

Welcome to **BREATHE**

**Bridging Research, Equity, and
Asthma Through Healthy
Environments**



**Monday
April 13, 2026
1-3pm**

**Cardinal Land Conservancy
1008 Marshall Ave
Cincinnati, OH**

What is BREATHE?

A coalition of scientists, community organizers, public servants, and Cincinnatians interested in improving air quality in the region.

Using collaborative, data-driven, systems-level approaches to improving our air quality and asthma rates by addressing the City's built environment.

Vision: Quarterly meetings to collaborate and learn about air quality research and actions to improve air quality within the Cincinnati region.

Agenda

- Introduction & Recap of January Meeting
- Coalition Victories
- Presentations
 - Cardinal Land Conservancy
 - Greening Greater Cincinnati for Equity and Health - Jessica Spencer
 - Southwest Ohio Air Quality Agency - Ron Bitner
- Upcoming Events or Calls to Action
- Next Meeting Info
 - Air Monitor Show and Tell & networking

Coalition Victories - updated for April

BE A PART OF THE SOLUTION NOT POLLUTION

Scan the QR Code to Join Groundwork ORV's Air Quality Program Today!

OPEN TO: FOREST PARK, COVINGTON, WEST END & WINTON HILLS RESIDENTS

- Attend 3 Air Quality Workshops
 - Learn about Air Pollution Hazards & Solutions
 - Get paid for each workshop!
- Take home your own air quality monitor after completing a pollinator garden installation

SCAN ME

GROUNDWORK

- Groundwork Ohio River Valley EPA Grant to train residents of Forest Park, Covington, West End, & Winton Hills on air pollution hazards, building an air quality monitor, and encourages to create pollinator garden
 - [This program teaches people to monitor, combat air pollution | WVXU](#)
- Cincy Air Watch expanding to CPS facilities
 - Adding monitors to 21 more Cincinnati neighborhoods this spring

Any Additional Victories?



Cardinal
LAND CONSERVANCY

BREATHE Meeting

April 13th, 2026





Mission

Our Mission is to preserve natural habitats, waterways, agricultural lands, and open space in our tri-state region.

More specifically,

- *We protect **targeted lands** that meet our criteria*
- *We restore **native habitats***
- *We **enrich communities** through conservation*

Current State

- **11,290 acres preserved**
 - 8,998 conservation easements
 - 2,292 acres fee simple owned properties
- Flagships
 - Loveland, College Hill, CUF
- Growing urban footprint



Bahr Farm



- 32 acre working farm at the corner of Winton Road and North Bend Road – largest urban farm in Cincinnati
- Restored pond stocked with fish
- Pastures restored with pollinator-friendly pastures to feed the cattle
- Growing land leased to Our Harvest
- Adjoining nature preserve on Winton Road
- Been a farm since 1804, with 216-year-old barn



Stepping into Urban Conservation

Cardinal Land Conservancy (CLC) is committed to fostering a sustainable, inclusive, and resilient urban environment where nature and people can thrive together. By pursuing conservation opportunities in urban areas, CLC aims to ensure that all communities, especially those historically marginalized, have access to healthy, safe, and accessible natural spaces and the benefits they provide.

Cardinal can bring what it does best - LAND



Flagship Property - Environmental Justice Hub

- Marshall and McMicken Cardinal Office (CUF neighborhood, near Camp Washington; 9 acres total, 3 buildings)
- Centrally located near the City and other community partners
- Demonstration of urban conservation
 - Urban forest and habitat restoration
 - Fostering space for urban agriculture
 - Building a walking trail/outdoor programming
 - Outdoor recreation
- Infrastructure
 - 7,000 square feet of office space
 - 9,000 square feet of open floorplan warehouse



0 250 500 1,000 Feet





Partnership – Civic Garden Center

- Cardinal to provide access to land
 - CGC to provide access to local food production and community gardening (**Market Gardener Program**)
- CGC to offer greenspace training and community gardening support (**Greenspace Guardians program**)
- Cardinal to implement sustainable land use and habitat restoration practices
- CGC to support conservation, urban agriculture, and educational initiatives



Civic Garden Center
greater cincinnati

Search Google Maps



2785 W McMicken Ave

Cincinnati, Ohio



Google Street View

May 2025 [See more dates](#)



