

# **OHIO EPA SERIOUS NONATTAINMENT REDESIGNATION REQUEST**

**Air Quality Subcommittee**

**December 19, 2025**

# **ACTION REQUESTED**

**No action is requested at this time. This presentation is for information only.**

# **PREVIOUS ACTION**

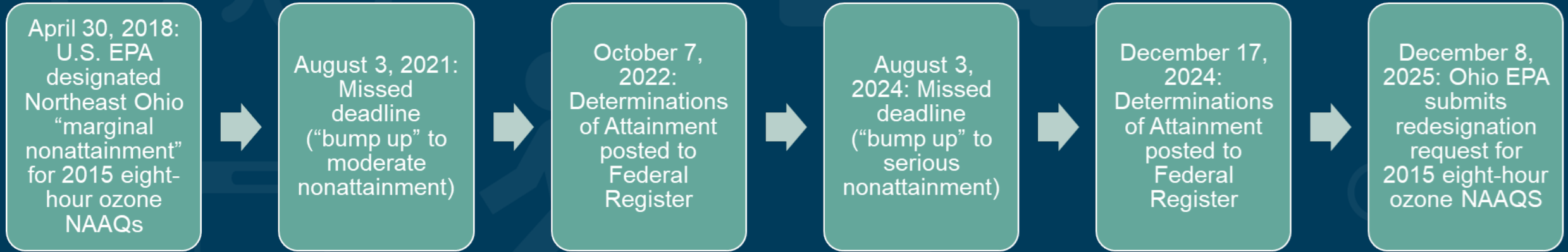
**No previous action.**

# BACKGROUND

## Overview

- Ozone (O<sub>3</sub>) NAAQS History
- Exceptional Events Demonstration
- O<sub>3</sub> Redesignation Request
- Redesignation Criteria
- U.S. Court of Appeals – Sierra Club vs. U.S. EPA
- Emissions Inventory
- Contingency Plans




