

Air Quality in North Texas

Environment & Sustainability Committee Meeting • March 7, 2022

Jenny Narvaez, Program Manager



North Central Texas
Council of Governments



Regional Transportation Council

Regional Greenhouse Gas Emissions Project

Regional GHG Inventory

- Contracting with Local Governments for Sustainability (ICLEI), formally known as the International Council for Local Environmental Initiatives, thanks to generous contribution from Burlington-Northern Santa Fe (BNSF) railroad

NCTCOG GHG Inventory Cohort

• Participants:

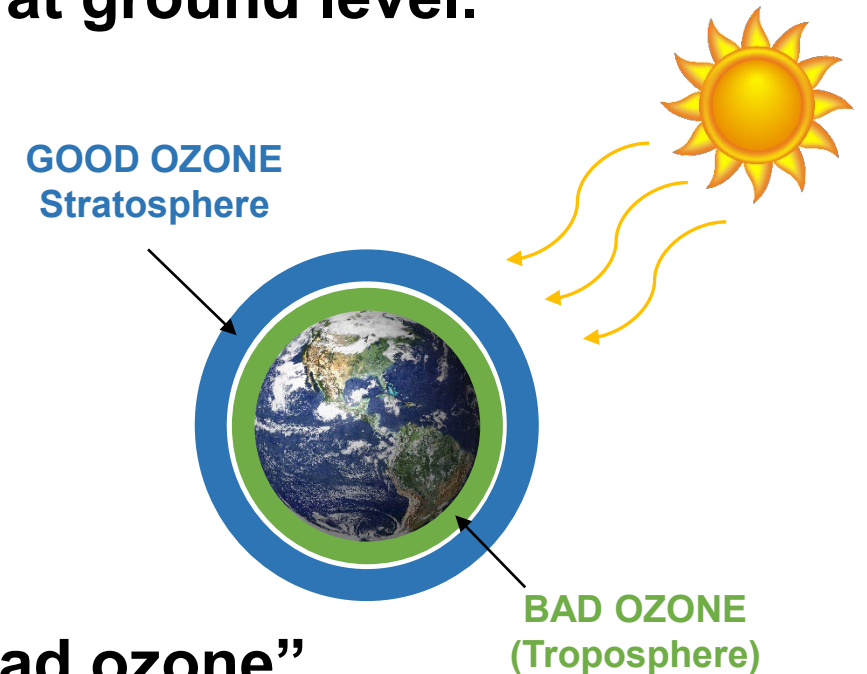
- Carrollton
- Cedar Hill
- Dallas
- Denton
- Farmers Branch
- Fort Worth
- Frisco
- Grand Prairie
- Grapevine
- Lewisville
- Mesquite
- Plano

