

Air Quality Monitoring in Ann Arbor

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Background

STRATEGY 6: Enhance the Resilience of Our People and Our Place

IMPLEMENT SENSORS TO MONITOR HEAT, AIR QUALITY, WATERWAYS, AND FLOODING

This action focuses on collecting data and using sensors to proactively understand risks and mitigate vulnerabilities. Includes the usage of drones and sensors to collect data and to respond to events, when necessary.

Vision for Implementing Sensors to Monitor Heat, Air Quality, Waterways, and Flooding

Ann Arbor's ubiquitous system of sensors and monitors allows the City to proactively manage threats and risks, while ensuring that Ann Arborites enjoy an exceptional quality of life. Monitors and sensors throughout the City provide real-time data that helps protect the public health, safety, and general welfare.

Party Responsible for Implementation

- Ann Arbor Information Technology Unit

Equity Impacts

Few equity impacts.

Collaborators / Project Co-Designers

- Stormwater, wastewater, and water system
- Office of Sustainability and Innovations
- Emergency Management
- University of Michigan
- Huron River Watershed Council
- Downtown Development

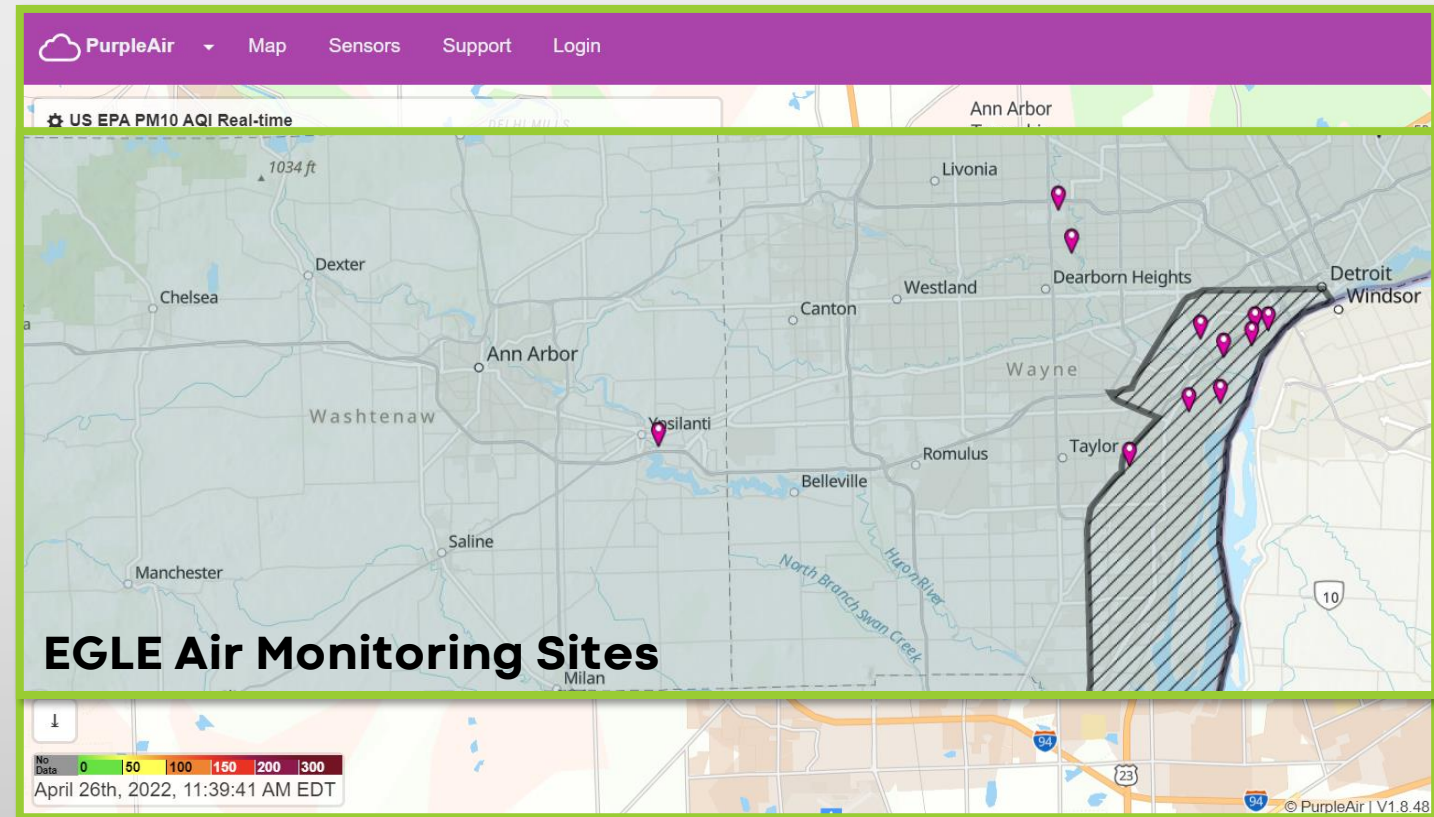
Indicators of Success / Goals

Ann Arbor's landscape of sensors and monitors provides real-time information that has been utilized to protect the public from acute and chronic disruptions.

- **Strategy 6, Action 6 of the A²ZERO Plan**
- **“Collecting data and using sensors to proactively understand risks and mitigate vulnerabilities”**
- **“Real-time information ... to protect the public from acute and chronic disruptions”**

Pre-Existing Monitoring

- Before 2022, no publicly-owned air quality monitoring in Ann Arbor
- Particulate matter (PM) data available from private PurpleAir monitors
- No publicly available data on other pollutants
- Closest publicly-owned monitor in Ypsilanti



Why Monitor Ann Arbor's Air?

