

# **Regional Asphalt Seminar: Longitudinal Joint Monitoring Efforts**

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## Presentation Outline

- 1. History of Longitudinal Joint Density**
- 2. District / State Review**
- 3. Going forward in 2014**

# 1 - HISTORY ON LONGITUDINAL JOINT DENSITY



## **(Recent) History of Virginia's Efforts**

- **2005 Joint VAA & VDOT Longitudinal Joint Construction Memo**
- **2006 Longitudinal Joint Study Initiated**
- **2009 Construction and Monitoring was Increased**
- **2010 Longitudinal Joint Density Report on 2005 to 2009 Data**
- **2011 AQTF**
- **2013 Implement Specification Change to Monitor and Correct ongoing construction techniques of the Joint during construction**

# WHAT WE HOPED TO ACHIEVE WITH THE 2013 LJD INITIATIVE

## Keep the LJD on everyone's Radar,

When we monitor the density we achieve good performance

When it falls off the Radar and the performance suffers

## Collect the Data!

Able to analyze trends

Where are we doing well

Where are we doing not so well

Confined vs. Unconfined, is the same value achievable

What about SMA? Can we monitor our SMA Joints without coring

# Longitudinal Joint Construction

- **Why is longitudinal joint construction important?**
  - Achilles Heel for asphalt pavements if not constructed properly, can be the main entry point for water
  - Deterioration of joint leads to early pavement maintenance
- **Many different approaches to construct the joint**
  - To which Ken Arthur will speak
- **Specifications now require that Joint density shall be at least 95% of Target Control Strip Density.**

