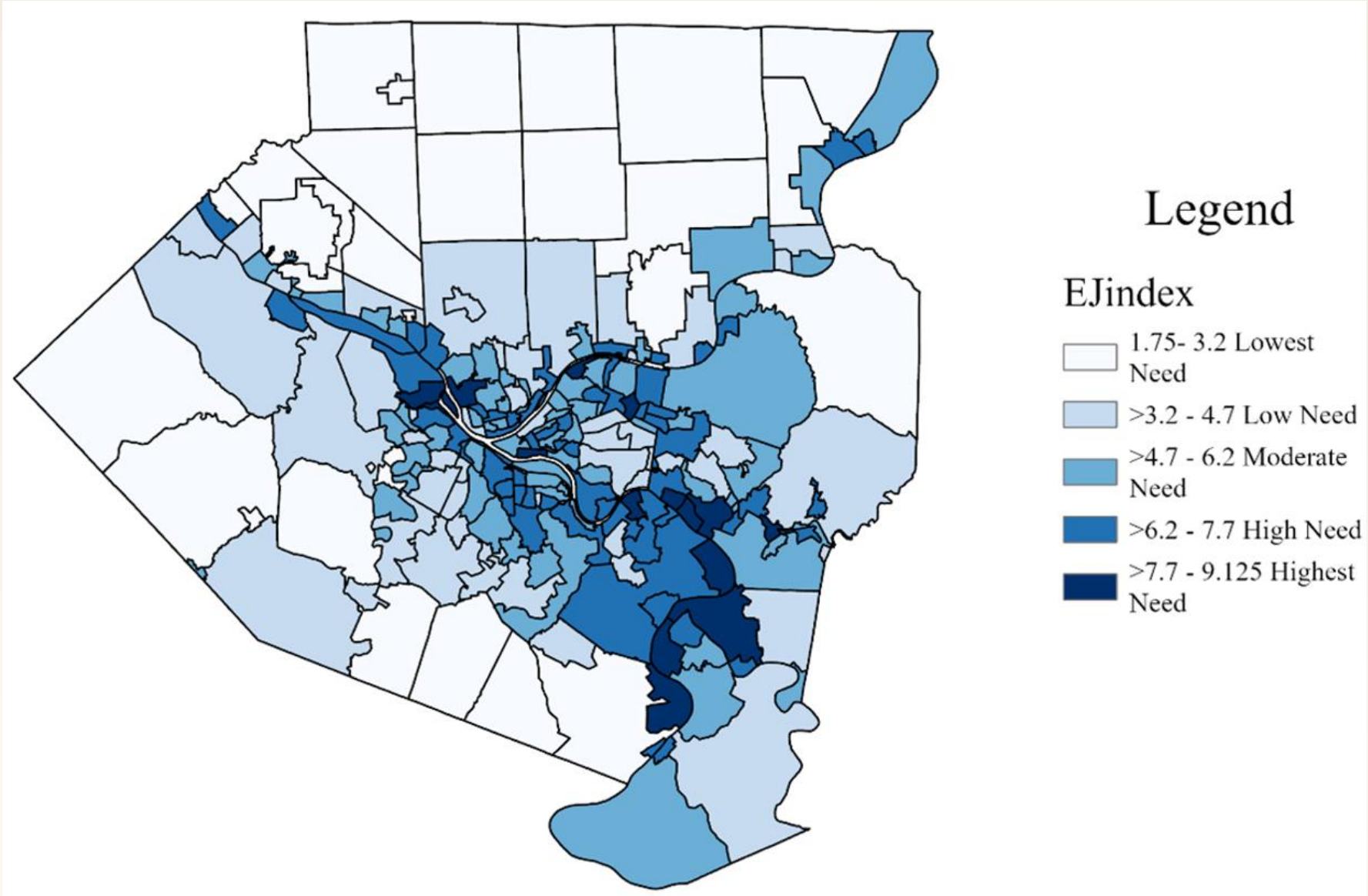


2011 Allegheny County Point Sources

- Smoke control introduced in the 1940s/1950s
- Suburban growth and decline of the steel industry in 1970s/1980s
- Heavy industry most prevalent in the river valleys, both historically and currently
- River valley communities represent many of the current environmental justice (EJ) communities

