

# Overview of CAPCOG's Reports on Regional Air Quality & Air Monitoring for 2020

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Clean Air Force of Central Texas'  
Air Quality Professionals Forum

October 5, 2021



# CAPCOG – Regional Planning Commission in Statute; more often called a COG.



- Emergency Communications 9-1-1
- Area Agency on Aging/Aging & Disability Resource Center
- Homeland Security Planning & Training
- Regional Law Enforcement Academy
- Air Quality Planning
- Solid Waste Planning
- Economic Development Analysis & Technical Assistance
- Transportation Planning

# Ten – county service area; State of Texas planning region 12



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# Overview



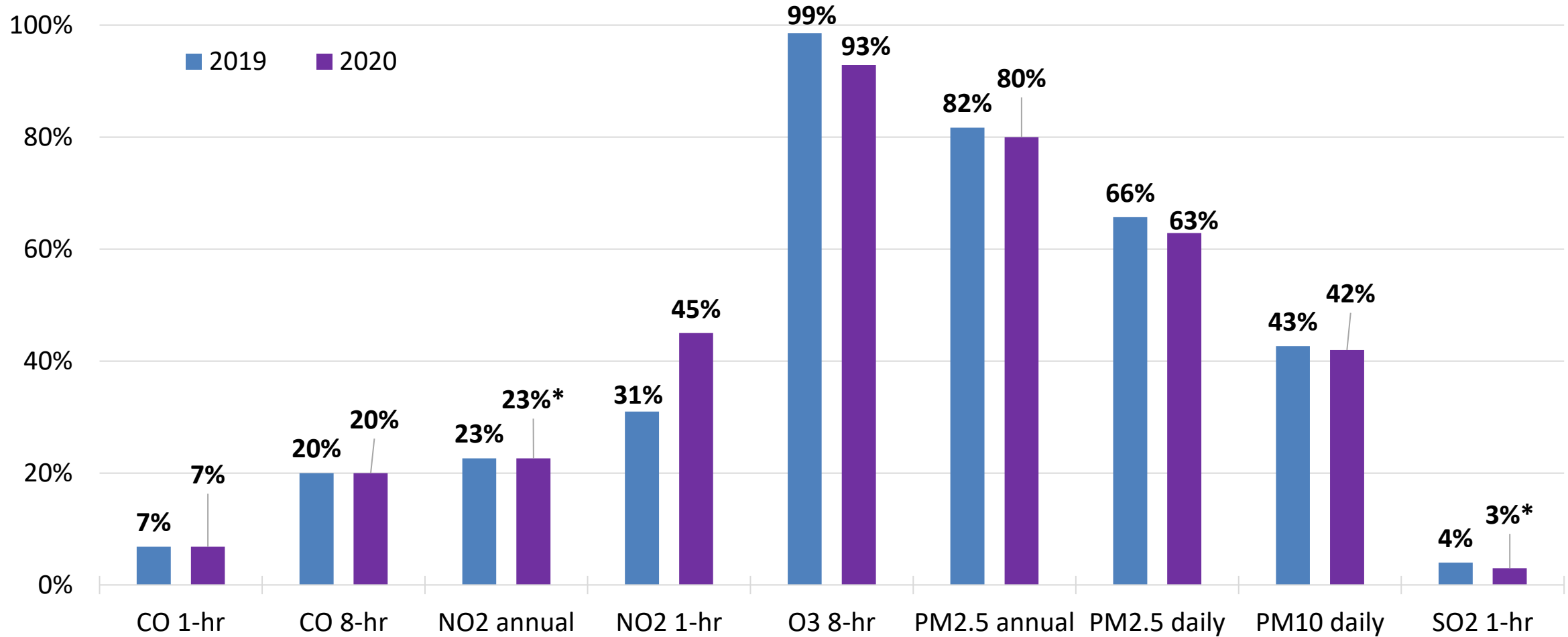
- High-level summary of two CAPCOG Air Quality reports that cover regional air quality in 2020
  1. [2020 Air Quality Report for the Austin-Round Rock-Georgetown Metropolitan Statistical Area \(MSA\)](#)
    - Summarizes air quality data, emissions data, and air quality planning activities in 2020
  2. [2020 Air Monitoring Data Analysis for the Austin-Round Rock-Georgetown Metropolitan Statistical Area](#)
    - Detailed analysis of air quality and meteorological data from 2020 to understand air quality levels
- Click on the hyperlinks to view each report!

