Motivation

HDDV Emissions Inspection Study

OS/OW Study

Integrating Into Current CVE Efforts
No Emissions Inspections for Diesel Vehicles in Texas

Heavy Duty Diesel Vehicles Account for 3.84% of Total Miles Driven, but Create 48.53% of On-Road Emissions

Source: Texas Commission on Environmental Quality, 2017 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan
Project Overview

Phase 2 Study Follow-Up to 2012 Phase 1 Study

Main Objectives for Phase 2 Study
Identify and Test Refinements of System Design
Investigate Other Technologies to Integrate
Deploy Refined System for Real World Application

System Design Refinements and Other Technology Testing
Performed at Texas A&M Campus

Field Study Deployment Performed at Texas Weigh Station

Partnered with Multiple Agencies
Three Major Components:
Exhaust Collection
Vehicle Monitoring
Emissions Analysis

OHMS = On-Road Heavy-Duty Emissions Measurement System

Photo Source: TTI
HEAVY-DUTY VEHICLE INSPECTION AND MAINTENANCE PROGRAM

Field Study Results

Fleet Analysis:
Model Year 2007 Trucks Peaked in 2012 and 2016

Tested Trucks MY Distributions

- 2012 Data from Phase 1 Study;
- 2016 Data from Phase 2 Study
HEAVY-DUTY VEHICLE INSPECTION AND MAINTENANCE PROGRAM

Field Study Results

NOx Results by Truck Model Year

![Graph showing NOx results by truck model year with 95% percentile and average lines.](chart.png)
Project Overview

Understand Impact of Oversize/Overweight (OS/OW) Heavy Duty Vehicle Emissions in Dallas-Fort Worth Area

Main Objectives

Develop Inventory of OS/OW Vehicle Operations in Region and their Role in Overall Emissions Inventory

Understand Potential Impacts of Changes in OS/OW Operations, Such as Improved Weigh Station Technologies or Enforcement Methods

Photo Source: Texas Department of Motor Vehicles
What's At Stake?

Higher Weight =
More Power/Torque =
(?) More Emissions

Legal (Permit) & Illegal Activities
  VMT, Roadways, Speeds, Volume, Frequency

Start FY18 Over A 2 Year Period
Effort to Begin Collecting Data on Truck Emissions-related Items

Work with Commercial Vehicle Enforcement Officers

Provide List of Items to Check and Data to Collect During CVE Events

Trucks Chosen Randomly with NCTCOG Staff on Hand to Assist
DATA COLLECTION

Type of Diesel in Fuel Tank (Presence of Clear On-Road Diesel or Red Off-Road Diesel)

Diesel Exhaust Fluid Level, if Equipped with Selective Catalytic Reduction System
Emission Control Label on Engine

Check Engine Light Status and if Illuminated, Pull Diagnostic Trouble Codes
Integration Into Current CVE Efforts

Fixed Roadside I/M Check (Manual)

Telematics: OBD --> Transportation System (Automatic)
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