NORTH TEXAS AIR QUALITY: OPPORTUNITIES FOR IMPROVEMENT

Leadership North Texas
March 23, 2018
Air Quality 101
Clean Air Act (CAA) last amended in 1990

Requires Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Oxides (NO\textsubscript{x})
- **Ozone (O\textsubscript{3})**
- Particulate Matter (PM)
- Sulfur Dioxide (SO\textsubscript{2})

EPA must complete a review of NAAQS every five years
Optimum conditions for the formation of ozone include high temperatures and low winds.
Sections are not to scale and are for illustrative purposes only.
NITROGEN OXIDES (NO$_x$) EMISSION SOURCES

Total NO$_x$ = 296.77 tons per day (tpd)

On-Road Mobile 130.77

Light-Duty Vehicles (Passenger Cars and Trucks) 50.8 tpd

Medium-Duty Trucks 14.86 tpd

Heavy-Duty Trucks 65.11 tpd

Off-Road Mobile 25.24

Non-Road Mobile 45.54

Point (Excluding Oil & Gas) 38.30

Point (Oil & Gas) 16.50

Area 26.55

Oil & Gas (Production & Drill Rigs) 13.87

Source: TCEQ, 2017 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan
2016 AIR QUALITY CONFORMITY ANALYSIS

Emissions of Nitrogen Oxides (NO\textsubscript{x})

- Includes Reductions from RTC Initiatives of 2.68 tons/day
- 2017 MVEB = 148.36 tons/day

Emissions of Volatile Organic Compounds (VOC)

- Includes Reductions from RTC Initiatives of 0.71 tons/day
- 2017 MVEB = 77.18 tons/day

Analysis Years:

- 2017: 
  - Emissions of Nitrogen Oxides: 123.81 tons/day
  - Emissions of VOC: 62.85 tons/day

- 2027: 
  - Emissions of Nitrogen Oxides: 58.94 tons/day
  - Emissions of VOC: 40.61 tons/day

- 2037: 
  - Emissions of Nitrogen Oxides: 44.67 tons/day
  - Emissions of VOC: 27.47 tons/day

- 2040: 
  - Emissions of Nitrogen Oxides: 45.02 tons/day
  - Emissions of VOC: 27.32 tons/day
According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration is less than or equal to 70 parts per billion (ppb).
# EPA AIR QUALITY INDEX

<table>
<thead>
<tr>
<th>Color</th>
<th>Air Quality</th>
<th>Actions to Protect Your Health</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Green Circle" /></td>
<td>good</td>
<td>None necessary</td>
</tr>
<tr>
<td><img src="image" alt="Yellow Circle" /></td>
<td>moderate</td>
<td>Unusually sensitive people should consider limiting prolonged outdoor exertion</td>
</tr>
<tr>
<td><img src="image" alt="Orange Circle" /></td>
<td>unhealthy for sensitive groups</td>
<td>Active children and adults and people with respiratory disease, such as asthma, should <em>limit</em> prolonged outdoor exertion</td>
</tr>
<tr>
<td><img src="image" alt="Red Circle" /></td>
<td>unhealthy</td>
<td>Active children and adults and people with respiratory disease, such as asthma, should <em>avoid</em> prolonged outdoor exertion; everyone else, especially children, should <em>limit</em> prolonged outdoor exertion</td>
</tr>
<tr>
<td><img src="image" alt="Purple Circle" /></td>
<td>very unhealthy</td>
<td>Active children and adults and people with respiratory disease, such as asthma, should <em>avoid all</em> prolonged outdoor exertion; everyone else, especially children, should <em>limit</em> prolonged outdoor exertion</td>
</tr>
</tbody>
</table>
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).

- **1997 Standard**: < 85 ppb (Revoked)
- **2008 Standard**: ≤ 75 ppb (by 2017)
- **2015 Standard**: ≤ 70 ppb (TBD; Marginal by 2020)

*2017 data not certified by the Texas Commission on Environmental Quality*

*Not a full year of data, current as of 3/19/2018*

Source: NCTCOG TR Dept
Based on ≤70 ppb (As of March 19, 2018)

Exceedance Levels
- Orange (71-75 ppb)
- Orange (76-85 ppb)
- Red (86-105 ppb)
- Purple (106+ ppb)

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 for the revised ozone standard of 70 ppb.

