

LOCALLY ENFORCED IDLING RESTRICTIONS

Best Southwest
Transportation Task Force Meeting

May 19, 2011

Amanda Brimmer, E.I.T.
North Central Texas Council of Governments

LOCALLY ENFORCED IDLING RESTRICTIONS

Overview

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- **Background on Air Quality**
- **The Problem**
- **Idling Restrictions In The US & Texas**
- **Technology Options**
- **Incentives & Funding Opportunities**

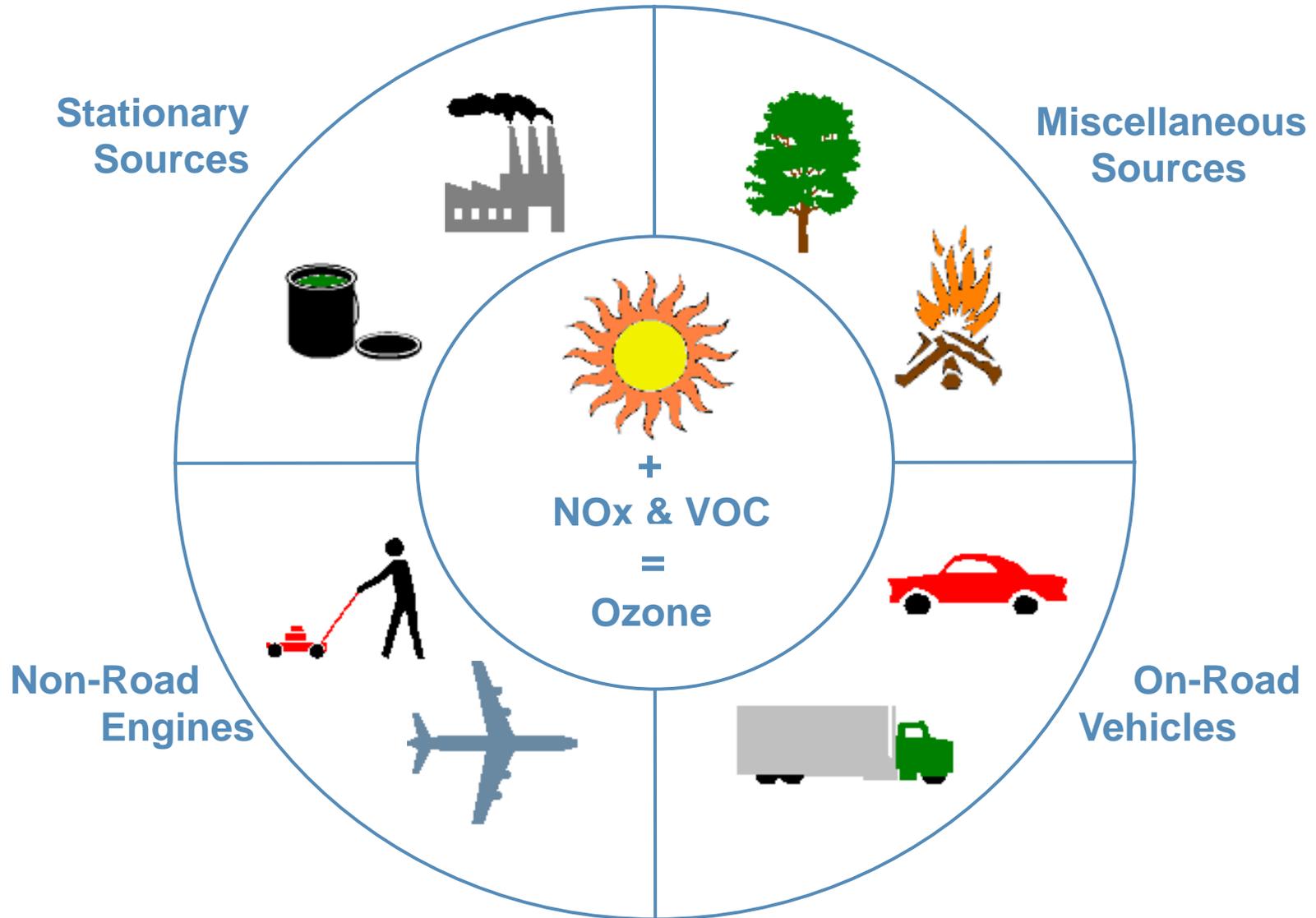


Background on Air Quality

STATE OF AIR QUALITY IN NORTH TEXAS

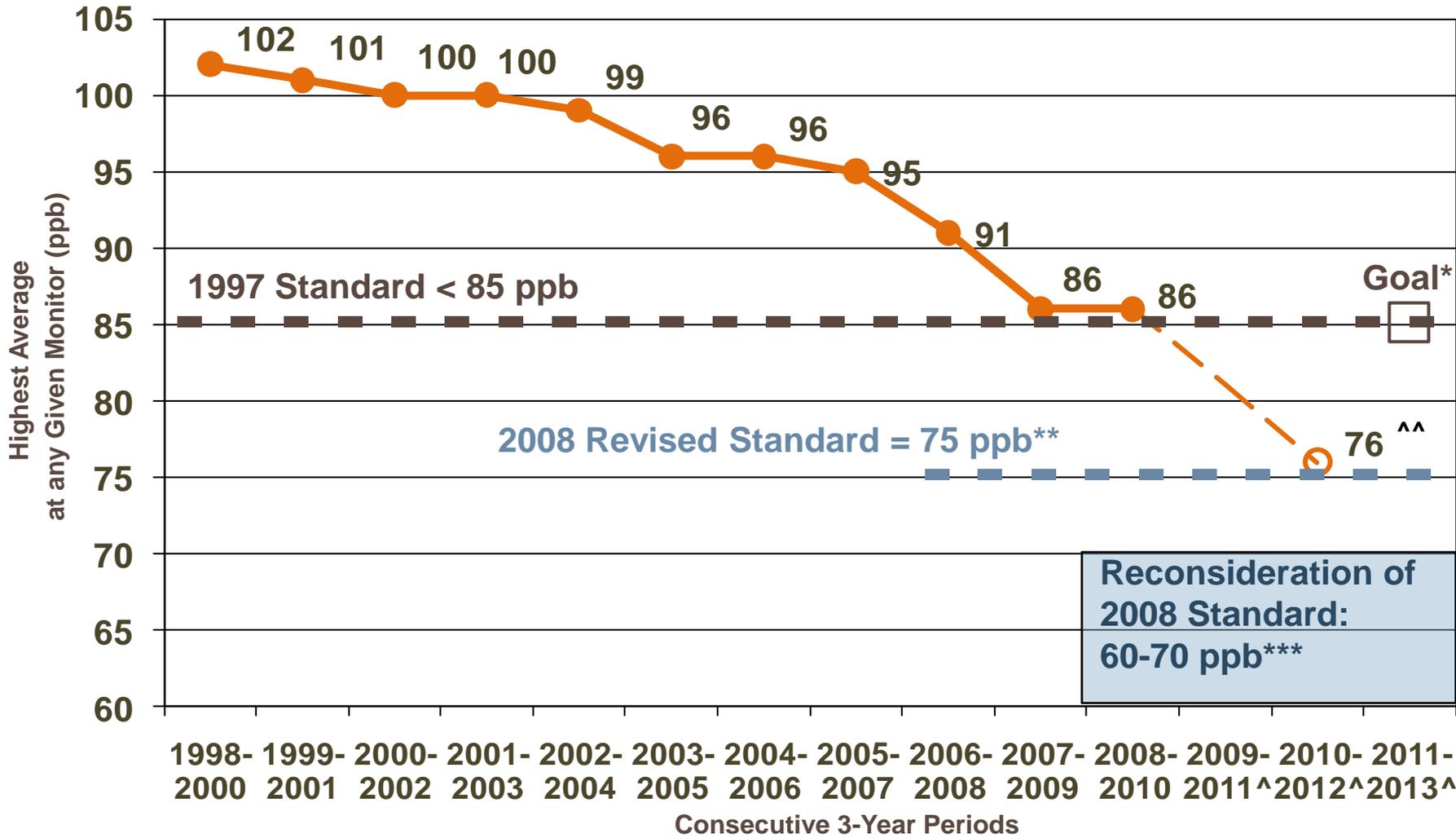
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Ozone Formation



