AIR QUALITY Handbook

A comprehensive air quality guide for the North Central Texas metropolitan area.

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TABLE OF CONTENTS

LIST OF EXHIBITS

UNDERSTANDING AIR POLLUTION

WHAT IS AIR POLLUTION?

Air pollution is the emission of contaminants – called pollutants – into the air, which can decrease air quality and negatively impact human health and the environment. Air quality, as determined by the Air Quality Index (AQI), is assessed by measuring the type and quantity of pollutants in the air. Good air quality is vital to a healthy community. When a community is exposed to more air pollution, community members – especially sensitive populations, such as children and the elderly – are more at risk to experience or develop health issues.

While air quality in North Central Texas has historically improved (see ***Exhibit 7*** on page 11), continued progress is necessary to further benefit the population. Improved air quality can greatly benefit those who currently experience respiratory and cardiovascular issues and lower the risk of developing future health problems for all community members.

SOURCES OF AIR POLLUTION

Not all pollutant sources are man-made. Natural air pollutants include dust, wildfires, plant emissions, and even sea salt spray (although this is not a primary concern for the North Central Texas region). Human-generated pollution adds to natural pollutants. The transportation sector is a major contributor to air pollution in the North Central Texas region. Other significant sources of emissions include industrial sites, power generation facilities, agricultural activities, water and wastewater treatment plants, and solid waste management operations.

Sensitive groups like children, elders, and those with asthma are most at-risk when air quality is poor.

TYPES OF AIR POLLUTANTS

While there are many types of air pollutants, the Environmental Protection Agency (EPA) prioritizes six pollutants that could most impact human and environmental health, as seen in ***Exhibit 1***. These pollutants are classified in the National Ambient Air Quality Standards (NAAQS).

EXHIBIT 1: 2025 REGIONAL AIR QUALITY ATTAINMENT

AIR POLLUTANT	ABBREVIATION	DFW REGION STATUS
Carbon Monoxide	CO	In attainment
Lead	Pb	In attainment
Nitrogen Dioxide	NO_2	In attainment
Ground-Level Ozone	O_3	**Nonattainment**
Particulate Matter	PM	In attainment
Sulfur Dioxide	SO_2	In attainment

FEDERAL AIR QUALITY STANDARDS

EPA's NAAQS – designed to protect human and environmental health – list the federal air quality standards for each pollutant. Beyond impacting people and the environment, failure to meet these standards could directly or indirectly impact economic development, such as restrictions being placed on federally funded transportation projects, eventually leading to the disruption of job availability and a costly loss of productivity due to traffic congestion delays. The most concerning pollutants to the DFW region are ozone and fine particulate matter.

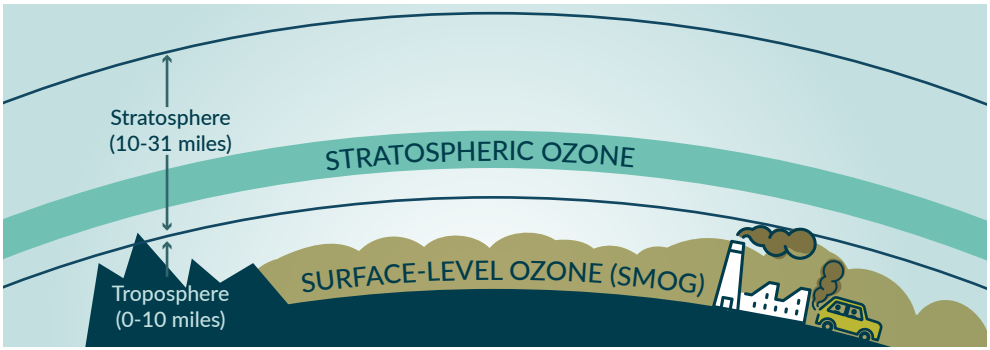





WHAT IS OZONE?

Ozone is a gas formed in the atmosphere when three atoms of oxygen chemically combine when exposed to direct sunlight. Ozone is found high in the stratosphere surrounding the earth, as well as at ground level in the troposphere, illustrated in ***Exhibit 2***. Ozone impacts life differently at each of these levels.

EXHIBIT 2: TYPES OF OZONE



Source: NCTCOG

STRATOSPHERIC OZONE

Stratospheric ozone forms high in the atmosphere when intense sunlight causes oxygen molecules (O_2) to break up and re-form as ozone molecules (O_3). Commonly referred to as "good ozone," it protects people, trees, crops, property, and microorganisms from the harmful effects of the sun's ultraviolet light.

GROUND-LEVEL OZONE

Commonly referred to as "bad ozone," or "smog," ground-level ozone forms when emissions from transportation, industrial and commercial operations, and natural sources emit nitrogen oxides (NO_X) and/or volatile organic compounds (VOCs). These pollutants react under direct sunlight and heat to create ozone. Because ozone is the result of a photochemical reaction, NO_X and VOCs are known as precursor pollutants, or pollutants that can react physically or chemically in the air to create other pollutants. To limit ozone formation, air quality improvement strategies in North Central Texas aim to reduce NO_X and VOC emissions.

THE SIGNIFICANCE OF GROUND-LEVEL OZONE

Clinical studies show long-term exposure to elevated concentrations of ground-level ozone may reduce lung function, increase the frequency of asthma episodes, and reduce the body's ability to resist respiratory infections. Elevated ground-level ozone concentrations can also pose a risk to the environment, wildlife, and agriculture.

According to the EPA, when ozone is absorbed by a sensitive plant, its growth process is impacted due to an increased risk of disease and damage. If ozone levels are high enough or elevated for a prolonged period of time, it can lead to the disruption of natural processes throughout entire ecosystems, such as forests, grasslands, and crops.

Although ground-level ozone is monitored year-round, the EPA-designated ozone season in North Central Texas is from March 1 through November 30, when high ozone concentrations are most common.

TAKE ACTION: SIGN UP FOR AIR QUALITY ALERTS

Air North Texas sends out pollution alerts when air quality is predicted to be in the "Unhealthy for Sensitive Groups" range or higher in the North Central Texas nonattainment region. Sign up to receive alerts, air quality news, updates and more at airnorthtexas.org.

