

# Memorandum



CITY OF DALLAS

DATE March 24, 2017

TO The Honorable Members of the Transportation and Trinity River Project Committee:  
Lee M. Kleinman (Chair), Deputy Mayor Pro Tem Erik Wilson (Vice-Chair), Sandy Greyson,  
Mayor Pro Tem Monica R. Alonzo, Adam Medrano, and Casey Thomas II

SUBJECT Air Quality

On Monday, March 27, 2017, you will be briefed on Air Quality. Materials for the following are attached for your information:

- A. Attaining Federal Ozone Air Standards:  
The Role of Transportation Control Measures
- B. City Air Initiatives

Should you have any questions or concerns, please feel free to contact me. Thank you.

A handwritten signature in blue ink, appearing to read 'Jill Jordan'.

Jill A. Jordan, P.E.  
Assistant City Manager

c: Larry Casto, City Attorney  
Craig D. Kinton, City Auditor  
Rosa Rios, City Secretary  
Daniel F. Solis, Administrative Judge  
Kimberly Bizar Tolbert, Chief of Staff to the City Manager  
Majed A. Al-Ghafry, Assistant City Manager  
Theresa O'Donnell, Interim Chief of Economic Development &  
Neighborhood Services

Mark McDaniel, Assistant City Manager  
Eric D. Campbell, Assistant City Manager  
Jill A. Jordan, P.E., Assistant City Manager  
Joey Zapata, Assistant City Manager  
M. Elizabeth Reich, Chief Financial Officer  
Alan E. Sims, Interim Chief of Community Services  
Directors and Assistant Directors

# Attaining Federal Ozone Air Standards: The Role of Transportation Control Measures

Presented to the  
Transportation Committee  
Dallas City Council  
March 27, 2017

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*The Environmental Law Firm* <sup>SM</sup>

# The BIG Picture:

## WHY DFW CLEAN AIR IS EVERYONE'S BUSINESS

### Clean Air is a Quality of Life Issue

- Public Health
- Environmental and Aesthetic Values
- Texans Love Their Cars/Trucks/SUVs
- DMN Reports Dallas 16th Highest in Traffic Time in U.S.

### Clean Air is a Valuable Component of Economic Development

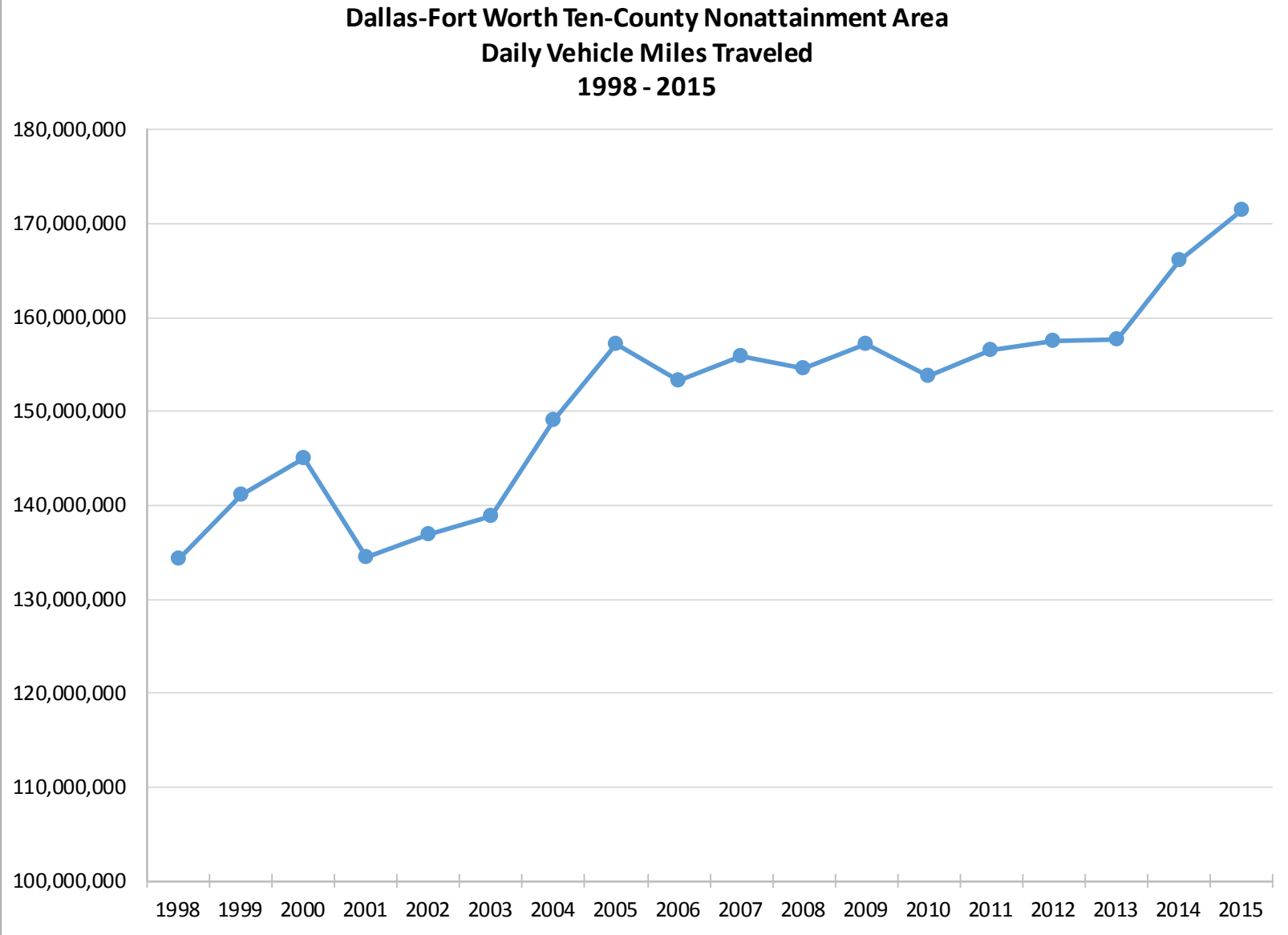
### DFW Has Not Attained Federal Ozone Standards

