City of Dallas

Dallas Community Air Management Program *(D-CAMP)* Update

Environmental Commission
July 10, 2024

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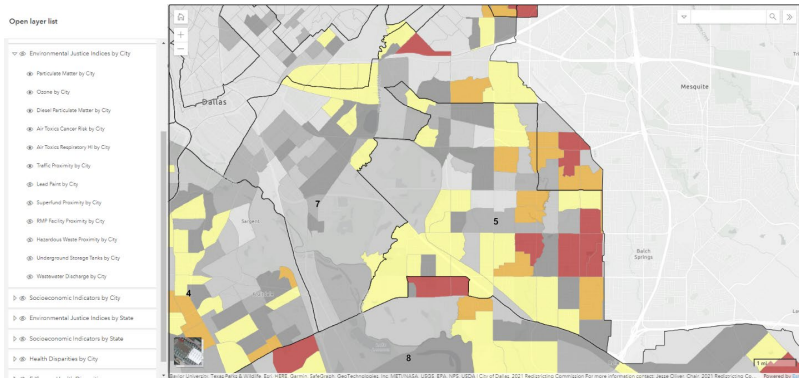
City of Dallas

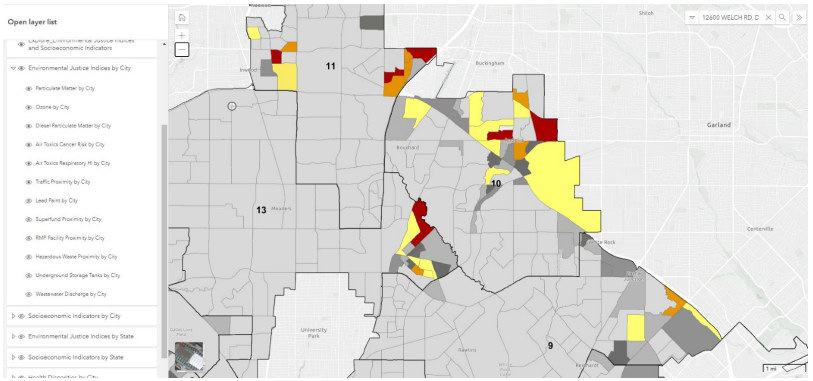
Presentation Overview

- Background/History
- Sensor Deployment
- Outreach/Sensor Summits
- Challenges
- Next Steps

Background/History

- CECAP Goal 8: All Dallas's communities breathe clean air.
  - Action 2: Partner with nonprofits and schools to develop and implement non-regulatory monitors in neighborhoods.
- EJ considered on location selection





Background/History

- Network has grown from 5 sensors deployed in February 2023 to 24 deployed across Dallas.
- Non-regulatory
  - Co-located with regulatory grade reference monitors
  - Correction factors applied to collected data
- Potential use of data collected
  - Public knowledge, land use planning, zoning cases, air quality investigations, asthma education outreach, environmental studies, urban heat island studies

Sensor Pod Locations

Pods installed February 2023

- West Dallas Multipurpose Center **[District 6]**
- Fish Trap Lake Park (replaced with pod with SO_2 sensor October 2023) **[District 6]**
- Larry Johnson Recreation Center **[District 7]**
- Mill Creek Batch Plan **[District 7]**
- South Central Park in Joppa **[District 7]**

Sensor Pod Locations

Pods installed in October & November 2023

- Mountain Creek Library **[District 3]**
- Park Forest Library **[District 13]**
- Polk Recreation Center **[District 2]**
- Myers Prosperity Park **[District 7]**
- Martin Weiss Park **[District 1]**
- Westhaven Park **[District 3]**

Sensor Pod Locations

Pods installed in October & November 2023

- Flag Pole Hill Park **[District 10]**
- MoneyGram Park **[District 6]**
- Dallas Zoo **[District 4]**
- Floral Farms I
  (Simpson Stewart Road) **[District 8]**
- Floral Farms II
  (9527 S. Central Expressway) **[District 8]**

