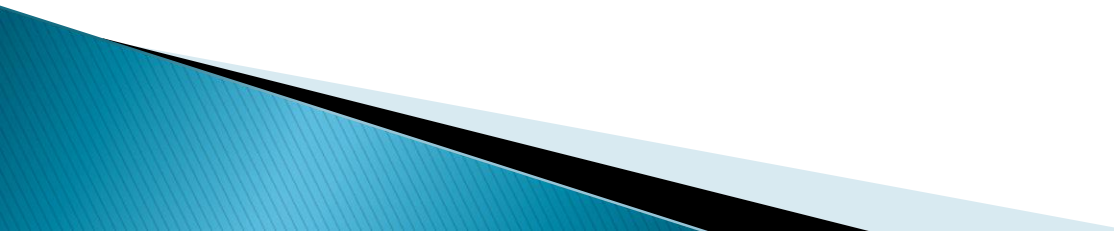


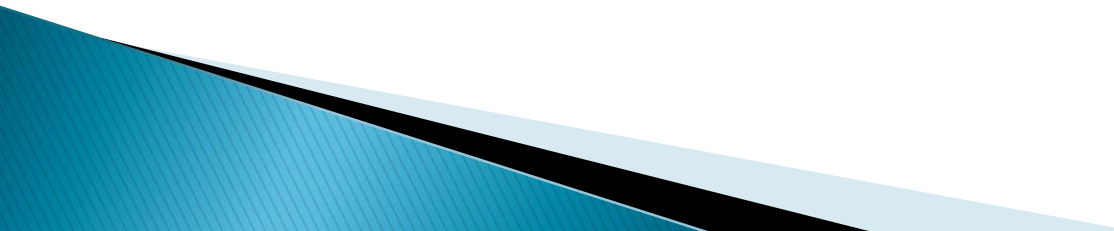
# Texas Department of Transportation

Maintenance Division  
Magdy Mikhail, P.E.

# Strengths for Managing Pavement Assets

- ▶ Collect data on 100 % of the Network on a yearly basis.
  - ▶ Collect 90,000 roadbed miles every year.
  - ▶ Historical Data present for 20 Years
- 

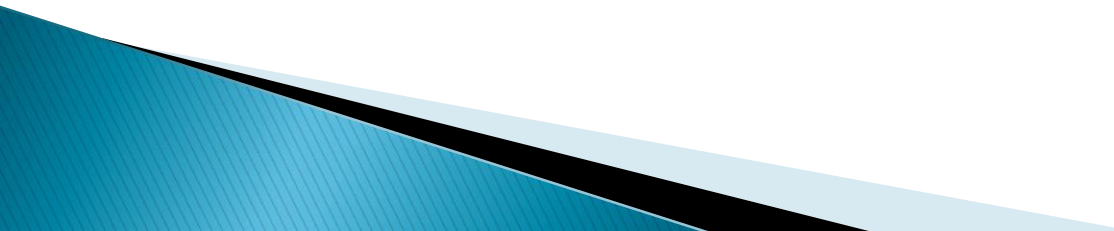
# Strengths for Managing Pavement Assets

- ▶ TTI Certification facility for Profile measurements
  - ▶ Profiles used for IRI measurements at the Network level are Certified at TTI on a yearly basis.
  - ▶ Quality control and Quality assurance checks in-place
- 

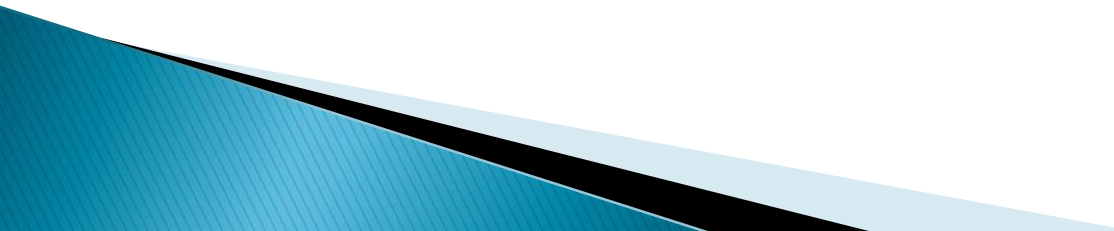
# Strengths for Managing Pavement Assets

