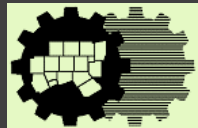


DIESEL INSPECTION AND MAINTENANCE (I/M) PILOT PROGRAM RESULTS

**Surface Transportation Technical Committee
January 23, 2014**

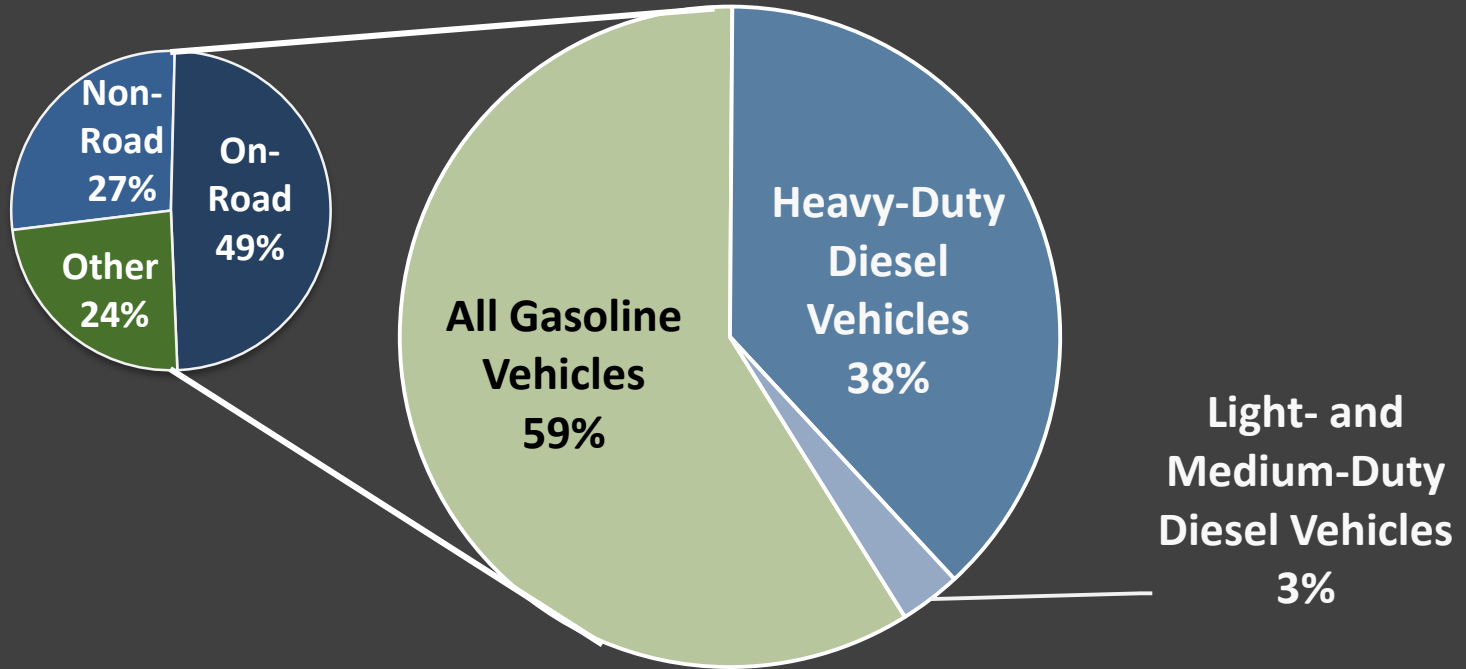
**Amanda Brimmer, Principal Air Quality Planner
North Central Texas Council of Governments**



DIESEL INSPECTION AND MAINTENANCE (I/M)

Need For Testing

Currently no emissions testing for diesel vehicles in Texas



Light-Duty Vehicles ≤ 8,500 lbs gross vehicle weight rating (GVWR)