Goal after 5 years old



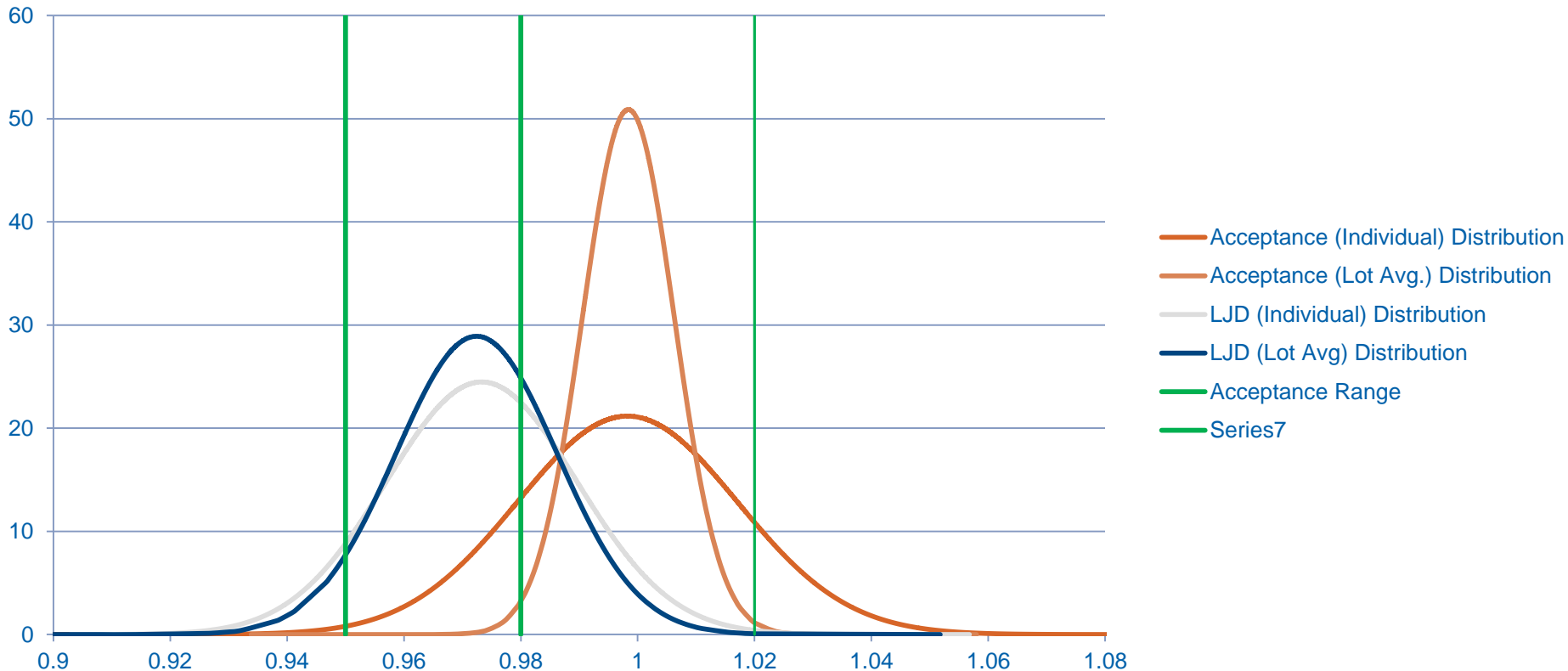
## 2 - DISTRICT/STATE REVIEW OF DATA





## 2013 Collection Efforts and Review

- All Paving conducted in 2013 was monitored
- Data from 71 Separate Construction Projects and Paving Schedules were analyzed



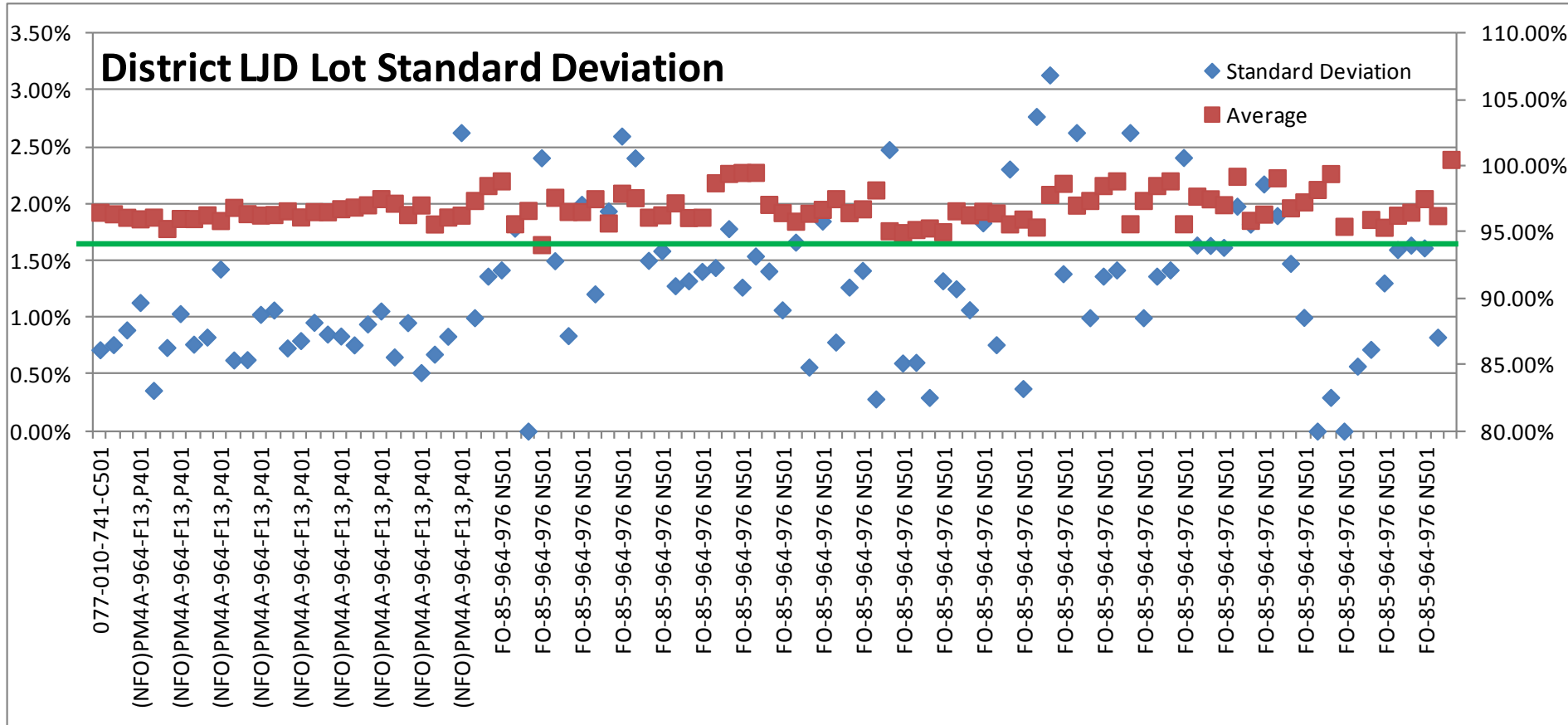
## District Breakdown of Individual Readings

