



## **FREIGHT EFFICIENCY OUTREACH**

North Central Texas Council of Governments  
Tuesday, March 10, 2015  
1:30 PM – 3:00 PM

Audio: 1-800-250-3900, Participant PIN: 577455#

WebEx Meeting Number: 572 256 701 – **Join WebEx meeting**

1. Welcome/Introduction.....Lori Clark, NCTCOG
2. EPA SmartWay Program Overview.....Sam Waltzer, EPA
3. SMART Freight Efficiency Outreach Overview.....Duncan MacDougall, NCTCOG
  - Why Are We Here
    - The purpose of this workshop is to engage local vendors of SmartWay verified technologies to create a vendor directory.
    - The list will be provided to potential participants
  - A True Win/Win Alliance
  - What's Next
  - What Do You Need From Us
4. Vendor Directory Information Form & Next Steps.....Jeff Hathcock, NCTCOG
5. Discussion



# SmartWay Technology Program and Recent Updates

North Central Texas  
Freight Efficiency Outreach Program  
March 10, 2015

Sam Waltzer  
EPA SmartWay Technology Program

# Agenda

1. Overview of EPA's SmartWay Technology Program
2. New SmartWay Trailer and aerodynamics program

# USEPA Technology Assessment Center

- **Technology Assessment Center**  
(TAC) combines SmartWay and NCDC technology programs
- Comprehensive approach to reducing emissions (criteria and GHG) from HD fleets.
- **Research**, test and evaluate emission and fuel-saving technologies and strategies
  - Wide-range of applications including long-haul tractor-trailers, off-road equipment, marine, and rail
  - Wide-range of technologies including emission controls (e.g., diesel particulate filters, oxidation catalysts), idle reduction, low rolling resistance tires, and aerodynamics
- **Verification** of technologies
- **Protocol** Development



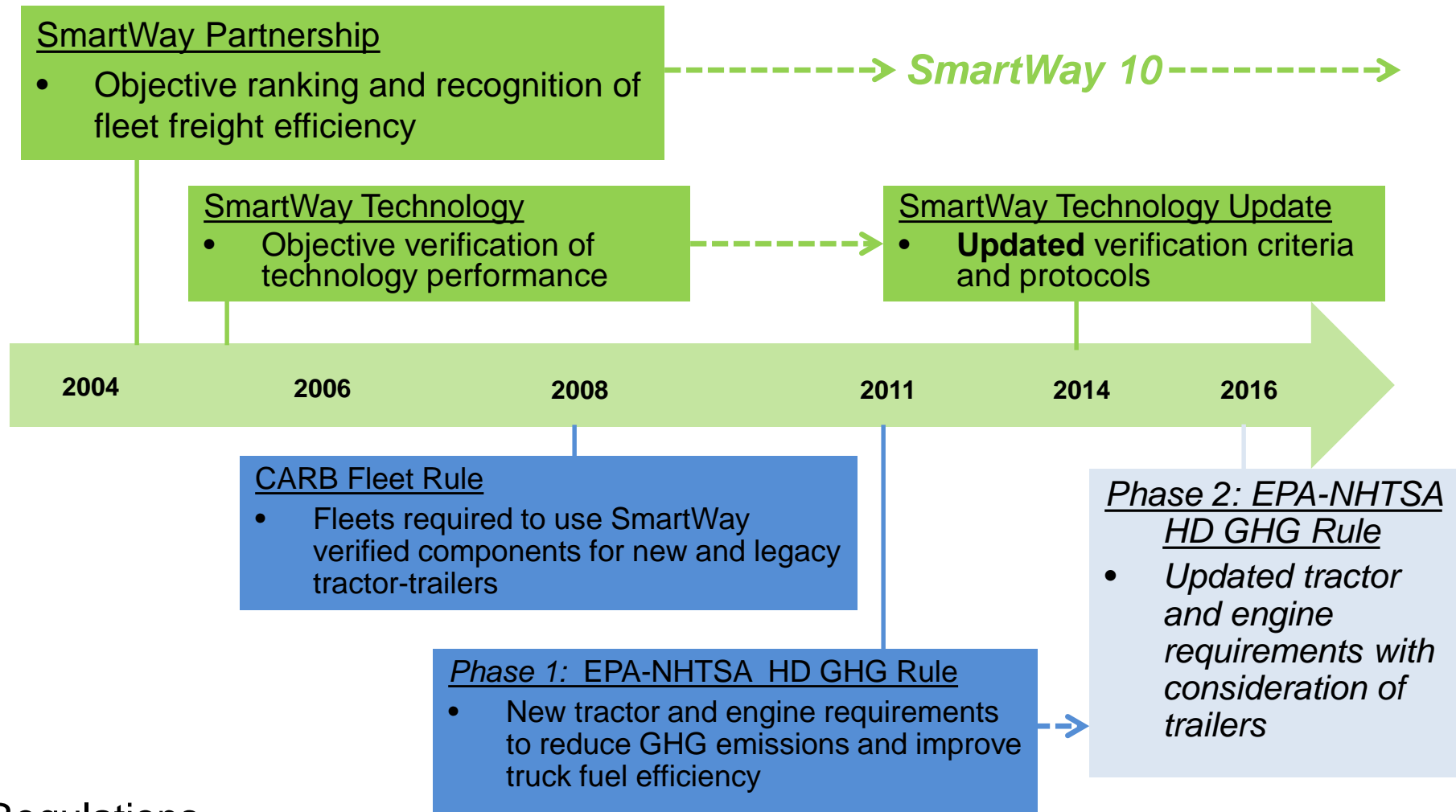
# How does the TAC reduce emissions?

## *Breaking down barriers to fleets using emission and fuel saving technology*

- Providing emission control retrofit options that work
- Helping fleets make sense of fuel savings claims for most important product categories
- Developing standard protocols that allow the industry to move forward with common “performance language”
- “Mythbusting” research to address fleets concerns about performance and unintended consequences
- Building technical knowledge base, industry understanding, and relationships to support other Agency programs