Our network of air quality monitors provides real-time air quality data, which will:

- **Allow the City to manage acute and chronic air quality events;**
- **Provide carbon emissions information used to supplement the City's current greenhouse gas inventory;**
- **Allow OSI to track air quality changes in relation to the implementation of A²ZERO strategies;**
- **Be accessible for use in research by both City staff and external groups; and**
- **Be publicly accessible, allowing for increased public awareness of health threats related to air quality**

What do we Monitor?

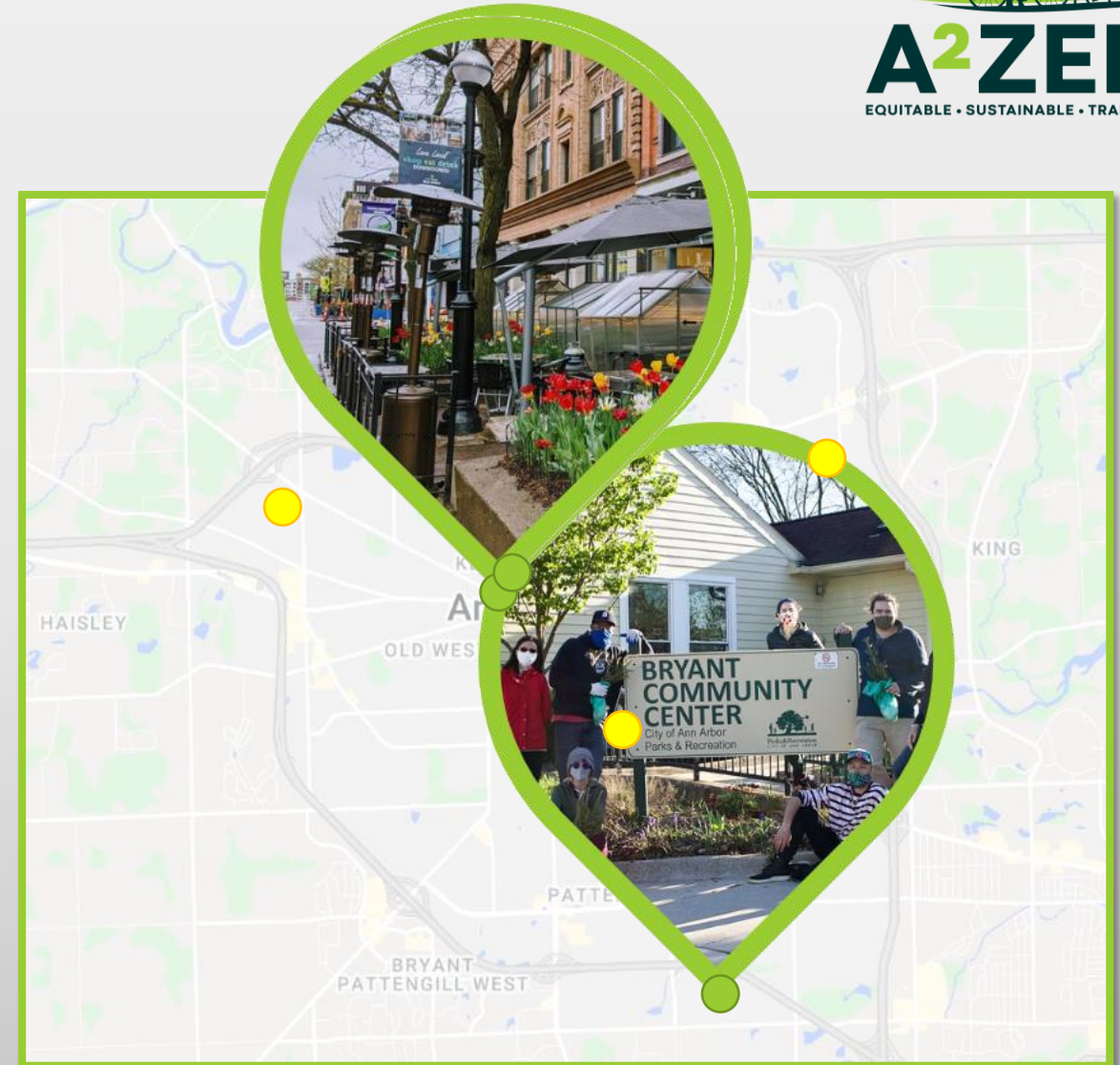


The City is installing solar-powered AQMesh sensor suites. These measure:

- **Particulate matter (<2.5 & <10 microns)**
- **CO₂, CO, NO, NO₂, SO₂, O₃**
- **Temperature, relative humidity, atmospheric pressure**

Where do we Monitor?

- Ann Arbor Farmers Market
- Bryant Community Center
- Main Street at Washington
- Plans for future resilience hub sites, and more



Air Quality Data

- All data is publicly accessible
- Find a map of live AQI and a link to download data in csv format at: www.a2gov.org/airquality
- Find interactive data visualizations at: www.a2gov.org/airdata
- Highest AQI value recorded as of January 19th, 2023 is an AQI of 4 (largest pollutant was particulate matter <2.5 microns) at Main & Washington on January 16th - 17th, 2023.
- AQI is typically in the 1-2 range

Thank you!

Questions?

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