- Federalism: No State or Local Control of Standards

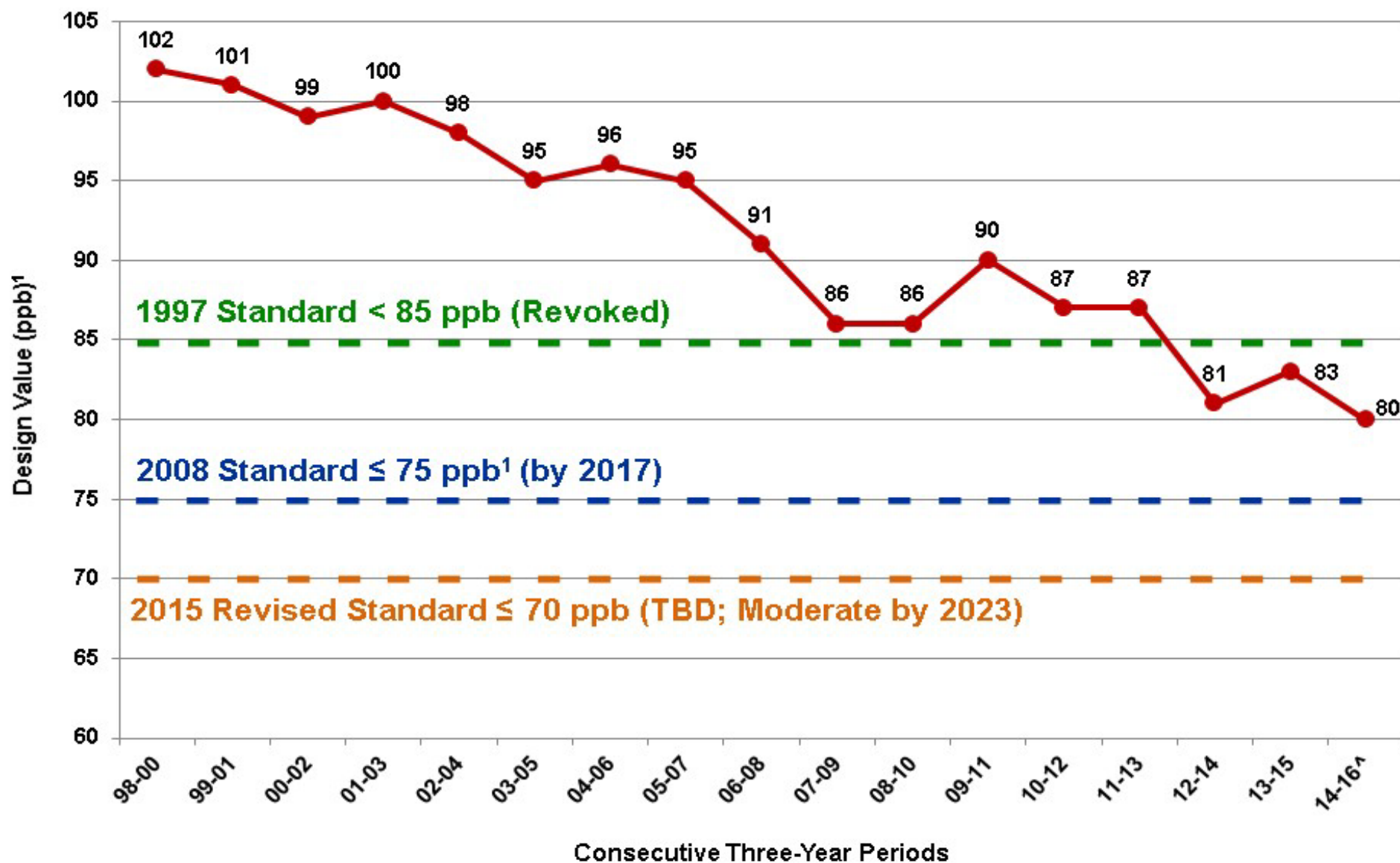
# Vehicle Miles Travelled Impacts

## DFW Ozone Non-attainment Status

Dallas-Fort Worth Ten-County Nonattainment Area Daily Vehicle Miles Traveled (VMT) 1990-2015	
Year	Daily VMT
1990	100,075,926
1991	96,986,040
1992	99,826,804
1993	101,388,741
1994	119,741,532
1995	121,709,263
1996	124,474,818
1997	129,096,784