Medium-Duty Vehicles = 8,501 – 14,000 lbs GVWR

Heavy-Duty Vehicles ≥ 14,001 lbs GVWR

2012 On-Road NOx Emissions Inventory

On-Road Emissions = 181 tons per day (tpd) NOx

Source: Texas Commission on Environmental Quality (TCEQ)

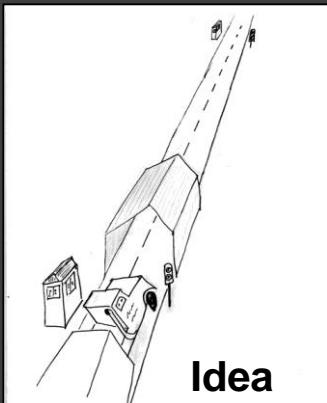
DIESEL I/M PILOT PROGRAM

Project Purpose

3

Investigate a heavy-duty diesel vehicle (HDDV) I/M Program for the Dallas-Fort Worth (DFW) region
Characterize NO_x emissions from HDDVs through on-site pilot testing study

Assess data, validity, and implications for HDDV I/M or screening programs



DIESEL I/M PILOT PROGRAM

Partners

4

North Central Texas Council of Governments (NCTCOG)

Texas A&M Transportation Institute (TTI)

Texas Department of Motor Vehicle (TxDMV)

Texas Department of Public Safety (DPS)

Texas Department of Transportation (TxDOT)

University of Denver (DU)

