

# TRUCK IDLING AND CLEAN CONSTRUCTION STANDARDS

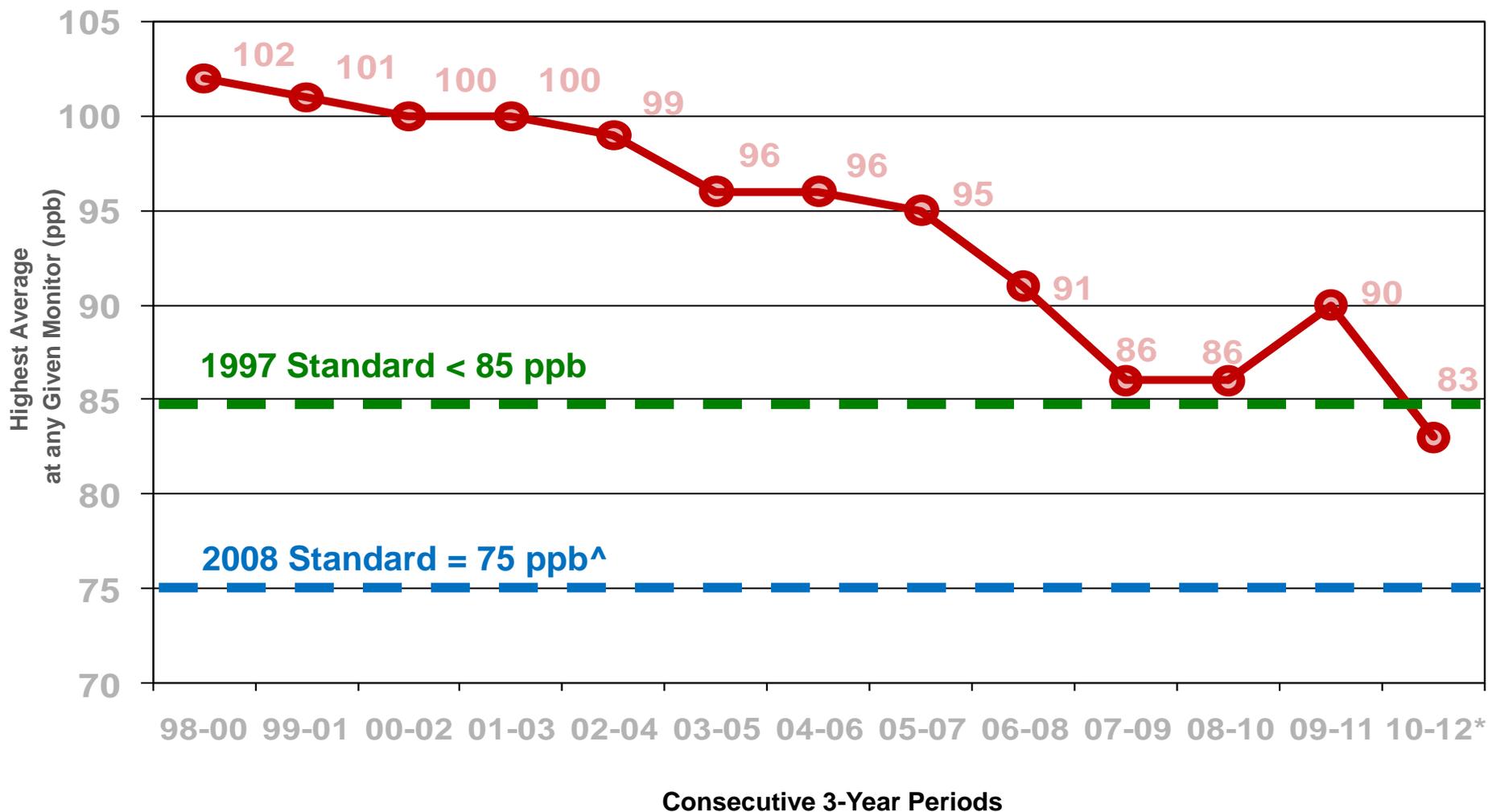
## Public Works Roundup

May 24, 2012



Shannon Stevenson, Program Manager  
Air Quality Management & Operations  
NCTCOG Transportation Department

# DFW 8-HOUR OZONE TRENDS



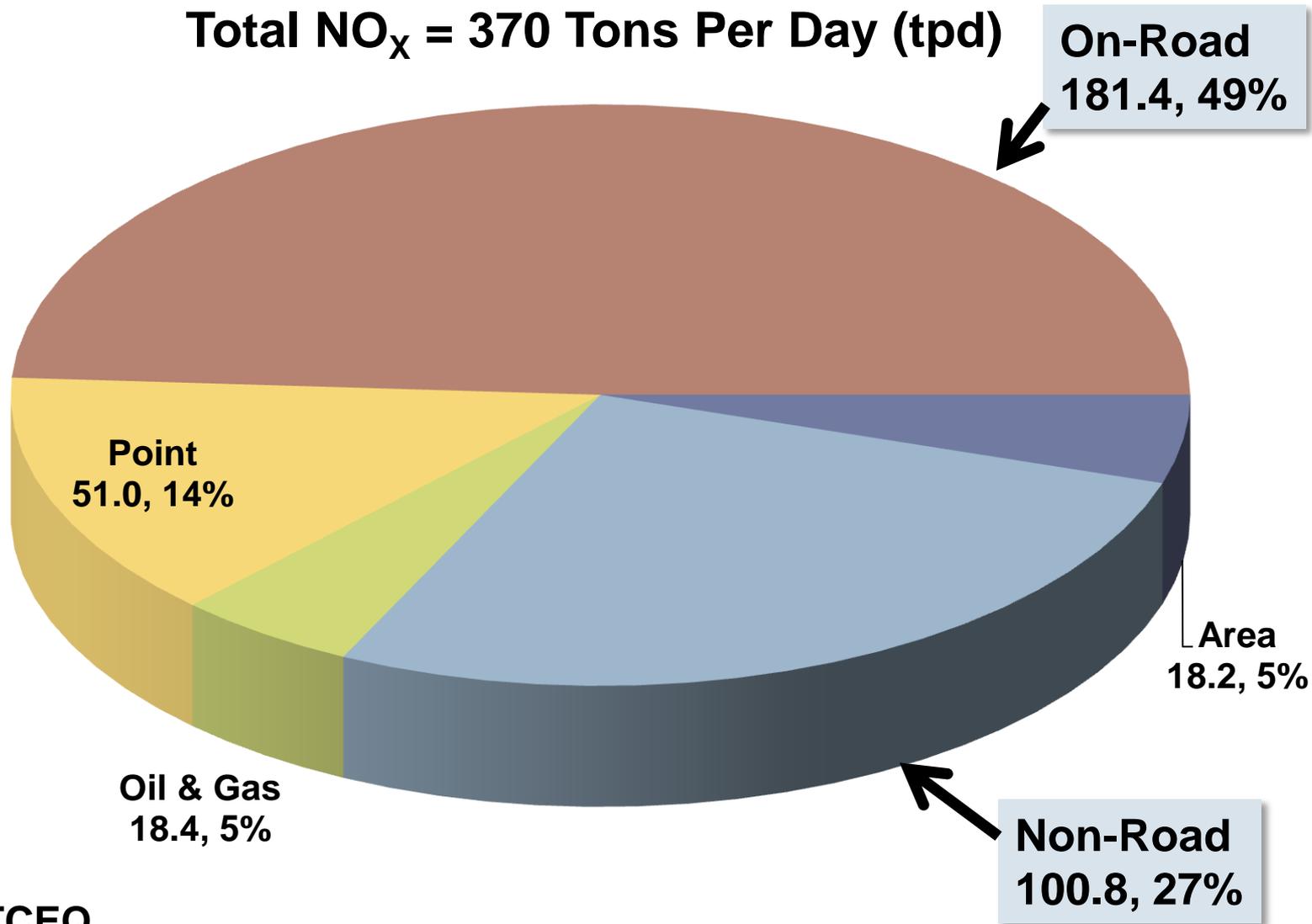
<sup>^</sup> Attainment Goal - Attainment is reached when, at each monitor, the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is equal to or less than 75 ppb.

