

Preservation of Rigid Pavement

- Full-Depth & Partial-Depth Repairs, Overlays -

Southeast Pavement Preservation Partnership

May 29 - 31, 2013

Moon Won

Texas Tech University

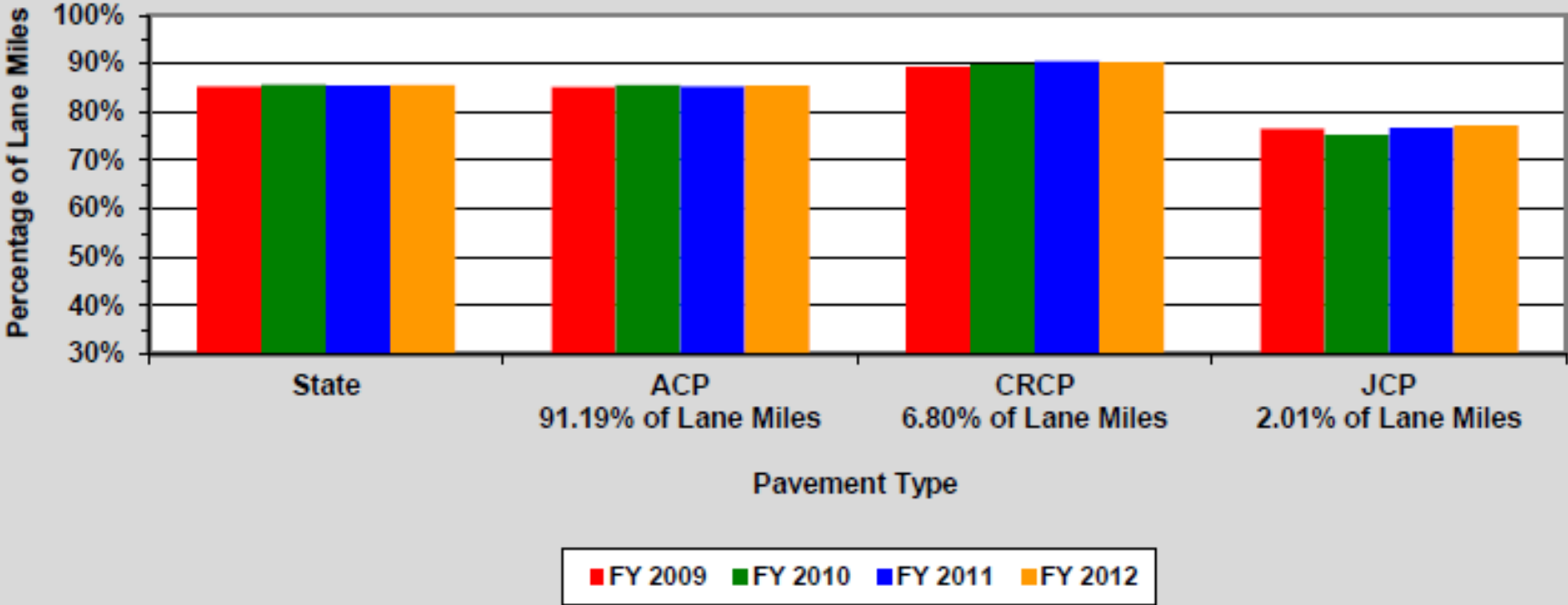
Acknowledgements

- TxDOT Research Committee Members
- TxDOT District pavement engineers
- TxDOT District project inspectors
- Texas Tech students and researchers