	Total LJD Readings	Individual Failures	% Failures	# of Projects Represented
Bristol	1359	111	8.17%	13
Salem	930	127	13.66%	13
Lynchburg	1246	98	7.87%	9
Richmond	1046	114	10.90%	2
Hampton Roads	2041	93	4.56%	7
Fredericksburg	3069	43	1.40%	6
Culpeper	610	58	9.51%	4
Staunton	695	69	9.93%	5
NOVA	3703	213	5.75%	13

## Percent Failure by Project

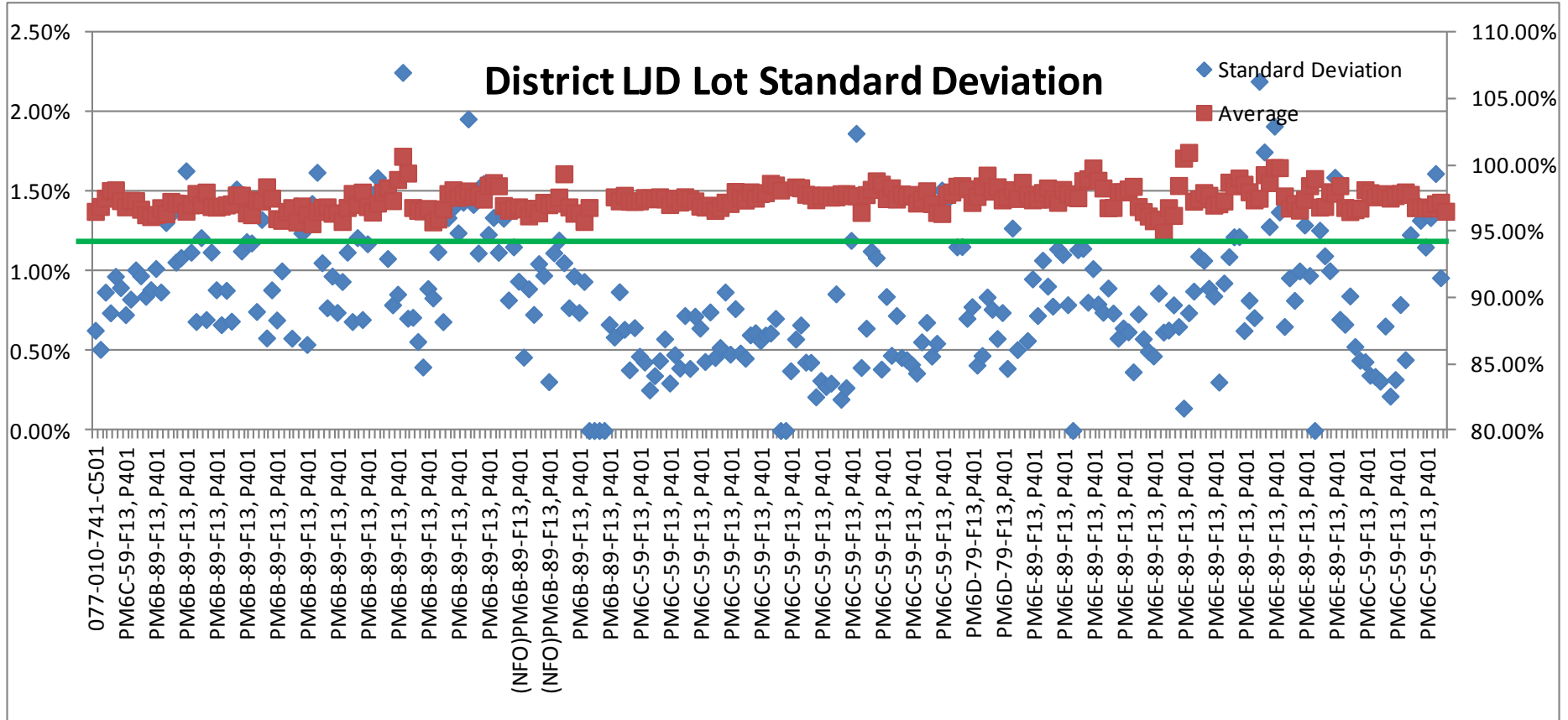
	<b>Total Projects</b>	<b># of Projects with no Failures</b>	<b># of Projects with less than 6% Failures</b>	<b>% of Projects With No Failures</b>	<b>% With Less than 6% Failures</b>
<b>Bristol</b>	<b>13</b>	<b>8</b>	<b>9</b>	<b>61.54%</b>	<b>69.23%</b>
<b>Salem</b>	<b>13</b>	<b>3</b>	<b>5</b>	<b>23.08%</b>	<b>38.46%</b>
<b>Lynchburg</b>	<b>9</b>	<b>0</b>	<b>4</b>	<b>0.00%</b>	<b>44.44%</b>
<b>Richmond</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0.00%</b>	<b>50.00%</b>
<b>Hampton Roads</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>28.57%</b>	<b>42.86%</b>
<b>Fredericksburg</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>33.33%</b>	<b>0.00%</b>
<b>Culpeper</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>25.00%</b>	<b>75.00%</b>
<b>Staunton</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>0.00%</b>	<b>60.00%</b>
<b>NOVA</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>16.67%</b>	<b>33.33%</b>