Ozone

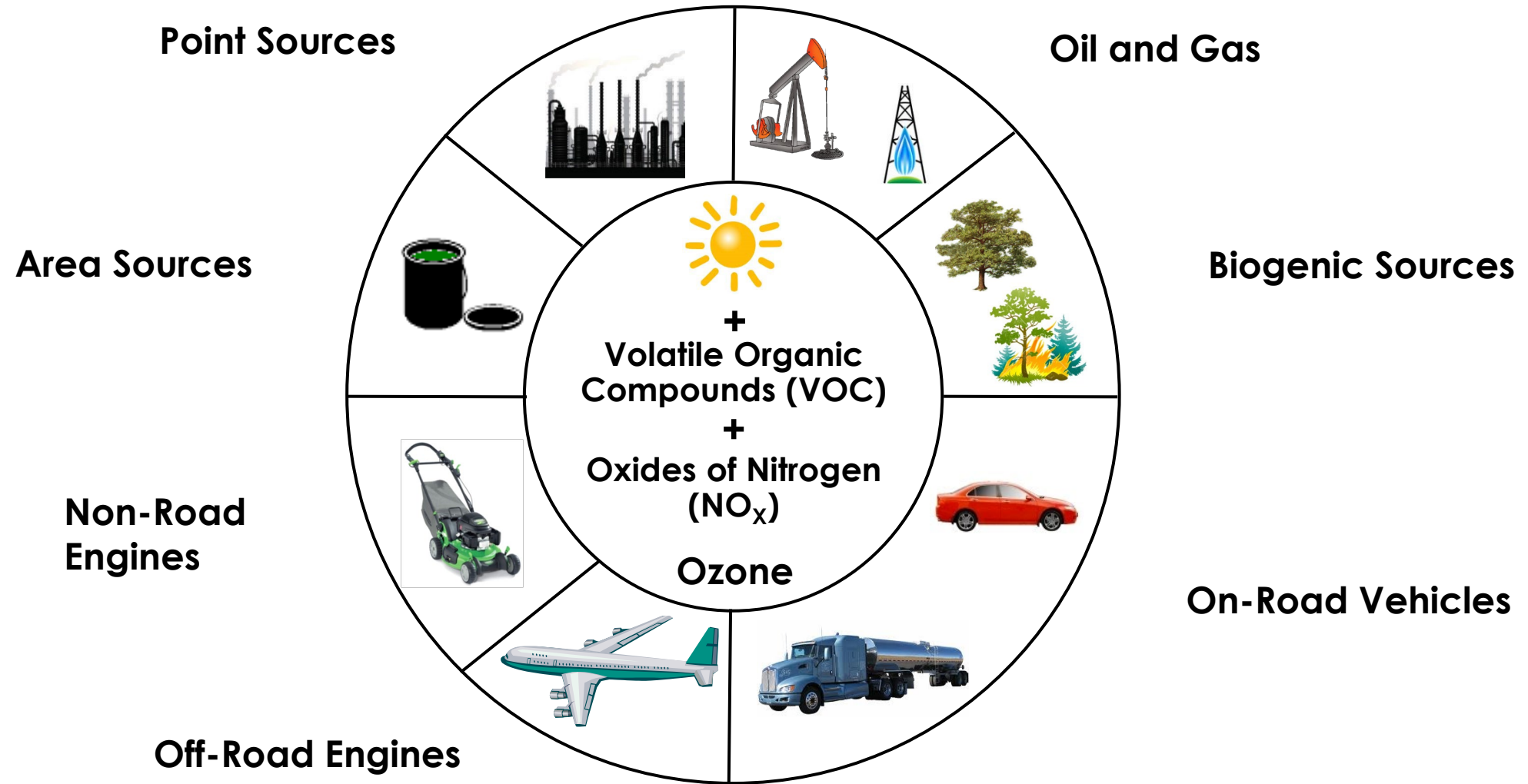
Ozone, a gas composed of three atoms of oxygen (O_3), occurs both in the Earth's upper atmosphere and at ground level.

Stratospheric Ozone: forms high in the atmosphere when intense sunlight causes oxygen molecules (O_2) to break up and re-form as ozone molecules. Popularly called “good ozone”, it shields us from the harmful effects of the sun's ultraviolet light.

Ground-Level Ozone: commonly referred to as “bad ozone” forms when emission sources including, but not limited to, transportation, industrial and commercial operations, and vegetation emit oxides of nitrogen (NO_x) and/or volatile organic compounds (VOC) that react in the presence of sunlight.