Outline

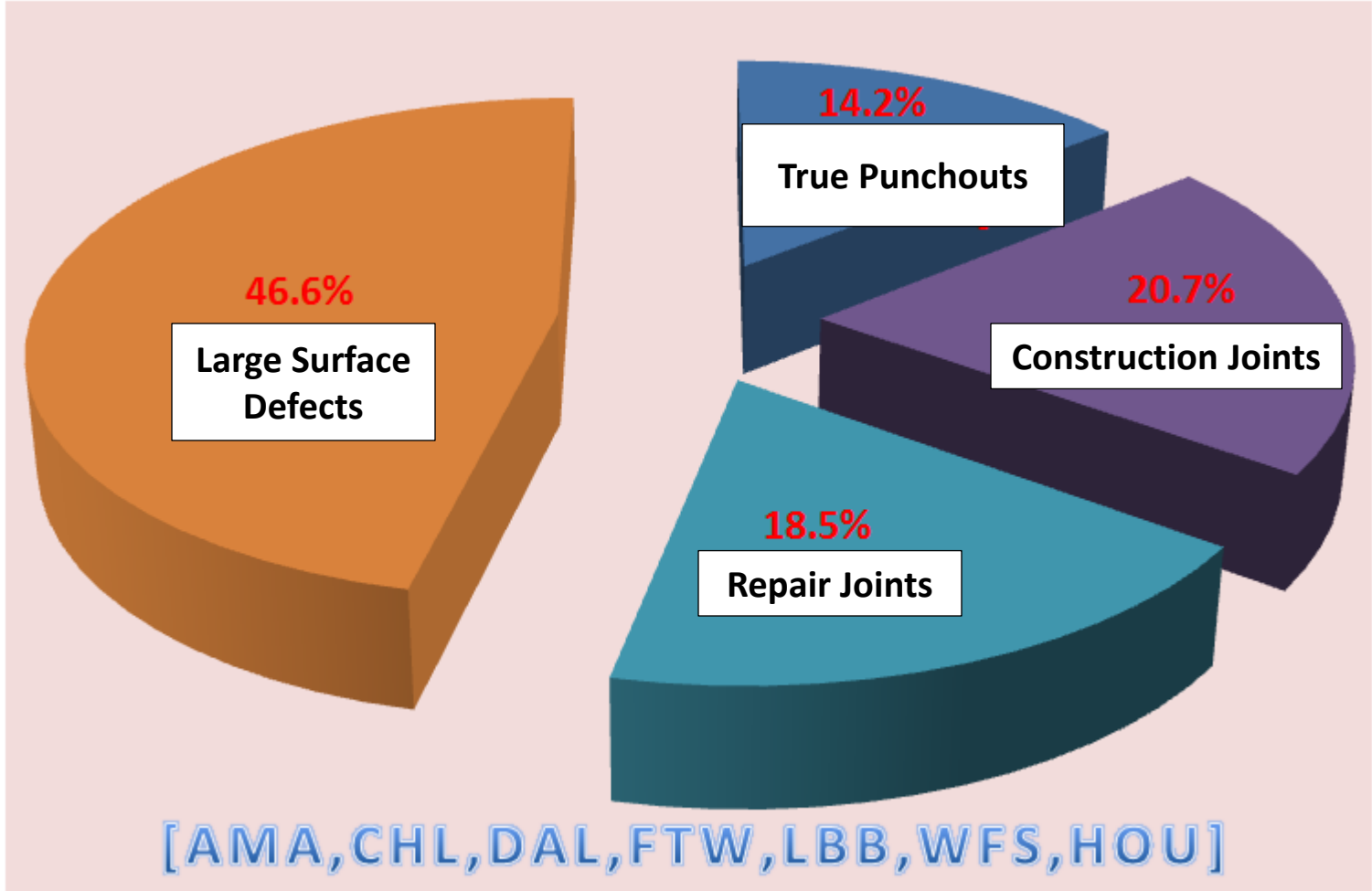
- Background and Objectives
- Full-Depth Repairs (FDRs)
- Partial-Depth Repairs (PDRs)
- Overlays
- Summary

**“Good” or Better Distress Scores
(PMIS Distress Score 80 or above)**



Background and Objectives

- Overall, excellent performance of rigid pavements in Texas
- Many miles of 50+ years still in service
- Preservation becoming a key to TxDOT
- Identify best preservation practices.