# 2020 Annual MSA Air Quality Report



- Summary of 2020 Data and Activities
  - Air quality data and National Ambient Air Quality Standards (NAAQS) compliance
  - Nitrogen oxide (NO<sub>x</sub>) emissions
  - Clean Air Coalition (CAC) emission reduction measures
  - Ongoing planning activities
  - New issues
- Highlights
  - The region's 2020 air pollution levels continued to meet all federal air quality standards
  - There were a total of 3 days when monitored air pollution levels were considered “unhealthy for sensitive groups” from ozone (O<sub>3</sub>) and fine particulate matter (PM<sub>2.5</sub>).
  - There was 1 day when monitored air pollution levels were considered “unhealthy” from PM<sub>2.5</sub>.
  - Overall emissions of NO<sub>x</sub> continued to trend downward, and emissions from regional power plants during the 2020 ozone season were slightly lower than they were in 2019.

# NAAQS Compliance

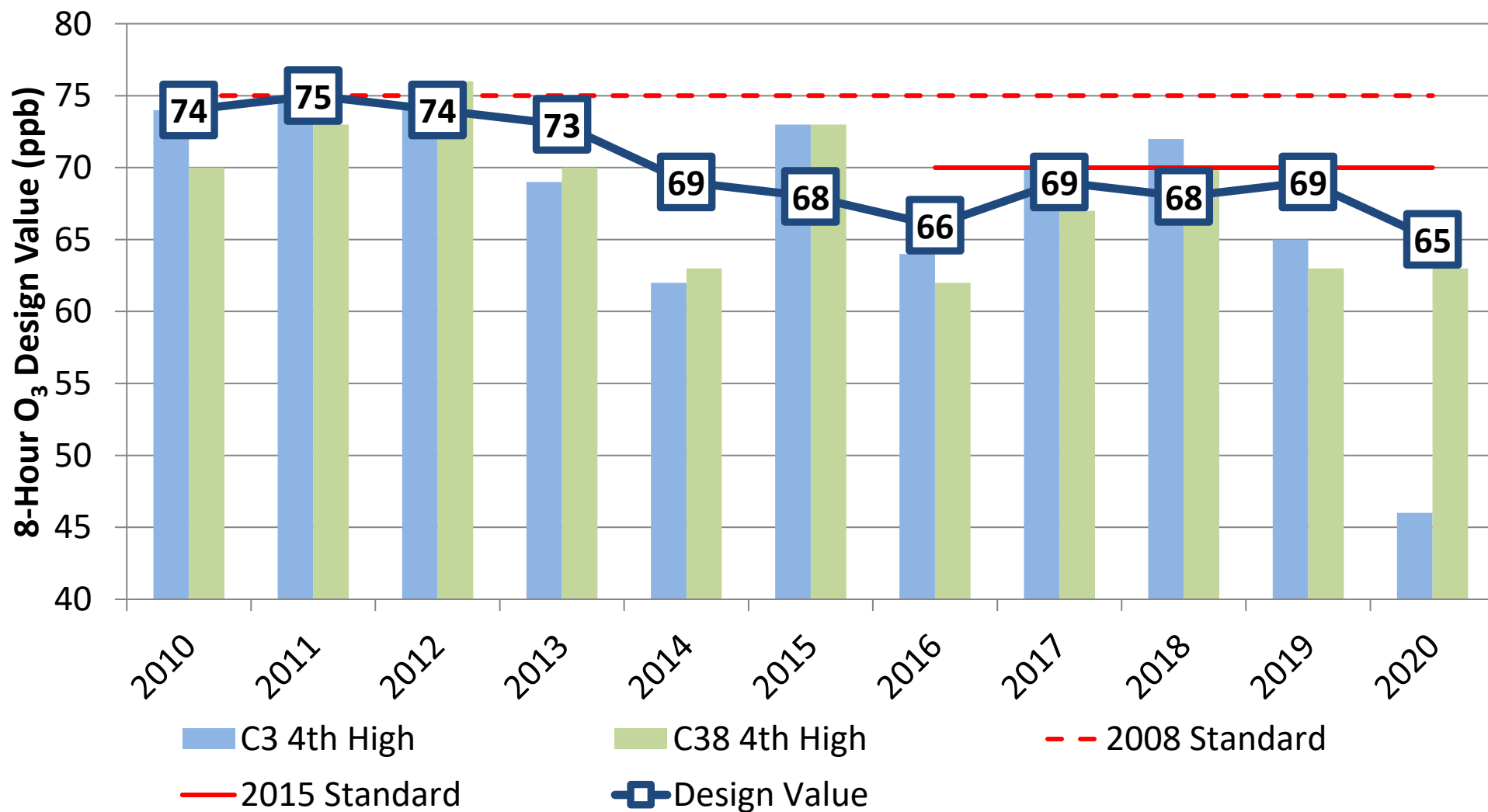


\*NO2 and SO2 have an invalid design value for 2018-2020. This is most likely due to lack of sufficient data for 2020.

The invalid design values are still useful to understand NAAQS compliance.



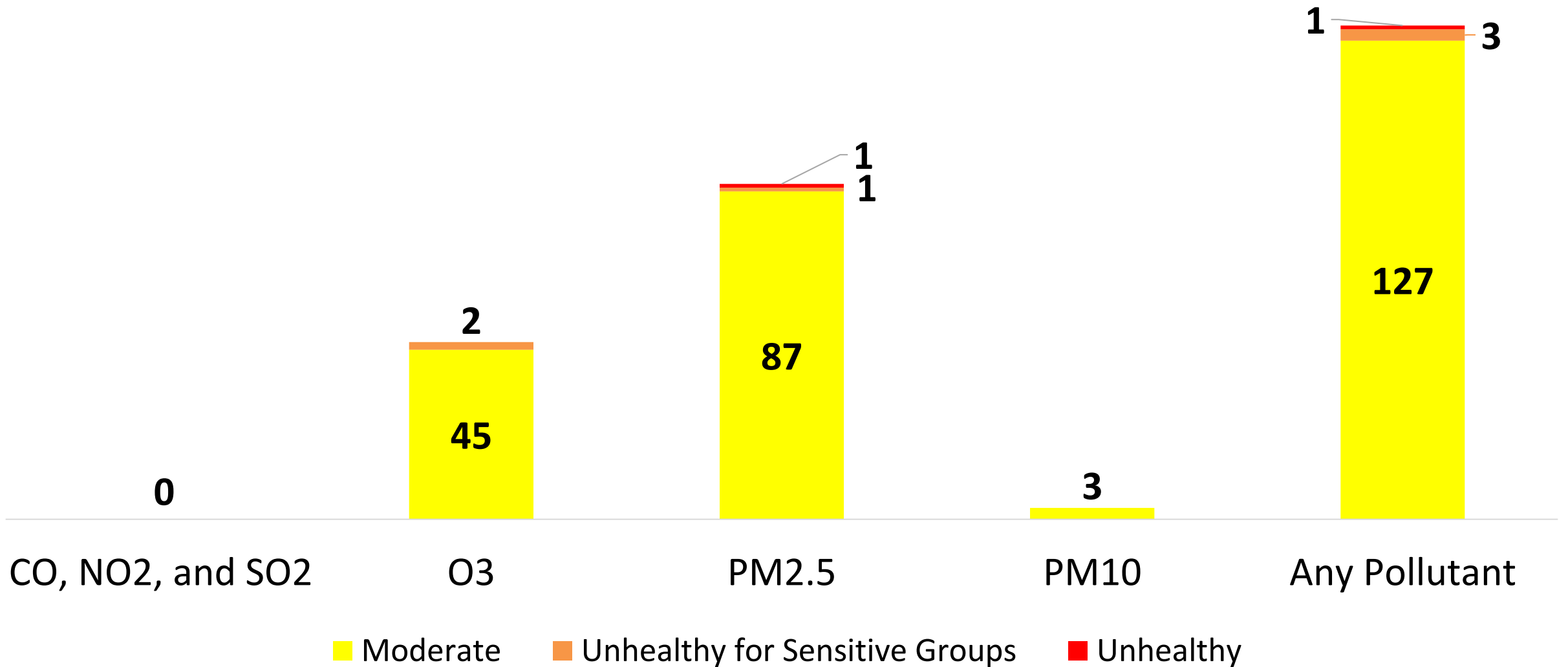
# Ozone Design Value and 4<sup>th</sup> High Trend