Allegheny County EJ Indices

Allegheny County Health Department



List of Various EJ Resources

Allegheny County Health Department

- Federal
  - White House “Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government”
  - EPA “Legal Tools to Advance Environmental Justice”
  - EPA EJScreen
  - EPA AirToxScreen
  - EPA Environmental Benefits and Mapping Analysis Program (BenMAP)
  - CDC Places
  - US Census

- State/Local
  - PA DEP EJ areas viewer
  - PA DEP EJ public participation
  - ACHD EJ and community reports

Note: links included at end of presentation

Excerpts from EPA's Legal Tools

Allegheny County Health Department

- "[Legal Tools] identifies a broad range of EPA legal authorities to advance environmental justice and equity in agency actions consistent with the statutes EPA administers."

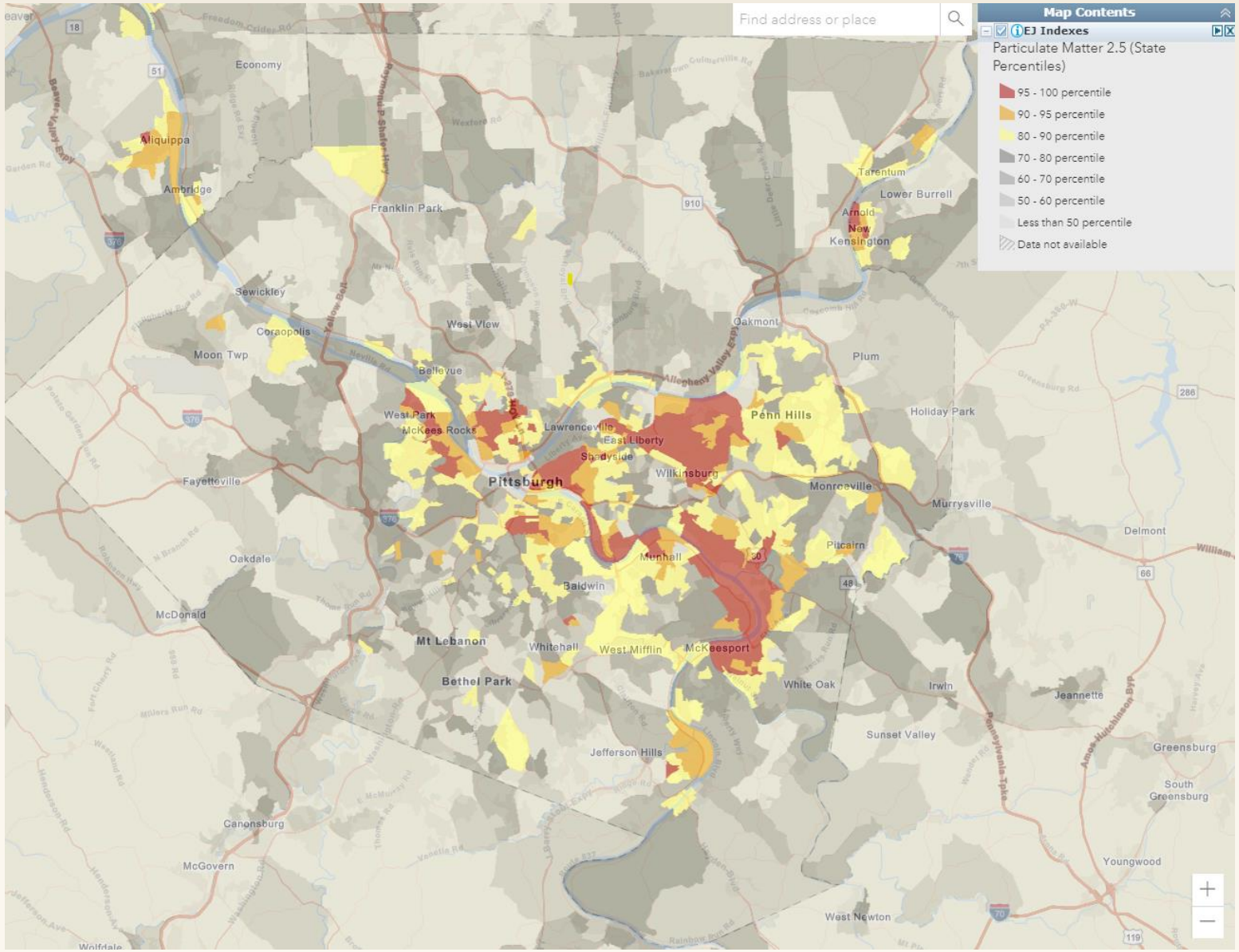
- "Legal Tools is not intended to prescribe when and how the agency should undertake specific actions. While many of EPA's legal authorities are clear, others may involve interpretive issues or consideration of legal risk calling for further analysis."