# Recent progression of EPA heavy-duty tractor-trailer GHG programs impacting U.S. fleets

## Partnerships

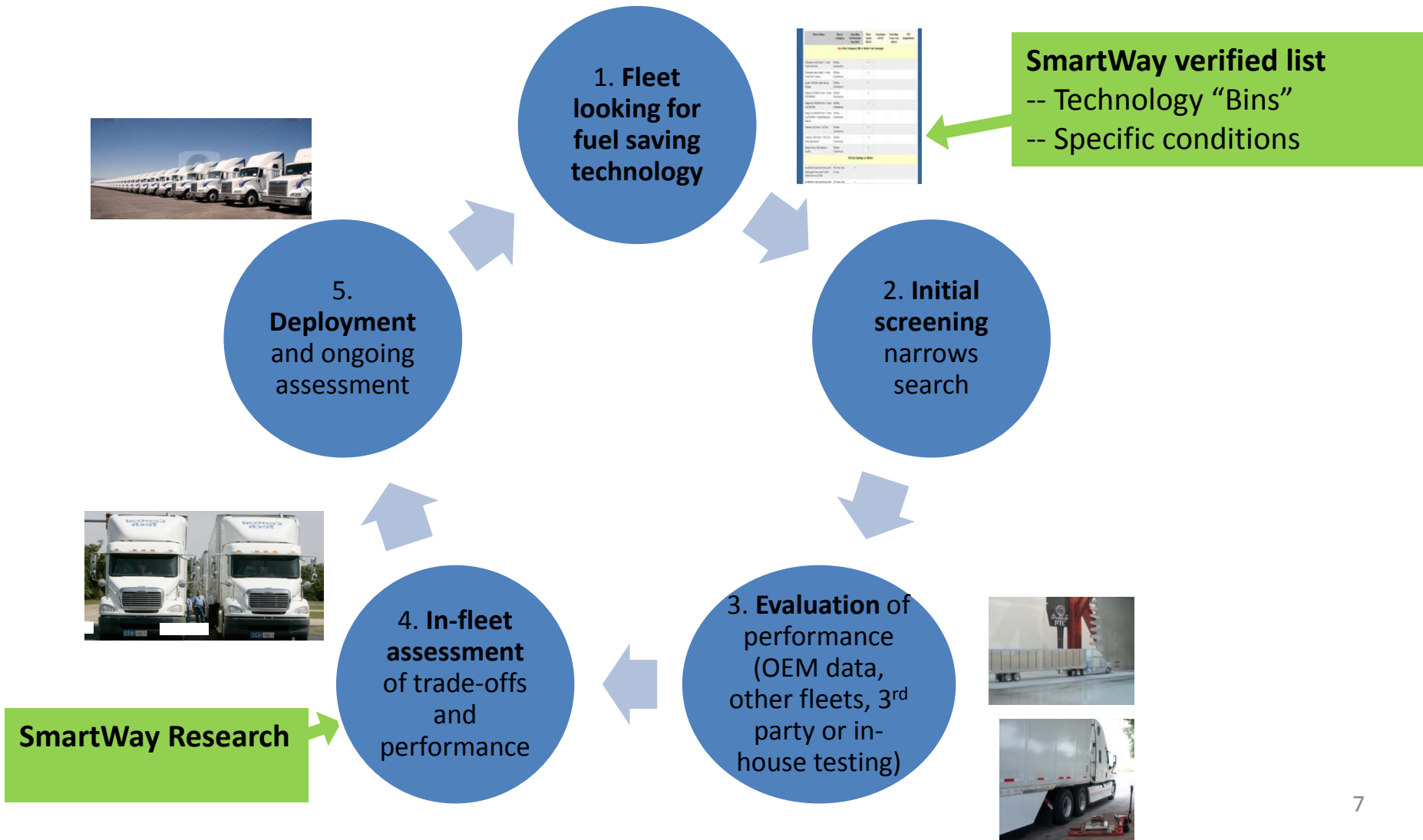


## Regulations

# SmartWay Technologies

- *SmartWay-designated Tractors & Trailers* use *verified* components
- *SmartWay-verified Technologies*
  - *Aerodynamic Devices*
  - *Idle reduction systems*
  - *Low rolling resistance tires* (new and retread)
- For use on
  - Long-haul, Class 8, combination tractors and trailers
  - Certain idle reduction technologies are specifically verified for use on locomotives, marine vessels, and school buses.
- Verification is device-specific with EPA review & approval
- Verification based upon manufacturer testing and application

# SmartWay verification and the fleet purchasing cycle







# New SmartWay Trailer and Aerodynamics Verification:

*New programs finalized in February 2015*

Scope



53' Van trailers



53' Refrigeration trailers

Fleet-relevant  
Credibility  
Simplicity  
Recognition

Trailer  
Designation  
Levels

*SmartWay Trailer*  
(5% fuel savings from aero)  
(1% fuel savings from tires)

*SmartWay "Elite" Trailer*  
(9% fuel savings from aero)  
(1% fuel savings from tires)

Aero Device  
Performance  
Bins



**9% or more** fuel savings  
**5%** (5.0 – 8.9) fuel savings  
**4%** (4.0 – 4.9) fuel savings  
**1%** (1.0 – 3.9) fuel savings

Test  
Methods

New Track Test



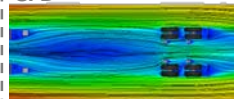
Coastdown



Tunnel



CFD



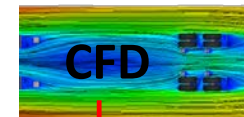
**Choice of new 2014 test method** for verification and option to supplement with additional test methods

**Web table** indicating all methods used to verify a device

# New SmartWay-verified Aero Devices:

## *Adding robust testing options*

- Each test method has strengths that must be understood for data to be applied in real-world
- Testing a device using multiple test methods provides fleets additional confidence and information  
✓ ★
- More robust test protocols improve fleet confidence
- Supported by SmartWay research to help fleets interpret testing to the road



Device Name	SmartWay Verification Pre-2014	Wind Tunnel (2014)	Coastdown (2014)	Track Test (2014)	CFD (2014)
<b>Elite Category (9% or Better Fuel Savings)</b>					
Package 1		✓			
Package 2		✓			
Package 3		✓		✓	
<b>5% Fuel Savings</b>					
Skirt 1	✓	✓			
Tail 1			✓		
Skirt 2	✓	✓			
Skirt 3	✓				
System 1			✓		✓
<b>4% Fuel Savings</b>					
Skirt 4	✓			✓	
Tail 2	✓				
<b>1% Fuel Savings</b>					
Tail 3	✓				
Nose 1	✓				



# SmartWay *Elite* Performance:

*Manufacturers meet Elite challenge with both traditional and less-traditional approaches*



SmartWay Elite Device	Description	Verification Method
Traditional <b>2 component</b> package	Traditional large skirt & large tail	Wind tunnel
Traditional <b>3 component</b> package	Traditional large skirt, large tail, and gap reducer	Wind tunnel
Less traditional: "No Tail"	Full-length skirt with gap reducer	Wind tunnel
Less traditional: "segmented skirt"	Segmented-skirt design with tail	Wind tunnel

# What do the SmartWay trailer and aerodynamics updates mean to fleets?

*Better verification information allows some fleets to begin using aerodynamics and others to reach farther*

- SmartWay *Elite* Trailer & *Elite* Aerodynamics
- New protocols
- Multiple testing options
- Table format for verified aero device listing