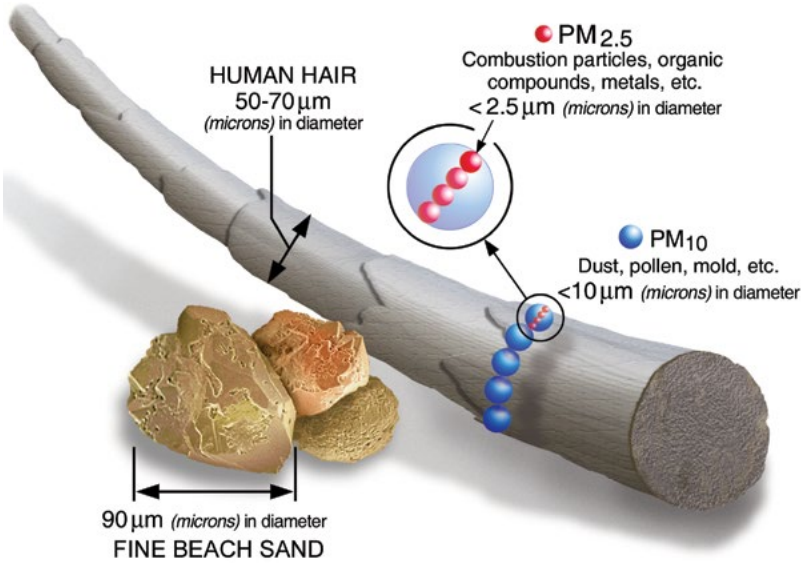
WHAT IS PARTICULATE MATTER?

Particulate matter (PM) is defined as microscopic solid or liquid particles suspended in the air. The EPA focuses on PM ranging from less than 0.01 to 10 micrometers in diameter and categorizes them into two groups:

PARTICULATE MATTER 10 (PM_{10}) — Solid or liquid inhalable particles measuring 10 micrometers or less in diameter, which is approximately 1/6th the diameter of a human hair (***Exhibit 3***).

PARTICULATE MATTER 2.5 ($PM_{2.5}$) — Fine solid or liquid inhalable particles measuring approximately 2.5 micrometers or less in diameter.

EXHIBIT 3: SIZE COMPARISONS FOR PM PARTICLES



Source: Environmental Protection Agency

PRIMARY AND SECONDARY PARTICULATE MATTER

Particulate matter can be added to the air in two ways – directly and indirectly. When PM is emitted directly, this is referred to as "primary particulate matter." PM resulting from a physical or chemical reaction of precursor pollutants such as NO_x, sulfur oxides (SO_x), and ammonia (NH_3) is called "secondary particulate matter." To lower atmospheric PM, it is important to target both primary PM and precursor pollutants.

THE SIGNIFICANCE OF PARTICULATE MATTER

Due to its size, particulate matter can pose serious health risks. Both PM_{10} and $PM_{2.5}$ particles are small enough to enter the lungs through one's nose or mouth while breathing, affecting lung and heart functions. Being smaller, $PM_{2.5}$ can travel deeper into the lungs and even enter the bloodstream, posing a greater health risk.

Short-term effects of PM exposure can include irritation of the eyes, nose, and throat; worsening of asthma and lung diseases; and increased risk of cardiovascular issues, such as heart attacks. As more people are exposed to PM, increased hospital admissions and a greater need for medical care can be expected. Long-term exposure can result in reduced lung function, cardiovascular and respiratory diseases, and, ultimately, death.

PM can also negatively impact the natural environment, which can result in decreased visibility due to haze, contribute to acid rain, and disrupt plant growth by altering the chemistry of water and soil.

MEASURING AIR POLLUTION

AIR QUALITY INDEX

The Air Quality Index (AQI) is a color-coded scale designed by the EPA to report and communicate daily air quality (***Exhibit 4***). It indicates how polluted the air is and who the air pollution level may negatively impact. Each pollutant considered (O_3, $PM_{2.5}$, PM_{10}, CO, SO_2, and NO_2) contributes to the final AQI value and is then assigned a specific color to convey the historical, current, or future air pollution level. The AQI color for the region and for individual monitors can change hourly based on a rolling eight-hour average of the pollutant concentration.

EXHIBIT 4: AIR QUALITY INDEX

AQI Color	Level of Concern	Air Quality Description
	Good	Air quality is satisfactory, and air pollution poses little or no risk.
	Moderate	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
	Unhealthy	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
	Very Unhealthy	Health alert: The risk of health effects is increased for everyone.
	Hazardous	Health warning of emergency conditions: everyone is more likely to be affected.