- ▶ Wet Surface Crash Reduction Program
  - Collect Skid measurements (Locked Wheel)
  - 50% of Interstate on a yearly basis
  - 25% of non Interstate on a yearly basis

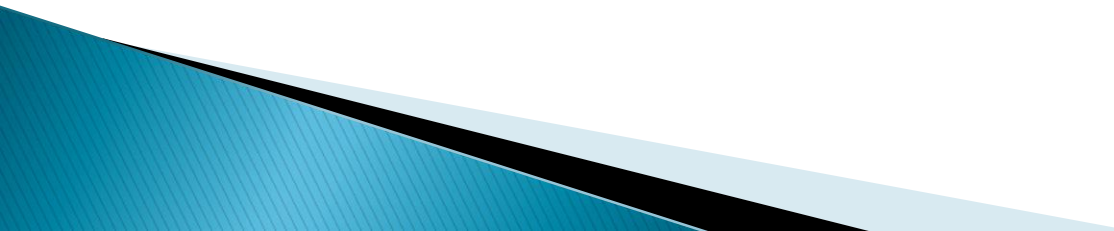
# Strengths for Managing Pavement Assets

- ▶ 4 Year Pavement Management Plans.
  - ▶ Mapping tools and applications
- 

# Weakness

- ▶ Lack of work history
  - ▶ Lack of Basic Layer information
  - ▶ Inaccurate rut measurements
    - 5 point acoustic sensors
  - ▶ Subjective measurements
    - Windshield surveys
- 

# Weakness

- ▶ Pavement Management System is a legacy mainframe system.
  - ▶ Analytical tools are not used.
    - Performance Prediction
    - Project Selection
  - ▶ Worst first approach is very common.
- 

# Weakness

- ▶ Construction Budget
  - 1 / 3 Preventive Maintenance.
  - 2 / 3 Rehabilitation.



# Opportunity

- ▶ New Pavement Management System
- ▶ Preparation for the New Pavement Management System.
  - Calibrated and updated performance models
  - Updated the decision tree
  - Capturing work history and layer information
  - Evaluating the improvement in Distress, Ride and Condition for different treatment categories