\* Not a full year of data. Current as of 04/30/12

Source: NCTCOG TR Dept

# DFW EMISSIONS INVENTORY\*

Total NO<sub>x</sub> = 370 Tons Per Day (tpd)

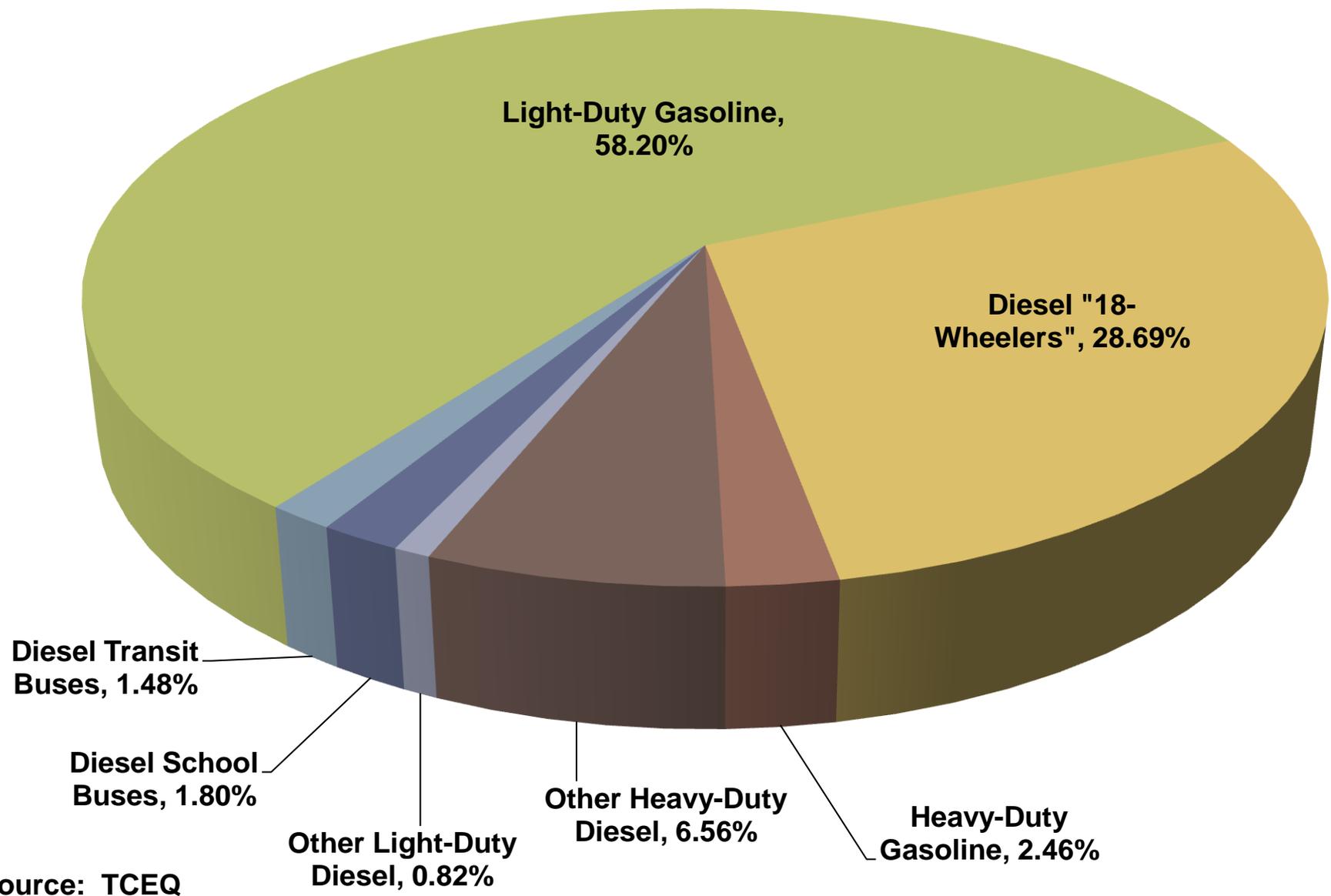


\*Source: TCEQ

# **IDLING IMPACTS TO AIR QUALITY**

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# ON-ROAD NO<sub>x</sub> EMISSIONS INVENTORY\* BY SECTOR



