



# City of Denton Public Air Quality Dashboard

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**8/22/2025**

ID: SFAC25-020



# Today's Focus

- City of Denton Air Quality Monitoring Background
- City of Denton Air Quality Dashboard Review
- Questions and Feedback from Committee
- Next Steps



# Background

- Dallas-Fort Worth (DFW) is nonattainment for ground-level ozone
- An area is considered nonattainment when it has ozone levels that exceed limits set by the National Ambient Air Quality Standards (NAAQS)

# Background

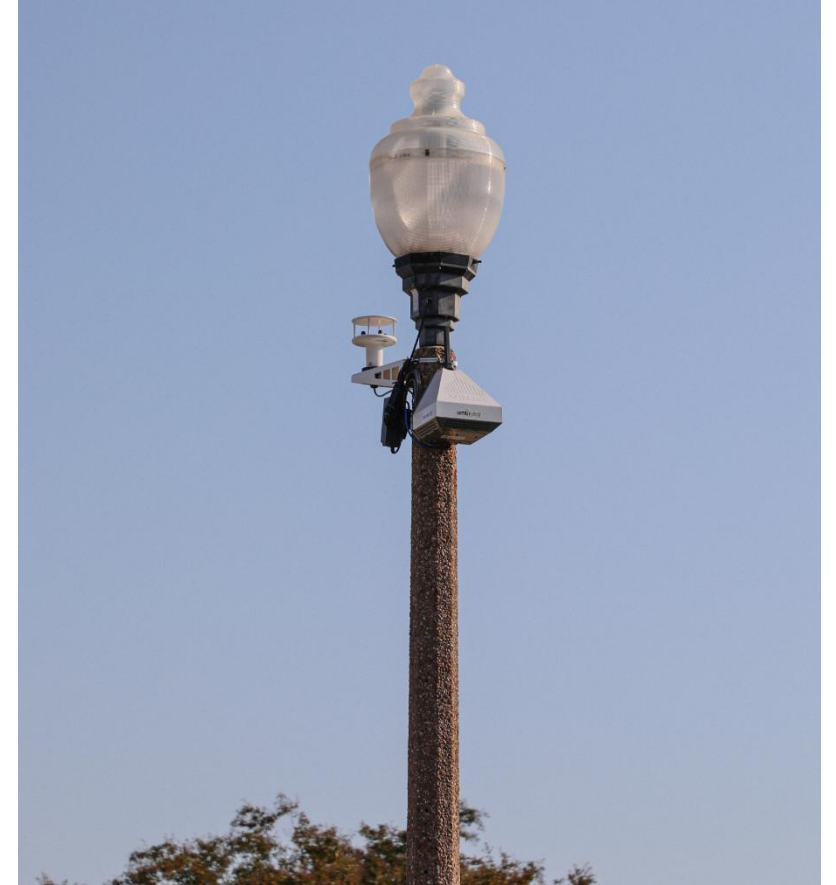
- The Clean Air Act establishes NAAQS for “criteria pollutants” that can be harmful to public health and the environment
  - Ground-level ozone (O<sub>3</sub>)
  - Particulate matter (PM)
  - Carbon monoxide (CO)
  - Lead (Pb)
  - Sulfur dioxide (SO<sub>2</sub>)
  - Nitrogen dioxide (NO<sub>2</sub>)

# Background

- Texas Commission on Environmental Quality (TCEQ) has 46 regulatory monitors in DFW
- One TCEQ site in Northwest Denton
  - Ambient weather
  - NO, NO<sub>2</sub>, NOX
  - PM2.5
- Does not offer a wider look at air quality at the neighborhood-level

# Air Quality Sensors

- In 2023, City of Denton Environmental Services and Sustainability began the process of acquiring and installing AQMesh sensors throughout the city
- 12 sensors deployed in two phases
  - Phase 1 completed in Feb 2023 - substations
  - Phase 2 completed in October 2024 - light poles



# Pollutants Recorded

Parameter	Detection Limit	Accuracy
Ozone (O <sub>3</sub> )	<1 ppb	5 ppb
Particulate Matter (PM2.5 & PM10)	0 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	<1 ppb	4 ppb
Total Volatile Organic Compounds (TVOC)	<0.1 ppm	0.05 ppm
Sulfur Dioxide (SO <sub>2</sub> )	<2 ppb	20 ppb





## City of Denton Air Quality Monitoring

For additional information, please contact SustainableDenton@cityofdenton.com or (940) 349-7733.