02.11.2012 08:35



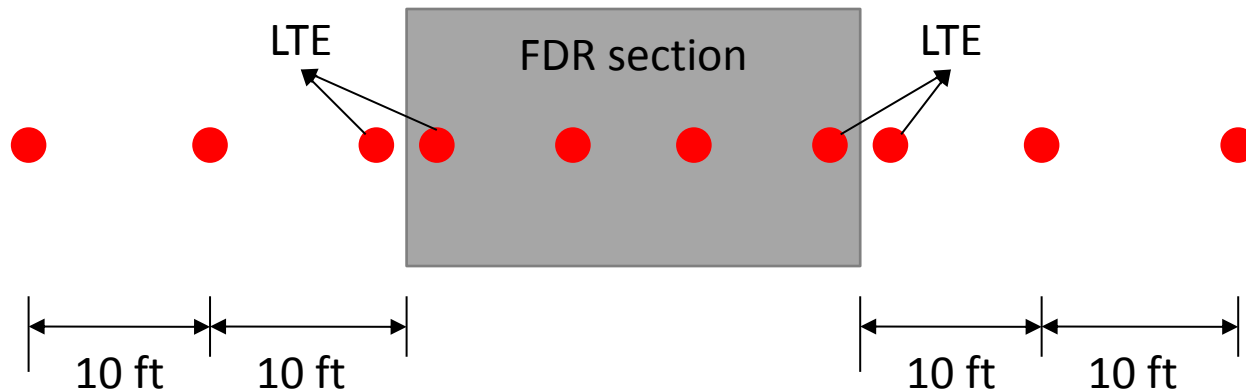
10.14.2012 16:46

Causes of Poor Performance of FDRs

- Field testing
- Laboratory investigations