Sensor Pod Locations

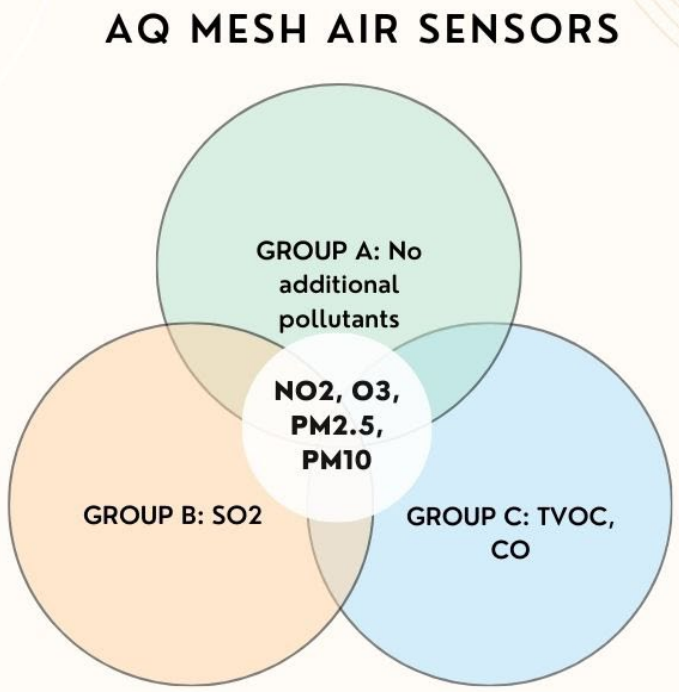
Pods installed in 2024

- Willis Winters Park **[District 14]**
- Tommie Allen Recreation Center **[District 8]**
- Holcomb Park **[District 5]**
- Samuell Garland Park **[District 9]**
- Friendship Park **[District 10]**
- Fritz Recreation Center **[District 11]**
- Campbell Green Park **[District 12]**
- Joppy Momma's Farm **[District 7]**

Air pollutants measured

GROUP A
- West Dallas Multipurpose Center
- South Central Park
- Larry Johnson Recreation Center
- Mill Creek Batch Plant
- Floral Farms I
- Floral Farms II
- Polk Recreation Center
- Flag Pole Hill Park

GROUP B
- Fish Trap Lake
- Friendship Park
- Joppy Momma's Farm
- Mountain Creek Library
- Myers Prosperity Park
- Samuell Garland Park
- Dallas Zoo
- Holcomb Park



GROUP C
- Campbell Green Park
- Fretz Recreation Center
- Tommie Allen Recreation Center
- Willis Winters Park
- Westhaven Park
- MoneyGram Park
- Martin Weiss Park
- Park Forest Library

EPA State EJ Grant West Dallas

Texas A&M Texas Transportation Institute (TTI) put up 4 sensors in West Dallas zip codes 75211 & 75212

- Emma Carter Park
- Jaycee Zaragoza Recreation Center
- Arcadia Park
- Martin Weiss Park

TTI deployed Aeroqual AQY-R sensors.

- Ozone
- NO_2
- PM_{10}
- $PM_{2.5}$

Displayed with group A on Dashboard

EPA Government to Government Forest District Grant

- Planned 10 Aeroqual Units
- 120 months of monitoring
- OEQS to oversee installation and maintenance by Texas A&M Transportation Institute

Pollutant levels detected of note

- High values indicate exceedances from EPA's NAAQS
- Seasonal trends
  - June-September: High NO2 and O3 values
    - High NO2 values appeared to be an error due to extreme heat (and/or humidity) during summer having an impact on the electro chemical sensor, especially when temperatures were near 100F or above
    - There were 50 Ozone Exceedance Days for the Season, region-wide
    - High values recorded at:
      - South Central Park
        - July-September 2023, High NO2
        - August-September 2023- High O3
      - West Dallas Multipurpose Center
        - July-August 2023, High NO2
        - August 2023- High O3
      - Fish Trap Lake
        - July-August 2023, High NO2
        - June 2023- High O3
      - Mill Creek Batch Plant
        - July-August 2023, High NO2
      - Larry Johnson Recreation Center
        - July-August 2023, High NO2
- Mill Creek Batch Plant
  - March-April 2023, High NO2