Google Maps



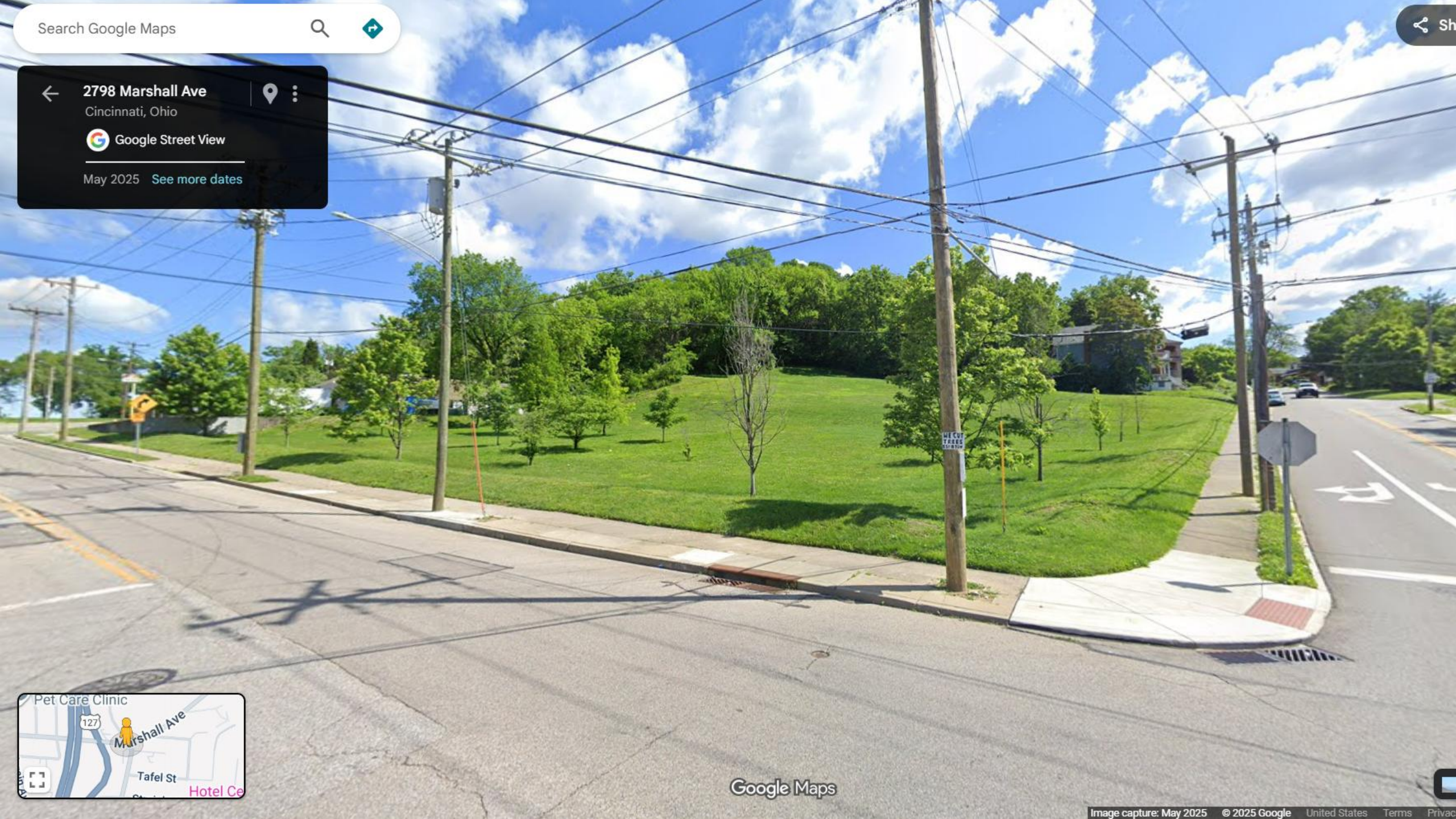
2798 Marshall Ave

Cincinnati, Ohio



Google Street View

May 2025 See more dates





← 2733 Marshall Ave

Cincinnati, Ohio



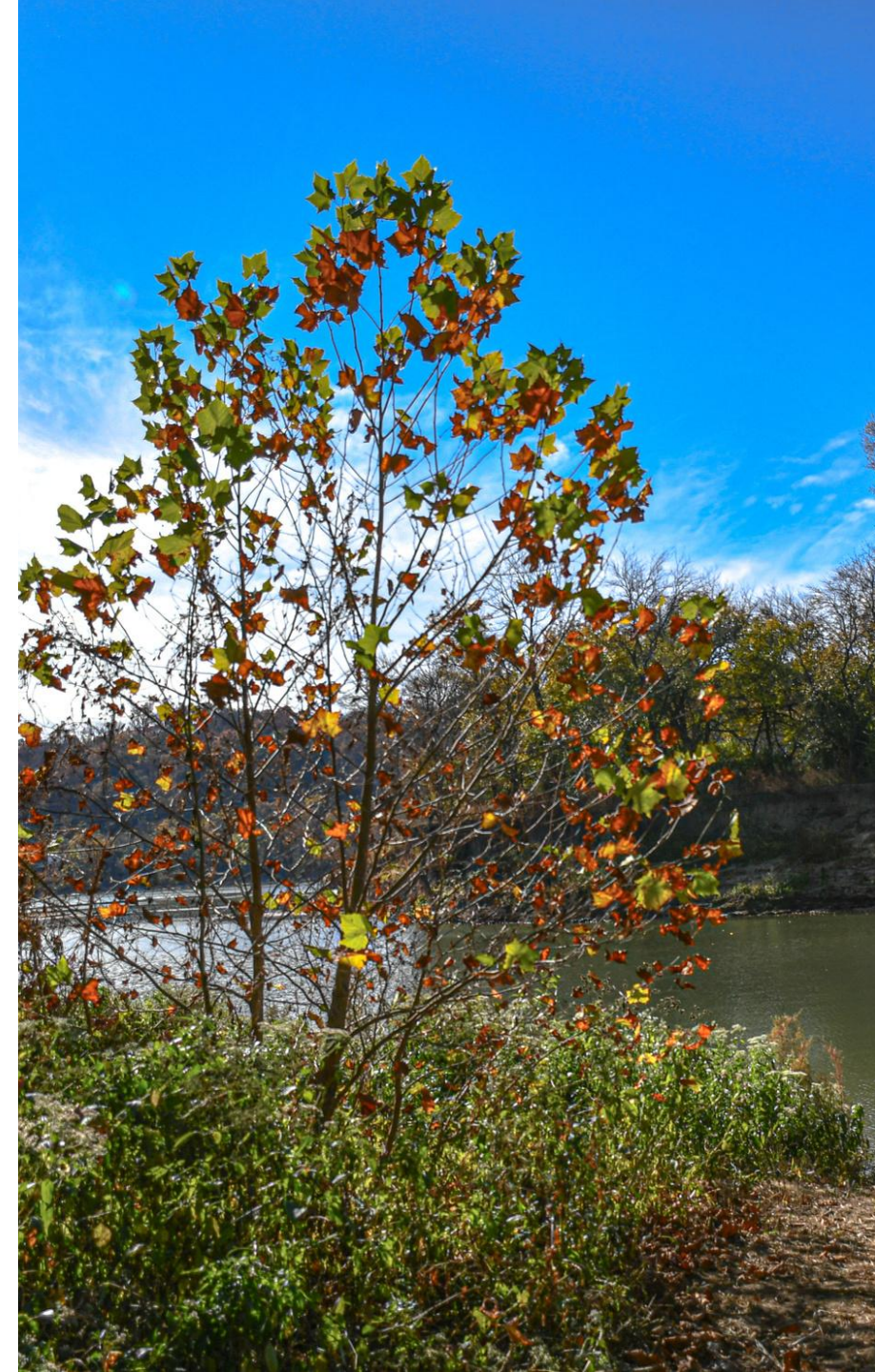
Google Street View

May 2025 See more dates

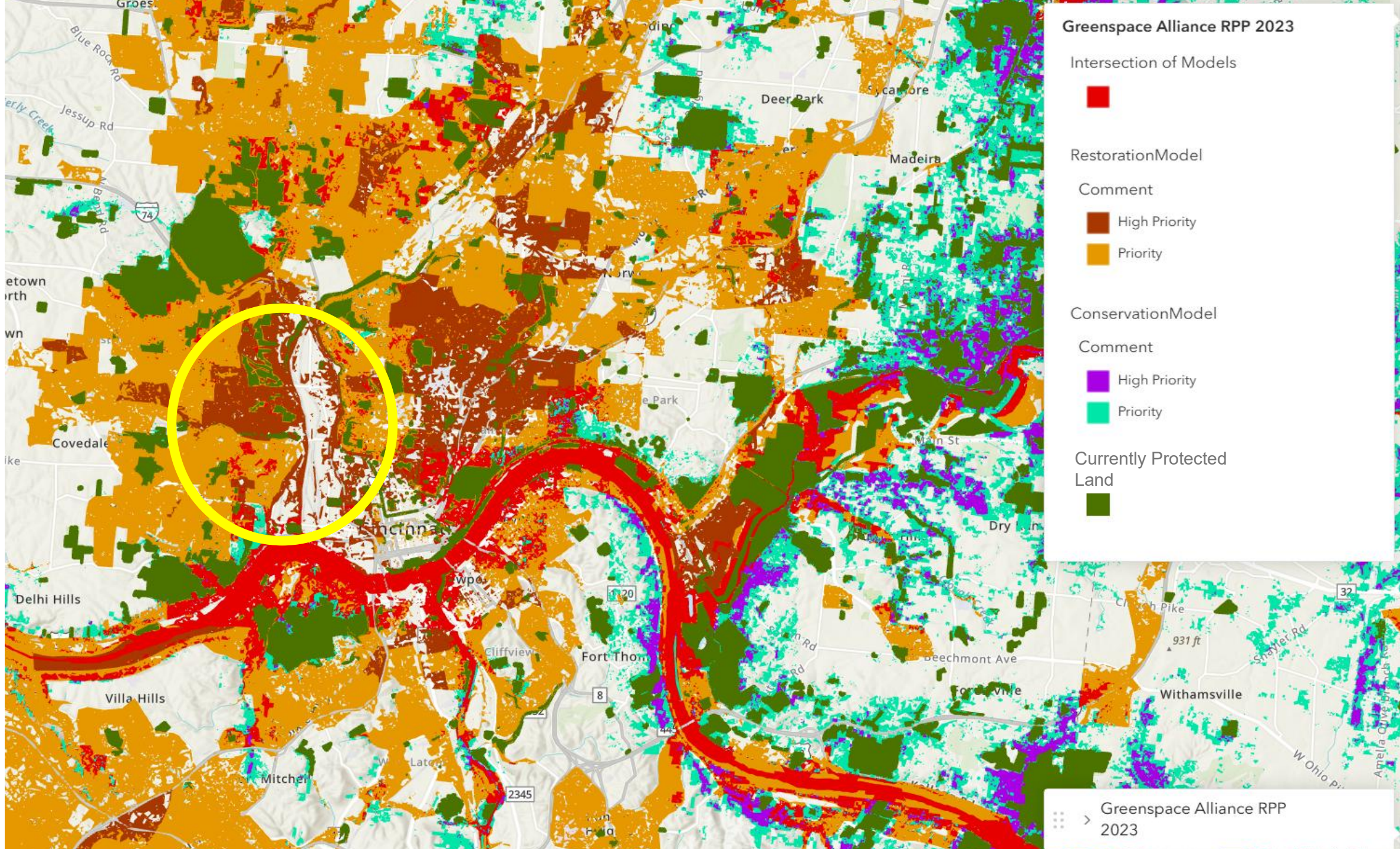


Where Do We Conserve?

- Conservation Criteria to guide selection of properties
 - Biodiversity and Habitat Protection
 - Farmland Preservation
 - Community Access to Nature
 - Culturally Important Lands
- Utilize combined resources to identify priority areas
 - City of Cincinnati's Climate Equity Indicators
 - Cardinal's Land Saving Project Criteria
 - Green Umbrella's Greenspace Alliance - Regional Greenspace Prioritization Plan and Map
 - *Intersection of conservation priorities and environmental justice priorities*



Cardinal
LAND CONSERVANCY



Greenspace Alliance RPP 2023

Intersection of Models



RestorationModel

Comment

High Priority

Priority

ConservationModel

Comment

High Priority

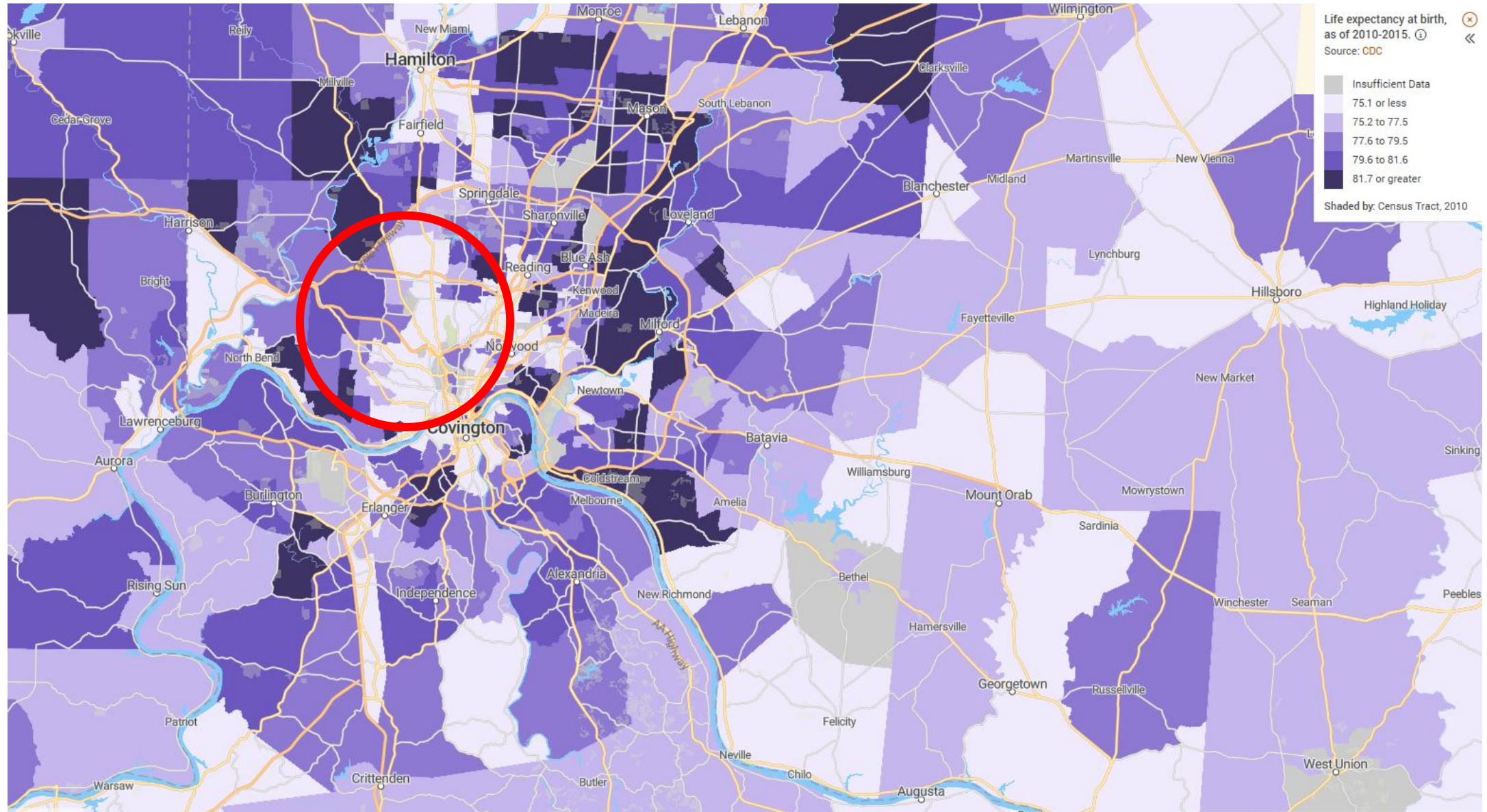
Priority

Currently Protected Land



Policy Map

Life Expectancy at Birth



What is the relationship between preserving land / creating greenspace and.....