DIESEL I/M PILOT PROGRAM

Site Selection

Location

New Waverly Weigh Station
(NWWWS), Northbound I-45

Timeline

June 11-22, 2012

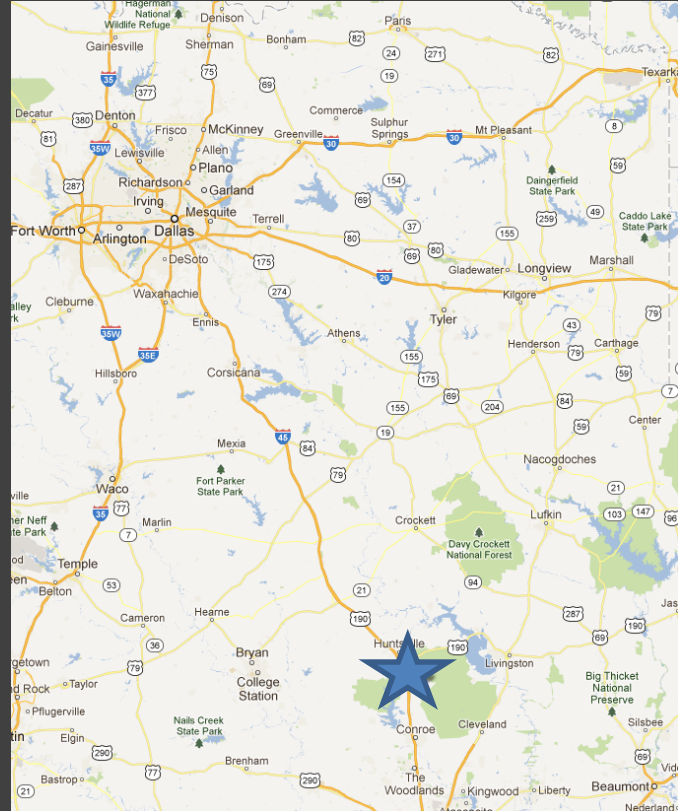
Vehicles Tested

~1,500 long-haul HDDVS

Most headed for DFW

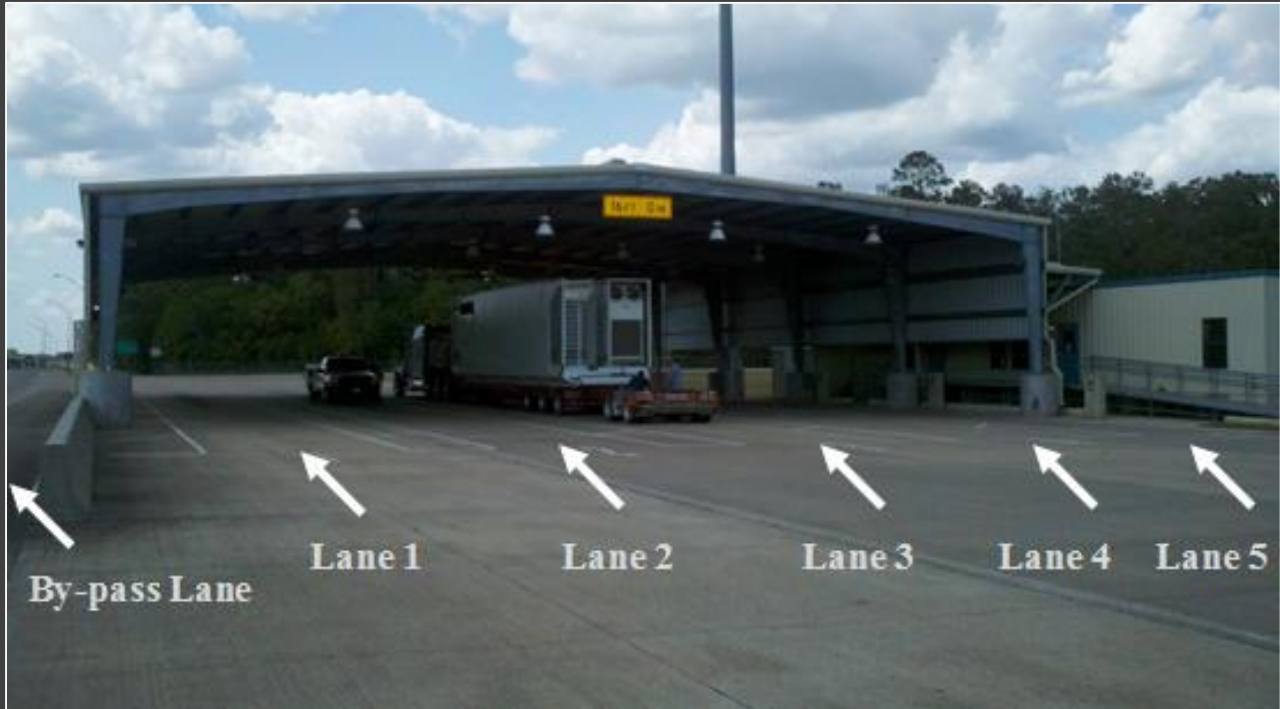
10 Control Vehicles

Validated via Portable Emissions
Monitoring System (PEMS)