- Ozone levels did not majorly improve in 2020!
- CAMS 3 was not in operation for most of 2020.
- Therefore, the 2018-2020 design value used CAMS 38 data which historically records lower concentrations than CAMS 3.
- **If CAMS 3 were operational, the regional monitoring data suggests a 1 ppb decrease in the design value would have been expected.**



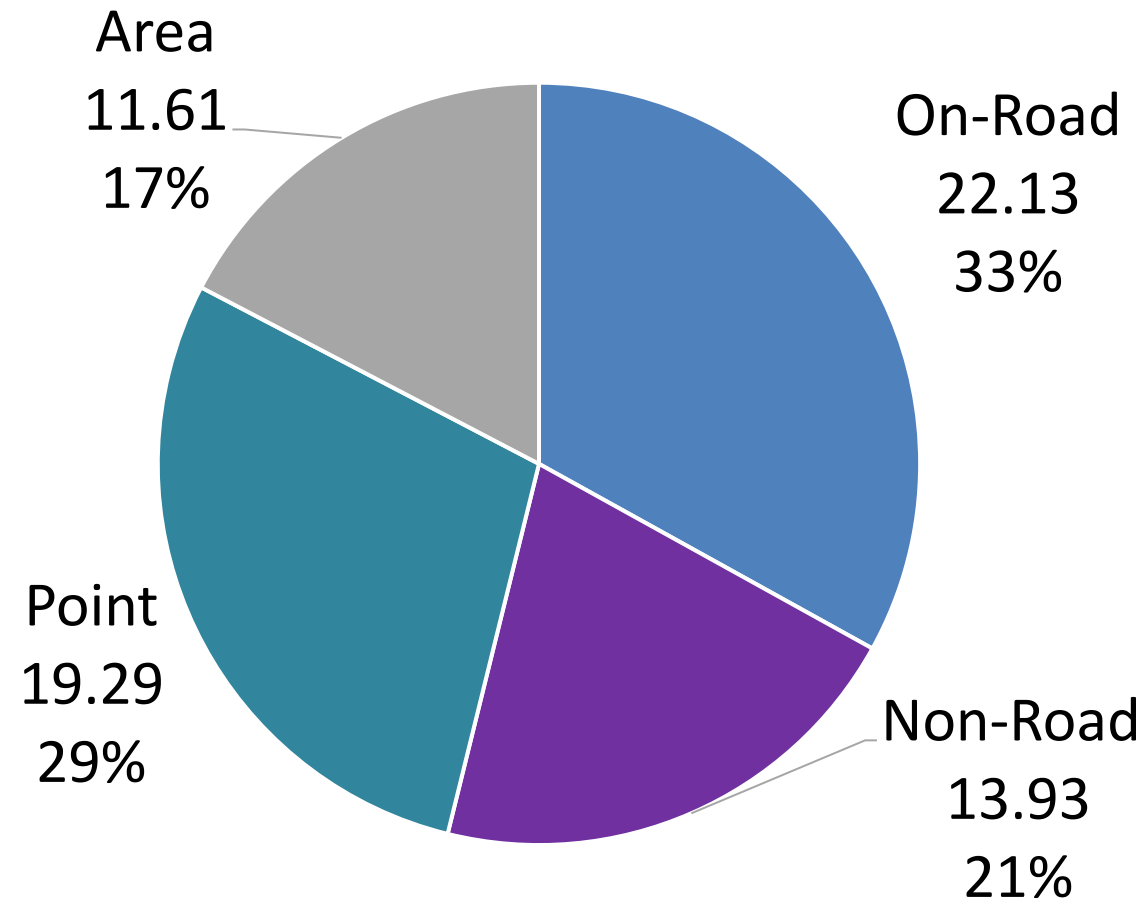
# Days in 2020 when Regional Air Quality was Not “Good”



