Ozone & Reformulated Gas Update

Presentation to Louisville Metro Council Public Works Committee, by

Louisville Metro Air Pollution Control District

February 16, 2021

What is Ozone (O_3)

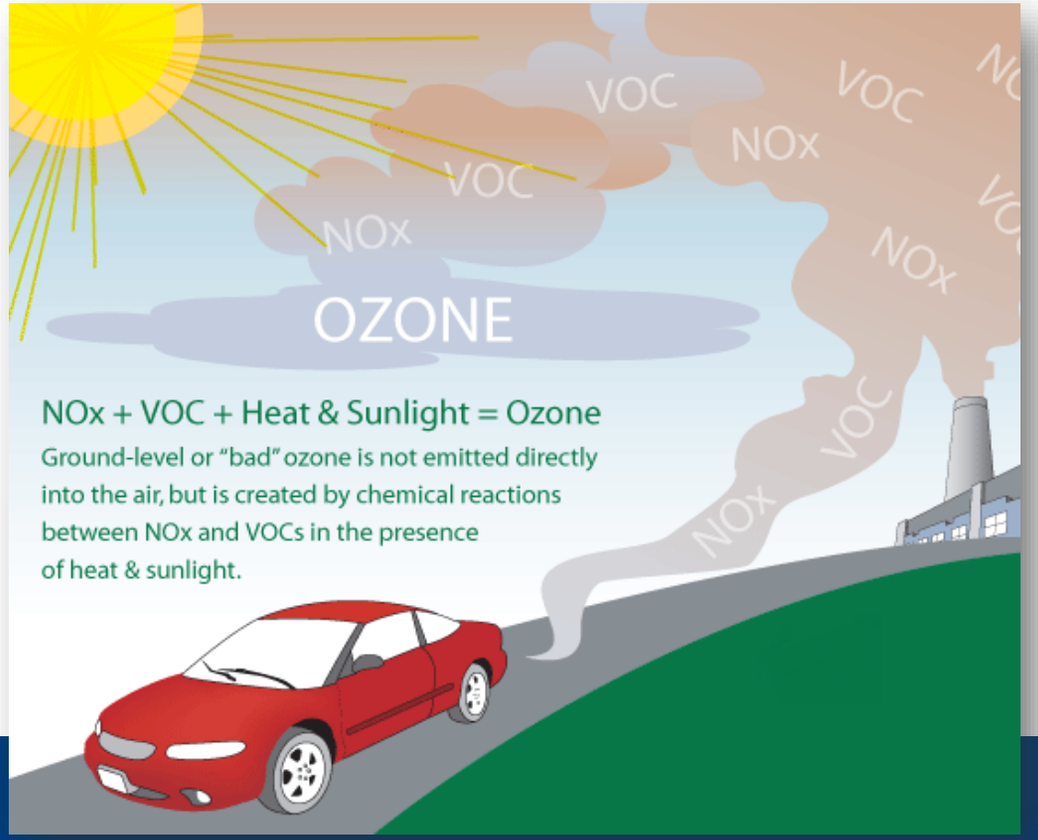
- Ozone is not emitted directly, rather it is created via a chemical reaction in the atmosphere:

  Oxides of Nitrogen (NOx) + Volatile Organic Compounds (VOCs) + Sunlight = O_3

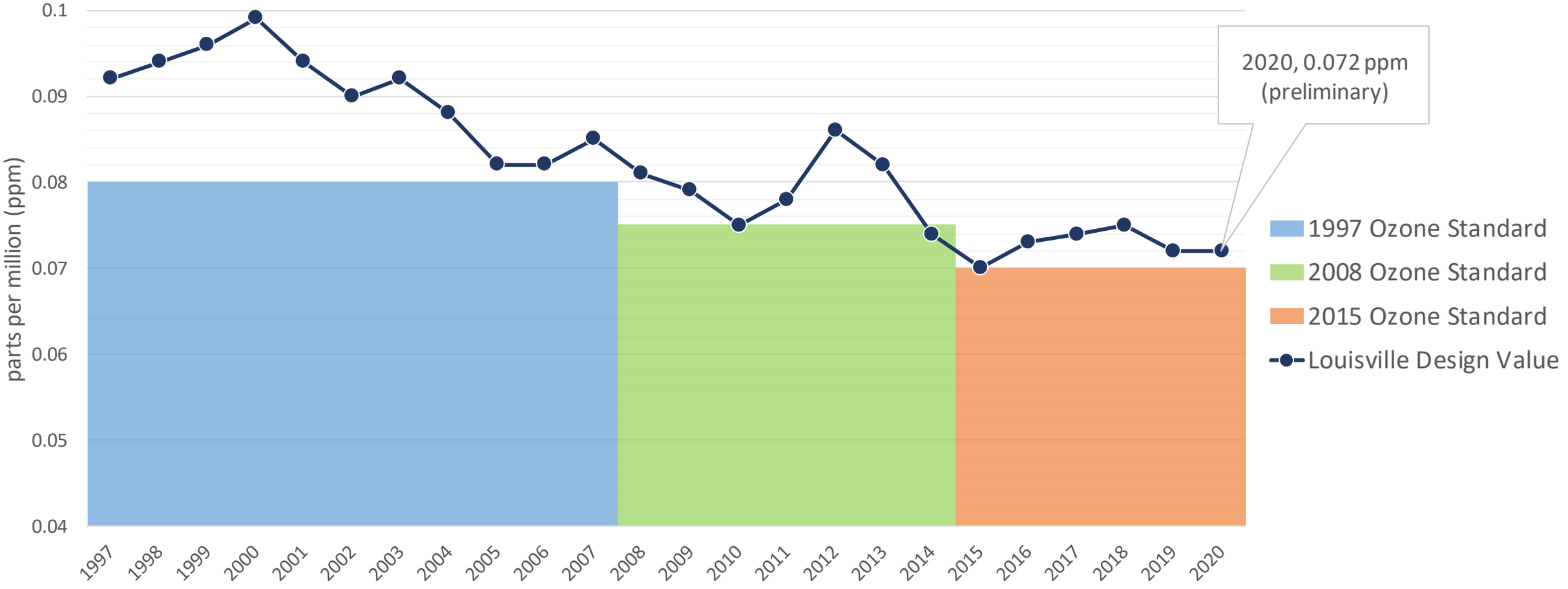
- Louisville's Ozone season:

  March-October

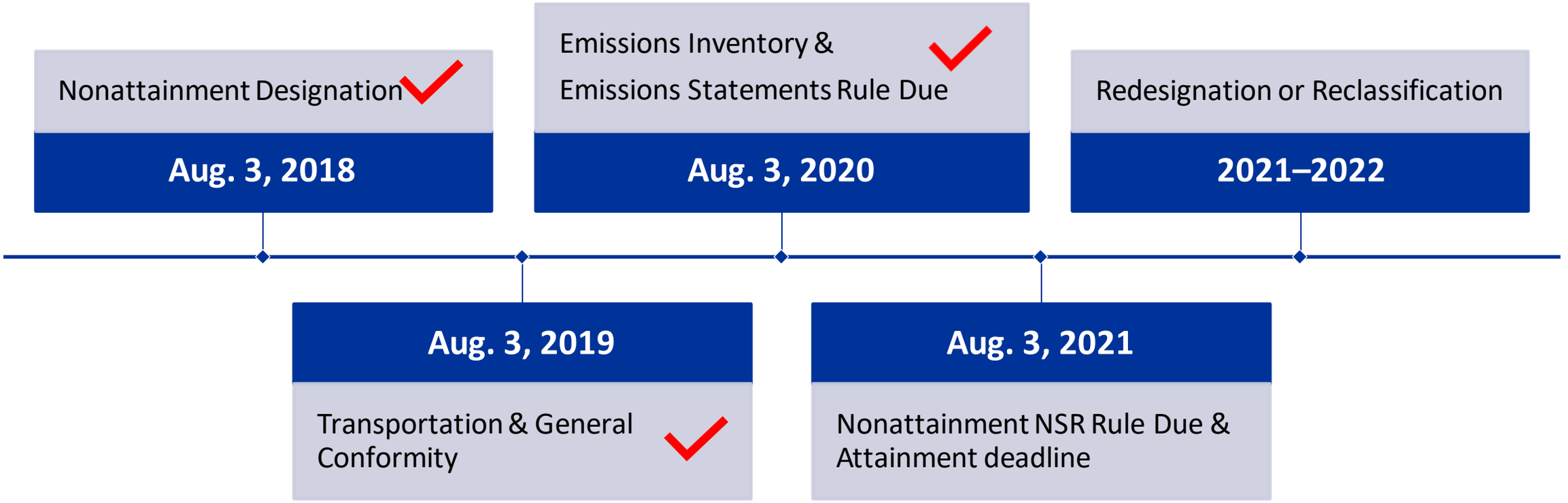
- Health effects:
  - Shortness of breath
  - Inflame airways
  - Aggravate lung disease
  - Increase frequency of asthma attacks



