

Sense South Bend

A New Environmental Monitoring Partnership

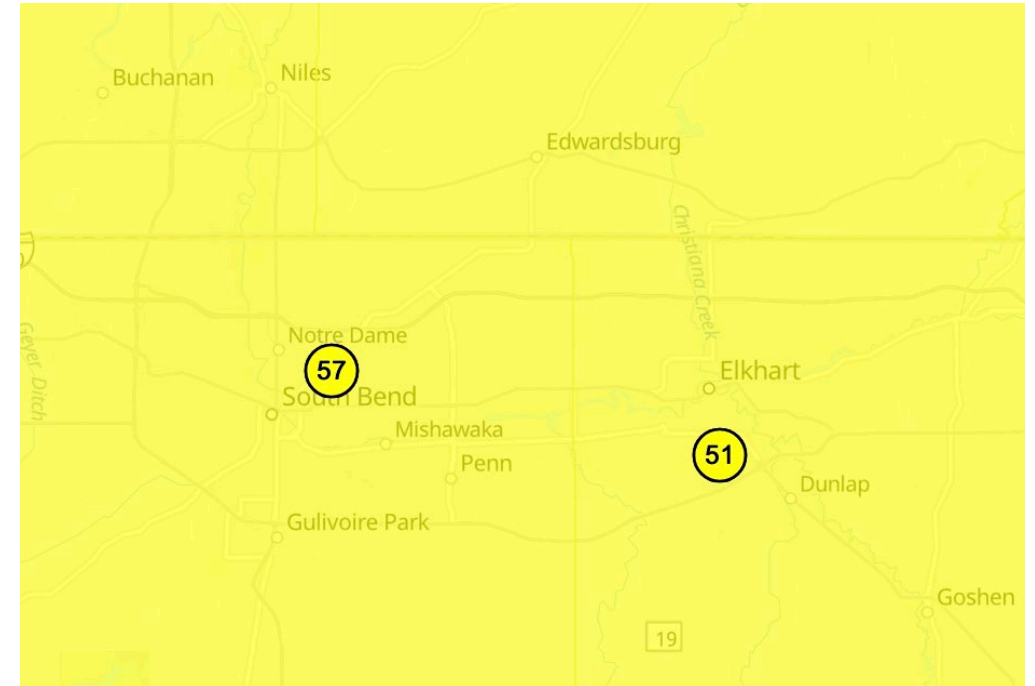
16 April 2025



City of South Bend
Indiana

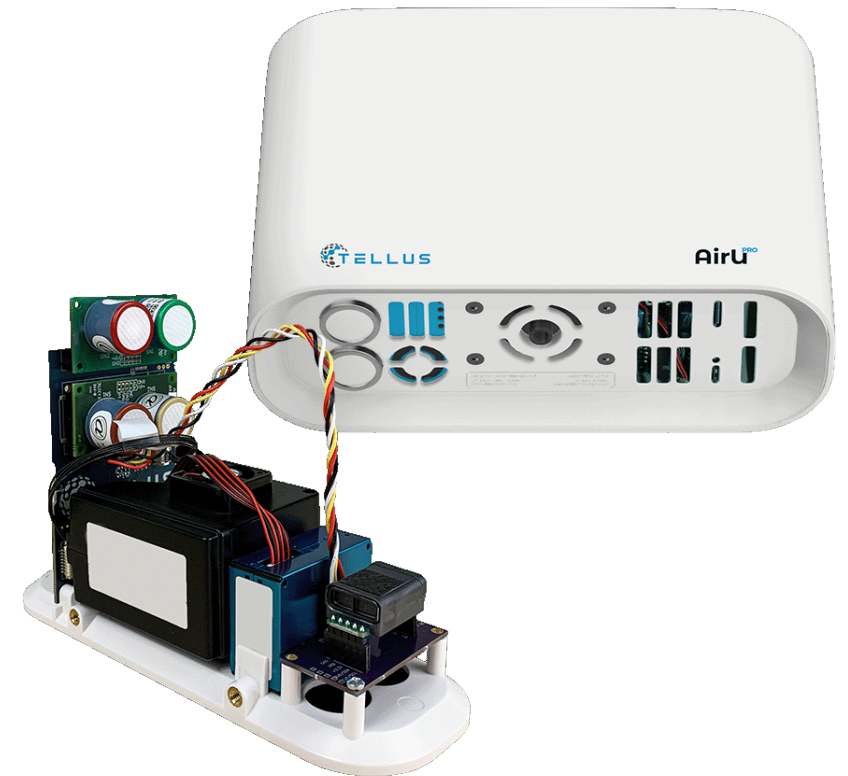
Traditional Monitoring in our Area

- Highly accurate reference equipment
- High cost, high quality
- Limited deployments to measure larger areas
 - Deployed at “most normal” sites in a community
- Opportunity to supplement with broader deployments at lower costs