- **Human health** - lung, cardiovascular, mental, physical
- **Biology / environmental challenges** - biodiversity, pollinators, biomass, soil microbiome
- **Engineering / design** - landslides, best layout for flagship properties to promote community engagement
- **Community engagement and communication** - how can we promote and increase use of greenspace
- **Epidemiology / data** – how can we expand our data driven land acquisition



GREENING GREATER CINCINNATI FOR EQUITY & HEALTH

Jessica Spencer

AN INFORMAL GROUP OF STAKEHOLDERS INSPIRED BY A PROJECT DOWN RIVER -
FOCUSING ON TRANSPORTATION CORRIDORS, TO IMPROVE HEALTH AND EQUITY BY COMBINING AND SCALING MANY EXISTING EFFORTS

Main points:

- Focus on transportation corridors for health
- Racial inequalities persist in the region
- There are many ongoing efforts and conversations around these topics currently
- Can we combine a few more efforts to center and support impacted communities on a larger scale?

Air Quality - It is bad

The American Lung Association released the 2025 “State of the Air” report, which reveals that Cincinnati was named 14th worst in the country for year-round particle pollution.

The Cincy Air Watch Project has chosen to monitor PM_{2.5} as our pollutant of investigation because of its known link to adverse health effects and its prevalence as the leading AQI indicator in Cincinnati.

Estimated Relative Benefits of Interventions

Based on case studies and expert judgment

Air Pollution Interventions:
Seeking The Intersection
Between Climate & Health

< View Report:

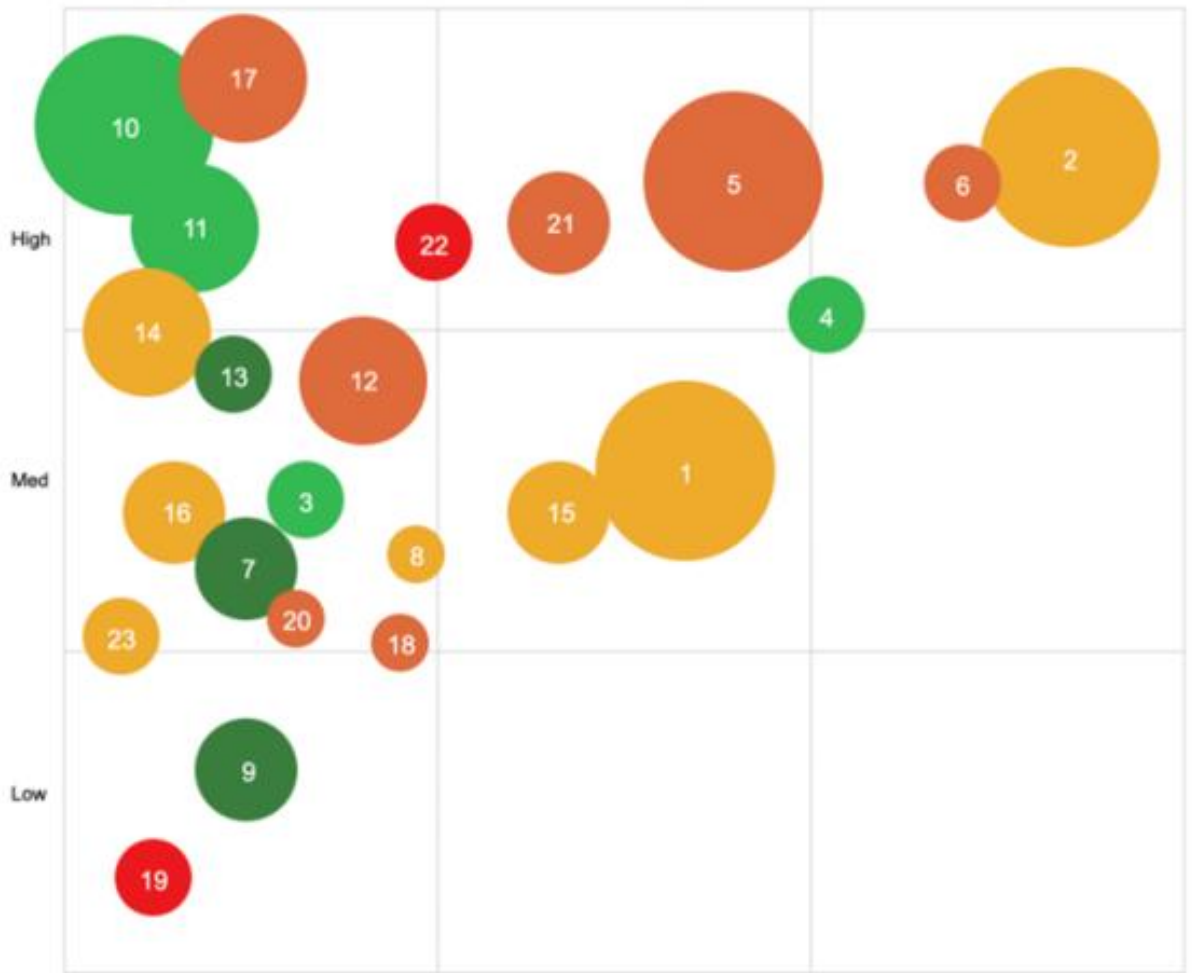


INTERVENTION BY SECTOR

- Listed Alphabetically
- Energy**
- Coal fired TPP replaced by gas
 - Coal fired TPP replaced by renewables
- Transport**
- Cleaner buses
 - Electric buses
 - Eliminate uncontrolled diesel emissions
 - Electric vehicles
 - EURO 4/IV standards
 - Expand mass transit
 - Further upgrade to EURO 6/VI standards
 - Reduce very high sulphur in diesel
 - Upgrade motorcycles
 - Vehicle inspection and testing
- Industry**
- Emission controls on all industry
 - Emission controls on large plants
 - Energy efficiency for industry
 - Upgrade brick kilns
- Household**
- Cleaner household fuels
 - Control open waste burning
 - Improved biomass cookstoves
 - Upgrade small boilers
- Agriculture & Rural**
- Prevent crop residue burning
 - Prevent forest fires
- Other**
- Dust control in urban areas

Health Benefits

Reduction in PM_{2.5}



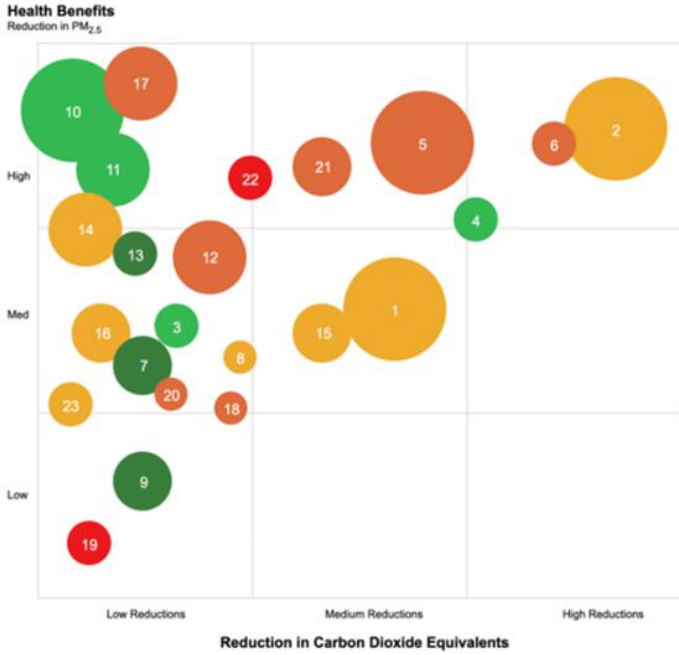
← Interventions targeting PM_{2.5} with high benefits for health (Graph from previous BREATHE meeting)

DIFFICULTY

Low (Green) High (Red)

COST EFFECTIVENESS

Less (Small) More (Large)



Air Quality - It is bad

These estimated relative benefits likely apply locally as well, and point towards transportation as the place to focus

	Energy	Transportation	Industry	Household	Agriculture	Other
Number of PM _{2.5} interventions by sector	2	12	4	4	2	1
Number of interventions with big health benefits	1	5	0.5	1	2	0

In our region, local living conditions create up to 26 years difference in average life expectancy.