Source: TCEQ

# HEAVY-DUTY VEHICLE IDLING

## Why is it of Concern?

The US EPA Estimates That Excess Idling Is Responsible For:

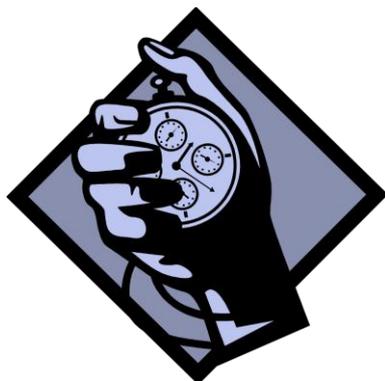
- Over 1 Billion Gallons of Diesel Fuel Consumed Annually
- 11 Million Tons of Carbon Dioxide; 200,000 Tons of Nitrogen Oxides; and 5,000 Tons of Particulate Matter Emitted Annually
- Increased Engine Maintenance Costs
- 20% Decrease in Engine Life
- Elevated Noise Levels



# LOCALLY ENFORCED IDLING RESTRICTIONS

## Control Requirements

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 Year Round\*

**\*NOTE:** Rule revisions, approved by the Texas Commission on Environmental Quality (TCEQ) on July 20, 2011, expanded applicability of the rule to year round. This revision went into effect August 11, 2011

# LOCALLY ENFORCED IDLING RESTRICTIONS

## Applicability



**Motor Vehicles with a Gross Vehicle Weight Rating of Greater than 14,000 pounds, 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 (MOA) with TCEQ to Delegate Enforcement Provisions to That Local Entity**



**Jurisdiction-By-Jurisdiction Adoption Required**

# **LOCALLY ENFORCED IDLING RESTRICTIONS**

## **Exemptions**

### **Vehicle Type**

- **Vehicles With Sleeper Berth (Reinstated August 11, 2011)**
- **Military, Emergency, Law Enforcement, and Armored 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**

# **LOCALLY ENFORCED IDLING RESTRICTIONS**

## **Exemptions Continued**

### **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 During Use of Sleeper Berth for a Government-Mandated Rest-Period and Not Within Two Miles of a Facility Offering External Heating and A/C Connections (Reinstated August 11, 2011)**



# LOCALLY ENFORCED IDLING RESTRICTIONS

## Recent Legislative Action

### SB493

- Exemption for Heavy-Duty Diesel or Compressed Natural Gas(CNG) Vehicles, Model Year 2008 or Newer, Over 8,500 pounds 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 Allowable for Vehicles With Idle Reduction Systems



### HB1906

- Makes an Offense of the State Idling Rule a Class C Misdemeanor

**NOTE:** TCEQ will be voting to incorporate SB493 into the rule on August 8, 2012

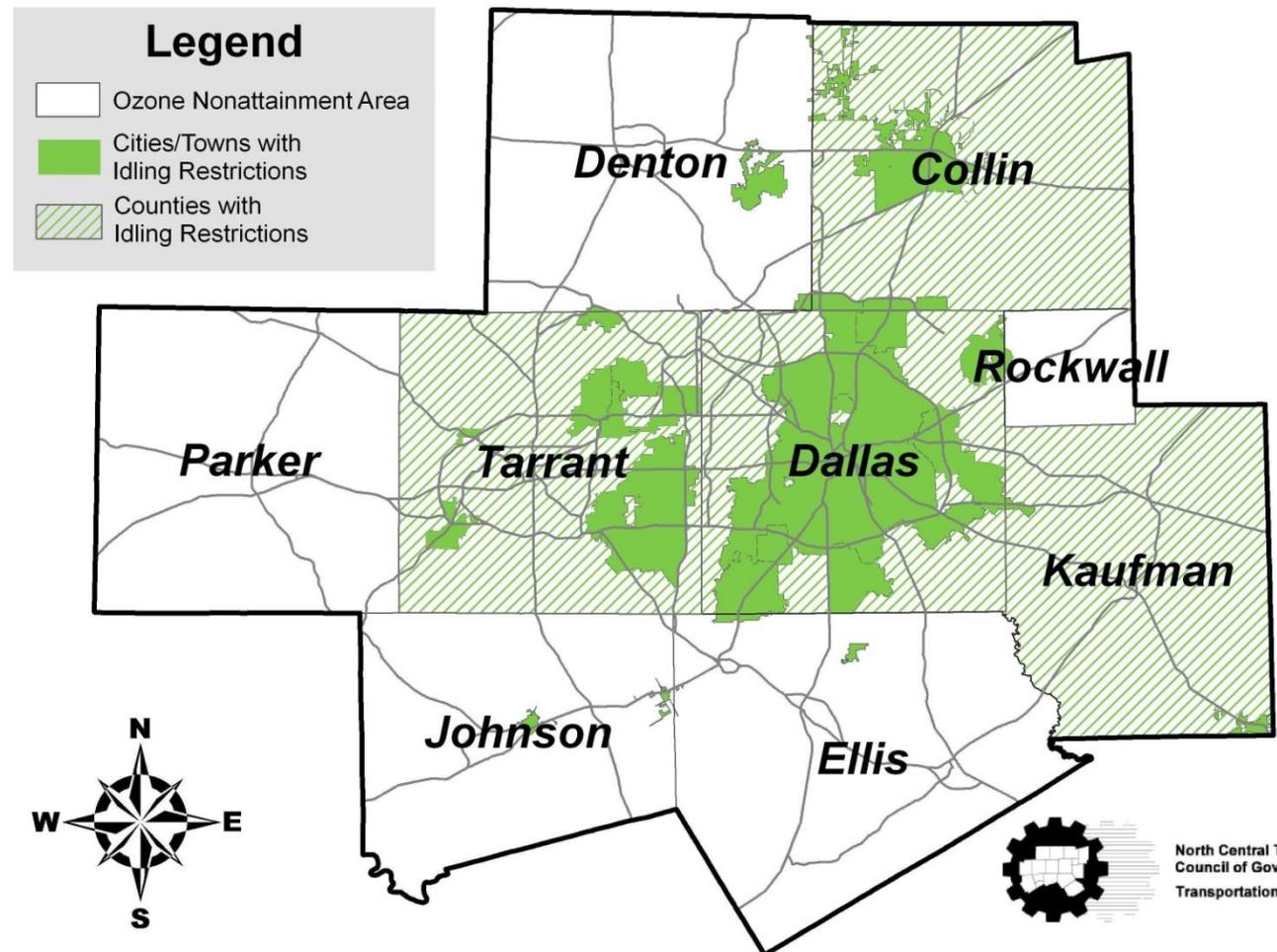
# LOCALLY ENFORCED IDLING RESTRICTIONS

## North Central Texas Area

\*Current as of May 2012

### Adopting Entities\*

City of Arlington  
 City of Benbrook  
 City of Cedar Hill  
 City of Celina  
 City of Colleyville  
 City of Dallas  
 City of Duncanville  
 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  
 City of Venus  
 Collin County  
 Dallas County  
 Kaufman County  
 Tarrant County  
 Town of Little Elm  
 Town of Westlake



