OZONE IN NORTH TEXAS: OPPORTUNITIES FOR IMPROVEMENT

Leadership North Texas
March 31, 2017

Mindy Mize, Program Manager
Shannon Stevenson, Program Manager
Air Quality Planning & Operations
NCTCOG Transportation Department
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
North Central Texas Nonattainment Area

*Air Quality Index based on 2015 NAAQS for Ozone, ≤70 parts per billion (ppb)
2016 data not certified by TCEQ.
Optimum conditions for the formation of ozone include high temperatures and low winds. Sections are not to scale and are for illustrative purposes only.
EMISSION SOURCES

Oxides of Nitrogen (NO$_X$)

- **On-Road (Cars & Trucks)**
  - 130.77 tpd (44%)
- **Non-Road (Construction, Agriculture, etc.)**
  - 45.54 tpd (15%)
- **Off-Road (Locomotives, Aircraft, etc.)**
  - 25.20 tpd (8%)
- **Point, Excluding Oil & Gas (Power Plants, Cement Kilns, etc.)**
  - 38.30 tpd (13%)
- **Point - Oil & Gas**
  - 16.50 tpd (6%)
- **Area (Dry Cleaners, Bakeries, etc.)**
  - 26.55 tpd (9%)
- **Oil & Gas (Production & Drill Rigs)**
  - 13.87 tpd (5%)

**Total NO$_X$ = 296.73 tons per day (tpd)**

Source: TCEQ, *2017 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan*
EIGHT-HOUR OZONE TRENDS

Based on ≤70 ppb (As of March 23, 2017)

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

*Data not certified by TCEQ.
^Not a full year of data.
Source: TCEQ, http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl

ppb = parts per billion

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.

= 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)
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)

As of March 23, 2017

Design Value (ppb)^1

Consecutive Three-Year Periods

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).

Data not certified by the Texas Commission on Environmental Quality.

Not a full year of data.

Source: NCTCOG TR Dept
### 2015 EIGHT-HOUR OZONE STANDARD (≤70)

#### Anticipated Implementation Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Standard Final:</td>
<td>October 26, 2015¹</td>
</tr>
<tr>
<td>Effective Date:</td>
<td>December 28, 2015</td>
</tr>
<tr>
<td>State Nonattainment Designation Recommendations to EPA:</td>
<td>October 2016</td>
</tr>
<tr>
<td>EPA Designations Final:</td>
<td>October 2017*</td>
</tr>
<tr>
<td>EPA Designations Effective:</td>
<td>December 2017*</td>
</tr>
<tr>
<td>Attainment Plans Due (moderate and above):</td>
<td>December 2020*</td>
</tr>
<tr>
<td>Attainment Dates (no later than)</td>
<td></td>
</tr>
<tr>
<td>Marginal:</td>
<td>December 2020*</td>
</tr>
<tr>
<td>Moderate:</td>
<td>December 2023*</td>
</tr>
<tr>
<td>Serious:</td>
<td>December 2026*</td>
</tr>
<tr>
<td>Severe:</td>
<td>December 2032*</td>
</tr>
</tbody>
</table>

¹ [https://federalregister.gov/a/2015-26594](https://federalregister.gov/a/2015-26594)

*Dates are anticipated based on EPA’s final designation date.

Source: Environmental Protection Agency (EPA)
SAMPLE OF AIR QUALITY INITIATIVES
OZONE IN NORTH TEXAS: OPPORTUNITIES FOR IMPROVEMENT

Opportunities for Improvement Programs
Program Goals/Description

Provide Funding Assistance for Projects that Reduce Emissions (NO\textsubscript{X} Focus)
Various Programs Under TERP “Umbrella”
  Mobile Sources
  Refueling Infrastructure
  Point Sources
  Stationary Sources
  Energy Efficiency

NCTCOG Resources

Assessment of Project Funding Potential
Free Assistance with Grant Applications
Comments on Proposed Rulemakings

Get Involved

Subscribe to TERP Email Lists
Subscribe to NCTCOG AQ Funding Emails
Attend TERP Meetings and Workshops

www.terpgrants.org

Major Funding Available Until May 26, 2017
Air North Texas

Program Description
A Regional Clean Air Partnership and Campaign to:
- Provide a Comprehensive Air Quality Resource and Regional Message
- Leverage Resources and Collaborate with Regional Partners
- Increase Public Awareness of Specific Opportunities for Residents to Make Clean Air Choices.

NCTCOG 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, May 1-5, 2017 and Clean Air Action Day, June 23, 2017

How To 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 23, 2017

How to Participate:

Organizations and Businesses Promote the Day with Contests and Events for Employees

Asking Participants to Take Steps Toward Improving Air Quality and Post Photos of Their Commitments on Social Media Using #CAAD2017 for a Chance to Win Prizes

www.airnorthtexas.org/cleanairactionday
GO SOLAR NORTH TEXAS

Goal/Description
Streamline of Regulatory Processes
Provide Resources for Cities
Increase Awareness

NCTCOG Resources
Template Permitting Documents
Ordinance Guidance
Website Clearinghouse

How To Get Involved
Adopt Suggested Best Practices
Attend Upcoming Webinars & Trainings

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

Source: NTREG, 2016

www.gosolarnorthtexas.org
DALLAS-FORT WORTH CLEAN CITIES COALITION

Description:
Created by the US Department of Energy, the Coalition provides information and education on alternative fuel and advanced technology vehicles, programs, and policies with a focus on petroleum reduction and air quality benefits.