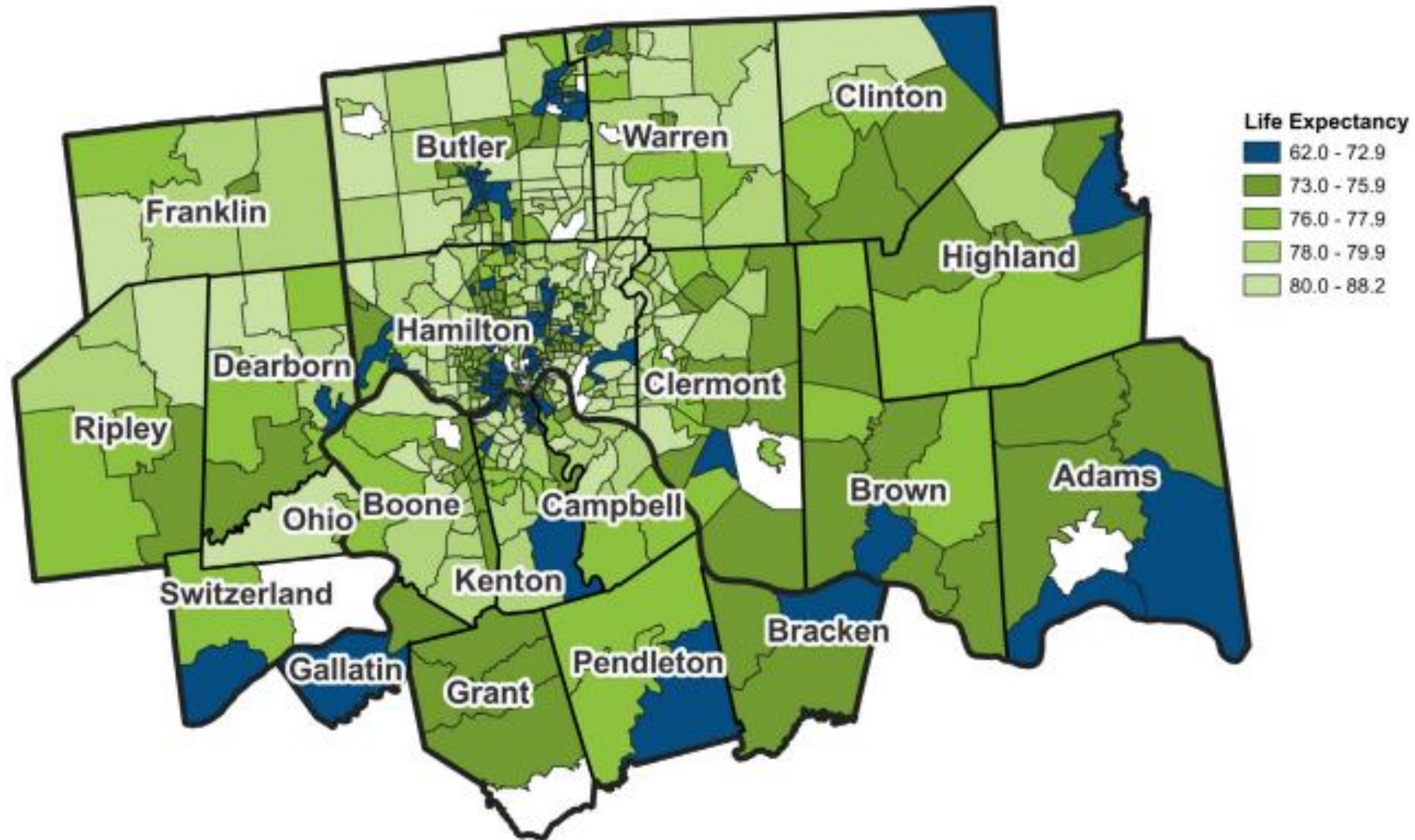


Figure 18. CDC (2010-2015) Life Expectancy at Birth

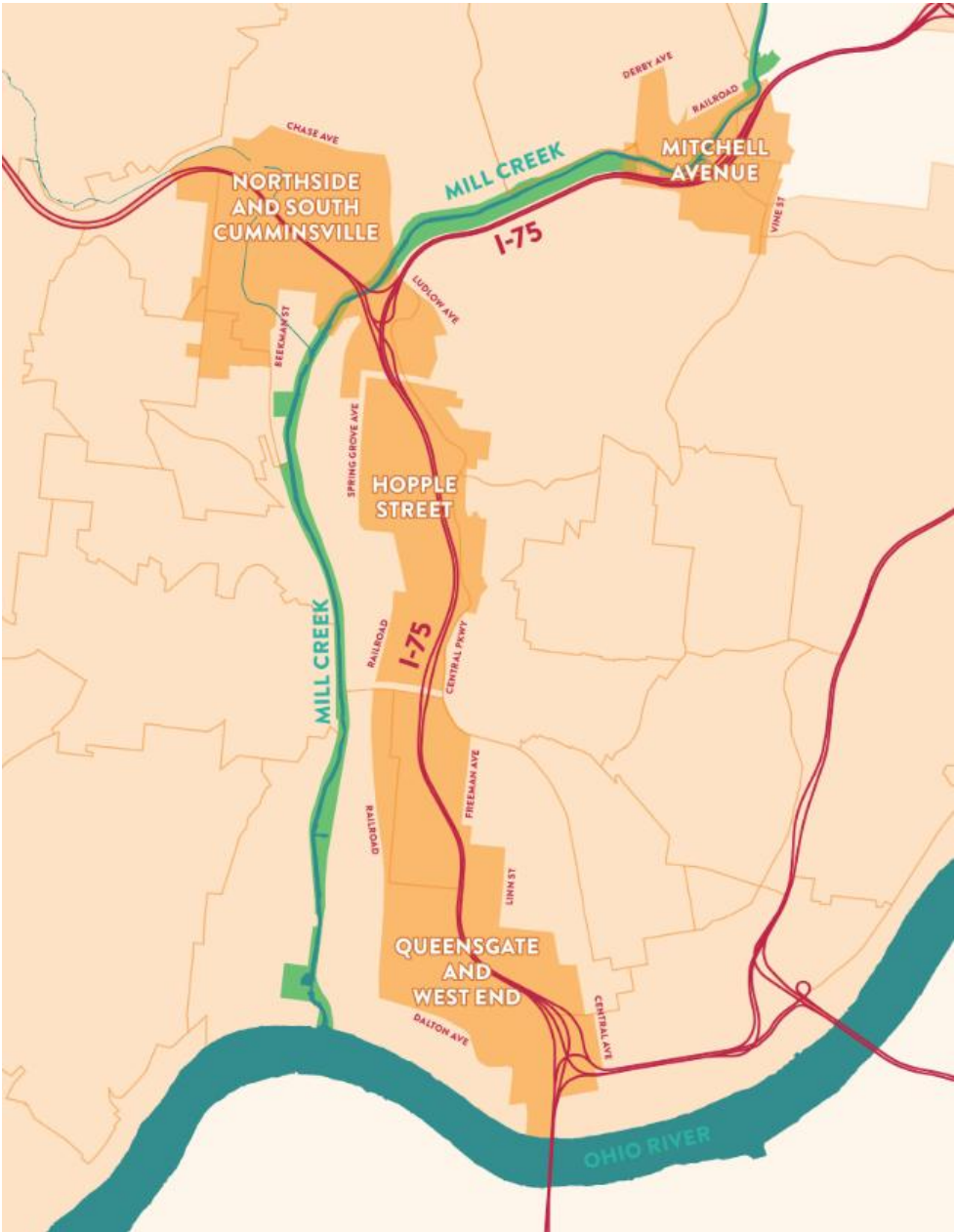
Downtown Cincinnati and West End - Example of Racial Injustices



- The West End is a predominantly Black neighborhood and was the target of urban renewal
- Highway construction and industrialization displaced 25,000+ residents
- Effects ripple through the broader community and last for generations
- Dr. Mindy Thompson Fullilove spoke about the effects at University of Cincinnati's Zane L. Miller Symposium in 2024 on the 20th Nov. 6. Interview here:

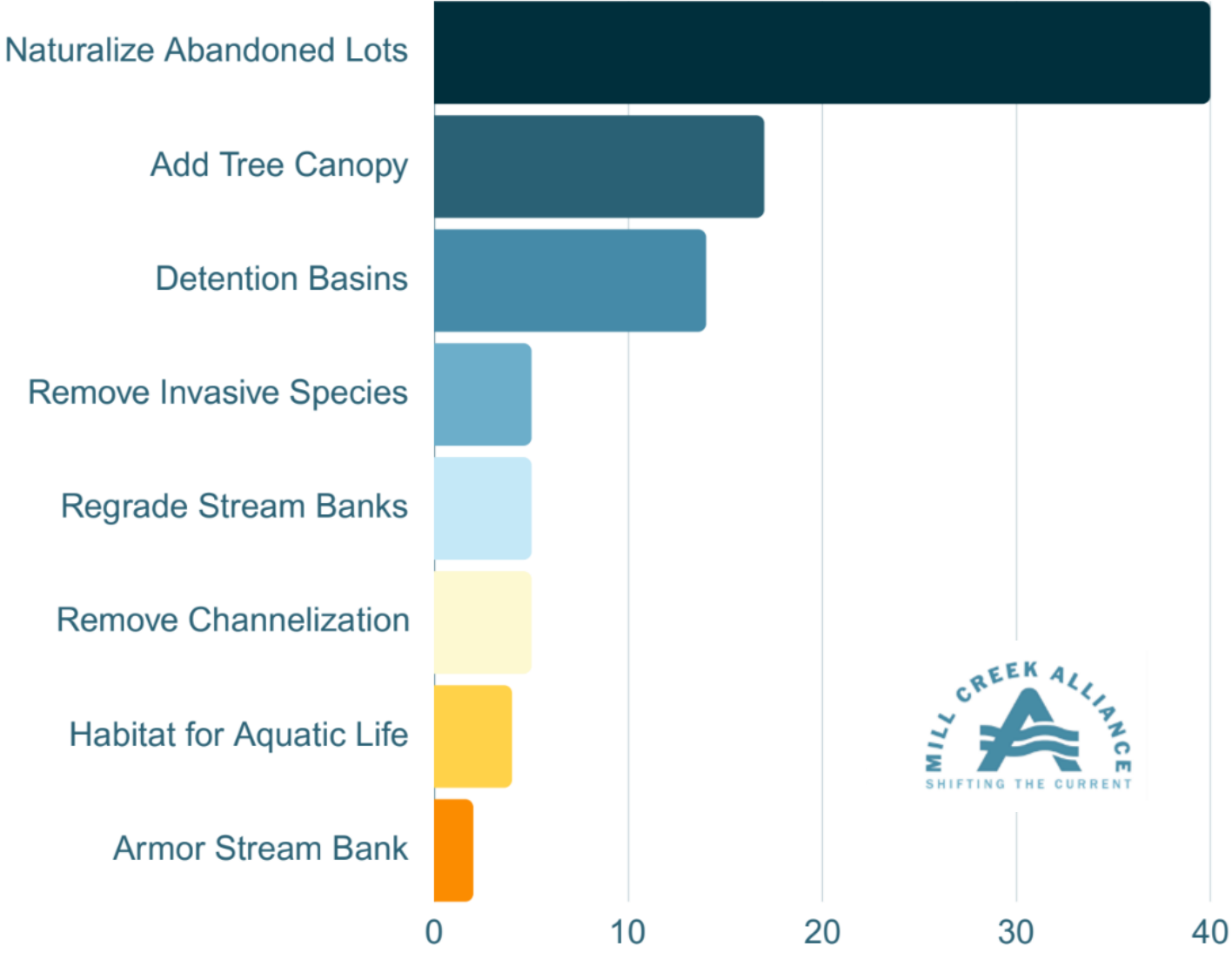
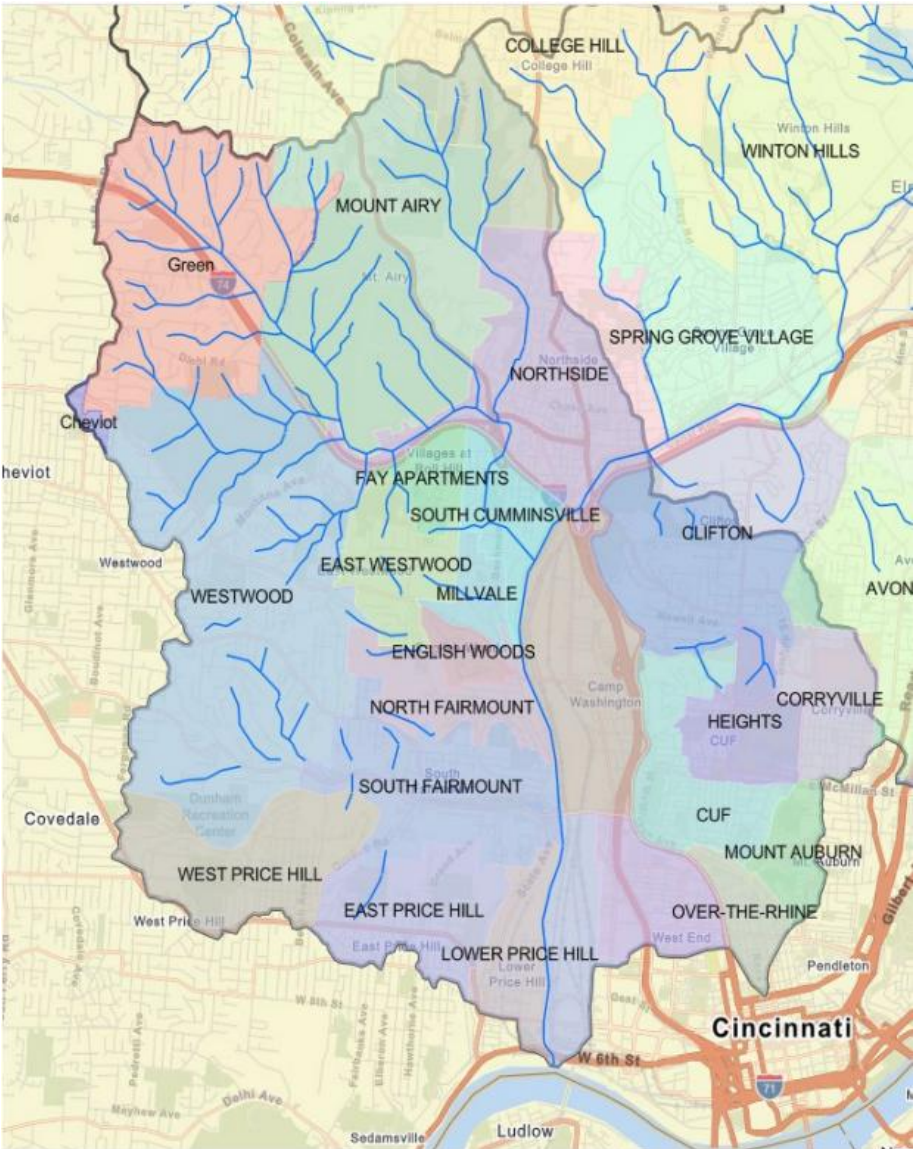
<https://www.wvxu.org/show/cincinnati-edition/2024-11-04/root-shock-trauma-displacement-west-end>

Several groups are already looking at and addressing health and equity through air quality monitoring, health studies, climate programs, and advisory groups. A few of them are:



Concurrent: **Revive (I-75) Cincinnati** planning wrapping up along corridor

Another example: recent Mill Creek West Fork watershed planning efforts with 71 residents who attended the meetings from 12 of the 22 neighborhoods in the subwatershed and voiced desire for greenspace



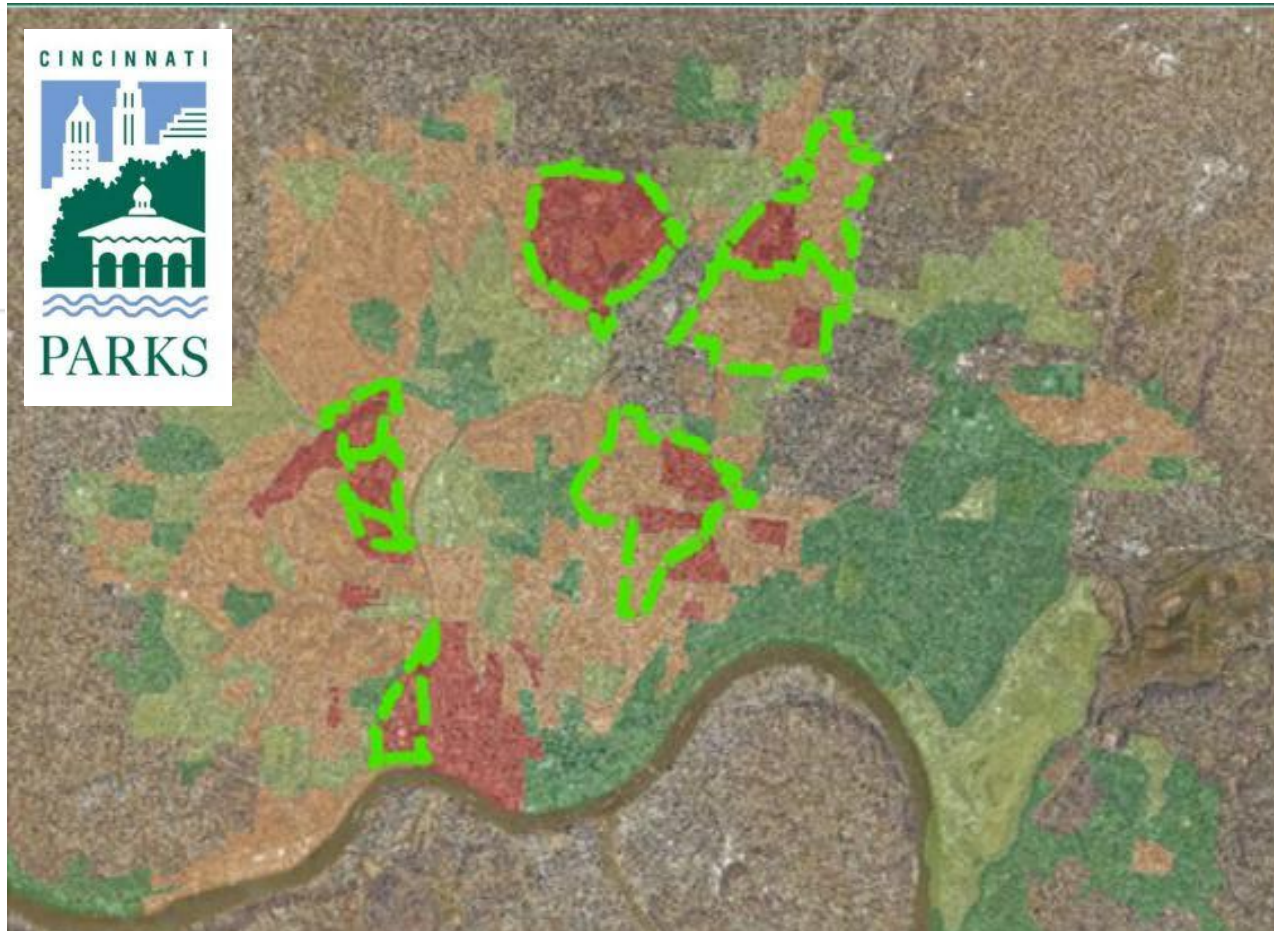
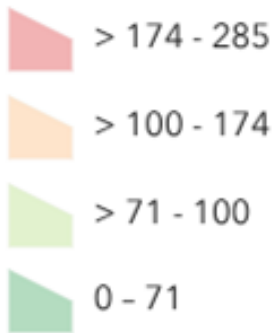
Additional influences pointing towards greenspace for health at this moment:

Priority Reforestation Neighborhoods



Reforestation Need

Tree Planting Totals



<https://cagisportal.maps.arcgis.com/apps/dashboards/077c8ec66d68459a94d3a7091c5a4938>

- Cincinnati Park Board Reforestation Goals
- Green Cincinnati Plan
- Interest from TNC - Ohio to replicate and lead



Green Cincinnati Plan  2023



<https://www.nature.org/en-us/magazine/magazine-articles/tree-planting-human-health-louisville/>