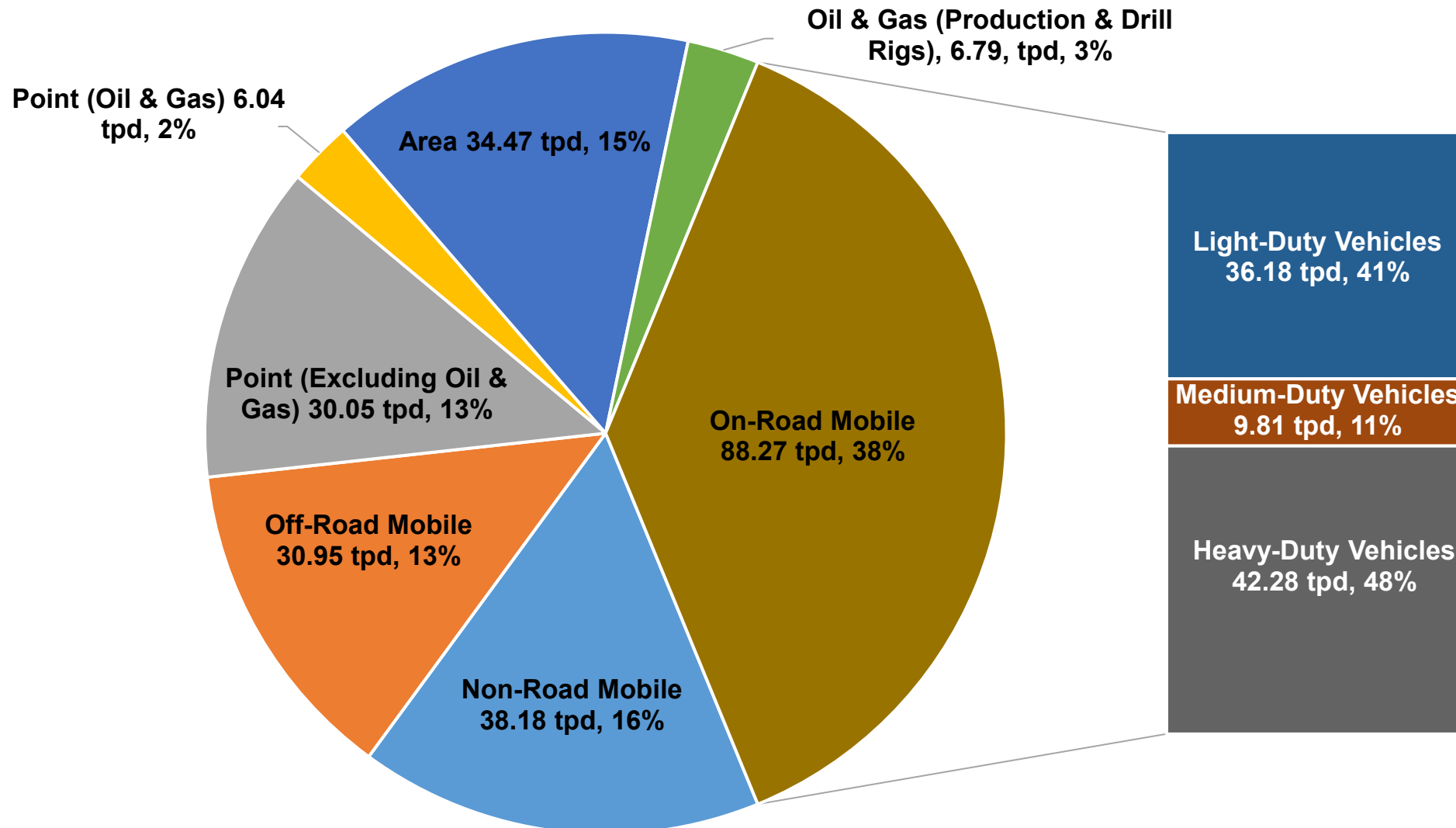
Ozone Formation



Optimum conditions for the formation of ozone include high temperatures and low winds. Sections are not to scale and are for illustrative purposes only.