8-HOUR OZONE STANDARD HISTORIC TRENDS

DFW Nonattainment Area



* Attainment Goal - 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 8-hour average ozone concentration is less than 85 parts per billion (ppb).

** Ozone Standard was revised in 2008 to 75 ppb. Designations under this standard are currently on hold until EPA makes recommendations for reconsideration (see ***).

*** Ozone Standard is currently under reconsideration by the EPA and will likely be revised in July 2011 to between 60 and 70 ppb.

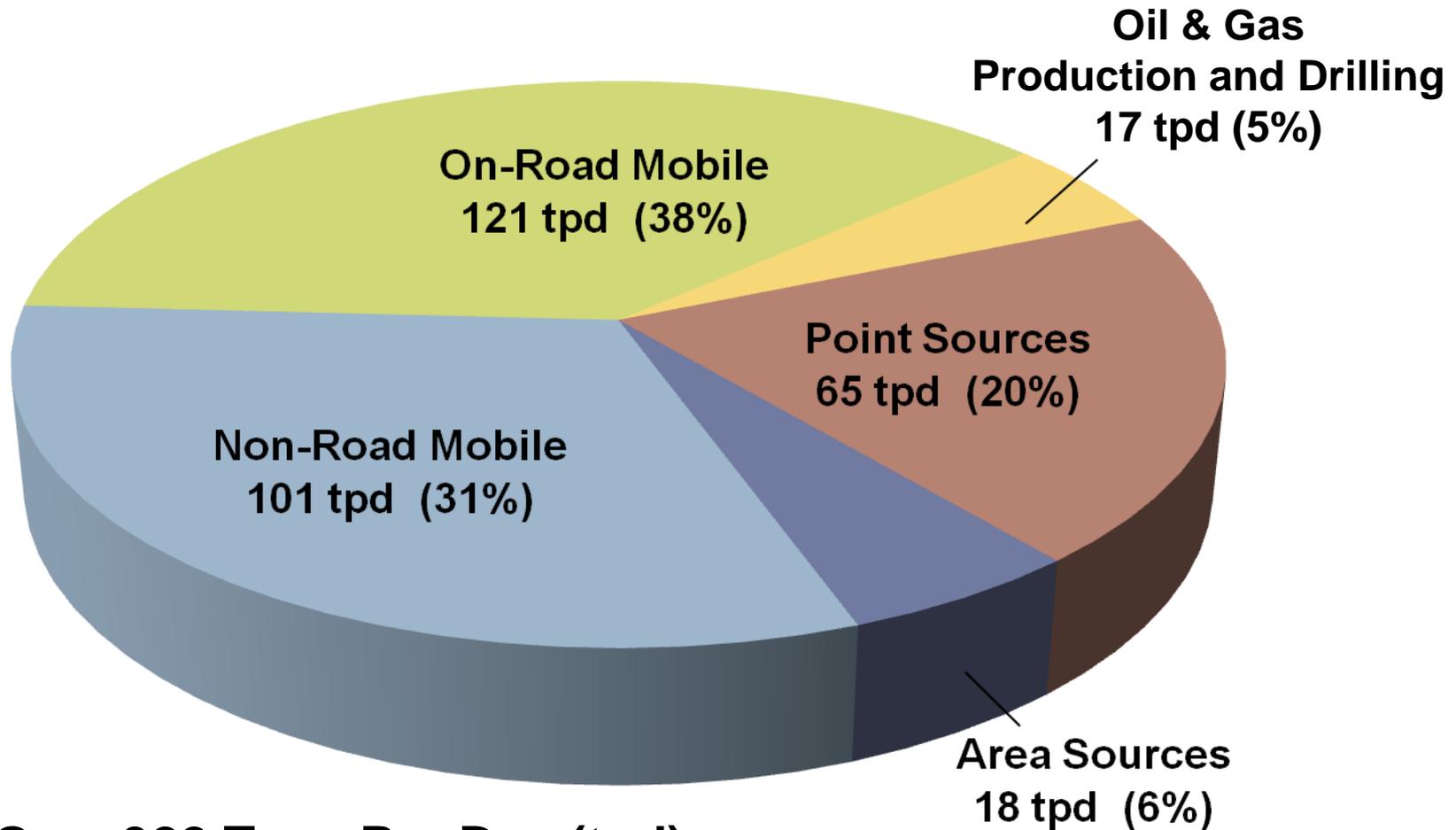
^ Not a full year of data. Current as of March 15, 2011