SmartWay Transport Performance Rankings								
CompanyDivisionName	Grams per Mile				Grams per Ton-Mile			
	g/mile CO2 Rank	g/mile CO2	g/mile NOx	g/mile PM2.5	g/tm CO2 Rank	g/tm CO2	g/tm PM10	g/tm PM2.5
LTL Fleet A	3	1625	4.5	0.25	1	75	0.015	0.015
LTL Fleet B	2	1475	7.5	0.25	1	75	0.015	0.015
LTL Fleet C	2	1475	10.5	0.35	1	75	0.025	0.025
LTL Fleet D	3	1625	7.5	0.15	1	75	0.015	0.005
LTL Fleet E	4	1775	13.5	0.45	1	75	0.025	0.025
LTL Fleet F	3	1625	7.5	0.45	2	105	0.025	0.025
LTL Fleet G	4	1775	10.5	0.45	2	105	0.025	0.025
LTL Fleet H	5	1925	10.5	0.45	3	135	0.035	0.035
LTL Fleet C	4	1775	7.5	0.35	3	135	0.025	0.025
LTL Fleet I	1	1325	4.5	0.15	4	165	0.025	0.025
LTL Fleet J	2	1475	4.5	0.05	4	165	0.005	0.005
LTL Fleet K	3	1625	4.5	0.05	4	165	0.005	0.005
LTL Fleet L	1	1325	7.5	0.35	5	195	0.045	0.045
LTL Fleet M	1	1325	4.5	0.15	5	195	0.045	0.045
LTL Fleet N	3	1625	10.5	0.45	5	195	0.045	0.045

# Tire Verification

- SmartWay-verified low rolling resistance tires have demonstrated performance through standardized testing and, when used on all axles, provide a up to 3% fuel savings relative to traditional tires
- **New** and **retread** tires verified
  - Crr (coefficient of rolling resistance) target values for each axle position
  - ISO 28580 or SAE J1269
- Applies to both traditional and “super-single” sizes



# Finding out more and getting involved with SmartWay trailer and aerodynamics programs

## Learn more about the new SmartWay trailer program

- SmartWay Technology website
  - Policy manual
  - Fact sheets on program and test methods
  - New test protocols
- Webinars

## Providing Feedback

- [Tech\\_Center@epa.gov](mailto:Tech_Center@epa.gov)
- [waltzer.sam@epa.gov](mailto:waltzer.sam@epa.gov)



**<http://www.epa.gov/smartway/forpartners/technology.htm>**

**USEPA Technology mailbox: [Tech\\_Assessment@epa.gov](mailto:Tech_Assessment@epa.gov)**

TAC Director: Dennis Johnson ([johnson.dennis@epa.gov](mailto:johnson.dennis@epa.gov))

SmartWay Aerodynamics contact: Sam Waltzer ([waltzer.sam@epa.gov](mailto:waltzer.sam@epa.gov))

SmartWay Idle Reduction Technology contact: Victor McMahan ([mcmahan.victor@epa.gov](mailto:mcmahan.victor@epa.gov))

SmartWay Tires contact: Joe Bachman ([bachman.joseph@epa.gov](mailto:bachman.joseph@epa.gov))