- "Under existing rulemaking guidance, an action raises environmental justice concerns if it could:
  - Create new disproportionate impacts
  - Exacerbate existing disproportionate impacts
  - Present opportunities to address existing disproportionate impacts through the action under development"

- "…the CAA appears to grant EPA some discretion to disapprove such requests where the record supports disapproval…"

EJScreen

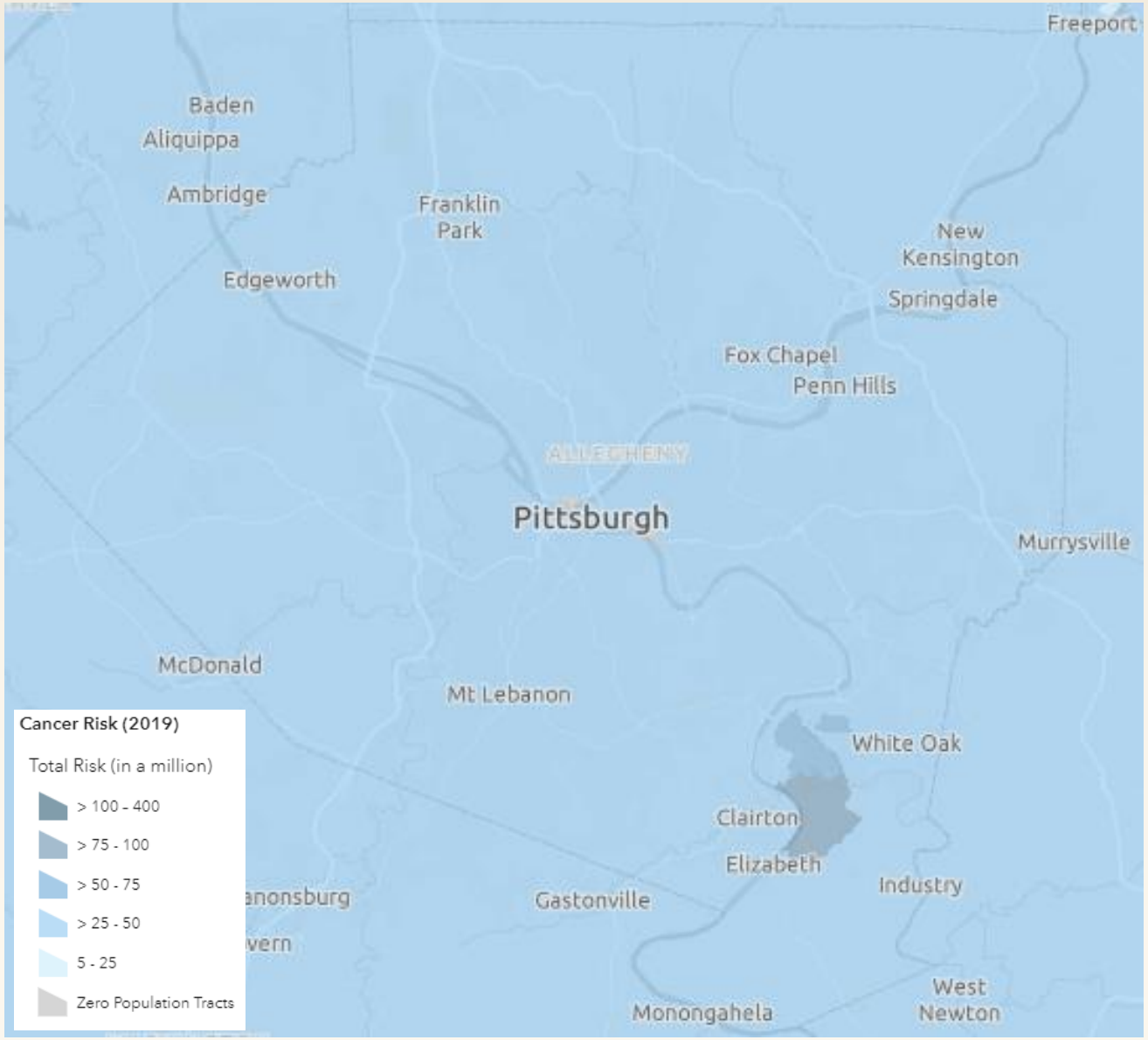
Allegheny County Health Department



- Similar to ACHD Indices
- Designed as screening tool

AirToxScreen (2019)