# Richmond





# Fredericksburg





## 3 - GOING FORWARD IN 2014



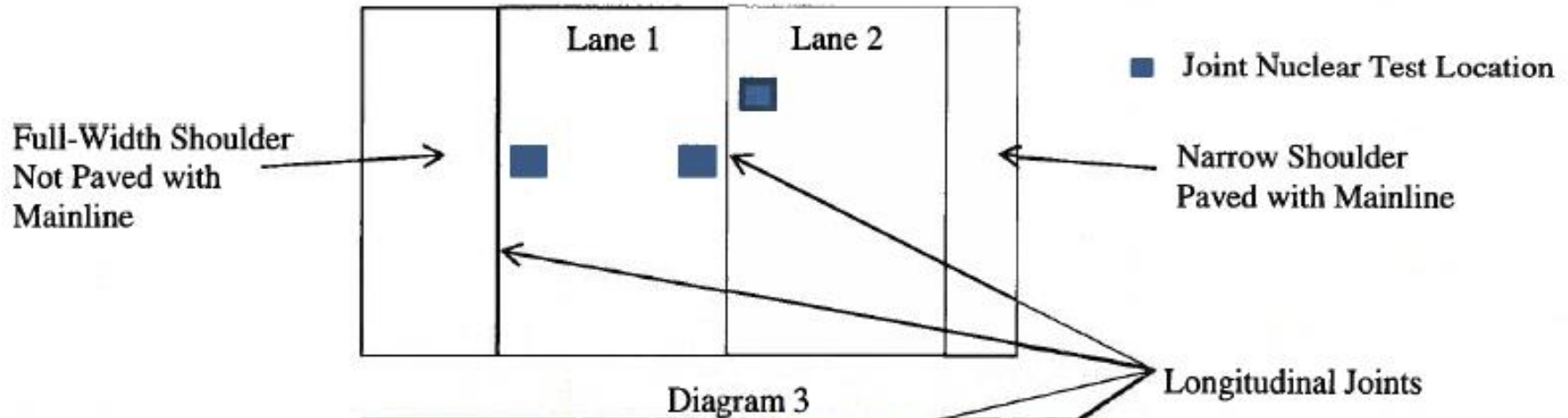


## **GOING FORWARD IN 2014**

**Continue to collect the data in 2014**

**Increased emphasis on quality joint construction**

### Roadway Configuration 3 - Divided Roadway with Two or More Lanes with One Full-Width Shoulder



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February 20, 2014  
Central Office Materials