

# Cincinnati Ozone Update

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# Meeting Logistics

- Please keep yourself muted unless you are talking to minimize background noise/distraction
- Opportunity for questions and discussion at end of presentation
- Slides will be emailed following today's meeting
- If you joined via a telephone line (and thus we cannot identify you for our attendance records), please email [holly.kaloz@epa.ohio.gov](mailto:holly.kaloz@epa.ohio.gov) with notice that you attended the meeting



# Background

- February 2020 meeting
  - 2015 ozone standard
    - 70 ppb based on a 3-year average of annual 4th high values (called “design value”)
  - Cincinnati is currently designated marginal nonattainment
  - Required to meet standard by August 3, 2021 (called “attainment date”)
    - 2020 is last ozone season before attainment date
      - Ozone season is March 1 to October 31
  - Cincinnati unlikely to meet standard or be eligible for 1-year extension
    - May get “bumped up” to moderate nonattainment



# Current Cincinnati Ozone Outlook

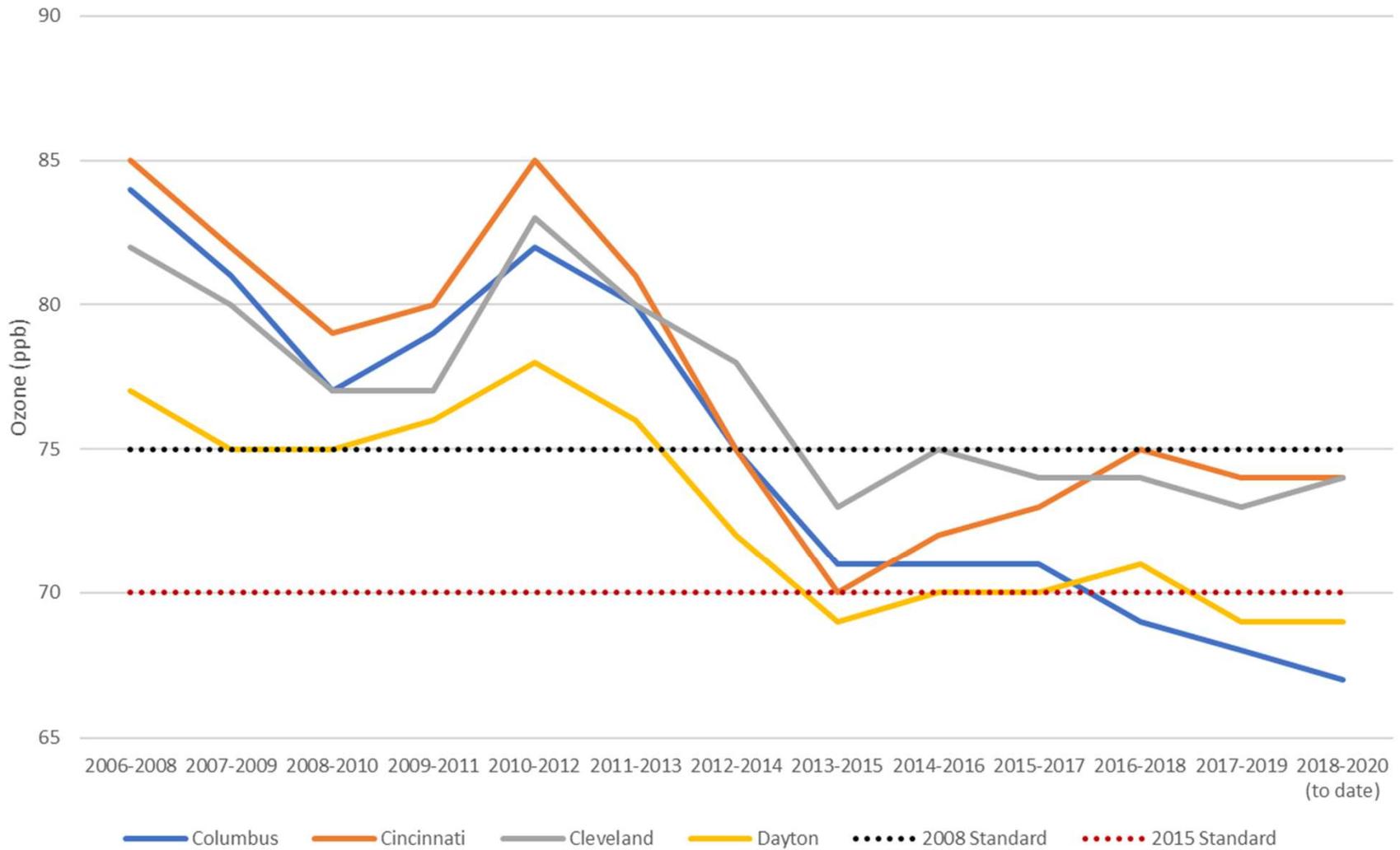
- **Cincinnati will not meet standard by end of 2020**
- Required to meet standard (“attain”) by August 3, 2021
  - 2020 is last ozone season before attainment date
- 3 monitors (so far) do not meet standard based on current 2018-2020 design value
  - Middletown Airport (Butler County) – 71 ppb
  - Sycamore (Hamilton County) – 74 ppb
  - Lebanon (Warren County) – 72 ppb
- **Will not qualify for 1-year extension – even with reduced traffic due to pandemic**
  - All monitors in area need 2020 4<sup>th</sup> high meeting standard (70 ppb or below)
  - Lebanon monitor does not meet criteria