1998	134,287,641
1999	141,150,888
2000	145,112,201
2001	134,558,167
2002	136,892,126
2003	138,934,069
2004	149,149,055
2005	157,239,604
2006	153,351,939
2007	155,946,421
2008	154,600,473
2009	157,218,301
2010	153,741,670
2011	156,626,172
2012	157,534,138
2013	157,696,524
2014	166,086,361
2015	171,422,347



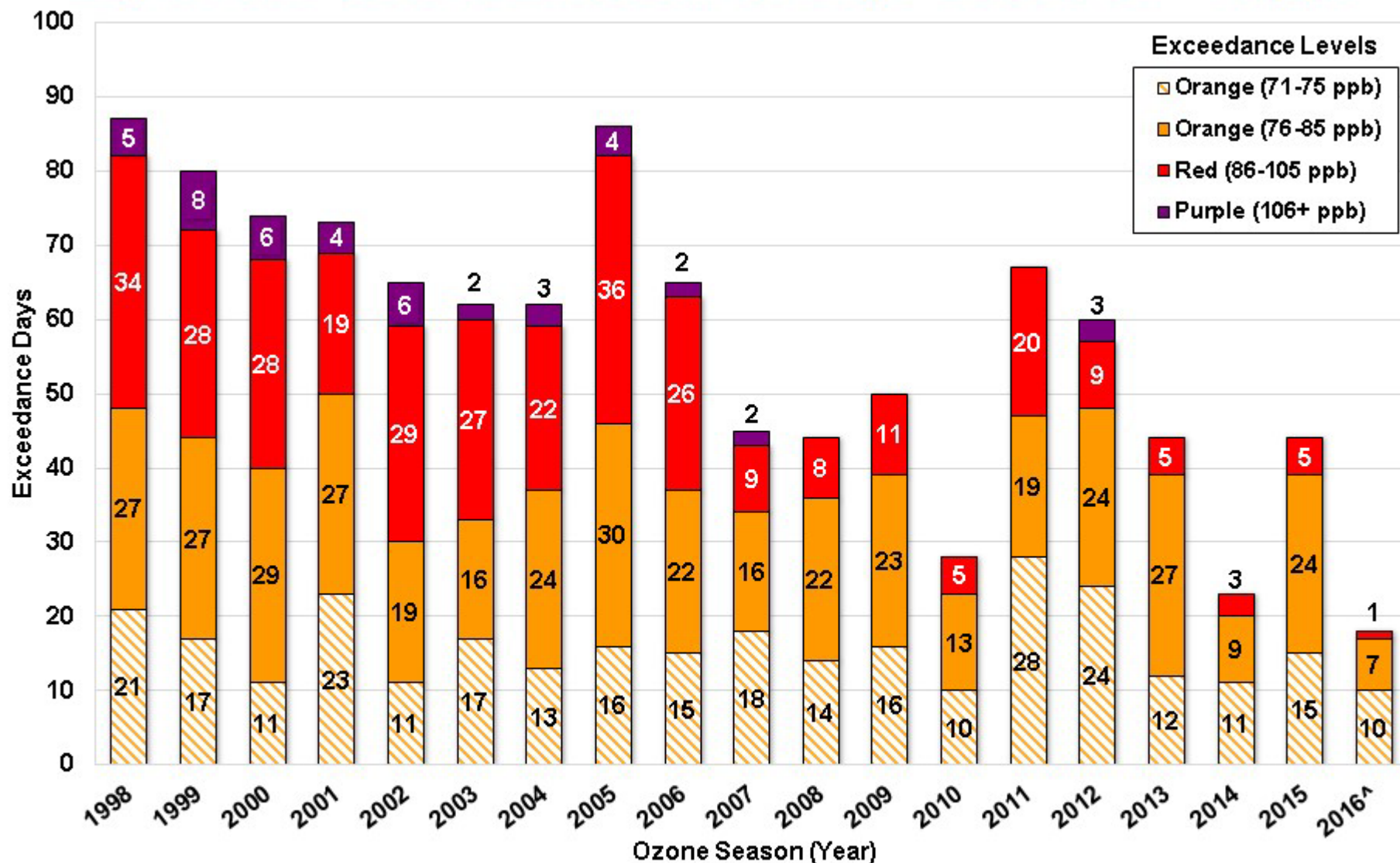
# Comparison of DFW Ozone Values to Federal Ozone Standards