# O<sub>3</sub> NAAQS HISTORY

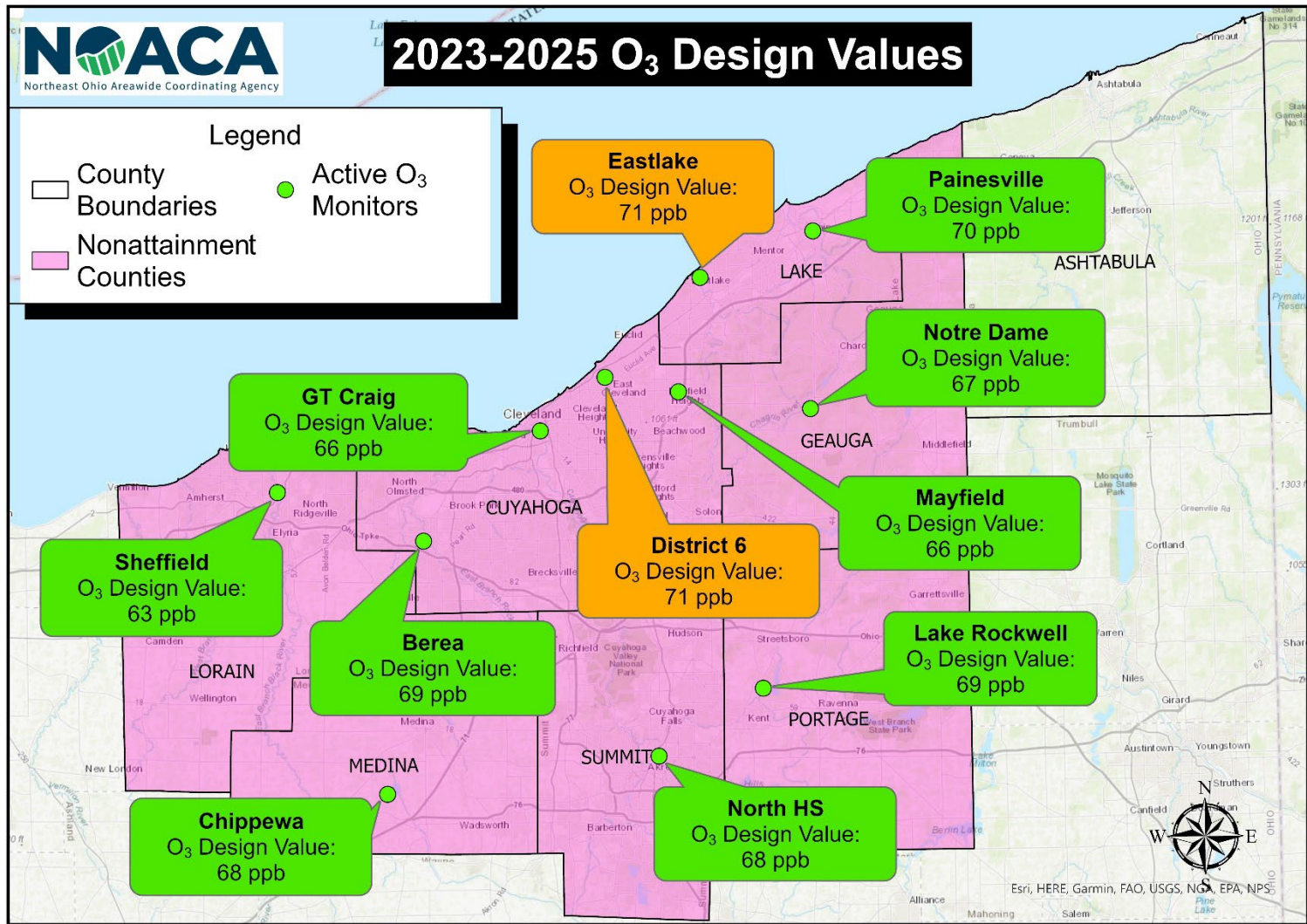


- 2015 eight-hour NAAQS: 70ppb
- Three-year rolling average of 4<sup>th</sup> highest daily maximum eight-hour O<sub>3</sub> concentrations

# 2023-2025 O<sub>3</sub> Design Values

**Legend**

-  County Boundaries
-  Nonattainment Counties
-  Active O<sub>3</sub> Monitors



NOACA makes no representations or warranties with respect to accuracy and/or completeness of the map

# BACKGROUND

## Exceptional Events (EE) Demonstration

- December 8, 2025 – Ohio EPA submitted [Exceptional Events Demonstration for 2023 Wildfire-Related Ozone Episodes in Cuyahoga County and Lake County](#) (EE Demo) to USEPA
- Ozone Episodes
  - June 1 – 2: District 6, Eastlake, GT Craig , and Painesville
  - June 29: District 6 and GT Craig
- Decrease District 6 and Eastlake 2023-2025 8-hour ozone design values from 71 to 70 ppb

# BACKGROUND

## Exceptional Events Requirements

- Narrative Conceptual Model
- Clear Casual Relationship
- Demonstration that event was:
  - Not reasonably controllable or preventable
  - Human activity unlikely to recur or was a natural event
- Demonstration that public was notified of the event(s)
- Demonstration that Ohio followed public comments process

# BACKGROUND

Site ID	County	Annual 4th Highest Ozone Value (ppb)			Design Value 2023-2025	Design Value 2023-2025 with EE Demo
		2023	2024	2025		
39-035-0034	Cuyahoga	71	72	70	71	70
39-035-0060		65	65	68	66	65
39-035-0064		75	65	68	69	n/a
39-035-5002		73	70	56	66	n/a
39-055-0004	Geauga	66	66	69	67	n/a
39-085-0003	Lake	72	71	71	71	70
39-085-0007		73	69	70	70	69
39-093-0018	Lorain	64	61	66	63	n/a
39-103-0004	Medina	72	65	68	68	n/a
39-133-1001	Portage	70	67	70	69	n/a
39-153-0026	Summit	71	69	66	68	n/a

# BACKGROUND

## O<sub>3</sub> Redesignation Request Overview

- December 8, 2025 – Ohio EPA submitted [Redesignation Request and Maintenance Plan for the Cleveland, OH 2015 8-hour Ozone Nonattainment Area](#) to USEPA
- Redesignate Cleveland nonattainment area from “serious nonattainment” to “attainment”
- 2023-2025 8-hour O<sub>3</sub> design values achieved attainment for the 2015 O<sub>3</sub> NAAQS
- Contingent on U.S. EPA approval of EE Demonstration