NEW WAVERLY WEIGH STATION

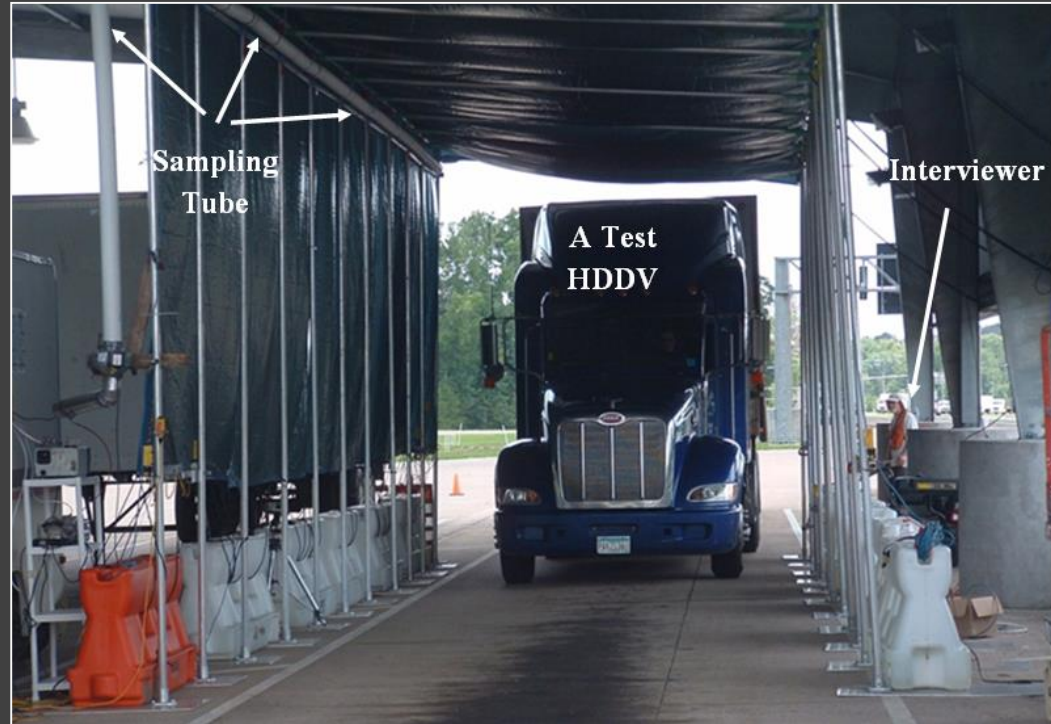
Site Features



SHED PROTOTYPE

Test Setup

Streamlined
Heavy-Duty
Emissions
Determination
(SHED)
prototype

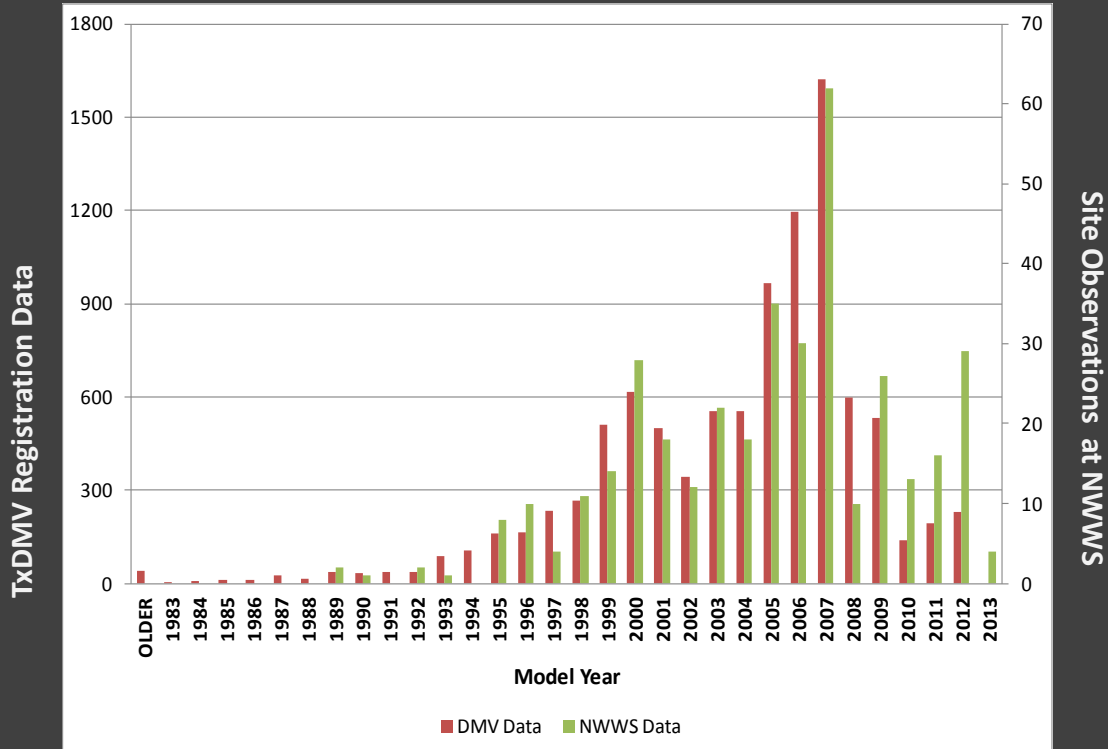


DIESEL I/M PILOT PROGRAM

Fleet Model Year Analysis