Emerging Solution: Networked Monitors

- “Internet of Things” sensors that talk to each other, constantly sharing their data
- Lower cost + lower accuracy, but benefit from live data modeling and calibration
- Lower costs mean more deployments, and an ability to target less “normal” locations



Use Cases for Networked Monitors

- Better targeted public health guidance and alerts
 - School recess
 - Sports activities
 - Outdoor work
- More precise trend analysis for policy and program interventions
 - Tree planting
 - Cooling stations
- Public awareness through citizen science and civic data
 - Shoutouts to Lucy Institute, Midwest Big Data Hub, and IU School of Medicine SB!



Sense SB Initial Deployment

- 22 TELLUS AirU Pro monitors
- Leveraged public facilities with :
 - South Bend Open Wi-Fi
 - AC outlets
- Also piloted:
 - Partner sites (The Beacon and ND Lucy Institute)
 - Solar + battery-powered sites
- Parameters measured:

• Particulate matter	• Sulfur dioxide
• Ambient humidity	• Ozone
• Carbon dioxide	• Nitrogen dioxide
• Carbon monoxide	• Ambient temperature



Current Network Map

- Capturing variation in AQ across sites
- Real-time updates

southbendin.gov/air-quality



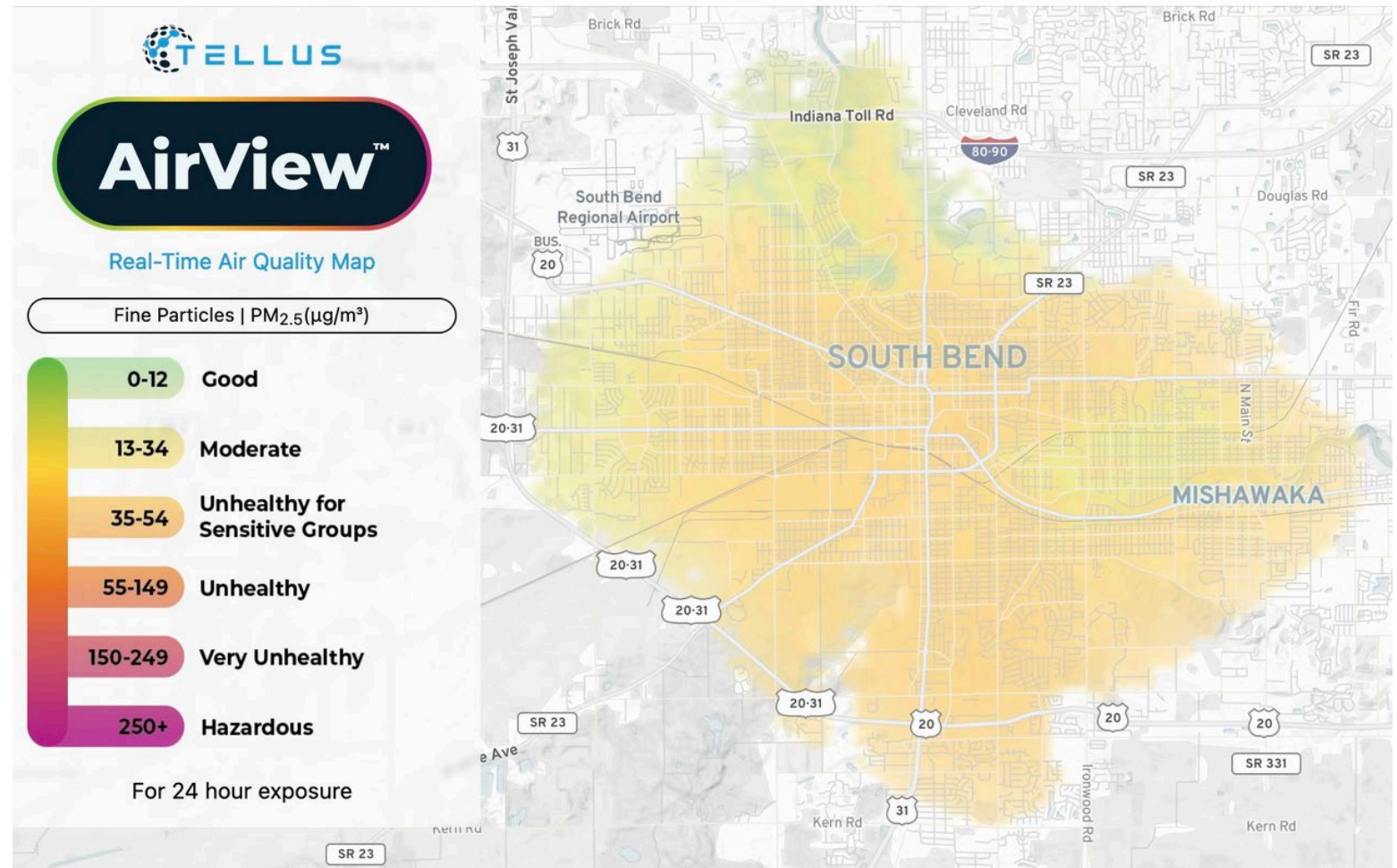
City of South Bend
Indiana



City of South Bend - Municipal Government

August 30, 2024