# REDESIGNATION REQUEST CRITERIA

- Attainment of the eight-hour O<sub>3</sub> NAAQS
- Approved State Implementation Plan (SIP)
  - March 30 and December 21, 2022 – SIP revision submitted to U.S. EPA
  - No SIP revisions were due at the time of the redesignation request
- Fulfillment of Section 110 and Part D
  - Section 110 – general SIP requirements
  - Part D – basic nonattainment requirements
- Improvements in air quality due to permanent and enforceable reductions in emissions
- Approved maintenance plan

# SIERRA CLUB V. U.S. EPA

- December 5, 2025 – two issues were appealed regarding U.S. EPA’s redesignation of the moderate Detroit nonattainment area
  - Approval of EE Demonstration
    - Court affirmed approval of EE demonstration
  - Approval of redesignation request to attainment
    - Court vacated redesignation
- Element of Issue: “the state containing such an area ‘*has met all*’ requirements applicable to the area under section 7410 and part D.”
  - Court interpreted “has met all” to mean requirements due prior to final redesignation must be implemented
  - U.S. EPA interpretation is that requirements that become applicable after a redesignation request is submitted are no longer applicable

# SIERRA CLUB V. U.S. EPA

## Effects on Redesignation Criteria

- Attainment Demonstration Submittal
  - Due January 1, 2026
  - Requires 30+ day comment period
- Reasonably Available Control Technology (RACT) Issue
  - RACT SIP – submitted March 17, 2025
  - RACT Implementation – due March 1, 2026
  - RACT Studies – due April 1, 2026
  - Court acknowledged Administrator has authority to extend RACT dates

# BACKGROUND

## Emission Inventory Related Requirements

- Inventory of ozone precursor emissions (VOC and NOx)
- Projection of the emission inventory to a year at least 10 years following redesignation
  - Base year – 2017; Attainment year – 2025; Interim year – 2032; Maintenance year – 2038
- Projected emissions sufficient to maintain ozone standard
  - Maintenance is demonstrated when the maintenance year (2038) projected emission totals are below the 2025 attainment year totals

# SOURCE EMISSIONS

- Point (Electric generating units (EGU) and non-electric generating units (non-EGU)), Nonpoint, and Nonroad
  - U.S. EPA's emissions modeling platform (EMP) – based on the National Emissions Inventory (NEI)
  - Appendix B – 2023 Point Inventory
- On-road
  - U.S. EPA's Motor Vehicle Emission Simulator (MOVES) modeling system, MOVES5
  - Appendix C – Mobile Inventory



# BACKGROUND

**Table 4 - Cuyahoga County, Ohio Emission Estimations for Onroad Mobile Sources**

	<b>2017 Base</b>	<b>2025</b>	<b>2032</b>	<b>2038</b>
VOC (TPOSD)	13.69	7.54	5.51	3.62
NOx (TPOSD)	22.12	8.92	5.57	2.93
VMT (miles/day)	28,608,427	29,353,630	30,565,020	30,231,130

**Table 6 - Lake County, Ohio Emission Estimations for Onroad Mobile Sources**

	<b>2017 Base</b>	<b>2025</b>	<b>2032</b>	<b>2038</b>
VOC (TPOSD)	2.97	1.59	1.14	0.76
NOx (TPOSD)	4.62	1.67	1.00	0.54
VMT (miles/day)	6,172,947	6,175,090	5,731,133	5,747,594

# BACKGROUND

**Table 11 - Emission Estimation Totals for Onroad Mobile Sources for the Cleveland, OH Area**

	<b>2017 Base</b>	<b>2025</b>	<b>2032</b>	<b>2038</b>
VOC (TPOSD)	31.69	17.72	12.60	8.63
NOx (TPOSD)	51.91	21.17	11.44	6.71
VMT (miles/day)	72,824,488	69,536,488	75,461,138	76,056,139

# BACKGROUND

- Margin of Safety – difference between attainment-year emissions and projected maintenance-year emissions
- Decrease in emissions from all sources is sufficient to accommodate 15% allocation of safety margin

**Table 12 - Mobile Vehicle Emissions Budget for the Cleveland, OH Area**

	2032 Estimated Emissions	2032 Mobile Safety Margin Allocation*	2032 Total Mobile Budget	2038 Estimated Emissions	2038 Mobile Safety Margin Allocation*	2038 Total Mobile Budget
VOC (TPOSD)	12.60	1.89	14.49	8.63	1.29	9.92
NOx (TPOSD)	11.44	1.72	13.16	6.71	1.01	7.72
VMT (miles/day)	75,461,138	-	-	76,056,139	-	-

\*The 15 percent margin of safety was calculated by taking 15 percent of the mobile source emission estimates.