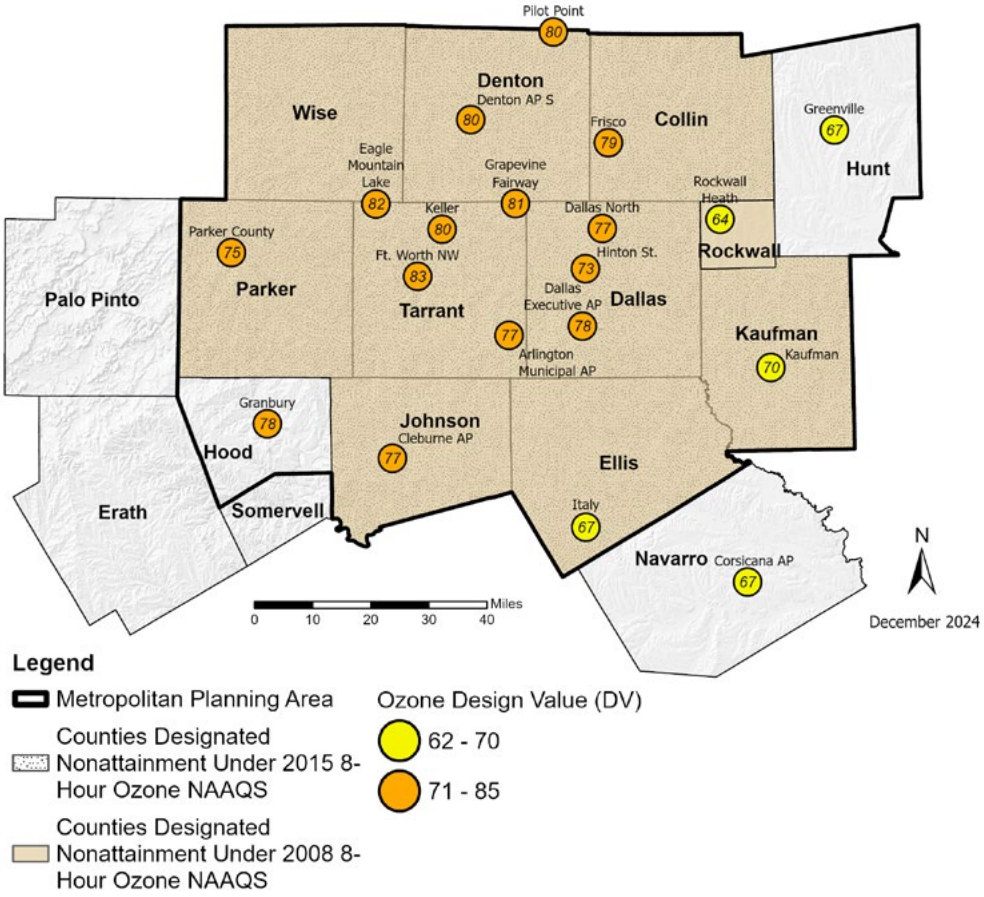
Source: Environmental Protection Agency

WHAT IS NONATTAINMENT?

When a region has pollutant concentrations greater than the federal standard (NAAQS), the area can be designated as "nonattainment" by the EPA. In North Central Texas, 10 counties are currently in nonattainment for the 2008 8-hour ozone NAAQS, with a threshold of 75 parts per billion (ppb), and nine counties are currently in nonattainment for the 2015 8-hour ozone NAAQS (70 ppb), illustrated in ***Exhibit 5***.

EXHIBIT 5: NORTH CENTRAL TEXAS OZONE MONITOR DESIGN VALUES BASED ON THE 2015 OZONE STANDARD (70 PPB)

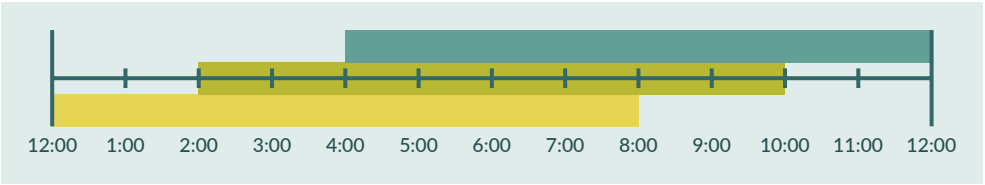
The value for each monitor represents its Design Value for the years 2022-2024. The color of each monitor represents the corresponding AQI designation based on the 2015 8-Hour Ozone standard of ≤70 ppb.



OZONE NONATTAINMENT

Outdoor air quality monitors are located throughout the region to measure ozone (refer to ***Exhibit 5*** on page 9 for North Central Texas ozone monitor locations). Ozone concentration measurements at each monitor location are assessed and averaged over a rolling eight-hour block of time, as illustrated in ***Exhibit 6***.

EXHIBIT 6: ROLLING 8-HOUR OZONE AVERAGE

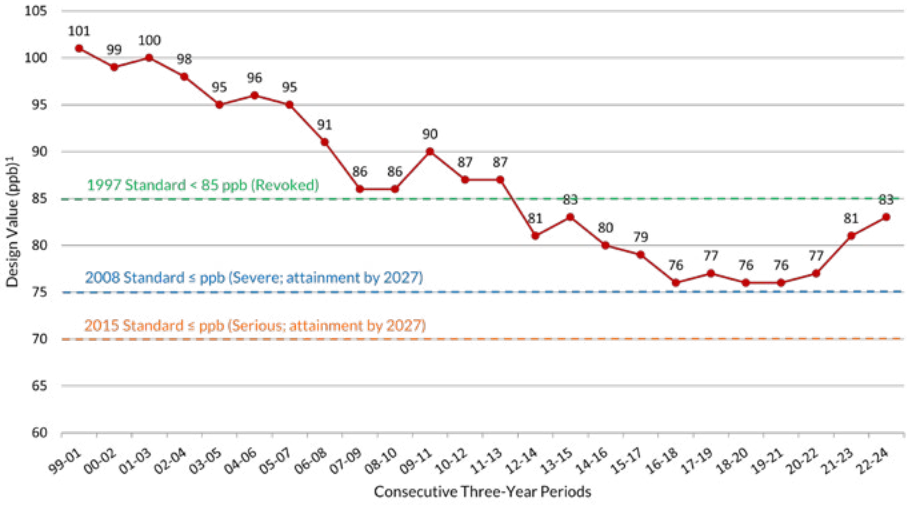


These 8-hour ozone averages are then used to determine the region's design value (DV). To do this, the EPA identifies the fourth highest 8-hour ozone averages from three consecutive years (three numbers total) and calculates their mean value. The DV calculation method suggests an area can be designated nonattainment due to as few as four high-pollution days, called exceedance days, during the ozone season—even if pollution levels are below the standard every other day. DVs are expressed in terms of parts per billion (ppb), indicating the number of molecules of a pollutant (in this case, ozone) per one billion molecules of air.

The DV is then compared to the current federal standard(s). If the region's DV is above the federal standard, the region is designated as nonattainment and must reduce the level of ozone through NO_X and VOC reductions (as described on page 11). A region will have reached attainment when every monitor is less than or equal to the federal standard. ***Exhibit 5*** shows the North Central Texas nonattainment area and locations of ozone monitors with their respective DVs following the 2024 Ozone Season.

Exhibit 7 (page 11) presents the region's DV trend over time. As shown in the graph, the EPA periodically reviews and revises the NAAQS for ozone. The standard has been lowered three times since the establishment of current regulations under the Clean Air Act Amendments of 1990, as updated studies have been published indicating additional health benefits of a lower standard.

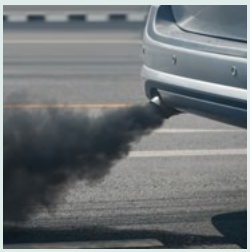
EXHIBIT 7: 8-HOUR OZONE HISTORICAL TRENDS



ADDRESSING OZONE IN NORTH CENTRAL TEXAS

As noted on page 4, ground-level ozone is not emitted directly into the air but is rather produced through a chemical reaction of other emissions. Knowing this, efforts to improve air quality and reduce ozone focus on sources of ozone precursor pollutants, namely NO_X and VOCs. In North Central Texas, there are many more VOCs in the atmosphere than NO_X, making the region "NO_X limited." Therefore, ozone formation in the region is much more sensitive to changes in NO_X emissions than VOCs. Both NO_X and VOCs can come from manmade (anthropogenic) or natural (biogenic) sources.