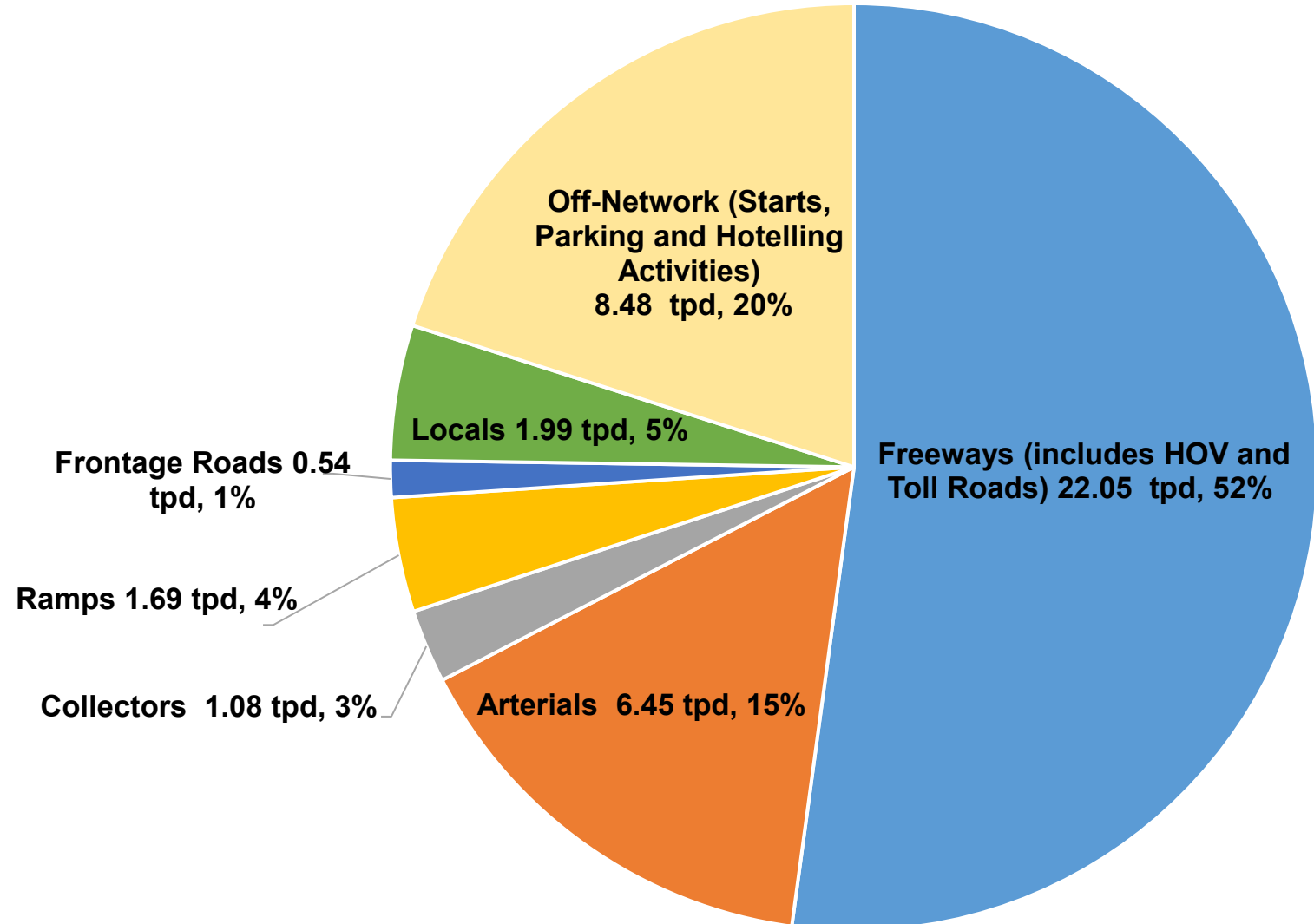
2020 NO_x Emission Apportionment

2020 Total Nitrogen Oxides (NO_x) = 234.75 tons per day (tpd)



2020 Heavy-Duty Vehicles NO_x

By Functional Class



Health Effects of Ground-Level Ozone

Ozone can:

Make it more difficult to breathe deeply and vigorously.

Increase the frequency of asthma attacks.

Cause shortness of breath and pain.

Cause coughing and sore or scratchy throat.

Inflame and damage the airways.

Aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

Cause chronic obstructive pulmonary disease (COPD).

Make the lungs more susceptible to infection.

