

RAQPAC

Air Quality Update

July 31, 2025

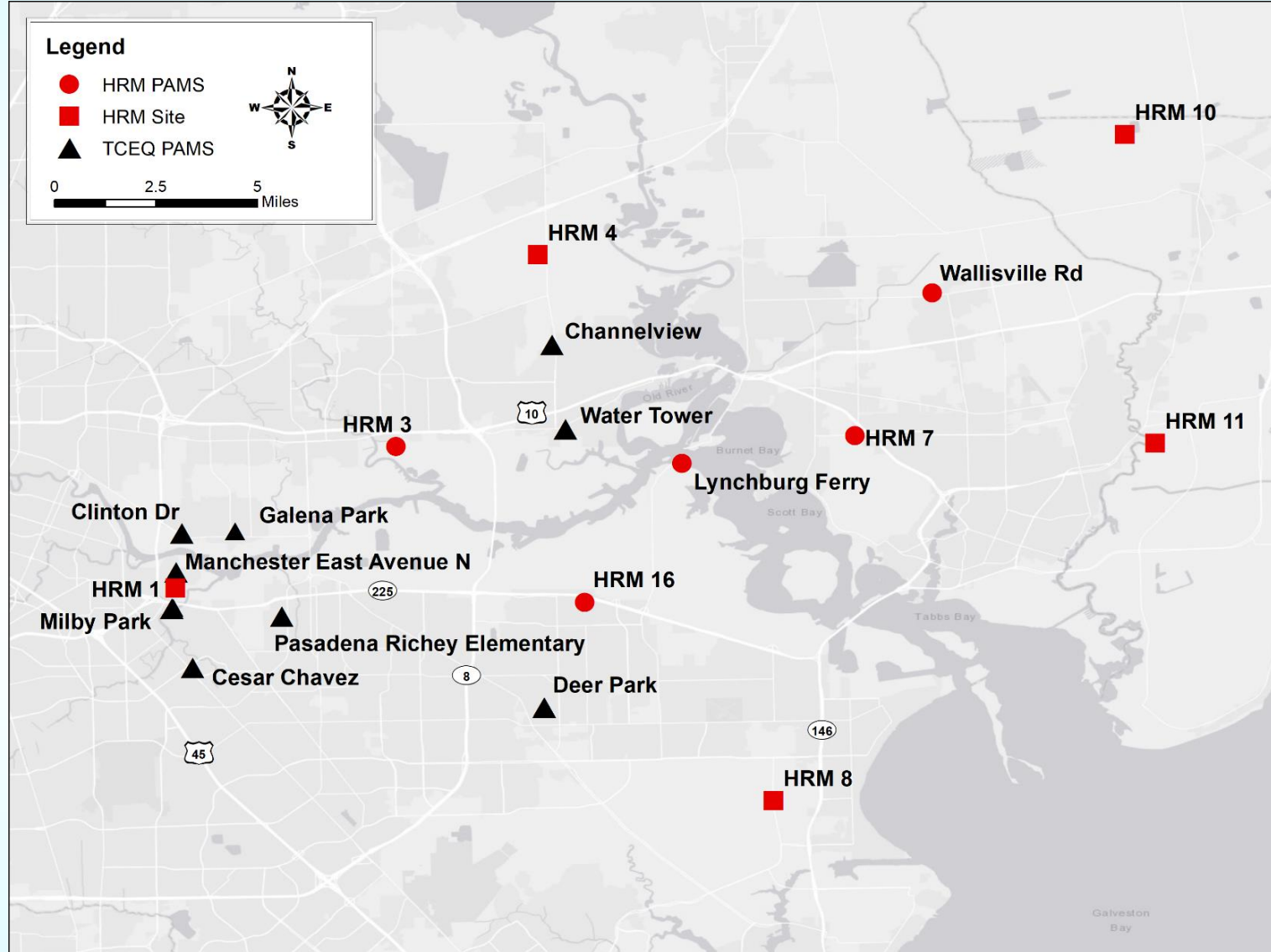
Steve Smith
Chairman Technical Advisory Committee
Houston Regional Monitoring



Discussion Topics

- ❑ Ambient Air Monitoring Sites
- ❑ What is Monitored?
- ❑ Air Quality Trends Data

HRM Monitoring Sites and Select TCEQ Sites



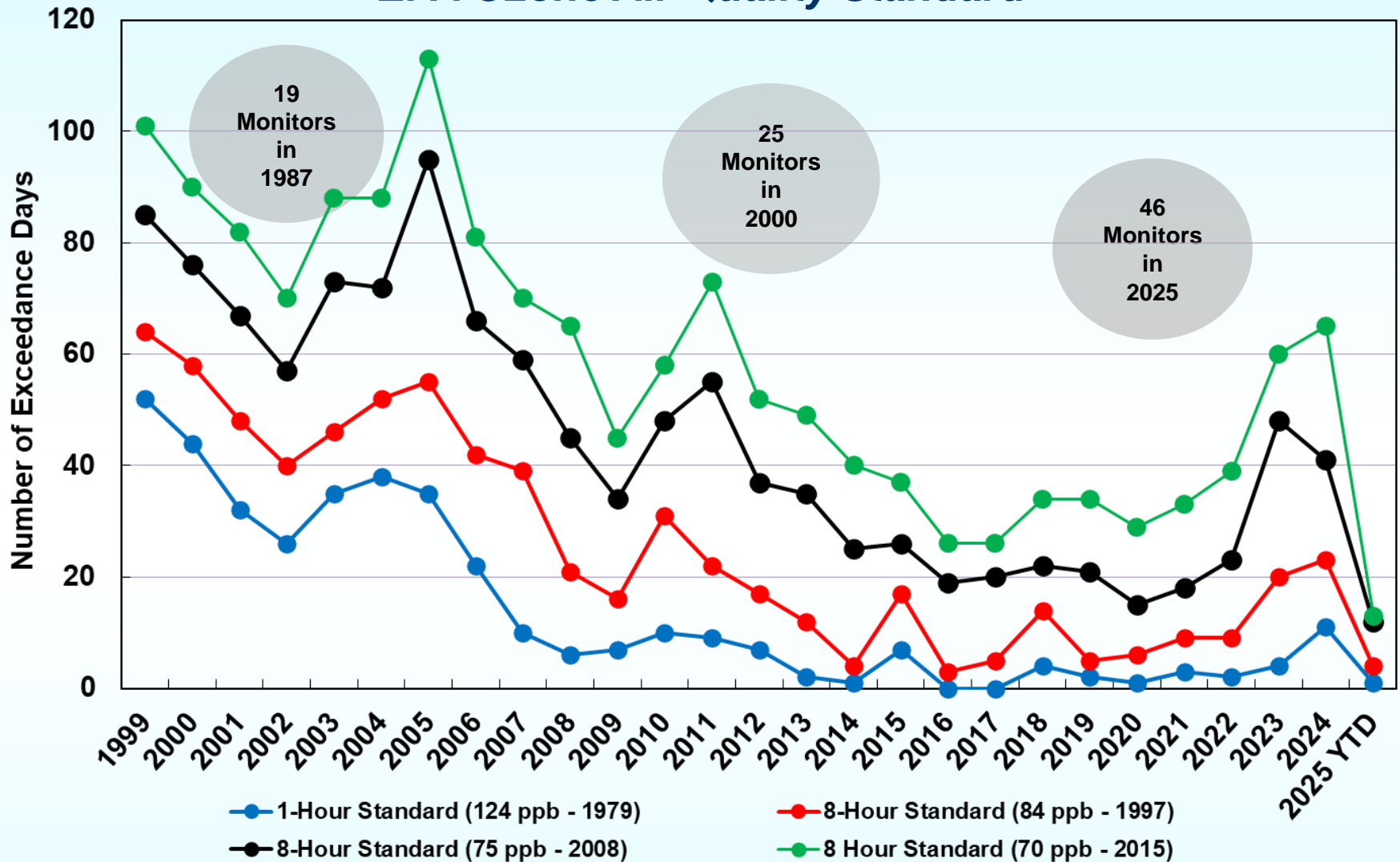
What is monitored?