^^ TCEQ 2012 model output.

DFW NONATTAINMENT AREA

NO_x Emission Inventories* by Source

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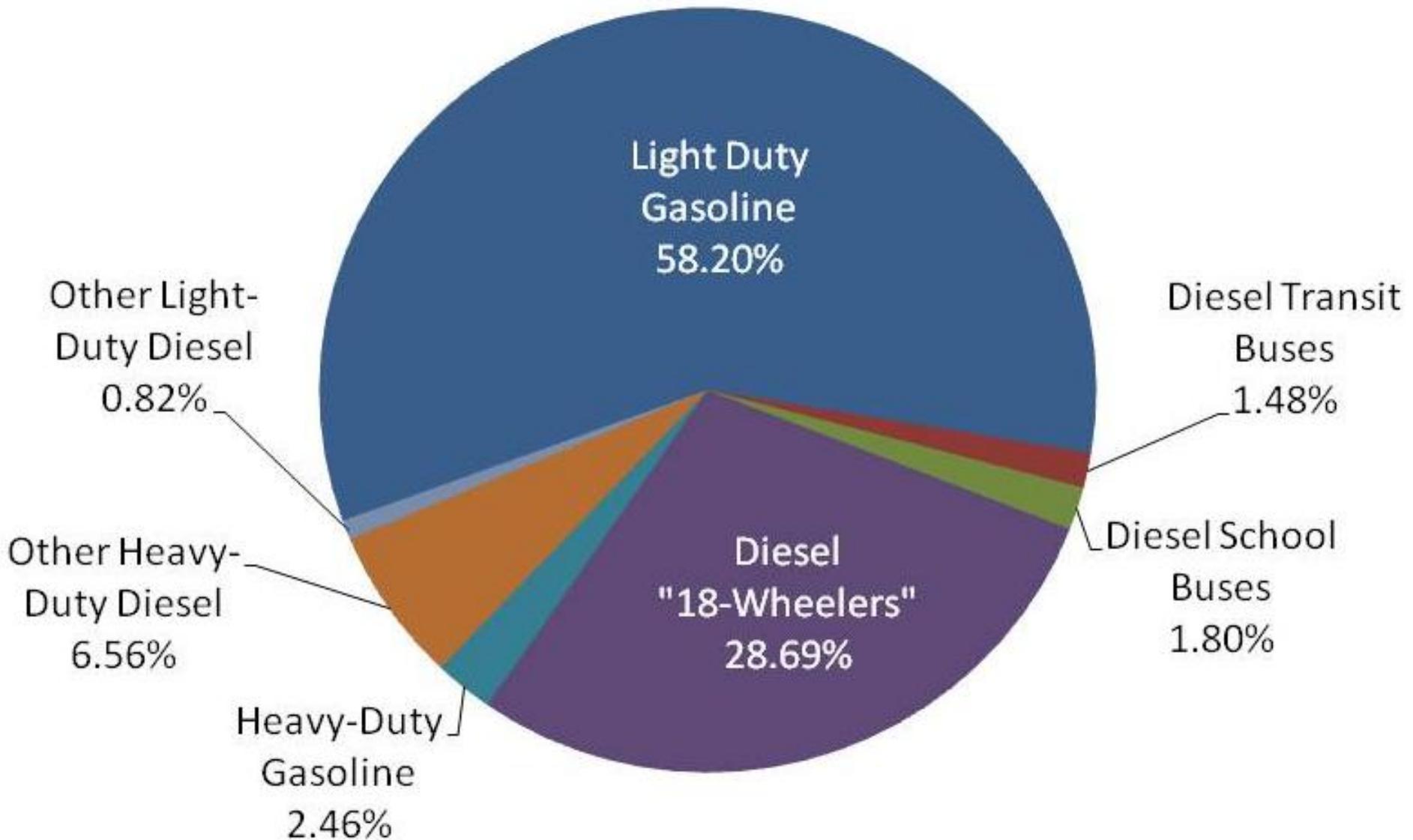
Total NO_x = 322 Tons Per Day (tpd)