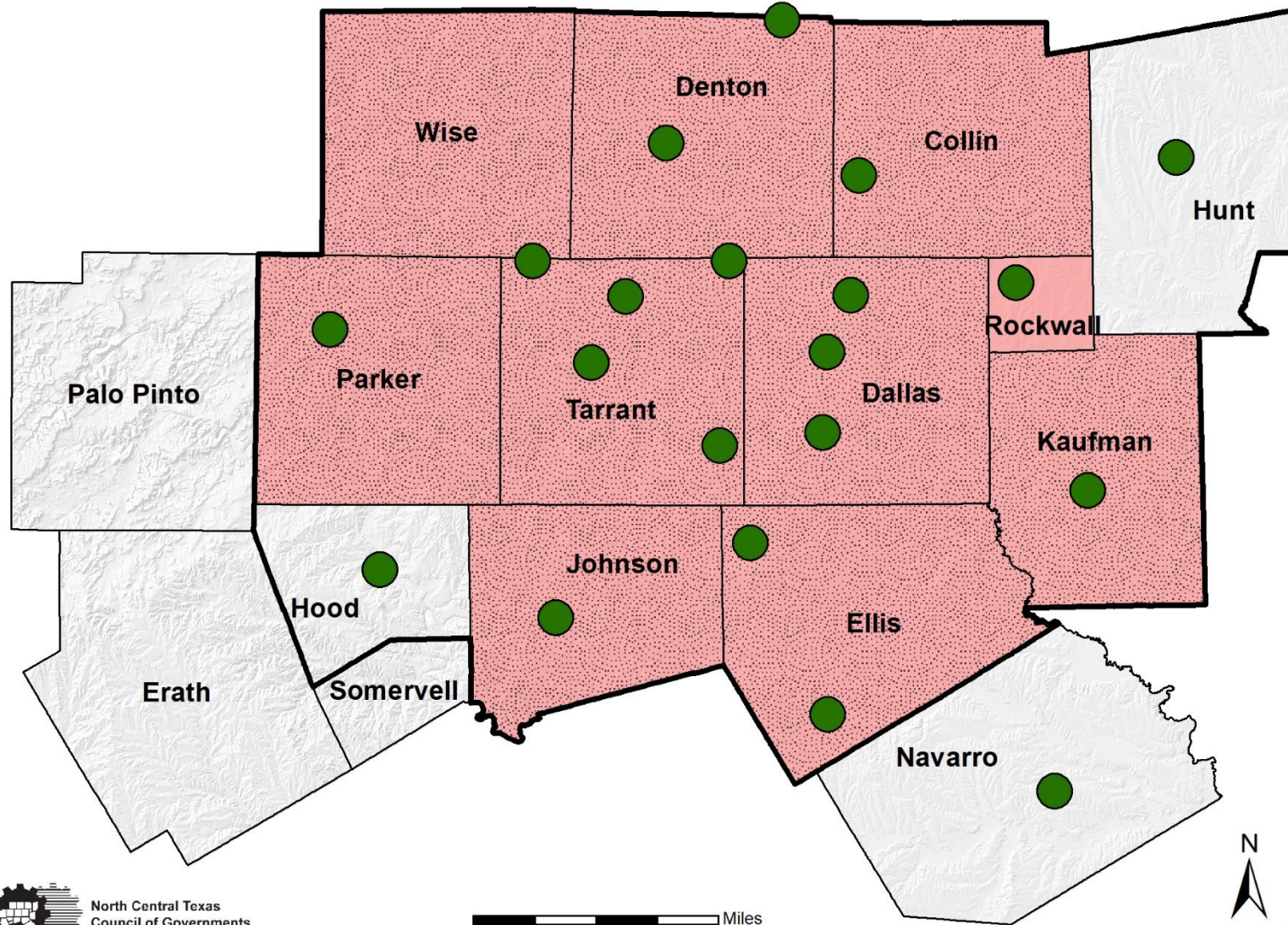
Continue to damage the lungs even when the symptoms have disappeared.

