

# Kentucky Pavement Preservation

---

2019 SEPPP MEETING

CHARLESTON, WV

# KY Preventive Maintenance Projects

Program began in 2007 with asphalt thinlay projects

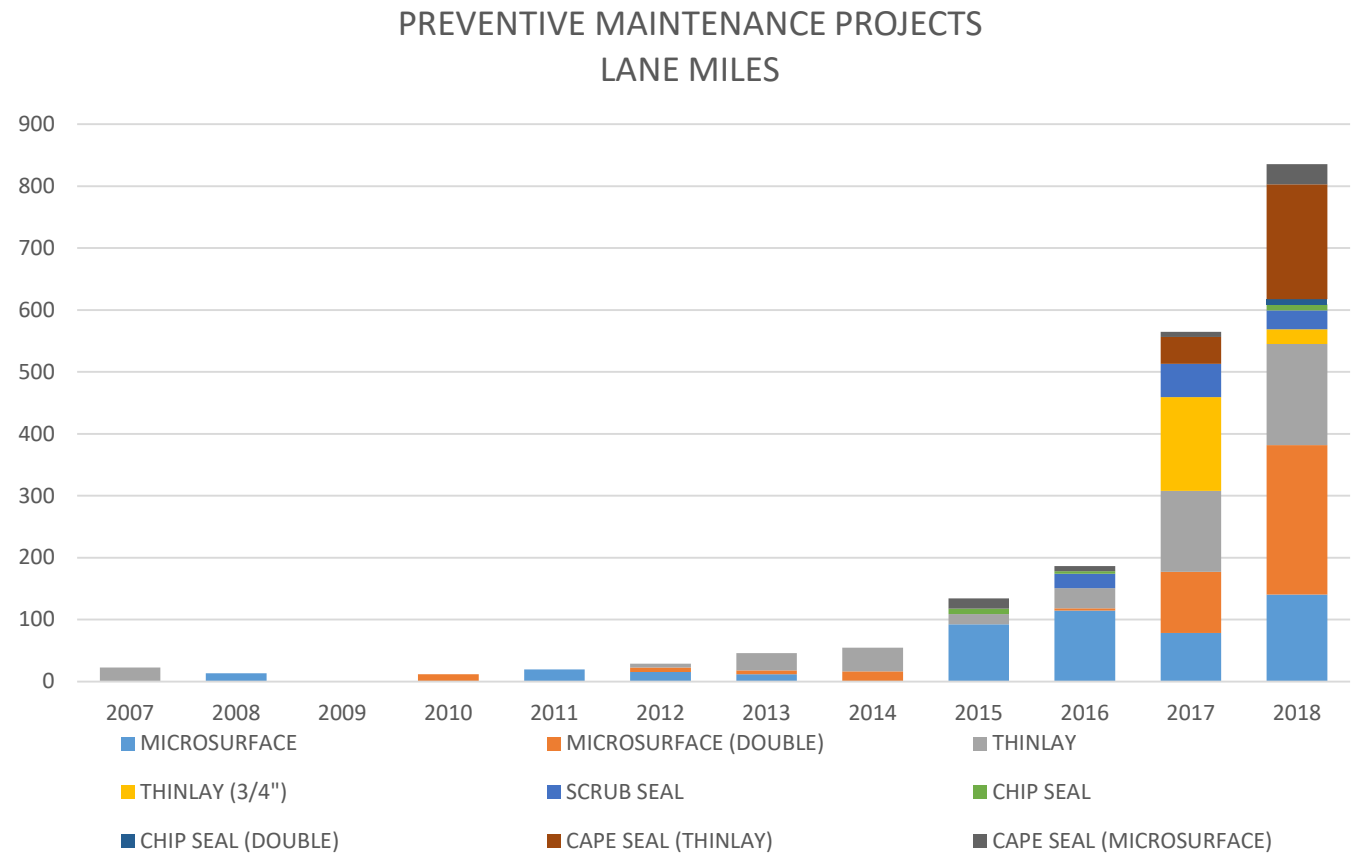
2008-2011 demonstration microsurface projects applied

2012 KYTC begins letting microsurface and thinlay as alternate bid proposals

2014 Kentucky Preventive Maintenance Alliance founded to responsibly guide and grow program

2015 KYTC adds additional treatments to program

2018 Over \$30 million let



# Preventive Maintenance Alliance (PMA)

---

A statewide partnership of transportation engineers that engage in a thoughtful process to select preventive maintenance projects, monitor project performance, improve pavement network conditions, and reduce maintenance needs.