# Opportunity

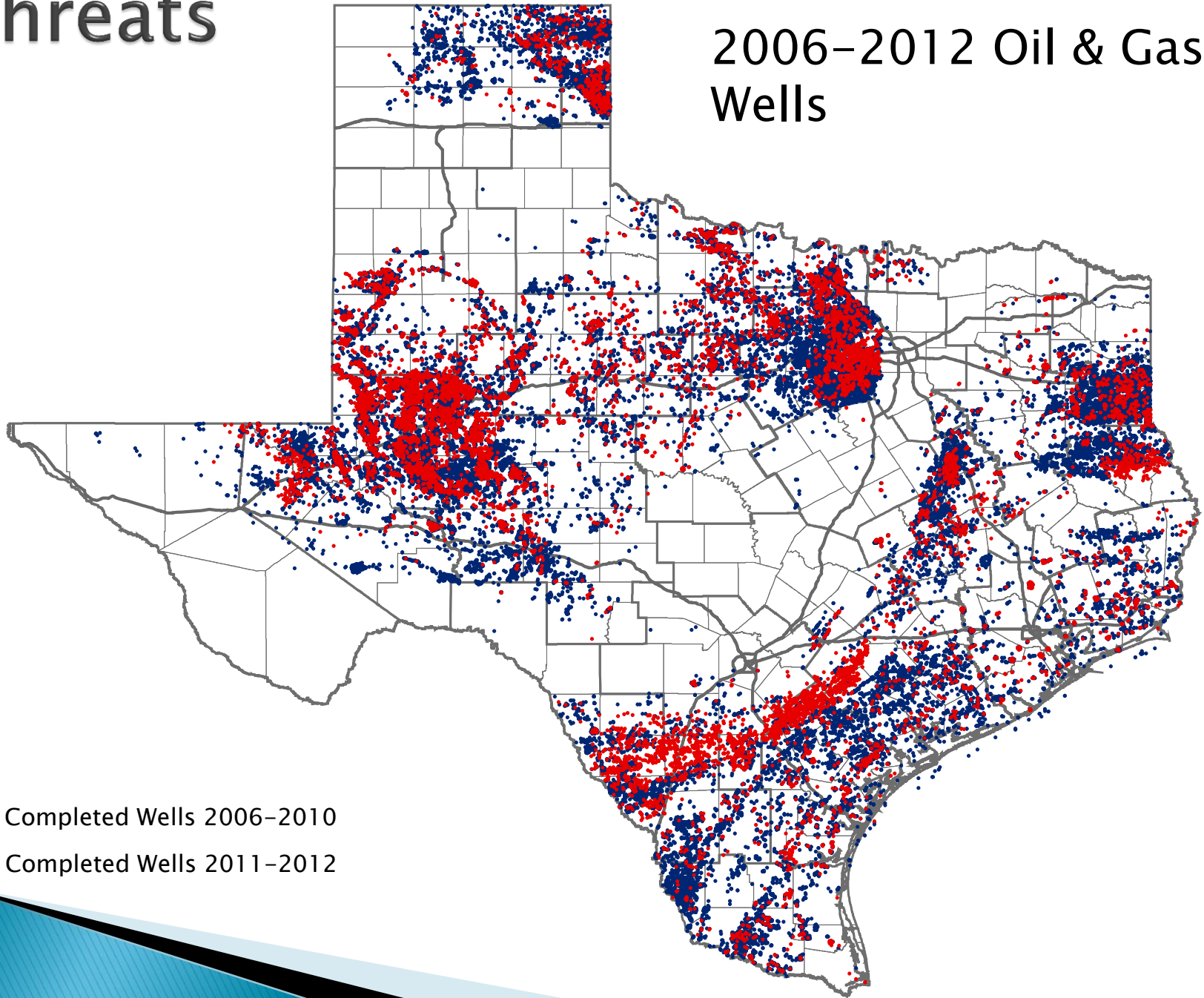
- ▶ Moving from Subjective Measurements to Objective measurements.
- ▶ Pilot PMIS data collection using Automated Systems.
- ▶ MAP-21
  - Manage Pavements as an asset.

# Opportunity

- ▶ Structural Evaluation
  - Network level FWD
  - Development in RWD

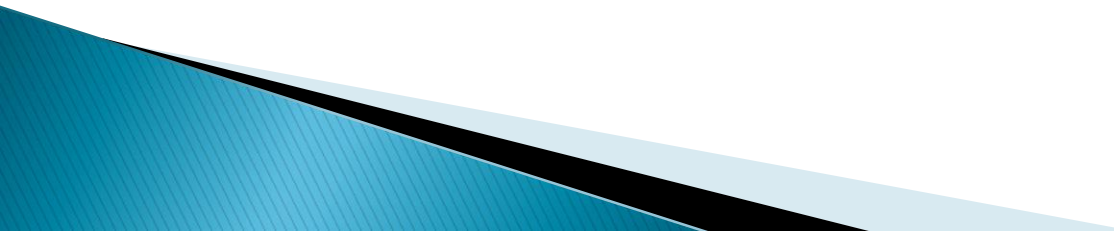
# Threats

2006–2012 Oil & Gas  
Wells



- Completed Wells 2006–2010
- Completed Wells 2011–2012

# Threats

- ▶ Significant Damage to our roadways
  - ▶ Districts impacted are falling behind
  - ▶ Mode of operation is how can we fix these roads, how do we keep them safe.
- 

# Success Story

- ▶ Increased Maintenance Funding will pay off

# Success Story

## Statewide, FY 2001-2013