Exhibit 8 (page 12) shows sources of NO_X for the 10-county nonattainment region for analysis year 2026. Over 60% of these emissions originate from mobile transportation sources. Therefore, air quality initiatives in the region are focused on reducing pollution from that sector, especially from on-road cars and trucks.

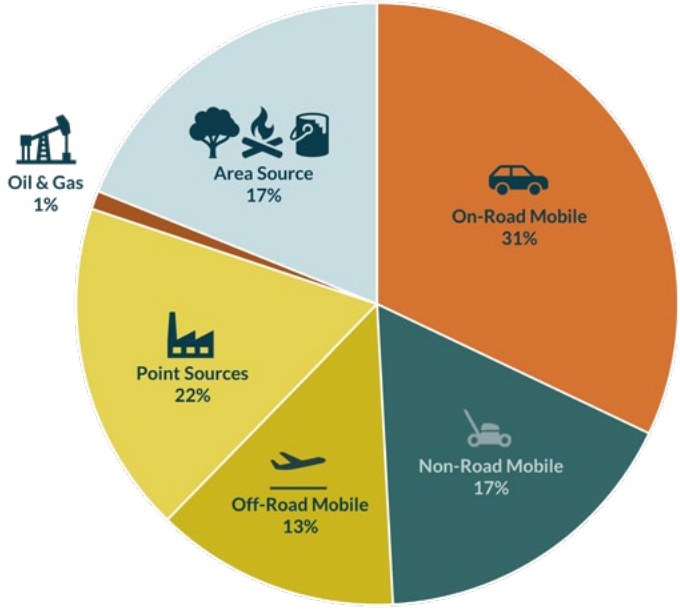


EMISSION CATEGORIES AND EXAMPLES:

- Point sources: power plants, cement kilns
- Area sources: dry cleaners, bakeries
- Oil and gas sources: production and drill rigs
- Off-road mobile sources: locomotives, aircraft
- Non-road mobile sources: construction, agriculture
- On-road mobile sources: cars and trucks

EXHIBIT 8: ESTIMATED 2026 NO_x EMISSIONS INVENTORY SOURCES

2026 Total Nitrogen Oxides (NO_x) = 187.45 tons per day (tpd)



Source: TCEQ (data); NCTCOG (graphics)

OZONE ACTION DAYS AND ALERTS

When the concentration of ozone is anticipated to reach levels high enough to impact sensitive populations, an Ozone Action Day is issued to the public. Ozone Action Days are assigned a color that correlates with the color of the anticipated ozone concentration on the AQI. On Ozone Action Days, you can take action to help improve local air quality. Here are some choices to consider making:

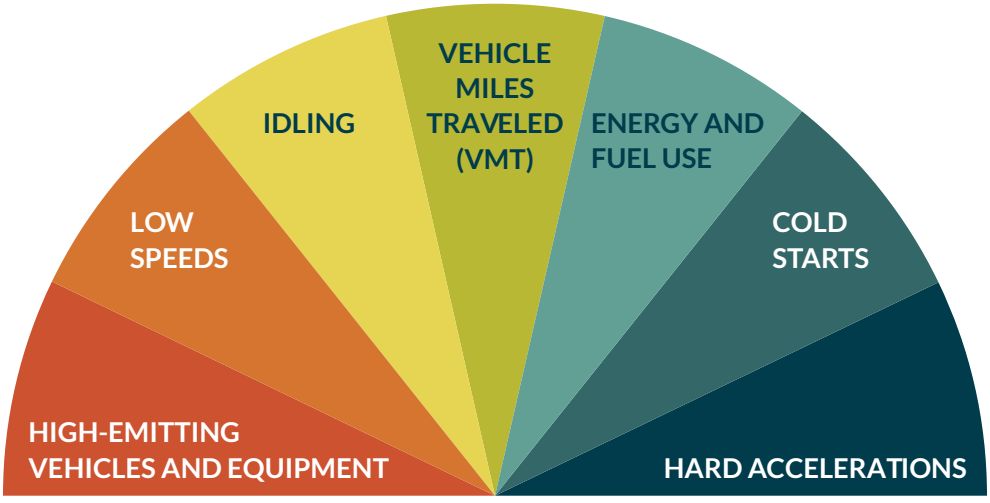
- Carpooling
- Biking or walking instead of driving
- Telecommuting
- Report smoking vehicles
- Reducing idling
- Combining errands for reduced car trips
- Utilizing public transport
- Regular vehicle maintenance and inspections
- Keeping your vehicle tires properly inflated
- Regularly changing your car filters

Source: DCTA

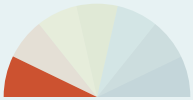
REGIONAL AIR QUALITY IMPROVEMENT

The transportation sector is a significant source of emissions in North Central Texas. Addressing the major contributors to mobile emissions is necessary to meet federal air quality standards. NCTCOG staff administers air quality programs, makes policy recommendations, participates in partnerships, and provides education to regional stakeholders and citizens. To help better understand how different activities aid air quality, NCTCOG, along with the Regional Transportation Council, developed seven Air Quality Emphasis Areas.

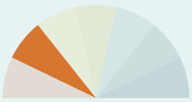
All NCTCOG air quality programs address one or more of the emphasis areas described on page 20. Each emphasis area represents a way the transportation system produces pollution – which can also be an opportunity to reduce that pollutant. The wheel below is used in the following pages to highlight which emphasis areas are addressed by each air quality initiative.



AIR QUALITY EMPHASIS AREAS



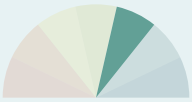
HIGH-EMITTING VEHICLES AND EQUIPMENT: Replacing or retiring high-emitting vehicles, such as heavy-duty vehicles, older vehicles, and those poorly maintained with high mileage can improve air quality.