JANUARY 2012

# LOCALLY ENFORCED IDLING RESTRICTIONS

## Implementation

### Transfer of Authority:

- Adopt TCEQ Idling Limitation Rule
- Sign North Texas Memorandum of Agreement (MOA)

### Outreach:

- Items Developed For Regional Use:
  - Local Government Guide
  - Anti-idling Street Signs
  - Driver Education Brochures
  - Idling Complaint Hotline and Website to Report Idling Vehicles

**1-877-NTX-IDLE**

**[www.EngineOffNorthTexas.org](http://www.EngineOffNorthTexas.org)**

### Enforcement:

- Identify Enforcement Personnel and Procedures
- Training Available on NCTCOG Emissions Database



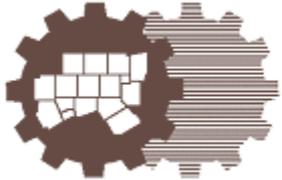
# LOCALLY ENFORCED IDLING RESTRICTIONS

## Funding Opportunities

### NCTCOG Funding Programs

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

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



### Texas Emissions Reduction Plan (TERP)

On-Site and On-Board Idle Reduction Infrastructure

[www.TERPGrants.org](http://www.TERPGrants.org)



### SmartWay Transport Partnership

Innovative Financing for Fuel-Efficient Technologies

[www.epa.gov/smartway](http://www.epa.gov/smartway)



## **CONTACT INFORMATION**

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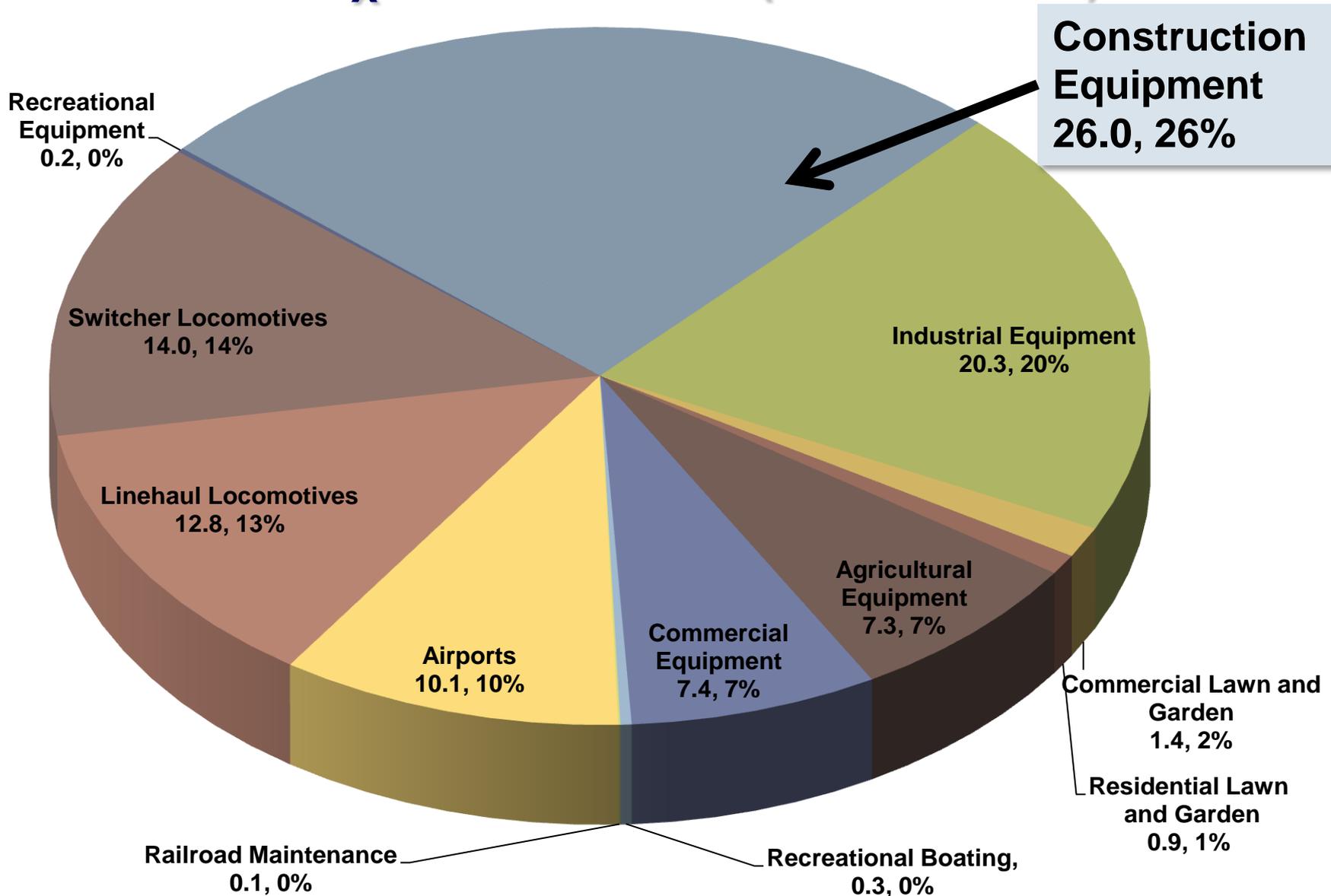
[rgarner@nctcog.org](mailto:rgarner@nctcog.org)