License plate data from TxDMV and five other states

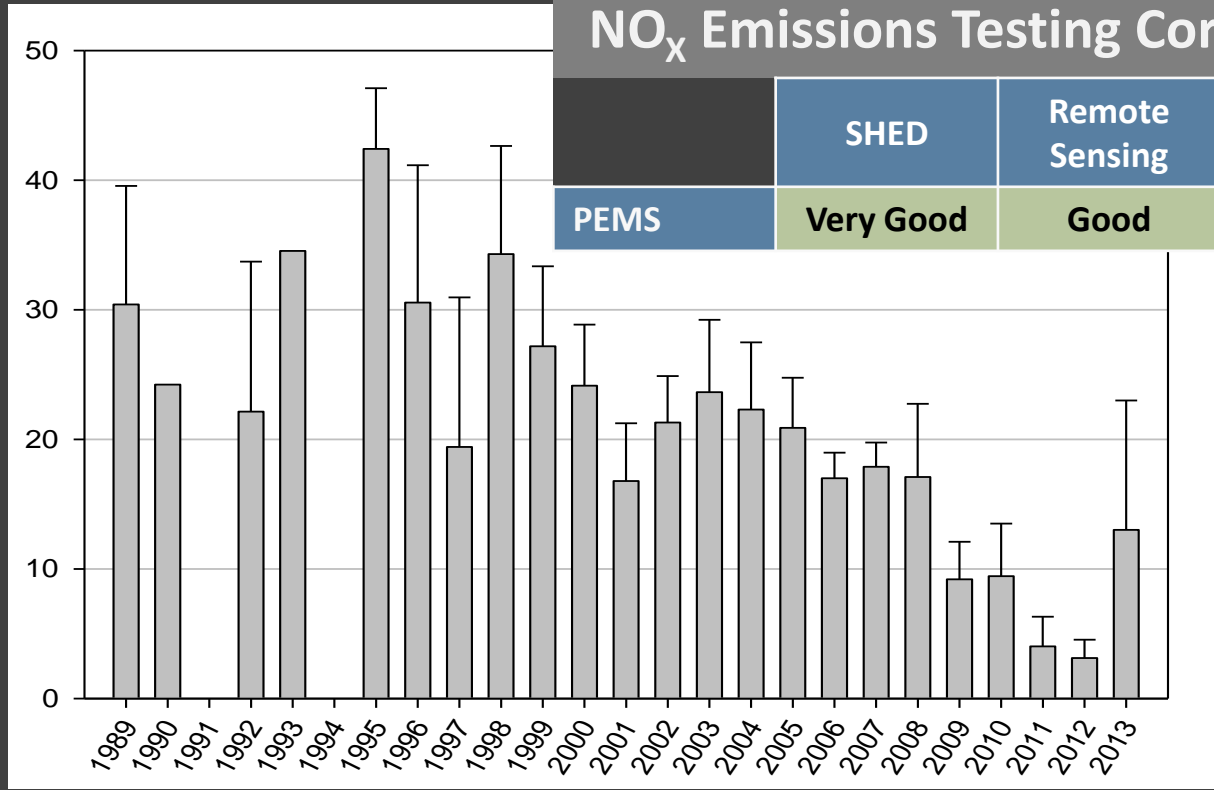
Model year distribution for TX vehicles very similar to statewide distribution



SHED DATA ANALYSIS

Testing Methodology Correlation and Results

SHED Emission Rates (g NOx/kg CO2)