# Cincinnati Ozone Outlook

Site Name	Site Id	County	2014 4th High	2015 4th High	2016 4th High	2017 4th High	2018 4th High	2019 4th high	2020 4th high needed to violate 2015 standard	Current 2020 4th high	Current 2018-2020 Design Value
Middletown Airport	39-017-0018	Butler	69	70	73	70	76	67	70	70	71
Crawford Woods	39-017-0023	Butler				72	73	67	73	67	69
Miami University, Oxford	39-017-9991	Butler	69	68	71	69	70	65	78	64	66
Batavia	39-025-0022	Clermont	68	70	73	68	69	71	73	64	68
Sycamore	39-061-0006	Hamilton	71	72	75	72	80	72	61	70	74
Colerain	39-061-0010	Hamilton	73	70	73	68	75	67	71	70	70
Taft NCore	39-061-0040	Hamilton	69	71	73	71	72	71	70	68	70
Lebanon	39-165-0007	Warren	71	71	74	68	75	70	68	71	72

### Ozone 3-Year Design Value Trends



# “Bump-up” Anticipated Timeline

- 8/3/21: Attainment date (marginal)
- ~2/3/22: Bump-up to moderate
  - Required 6 months after attainment date (i.e. 2/3/22)
  - In recent actions for the 2008 standard (going from moderate to serious), U.S. EPA took ~ 1 year to finalize the bump-up
- ~2/3/23: Attainment demonstration due
  - Already past due at time of bump-up (original deadline 8/3/21)
  - U.S. EPA can adjust some deadlines as part of bump-up
    - In recent action extended some SIP deadlines to ~ 1 year after bump-up
- 8/3/24: New (moderate) attainment date (cannot be extended)
  - 2023 is last ozone season before new attainment date

# Overview of CAA Ozone Nonattainment Area Planning & Control Requirements by Classification



		NSR Offset Ratio	Major Source Threshold
<b>EXTREME</b> (20 years to attain)	TRAFFIC CONGESTION CONTROLS (if appropriate)	1.5 : 1 Extreme	10 <u>tpy</u>
	CLEAN FUELS REQUIREMENT FOR BOILERS		
<b>SEVERE</b> (15/17 years to attain)	PENALTY FEE PROGRAM FOR MAJOR SOURCES	1.3 : 1 Severe	25 <u>tpy</u>
	VMT GROWTH DEMONSTRATION (& TCMs if needed)		
	VMT REPORTING		
<b>SERIOUS</b> (9 years to attain)	NSR REQUIREMENTS FOR EXISTING SOURCE MOODS	1.2 : 1 Serious	50 <u>tpy</u>
	CLEAN FUELS PROGRAM OR SUBSTITUTE MEASURE FOR LARGER POP. AREAS		
	MODELED DEMO OF ATTAINMENT		
	MILESTONE DEMONSTRATIONS and CONTINGENCY MEASURES FOR RFP		
	3% ANNUAL RFP UNTIL ATTAINMENT		
	ENHANCED I/M for larger population areas		
	CONTINGENCY MEASURES FOR FAILURE TO ATTAIN		
ENHANCED MONITORING PLAN			
<b>MODERATE</b> (6 years to attain)	Stage-II Gasoline Vapor Recovery	1.15 : 1 Moderate	100 <u>tpy</u>
	BASIC VEHICLE I/M for larger population areas		
	15% VOC ROP or 15% VOC/NOx RFP (OVER 6 YEARS)		
	VOC/NOx RACT for MAJOR/CTG SOURCES		
<b>MARGINAL</b> (3 years to attain)	ATTAINMENT DEMONSTRATION	1.1 : 1 Marginal	100 <u>tpy</u>
	NONATTAINMENT NEW SOURCE REVIEW PROGRAM		
	EMISSIONS STATEMENTS		
	BASELINE EMISSIONS INVENTORY (EI)		
	PERIODIC EMISSIONS INVENTORY UPDATES		