# BACKGROUND

**Table 13 – Cuyahoga County, Ohio NO<sub>x</sub> Emission Inventory Totals (TPOSD)**

Sector	2017 Base	2025 Attainment	2032 Interim	2038 Maintenance	Safety Margin
EGU	0.00	0.00	0.02	0.02	-0.02
Non-EGU	7.38	4.96	5.39	5.37	-0.41
Nonroad	9.95	6.62	6.14	6.35	0.27
Nonpoint	6.12	6.48	6.37	6.43	0.05
Onroad	22.12	8.92	5.57	2.93	5.99
<b>TOTAL</b>	<b>45.57</b>	<b>26.98</b>	<b>23.49</b>	<b>21.10</b>	<b>5.88</b>

**Table 21 - Cuyahoga County, Ohio VOC Emission Inventory Totals (TPOSD)**

Sector	2017 Base	2025 Attainment	2032 Interim	2038 Maintenance	Safety Margin
EGU	0.00	0.00	0.00	0.00	0.00
Non-EGU	3.20	2.32	2.42	2.48	-0.16
Nonroad	12.49	10.19	9.92	10.02	0.17
Nonpoint	53.46	37.49	34.96	33.74	3.75
Onroad	13.69	7.54	5.51	3.62	3.92
<b>TOTAL</b>	<b>82.84</b>	<b>57.54</b>	<b>52.81</b>	<b>49.86</b>	<b>7.68</b>

- NOx emissions projected to decrease by 9.91 TPOSD in 2032 and 14.63 TPOSD in 2038
  - Nonroad and onroad emissions are all projected to decline
  - All Counties show an overall decrease in NOx emissions
- 
- VOC emissions projected to decrease by 8.53 TPOSD in 2032 and 13.71 TPOSD in 2038
  - Emissions for all sectors, except non-EGUs, are projected to decline or remain stable
  - All Counties show an overall decrease in VOC emissions.