NO_x Emissions Testing Correlation

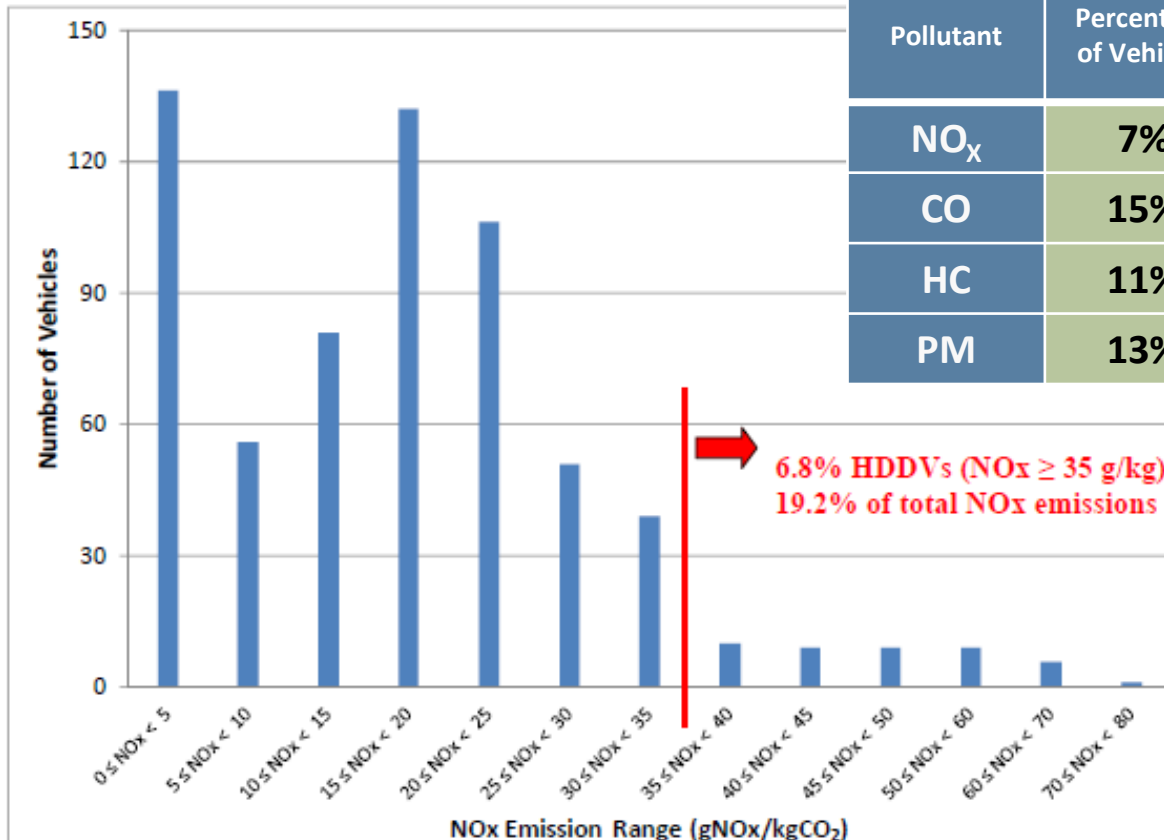
	SHED	Remote Sensing	Opacity
PEMS	Very Good	Good	Poor

HDDV Model Year

SHED DATA ANALYSIS

Vehicle Identification for High Emissions of NO_x

10



Pollutant	Percentage of Vehicles	Percentage of Emissions
NO _x	7%	19%
CO	15%	71%
HC	11%	44%
PM	13%	62%

DIESEL I/M PILOT PROGRAM

Next Steps – Future for SHED Technology

11

SHED: Viable HDDV I/M Technology

Benefits and Other Applications

“Clean screening” for fleet

Can capture both intra- and inter-state vehicles

Compliance check for advance emissions control technology

Evaluation of alternative fuels and technologies

Identified Next Steps

Engage the US Environmental Protection Agency (EPA)

Seek guidance to be able to claim emissions credits for diesel

Optimize SHED technology and operations

Establish appropriate cut-points

Utilize data collected for MOVES model refinement

Contact Information

Amanda Brimmer

Principal Air Quality Planner

(817) 608-2354

abrimmer@nctcog.org

Shannon Stevenson

Program Manager

(817) 608-2304

sstevenson@nctcog.org

www.nctcog.org/DieselReport