- ❑ **Federal Reference Method Analyzers**
- ❑ **Federal Equivalent Method Analyzers**
- ❑ **Ozone**
- ❑ **NO_x – Nitrogen oxides**
- ❑ **CO – Carbon monoxide**
- ❑ **PM – Particulate Matter**
- ❑ **VOC – Every sixth day 24-hour composite samples**
- ❑ **VOC – PAMS Auto-GCs (5 Sites, ~40 compounds)**

Air Quality Data Trends



Days When Houston Area Monitors Exceeded EPA Ozone Air Quality Standard



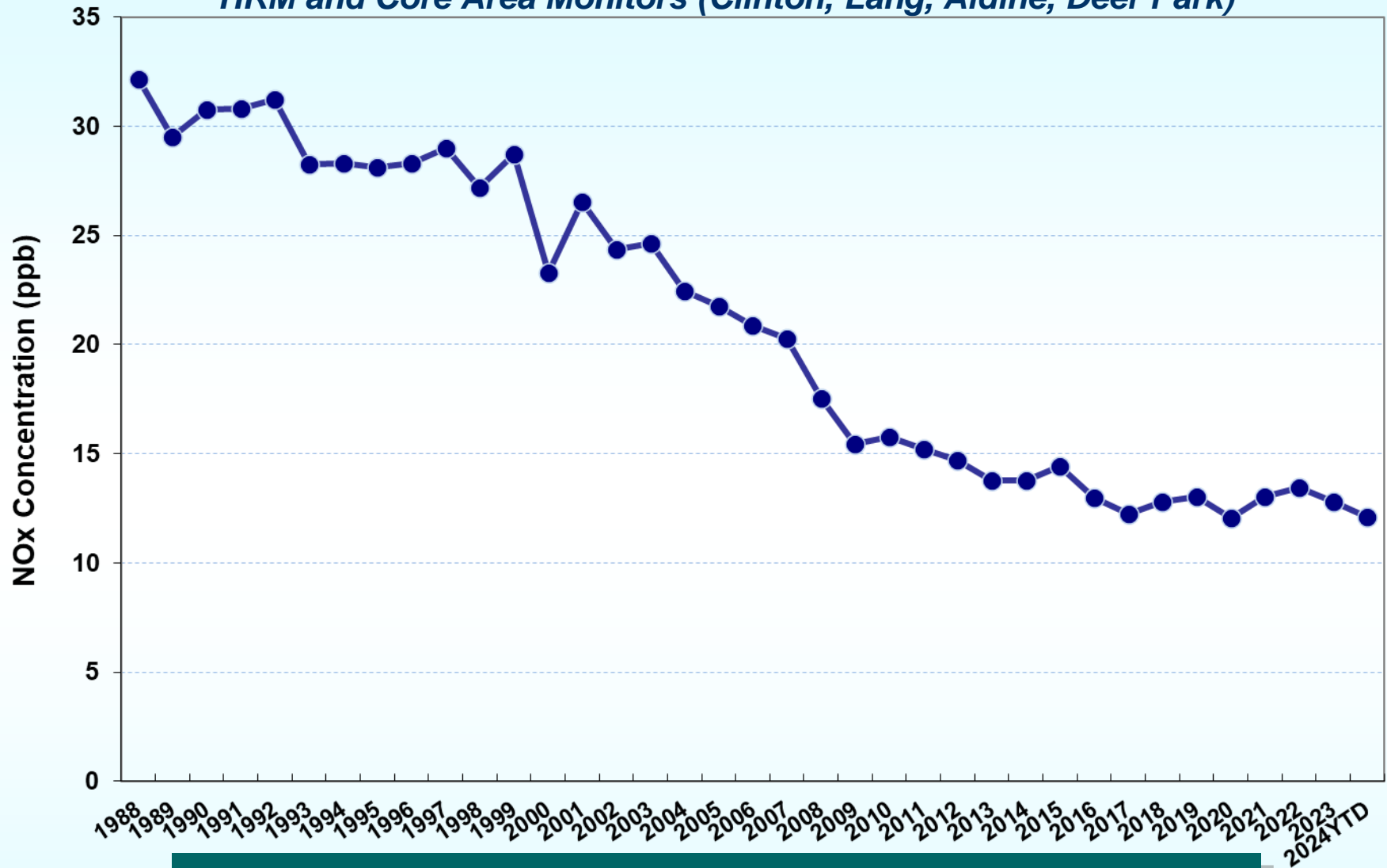
Decline In Number of Ozone Exceedance Days Since 1999

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Annual Average NO_x Concentration