    The spikes in NO2 were analyzed and discussed with DWU. The spikes were likely from parked diesel-powered heavy equipment idling adjacent to the sensors. This equipment idling issue has since been resolved.

Outreach

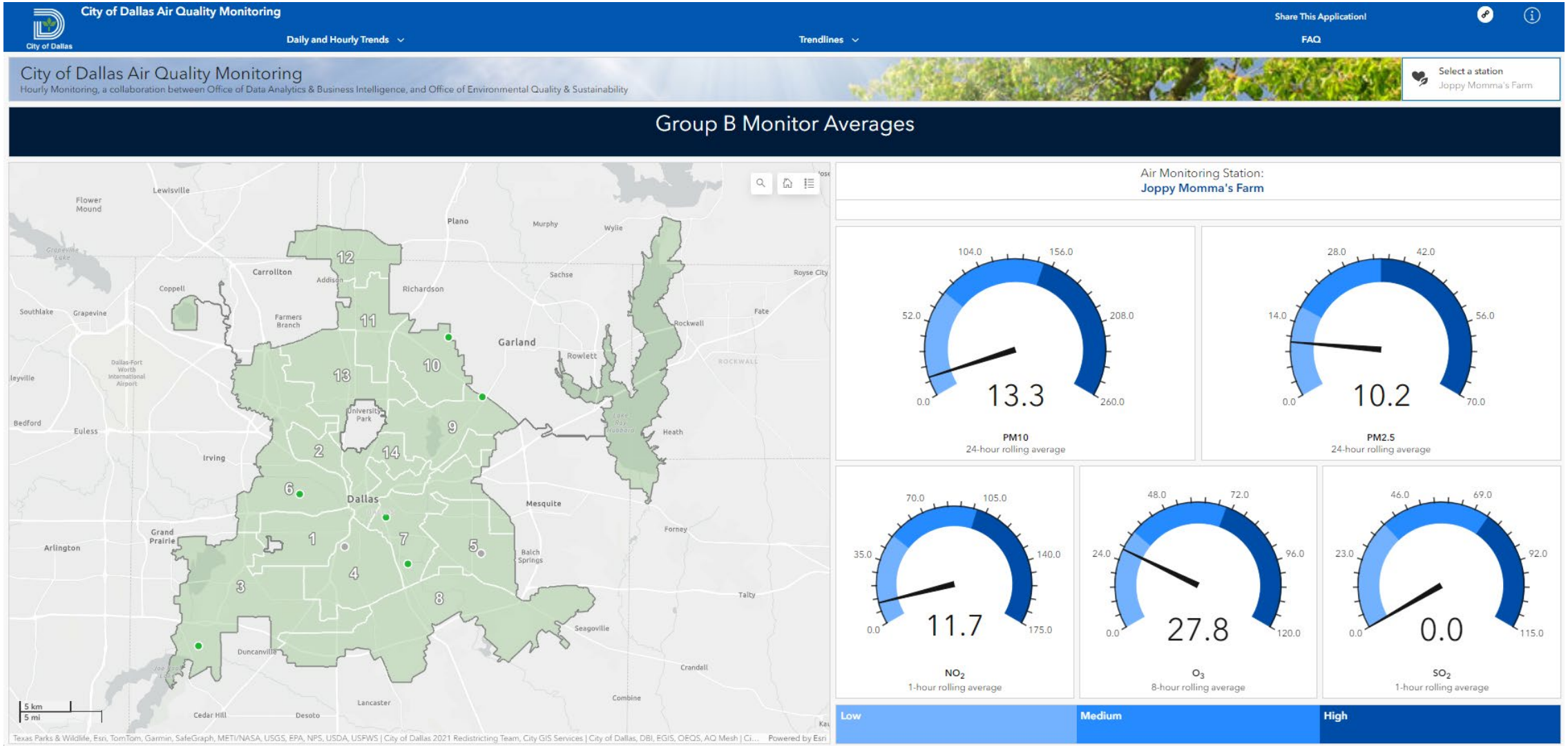
- Dashboard
- Data reports on dallasclimateaction.com
- Community engagement
- Sensor Summit