Louisville Area National Ambient Air Quality Standard (NAAQS) for Ozone Trend



2015 Ozone Standard State Implementation Plan (SIP) Requirements

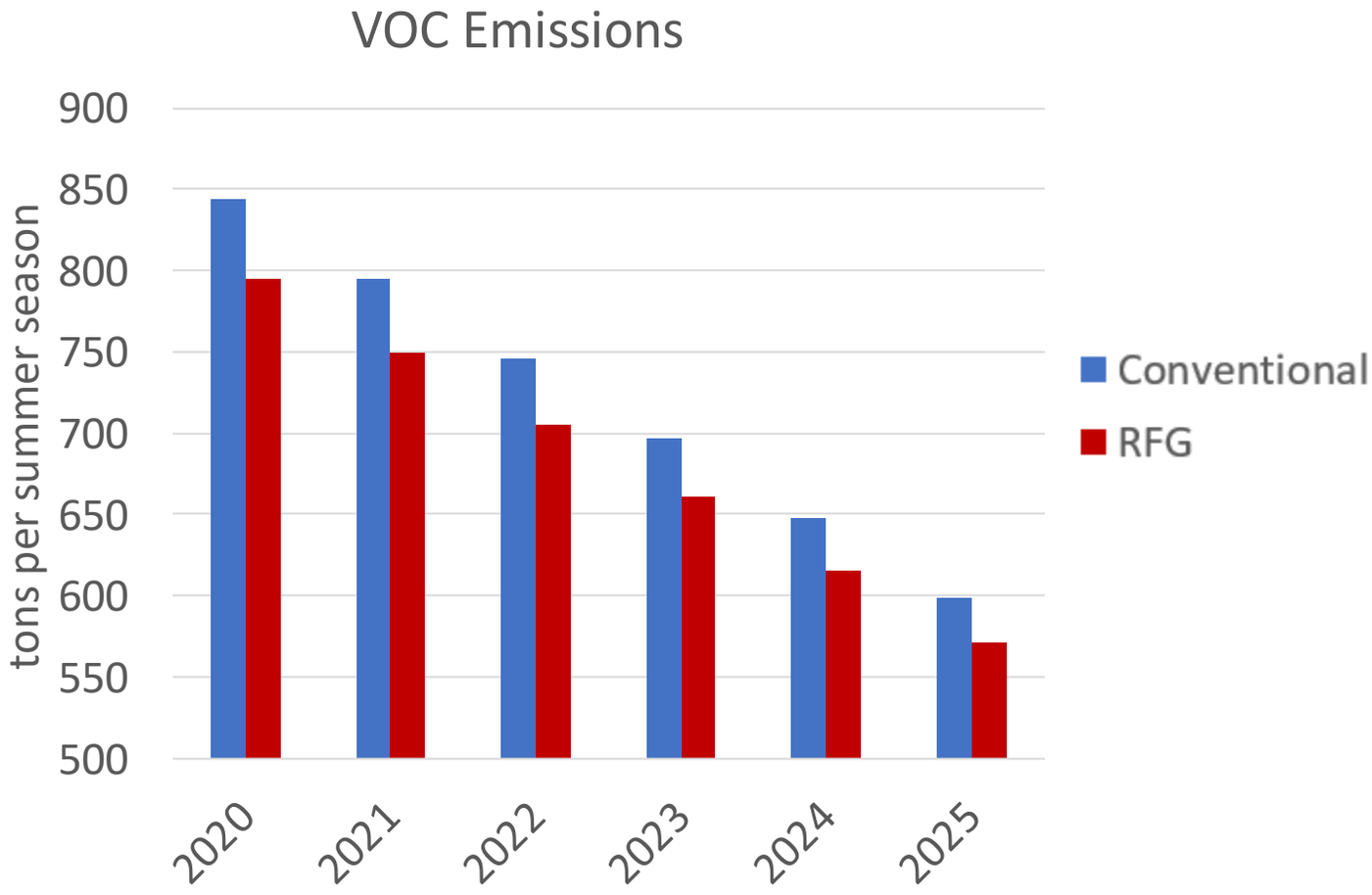


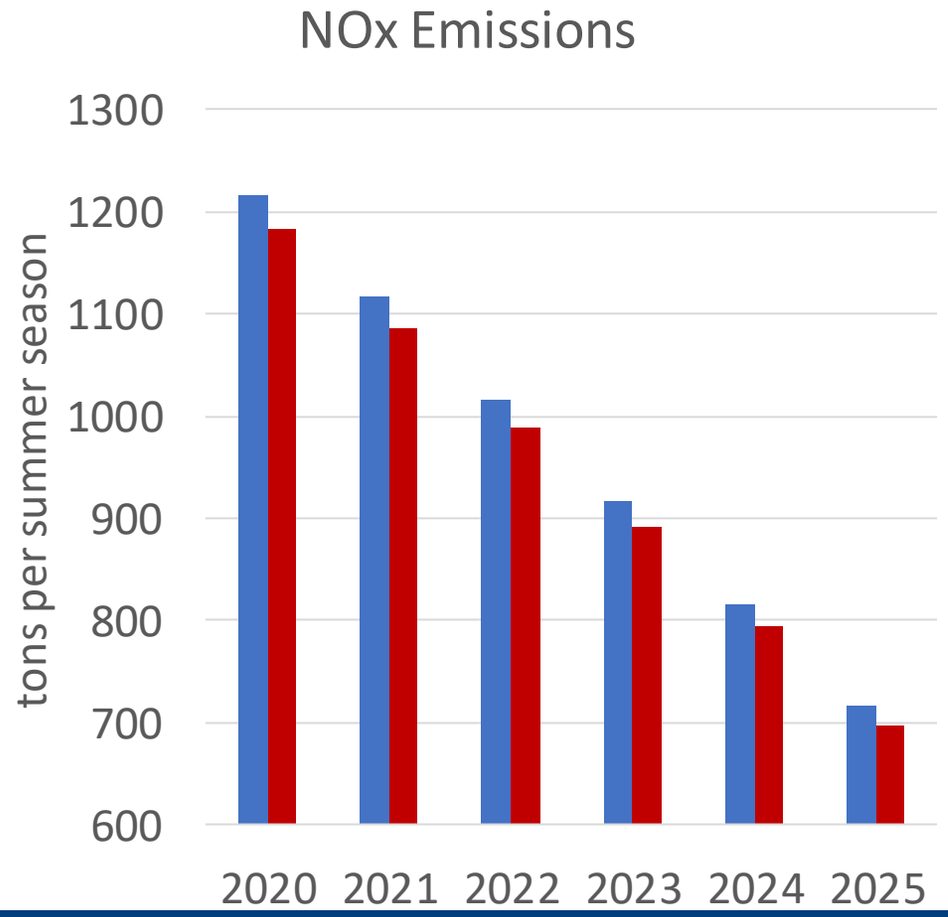
About Reformulated Gasoline (RFG)

- Reformulated gasoline (RFG) is blended to burn more cleanly than conventional gasoline, reducing smog-forming and toxic pollutants
- Mandated by Congress in 1990 Clean Air Act Amendments
- Required in nine worst ozone areas of the U.S. as of 1990 and was optional elsewhere
- Governor *opted-in* Jefferson and portions of Bullitt & Oldham Counties in 1995
- Governor *opted-out* Boone, Campbell, and Kenton Counties in 2018
- Currently makes up 30% of gasoline sold in the U.S.

