# Characterizing the Fuel and Emissions Impact of Driver Training for Drayage Operation

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## Presentation to the Joint Advisory Committee (JAC)
for the Improvement of Air Quality in the Ciudad Juárez, Chihuahua/ El Paso, TX/ Doña County, New Mexico Air Basin

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**Project Sponsored by**
**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

# PROJECT OVERVIEW

# Project Overview

- Goal: Quantify the Fuel and Emissions Impacts of Driver Training for Drayage Operators in Paso Del Norte Region

  - Develop a training module for border drayage drivers

  - Train drivers on driver behaviors that can help reduce fuel consumption and emissions

  - Through data collection and analysis, quantify the effectiveness of the training

# Project Overview (2)

- Project included 4 major tasks:

Review of State of Practice

Development and Delivery of Training Materials

Fuel and Emission Impact Evaluation

# Paso de Norte Air Basin

## PM10

## Ground-Level Ozone

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# Driver Behavior and Training Strategies

**Anti-Idling**

**Accelerating, Braking, and Momentum**

**Speed**

**Shifting and Gearing**

**Maintenance**

**Route Selection**

# 44–48 % Reduction
## in Fuel Consumption

# Development and Delivery of Training Program

Presentation covers well-known techniques that would allow drivers to reduce their fuel and emissions by changing **how they drive**

| | |
|---|---|
| **Anti-Idling** | **Speed** |
| **Shifting and Gearing** | **Maintenance** |
| **Accelerating, Braking, and Momentum** | **Planning Ahead** |
| | **Other Techniques** |

# Development and Delivery of Training Program

- Initial training is presented to drayage operators in El Paso – Ciudad Juarez area

- Training materials will be updated based on feedback from the initial participants in the program

- Training can be adapted for either online or in-person trainings for future participants

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# Fuel Consumption and Emission Impact Evaluation



**Before-Training PAMS-GPS Data Collection** → **Driver Behavior Training** → **After-Training PAMS-GPS Data Collection**

First 2 Weeks of Data Collection by Drayage Truck Drivers

**TRAINING**

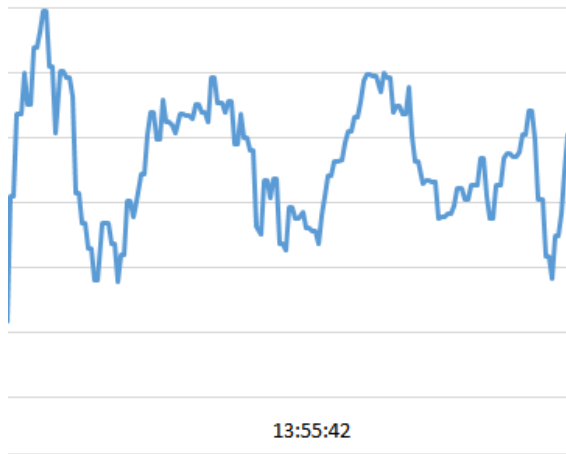Second 2 Weeks of Data Collection by Drayage Truck Drivers

# Fuel Consumption and Emission Impact Evaluation

- Collecting data using Portable Activity Measurement System (PAMS) and GPS
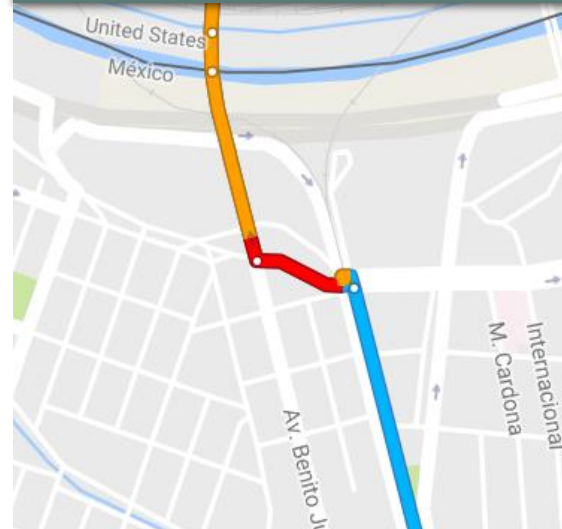
# Fuel Consumption and Emission Impact Evaluation (3)

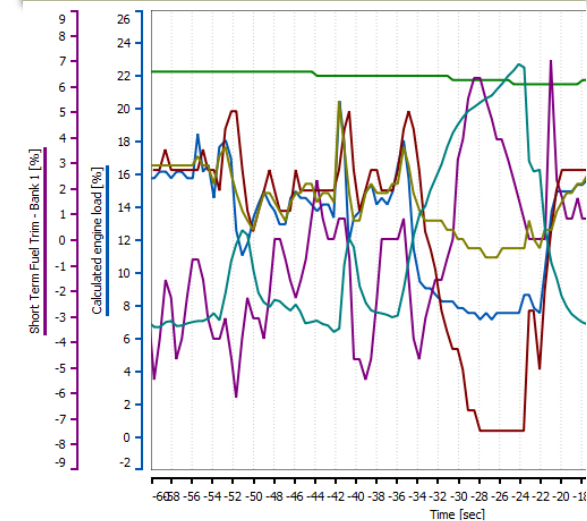## Data Collected Before and After the Training