= Additional level orange exceedance days under the revised standard that were not exceedances under the previous 75 ppb standard. (AQI level orange = 71-75 ppb)

*Data not certified by the TCEQ
^Not a full year of data, current as of 3/19/2018
Source: TCEQ, [http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl](http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl)

ppb = parts per billion
2015 8-HOUR OZONE STANDARD (≤70)

Anticipated Implementation Timeline

October 26, 2015: 2015 Standard Final Rule¹ Effective Date
December 28, 2015: State Nonattainment Designations Recommendations to EPA
October 2016: EPA Designated 2,646 Counties as Attainment/Unclassifiable and three Counties as Unclassifiable²

November 16, 2017: Effective Date

January 16, 2018: Final Rule Classifying Nonattainment Counties (Marginal classification³ anticipated for DFW ten-county nonattainment region)

April 2018:

¹https://federalregister.gov/a/2015-26594
²https://www.federalregister.gov/d/2017-24640
³Marginal Attainment date = 2020
Source: Environmental Protection Agency (EPA)
WHAT’S NEXT????

The Unknowns…

Old Standards Reinstated?

Impact of New Administration?

Additional “Clean Diesel” Lawsuits?
Air Quality Programs
AIR QUALITY EMPHASIS AREAS

- High-Emitting Vehicles/Equipment
- Idling
- Hard Accelerations
- Low Speeds
- Cold Starts
- Vehicle Miles of Travel
- Energy and Fuel Use
SAMPLE OF AIR QUALITY INITIATIVES
Program: Regional Clean Air Partnership and Campaign

- Provide a Comprehensive Air Quality Resource and Regional Message
- Leverage Resources and Collaborate with Regional Partners
- Increase Public Awareness of Specific Opportunities for Clean Air Choices

Key Resources

- New Comprehensive Website, Including Current Ozone Conditions
- Clean Air Corner Blog and Alerts for Ozone Action Days
- Outreach and Advertising Campaign
- Events – Air Quality Awareness Week, April 30-May 4, 2018 and Clean Air Action Day, June 22, 2018

Get Involved!

- Sign-up to Receive New Blog Notifications and Alerts
- Provide Messages and Alerts to your Employees
- Become an Air North Texas Partner
- Participate in Air North Texas Activities and Actions
- Promote Your Air Quality Improvements Online

www.airnorthtexas.org
CLEAN AIR ACTION DAY

Description:

People Commit to Adopting at Least One Clean Air Strategy for the Day

When:

First Friday of Summer Every Year
June 22, 2018

Get Involved!

Organizations and Businesses Promote the Day with Contests and Events for Employees Asking Participants to Post Photos of Their Commitments on Social Media Using #CAAD2018

www.airnorthtexas.org/cleanairactionday
EMPLOYER TRIP REDUCTION PROGRAM

Goal: Reduce Number of Vehicles on the Road and Improve Air Quality
Educate Employers and Commuters on Alternative Commute Strategies
Promote Alternatives to Driving Alone on Commute Trips
   Alternatives Include Carpooling, Vanpooling, Telecommuting, Flexible Work Hour Programs, Transit, Biking and Walking
Assist Employer in Developing Alternative Commute Programs
Increase Active Participation on www.TryParkingIt.com

Resources
Employee Informational Sessions, Lunch & Learns, and Outreach Events
ETR Employer Manual for North Texas
   Guide to Alternative Commuting, Employer Programs, Rewards, and More
Trip Reduction Program Support and Startup Guidelines/Recommendations
TryParkingIt.com – Ride-match and Commuter Tracking System
Try Parking It Outreach and Educational Materials

Get Involved!
Contact Sonya Landrum at (817) 695-9273 / slandrum@nctcog.org or TryParkingIt@nctcog.org for Details
TRY PARKING IT

Goal: Reduce Number of Single Occupancy Vehicles on the Road
Ride-Matching for Traditional Carpoools and Vanpools
Transit, Walking, and Cycling Buddy Matching
Multi-modal Trip Logging System to Track Alternative Commute Impacts
Reward Commuters for Not Driving Alone

Key Resources
Personal Savings Reports – Calories, Emissions, Miles, Fuel, $$$ Saved
Integrated Rewards System – Contest, Purchase, and Milestone
Commuter Challenges
Customizable Employer Portal with Company-Specific Reports

Get Involved!
Become a Participating Employer
Encourage Employee Participation
Become a G.R.E.E.N. Rewards Partner

www.tryparkingit.com
DALLAS-FORT WORTH CLEAN CITIES COALITION

Goal: Reduce Emissions and Petroleum Consumption
- Increasing Use of Alternative Fuels in Transportation
- Reducing Idling
- Increasing Fuel Economy
- Promoting Other Fuel-Consering Measures