# SMARTe



Saving Money and Reducing Truck Emissions

## SMARTe PROGRAM Freight Efficiency Outreach Vendor Workshop

**Duncan MacDougall**  
**Air Quality Planner**

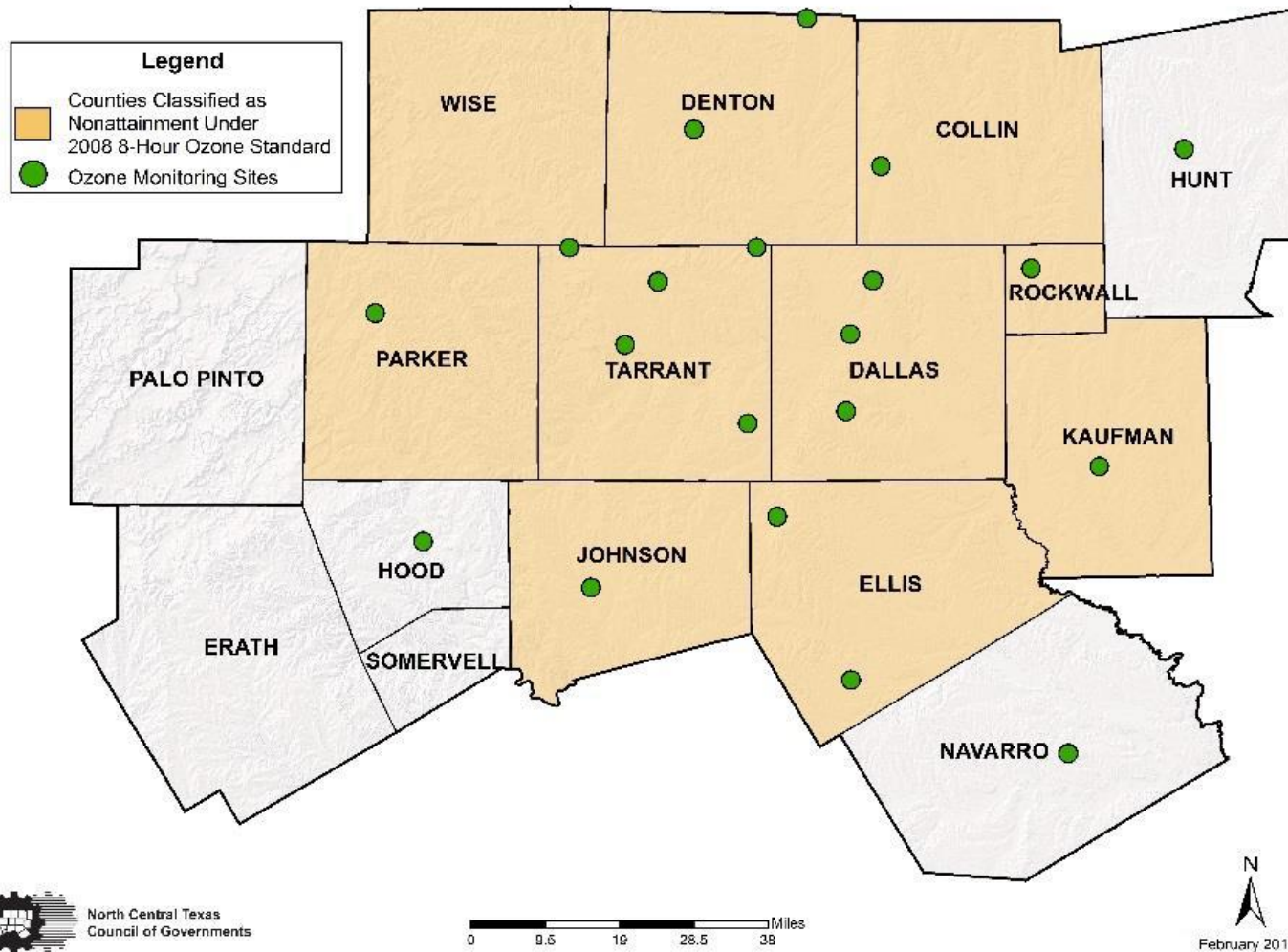
**March 10, 2015**



**North Central Texas  
Council of Governments**



# OZONE NONATTAINMENT AREA



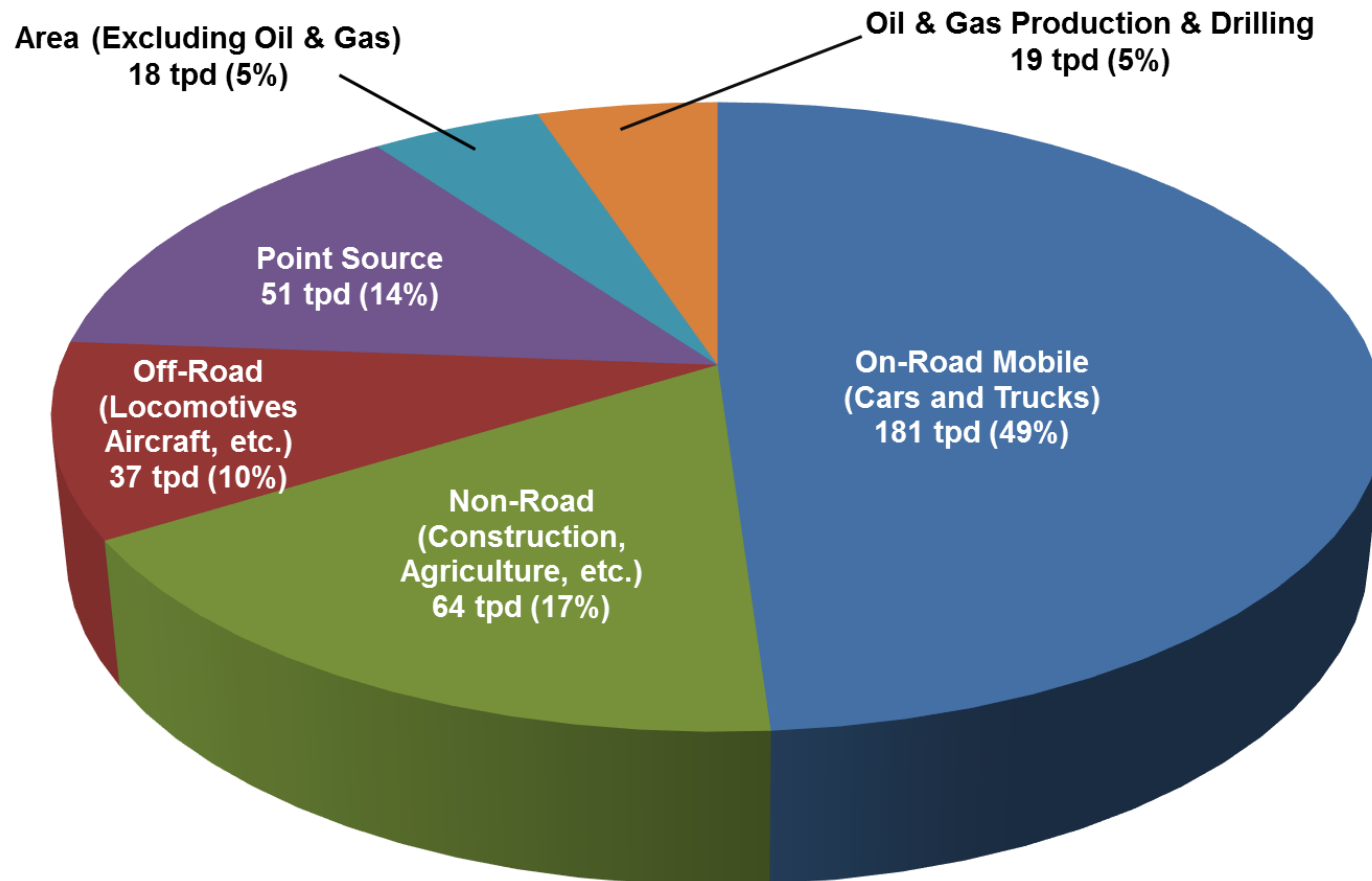
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## SMARTE

Saving Money and Reducing Truck Emissions

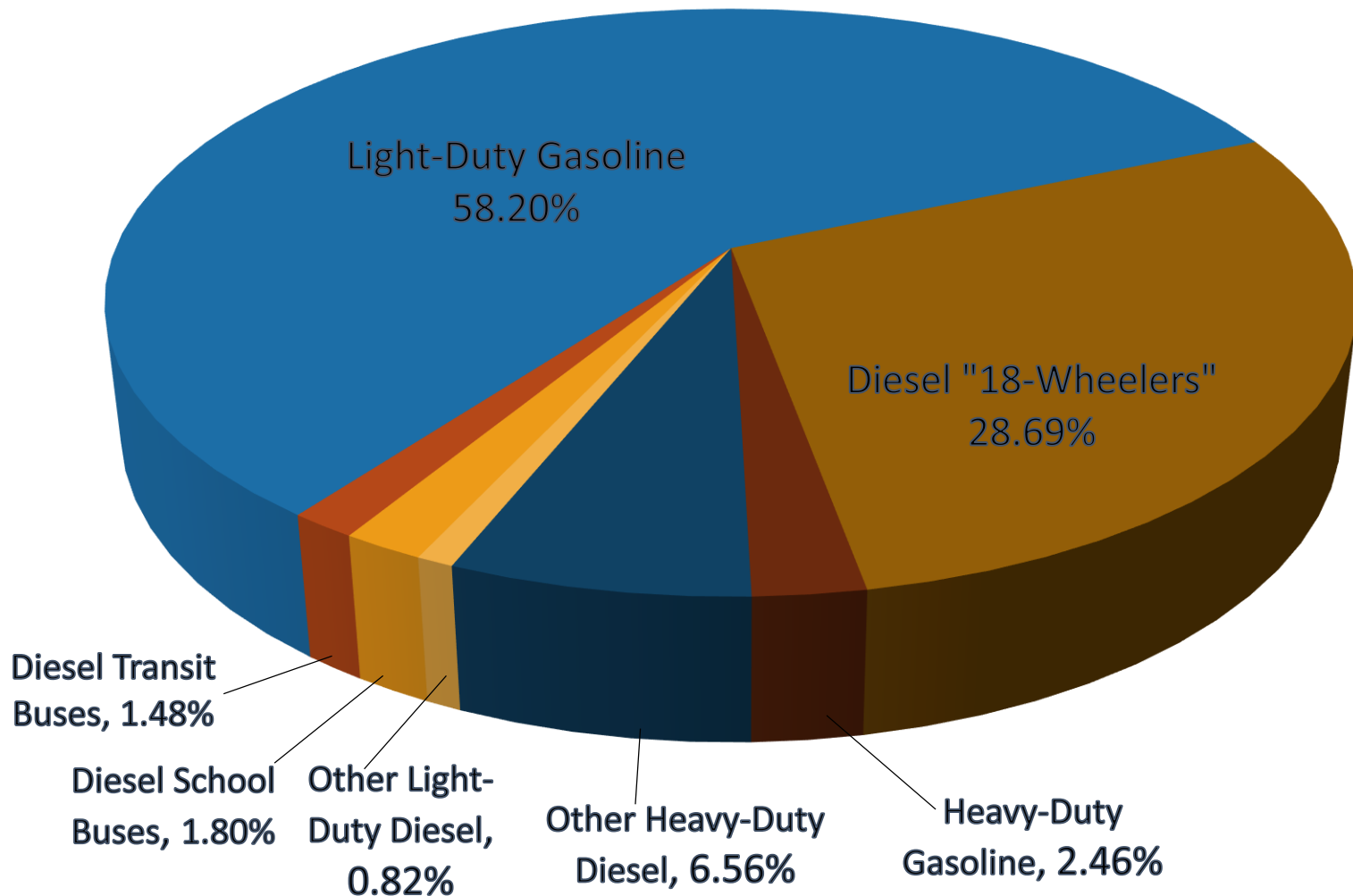
# 2012 DFW NITROGEN OXIDE (NO<sub>x</sub>) EMISSION INVENTORY