HRM and Core Area Monitors (Clinton, Lang, Aldine, Deer Park)

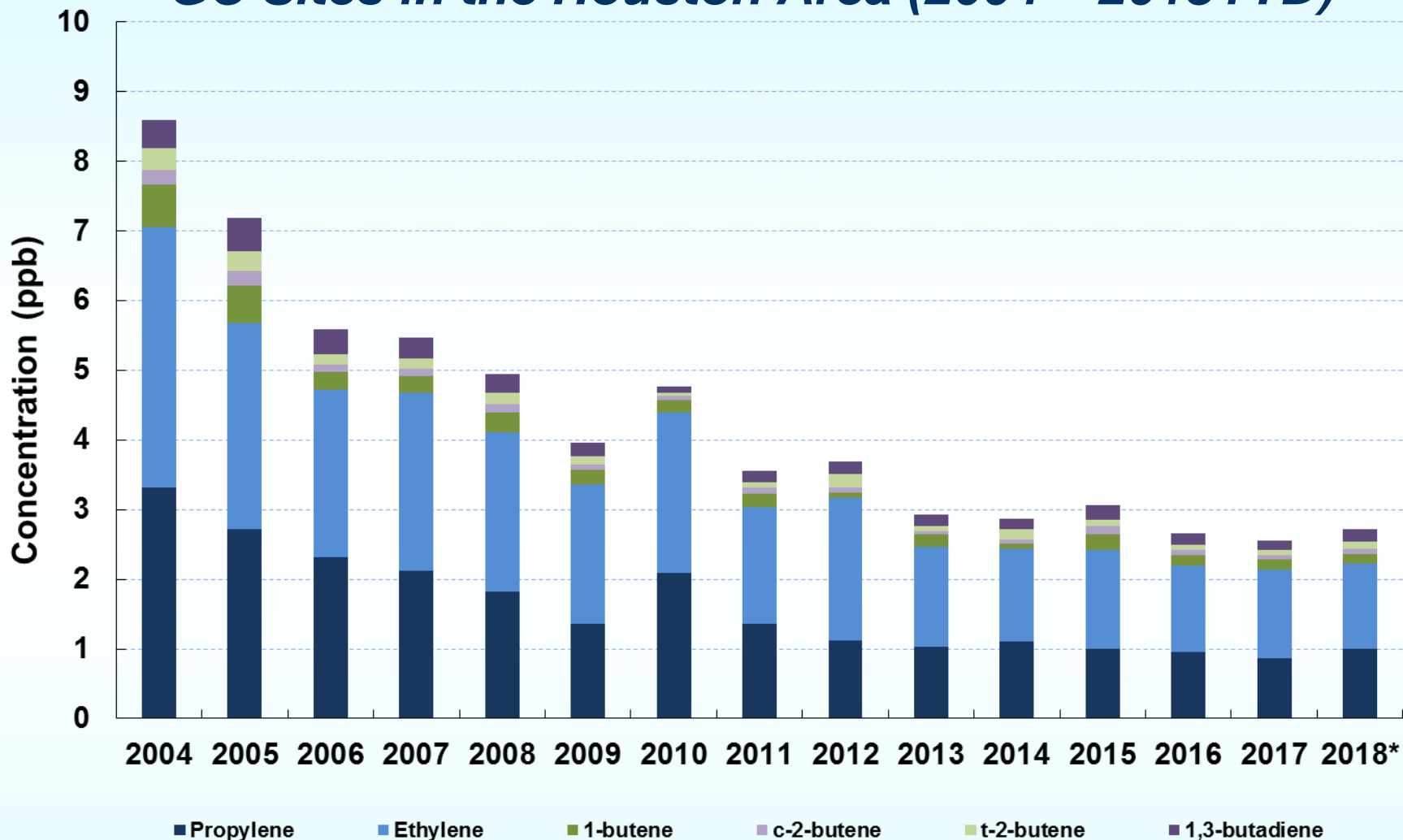


An average 62% reduction of NO_x since 1988

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Annual Average HRVOC Concentrations from Auto-GC Sites in the Houston Area (2004 – 2018YTD)



An average 68% reduction of HRVOC since 2004

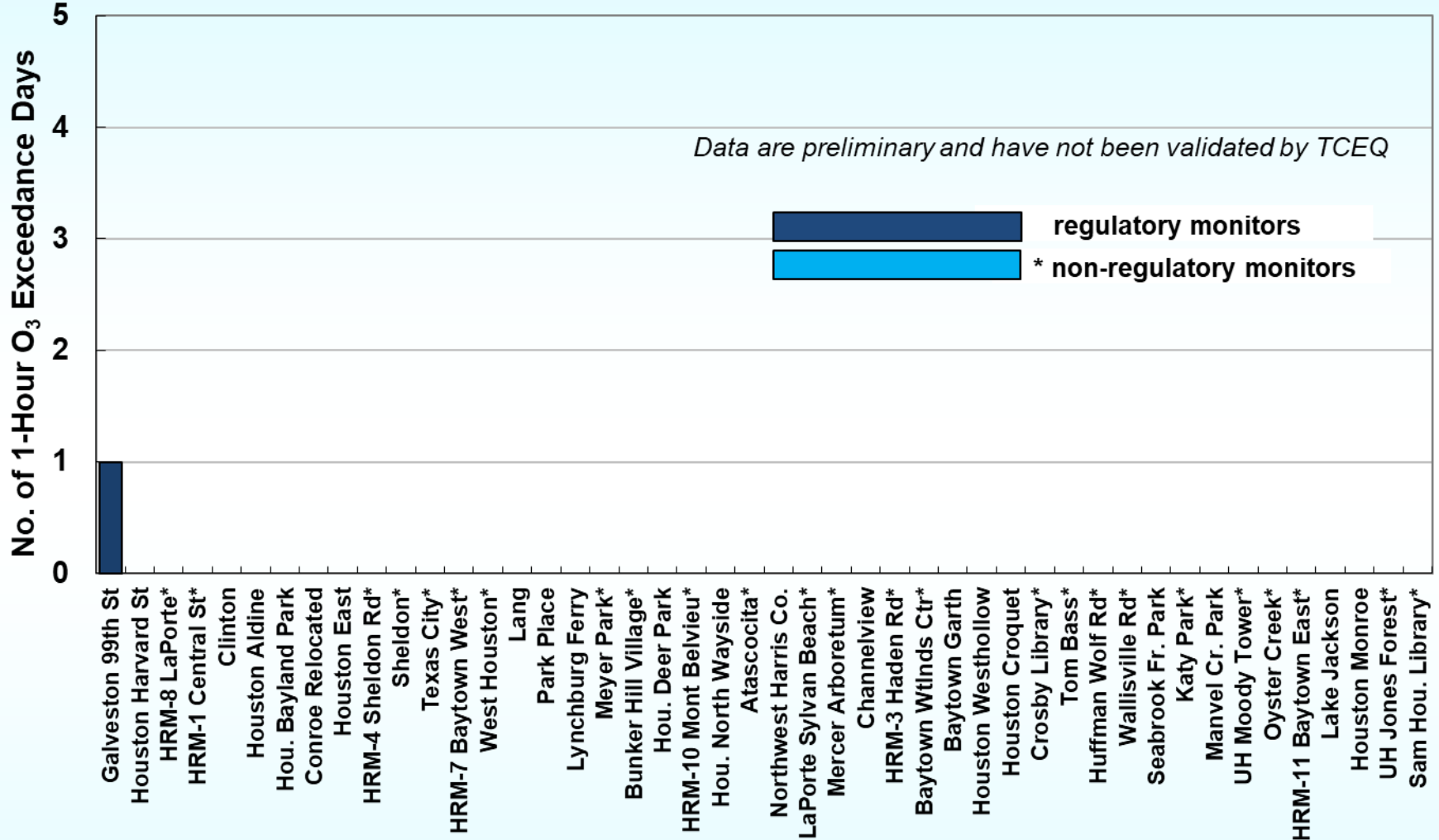
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*2018 data through 07/10/2018