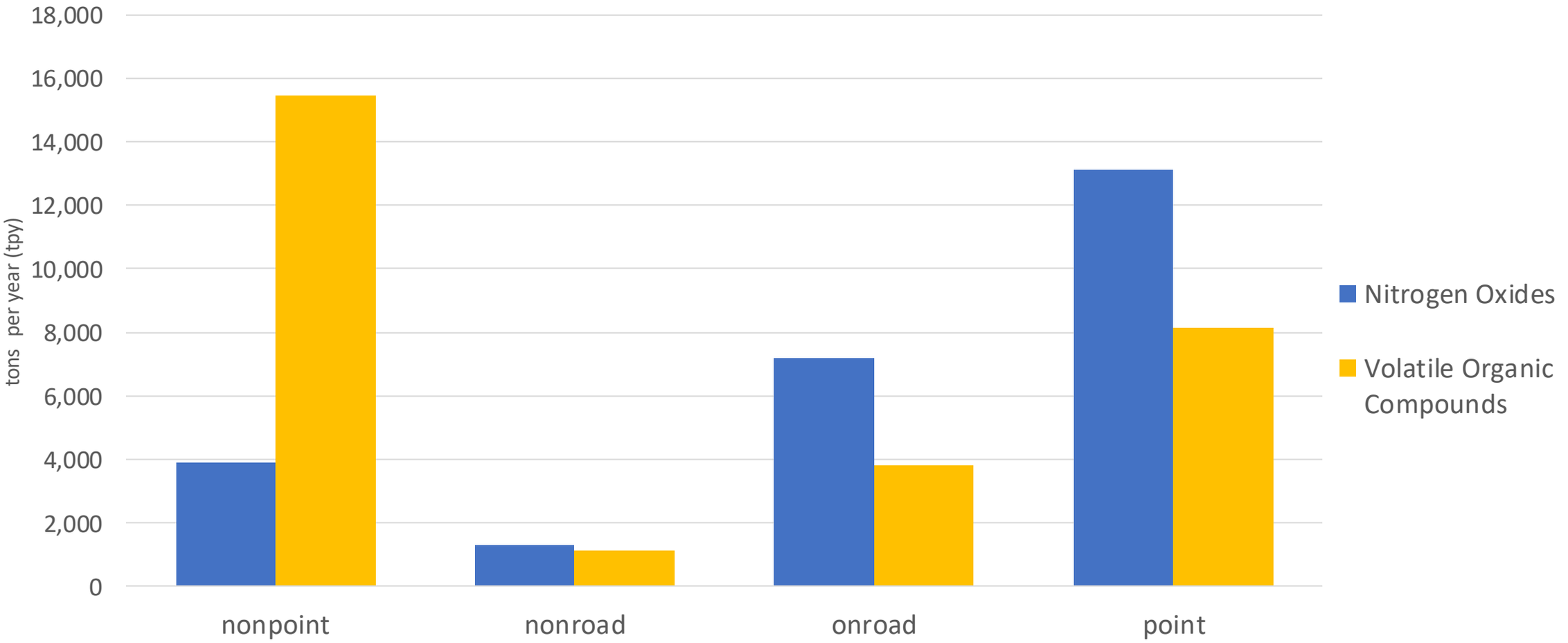
Source: www.epa.gov/gasoline-standards/reformulated-gasoline, Clean Air Act §211, 83 Fed. Reg. 22,593