Source Category Estimates = 370 tons per day (tpd)



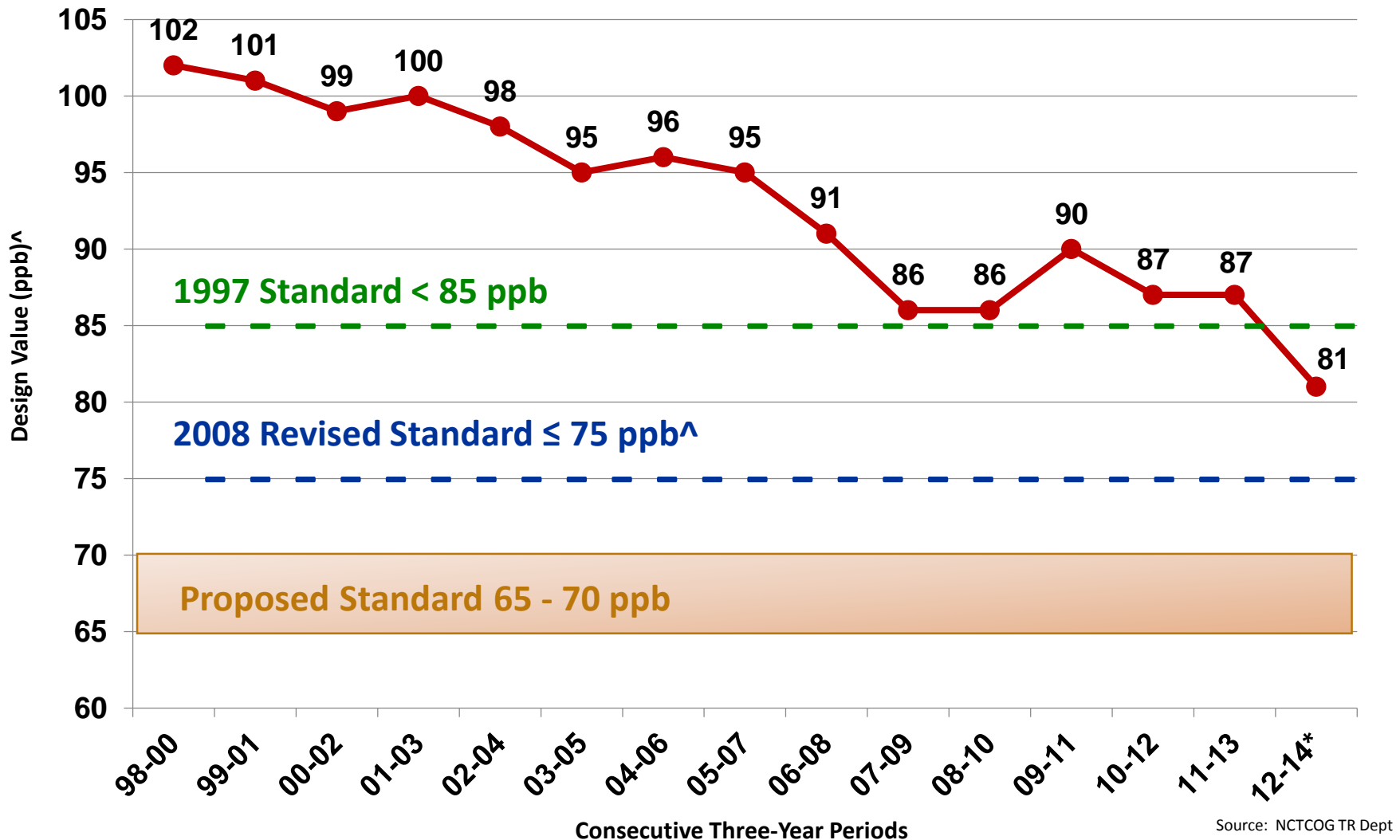
Source: Texas Commission on Environmental Quality, 2012 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan

# 2012 DFW NITROGEN OXIDE (NO<sub>x</sub>) ON-ROAD EMISSION INVENTORY



Source: Texas Commission on Environmental Quality, 2012 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan

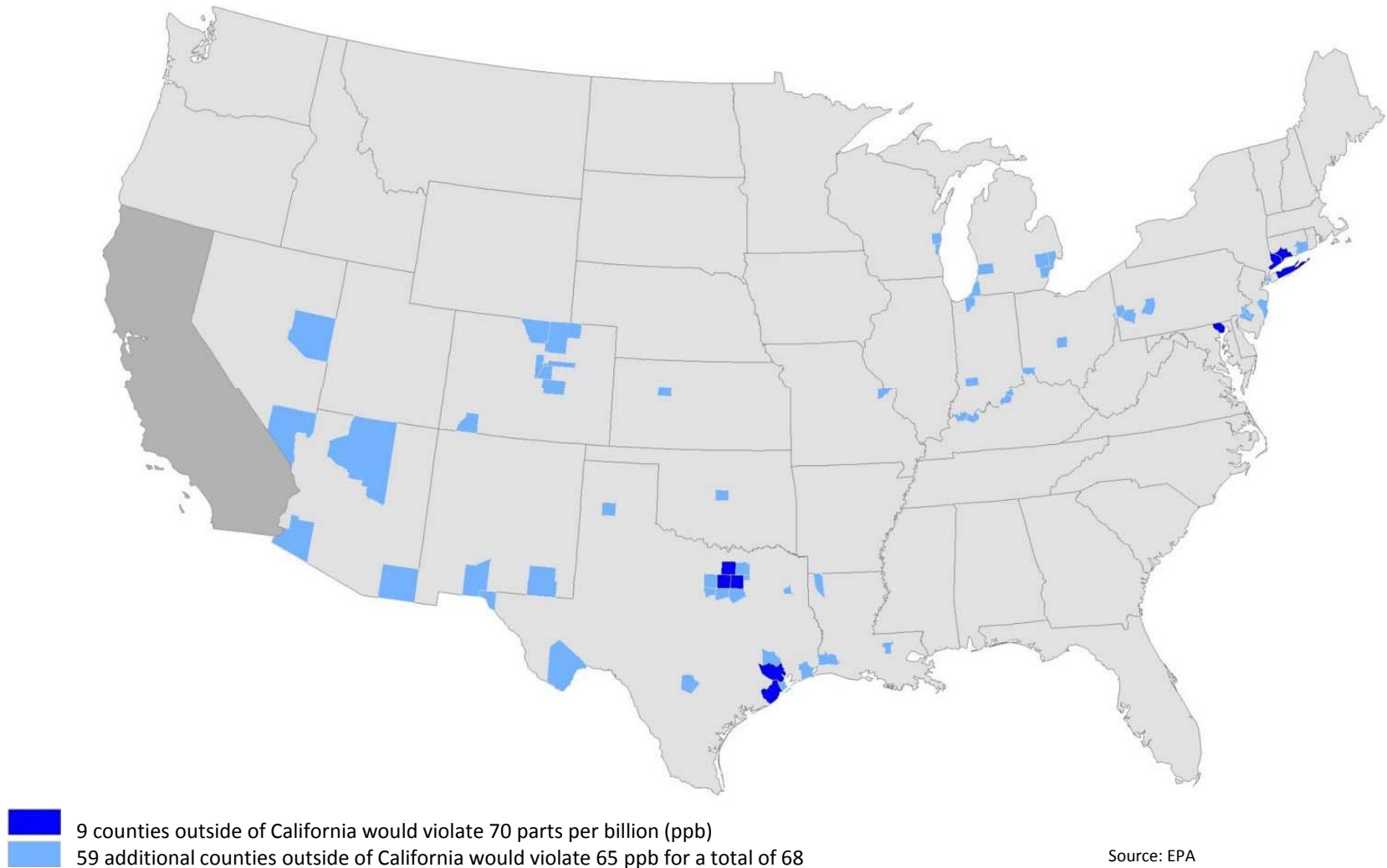
# PROPOSED REVISION TO NATIONAL AMBIENT AIR QUALITY STANDARDS



^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 8-hour average ozone concentration) is equal to or less than 75 parts per billion (ppb).

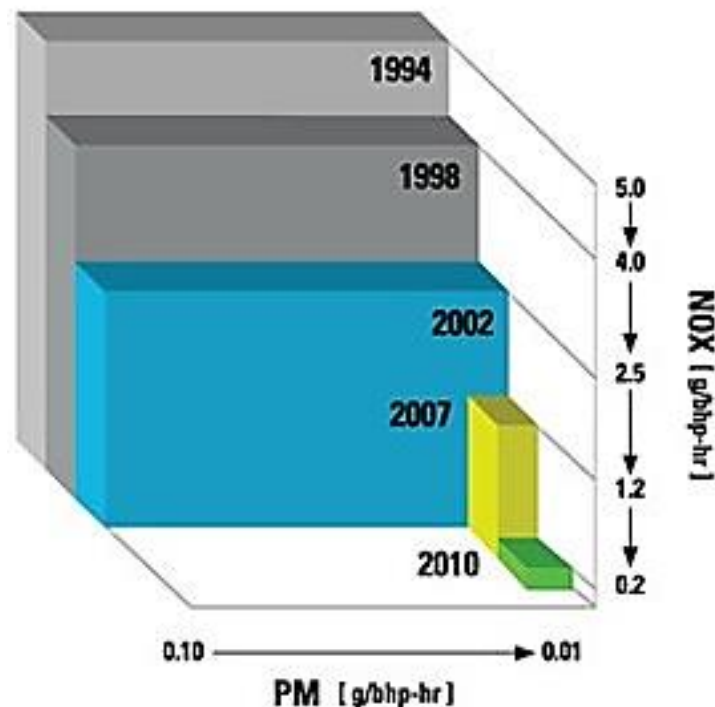
\*2014 data not certified by the Texas Commission on Environmental Quality

# EPA PROJECTS MOST COUNTIES WOULD MEET THE PROPOSED 2025 STANDARDS



# NATIONAL STANDARDS DIESEL TAILPIPE EMISSION

We've come a long way towards cleaner diesel. EPA 2010 standards require engine emissions to meet a  $\text{NO}_x$  level of 0.2g/bhp-hr.



Source: Freightlinertrucks.com



# EXAMPLES OF CURRENT EFFORTS



# OUTREACH PROGRAM

## Regional “One-Stop Source”

- Focused on Trucking Industry  
Education  
Outreach/Promotion  
Assistance
- Anticipated Annual Benefits  
48.1 Tons NO<sub>x</sub> Reduced  
1.1 Tons PM Reduced  
1,904.6 Tons CO<sub>2</sub> Reduced  
171,345 Gallons Diesel Displaced



# ELIGIBLE TECHNOLOGIES

Advanced Lubricants

Aerodynamic Devices

Alternative Fuels

Emissions Control Devices

Engine Replacement

Engine Repowering

Engine & Truck Upgrades

Fuel Options

Idling Control Strategies

Speed Management Policies

Tire Technologies

Trailer Strategies

Weight Reduction Strategies

# CLEAN FLEET POLICY

A policy that outlines goals and provides workable, cost-effective solutions to reduce emissions from local fleets and support regional efforts to attain federal air quality standards.

## Goals:

- Reduce Emissions from Transportation Activities
- Reduce Overall Fuel Consumption
- Ensure Drivers/Operators and Fleet Personnel are Familiar with Air Quality and Petroleum Reduction Goals
- Coordinate with NCTCOG and DFW Clean Cities Program

[www.nctcog.org/fleetpolicy](http://www.nctcog.org/fleetpolicy)

# WHAT'S NEXT

So, how can I become involved?

## Vendors

- Promote / Sell SmartWay Verified Technologies
- Become a SMARTE Vendor Participant
  - Complete Vendor Participant Form
  - Provide Information on SMARTE Assisted SmartWay Sales

## Support local efforts

- DFWCC – Fleet Policy
- SMARTE – Vendor Directory

## Drivers/Fleet Managers

- Encourage Customers to Participate in Local Efforts
- Join DFWCC
- Adopt Clean Fleet Policy
- Implement an Idle Reduction Policy

**SMARTE**

# HOW CAN WE COLLABORATE?

What do you need from us to make the program valuable to you?

How do you feel you can assist these efforts?