NCTCOG Resources
- New Comprehensive Website
- Member Portal
- Meetings/Trainings/Workshops
- Monthly Newsletter
- Video Success Stories
- Annual Report on Alternative Fuel Usage

How To Get Involved
- Become a Member and Participate in Annual Report
- Participate in One or More Alternative Fuel Subcommittees
- Sponsor the Coalition
- Attend Workshops and Trainings
- Sign-up for Monthly Newsletter and Informative Emails

www.dfwcleancities.org
Goal/Description
Promote Adoption & Use of Electric Vehicles (EVs)
Encourage On-site Charging at Places of Employment

NCTCOG Resources
EV Fact Sheets
Guide to Claiming EV Incentives
Upcoming Workshops & Meetings

How To Get Involved
Attend EVNT & DFW Clean Cities Meetings
Sign-up to Receive Email Announcements
Attend the National Drive Electric Week Event
Install Workplace Charging

National Drive Electric Week

www.dfwcleancities.org/evnt
CLEAN FLEET POLICY

Goal/Description

Reduce Emissions and Overall Fuel Consumption From Fleet Activities

NCTCOG Resources

Funding Eligibility
Template Policy and Guidance
Template Idle Reduction (IR) Policy and Guidance
DFW Clean Cities Recognition Program

How To Get Involved

Adopt the Clean Fleet Policy and Submit to NCTCOG
Submit IR Policy/Standard Operating Procedure to NCTCOG
Become a DFW Clean Cities Coalition Stakeholder
Submit Annual Report

www.nctcog.org/fleetpolicy
Program Goals

Encourage Regional Idle Reduction by Promoting Idling Restrictions, Anti-Idling Policies, and Development of Outreach Materials for Idle Reduction Campaigns

NCTCOG Resources

Idling Complaint Hotline: 877-NTX-IDLE
Informational Brochures
Posters and Street Signs

How To Get Involved

Create No-Idle Zone
Report Idling Vehicles
Adopt Anti-Idling Measures for Own Fleet
Partner with City/County (if in Area with Idling Restrictions)

engineoffnorthtexas.org
Program Goals

Reduce Fleet Emissions, Improve Fuel Economy, and Increase Energy Efficiency in the Freight Industry

NCTCOG Resources

Informational Fact Sheet
SmartWay Meetings or Webinars
Assistance with Identifying EPA Tools or Joining as a Partner

How To Get Involved

Become a SmartWay Partner
Include SmartWay Partnership in Contracts/Purchasing
Purchase EPA SmartWay Verified Technologies and SmartWay Certified Vehicles

www.nctcog.org/SmartWay
Program Goals

Reduce Emissions and Fuel Costs in the Trucking Industry by Providing Outreach and Education on Regional Initiatives that Improve Efficiency

NCTCOG Resources

Informational Brochure
Meetings and Outreach Events
Individual Technology Assistance
Driver, Fleet Manager and Vendor Information Folders
Funding Assistance

How To Get Involved

Purchase Smartway Verified Technologies
Institute a Driver Training Program
Implement Clean Fleet Policy and Join DFW Clean Cities
Encourage Transportation Providers to Reach Out

www.nctcog.org/SMARTE
Program Goals

Offers Financial Assistance to Low-Moderate Income Vehicle Owners Whose Vehicles Fail Emissions Inspection Test
Helps Vehicle Owners Comply with Vehicle Emissions Standards to Reduce Ozone-Forming Pollutants Created by On-Road Motor Vehicles
Targets the Highest Polluting Vehicles and Provides an Incentive for Citizens to Contribute to the Regional Air Quality Solution

NCTCOG Resources

Program Applications, Informational Brochure, Banners

How To Get Involved

Place Applications at Businesses
Promote Program Assistance

www.nctcog.org/airchecktexas
EMPLOYER TRIP REDUCTION (ETR) PROGRAM

Overview

A Voluntary Educational Program that Targets Vehicle Trips of Employees in North Central Texas

Aimed at Reducing the Number of Vehicles on the Road and Improving Air Quality

Promotes Alternatives to Driving Alone on Commute Trips

Alternatives Include Carpooling, Vanpooling, Telecommuting, Flexible Work Hour Programs, Transit Pass Subsidies, Biking and Walking

NCTCOG Staff Available for Employee Information Sessions, Lunch and Learns, Program Development and Setup, Training, and Program Maintenance

Resources

ETR Employer Manual for North Texas Available

A Guide to Alternative Commuting, Employer Programs, Rewards, and More

Get Involved

Contact Sonya Landrum at (817) 695-9273 or slandrum@nctcog.org for Details
Overview
Regional Commuter Tracking and Ride-Matching System for North Central Texas

Site Features

Carpool and Vanpool Ride-Matching
Coming Soon – Transit, Walking, and Cycling Buddy Matching
Daily Trip-Logging Capabilities
Personal Savings Reports
Integrated Reward System and Savings Calculator
Regional Points of Interest
Challenges – I-30 Insider

Employees

Option to Participate in Trip Logging, Ride-Matching or Both
Registered Users can Specify Rideshare Preferences
(i.e. commute schedule, co-workers only, non-smokers)

Registered Employers

Designated Employer Administrator Access
Track Employees’ Alternative Commute Activities and Savings
Generate Company-Specific Reports
Customizable Employer Portal

www.tryparkingit.com
CONNECTING ENERGY EFFICIENCY RESOURCES

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

Proposed Solution
Website Clearinghouse: Conserve North Texas
“One-Stop-Shop”
Organized with Audience/Purpose in Mind

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
AIR QUALITY FUNDING OPPORTUNITIES

NCTCOG Assistance Available
Funding
Help Completing Applications

www.nctcog.org/aqfunding
FOR FURTHER INFORMATION

Mindy Mize
Program Manager
817-608-2346
mmize@nctcog.org

Shannon Stevenson
Program Manager
817-608-2304
sstevenson@nctcog.org

Find us on social media @nctcogtrans

www.nctcog.org/trans/air