# 2020 Ozone Season Weekday NO<sub>x</sub> Emissions for the MSA

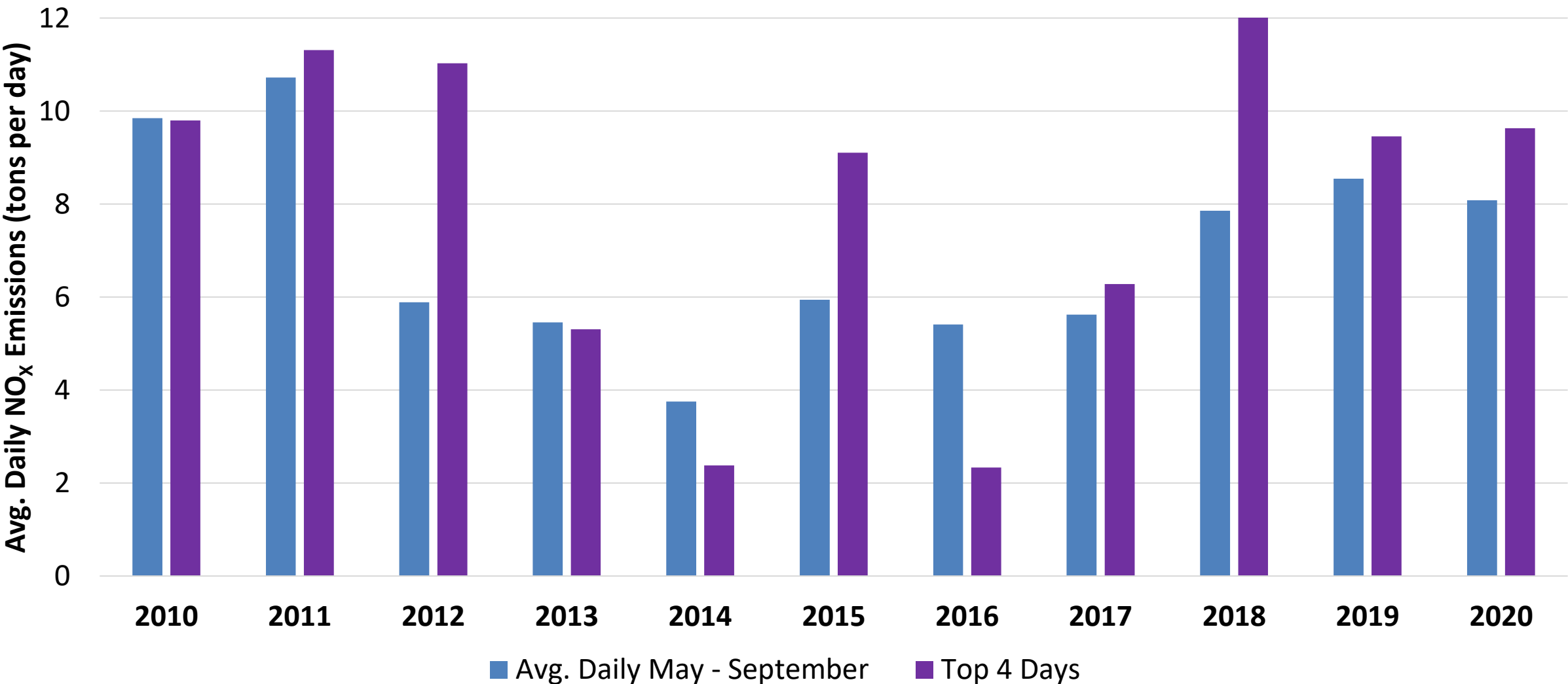


**Total = 66.96 tons per day (tpd) NO<sub>x</sub> Emissions**





# Average O<sub>3</sub> Season Daily Power Plant NO<sub>x</sub> Emissions May – September vs. Top Four O<sub>3</sub> Days in the MSA