D-CAMP Dashboard

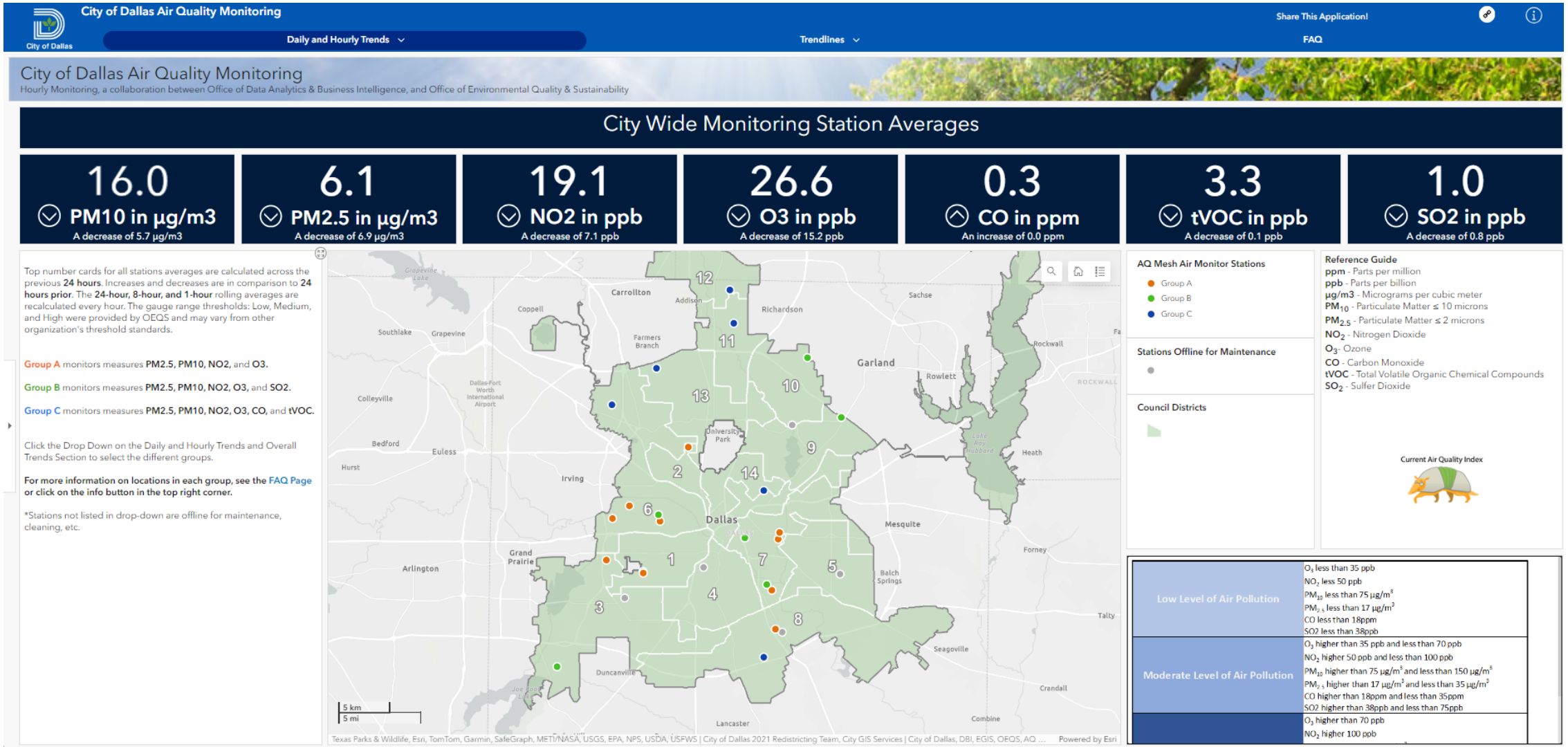
- Collaboration with Office of Data Analytics & BI
- Version 2
  - Better UX/UI
  - Displays all air pollutants measured
- Access Dashboard via
  - greendallas.net
  - dallasclimateaction.com
  - https://experience.arcgis.com/experience/f5da4054747748d9951d66ddf529158d