GREEN
HEART
LOUISVILLE

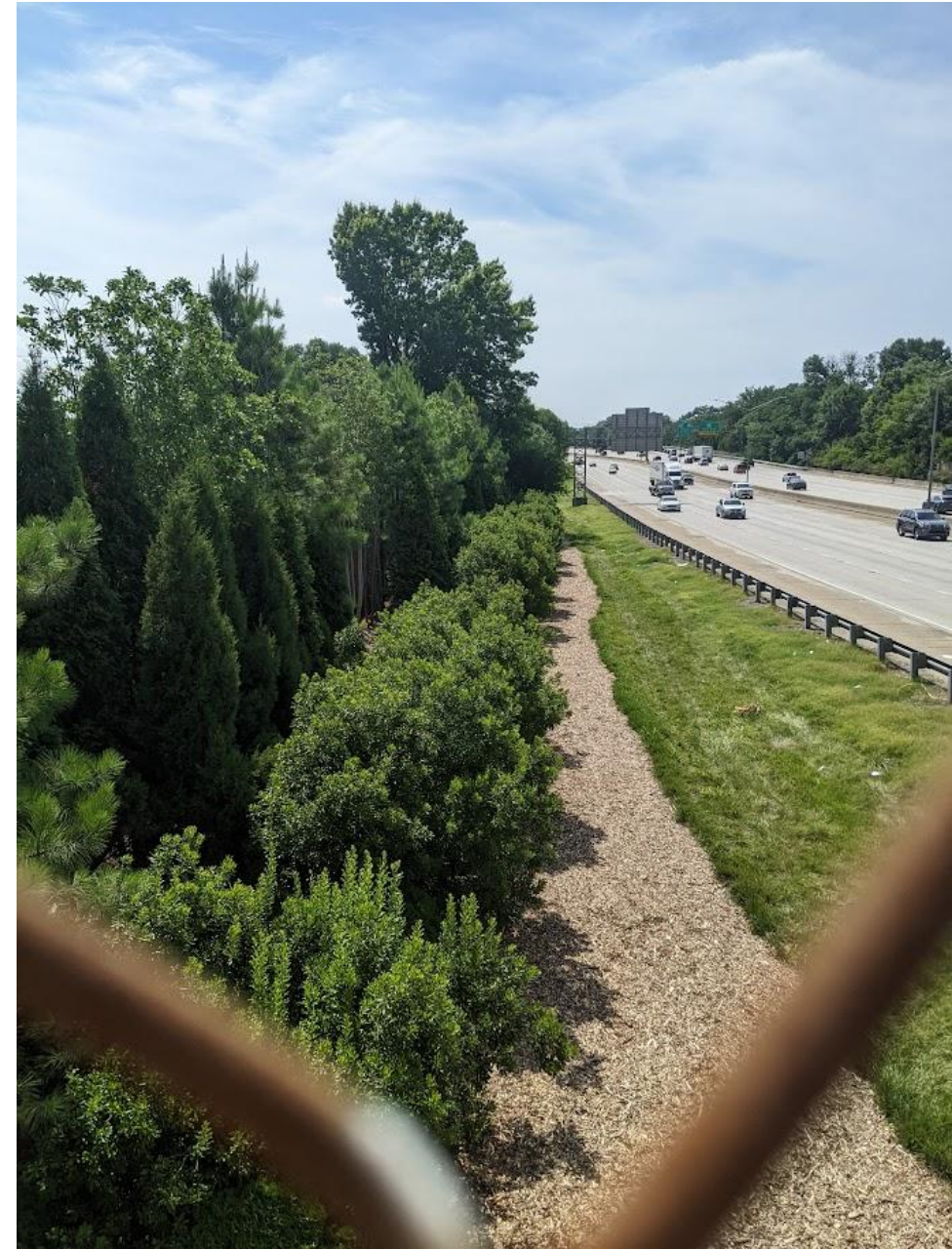
Initial findings: whole body inflammation (hs-CRP - High-sensitivity C-reactive protein) 13-20% lower for residents with added trees compared to those who lived where they didn't intentionally increase greenness; This can translate to a 10-15% decrease in heart attacks, cancer or dying from any age

Green Heart Louisville is studying the impact of better air quality on heart disease through urban greening.

2024 tour of Green Heart project sites

Lessons learned:

- Which trees and planting plans work to buffer highways
- Health study criteria for neighborhoods
- Logistic challenges
- Need policies to prevent gentrification
- Lot's of potential to replicate & expand study (mental health, biodiversity, before/ after I-75 expansion)
- Requires years of patience, a lead agency and funding
- Doesn't reduce pollutant source: emissions



Empower GC residents to
strengthen community
and improve health
inequities around air
quality hotspot corridors
through greenspace and
partnership

Greening Greater
Cincinnati For
Equity & Health
←purpose statement

Next step:
Check back in with
neighborhoods after
all the various
engagement efforts to
guage interested in a
pilot project as proof
of concept, beginning
with:

West End
Camp Washington
Lower Price Hill

• What did we hear from residents about air quality?

“We want better air”

“reduce emissions”

“I feel like I can’t breathe outside”

“more tree canopy”

(Quotes originally shown in previous BREATHE meeting)

UNIVERSITY OF
LOUISVILLE

CHRISTINA LEE BROWN
ENVIROME INSTITUTE

(Suggestion: more tree plantings, with
evergreens, right
by highway)





BRENT SPENCE
BRIDGE CORRIDOR

Select Zone

Brent Spence Co
BRENT SPENCE
BRIDGE CORRIDOR

Plan
View

Hide Intro Video

COMMENTS?

- 1 - Ft. Wright and Ft. Mitchell
- 2 - Park Hills
- 3 - Covington
- 4 - Brent Spence Bridge
- 5 - Cincinnati

If trees prevent serious illness from highway pollution, what does 8 miles of highway expansion with tree removal mean for our neighborhoods? What opportunities can we find during this 10-year construction project to apply what has been learned in the Green Heart Louisville project?

<https://brentspencebridgecorridor.com/>



Now



Future?

Rendering of alternative, courtesy of Coalition for Transit and Sustainable Design

<https://www.sustainablecincy.org/people-over-pavement-frequently-asked-questions>

Questions?

Reach out to Jessica Spencer via this form:

<https://tinyurl.com/GGC4HE>

BREATHE

April 13, 2026



Hamilton County
**Environmental
Services**



SOUTHWEST OHIO
**AIR QUALITY
AGENCY**





Southwest Ohio Air Quality Agency (SWOQA)

- Department Mission: To protect, preserve, and enhance the environmental quality of our community
- Contracts with Ohio EPA to perform local air quality regulatory and monitoring functions within five counties
 - Hamilton, Butler, Clermont, Warren, Clinton Counties
- Primary functions include air quality permitting, inspections, compliance, enforcement, complaints, and outdoor air monitoring

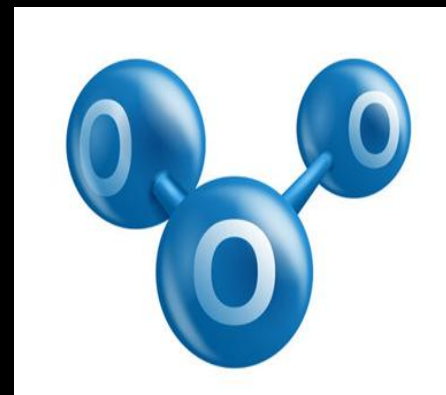
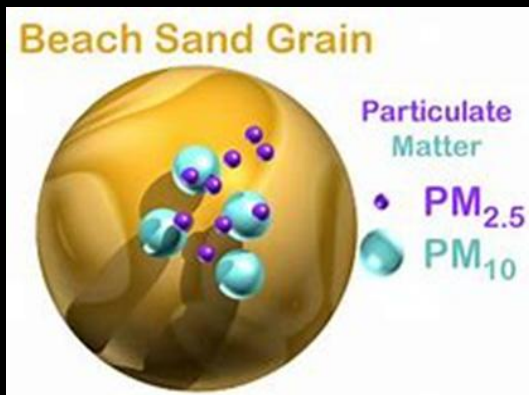
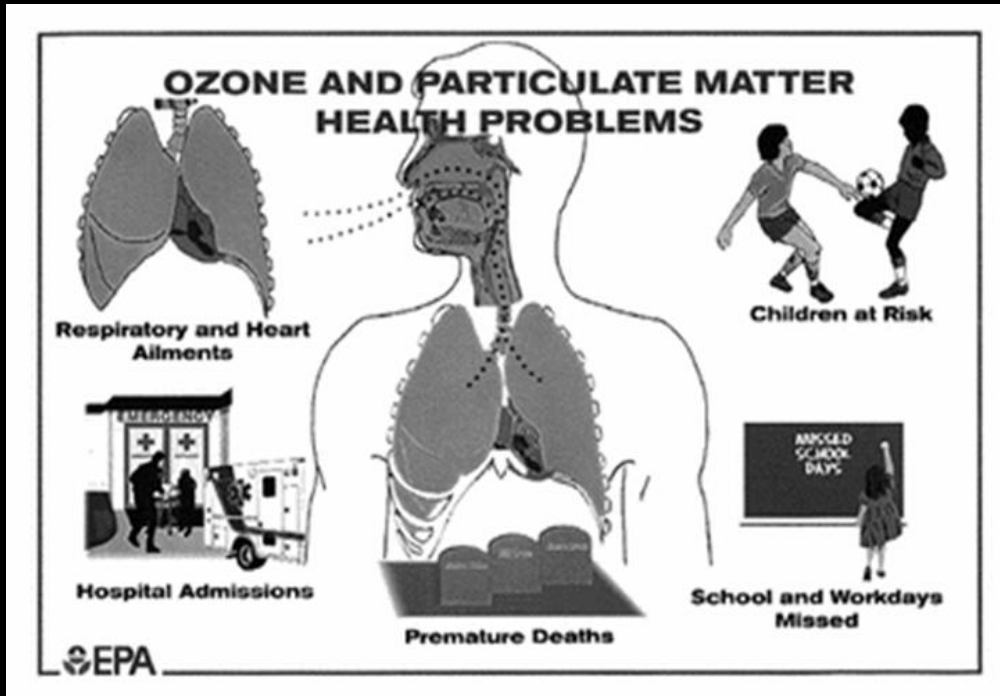
Monitoring & Analysis Program Objectives

- Measure air pollution to determine compliance with national ambient air quality standards (NAAQS)
- Provide air quality information to the public in a timely manner
- Follow national monitoring program requirements and meet data quality objectives
- Operate additional monitoring projects as required by federal regulations
- Evaluate long term trends in air quality



National Ambient Air Quality Standards

- Six Criteria Pollutants
 - Ozone (O_3)
 - Particulate Matter (PM)
 - Sulfur Dioxide (SO_2)
 - Nitrogen Dioxide (NO_2)
 - Carbon Monoxide (CO)
 - Lead (Pb)
- Set to be protective of public health & welfare
 - EPA sets standards based on health studies
 - Required to review standards every 5 years
 - Revise standard if evidence supports