Current Air Quality Index



Home

Ozone

PM 2.5

PM 10

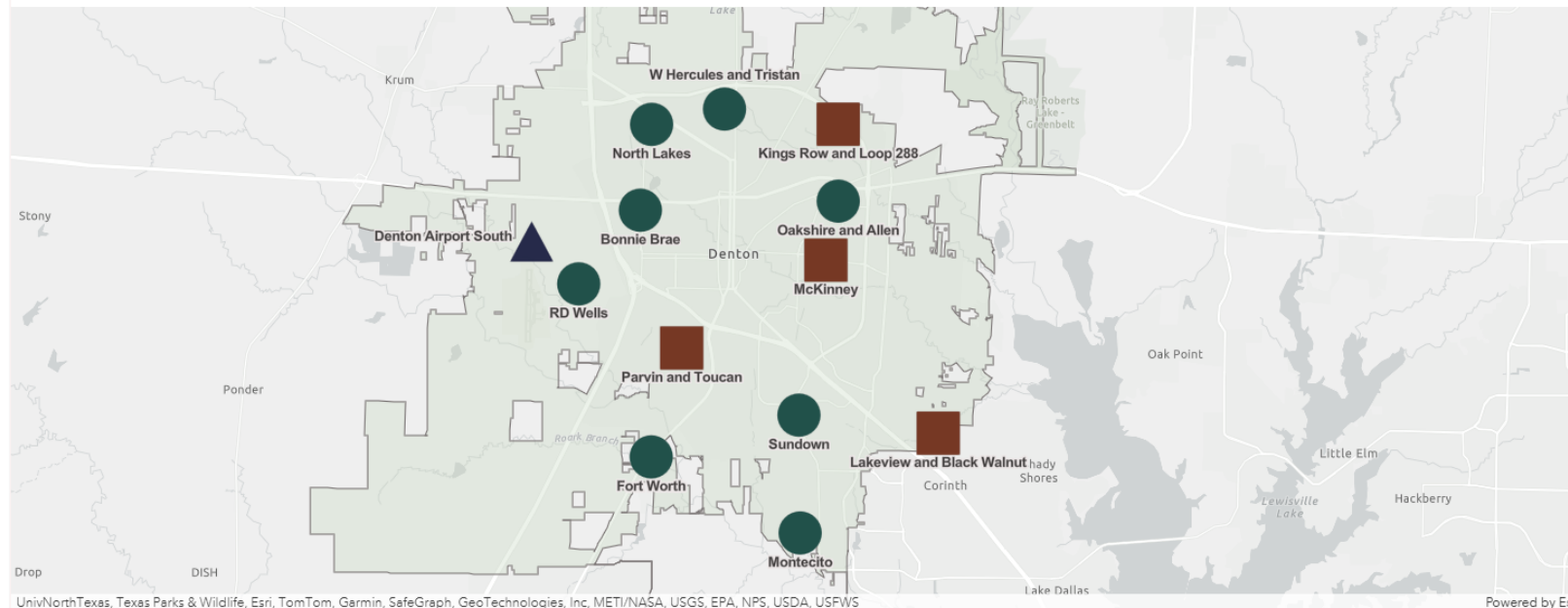
Wind Data

Ozone

PM 2.5

PM 10

### Weekly Average for All Monitors



UnivNorthTexas, Texas Parks & Wildlife, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