Field Testing

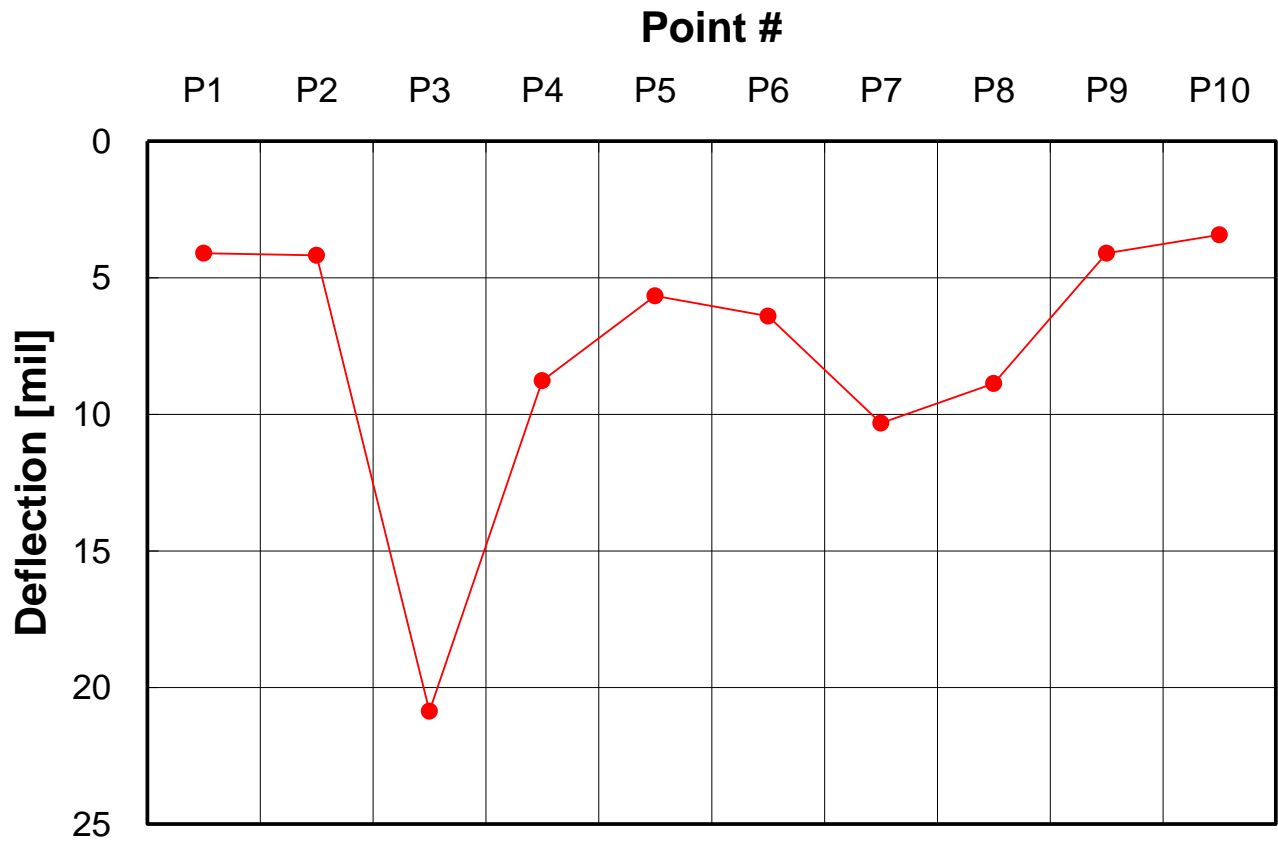
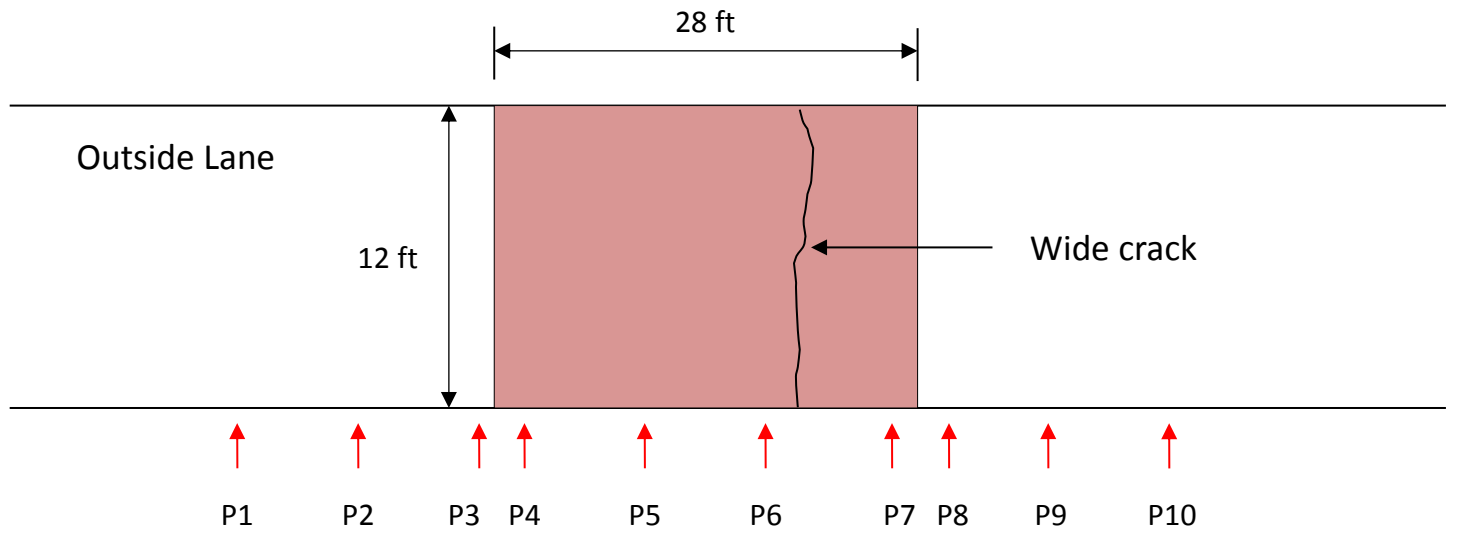
- Deflection Testing with FWD