**NOTE:** Transportation and General Conformity apply in all ozone nonattainment areas.

# Mandatory Requirements for Moderate Ozone Nonattainment Areas

“Bump-up” from marginal to moderate nonattainment triggers additional requirements under Clean Air Act (CAA):

- NO<sub>x</sub> Reasonably Available Control Technology (RACT)
  - Major stationary sources (> 100 tons per year (TPY) potential to emit (PTE))
  - Expand RACT in place in Cleveland area (OAC Chapter 3745-110) to Cincinnati area
    - Need to reassess to ensure previously established RACT is still appropriate
- VOC RACT
  - Control Technique Guidelines (CTGs)
    - Some older CTGs already in place (OAC Chapter 3745-21), but need to adopt several newer CTGs
  - Non-CTG VOC RACT
    - Major stationary sources (> 100 TPY PTE)
    - RACT for some sources already in place under older standards (OAC Chapter 3745-21), but need to reassess to ensure still appropriate, and add any sources not already covered



# Mandatory Requirements for Moderate Ozone Nonattainment Areas

“Bump-up” from marginal to moderate nonattainment triggers additional requirements under Clean Air Act (CAA):

- Emissions Inspection and Maintenance (I/M) Program (i.e. E-Check)
  - But not the E-Check you may remember!
    - On-board diagnostics only; no longer tail-pipe tests
  - Expand I/M in place in Cleveland (OAC Chapter 3745-26) to Cincinnati area
- Additional challenges permitting new and modified sources
  - NSR offset ratio 1.15:1
  - Baseline year reset



# Anticipated Rulemaking Timeline

- RACT revisions (OAC Chapters 3745-110 and 3745-21)
  - Anticipate implementation required by 3/1/23 (beginning of last ozone season before moderate attainment date)
  - ~1 year for rulemaking process
  - Try to provide at least 18 months implementation period
  - Anticipate start rulemaking process (Early Stakeholder Outreach) at the end of this ozone season (i.e. ~November 2020)
- I/M revisions (OAC Chapter 3745-26)
  - Anticipate implementation required by 2026 (4 years after bump-up)
    - U.S. EPA may establish alternate deadline as part of bump-up
  - Expand to include Cincinnati counties with future implementation date
    - Will include provision that will not be implemented if attain prior to implementation date



# Evaluating Possible Control Options

- In the past, primarily relied on federal control measures to meet standards
  - No new federal control measures are planned
  - Need to evaluate additional emissions reductions (beyond mandatory RACT and I/M) to meet standard and avoid another bump-up to Serious Nonattainment

# LADCO Projects

- Ongoing projects with Lake Michigan Air Directors Consortium (LADCO) – for information sharing among states
  - Ozone control options analysis
    - Regional, state, and nonattainment area analysis of potential control options, including potential emissions reductions and cost effectiveness
    - Expected ~fall/winter 2020
  - NOx/VOC sensitivity analysis
    - Photochemical modeling evaluating sensitivity of ozone to reductions in NOx and/or VOC emissions
    - Expected ~end of 2020
  - NOx RACT workgroup



# Summary

- Cincinnati will not meet standard by end of 2020, and is not eligible for 1-year extension
  - “Bump up” to moderate expected
- RACT evaluation and rulemaking likely to begin this winter
- Also looking at other sectors for potential controls, based on information from LADCO projects
- Attainment is primary goal

# Discussion/Questions