Ideas

- Increased dealership/service awareness
- e-newsletter and other e-communications

# VENDOR DIRECTORY FEATURES

## Qualifications

- Sell EPA-Verified SmartWay Technologies
- Complete SMARTE Program Vendor Directory Information Form

## Features

- Inclusion in Vendor Directory Listing Provided During SMARTE Program Outreach
- Other “Benefits” to be Solicited From Vendors – Will be Discussed/Determined in Future
- Vendor Acknowledges That Participation Does Not Represent, Imply Endorsement or Recommendation By NCTCOG

## Local Match Strategy

- Voluntary Participation with Monthly Request for Number of SmartWay Technologies Sold/Installed in Conjunction with SMARTE Program Outreach

# CONTACT INFORMATION

**Duncan MacDougall**  
Air Quality Planner  
[dmacdougall@nctcog.org](mailto:dmacdougall@nctcog.org)  
817.608.2358

**Lori Clark**  
Principal Air Quality Planner  
[lclark@nctcog.org](mailto:lclark@nctcog.org)  
817.695.9232

**Jeff Hathcock**  
Senior Air Quality Planner  
[jhathcock@nctcog.org](mailto:jhathcock@nctcog.org)  
817.608.2354

**Website**  
[www.nctcog.org/smarTE](http://www.nctcog.org/smarTE)

**SMARTE**

## SMARTE Program Vendor Directory Sign-Up

For more information visit: [NCTCOG.ORG/SMARTE](http://NCTCOG.ORG/SMARTE)



### SECTION I: CONTACT INFORMATION (Please Print)

Name (Business or Legal): \_\_\_\_\_

"Doing Business As": \_\_\_\_\_

Address: \_\_\_\_\_

Nearest Cross Street or Highway Exit #: \_\_\_\_\_

City: \_\_\_\_\_ Zip Code: \_\_\_\_\_ County: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Email: \_\_\_\_\_

#### Contact for Program updates, notifications, meetings:

Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_ URL (Website): \_\_\_\_\_

### SECTION II: SMARTWAY VERIFIED TECHNOLOGY INFORMATION LIST (Circle All Categories That Apply)

Type of Business:    Dealership    Manufacturer    Distributer

#### SmartWay Verified Technologies Offered:

Trailer Strategies    Tire Technology    Emissions Control Devices    Aerodynamic Devices

Fuel Options    Advanced Lubricants    Idling Control Strategies    Retrofits

Would you be able to supply a price list for selected products?    Yes    No

If No, Why not? \_\_\_\_\_

### SECTION III: VENDOR DIRECTORY GUIDELINES

- As a part of the Saving Money and Reducing Truck Emissions (SMARTE) program, the North Central Texas Council of Governments (NCTCOG) would like to coordinate with local Dallas-Fort Worth (DFW) area SmartWay verified technology vendors through a Vendor Directory. Through the Vendor Directory, NCTCOG would like to collect sales information to verify reductions in emissions through SmartWay verified technologies sold as a result of SMARTE program outreach.
- NCTCOG requests that updated sales information be provided once a month on all eligible SmartWay verified technologies resulting from SMARTE program outreach during participation in the Program. NCTCOG requests notification within ten (10) business days if SmartWay Verified technologies will no longer be offered for purchase.
- Vendor understands that inclusion in the SMARTE Vendor Directory also triggers inclusion in the Dallas-Fort Worth Clean Cities (DFWCC) Vendor Directory. By providing the information above the vendor agrees to allow vendor information, promotional materials, and logo to be included in Vendor Directory, website, and/or other SMARTE program materials at the discretion of NCTCOG. Participation may be cancelled at any time by written notice from either vendor or NCTCOG.
- Vendor acknowledges that participation does not represent, imply endorsement or recommendation by NCTCOG. Vendor agrees not to represent participation as any sort of endorsement or recommendation.

Signature of Authorized Vendor Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of Authorized Vendor Representative: \_\_\_\_\_ Title: \_\_\_\_\_

## SMARTE Program Fleet Manager / Driver Information Form



For more information visit: [NCTCOG.ORG/SMARTE](http://NCTCOG.ORG/SMARTE)

### SECTION I: CONTACT INFORMATION (Please Print)

Name (Business or Legal): \_\_\_\_\_

"Doing Business As": \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

Zip Code: \_\_\_\_\_ County: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Email: \_\_\_\_\_

#### Contact for Program updates, notifications, meetings:

Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_ URL (Website): \_\_\_\_\_

### SECTION II: TECHNOLOGY INTEREST LIST (Circle All Categories That Apply):

Type of Business:                      Owner Operator                      Fleet Manager

#### SmartWay Verified Technologies:

Trailer Strategies                      Tire Technology                      Emissions Control Devices                      Aerodynamic Devices

Fuel Options                      Advanced Lubricants                      Idling Control Strategies                      Retrofits

Would you like more information about other NCTCOG programs?                      Yes                      No

#### If yes, Which Ones?

SmartWay Transport Partnership                      Clean Cities Newsflash                      It's Your Region

Transportation and Air Quality Funding Opportunities

Signature of Authorized Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of Authorized Representative: \_\_\_\_\_ Title: \_\_\_\_\_



# Dallas-Fort Worth Clean Cities Annual Sponsorship Levels

members

1 2 3 4 5 6

\$250 \$500 \$1000 \$2000 \$3500 \$5000

Access to Quarterly Meetings and other Networking Opportunities	x	x	x	x	x	x	x
Monthly E-Newsletter and Other E-Communications	x	x	x	x	x	x	x
DFWCC or DOECC Vehicle/Technology Decals	x	x	x	x	x	x	x
Access to Online Membership Portal and Vendor Directory	x	x	x	x	x	x	x
Discounted Registration on Events and Conferences (ex: ACT Expo, Green Fleet)	x	x	x	x	x	x	x
Logo and Link on DFWCC Website Sponsor Page and Recognition During Meetings		x	x	x	x	x	x
Logo on DFWCC Annual Report			x	x	x	x	x
Social Media Post Announcing Sponsorship			x	x	x	x	x
Logo and Link in Monthly E-Newsletter				x	x	x	x
Free Admission (for 3) to DFWCC Events*				x	x	x	x
Featured as "Partner of the Month" on the DFWCC Home Page (with link)					x	x	x
Featured as "Partner of the Month" on the DFWCC E-Newsletter (with link)					x	x	x
Free Booth Space/Promotional Item Handouts at DFWCC Events*						x	x
Major Events Sponsor^							x

**\*Where event registration is collected**

**^Includes all other benefits as well as:**

Sponsor recognition at the event - Sponsor recognition through event PR and invitations - Up to 5 free event admissions - Sponsor logo in event program/agenda



Dallas-Fort Worth  
CLEAN CITIES

Your monetary sponsorship will allow the Dallas-Fort Worth Clean Cities (DFWCC) coalition and the North Central Texas Council of Governments (NCTCOG) to conduct much needed education and outreach activities to the area's fleets, community leaders and citizens, as well as assisting in the increase of alternative fuel vehicles/advanced vehicle technologies and fueling/charging infrastructure in the North Texas region. Your support gives us the resources we need to hold workshops and seminars, provide comprehensive educational materials, and work with area citizens and transportation professionals to develop and implement green transportation policies and projects. Since the DFWCC is part of the national US Department of Energy Clean Cities program, we support all fuel types in an effort to reduce petroleum usage and strengthen the local economy. Please note that your contribution may be used for one or more fuel type and could also be used as match for funding opportunities. DFWCC counts on the support of members and donors to make our Clean Cities programs possible, and we value the contributions of our members and partners. For more information, please visit: [www.dfwcleancities.org](http://www.dfwcleancities.org).