FDR-N-4

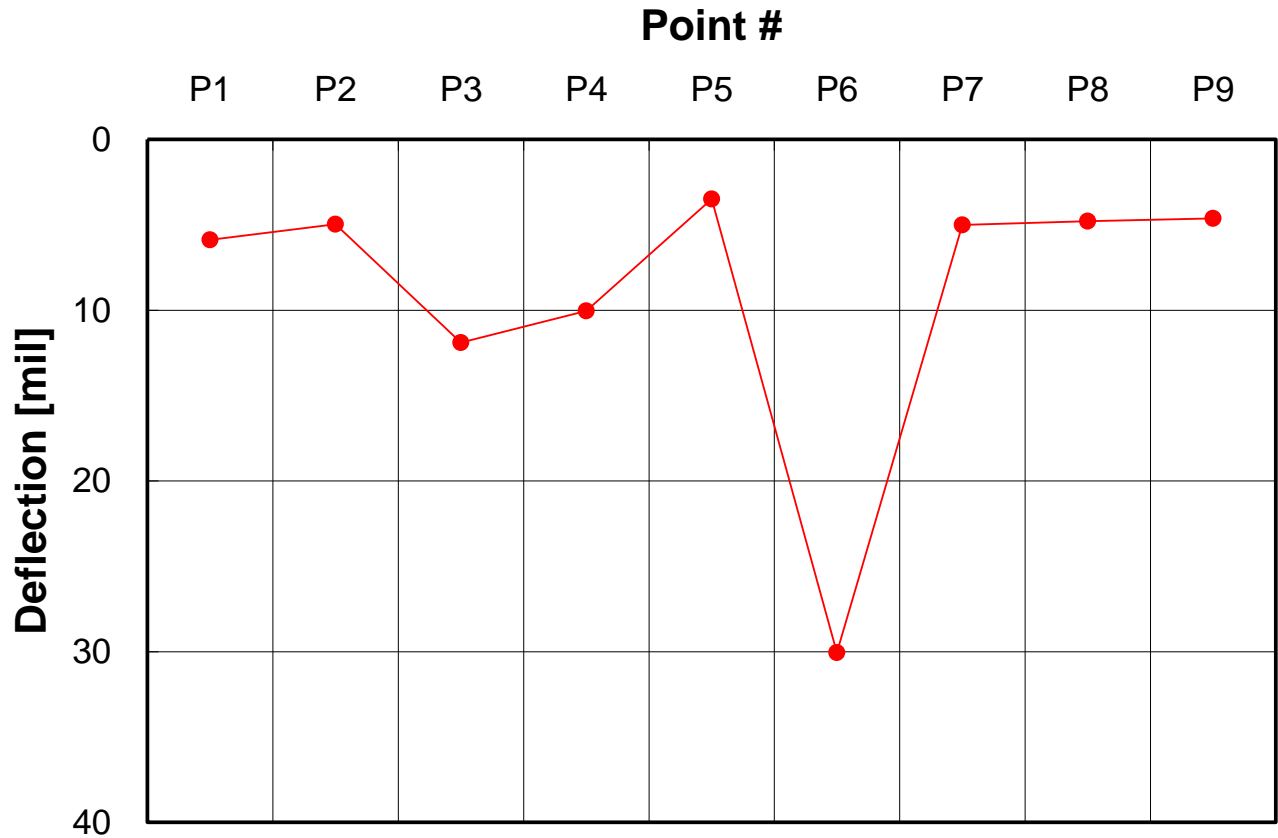
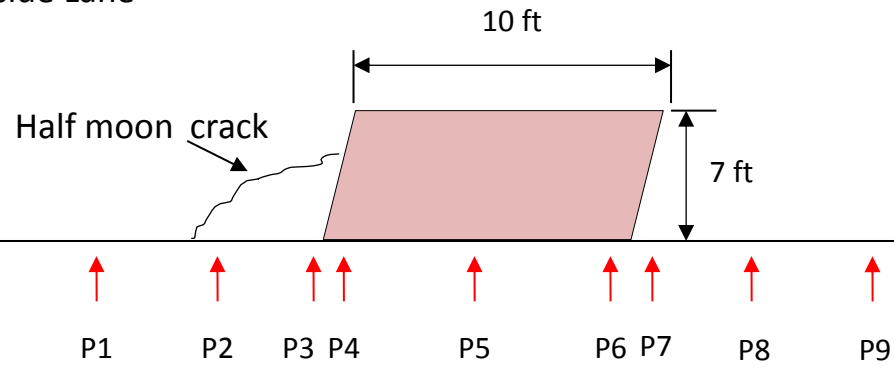




FDR-S-1



Outside Lane





DEC 7 2001

Laboratory Investigations

Epoxy Injection Method

- Specification
- Non-compliance

361.3. Construction.

tiebars as shown on the plans. Epoxy-grout all tiebars for at least a 12-in. embedment into existing concrete. Completely fill the tiebar hole with Type III, Class A or Class C epoxy before inserting the tiebar into the hole.