*Preliminary Results; Source: TCEQ

DFW NONATTAINMENT AREA

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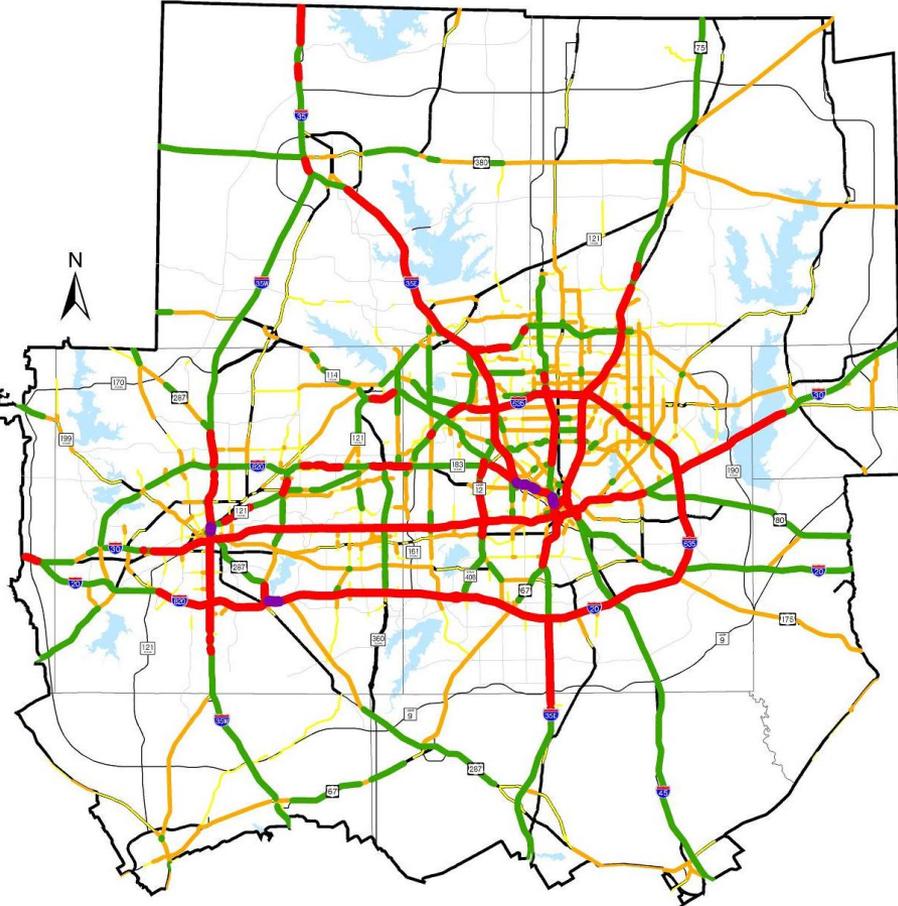
On-Road NO_x Emissions Inventory* By Sector



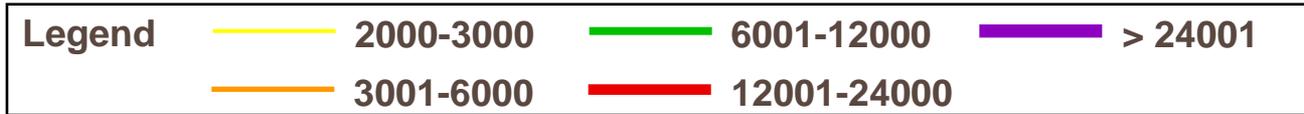
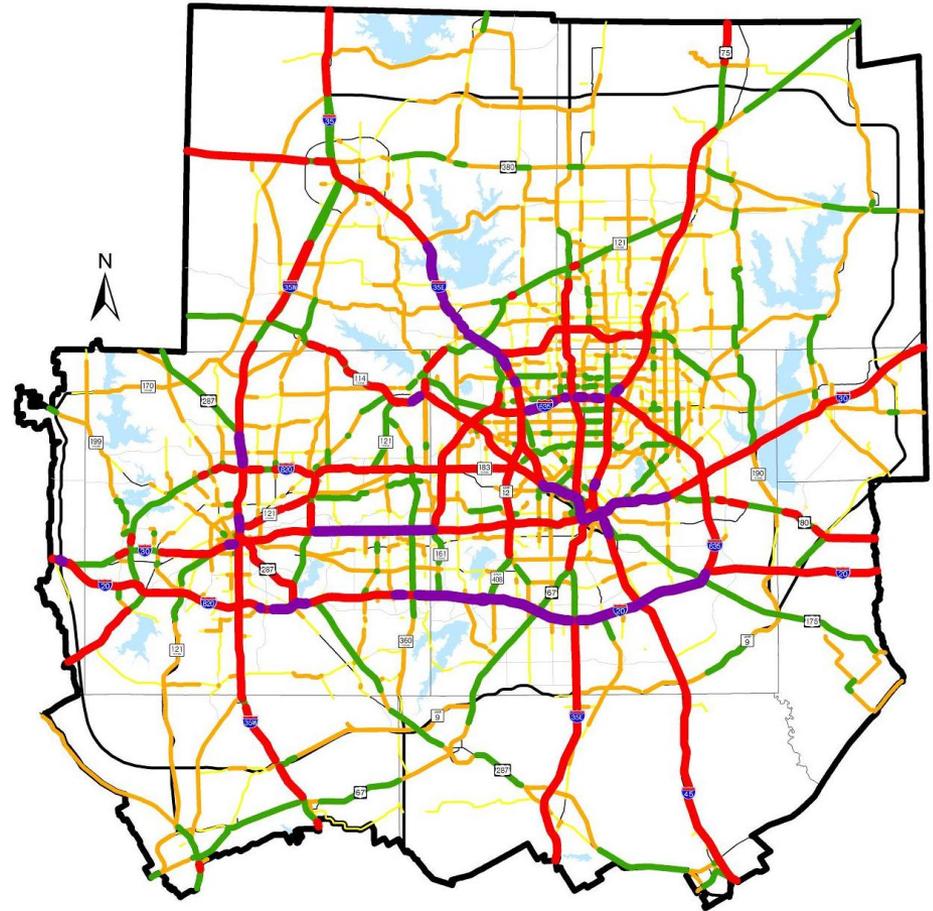
REGIONAL TRUCK VOLUMES