**The PMA seeks to ensure that no transportation dollar is more carefully spent.**



# PMA Goals

---

Maintain data driven process

Ensure quality applications

Track project performance

Increase treatment options

Guide research



# Central Office Expectations

---

- Provide districts with project selection training
- Provide districts with application training
- Perform formal pavement evaluations
- Maintain pavement data and continuous candidate lists
- Analyze project performance
- Perform final project selection when necessary

# District Expectations

---

- Submit projects for preventive maintenance treatments
- Attend project selection and application training
- Have qualified personnel on site during application
- Attend annual meeting
- Provide contractor and project review for all projects during annual meeting

# Data Driven

---

Select the right project for the right treatment

Valid projects determined by condition points

Distribution of projects fairly and effectively throughout state



# Improving Performance

---



Qualified staff on site during product application

Inspector training

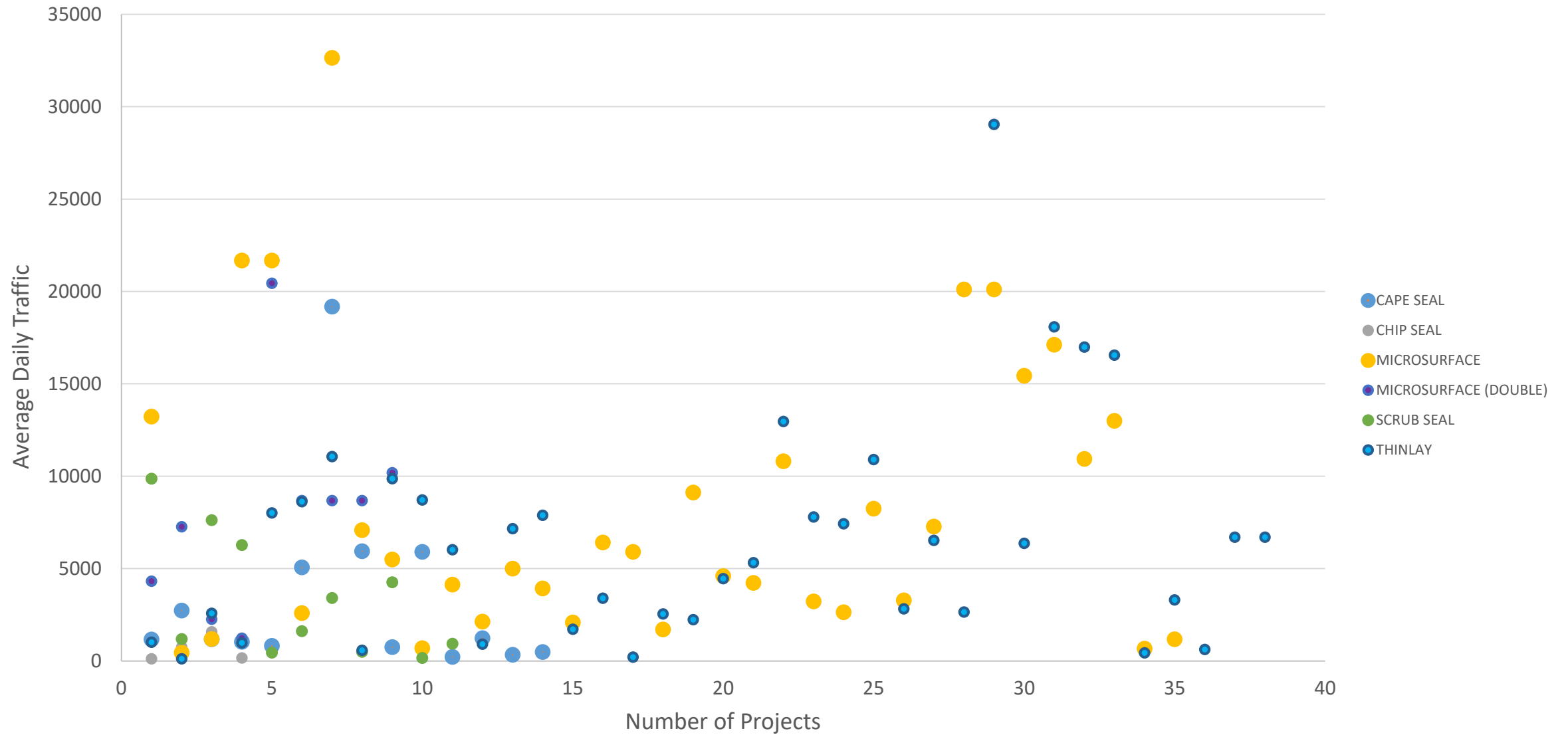
Annual review of contractors and projects