02/09/2012 12:48

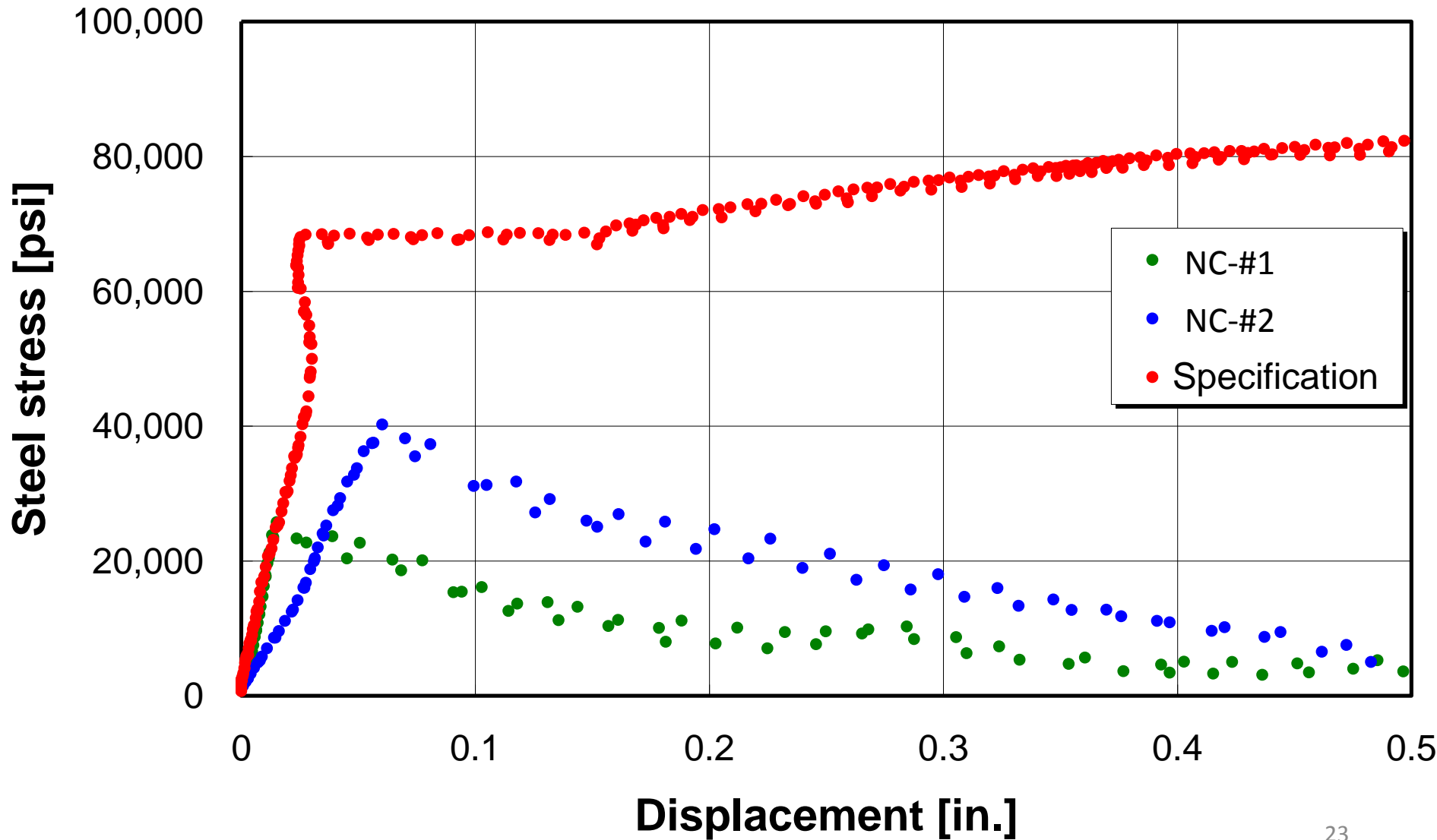


Field 2

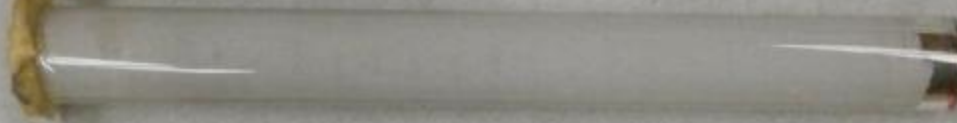
9m

05/16/2012 13:26

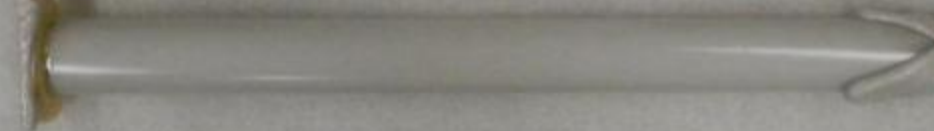
Epoxy injecting method



1.0" - D



7/8" - D



10.23.2012 10:24

Specification Method

Non-Compliance #1

Non-Compliance #2





DEC 7 2001

Partial-Depth Repairs

- Many CRCP distresses are not full-depth failures. Distresses are confined to the top half of the slab.
- Partial-depth repairs are better repair methods for those distresses.