2025 YTD Houston Area Ozone Exceedance Days

1-hour 124 ppb Standard

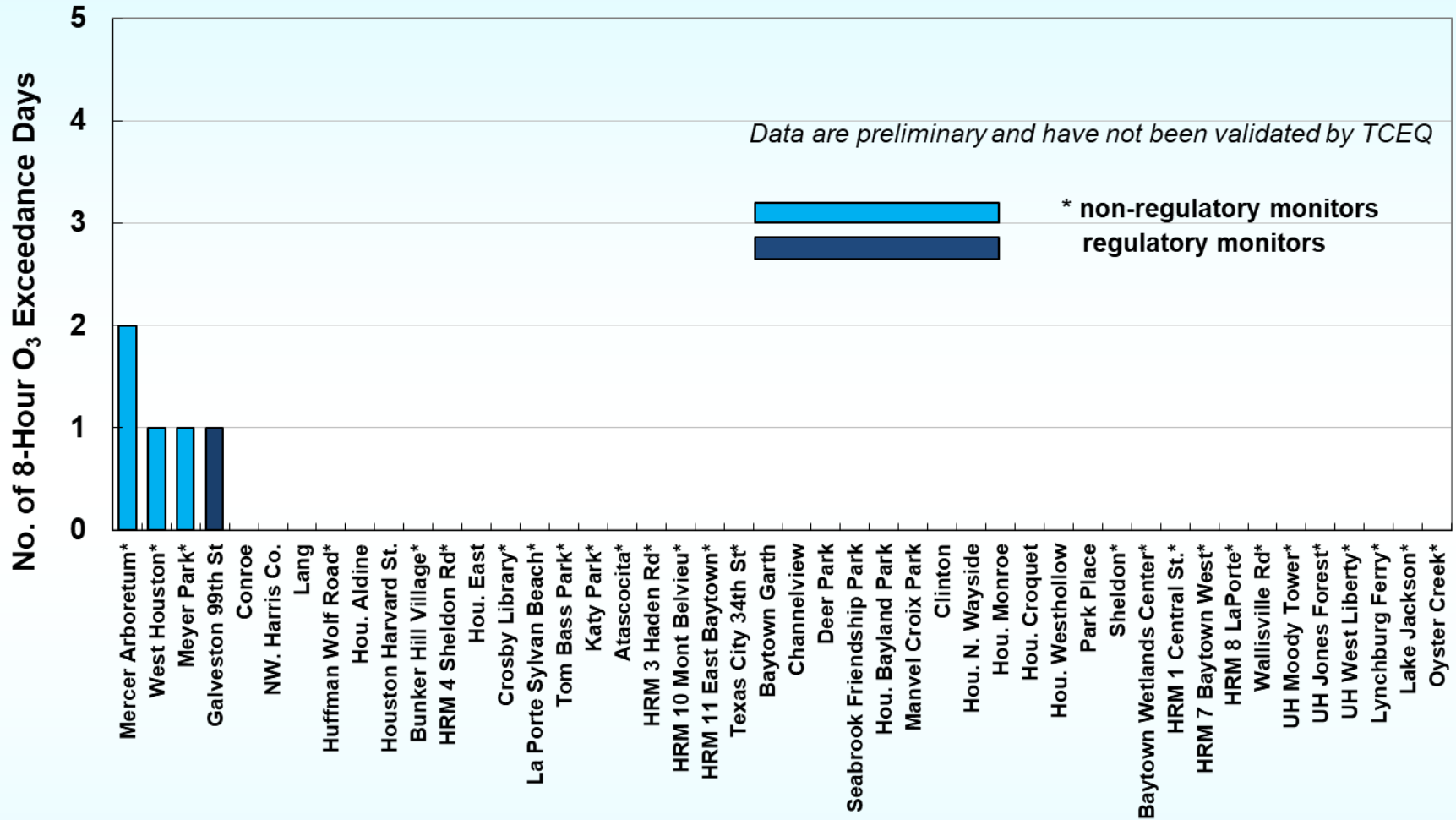


One Regulatory Monitor has had an Exceedance Day so far in 2025



2025 YTD Houston Area Ozone Exceedance Days

8-hour 84 ppb Standard



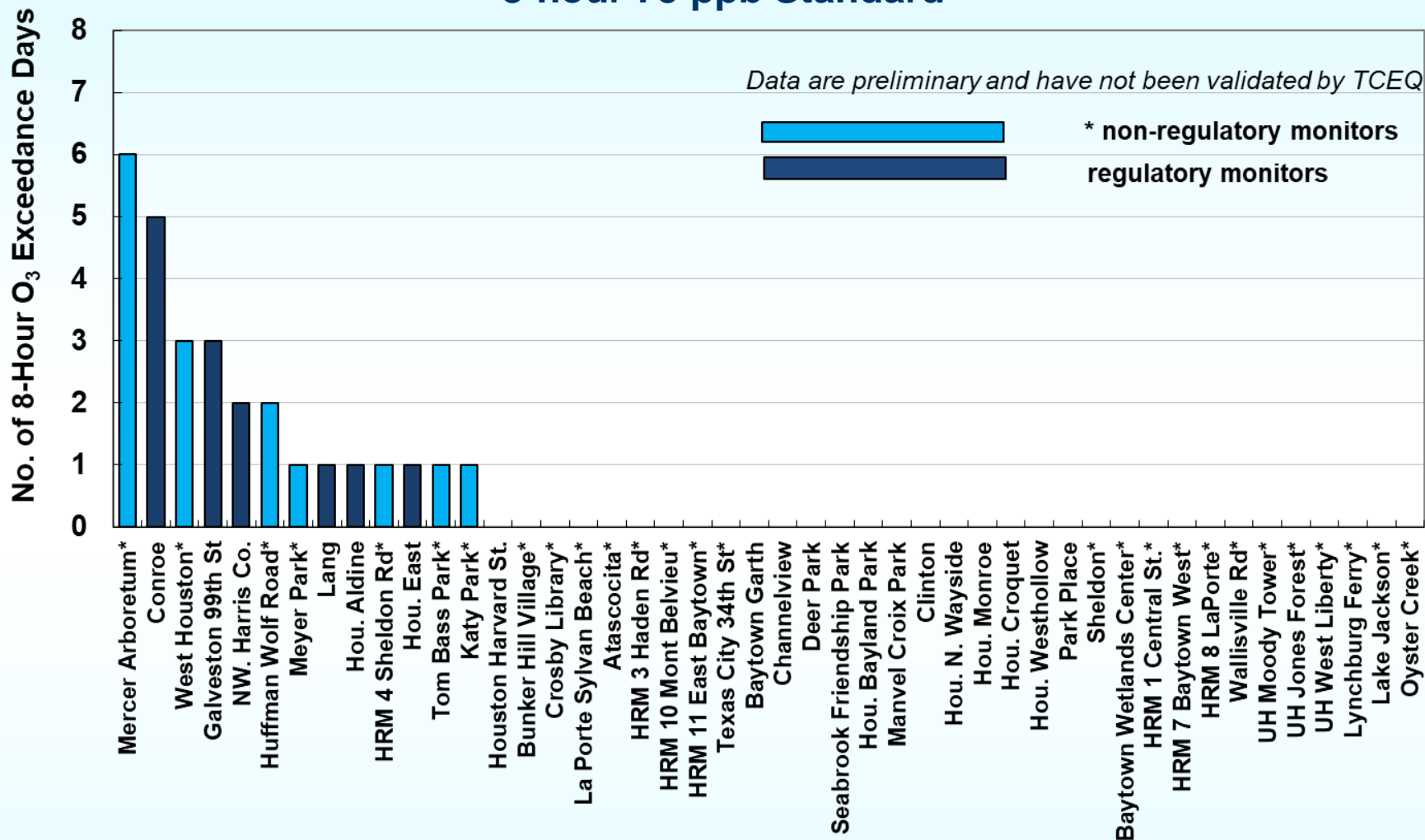