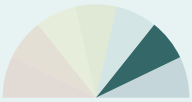
LOW SPEEDS: Improving traffic flow and reducing congestion can improve air quality, as engines emit more emissions when driving at lower speeds.

IDLING: Vehicle engines operating while at a complete stop results in unnecessary and incomplete fuel combustion and more emissions. Reducing this idling can reduce those emissions.

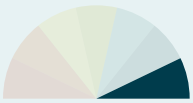
VEHICLE MILES TRAVELED (VMT): VMT are cumulative miles traveled by all vehicles in an area. In North Central Texas, the VMT grows annually as the region's population increases, resulting in an increase in air pollutants. Reducing total VMT while maintaining maximum regional mobility can reduce emissions.



ENERGY AND FUEL USE: Utilizing alternative fuels instead of conventional fuels (e.g., gasoline and diesel) and adopting more efficient technologies may improve air quality.



COLD STARTS: Reducing the number of short trips and allowing vehicles to warm up prior to operating will minimize emissions from cold starts, which occur when vehicles are operated prior to reaching optimal temperatures.



HARD ACCELERATIONS: Rapid accelerations require lots of energy, resulting in increased fuel consumption and tailpipe emissions. Increasing driver knowledge improves driver behavior and reduces unnecessary emissions.

REGIONAL AIR QUALITY INITIATIVES

NCTCOG works with local governments, the Texas Commission on Environmental Quality (TCEQ), the EPA, the U.S. Department of Transportation, and the U.S. Department of Energy (DOE) on programs to improve air quality. This Air Quality Handbook is focused on Transportation initiatives to improve air quality in North Central Texas. For additional information on these and the many other NCTCOG programs and initiatives that benefit air quality, visit www.nctcog.org/airquality.

DALLAS-FORT WORTH AIR QUALITY IMPROVEMENT PLAN

www.publicinput.com/dfwAQIP

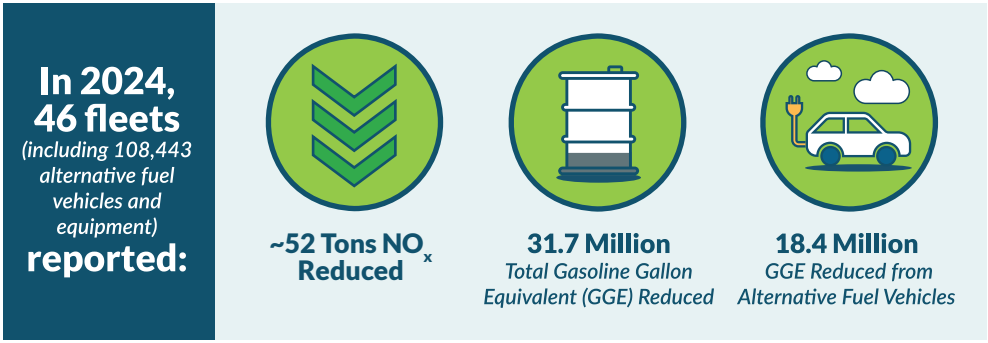
Local governments across the region are working with NCTCOG to develop the Dallas-Fort Worth Air Quality Improvement Plan (DFW AQIP). The DFW AQIP is a roadmap to improve air quality, protect public health, provide community benefits, and reduce impacts of severe weather events across all sectors (transportation, energy, water, wastewater, materials management, and agriculture/forestry/land-use). Development of the DFW AQIP is funded through the EPA's Climate Pollution Reduction Grants: A Planning Grants program.

In 2024, NCTCOG submitted the DFW AQIP: Priority Action Plan, which outlines work that is ongoing or will be done through 2030 to achieve comprehensive air quality improvement. By the end of 2025, NCTCOG and regional stakeholders will develop the DFW AQIP: Comprehensive Action Plan that will encompass work through 2050. Visit the DFW AQIP website to read about all efforts to improve air quality, including an inventory of the total carbon dioxide equivalent emissions produced in the region.

DALLAS FORT WORTH CLEAN CITIES COALITION
www.dfwcleancities.org

One of the primary ways NCTCOG works to improve air quality is through the implementation of clean vehicle technologies through NCTCOG's Dallas-Fort Worth Clean Cities (DFWCC) Program. NCTCOG was designated by the DOE as the host agency for DFWCC in 1995 and participates in the national Clean Cities and Communities partnership. ***Exhibit 9*** highlights notable impacts achieved through DFWCC in calendar year 2024. Learn more at www.dfwcleancities.org/annualreport.

EXHIBIT 9: DFWCC COALITION ANNUAL IMPACT



DFWCC's mission is to improve air quality by promoting cleaner, reliable, accessible, and sustainable transportation technologies. DFWCC achieves this through three focus areas:

1. **CLEAN VEHICLE INITIATIVES:** Provides educational, technical, and funding assistance to fleets and other drivers for clean vehicle fuels/technologies.
2. **INFRASTRUCTURE PLANNING AND DEPLOYMENT:** Supports infrastructure planning and deployment to enable adoption of clean fuel vehicles, with emphasis on filling gaps and achieving greater access.
3. **TRANSPORTATION-ENERGY INTEGRATION AND COMMUNITY READINESS:** Facilitates best practices around community readiness (e.g. training and policy/workforce development) and transportation-energy integration, including grid-friendly practices when electrifying transportation.

CLEAN FLEET POLICY
www.nctcog.org/fleetpolicy

The Clean Fleet Policy provides a framework for fleets interested in reducing emissions, saving fuel, and collaborating with DFWCC to improve the region's air quality. Policy adoptees are also eligible to apply for clean vehicle funding made available by the Regional Transportation Council and can be recognized through the DFWCC Fleet Recognition program.

From 2022 to 2023, DFW was awarded $19.7 million in funding for alternative fuel school buses.

SMARTWAY
www.nctcog.org/smartway

SmartWay is a voluntary, public-private program by the EPA that helps reduce fleet emissions, improve fuel economy, and increase energy efficiency. As a participating SmartWay Affiliate, NCTCOG promotes SmartWay initiatives by providingeducational outreach to potential partners and affected industries. Much of the program focuses on addressing the freight industry (www.epa.gov/smartway), but SmartWay resources are available for passenger-vehicle drivers as well through the EPA's Green Vehicle Guide (www.epa.gov/greenvehicles).