DFW Nonattainment Area

2005 Truck Volumes



2030 Truck Volumes





The Problem



HEAVY-DUTY VEHICLE IDLING

Why is it of Concern?

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The US EPA estimates that excess idling is responsible for:

- **Over 1 Billion Gallons of Diesel Fuel Consumed Annually**
- **11 Million Tons of Carbon Dioxide, 200,000 Tons of Nitrogen Oxides, and 5,000 Tons of Particulate Matter Emitted Annually**
- **Increased Engine Maintenance Costs**
- **20% Decrease in Engine Life**
- **Elevated Noise Levels**



REDUCING IDLING

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Minimizing Emissions and Saving Money

Unnecessary idling wastes money and resources.

EXAMPLE)

Idling = 7 hours/day * 5 days/week * 50 weeks/year
= 1,750 hours idling/year

Idling = 1 gallon diesel/hour * \$3.50-\$4.00/gallon diesel*
= \$6,125-\$7,000/year

Engine manufacturers, including Cummins, state that excessive idling should be avoided when possible as it results in:

- Reduced Fuel Economy
- Increased Engine Wear
- Excessive Carbon Buildup on Pistons, Piston Rings, Injector Tips, Valves, Etc.
- Increased Frequency of Maintenance and Repairs such as Oil Changes and Replacement of Belts/Hoses