One Regulatory Monitor Has Had An Exceedance Day so far in 2025

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2025 YTD Houston Area Ozone Exceedance Days

8-hour 75 ppb Standard



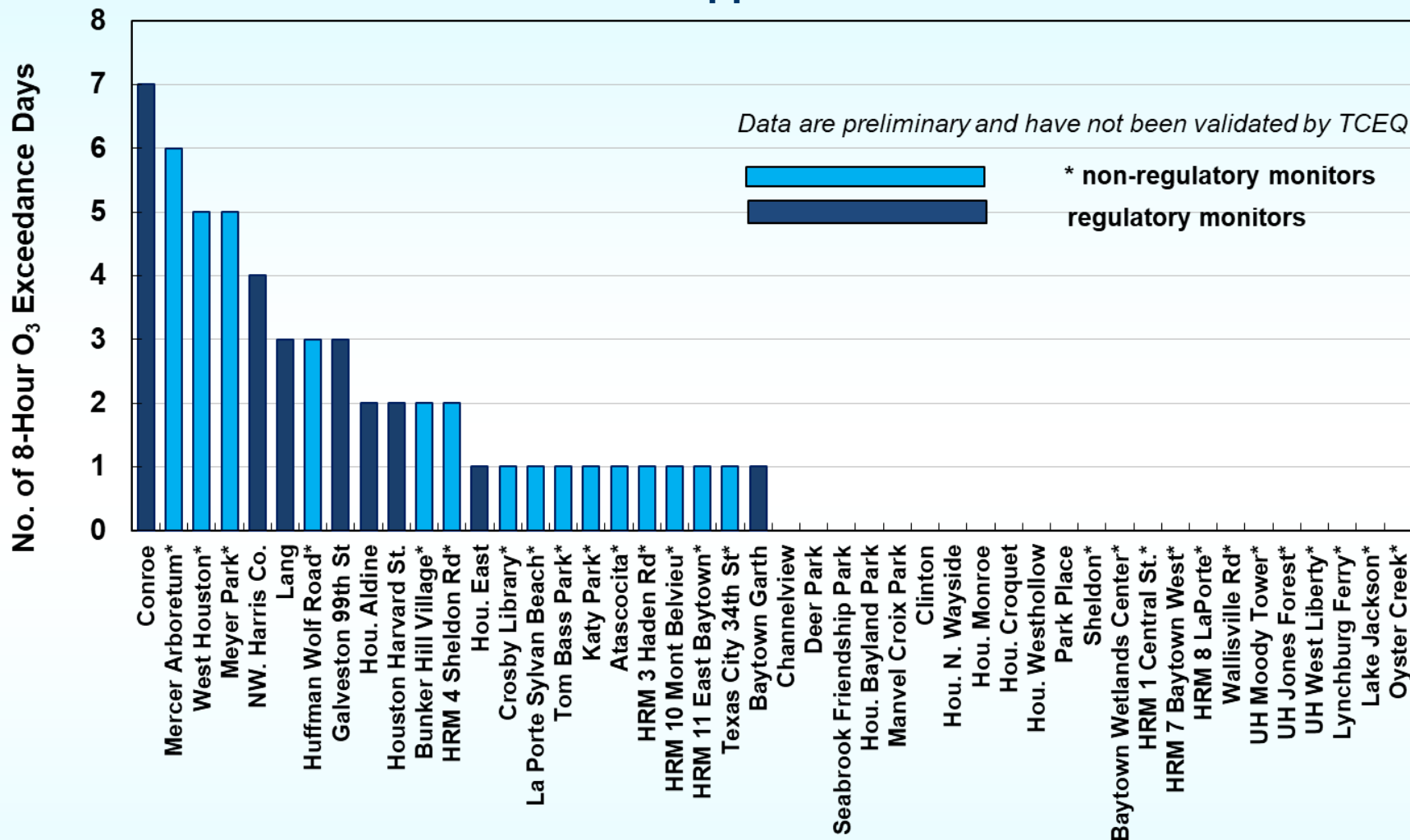
Six Regulatory Monitors Had An Exceedance Day so far in 2025