Dallas Community Air Management Program Dashboard

D-CAMP Dashboard



D-CAMP Dashboard



Sensor Summit

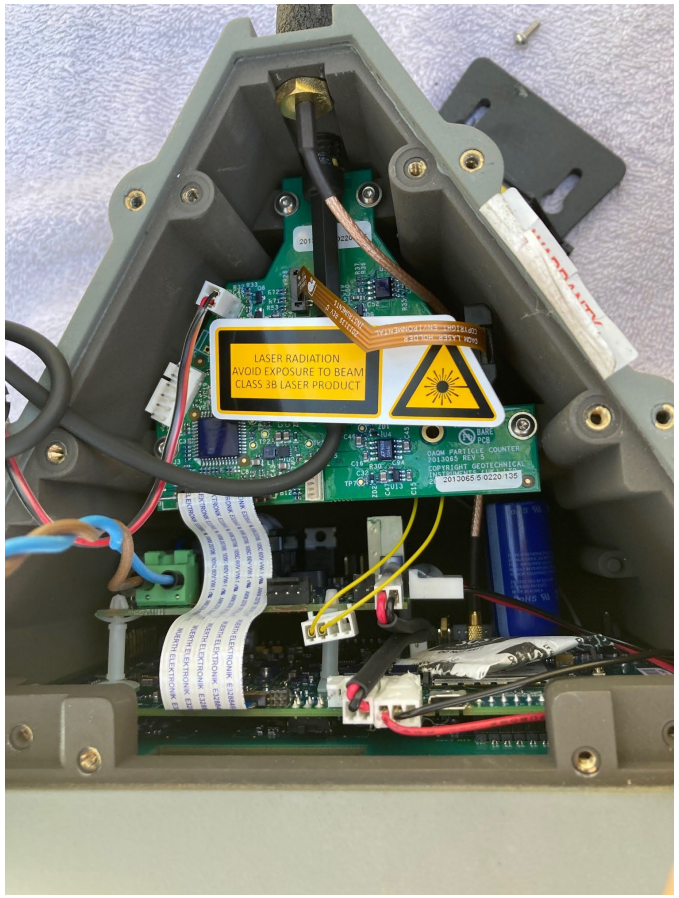
- September 2023, March 2024
- Upcoming meeting: September 19, 2024
  - Tarrant County Community College: Trinity River Campus near downtown Ft. Worth
  - 9am-1pm
  - Topics of interest: community impacts, updates from sensor users, health, education on pollutants

Challenges

- NO_2 skewed high in summer high temp and humidity
- Pod security
- Battery may struggle to power pod through the night
- PM pump failures
- Software glitches
- Recall updates
- Staff capacity
  - General maintenance
  - Data analysis

Next Steps

- Data analysis and publication
- West Dallas Grant data analysis
- Forest District grant ramp up
- Continued O&M
  - Buying spare parts
  - Buying extra sensors
  - Rebuilding sensor pods
  - Cellular communication plan renewal
- Outreach/engaging the community
- Brief PTE



Questions?

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