**[www.EngineOffNorthTexas.org](http://www.EngineOffNorthTexas.org)**

# **CLEAN CONSTRUCTION STANDARDS**

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# NON-ROAD NO<sub>x</sub> EMISSIONS (TONS/DAY)



# **CLEAN CONSTRUCTION SPECIFICATION**

## **Equipment/Engine Requirements**

- Tier 2 or Equivalent Engine Standard
- Exemptions Recommended

## **Operational Requirements**

- Use of Ultra Low Sulfur Diesel Fuel
- Restriction on Idling
- Staging/Minimizing Use of Equipment

## **Reporting to Contracting Entity**

- Inventory of Equipment Used On-Site
- Documentation for Low Use Exemption

## **Enforcement**

- Entity Standard Contracting Procedures
- Option for Penalties/Fines

# **DEMONSTRATION PROJECT OVERVIEW**

**Applicable to Equipment Owned by, Operated by, or on Behalf of, or Leased by a Local Government/Public Agency**

**Goal: Gather Information on Potential Impacts**

- Bid Price
- Emissions
- Administrative Process

**One Year Beginning Late Spring/Early Summer 2010**

**Local Government Involvement**

**NCTCOG Staff Effort**

- Seek “Mock” Bids for Recently Awarded Projects
- Support Local Government Implementation