Monitor Locations

2008 and 2015 Ozone NAAQS

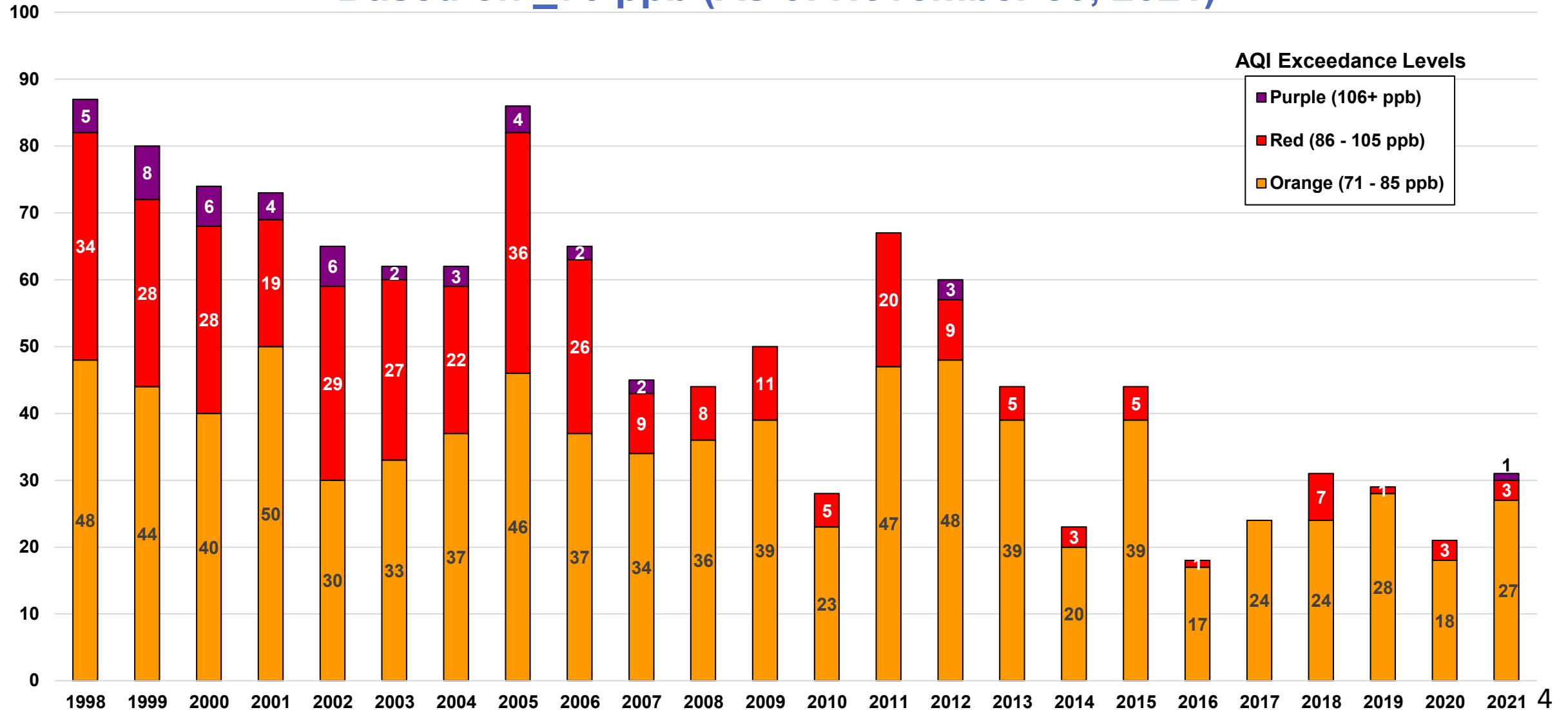
Legend

- Counties Designated Nonattainment Under 2015 8-Hour Ozone NAAQS
- Counties Designated Nonattainment Under 2008 8-Hour Ozone NAAQS
- Ozone Monitoring Sites
- Metropolitan Planning Area



8-Hour Ozone NAAQS Exceedance Trends

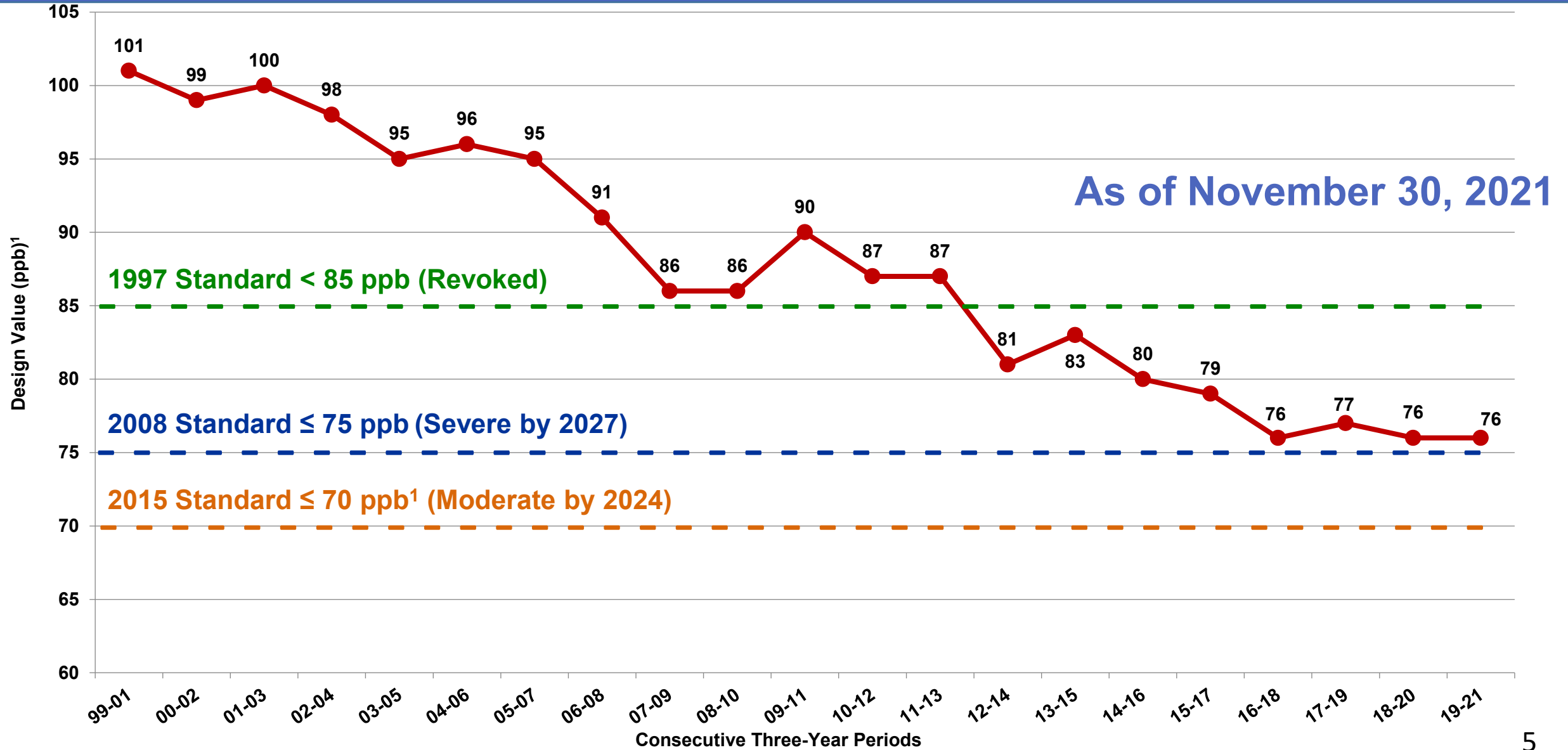
Based on ≤ 70 ppb (As of November 30, 2021)