NCTCOG was recognized by the EPA for the 2024 SmartWay Profiles in Leadership Award, as well as for other awards in previous years: 2007, 2013, 2014, 2015, 2016, and 2017.

SAVING MONEY AND REDUCING TRUCK EMISSIONS

www.nctcog.org/smarte

Saving Money and Reducing Truck Emissions (SMARTE) provides outreach and information to the trucking industry to improve awareness of strategies and technologies that help reduce emissions, save fuel, and improve operational efficiency.

SMARTE encourages truck drivers and fleet owners to utilize SmartWay Verified Technologies by offering a directory of local SmartWay Verified vendors.

REGIONAL EMISSIONS ENFORCEMENT PROGRAM

www.nctcog.org/reep

The Regional Emissions Enforcement Program aims to reduce vehicle emissions through the sharing of information with participating law enforcement and state partners to identify and remove conventionally fueled, on-road vehicles with expired, fraudulent, or improper state emissions inspections, license plates, and tampered emissions components from Texas roadways. Participating law enforcement and state partners can enter and view citations issued for performing improper inspections and other related fraudulent activities, as well as violations of the smoking vehicle policy, truck lane restrictions, and idling restriction ordinances into a centralized database.

REGIONAL SMOKING VEHICLE PROGRAM
www.smokingvehicle.org

The Regional Smoking Vehicle Program, through public awareness, encourages drivers with smoke emitting from their vehicle's tailpipes to voluntarily repair and maintain their vehicles. Smoking vehicles can be reported anonymously. The owners will be mailed a letter containing information regarding possible causes and solutions to vehicle emissions problems, as well as information on financial assistance that may be available for vehicle replacement.

ENGINE OFF NORTH TEXAS
www.engineoffnorthtexas.org

Engine Off North Texas addresses vehicle engine idling through a comprehensive idling reduction campaign that includes promoting idling restrictions for heavy-duty vehicles, distributing educational and awareness materials regionally, encouraging the use of idle reduction technologies, and partnerships with local governments and businesses to develop and enforce idle reduction policies.

CAR CARE AWARENESS
www.ntxcarcare.org

NCTCOG partners with nonprofits, community organizations, and auto repair facilities at clinics, workshops, and events to educate North Texans about proper vehicle maintenance and what to do when the check engine light illuminates. NCTCOG also provides information and resources related to keeping vehicles safe and compliant through the State's Vehicle Inspection Program.

SOLSMART AND GO SOLAR TEXAS
www.gosolartexas.org

NCTCOG is working to support solar adoption regionwide by maintaining Texas-specific information about solar and supporting local governments in pursuing SolSmart designation. Led by the Interstate Renewable Energy Council and the International City/County Management Association, and funded by the DOE, SolSmart provides no-cost technical assistance to implement best practices in planning and permitting to help eliminate barriers to solar adoption by residents and businesses. Over 500 communities nationwide have achieved designations, including several cities in the NCTCOG region. NCTCOG achieved a regional silver designation for its efforts encouraging these best practices.

Solar energy minimizes impacts from electric vehicle charging, reduces extra power demand on the grid, and helps keep power available to electric vehicle chargers in the case of a grid outage. As electric vehicle ownership increases, solar is becoming more important for transportation as an emission-free way to produce electricity.

OTHER AIR QUALITY INITIATIVES

Many NCTCOG transportation initiatives benefit air quality despite being designed primarily to reduce congestion or achieve other transportation goals. See Appendix C of the region's latest Metropolitan Transportation Plan for a complete listing of initiatives: www.nctcog.org/currentplan.

ACTIVE TRANSPORTATION

www.nctcog.org/bikeped

Bicycle and pedestrian modes of travel are cost-effective mobility options, in lieu of motor vehicle trips, which improve air quality, physical health, and quality of life. NCTCOG coordinates with local governments to ensure safe and comfortable bicycle and pedestrian facilities across the region as a means of transportation for people of all ages and abilities.

TRANSPORTATION SYSTEMS MANAGEMENT

www.nctcog.org/trans/tsm

Through better management and operation of existing transportation facilities, NCTCOG works with partners to improve traffic flow, improve movement of goods, and enhance system accessibility and safety. Examples include signal timing; intersection improvements, such as dedicated turning lanes; bottleneck removals, such as improving sharp curves and widening narrow lanes.

TRAVEL DEMAND MANAGEMENT

www.nctcog.org/trans/cmp/tdm

The Travel Demand Management (TDM) Program promotes alternatives to driving alone (i.e. carpooling, vanpooling, transit, biking, walking, and telecommuting) to reduce congestion and air pollution in the region. Implemented regional TDM programs include the Employer Trip Reduction Program; the Regional Vanpool Program; www.tryparkingit.com, a ride-matching and commute tracking website; park-and-ride facilities; and Transportation Management Associations.

TRANSIT-ORIENTED DEVELOPMENT www.nctcog.org/tod

Transit-Oriented Development (TOD) is a style of planning and development which supports pedestrian and bicycle mode of travel with a mix of higher density employment, housing, and commercial land uses within a half-mile walking distance of a passenger rail station. NCTCOG supports TOD through planning, regional coordination, and implementation assistance.

HOW TO GET INVOLVED

AIR NORTH TEXAS

www.airnorthtexas.org

Through the Air North Texas Program, NCTCOG works with the TCEQ and other entities to keep the public informed about air quality and its potential implications for sensitive groups in the region. Pollutant-specific alerts are sent when air quality is projected to reach the unhealthy range.

Air North Texas is an outreach campaign created to educate North Texans on simple things they can do in their everyday lives, such as carpooling and properly maintaining their vehicle, to help reduce emissions and prevent ozone from reaching unhealthy levels. You can visit our website to learn more about Arlo the Airmadillo and how he - and you - can help improve air quality!

CLEAN AIR ACTION DAY ANNUAL CAMPAIGN

www.airnorthtexas.org/cleanairactionday

Clean Air Action Day is Air North Texas' annual regionwide call to action to lend a hand to improve air quality. You can participate in Clean Air Action Day by doing at least one thing to help improve air quality, like carpooling, biking, walking, or taking public transit. Visit the website to see the full list and learn more about how you can help clean our air this Clean Air Action Day!

Local DFWCC stakeholders met to preview a handsfree delivery system being tested in Arlington in 2024.