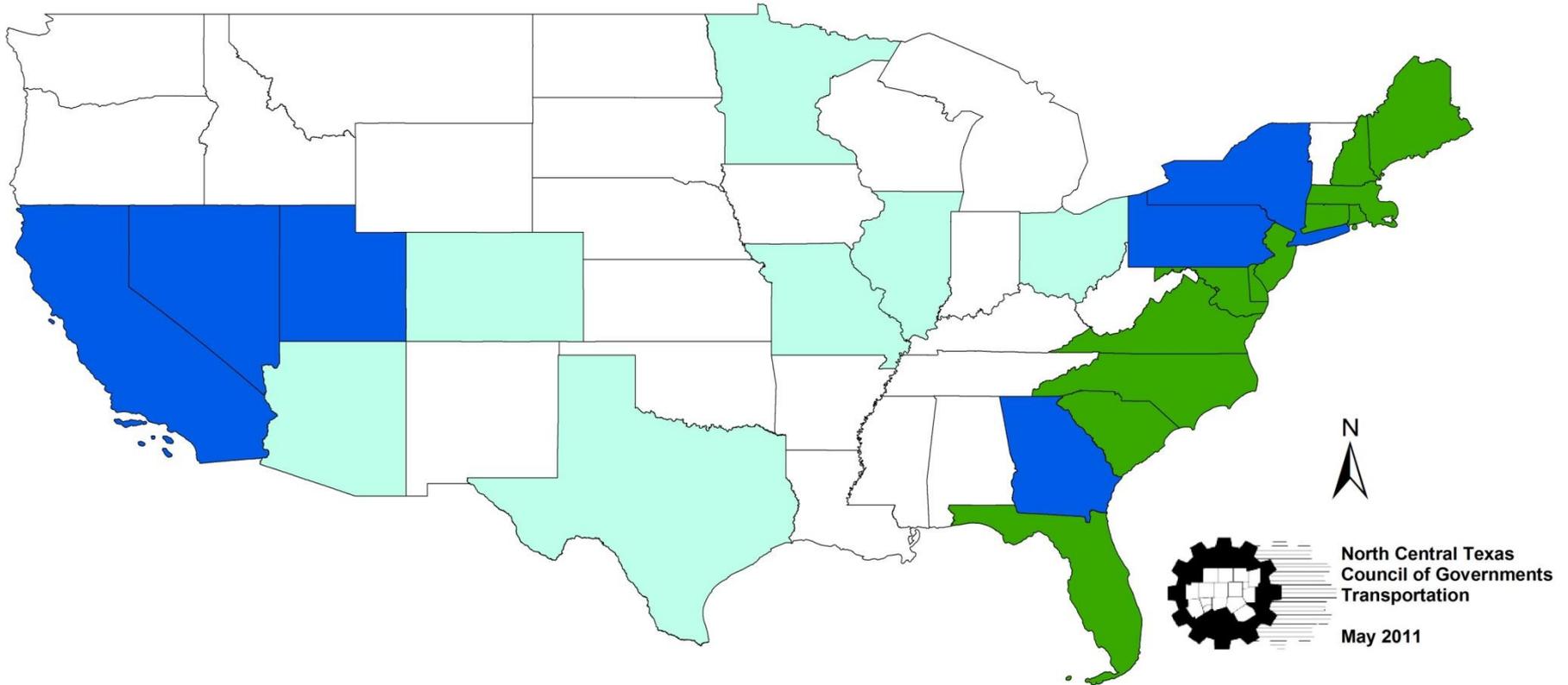


Idling In The US & Texas

US IDLING RESTRICTIONS

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Statewide vs. Region Specific Rules



Each region has unique time limits and exemptions.
Visit the American Transportation Research Institute for specific regulations.

NOTE: Idling restrictions now applicable in Hawaii; none in Alaska.

TEXAS IDLING RESTRICTIONS RULE

Regions Actively Pursuing Adoption and Enforcement



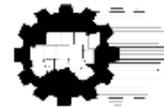
DFW Area

Austin Area (Adoptees*)

- City of Austin
- City of Bastrop
- City of Elgin
- City of Georgetown
- City of Hutto
- City of Lockhart
- City of Luling
- City of Round Rock
- City of San Marcos
- Bastrop County
- Caldwell County
- Hays County
- Travis County
- Williamson County

Legend

- Texas Counties
- Area Actively Pursuing Idling Restrictions
- Ozone Nonattainment Counties
- Ozone Early Action Compact (EAC) Counties



North Central Texas
Council of Governments
Transportation

October 2008



*Source www.engineoff.org
(May 2011)