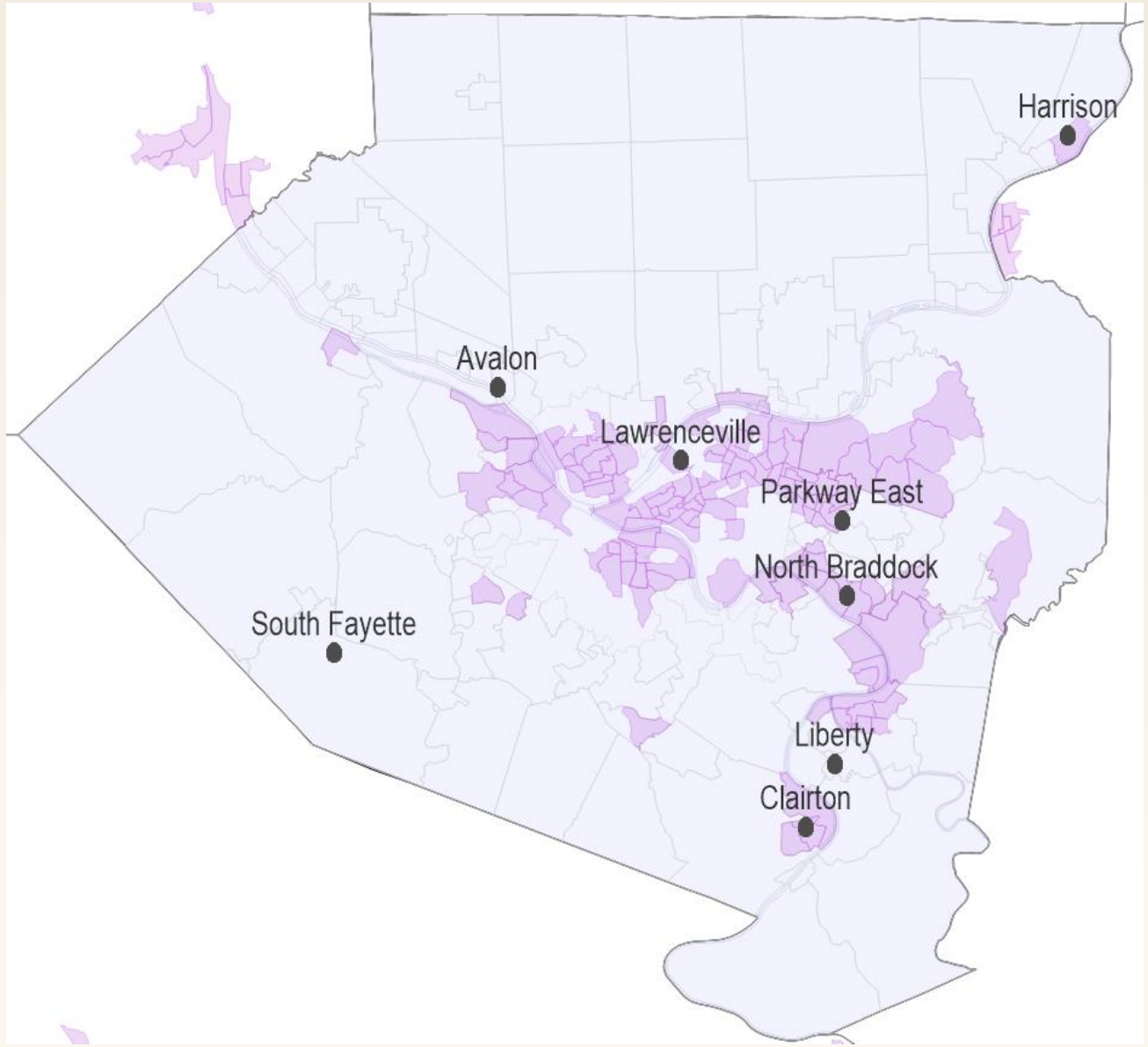
Allegheny County Health Department



- Air toxics, not criteria
- But usually similar sources of pollutants

$PM_{2.5}$ Monitors and EJ Areas (PA 2015)