DFW CLEAN CITIES COALITION

www.dfwcleancities.org/getinvolved

LINKEDIN AND EMAIL NEWSLETTER: Stay in the know about meetings, events, funding opportunities and other DFWCC announcements, as well as regional news, by subscribing to our weekly newsletter and following us on LinkedIn.

STAKEHOLDERS AND SPONSORS: Actively participate in the Coalition's mission as a stakeholder or sponsor. Stakeholders include local governments, utilities, alternative fuel vehicle and technology vendors, community or industry-based organizations, individuals, and more. Sponsors contribute funds to support Coalition efforts and/or provide refreshments and other activities at Coalition events.

NATIONAL DRIVE ELECTRIC WEEK

www.driveelectricdfw.org

NCTCOG, through DFWCC, hosts local events to provide education on electric vehicles in a brand-neutral, no-sales environment as part of the national events coordinated by Plug-In America. These events include opportunities to chat with electric vehicle owners, participate in ride-and-drives, and network with various exhibitors focused on sustainable transportation.


NDEW participants, EV owners, and NCTCOG staff

BIKE TO WORK OR SCHOOL DAYS

www.nctcog.org/biketowork

NCTCOG invites regional residents to participate in National Bike to Work Day, National Bike to Work Week, and Bike to School Day each May. NCTCOG encourages residents to commute by bike or other alternative transportation modes, in support of the League of American Bicyclists' national events.

AIR QUALITY FUNDING

www.nctcog.org/AQfunding

NCTCOG promotes air quality funding opportunities and occasionally distributes funding directly. Since 2006, NCTCOG has awarded approximately $60 million for more than 2,000 projects, including replacing old heavy diesel trucks, buses, or construction equipment, building refueling infrastructure or installing idle reduction equipment for heavy-duty vehicles/equipment. The Air Quality Funding webpage is a directory of funding opportunities available from a number of federal, state, local, and nonprofit entities.

These zero emission vehicles were purchased in part with NCTCOG air quality funding.

LOOK OUT FOR THESE STICKERS

Individuals, municipalities, and businesses all over Dallas-Fort Worth are working towards cleaner air. One way you can identify which projects and partners are contributing to cleaner air is by spotting these special vehicle stickers.

DFW CLEAN CITIES COALITION FLEET RECOGNITION

www.dfwcleancities.org/fleetrecognition

Fleets that have shown exemplary efforts in improving air quality through the adoption of clean vehicle technologies and fuel savings measures and that adopted the NCTCOG Clean Fleet Policy can be awarded bronze, silver, or gold fleet recognition status.

CALIFORNIA CERTIFIED CLEAN IDLE

The California Air Resources Board created certified clean idle decals to identify trucks powered by clean-burning engines that do not emit more than 30 grams of NO_x per hour when idling – a 78% emission reduction compared to a typical older standard diesel truck.

WHAT IS NCTCOG?

The North Central Texas Council of Governments (NCTCOG) is a voluntary association of local governments within the 16-county North Central Texas region. The agency was established in 1966 to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development. North Central Texas is a 16-county region with a population of almost 8.5 million and an area of approximately 12,800 square miles. In 2024, NCTCOG had 235 member governments, including all 16 counties, 170 cities, 20 independent school districts, and 29 special districts.

Since 1974, NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation in the Dallas-Fort Worth Metropolitan Area. The Regional Transportation Council (RTC) is the policy body for the MPO. The RTC consists of 45 members - predominantly local elected officials - overseeing the regional transportation planning process. NCTCOG's Transportation Department is responsible for support and staff assistance to the RTC and its technical committees, which comprise the MPO policymaking structure.

The RTC oversees the metropolitan transportation planning process, including:

- Guiding the development of multimodal transportation plans and programs.
- Determining the allocation of federal, state and regional transportation funds.
- Selecting transportation projects in some programs and recommending projects to the Texas Transportation Commission for other programs.
- Ensuring transportation providers coordinate services.
- Ensuring the metropolitan area complies with state and federal laws and regulations regarding transportation and air quality.

CONNECT WITH US

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The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. This document was prepared with the support of the Federal Highway Administration. Unless otherwise noted, photos were provided by NCTCOG Staff or Getty Images.

Learn more at www.nctcog.org/airquality

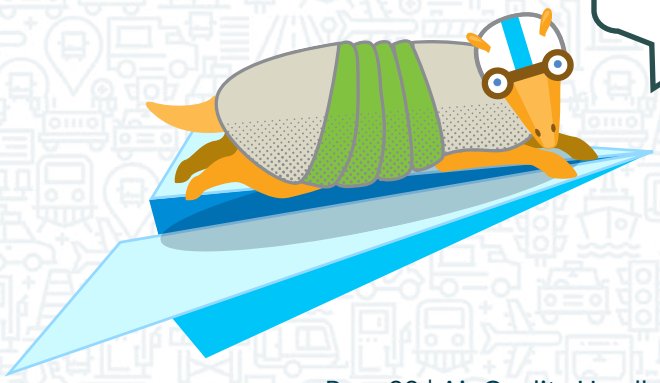
North Central Texas Council of Governments

RTC Regional Transportation Council

AIR QUALITY Activity BOOKLET

Hi, I'm Arlo the Airmadillo!

I have asthma and need clean air to breathe well. Lucky for me, my shell changes color based on the Air Quality Index you've already learned so much about. Let's play some games to learn more about our air!



TEST YOUR KNOWLEDGE

Match the Air Quality Index to its appropriate action below:

HINT: Use *Exhibit 4*: Air Quality Index on page 8 for help!

- **UNHEALTHY FOR SENSITIVE GROUPS**
- **HAZARDOUS**
- **MODERATE**
- **VERY UNHEALTHY**
- **GOOD**
- **UNHEALTHY**

No action necessary.

Active children and adults and people with respiratory disease should limit prolonged outdoor exposure.

Sensitive individuals should consider limiting prolonged outdoor exertion.

Active children and adults and people with respiratory disease should avoid prolonged outdoor exertion; everyone else should limit prolonged outdoor exertion.

Entire population more likely to be affected.

Active children and adults and people with respiratory disease should avoid all prolonged outdoor exertion; everyone else should limit prolonged outdoor exertion.