Speed Data

Location and Route Data

OBD Engine Parameters

# Fuel Consumption and Emission Impact Evaluation (4)

- Collected data can show potential areas of improvement for driving behavior

- Before and after data will be compared to determine impact of driver training, do driving habits change

- Estimate potential emission benefits to the area

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Long Duration (23 Mins) Idle Event
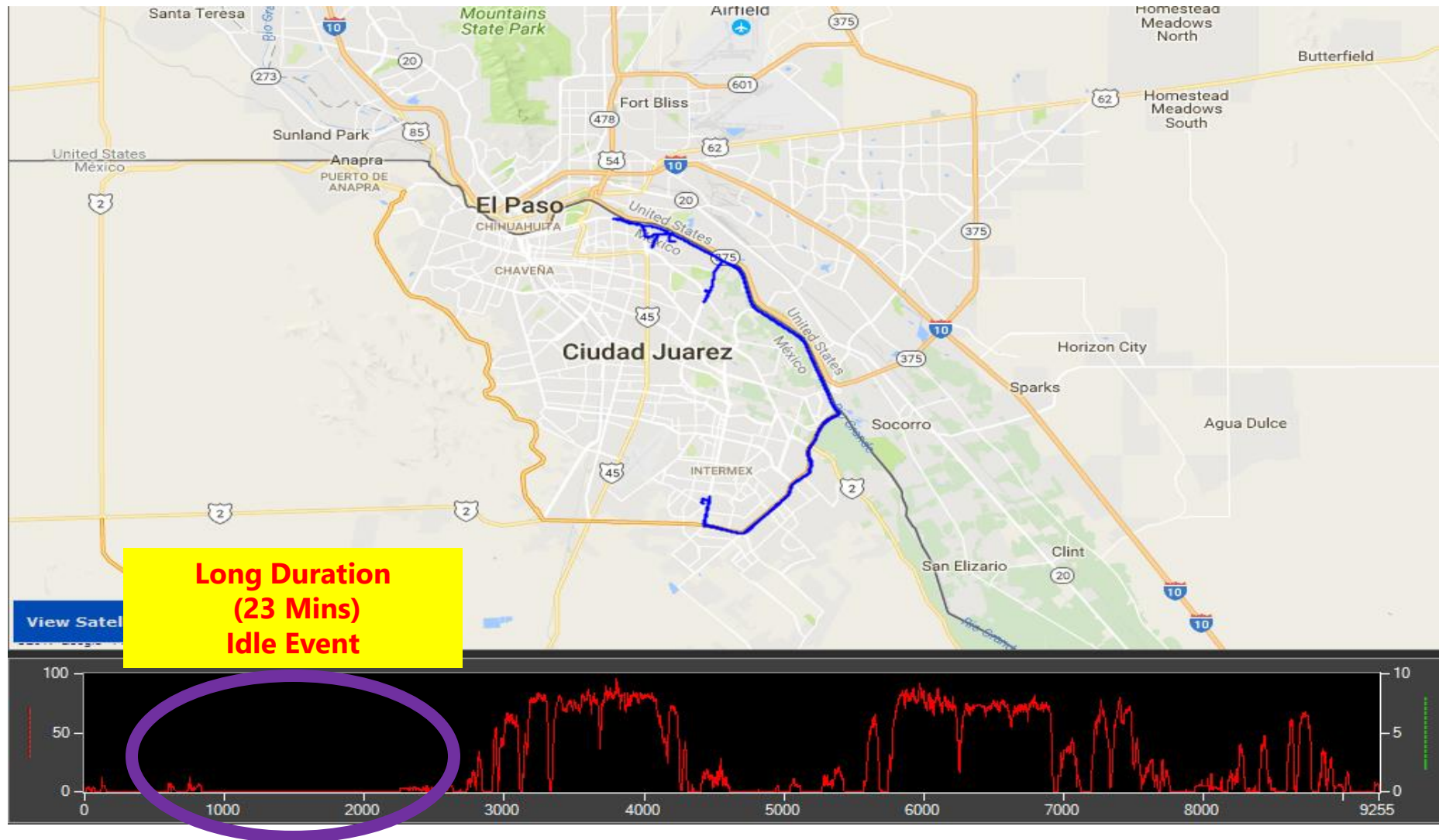
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