03.18.2010 07:33



03.18.2010 07:59



03.18.2010 08:28



03.18.2010 09:24



03.18.2010 10:06



03.18.2010 11:15



03.18.2010 12:11



03.18.2010 12:14



03.18.2010 12:22



03.18.2010 12:57



03.18.2010 17:07



03.18.2010 17:22

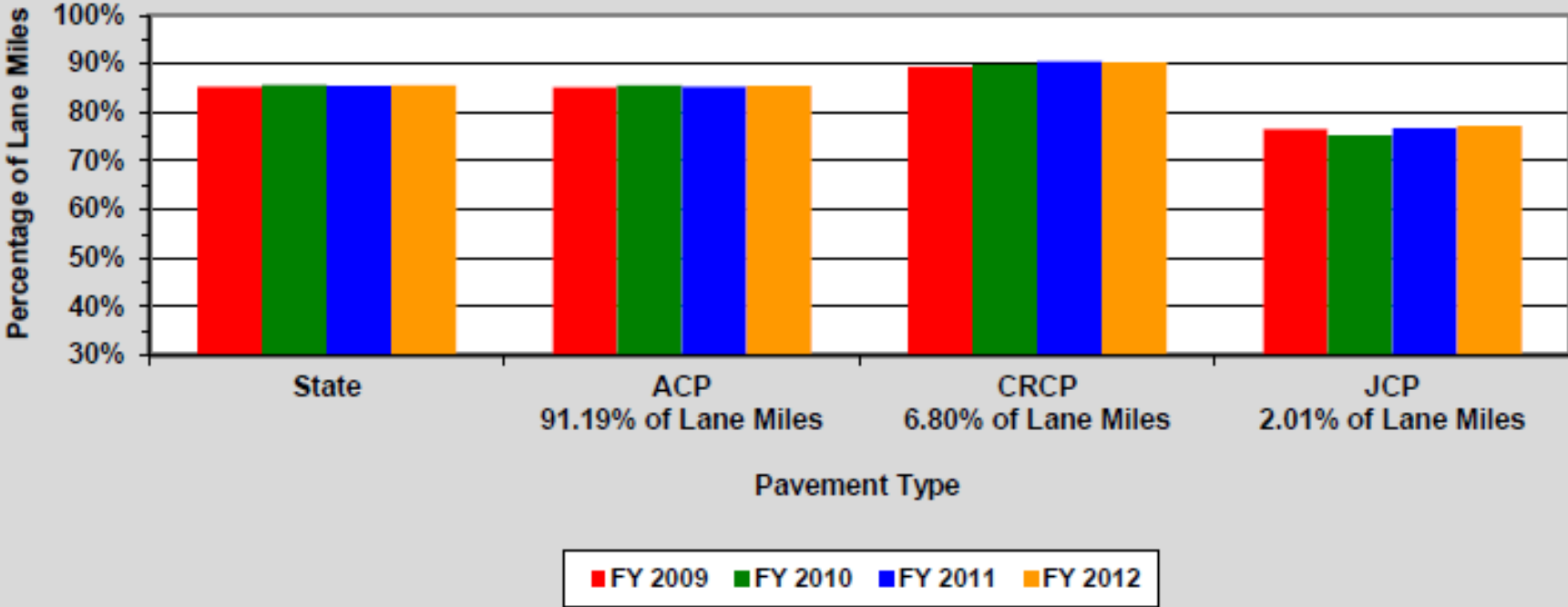




06.25.2012 09:33

Bonded Concrete Overlay on Deteriorated Jointed Concrete Pavement

**“Good” or Better Distress Scores
(PMIS Distress Score 80 or above)**



Pilot Implementation of CRCP Overlay Limits



Cold Milling



Rebar Installation



Transition Area



Surface Cleaning



Concrete Placement



Curing



Completed CRCP BCO



08/18/2010

Summary

- Overall, excellent performance of rigid pavements in Texas
- Proper repairs of distresses in rigid pavement should be an essential component of rigid pavement preservation strategy.
- CRCP bonded overlay could be an effective preservation strategy for jointed pavements.

Thanks!