<sup>1</sup>Attainment 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).

<sup>^</sup>Data not certified by the Texas Commission on Environmental Quality.

# Trend: Declining Magnitude and Frequency Of DFW Ozone Exceedences



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

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



<sup>^</sup>Data not certified by TCEQ.

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






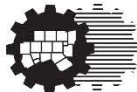
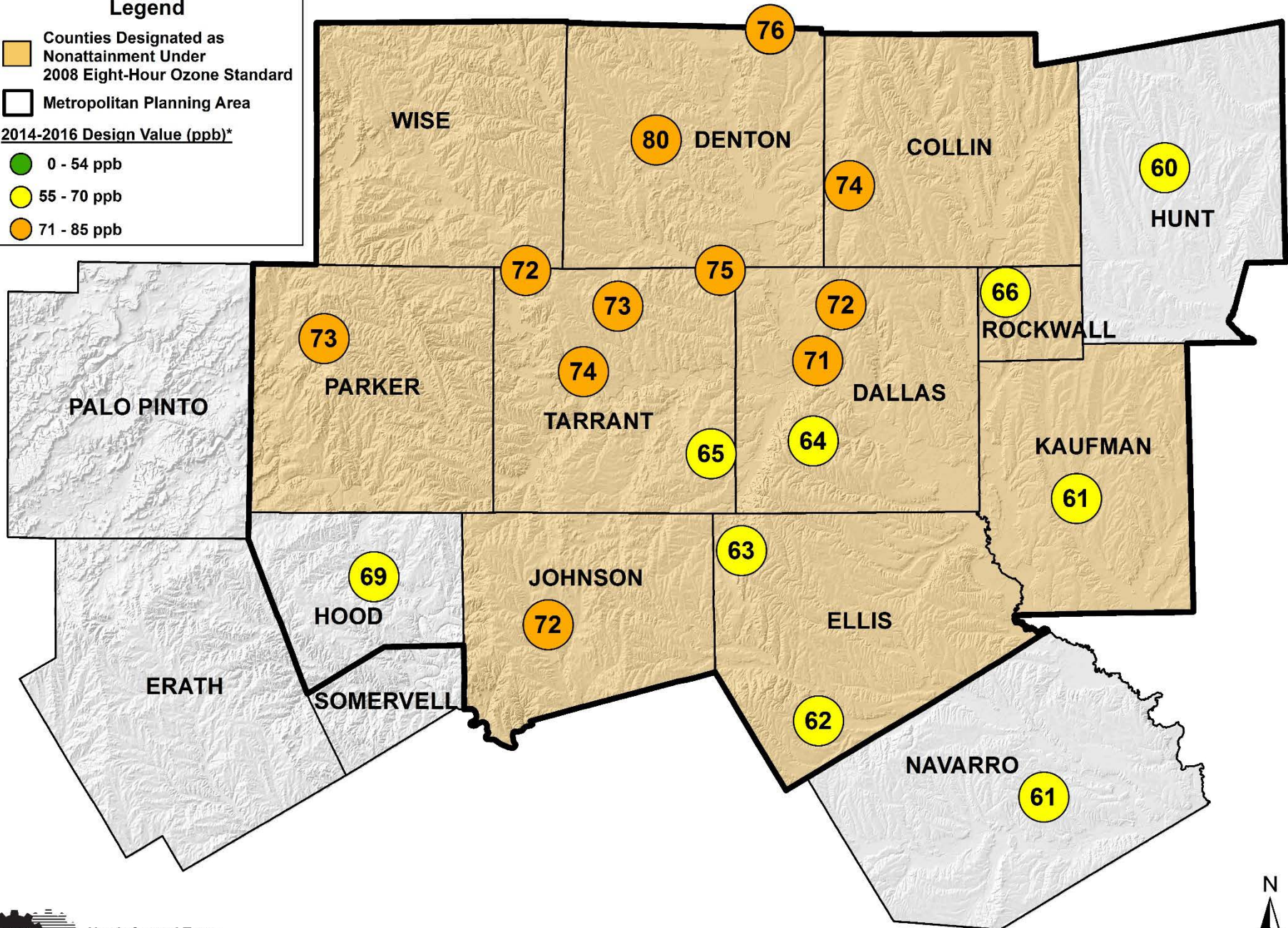
# 2016 DFW Non-Attainment Area Ozone Design Values