Thank you for supporting the Dallas-Fort Worth Clean Cities coalition and the SMARTE Program at the North Central Texas Council of Governments. To learn more about what we do, please visit: [www.dfwcleancities.org](http://www.dfwcleancities.org) and [www.nctcog.org/smarte](http://www.nctcog.org/smarte).

Interested in becoming a sponsor? Fill out the information below!

Company/Organization: \_\_\_\_\_

Name of Liaison: \_\_\_\_\_

Title of Liaison: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Website: \_\_\_\_\_

**Please select amount:**

☐

Level 1 - \$250

☐

Level 2 - \$500

☐

Level 3 - \$1000

☐

Level 4 - \$2000

☐

Level 5 - \$3500

☐

Level 6 - \$5000

# SMARTE



Saving Money and Reducing Truck Emissions

Please submit sponsorship requests to Duncan MacDougall: [dmacdougall@nctcog.org](mailto:dmacdougall@nctcog.org).



## Quick Take

SmartWay Transport is a voluntary, public-private partnership with the freight industry that the Environmental Protection Agency started in 2004 to focus on reducing emissions, improving fuel economy and increasing energy efficiency.

## Significance:

Reducing emissions in the freight sector is important. Heavy-duty diesel vehicles, specifically 18-wheelers, contribute about 30 percent of all regional on-road NOx emissions but are only 5 percent of the vehicle miles traveled in the DFW region. By reducing freight emissions, SmartWay is one of many programs the region is relying on to reach attainment of the federal ozone standard.

## Inside the Numbers:

### 120 million

Barrels of oil saved by the SmartWay program since its inception in 2004. This has resulted in \$16.8 billion less spent on fuel.

## SmartWay Helps Freight Industry Contribute to Cleaner Region

The SmartWay program is a voluntary, public-private partnership with the freight industry that the Environmental Protection Agency (EPA) started in 2004 to focus on reducing emissions, improving fuel economy and increasing energy efficiency. These goals are synonymous with ongoing efforts to improve air quality and meet the federal ozone standard, which suggests that SmartWay can be a powerful tool for reducing emissions in the Dallas-Fort Worth (DFW) area. These emissions reductions are important because heavy-duty diesel 18-wheelers contribute about 52 tons of on-road mobile nitrogen oxide (NOx) emissions in the DFW area, thus significantly impacting ozone levels. SmartWay also saves participating companies money.

The North Central Texas Council of Governments (NCTCOG) joined SmartWay as an affiliate in October 2006. In this role, NCTCOG promotes the initiative in the region and provides education and outreach to potential partners and affected industries. Partners enjoy the financial benefits SmartWay technologies provide, while the region's air quality improves. Supported by major freight industry associations, environmental groups, states, companies and trade publications, SmartWay presents a model of government and industry cooperation.

Due to the success of the program, the EPA expanded SmartWay to include SmartWay Transport Partnership, SmartWay Technology Program, SmartWay Vehicles and Smartway International interests.



*This truck is equipped with SmartWay-verified aerodynamics, low-rolling resistance tires and an auxiliary power unit (APU). With the help of an American Recovery and Reinvestment Act grant, six freight companies secured improvements needed to boost the fuel efficiency of their fleets in the DFW area.*

Source: Southeastern Freight Lines

# FACTSheet

**SmartWay Transport** is the EPA's primary program for improving fuel efficiency and reducing emissions in the transportation supply chain industry. Texas is home to nearly 200 SmartWay Transport partners from many sectors of the transport industry. Almost half are located in the DFW area.

**EPA SmartWay Technology Program** provides EPA-verified technologies designed to reduce emissions and improve fuel economy. Trailer aerodynamics, idle-reduction technologies and low-rolling resistance tires are examples of equipment SmartWay promotes to improve the environmental impact of the freight sector.

Through the EPA-American Recovery and Reinvestment Act (ARRA) support, NCTCOG funded the SmartWay Technology Upgrade Project. This project helped six companies purchase over 500 technologies for DFW-based trucks, reducing approximately 20.6 tons of NO<sub>x</sub>, 0.47 tons of particulate matter (PM), and 3,450 tons of carbon dioxide (CO<sub>2</sub>) emissions annually. The CO<sub>2</sub> savings is the equivalent of what would be produced by powering 431 homes for one year. This would also save 310,813 gallons of diesel fuel annually.

**SmartWay Certified Vehicles:** The EPA also created a system to help consumers make informed choices when purchasing a new vehicle through development of a rating system for emissions and fuel economy of every new car, truck and SUV. A SmartWay-certified vehicle produces far fewer emissions and uses less fuel than the average vehicle. Only about 20 percent of vehicles available in a given model year earn the SmartWay certification. By

choosing to purchase such a vehicle, consumers can feel confident that they are helping themselves and the region. To view the complete list of SmartWay-certified vehicles, visit [www.epa.gov/greenvehicle](http://www.epa.gov/greenvehicle).

## BENEFITS

### Fuel Savings

Fuel is often the primary expense for truck fleets. Annual fuel costs for 18-wheelers can be in the range of \$70,000 to \$125,000. This means 10 percent improvement in fuel economy can save \$7,000 to \$12,500 per year. These fuel savings provide a return on investment for aerodynamic and idle-reduction technologies, often in less than one year.

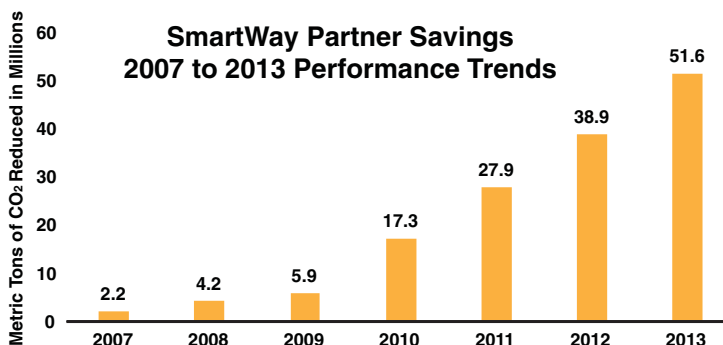
### Idle Reduction

A typical long-haul combination truck that eliminates unnecessary idling can save over 1,000 gallons of fuel, or \$3,600 each year. This will also lower engine maintenance costs for the truck, reduce NO<sub>x</sub> and PM emissions, and remove nine metric tons of CO<sub>2</sub>. The CO<sub>2</sub> reduction is equivalent to the amount of fuel used to run a Ford F-150 for more than one year, assuming a fuel economy of 16 miles per gallon.

### Aerodynamics

Aerodynamic technologies increase fuel economy. Using a streamlined-profile tractor with aerodynamic devices can improve fuel economy by over 3 percent and will reduce fuel costs by over \$2,000. When adding an aerodynamic trailer, up to an 11 percent increase in fuel economy can be realized, saving 16 metric tons of CO<sub>2</sub>.

*The growth of the EPA's SmartWay program has resulted in significant environmental benefits for North Texas and the rest of the nation. This graph shows the region's cumulative savings as a result of the program.*



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