Key Resources
- Education on Vehicle Technologies
  - Meetings, Workshops, Webinars, Trainings
- Access to National Technical Assistance
- Monthly E-Newsletter and Weekly E-Mail Updates
- Fleet Recognition Program

Get Involved!
- Attend Meetings/Events
- Sign Up for E-Mails and Newsletters
- Sponsor the Coalition
- Switch to Alternative Fuel Vehicles
- Submit Annual Survey to Receive Recognition

www.dfwcleancities.org
Goal: Increase Adoption of Electric Vehicles (EVs)

- Increasing Awareness
- Encouraging Installation of Charging Infrastructure

Key Resources

- Technical Data and Fact Sheets
- Information About Incentives
- Meetings and Events

Get Involved!

- Attend (or Host) Meetings
- Sign Up for Emails
- Adopt EV-Friendly Policies
- Install Charging Infrastructure
- Purchase Electric Vehicles
- Attend National Drive Electric Week!

Source: NCTCOG; using data from the Texas Department of Motor Vehicles and Department of Energy Alternative Fuels Data Center

www.dfwcleancities.org/evnt
JOIN US AT NATIONAL DRIVE ELECTRIC WEEK!

RECORDS ARE MADE TO BE BROKEN.

9.8.18    Grapevine Mills    #texasEV
DriveElectricDFW.org
EPA SMARTWAY® TRANSPORT PROGRAM

Goal: Reduce Emissions, Improve Fuel Economy, and Increase Efficiency in the Freight Sector

Key Resources
- Assistance with EPA Tools or Joining Program
- Meetings and Webinars
- Fact Sheet
- Partner Recognition and Support

Get Involved!
- Become a SmartWay Partner
- Include SmartWay Partnership in Contracts/Purchasing Decisions
- Purchase SmartWay-Verified Technologies or SmartWay-Certified Vehicles

www.nctcog.org/smartway
SAVING MONEY AND REDUCING TRUCK EMISSIONS (SMARTE)

Goal: Reduce Emissions and Fuel Costs for Trucking Industry
Providing Outreach and Education on Regional Initiatives

Key Resources
One-on-One Company/Driver Outreach and Technical Assistance
Fact Sheet and Brochure
Information Folders for Drivers, Fleet Managers, Vendors
Vendor Network

Get Involved!
Invest in Efficient Technologies
Get Involved in DFW Clean Cities and Adopt Fleet Policy
Include Information in Driver Training
Encourage Transportation Providers to Get Involved

www.nctcoq.org/smarTE
ENGINE OFF NORTH TEXAS

Goal: Reduce Emissions from Vehicle Idling
- Promoting Adoption of State Anti-Idling Rule
- Providing Anti-Idling Outreach Materials
- Incentivize Idle Reduction through Grant Funding
- Support Fleet Anti-Idling Efforts

Key Resources
- Template Documents
- Brochures, Signs, Posters
- Idling Vehicle Hotline: 877-NTX-IDLE

Get Involved!
- Adopt State Anti-Idling Rule
- Collaborate with Local Government
- Create Idle-Free Zones
- Educate/Engage Citizens
- Implement Idle Reduction Within Fleet
- Report Idling Vehicles

www.engineoffnorthtexas.org
CLEAN FLEET POLICY

Goal: Reduce Negative Air Quality Impacts of Fleet Operations
  Reducing Emissions
  Reducing Fuel Consumption
  Partnering with NCTCOG/DFW Clean Cities
  Educating Fleet Personnel

Key Resources
  Template Policy
  Template Idle Reduction Procedures
  DFW Clean Cities Fleet Recognition
  Funding Eligibility!!!

Get Involved!
  Adopt a Clean Fleet Policy
  Adopt an Idle Reduction Procedure
  Become a DFW Clean Cities Stakeholder

www.nctcog.org/fleetpolicy

65 Adopting Fleets as of March 2018

Eligible Clean Fleet Policy Entities
  - Cities
  - Counties
  - School Districts
  - Transit Agencies
  - Airports
  - Private Companies
Goal: Minimize Diesel Equipment Emissions on Construction Sites

Key Resources

- Template Contract Language
- Public Works Construction Standards North Central Texas, 5th Edition
- Grant Funding Assistance

Get Involved!