# **PARTICIPATING ENTITIES**

**City of Arlington**

**City of Denton**

**City of Fort Worth**

**City of Plano**

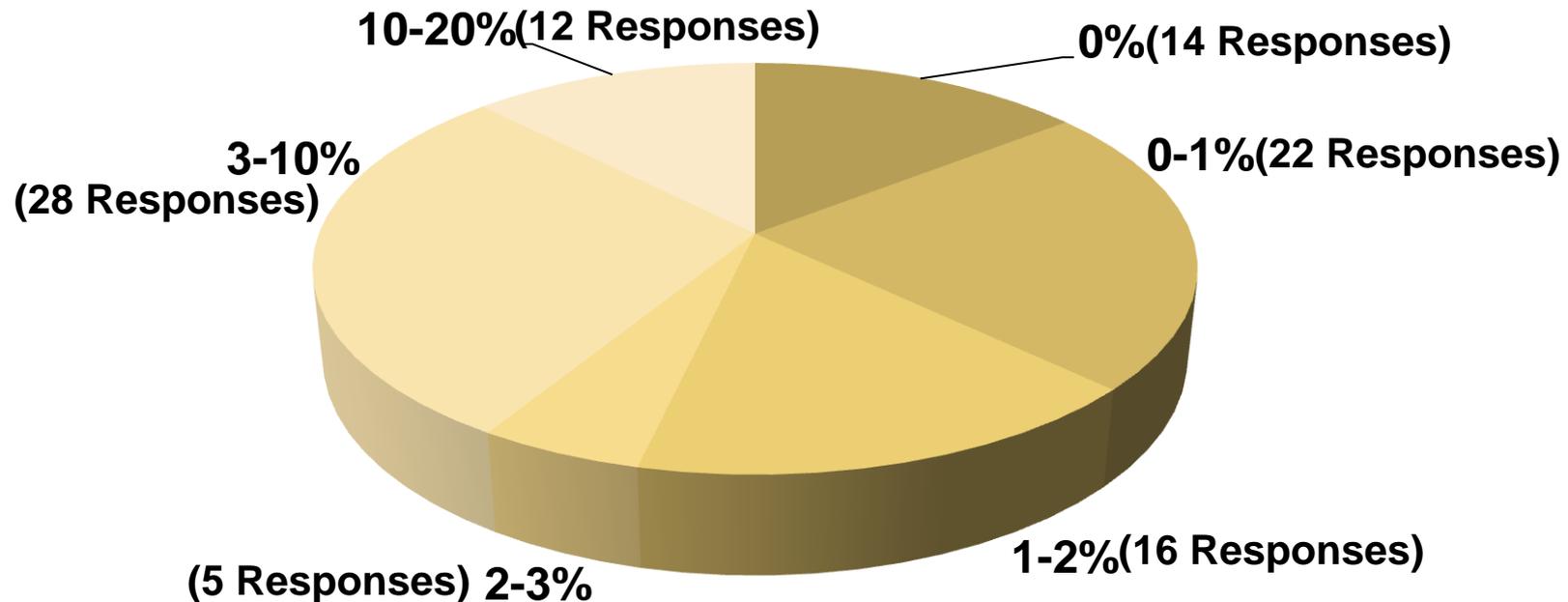
**Northgate Constructors**

# RESULTS: BID ALTERNATE/MOCK BID

## Bid Alternate Evaluation (17 Projects)

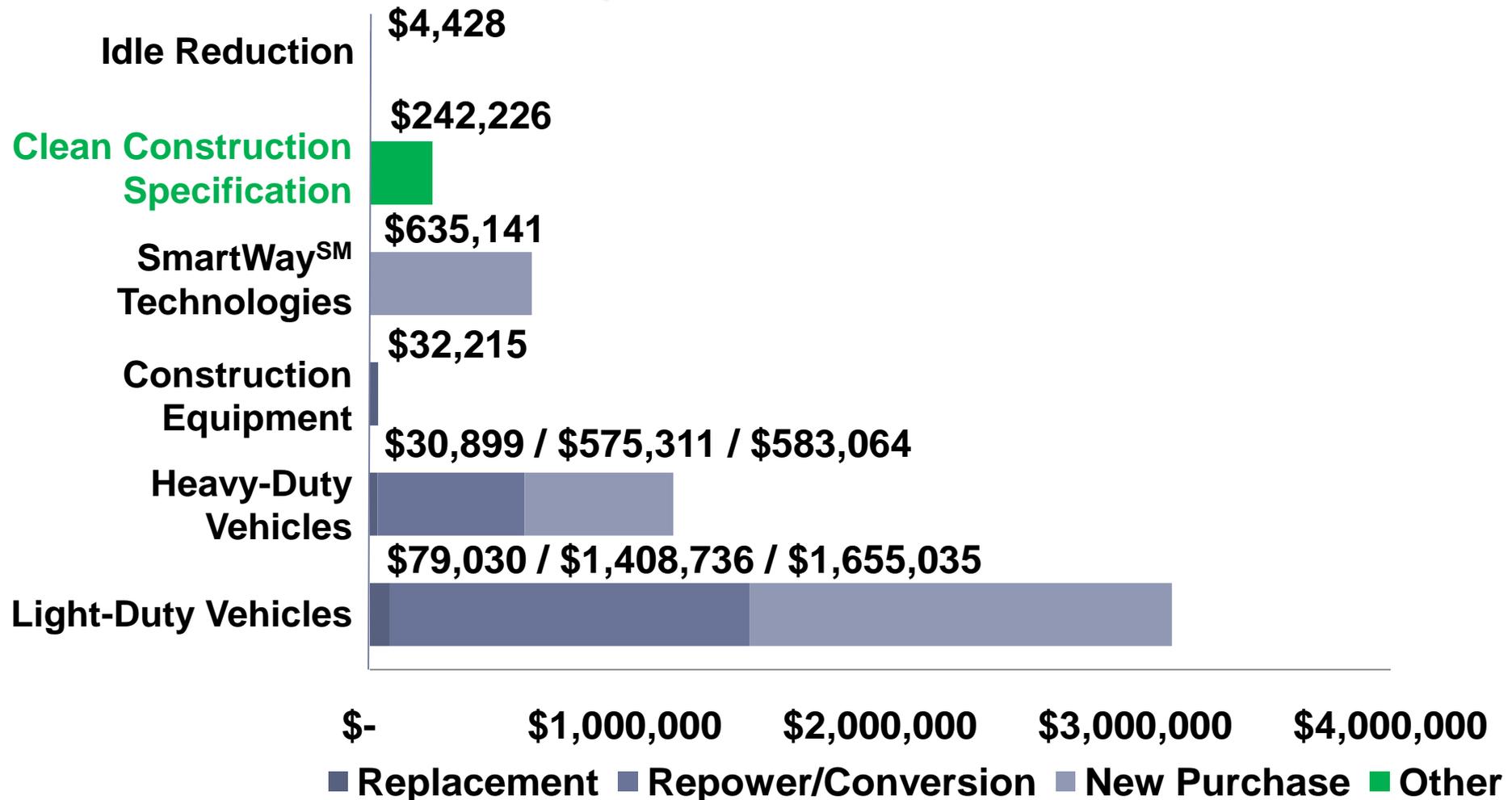
	All 96 Responses	17 Awarded Bids
Cost Increase	3.89% (Range from 0-20%)	2.56% (Range from 0-13.6%)
Potential NO <sub>x</sub> Reductions	N/A	3.67 Tons
Cost per Ton	N/A	\$242,226