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2025 YTD Houston Area Ozone Exceedance Days

8-hour 70 ppb Standard

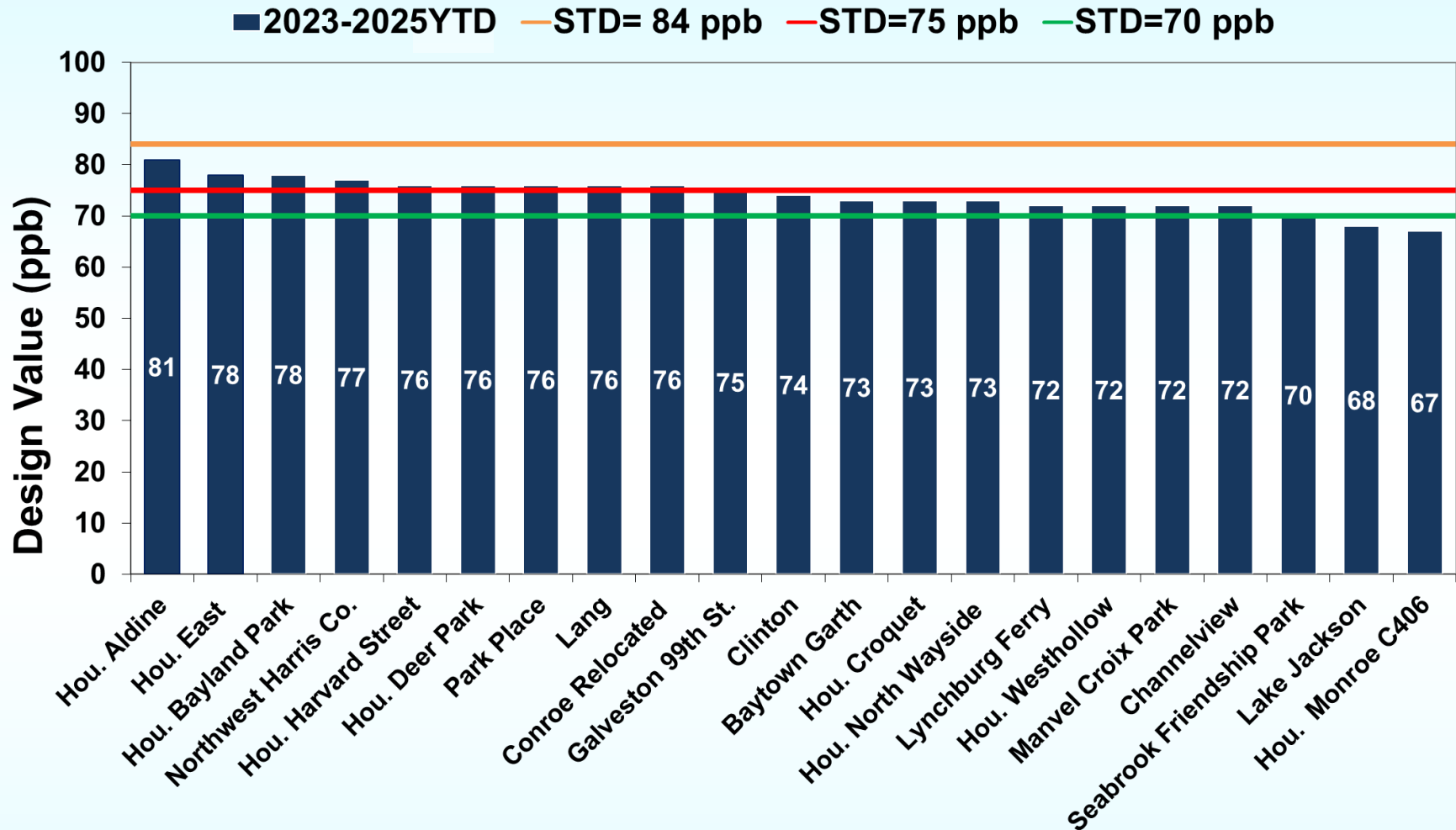


Eight Regulatory Monitors Had An Exceedance Day so far in 2025



2025 YTD 8-Hour Ozone Design Values

Regulatory Monitors In Houston Area



Design value is the 3-Yr consecutive average of the 4th highest daily rolling 8-hour maximum ending the year shown (2023-2025YTD)

All Regulatory Monitors in Houston Area meet the 84 ppb standard in 2025YTD

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2025 YTD Annual Averages at Regulatory PM_{2.5} Sites

Site ID	Site Name	PM _{2.5} (µg/m ³)
C1052	Houston North Loop	15.0
C405	Houston North Wayside	11.4
C78	Conroe Relocated	11.1
C403	Clinton (FRM)*	11.9
C8	Houston Aldine	10.5
C1	Houston East	10.6
C53	Houston Bayland Park	9.7
C148	Baytown	10.0
C410	Houston Westhollow	9.6
C45	Seabrook Friendship Park	8.9
C35	Hou. Deer Park	8.3
C1034	Galveston 99 th St	8.1