We are seeing poor air quality in South Bend this week, with conditions that are unhealthy for sensitive groups. On days like today, it is important to protect your health and understand guidance for unhealthy levels of air pollution. Visit southbendin.gov/air-quality to view local air quality and recommended actions to take.



15

6 comments 14 shares

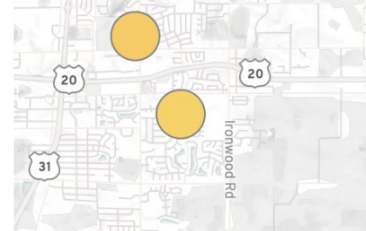
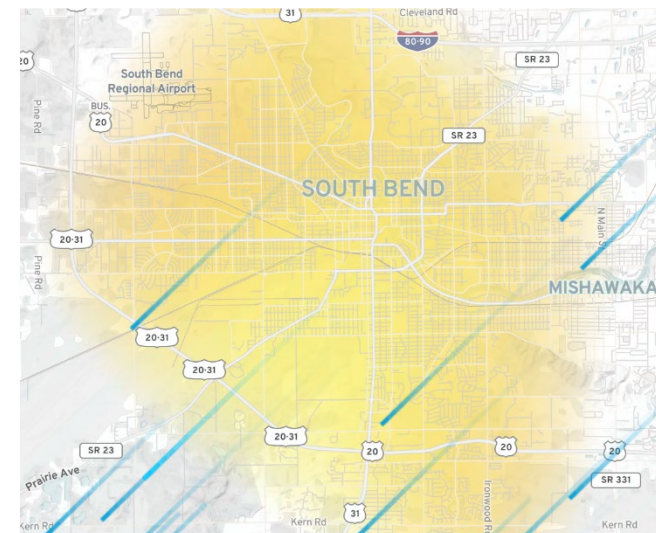
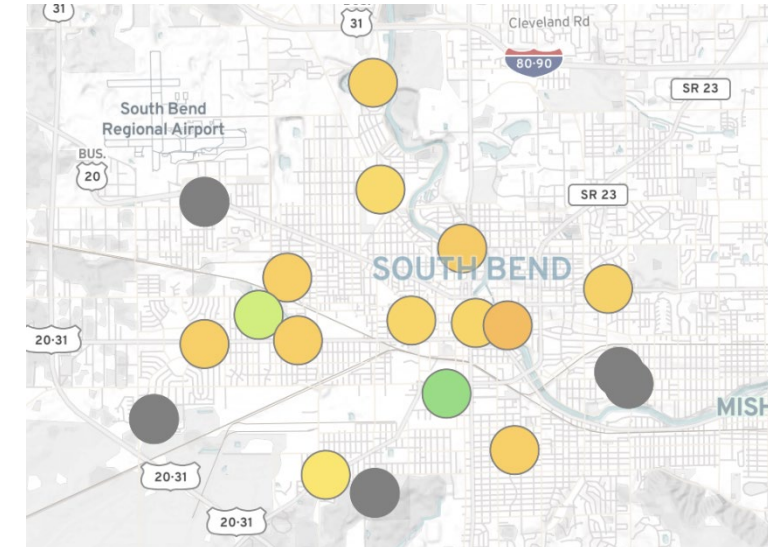
Challenges + Opportunities

Key Challenges:

- Vandalism
- Cost of installation vs. cost of devices
- Calibration and data model improvements
- Solar power vs. South Bend winter

Emerging Opportunities:

- Public Works pilot deployment
 - Hydrogen Sulfide monitoring
 - Higher quality remote deployments
- TELLUS improvements + growth



Opportunities for Partnership + Growth

- You are welcome to use our data!
 - Preparing to launch Open Data Portal resource of daily averages across all parameters for each sensor
- You can purchase and host a monitor to improve our map
 - Purple Air and TELLUS integration, monitors start around \$300
 - Encouraging grassroots participation
- You can bring this to your community
 - Our map can grow to include other areas of the MACOG region
 - We have already purchased regional setup fee



Sense SB Air Quality Year in Review



Thank you!

Patrick McGuire

Director of Civic Innovation

pmcguire@southbendin.gov



City of South Bend
Indiana