### Percent Increase to Bid Price (97 Responses<sup>1</sup>)



<sup>1</sup>Arlington Bid Alternates and DFW Connector Mock Bid

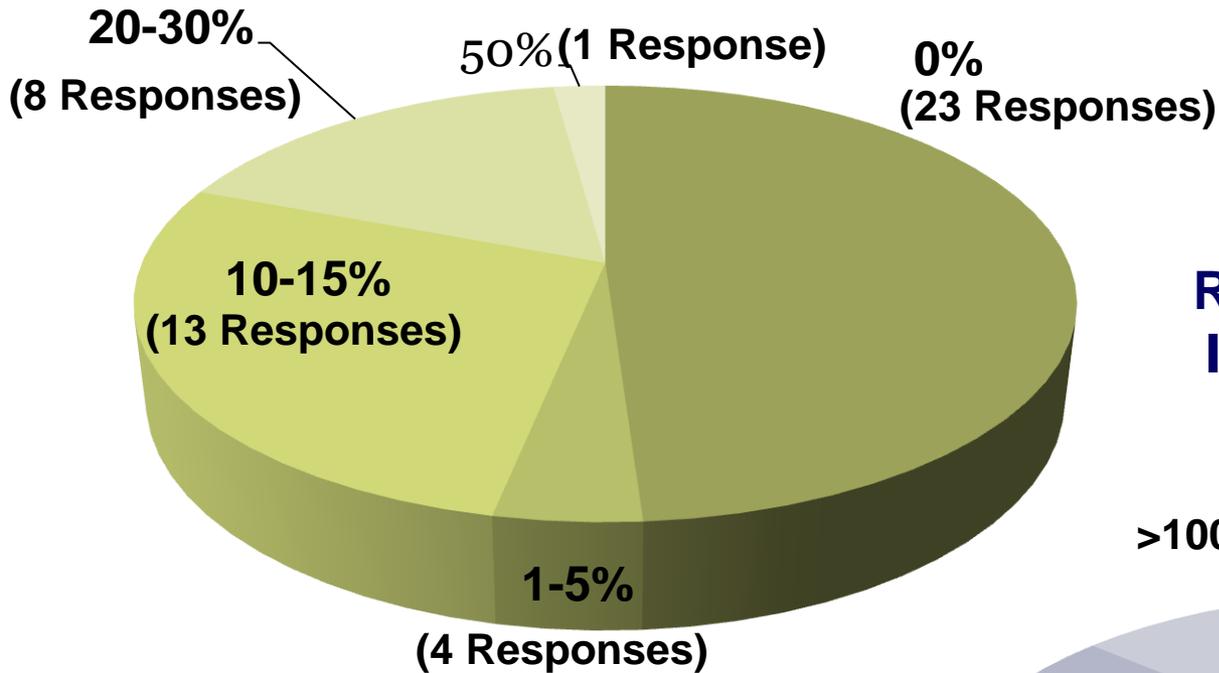
# COST PER TON COMPARISON WITH OTHER AIR QUALITY INITIATIVES\*



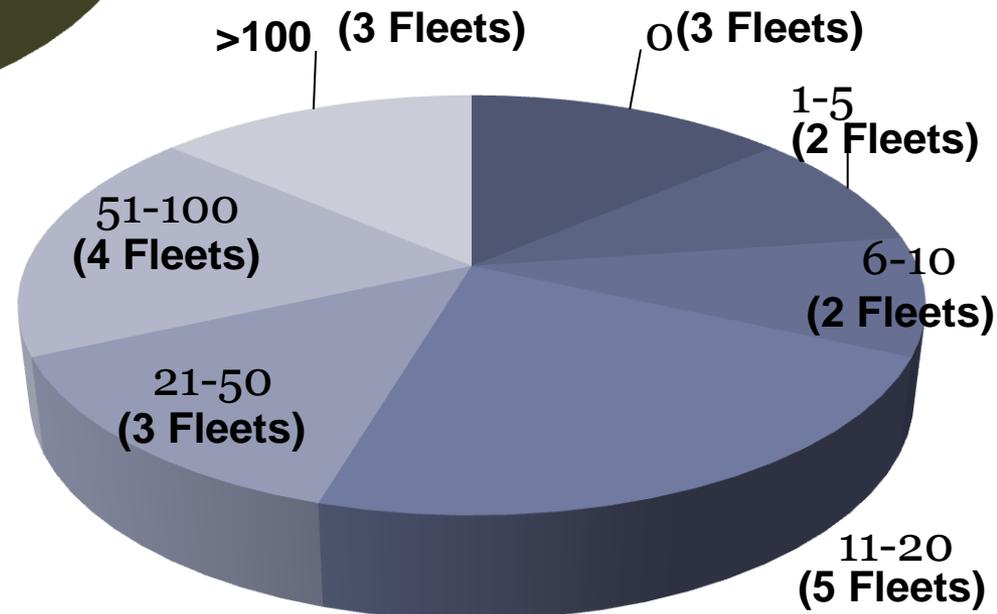
\*All estimates are calculated without consideration of grant funding and are based on NCTCOG – administered programs as of Fall 2011.