Benefit of RFG





Louisville Emissions

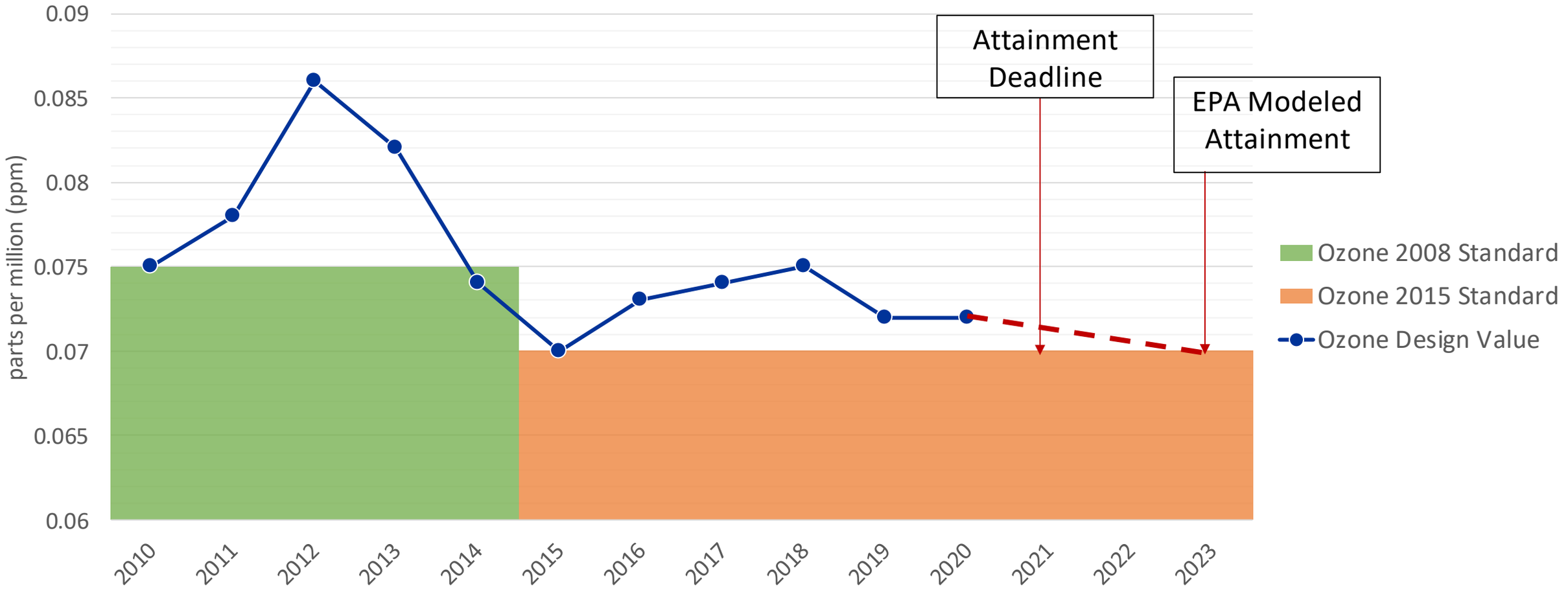


Source: U.S. EPA, 2017 National Emissions Inventory (NEI) - https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei

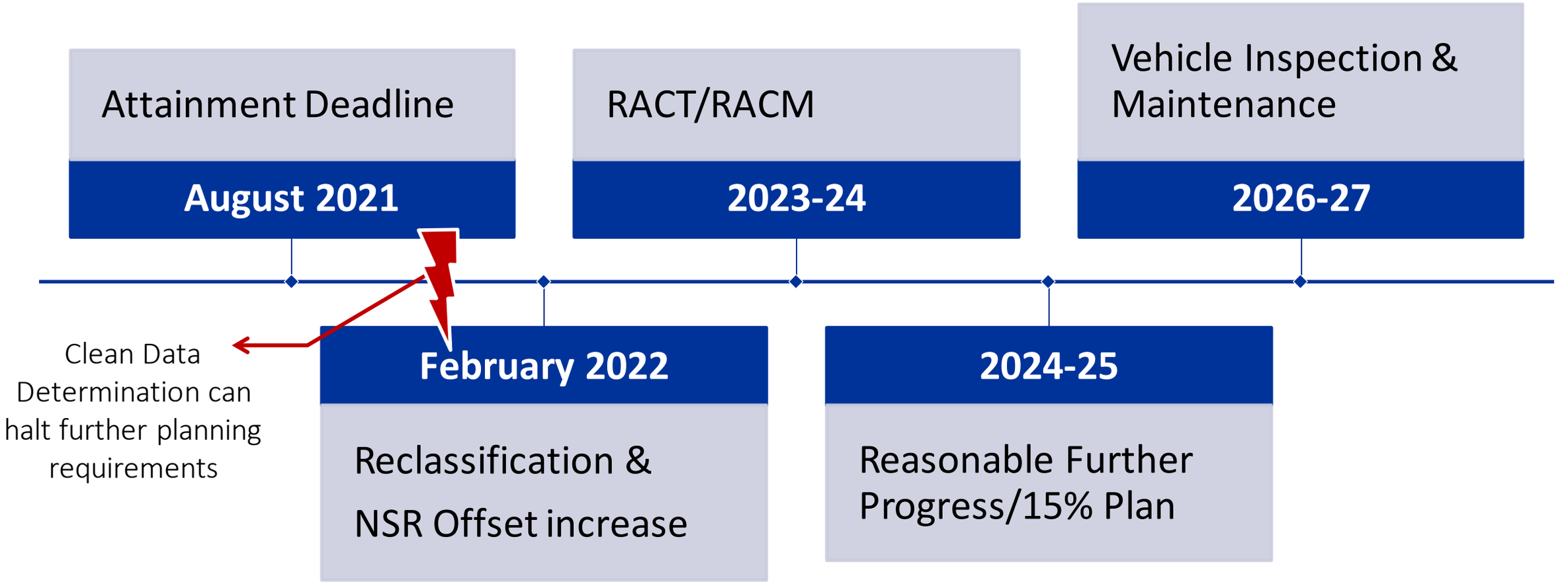
Legal Requirements

- Clean Air Act §110(l), *Plan Revisions* – "The Administrator shall not approve a revision of a [state implementation] plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress…, or any other applicable requirement of this chapter."
- Emissions increase offsets must be "quantifiable, surplus, permanent and enforceable" (Seitz, 2001)