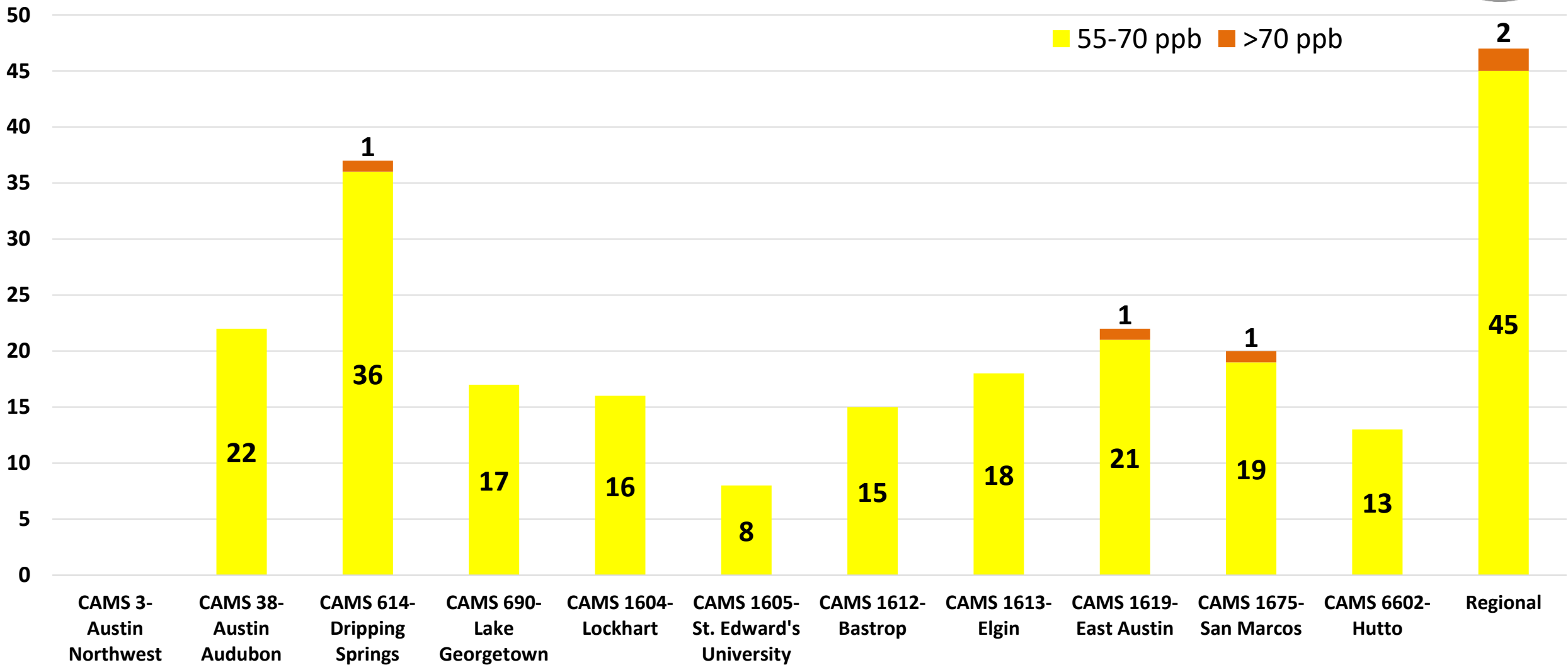


# 2020 Air Monitoring Data Analysis



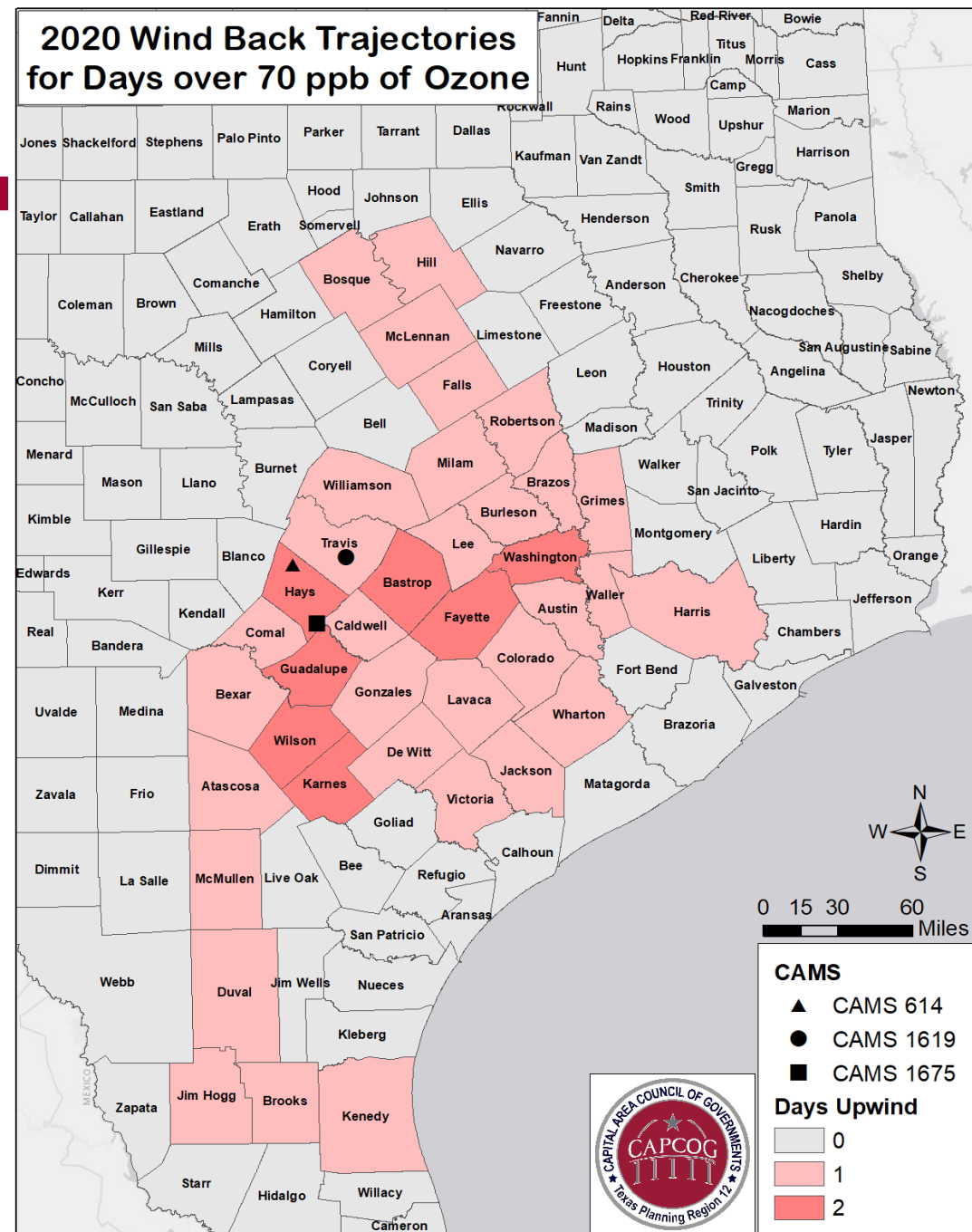
- Technical report that analyzes regional ozone, other pollutant, and meteorological data to understand the trends and relationships
  - Compares data from 2020 to 2010-2019
- Highlights
  - Fewer days that measured ozone >70 ppb (“unhealthy for sensitive groups”) compared to 2017-2019
    - Only 2 days in 2020 measured ozone >70 ppb, which is likely attributable to:
      - More days with lower solar radiation
      - Less local formation - ozone transported from the San Antonio and Houston areas
    - Surprisingly, other factors such as low wind speed and low relative humidity were ideal for ozone formation.

# Ozone Trends by Monitor, 2020



# Upwind Counties on High Ozone Days

- Upwind counties were most often from O<sub>3</sub> non-attainment areas which were from the:
  - East-southeast (Houston area)
  - South-southwest (San Antonio area)
- This is consistent with the wind direction for high O<sub>3</sub> days in previous years.



# Thank You



## Capital Area Council of Governments

[www.capcog.org](http://www.capcog.org)

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