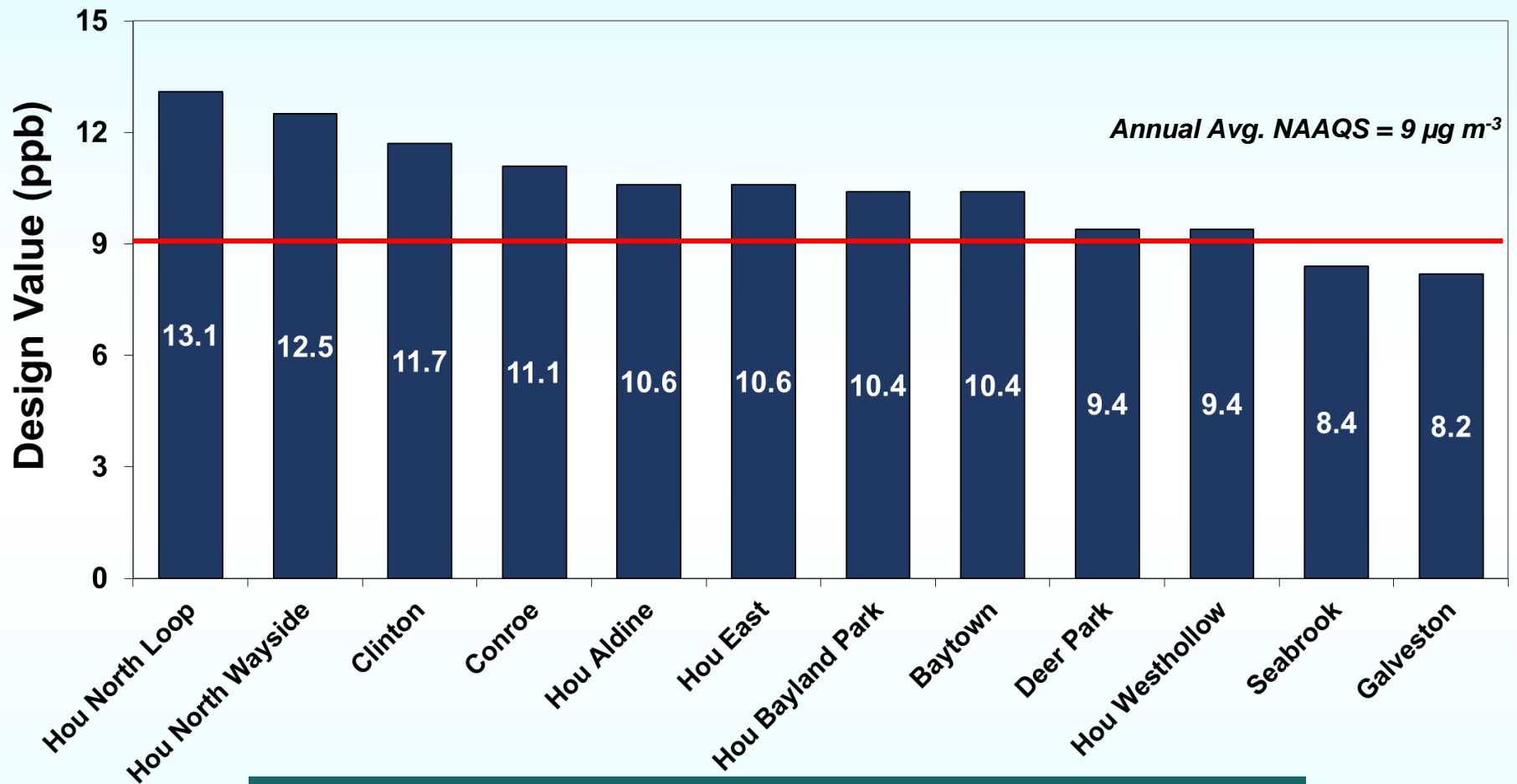
***All monitor data are FEM unless indicated above**



2025 YTD PM_{2.5} Design Value

Continuous Monitors In Houston Area

■ 2025 YTD DV



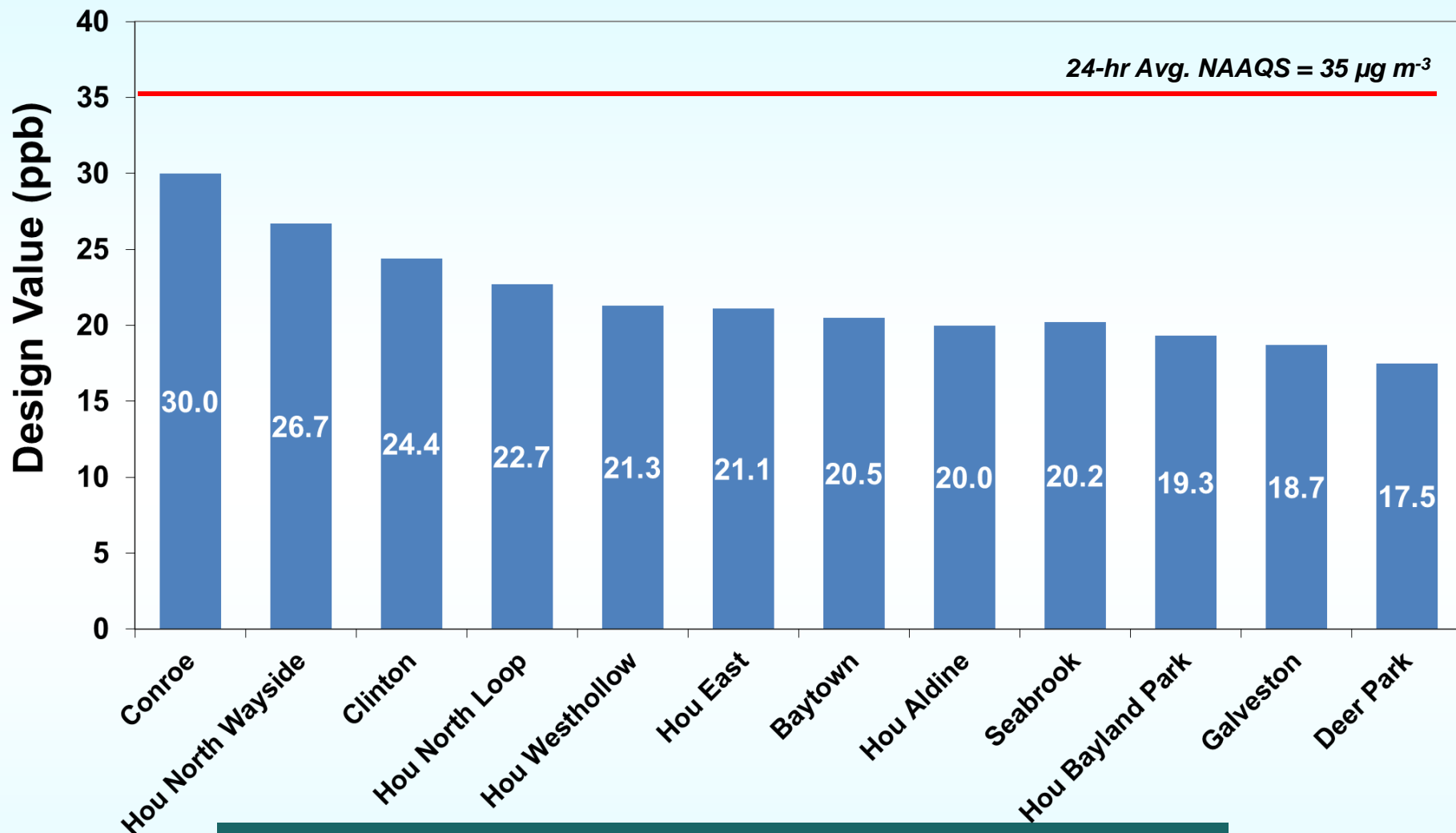
10 of 12 FEM Monitors show 2025 DV > 9 $\mu\text{g m}^{-3}$ in 2025 YTD
Data from Clinton Dr. is a non-regulatory continuous monitor