- Include Emissions Language in Construction Contracts
- Encourage Use of LEED Pilot Credit

www.nctcoq.org/construction
Goal: Increase Use of Solar Energy and Installed Capacity
Streamlining Regulations and Policies
Increasing Awareness

Key Resources
Best Management Practices
Cost Benefit Analysis
Meeting-in-a-Box
Template Regulatory Documents
Trainings and Videos
Website Clearinghouse

Get Involved!
Adopt Solar-Friendly Policies
Educate Property Owners/Citizens
Install or Purchase Solar

www.gosolarnorthtexas.org

Annual and Total DFW Area Solar Installations (2008 to 2015)

Source: NTREG, 2016
CONNECTING ENERGY EFFICIENCY RESOURCES

Issue
Disaggregated Resources and Initiatives
Difficult for Stakeholders to Find and Use

Proposed Solution
Website Clearinghouse: Conserve North Texas

www.conservenorthtexas.org
OTHER CLEAN AIR STRATEGIES

Organizations/Businesses/Governments

Move Construction Activities to Evening Hours
Postpone Mowing to a Day with Healthy Air
Conserve Electricity and Retrofit to Efficient Lighting
Limit Testing of Emergency Generators
Coordinate On-Site Employee Lunches
Use Audio and Video Conference Call Technology
Reduce Water and Use EPA’s WaterSense
Use Solar and Other Renewables for Power Needs When Possible
Use SmartScape Plants
Provide Facilities for Employees that Walk or Ride a Bike to Work
NORTH TEXAS AIR QUALITY: OPPORTUNITIES FOR IMPROVEMENT

www.nctcog.org/airquality
Goal: Provide Financial Assistance to Reduce Emissions from Highest-Polluting Vehicles
Up to $600 for Emissions-Related Repairs
Up to $3,500 to Replace Vehicles that are Over 10 Years Old or Fail the State Emissions Test

Key Resources
- Dealership Education and Materials
- Inspection Station Finder
- Marketing Toolkit

Get Involved!
Promote the Program to Employees or Residents

www.airchecktexas.org

$26 Million Available!
NCTCOG-DISTRIBUTED FUNDING

Total Vehicle/ Equipment/ Technology Grant Funding Awarded and Activities Administered by Activity Type (2006-2017)*

Grant Funding Awarded (2006 – 2017): $51,136,613

Activities Administered (2006 – 2017): 1,952

*Does not include funding distributed for private passenger vehicles through the AirCheckTexas Drive a Clean Machine Program. Portion of total grant funds awarded to NCTCOG are used for administrative costs. Last updated spring 2018.
$1.14 Billion Funded Since 2001
(Regional Funding Shown in Millions)

El Paso: $4.4M

DFW: $384.6M

Houston/Galveston: $461.7M

Beaumont: $45.3M

Tyler/Longview: $33.1M

San Antonio: $16.7M

Austin: $16.7M

Corpus Christie: $9.8M

Victoria: $4.9M

TEXAS EMISSIONS REDUCTION PLAN

Total Funding Received
- $3 Million - $4 Million
- $5 Million - $9 Million
- $9 Million - $45 Million
- $46 Million - $91 Million
- $92 Million - $461 Million

TERP Eligible Counties

North Central Texas Council of Governments

September 2017
Source: Texas Emissions Reduction Plan
Biennial Report (2015-2016)
A Report to the 85th Texas Legislature
Total Settlement To Date: $14.7 Billion

- Zero Emission Vehicle (ZEV) Investment - Managed By Electrify America
- Environmental Mitigation Trust (EMT) - Distributed To States

Settlement Breakdown ($ in Billions)

- Vehicle Buyback and Modification: $10.0
- ZEV Investment: $2.0
- Environmental Mitigation Trust: $2.7

Texas’ Share: $209 Million

COMING SOON: VOLKSWAGEN SETTLEMENT
CLEAN VEHICLE FUNDING OPPORTUNITIES

Air Quality and Transportation Funding & Resources

Stay Informed!
Sign Up for Email Alerts!

Funding for projects that address air quality, such as clean vehicle projects, are available from a number of non-profit entities.

Already Received Grant Funding from NCTCOG?

Agreements & Forms
Usage Reporting

See what NCTCOG Has Already Funded and Sign Up for Email Updates!

Funding Opportunity Archive

www.nctcog.org/aqfunding
FOR FURTHER INFORMATION

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lclark@nctcog.org

www.nctcog.org/airquality

Find us on social media @nctcogtrans