**Legend**

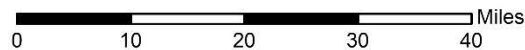
-  Counties Designated as Nonattainment Under 2008 Eight-Hour Ozone Standard
-  Metropolitan Planning Area

2014-2016 Design Value (ppb)\*

-  0 - 54 ppb
-  55 - 70 ppb
-  71 - 85 ppb



North Central Texas  
Council of Governments



\*Data not certified by TCEQ

# A Brief Public Policy and Legal History

## 1977 National Ambient Air Quality Standards

County-by-County Compliance For Six Criteria Air Pollutants

- Ozone Precursors: NO<sub>x</sub> and VOC
- Why County-by-County?

Federal Policy Goals: Balance Public Health and Environmental Protection with Job Creation

- Focus on Major Sources of Visible Emissions
- Incentives and Disincentives



# A Brief Public Policy and Legal History (cont.)

## 1990's Regulation of Hazardous Air Pollutant Emissions by Industry Sector

- Scientific Health-Based Data Available; County-by-County Approach Not Deployed

## Dallas and Tarrant Counties Deemed Non-Attaining

- Expanded Ambient Ground Level Monitoring

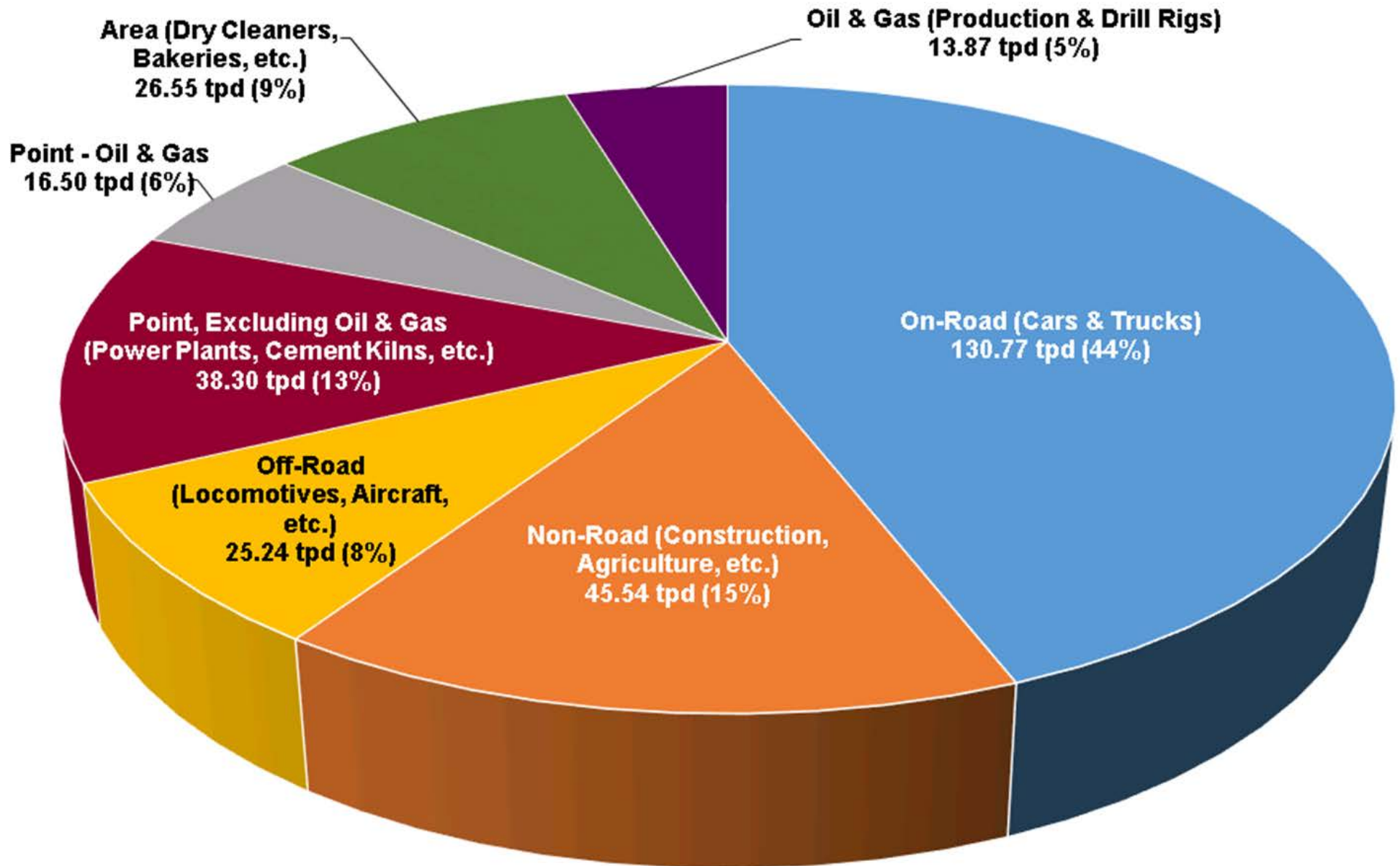
## 2000's Collin and Denton Counties Added, then "Collar Counties"