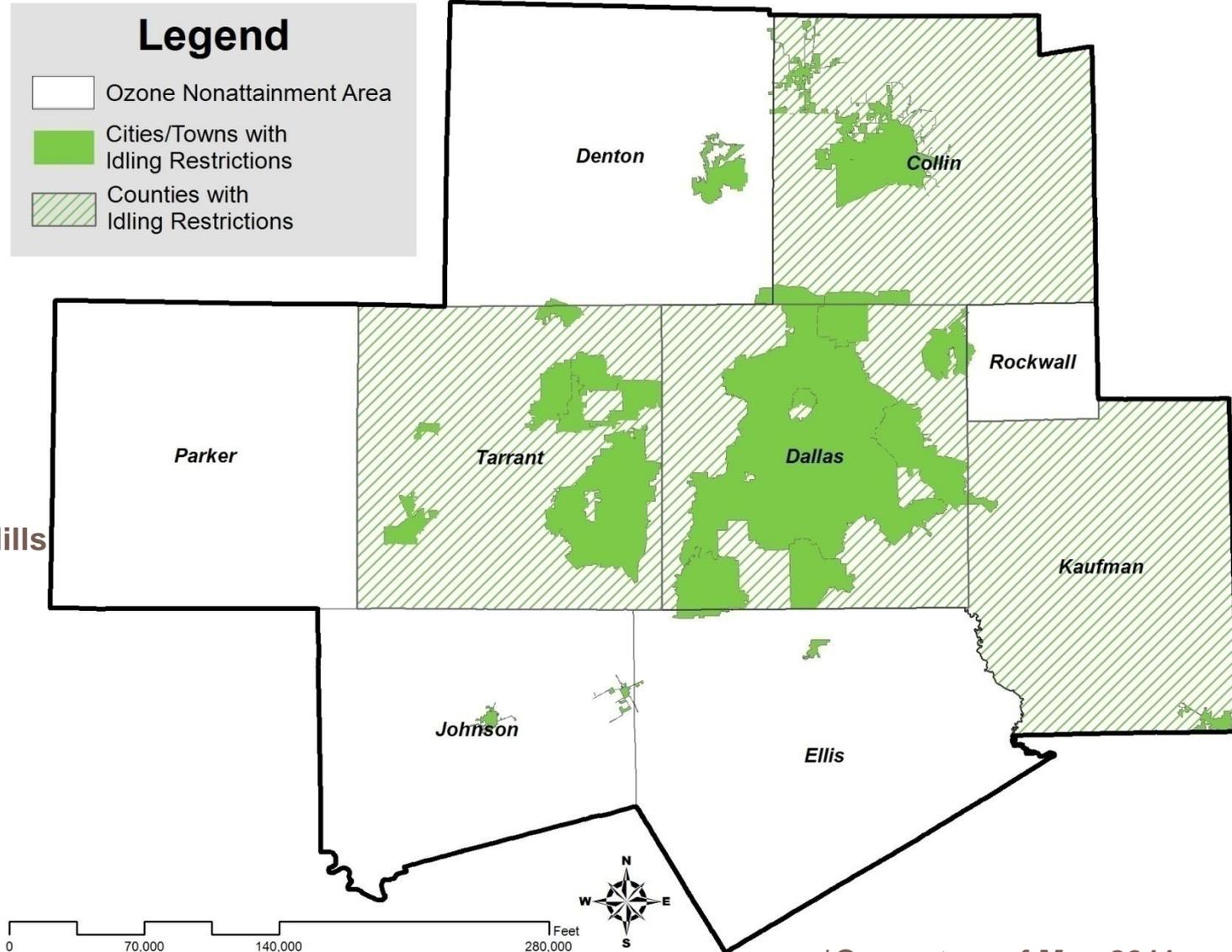
LOCALLY ENFORCED IDLING RESTRICTIONS

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North Central Texas Area

Adopting Entities*

- City of Arlington
- City of Benbrook
- City of Cedar Hill
- City of Celina
- City of Colleyville
- City of Dallas
- City of Euless
- City of Hurst
- City of Keene
- City of Lake Worth
- City of Lancaster
- City of Mabank
- City of McKinney
- City of Mesquite
- City of North Richland Hills
- City of Pecan Hill
- City of Richardson
- City of Rowlett
- City of University Park
- Collin County
- Dallas County
- Kaufman County
- Tarrant County
- Town of Little Elm
- Town of Venus
- Town of Westlake



*Current as of May 2011

LOCALLY ENFORCED IDLING RESTRICTIONS

Control Requirements

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No gasoline or diesel powered motor vehicle over 14,000 pounds (GVWR) may idle the main engine for more than 5 minutes when the vehicle is not in motion.



Applicable From April 1 Through October 31

NOTE: As of September 1, 2009, all vehicles, including those with a sleeper berth in which the driver is on a government-mandated rest period, are required to comply with this rule within jurisdictions that have it adopted.

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Applicability

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Motor Vehicles with a Gross Vehicle Weight Rating of 14,000 Pounds or Greater, i.e.:

Flat Bed, Stake Trucks, Step Vans, Utility Trucks, Dump, Garbage, Fuel And Beverage Delivery Trucks, Tractor-Trailer Trucks, School and Transit Buses



Only Within a Jurisdiction of a Local Government That Has Signed a Memorandum of Agreement with TCEQ to Delegate Enforcement Provisions to That Local Entity

Jurisdiction-By-Jurisdiction Adoption Required



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Exemptions

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Vehicle Type

Military, Emergency or Law Enforcement Vehicles

Airport Ground Support Equipment

**The Owner of a Vehicle Rented or Leased to a Person
Not Employed By Owner**

Operations

Idling Due to Traffic Congestion

Motors Run as Power Source for Mechanical Operations

**Idling During Operation for Maintenance/Diagnostic
Purposes**

Operation of Engine Solely to Defrost a Windshield

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Exemptions Continued

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Air Conditioning and Heating Provision

For Passenger Comfort and Safety in Vehicles Intended for Commercial/Public Passenger Transportation or Passenger Transit Operations (30 Minutes Maximum)



For Employee Health or Safety While Employee is Using Vehicle to Perform an Essential Job Function Related to Roadway Construction or Maintenance

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TCEQ Rule Timeline

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Original Rule Effective Date	December 2004
EPA Model State Law Released	May 2006
Amended Rule Effective Date	May 2006
Rule Revision Adoption	January 2008
Particular Elements of Rule Expired	September 2009
Rule Opened for Comment by TCEQ	April 2010
Proposed Revisions to Rule	February 2011
Anticipated TCEQ Adoption of Revisions	July 2011



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TCEQ Proposed Revisions to Rule

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Extend Rule to Year Round

Exempt Armored Vehicles

Reinstate Exemption for Idling During Government-Mandated Rest Period Not Within Two Miles of Facilities Offering External Heating/Air Conditioning

Remove Prohibition for Drivers Using Sleeper Berth In Residential Areas, School Zones, and Near Hospitals

LOCALLY ENFORCED IDLING RESTRICTIONS

Texas Legislative Updates to Rule

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SB493 (W. Smith), [S-Passed; H-Sent to L&C Calendar]

- **Exempt idling for heavy-duty diesel or CNG vehicles, model year 2008 or newer, over 8,500 lbs gross vehicle weight rating (GVWR), certified by the Environmental Protection Agency (EPA) to emit no more than 30 grams of nitrogen oxides emissions per hour when idling**
- **Increase maximum weight for vehicles with idle reduction systems**

HB1906 (D. Howard), [H-Passed; S-Public Hearing]

- **Make an offence of the State idling rule a class C misdemeanor**



Technology Options

IDLE REDUCTION TECHNOLOGIES

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Options

	Technology	Cost	Features
On-Board	Automatic Start/Stop System	<\$1,000	Available from engine manufacturer, low driver acceptance
	Direct-Fired Heaters	\$900–\$1,200	Lightweight, available from engine manufacturer, heat only
	Auxiliary Power Units/Generator Sets	\$5,000–\$7,000	Addresses comfort needs, heavy, noise component, requires after-market retrofit
	Battery Powered Heating/AC	\$7,000–\$8,000	Addresses comfort needs, heavy, zero air emissions
On-Site	External Heating & A/C (Including Electrified Truck Stops)	~\$1.25-\$2.50 per hour	Some require truck modifications (i.e. electric heat/AC, inverter/charger) and others do not

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Idle Reduction Technology

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On-Board Infrastructure Auxiliary Power Units (APU)