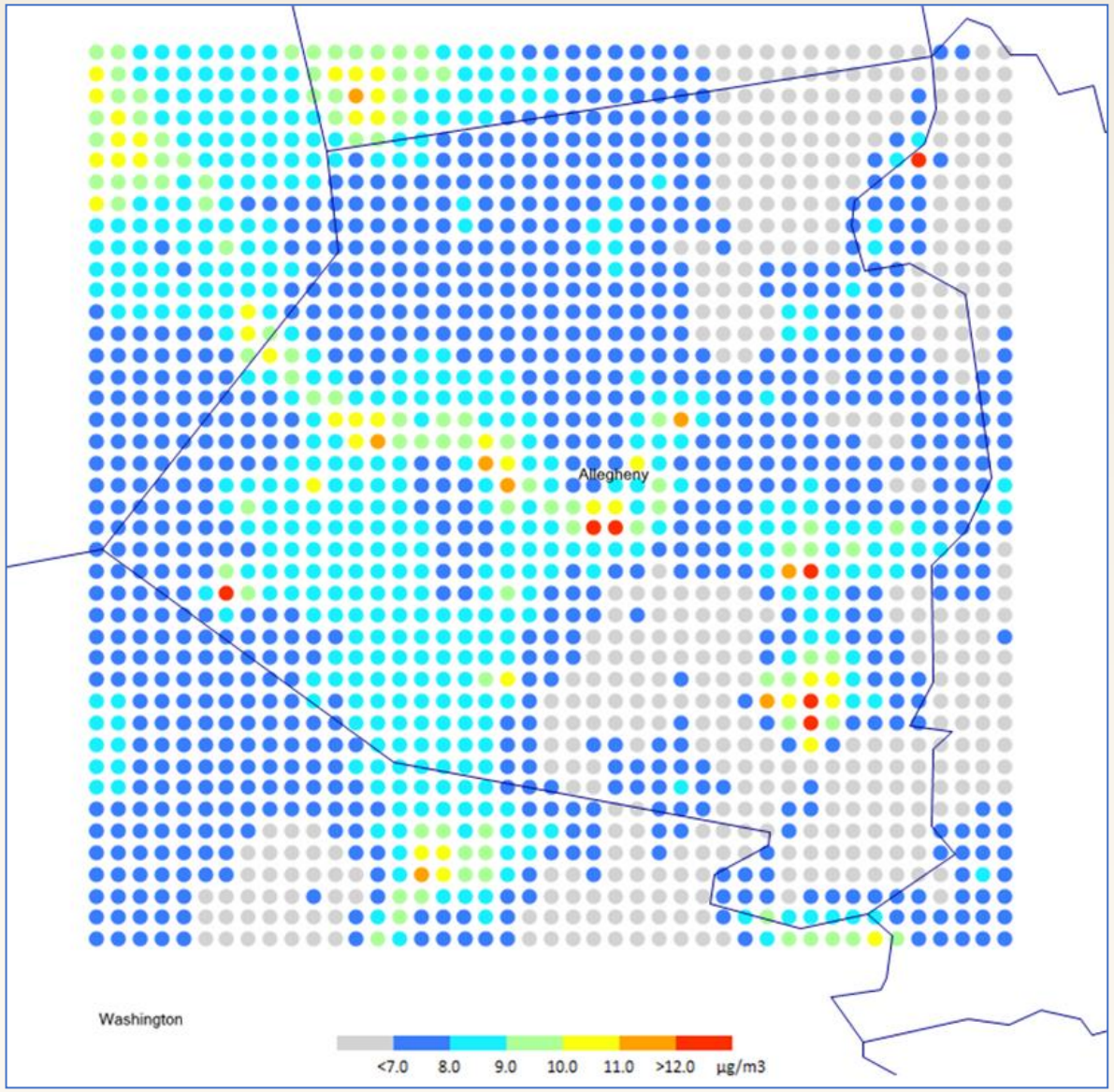
Allegheny County Health Department



- ACHD official $PM_{2.5}$ monitor sites (current)
- EJ areas (shaded) based on 2015 PA areas
- Monitor network designed for various objectives
  - Includes assessment of EJ areas

$PM_{2.5}$ Unmonitored Area Analysis (UAA)