## 2010's Regulation of Greenhouse Gases Begins

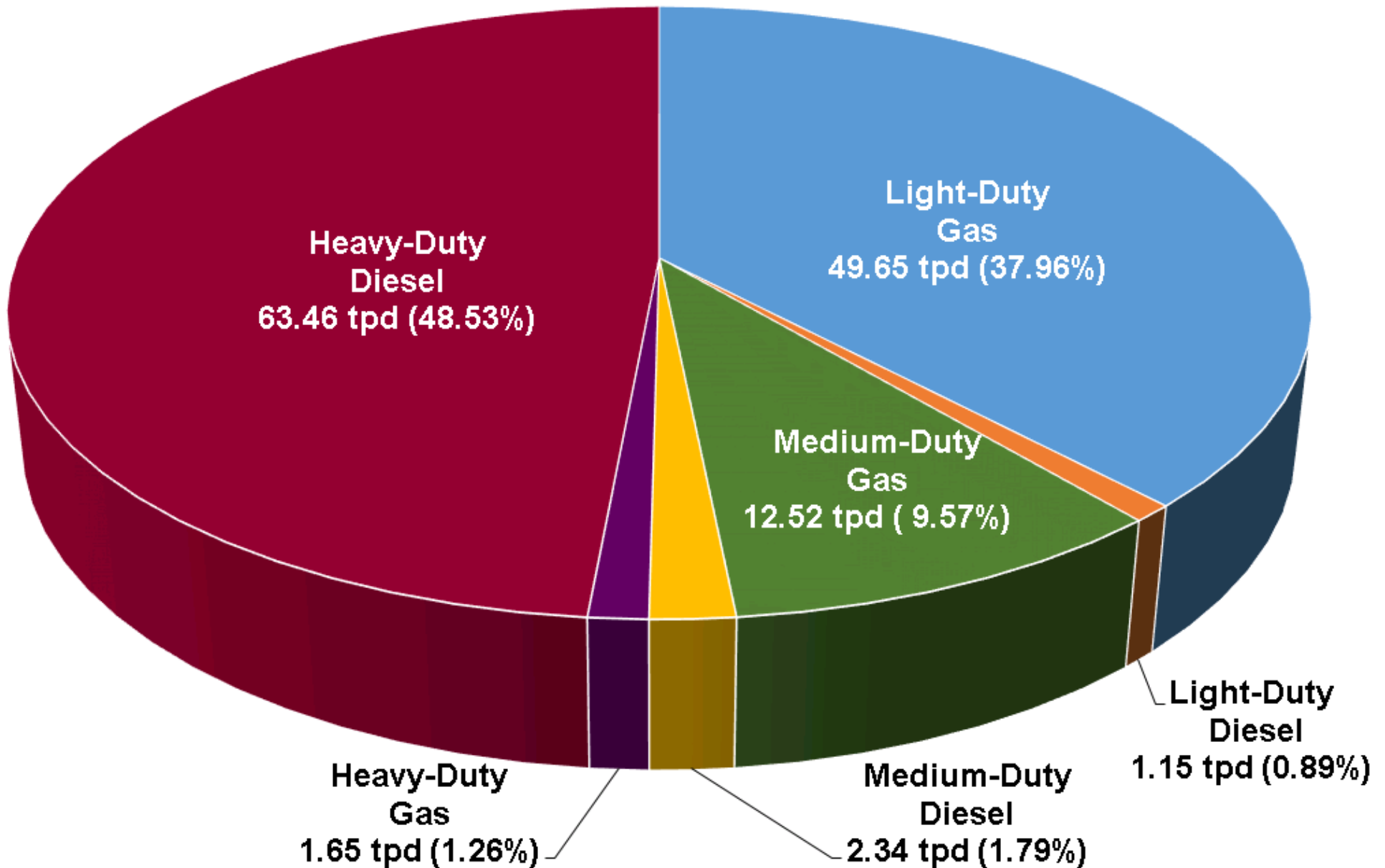
- Focus On Largest Emitters
- Continuing Small Business Balance

# DFW 2017 Ozone Non-attainment Area Ozone Precursor Emissions (NO<sub>x</sub>)

Source Category Estimates = 296.77 tons per day (tpd)



DFW 2017 Ozone Non-attainment Area  
Mobile Sources On-Road Emissions Inventory (NO<sub>x</sub>)  
Source Category Estimates = 130.77 tons per day (tpd)



# An Explanation of DFW'S Improving Ozone Non-Attainment Picture

## DFW Manufacturers/Sources: Significant Reductions Since 1977

- Large Sources Are Highly Regulated
- Shift Toward Service Economy; Few New Large Sources
- Small Business: Emissions Reductions Balanced with Growth
- Ozone Impact of Barnett Shale Emissions Have Not Proven Material

## DFW Mobile Sources; Increasing VMT Offset By:

- Increasing Corporate Average Fuel Economy Standards
- Vast Improvements in Vehicle Emission Pollution Controls
- Public Transit
- Texas' Low Income Repair and Replacement Program  
-80/20 "Rule of Thumb"



# Conclusions and Prognosis

2015 Standard of 70 ppb Is a Serious Challenge for DFW as Population Continues to Grow

Transportation and Mobile Sources Hold the Key

Federal Standards are at Issue

70% Group C Population Growth in next 50 years:

Source: TWDB *Water for Texas*

DFW Population Growth Expected :1 million New Residents per Decade to 2060

Source: NCT Council of Governments Trans. Dept.

## *Questions and Comments??*

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214-692-0009

## **Thank You!**

# City Air Initiatives

Transportation & Trinity  
River Project Committee

March 27, 2017

James McGuire,  
Managing Director,  
Office of Environmental  
Quality



**City of Dallas**

# Presentation Overview



- Background
- City programs that improve air quality and results
- Clean Air Action Day
- Tracking and reacting to regulatory developments



# Background

- In Spring 2016, OEQ briefed the Quality of Life and Environment Committee on air quality issues affecting the City and North Texas
- In May 2016, the City Council passed a resolution on air quality that:
  - Asked the TCEQ to work in partnership with local governments and the EPA to improve air quality
  - Requested TCEQ and EPA take or continue certain actions to improve regional air quality

# Purpose

- Update the Committee on City programs that promote clean air

# Air Quality Programs and Projects

- Alternative Commute Program and Alternative Fuel Vehicle (AFV) Program
- City local air programs in partnership with TCEQ/EPA
- Green Building Program/Energy Efficiency Retrofit Program
- Renewable Energy Purchasing Program
- Other City activities also mitigate air quality issues