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Current Air Quality Index



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Ozone

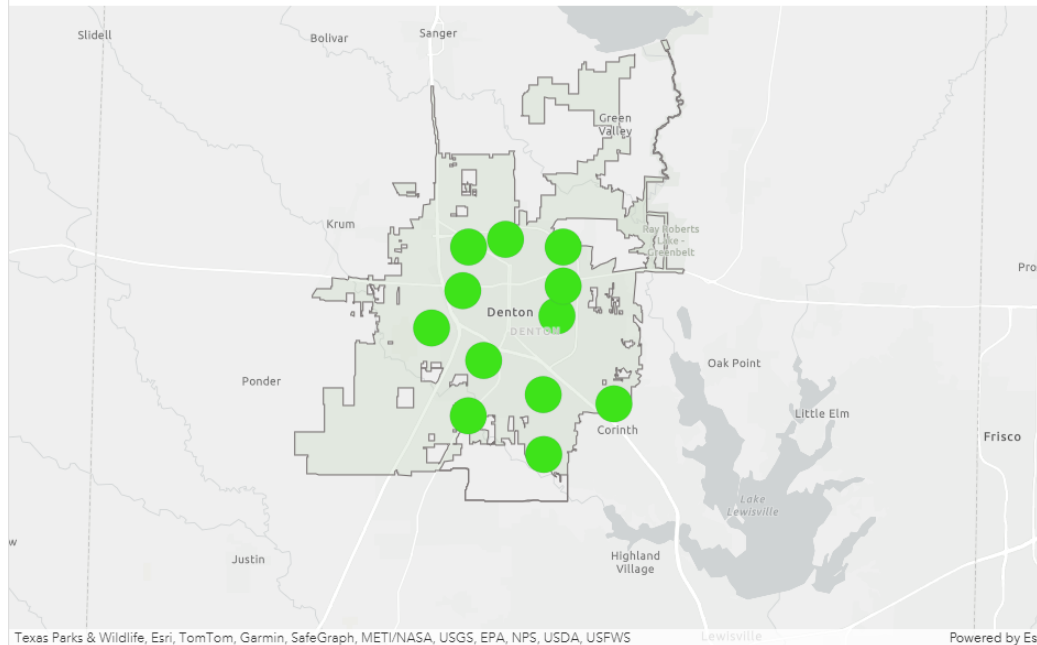
PM 2.5

PM 10

Wind Data

### Ozone Weekly Averages

For more information about this pollutant, click [here](#).



### Active Monitors

Pod Name	Ozone (ppb)
Bonnie Brae	44.40
Fort Worth	32.40
Kings Row and Loop 288	37.30
McKinney	37.60
North Lakes	30.60
Oakshire and Allen	24.40
RD Wells	44.40

Ozone Average: 33.10 ppb

Daily AQI Color	Level of Concern	Ozone (ppb)
Green	Low	0-54
Yellow	Moderate	55-70
Orange	Unhealthy for Sensitive Groups	71-85
Red	Unhealthy	86-105
Purple	Very Unhealthy	106-200
Maroon	Hazardous	> 301

### Hourly Log

Pod Name	Project Time	Ozone (ppb)
Bonnie Brae	2025-08-03 23:00:00	55.00
Bonnie Brae	2025-08-03 22:00:00	59.40
Bonnie Brae	2025-08-03 21:00:00	68.10
Bonnie Brae	2025-08-03 20:00:00	73.30
Bonnie Brae	2025-08-03 19:00:00	74.00
Bonnie Brae	2025-08-03 18:00:00	68.20
Bonnie Brae	2025-08-03 17:00:00	70.20



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# Dashboard

- Air Quality Index (AQI) colors associated with EPA breakpoints rather than index value

Daily AQI Color	Level of Concern	Index Value	Ozone (ppb)	PM2.5 (µg/m³)	PM10 (µg/m³)
Green	Low	0 - 50	0 - 54	0.0 - 9.0	0.0 - 54
Yellow	Moderate	51 - 100	55 - 70	9.1 - 35.4	55 - 154
Orange	Unhealthy for Sensitive Groups	101 - 150	71 - 85	35.5 - 55.4	155 - 254
Red	Unhealthy	151 - 200	86 - 105	55.5 - 125.4	255 - 334
Purple	Very Unhealthy	201 - 300	106 - 200	125.5 - 225.4	335 - 424
Maroon	Hazardous	> 301	> 301	> 225.5	> 425

# Next Steps

- Migrating to Application Programming Interface (API)
  - Reporting of rolling 24-hr average air quality data
- Mobile configuration of Air Quality Dashboard
- Analysis of air quality data

# Questions?

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