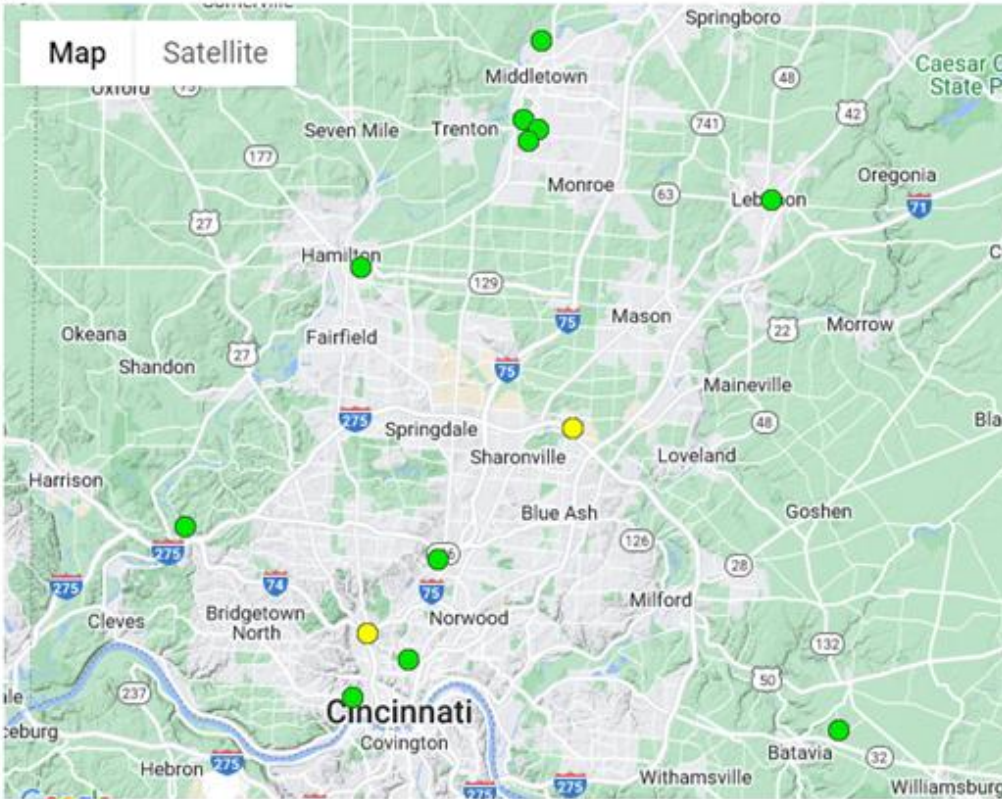
Air Quality Monitoring Network

- 16 sites, 62 monitors
- Criteria & non-criteria pollutants
 - ~500,000 data points per year
- Continuous and intermittent sampling
- Staff – roles and responsibilities
 - Equipment operation
 - Sample collection
 - Data quality checks
 - Data review and management
 - Air Quality Forecasting

Public Information Resources

- SWOAQA Website
 - [Mapping](#)
 - [Concentrations](#)
 - [Current Air Quality](#)
- Other Sources
 - [Enviroflash](#)
 - [AirNow](#)
 - [USEPA – AirData](#)

Air Quality Index Scale



Air Quality Index (AQI) Values	Levels of Health Concern	Colors
<i>When the AQI is in this range:</i>	<i>..air quality conditions are:</i>	<i>...as symbolized by this color:</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon



Permits & Compliance Primary Functions

- Air Quality Industry Regulatory Role Includes:
 - Permits
 - Inspections
 - Compliance
 - Enforcement
- Respond to Citizen Complaints

Air Quality Complaints Program

- AQ concerns may include:
 - Odors
 - Particulate fallout
 - Smoke
 - Fugitive Dust
 - Open Burning
 - Asbestos/Demolition

To register a complaint:

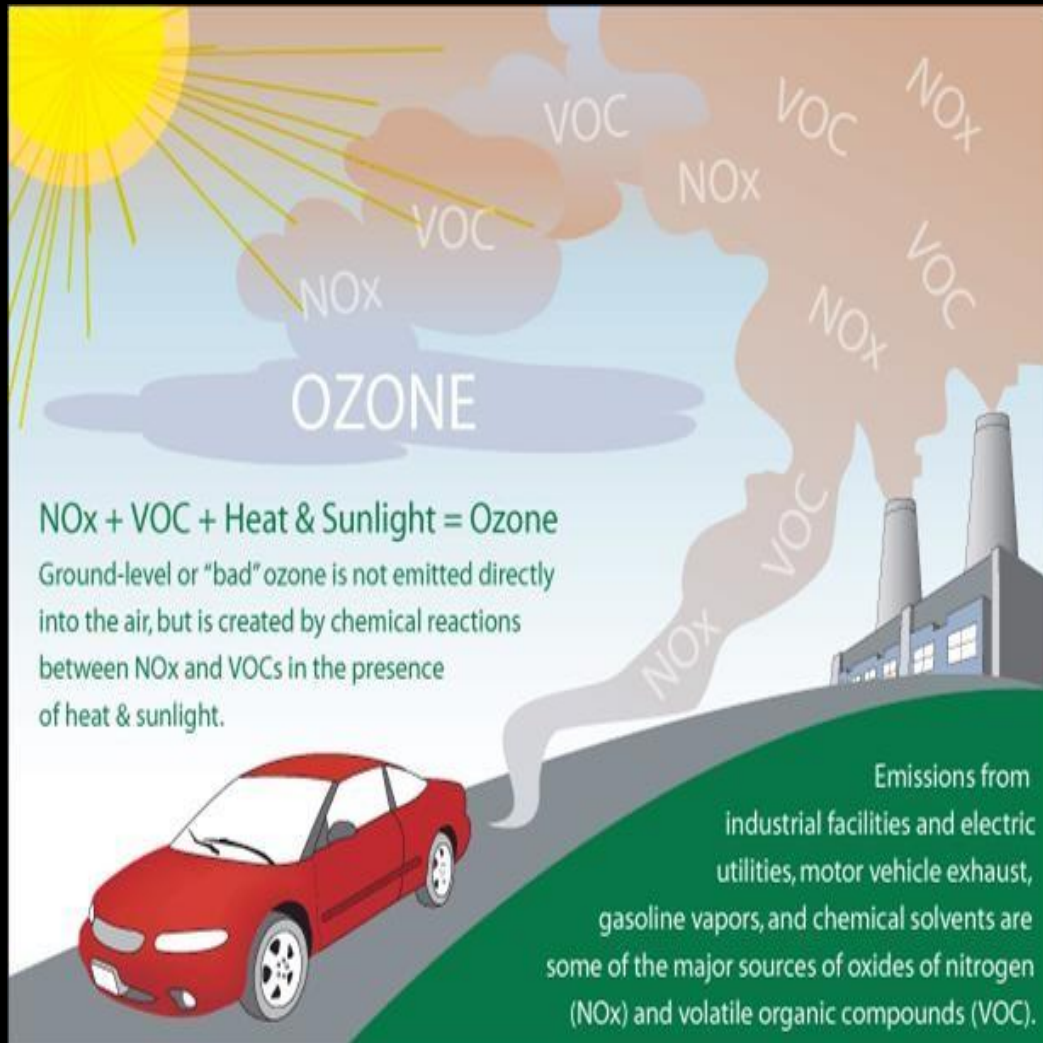
- Fill out online form - southwestohioair.org
 - Choose “community” option, then “complaints”
- Or call Hotline - 513-946-7777





Cincinnati's AQ Challenges

- Regional transport
- Weather impacts
- Topography
- Natural events
- Limitations of rules
- Industry, Commercial Transportation, and Vehicle Emissions
- New pollution reduction efforts result in incrementally smaller improvements with increasing costs



What Can You Do?

- Every day
 - Check daily air quality forecast and current levels
 - Report outdoor air quality concerns or odors
 - Conserve energy – turn off lights, adjust thermostat
 - Choose the right transportation
 - Use environmentally safe cleaning products
 - Reduce wood burning
- On Air Quality Alert days
 - Limit outdoor activity on poor air quality days
 - Reduce VOC emissions