Create better specifications and proposals

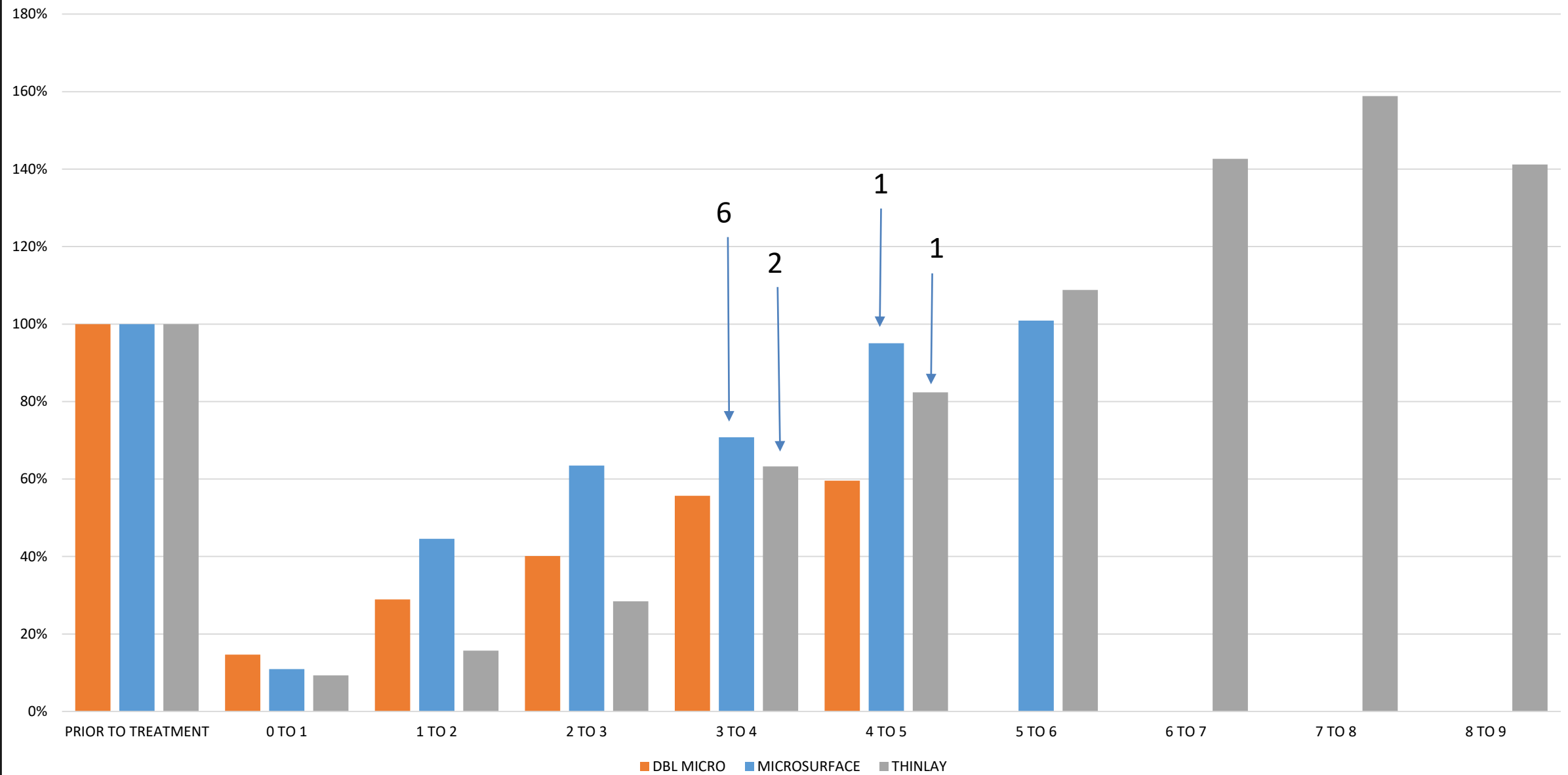
Spring training



# Preventive Maintenance Project Traffic Levels



RETURN CRACKING PERCENT BY YEAR