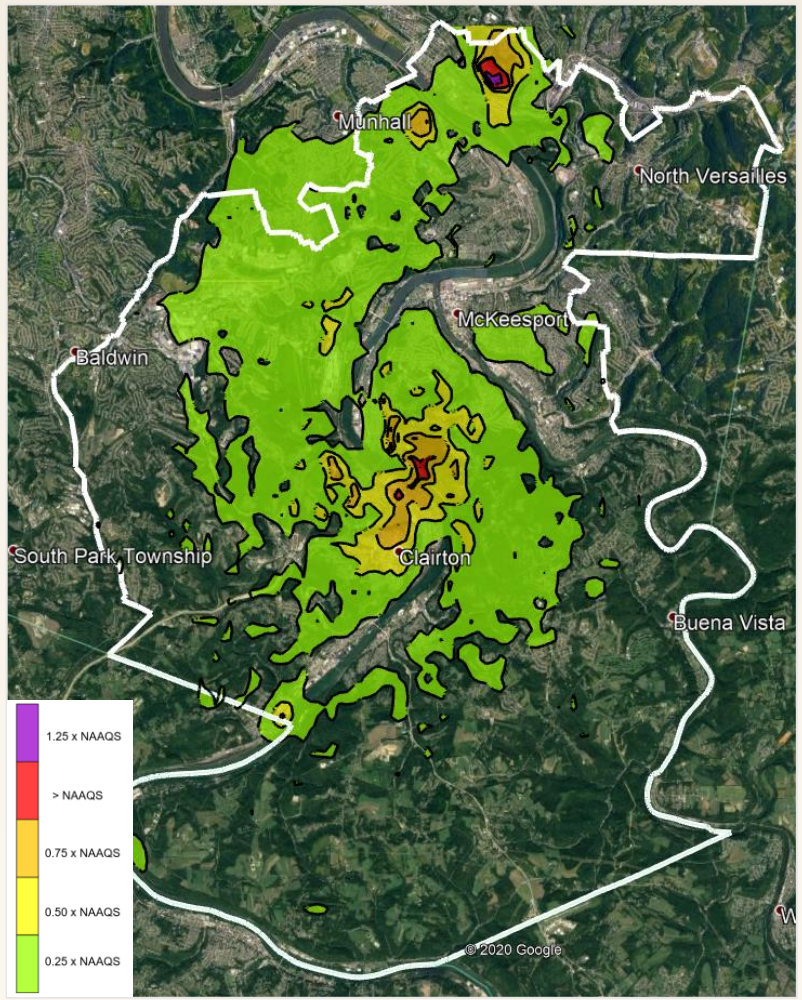
Allegheny County Health Department



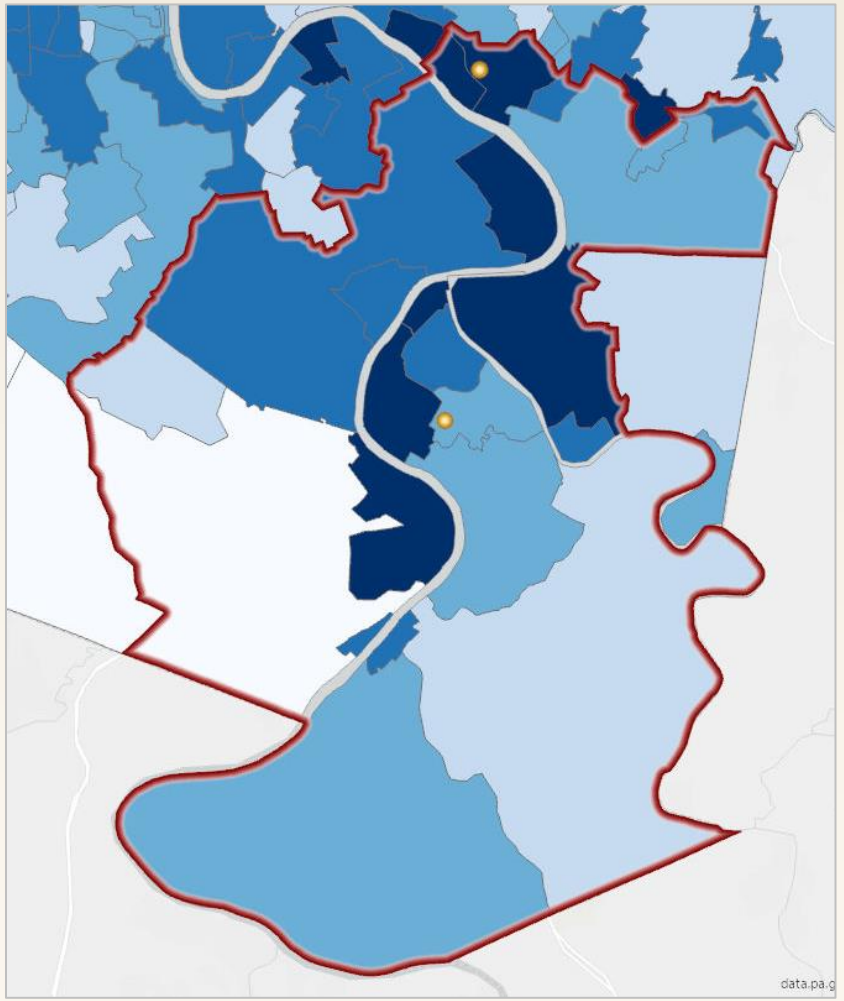
- Based on CAMx modeled results (annual)
  - 1.33 km grid cell resolution
- Using software for the Modeled Attainment Test - Community Edition (SMAT-CE)
  - Create gradient-adjusted spatial analysis, enhanced Voronoi Neighbor Averaging (eVNA)
- Steps:
  - Interpolate base case design values to each cell, scale based on modeled concentration gradients
  - Fused grid cells are then scaled based on future case reductions
- Can examine unmonitored areas for possible high areas

SO_2 Modeling and EJ Areas

Allegheny County Health Department



2011 Base Case Modeled Impacts



EJ Areas and Monitors

- SO_2 nonattainment area included several municipalities
- Base case modeled results led to controls at sources
- Highest reductions coincided with EJ areas
  - Also monitor sites
- SO_2 SIP had to focus on EJ areas to show attainment

Recommendations

- Work with your agency/department EJ coordinators
- Go the extra step in SIPs to address EJ areas
  - Modeling/monitoring
  - Control measures
  - Data analysis
- Incorporate additional planned efforts if possible into plans, networks, analyses, etc.

EJ Links (Federal)

Allegheny County Health Department

- White House “Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government”: https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/
- EPA Legal Tools to Advance Environmental Justice*:* https://www.epa.gov/system/files/documents/2022-05/EJ%20Legal%20Tools%20May%202022%20FINAL.pdf
- EPA EJScreen: https://ejscreen.epa.gov/mapper/
- EPA AirToxScreen: https://www.epa.gov/AirToxScreen
- EPA Environmental Benefits and Mapping Analysis Program (BenMAP): https://www.epa.gov/benmap
- CDC Places: https://www.cdc.gov/places/index.html
- US Census: https://data.census.gov/

EJ Links (State/Local)

- PA DEP EJ Areas Viewer: www.dep.pa.gov/EJViewer
- PA DEP EJ Public Participation: https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/Policy-Revision.aspx
- ACHD EJ and Community Reports: https://www.alleghenycounty.us/Health-Department/Resources/Data-and-Reporting/Chronic-Disease-Epidemiology/Resources,-Reports,-and-Publications.aspx

Questions?