Photo courtesy of Next Generation Power



Photo courtesy of Thermo King

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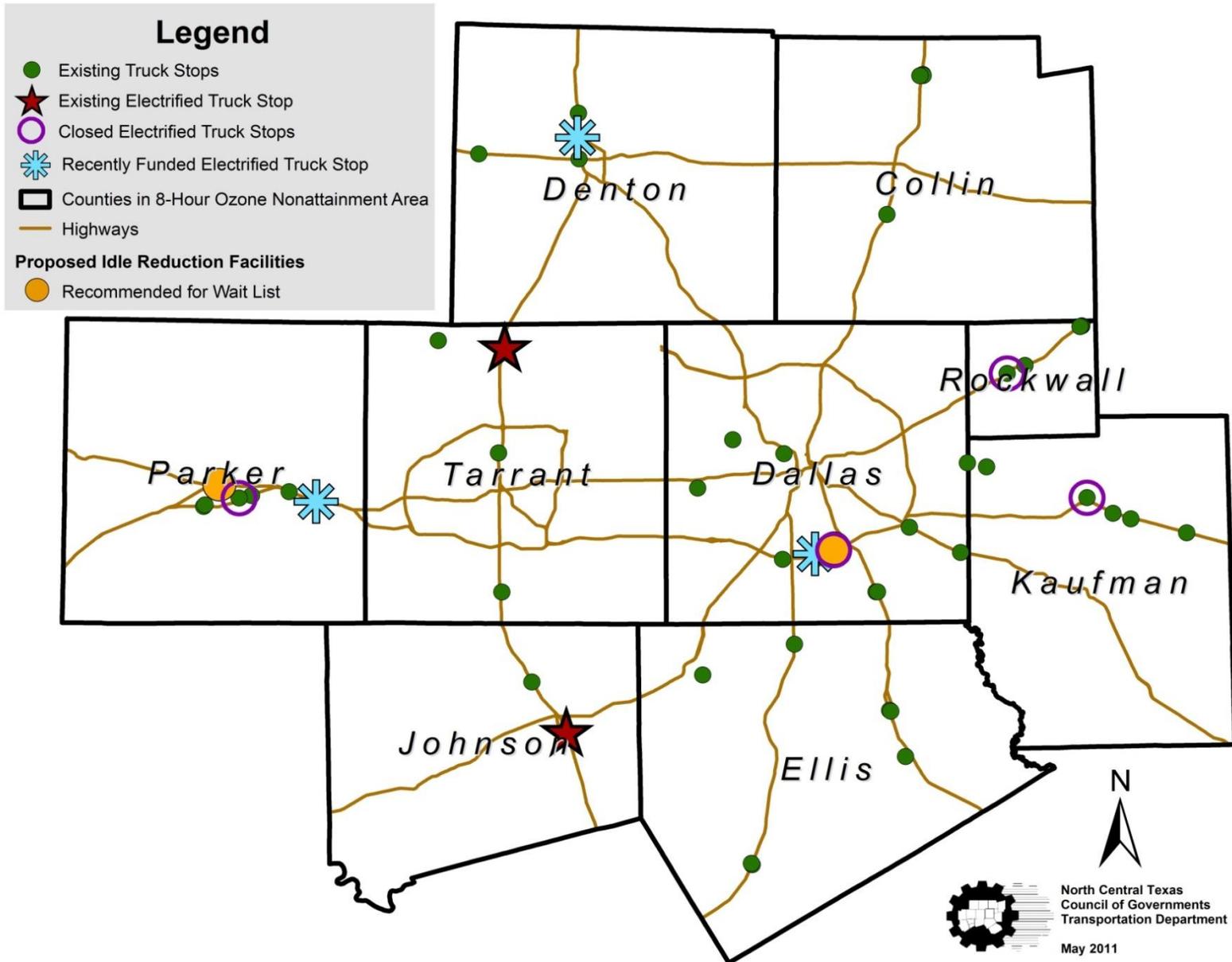
Idle Reduction Technology

On-Site Infrastructure



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Idle Truck Stops With Electrification Options in DFW





Incentives & Funding Opportunities

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Ways To Engage Drivers

Education

Brochures and Driver Training

Pledges

Ask Drivers to Take a Pledge to Minimize Idling

Incentives

Since Eliminating Unnecessary Fuel Consumption Saves Money, This Savings Can Partially Be Used to Incentivize Drivers to Reducing Idling

EXAMPLE)

Monthly Incentive	Idling Threshold*	Fuel Savings Per Month @ \$3.50 - \$4.00/Gal
\$10 gas/gift card	< 100 hours per month	\$175-\$200
\$20 gas/gift card	< 50 hours per month	\$350-\$400
\$50 gas/gift card	No idling per month	\$525-\$600

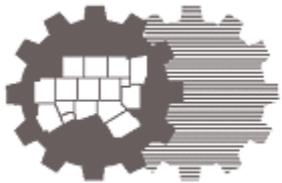
*Assumes baseline idling of 150 hours per month

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Funding Opportunities

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NCTCOG Funding Programs



**On-Site and On-Board Idle Reduction Projects,
Call for Projects Open Periodically Throughout Year**

www.nctcog.org/AQFunding

Texas Emissions Reduction Plan (TERP)



On-Site and On-Board Idle Reduction Infrastructure

www.TERPGrants.org

SmartWay Transport Partnership



Innovative Financing for Fuel-Efficient Technologies

www.epa.gov/smartway

Contact Information

Amanda Brimmer, E.I.T.

Senior Transportation Planner

abrimmer@nctcog.org

(817) 608-2354

www.EngineOffNorthTexas.org



North Central Texas Council of Governments

P.O. Box 5888

Arlington, TX 76005-5888