Exceedance Level indicates daily maximum eight-hour average ozone concentration. Exceedance Levels are based on Air Quality Index (AQI) thresholds established by the EPA for the revised ozone standard of 70 ppb.

Source: TCEQ, http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl
ppb = parts per billion

Ozone Design Value Trends



¹Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the *Design Value* (three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration) is equal to or less than 70 parts per billion (ppb).

Reclassification Due to Failure to Attain – Stricter Standards

Going from Serious Classification to Severe:

Major source threshold decreased to 25 TPY (from 50 TPY)

Impacts businesses that require CAA permitting for new/continued operations

Penalty fee program for major sources

Per ton penalty fee increase on major sources if the area does not meet required reductions

NSR Emission Offset ratio increased to 1.3:1 (from 1.2:1)

Low VOC reformulated gas

No implications, because our region has already opted in previously

VMT growth offset required

Analysis to see if more transportation control strategies are needed

A continued and thorough assessment of regional implications is ongoing.

State Implementation Plan (SIP)

Federally required by the Clean Air Act for nonattainment areas

Purpose

Development and implementation of emission control strategy plans at the federal, state, and local level to improve air quality by reducing emissions of ozone and ozone precursors to rapidly reach attainment.

2008 NAAQS Attainment Date (≤ 75 ppb): No later than **July 20, 2027**

Severe Classification

2015 NAAQS Attainment Date (≤ 70 ppb): No later than **August 3, 2024**

Moderate Classification

SIP Control Strategies and Information

<https://www.nctcog.org/trans/quality/air/federal-air-quality/sip-control-strategies>

<https://www.tceq.texas.gov/airquality/sip/dfw>

Air Quality Education

What Can You Do?

Work from home

Carpool

Bring lunch to work or carpool to lunch

Use mass transit

Bicycle or walk

Reduce idling, including during start up

Avoid unnecessary trips

Maintain consistent driving speed

Conserve water to conserve electricity

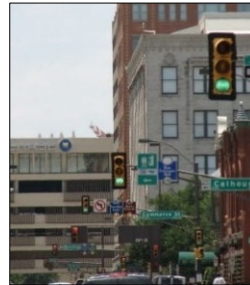
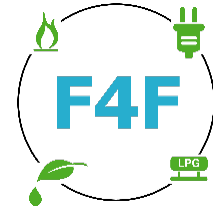
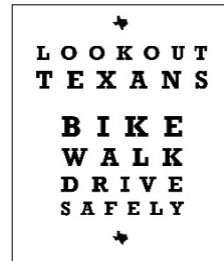
Postpone mowing to a day that is not an Ozone Action Day

Limit use of recreational vehicles

Sample of Air Quality Initiatives



Rideshare. Record. Reward.