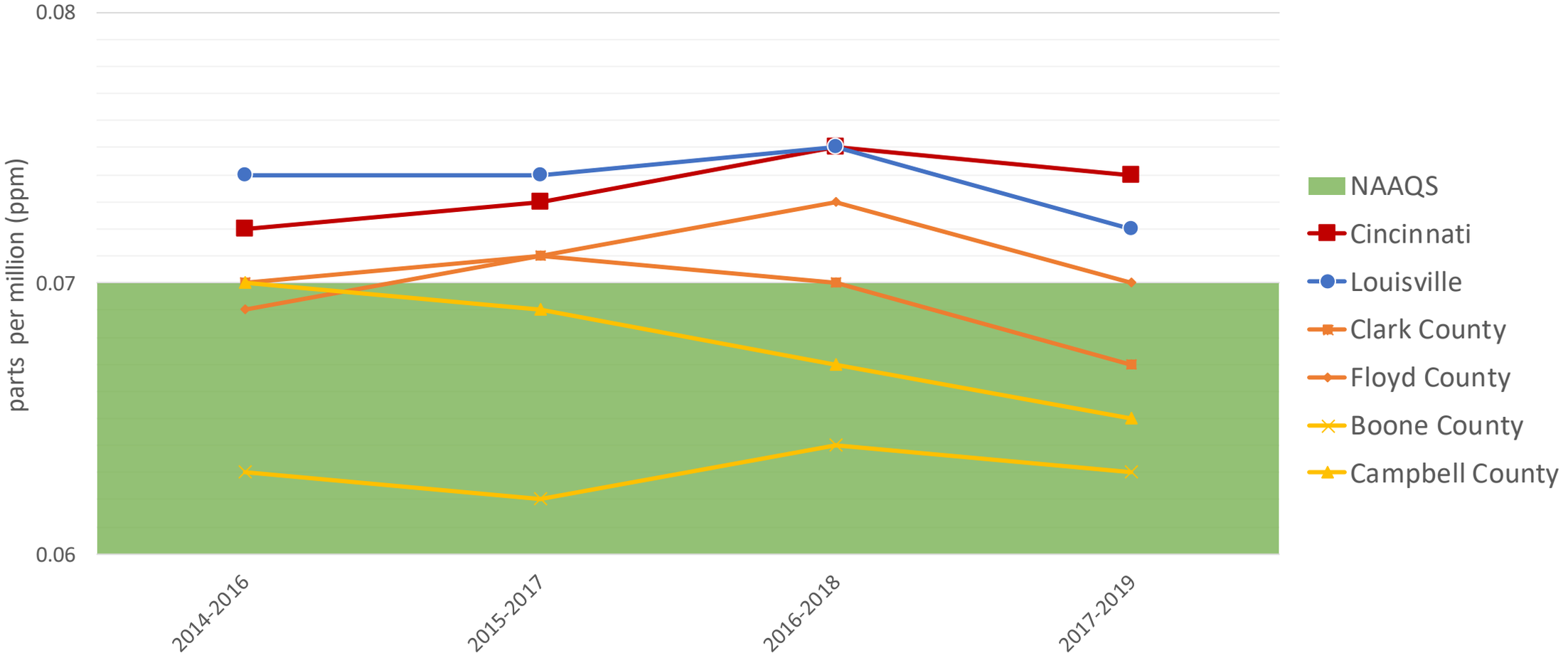
Louisville Area Ozone Projection



SIP Requirements when Reclassified



Cincinnati Area Compared to Louisville Area



Source: U.S. EPA, Air Quality Design Values - https://www.epa.gov/air-trends/air-quality-design-values

Multipollutant Stakeholder Group (MPSG)

- Convened in 2019 to 2020
- Broad range of stakeholders from 36 organizations
- Reviewed current air quality challenges and developed recommendations to improve local air quality and reduce health impacts associated with air pollution exposure
- Mobile Source Committee Recommendation #2: Keep reformulated gasoline (RFG) use in the ozone nonattainment area if analysis shows continued emissions reduction benefits…. Those benefits should be maintained until the area is redesignated by EPA as Attainment of the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS)….

Questions?

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