**Table 20 – Cleveland, OH Area NO<sub>x</sub> Emission Inventory Totals (TPOSD)**

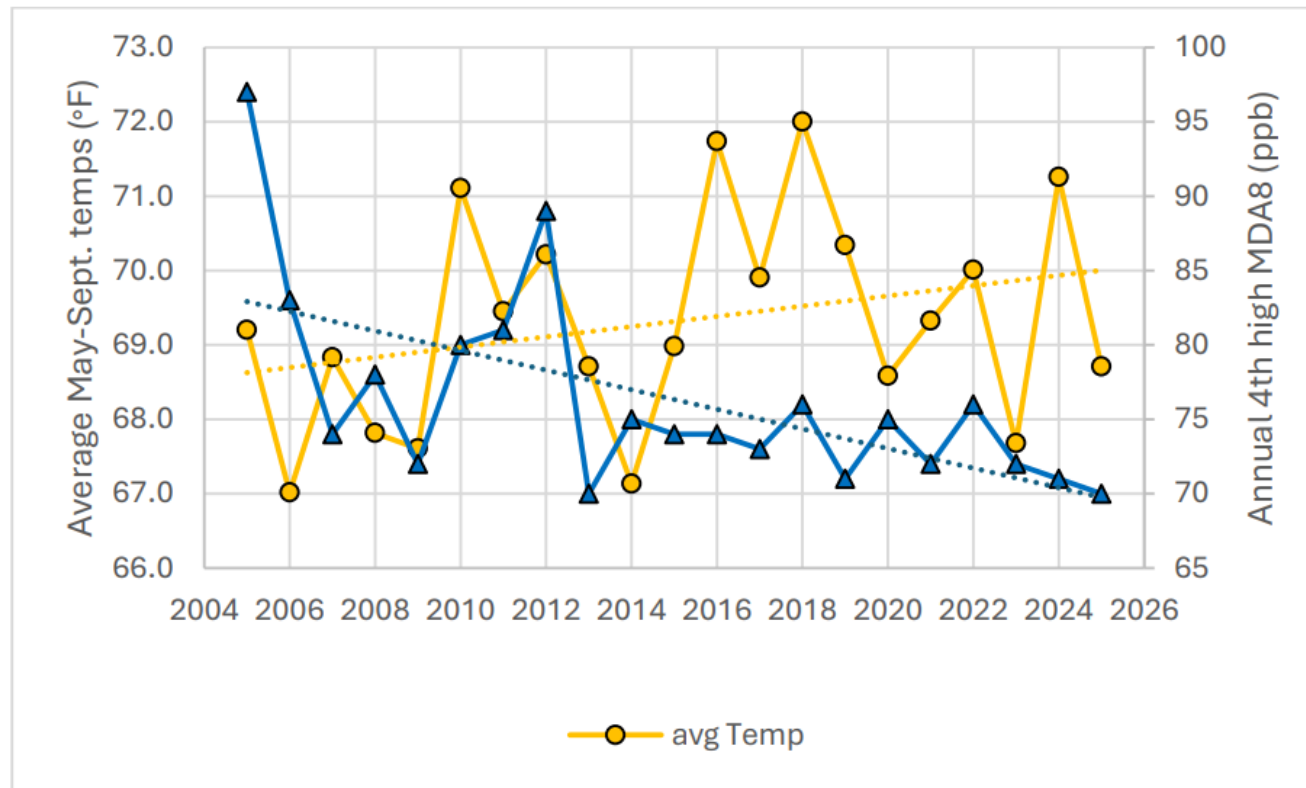
NOx	2017 Base	2025 Attainment	2032 Interim	2038 Maintenance	Safety Margin
Cuyahoga	45.57	26.98	23.49	21.10	5.88
Geauga	3.82	2.21	1.52	1.41	0.80
Lake	12.45	7.27	7.22	6.09	1.18
Lorain	16.07	7.96	7.05	6.67	1.29
Medina	7.67	3.91	2.99	2.55	1.36
Portage	7.13	4.80	3.77	3.74	1.06
Summit	15.36	9.49	6.67	6.43	3.06
<b>COMBINED NOx TOTAL</b>	<b>108.07</b>	<b>62.62</b>	<b>52.71</b>	<b>47.99</b>	<b>14.63</b>

**Table 28 – Cleveland, OH Area VOC Emission Inventory Totals (TPOSD)**

VOC	2017 Base	2025 Attainment	2032 Interim	2038 Maintenance	Safety Margin
Cuyahoga	82.84	57.54	52.81	49.86	7.68
Geauga	7.99	6.95	6.86	6.71	0.24
Lake	18.19	12.65	12.49	12.17	0.48
Lorain	18.88	14.29	12.93	12.59	1.70
Medina	15.07	11.94	11.66	11.50	0.44
Portage	14.67	12.04	11.79	11.65	0.39
Summit	32.37	26.53	24.87	24.29	2.24
<b>COMBINED VOC TOTAL</b>	<b>190.01</b>	<b>141.94</b>	<b>133.41</b>	<b>128.77</b>	<b>13.17</b>

# BACKGROUND

**Figure 3 – Average May-September Temperatures at Cleveland Hopkins International Airport and Annual Fourth High Daily Maximum 8-Hour Average (MDA8) Ozone at the Eastlake Monitor Versus Year**



# CONTINGENCY PLANS

## Potential Contingency Measures

- Require VOC or NOx emission offsets for new and modified major sources
- Increase ratio of emission offsets required for new sources

## VOC and NOx sources potentially subject to future controls

- VOC RACT
  - Architectural and industrial maintenance coatings
  - Automobile refinishing shop
- NOx RACT
  - EGUs
  - Other sources less than 50 tons per year

# NEXT STEPS

- **Monitor approval status for the EE Demo, Redesignation Request and Maintenance Plan, and the Attainment Demonstration (all three must be approved for redesignation to occur)**
- **Monitor RACT submittals**
- **Continue to monitor Ozone levels in Northeast Ohio**
- **Update Air Quality Subcommittee after final area designations**



# NOACA

Northeast Ohio Areawide Coordinating Agency

NOACA will **strengthen** regional cohesion, **preserve** existing infrastructure, and **build** a sustainable multimodal transportation system to **support** economic development and **enhance** quality of life in Northeast Ohio.