Saving Money and Reducing Truck Emissions



Air Quality Programs

Air North Texas

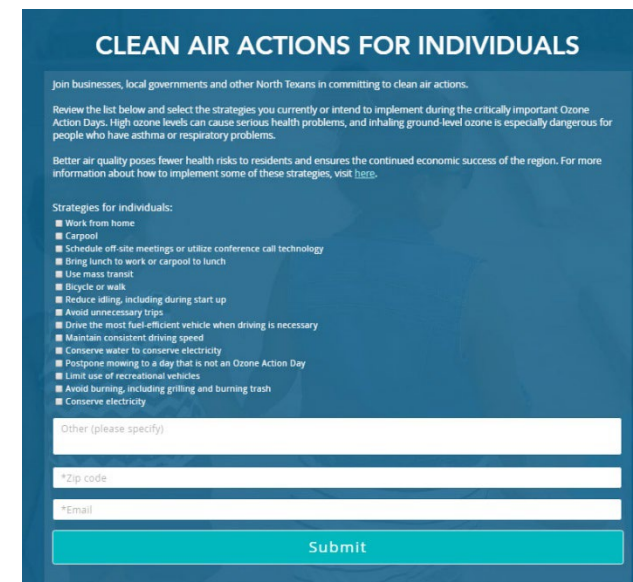
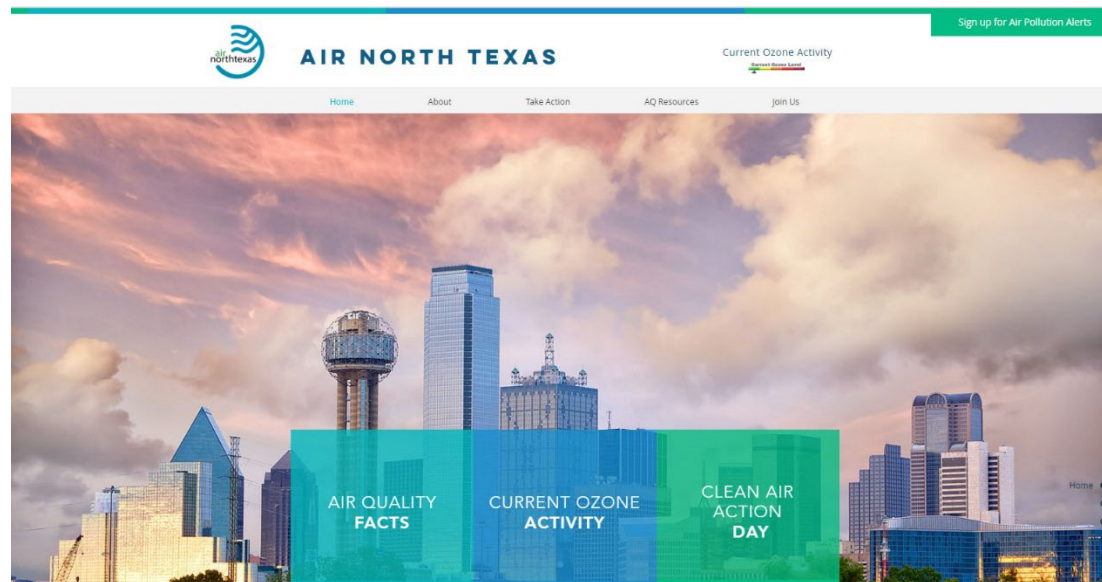
Website: www.airnorthtexas.org

Sign up for air pollution alerts

Find air quality and ozone information

Commit to clean air actions for individuals, businesses, governments

Become a partner



NCTCOG Try Parking It Program

A free alternative commute resource for the North Central Texas region.

Rewards commuters for carpooling, vanpooling, taking transit, walking, biking, teleworking, working a compressed week, and even brown bagging your lunch.

If you currently drive alone, Try Parking It can assist in locating carpool or vanpool matches.

Try Parking it users earn points for tracked commuter activity which can then be redeemed for instant rewards.



Rideshare. Record. Reward.

To establish a Try Parking It account, visit [Try ParkingIt.com](https://www.TryParkingIt.com) or download the free app from the app store or from Google Play.

For More Information

CHRIS KLAUS
Senior Program Manager
cklaus@nctcog.org
817-695-9286

JENNY NARVAEZ
Program Manager
jnarvaez@nctcog.org
817-608-2342

NICK VAN HAASEN
Air Quality Planner
nvanhaasen@nctcog.org
817-608-2335

VIVEK THIMMAVAJJHALA
Transportation System Modeler
vthimmavajjhala@nctcog.org
817-704-2504

<https://www.nctcog.org/trans/quality/air/ozone>