# RESULTS: QUESTIONNAIRE

## Percent Increase to Bid Price (49 Responses)

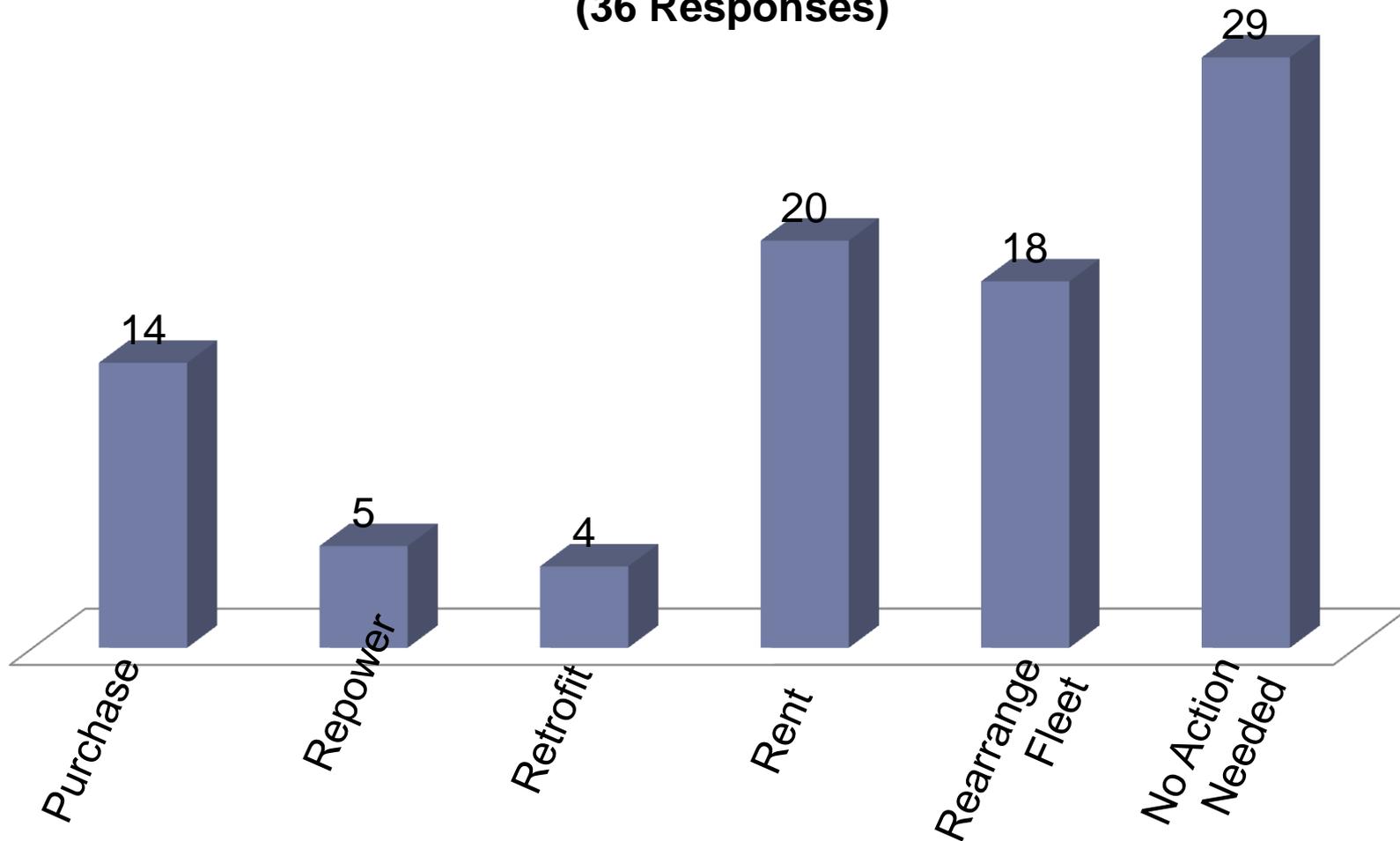


## Fleet Size of Respondents with 0% Increase in Bid Price (22 Responses)



# CONCERN: CONTRACTORS WOULD HAVE TO BUY ALL NEW EQUIPMENT

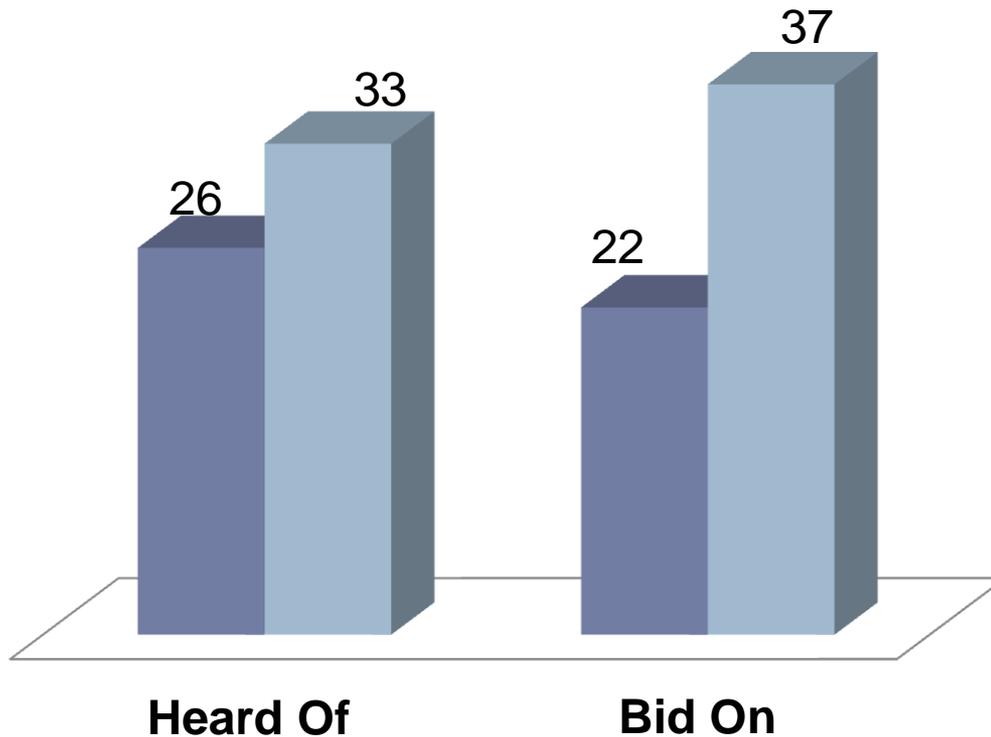
What Actions Would You Take to Comply?  
(36 Responses)



# CONCERN: CONTRACTORS WOULD FIND THE REQUIREMENT CONFUSING OR WOULD NOT WANT TO BID PROJECT

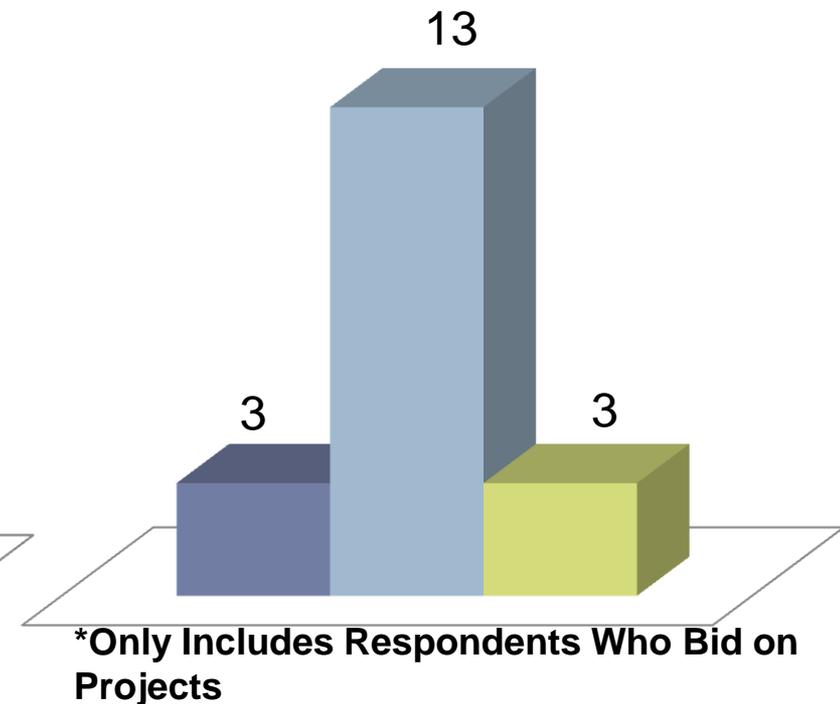
## Familiarity With Emissions-Based Requirements

■ Yes ■ No



## Experience With Emissions-Based Requirements\*

■ Positive ■ Neutral ■ Negative



## **NEXT STEPS**

**Coordinate with TxDOT and Federal Highway Administration with Regard to Federally-Funded Projects**

**Encourage Incorporation into Locally-Funded Construction Project Specifications**

**Encourage Incorporation Into Private Sector Construction Through Development Agreements**

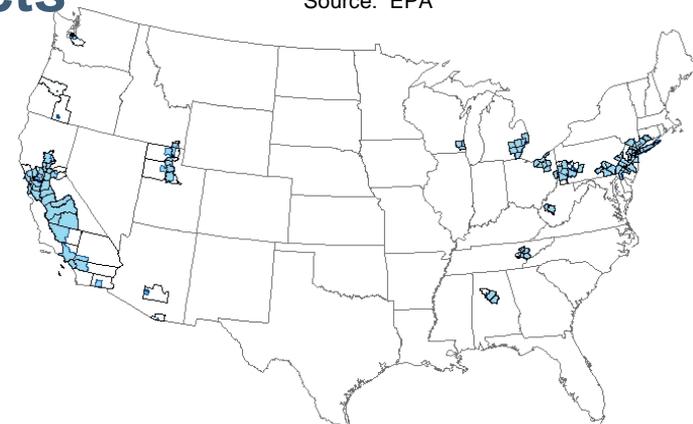
**Monitor Potential Legislation**

# CLEAN CONSTRUCTION ACT OF 2011

## Applicability

- **Particulate Matter (PM<sub>2.5</sub>) Nonattainment/Maintenance Areas**
- **Highway and Transportation Projects**
- **Affected Equipment**
  - **Time on Project**
  - **Size**
  - **Exemptions**

PM-2.5 Nonattainment Areas (2006 Standard)  
Source: EPA



## Requirements/Implementation

- **Reduce PM<sub>2.5</sub> by 85% or the “Maximum Achievable”**
- **Paid for by Federal Funds**
  - **Capped at 1% or Actual Cost**
- **Change Order**
- **Written Plan with Inventory**

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