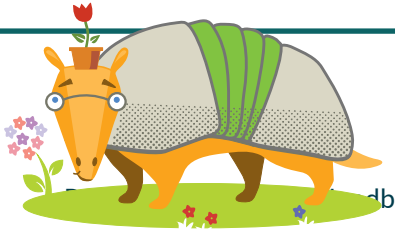
WORD SEARCH

Find the air quality-related words from the word bank below!
Answers are horizontal, vertical, and diagonal.

KRKVYSAKDFMLAPRBVKLAWRJAWERFOIJWEFOIJAWEFIJA
SXATMOSPHEREWAHJZMSRGVAOWLEJKSDGZVHJMAEDTEKX
TTISCCYAJSMTGROUNDLEVELOZONEAWHFWROIWHWMETGF
WIRYENALSYVTGTNEXEAPWLUMNUOGHITTEYXJMNOUSTAS
MQQANOYZASUSJIEMHSOETHEHTANSYCAWENEXUSFUETGM
SPUPTPSUTENECCEMEINWOASYSYABUYSYAXYANWNEMTPS
GRAYSOXKCUGHQUJAUGPJHDNEIGTEISKMNCALCULATION
MWLFILSXSJSACLZUQNUZNNFHXSTCUEUHSOUSRUYSYXLE
AQISGUTPHNENTAUGLAUWKCMMISAGUHUGHEUNIUGCHWLN
EOTEOPLEHVEWNTCHETEAVAMENGINEOFFWYGCTAGEDCUD
MGYWVWEMVEBUIENCAINRENJSYSNNFENAEFKJERSTHDTV
NRWVNEMEUFRAHANWMOCMSSYVYFMVWELAIDCHRLZKDYAE
HUSEMIRGEULIEIHFSNKJDZJSMHEALTHTNESFIFDJKCNX
DJGNRAOIJHEKCAFENJIPFAIYWENCLAJEFYCUAMEFHETE
WAIRMADILLOEGWUEARGBNNCHCATUEGFOHIAJLKSYFUGE

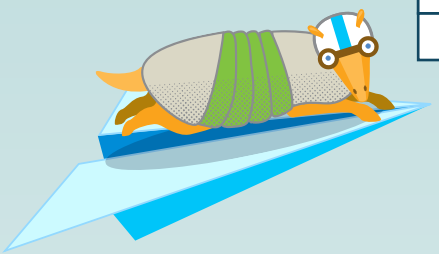
WORD BANK

GROUND LEVEL OZONE	ENGINE OFF	STRATOSPHERIC
PARTICULATE	AIR QUALITY	CALCULATION
NONATTAINMENT	AQI	DESIGNATION
HEALTHY	TEXAS	ATMOSPHERE
POLLUTANT	CRITERIA	AIRMADILLO



AIR QUALITY CROSSWORD

Use the prompts below to fill in the crossword.



ACROSS

1. What is the color-coded scale designed by the EPA for reporting daily air quality called? *(pg. 8)*
2. What is issued to the public when ozone concentrations are anticipated to reach levels high enough to impact sensitive populations? *(pg. 12)*
3. An area can be designated nonattainment due to as few as four high-pollution days, called? *(pg. 10)*
4. The ozone season in North Texas is from ____ 1 to November 30. *(pg. 5)*

DOWN

1. How many counties in North Texas are currently in violation of the 2008 8-hour Ozone NAAQS? *(pg. 9)*
2. Which type of ozone is commonly referred to as "bad ozone"? *(pg. 4)*
3. Microscopic solid or liquid particles suspended in the air are called _____ matter. *(pg. 6)*
4. What regulates the six criteria pollutants? *(pg. 3)*

REAL LIFE AIR QUALITY

Calculate the Ozone Design Value and find the AQI in your area!

CALCULATE THE 2024 OZONE DESIGN VALUE

Use the table to the left to answer the questions below.

TOP FOUR HIGHEST RECORDED DAILY OZONE CONCENTRATIONS

	2022	2023	2024
1st	85	83	87
2nd	84	79	83
3rd	83	79	77
4th	81	79	76

LIST THE FOURTH-HIGHEST VALUE FOR EACH YEAR

2022: _____

2023: _____

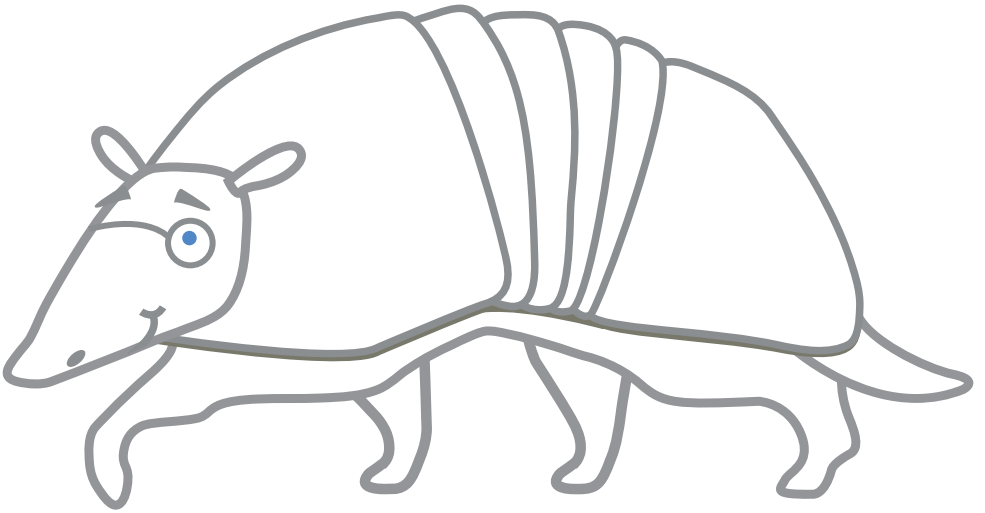
2024: _____

ADD THE THREE VALUES, DIVIDE BY THREE, AND ROUND DOWN:

(___+___+___) / 3 =

FIND THE AQI IN YOUR AREA TODAY

Visit www.nctcog.org/ozone to find the current air quality in DFW.
Then color Arlo's bands the color of the current AQI!




Well that was fun! To learn more about air quality and check your answers, scan this QR code or visit www.nctcog.org/airquality.