# Alternative Commute Program



- Encourages City employees to use alternatives to one person/one car commute
- Reduces pollution and traffic congestion and saves commuters money
- Alternative commute options include: public transportation, car-pooling, bicycling, electric vehicles/hybrid vehicles, and flex days/work from home
- City employees track their commutes through Try Parking It website and OEQ



# Alternative Commute Program Results

- In FY 15-16, City of Dallas employees reduced miles traveled by over 6,000,000 miles
- That resulted in estimated emissions savings of over 3,000 Tons of CO<sub>2</sub> and 15 Tons of ozone precursor emissions, equivalent to:
  - *14.5 railcars of coal; or*
  - *the carbon sequestered by 2,576 acres of forest.*

# Alternative Fueled Vehicles (AFVs)



- Includes vehicles that pollute less, or in some cases do not pollute
- Hybrid vehicles, electric vehicles, natural gas fueled vehicles, and E-85 vehicles are in the City fleet
- AFVs help reduce mobile source emissions and meet emission reduction targets

# AFV Performance

- The City's non-emergency sedan fleet is composed of over 60% AFVs
- In FY 15-16, City of Dallas had an estimated emission reduction of over 5,000 metric tons of CO<sub>2</sub>, equivalent to:
  - *more than 26 railcars of coal; or*
  - *the carbon sequestered by 4,733 acres of forest.*

# City Local Air Programs



- City operates two dedicated local air programs: (1) Air Quality Compliance; and (2) Ambient Air Monitoring
- Both programs are in OEQ and funded in whole or in part by State of Texas with grants of \$525,117 for compliance and \$946,750 for monitoring
- Over 25 years of local air monitoring and compliance in coordination with state and federal agencies

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# OEQ Air Quality Compliance Program

- Cooperative arrangement operating with authority of TCEQ as approved by City Council annually
- Review of air permit applications
- Response to complaints (148 in FY15-16)
- Site inspections (498 in FY15-16)
- 2,264 active New Source Air Permits, Registrations or IDs currently within the city limits

# OEQ Ambient Air Monitoring Program

- Air Quality Monitoring operates seven air monitors and the BioWatch Program
- Approved by City Council annually
- Air monitoring data provides information on regional air quality
- The data collected by this program is critical to Clean Air Act compliance and air planning

# Advantages of OEQ Local Air Programs

- Maintain productive relationship with state and federal government
- More frequent local inspections encourages compliance
- Faster responses to complaints and better resolution
- OEQ professionals responsible for quality air data that are essential to Clean Air Act compliance and planning
- BioWatch Program guards against emissions that could indicate terrorist attack

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# City Green Building Program & Energy Efficiency Retrofit Program



- Since 2003, the City has built 32 LEED Silver standard or better
- Each LEED building uses significantly less energy than a standard building resulting in less pollution from power plants
- The City is also retrofitting older buildings with energy efficient lighting/HVAC

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# Energy Savings Example

Over a year, three recently completed energy efficiency retrofit projects resulted in:

- 26 million kwh reduction in energy use, equivalent to:
  - *99 railcars of coal; or*
  - *the CO<sub>2</sub> captured by over 17,000 acres of forest.*



# Renewable Energy Purchasing



- On October 26, 2015, City achieved 100% renewable energy consumption
- The City purchases about 720 million kilowatts of energy per year, equivalent to:
  - *2,695 railcars of coal; or*
  - *the carbon sequestered by 478,981 acres of forest.*

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# Clean Air Action Day



- OEQ will once again sponsor Clean Air Action Day (CAAD) on June 23, 2017
- CAAD highlights air quality issues and actions to improve air quality
- In 2016, OEQ was recognized by NCTCOG for CAAD campaign

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# Other City activities

- Many other City activities have the potential to improve regional air quality. Examples include:
  - Maintenance and improvement of green space
  - Promotion of the use of public transportation
  - Promotion of residential growth in CBD
  - Maintenance of an EMS that considers City's significant aspects, including operations-related emissions

# Staff Recommendation

- This is an informational briefing. No action is required.

# Next Steps

- Continue to track and review regulatory developments
- Maintain City programs and develop additional options to improve air quality



# Questions and Comments

# City Air Initiatives

Transportation & Trinity River  
Project Committee

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**City of Dallas**