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2025 YTD 24-hr PM_{2.5} Design Value

Regulatory Monitors In Houston Area



All Design Values are below 30 $\mu\text{g m}^{-3}$
EPA to retain 24-hour PM_{2.5} NAAQS

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Questions?

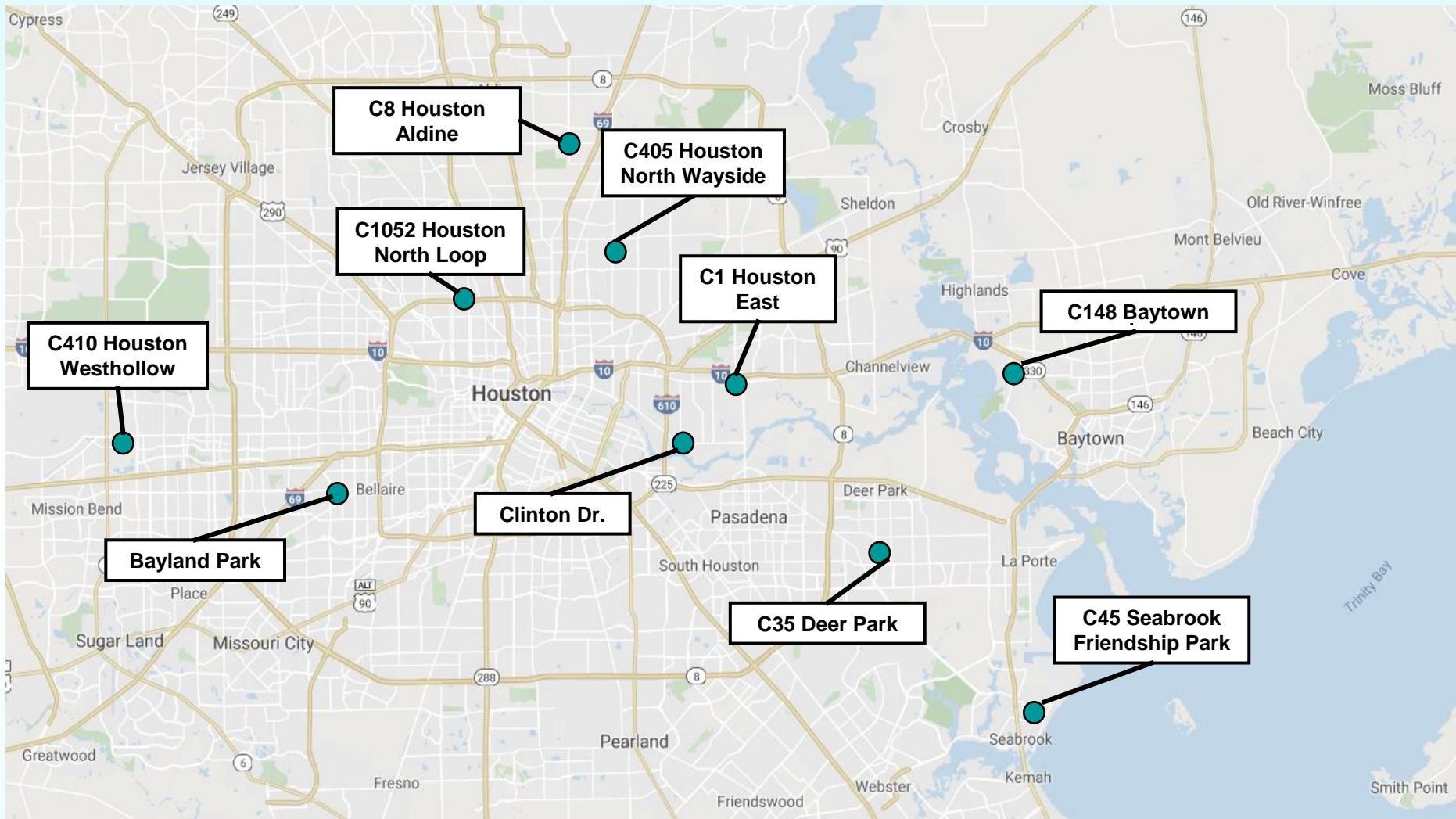


Fine Particulate Matter NAAQS

NAAQS – National Ambient Air Quality Standard

- February 7, 2024 – Final NAAQS revision signed
 - Reduced fine particulate (<2.5 microns in diameter) annual average limit from 12 $\mu\text{g}/\text{m}^3$ to 9 $\mu\text{g}/\text{m}^3$
- Effective date, 60 days after publication in Federal Register, likely April 2024
- February 7, 2025 – TCEQ attainment and non-attainment designations due to EPA
- March 2026 – EPA final attainment and non-attainment designations effective
- September 2027 – Nonattainment area State Implementation Plans (SIP) due from TCEQ to EPA
- December 2032 – Attainment date

Regulatory $PM_{2.5}$ Monitoring Sites in Houston Area



Sites May be designated FRM or FEM
Conroe and Galveston FEM sites are not shown
Clinton Dr. monitor