THANK YOU



Ron Bitner

Environmental Analysis Coordinator
Ronald.Bitner@hamiltoncountyohio.gov

Dawn Mays

Inspections & Compliance Coordinator
Dawn.Mays@hamiltoncountyohio.gov

Extra slides, if needed



Gaseous Analyzer Models

O₃
• T400



SO₂
• T100
• T100U



CO
• T300U



NO_x, NO_y, NO₂
• T200
• T500U
• T200U NO_y



Particulate Equipment Models

FRM
• PQ200



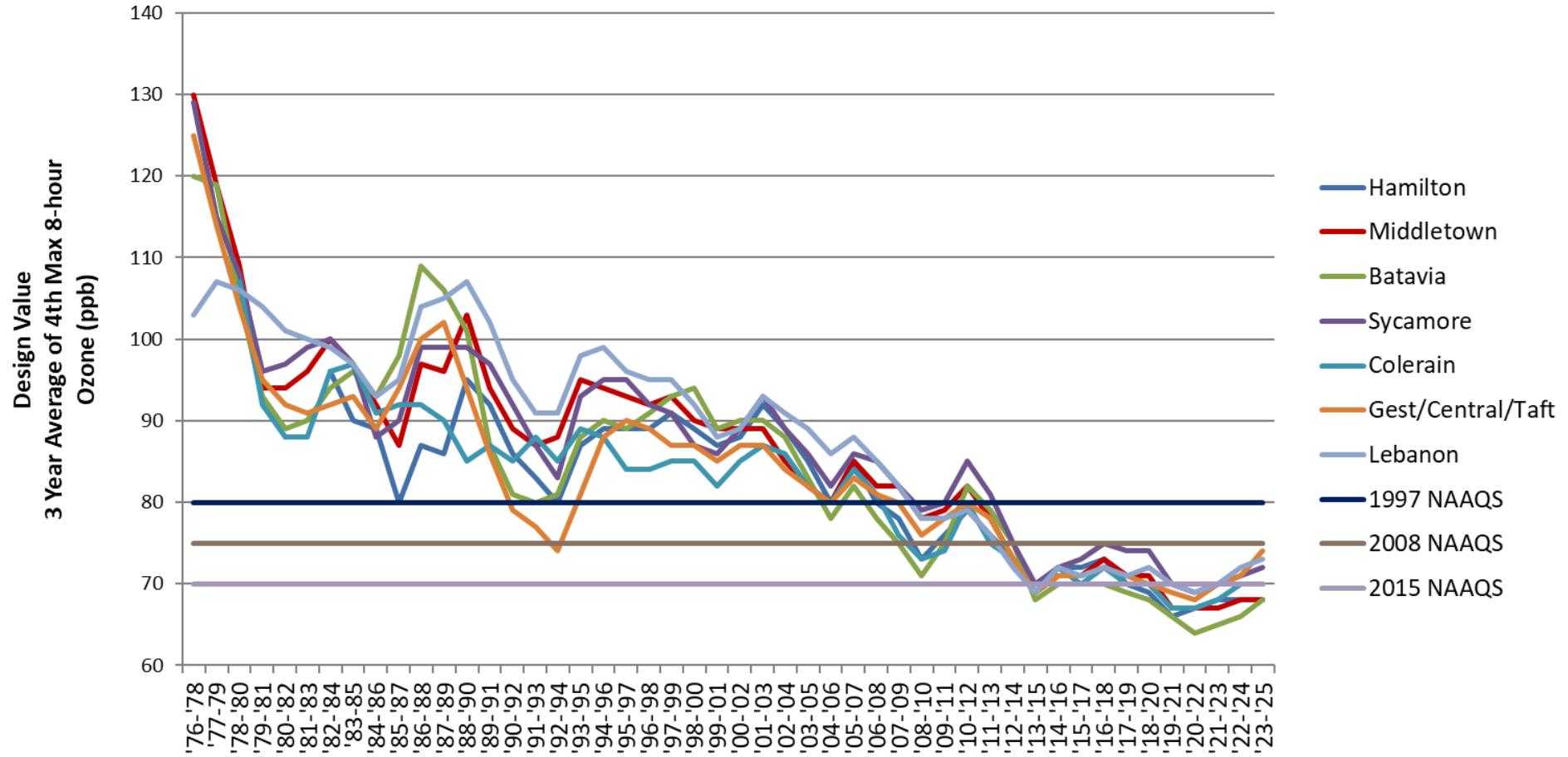
FEM
• T640
• T640x



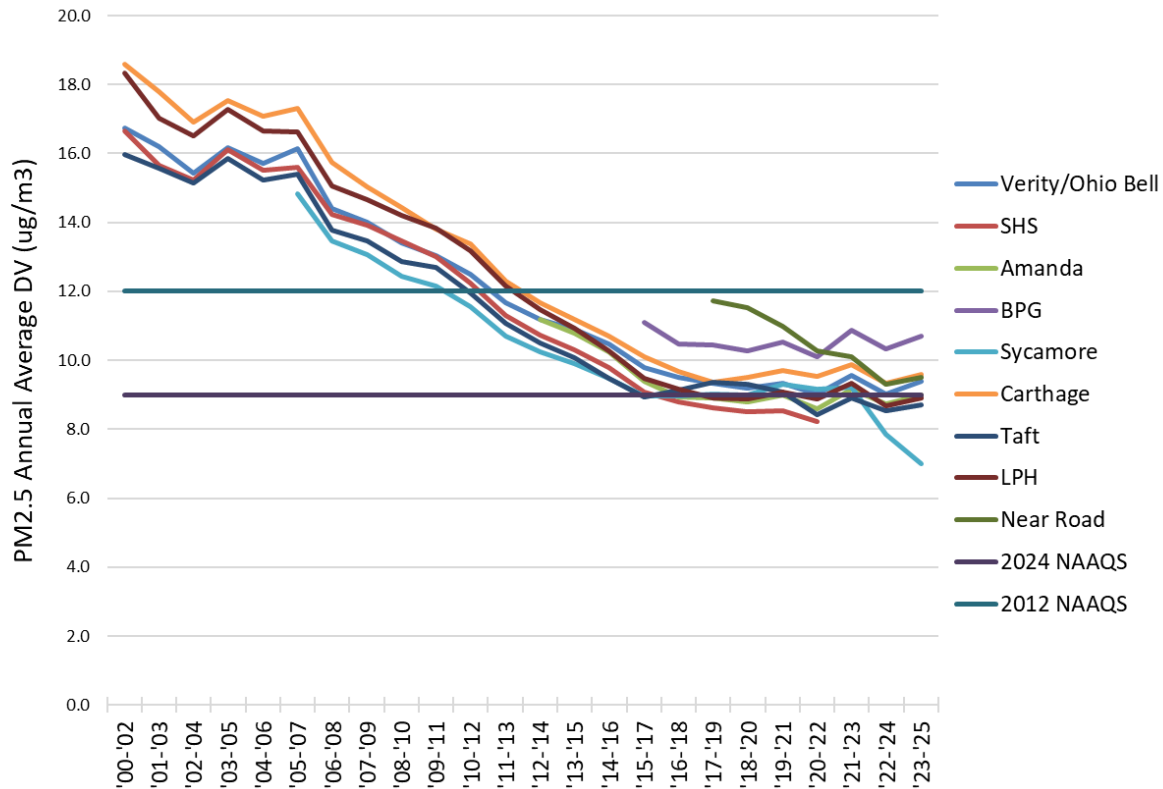
FEM/AQI
• BAM 1020



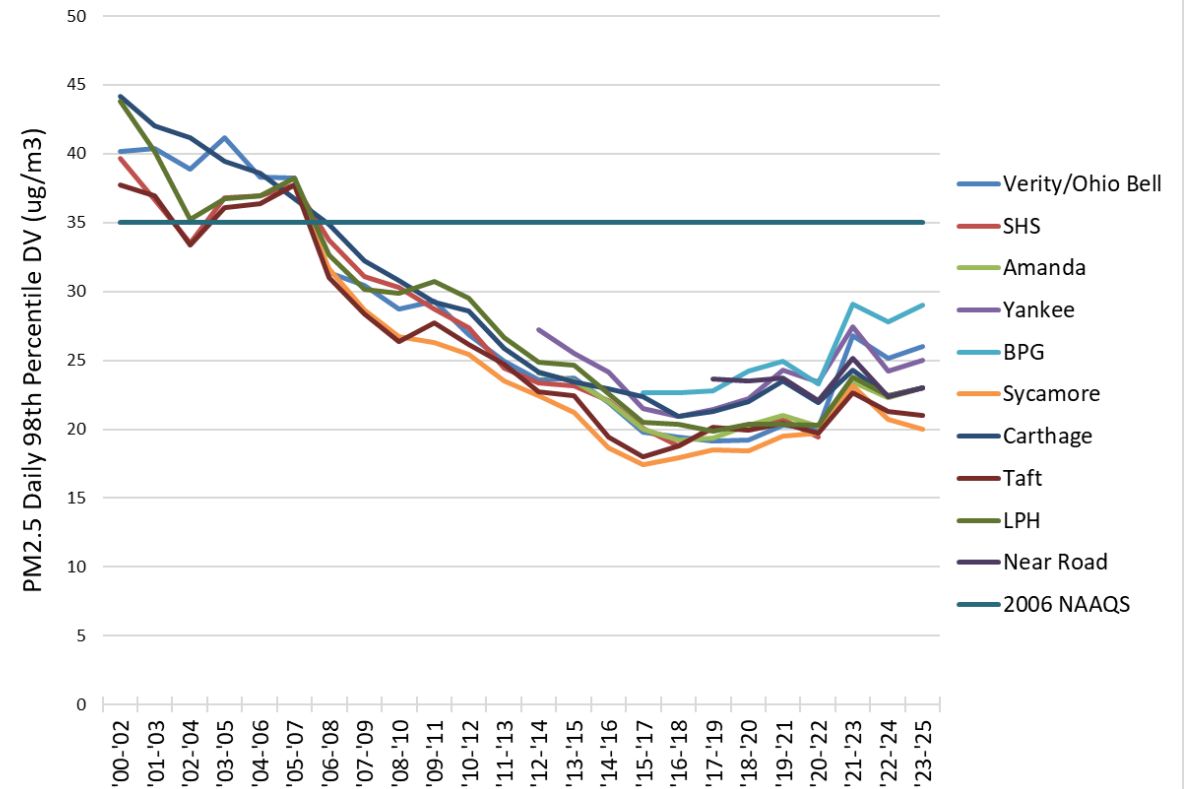
Cincinnati Metro Area Ozone Design Value Trend



Cincinnati Metro Area
PM2.5 Annual Design Value Trends



Cincinnati Metro Area
PM2.5 Daily Design Value Trends



National Air Quality Trends Available Here:
<https://gispub.epa.gov/air/trendsreport/2024/#home>

Upcoming Events



- **Tues 4/14:** [Garden of Refuge Symposium at UC](#)
- **Sat 4/18:** [Taking Root Microforest Planting](#)
- **Wed 4/22:** [2026 John P. Wyatt, M.D. Environment and Health Symposium- Air Pollution & Health: A Double-Edged Sword](#) - Lexington, KY & Virtual (FREE)
- **Wed 4/22:** Cardinal Land Open House in Loveland
- **Sat 4/25:** Springfest Burnet Woods
- **Wed April 29:** MORPC Air Quality Awareness Week - Virtual Webinars
- **Fri May 1:** [RISE Communities](#) Call for 2026 Applications
- **May 4-8:** [Air Sensor International Conference](#), Los Angeles CA
- **May 19:** Cardinal Land Conservancy Third Annual Meeting; MadTree Parks and Rec
- **June 12:** [Midwest Regional Sustainability Summit](#), Sharonville Convention Center
- **October 2026:** ReLeaf is giving away 1000 trees, celebrating with a Night in the Trees
- **October 27:** [Let's Grow Local](#) Madisonville

Upcoming Meetings

2026

- Q3 July date TBD
 - Virtual
 - Green Heart Cincy - Dr. Aruni Bhatnagar
 - Air Monitoring on Cincy Connector Streetcar - Dr. Cho
- Q4: Week of October 12th
 - In person, location TBD

Interested in hosting a meeting or field trip? Let us know!