# Partnership and Research

---

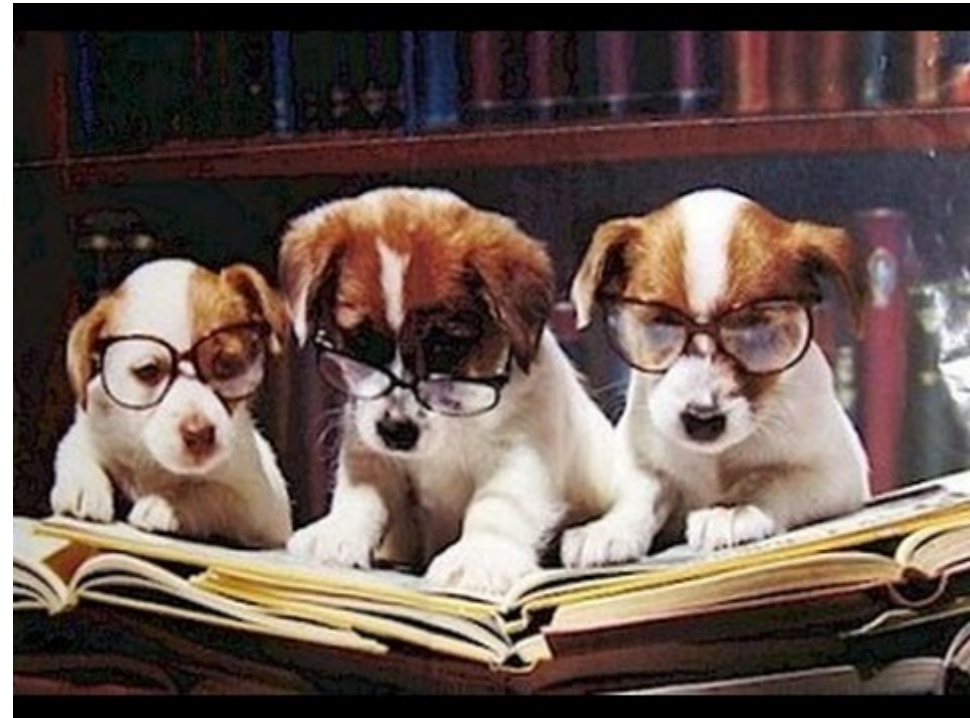
NCAT/MNROAD

Southeast States Pavement Preservation

AASHTO Committee on Maintenance  
Pavements Technical Working Group

Local agency outreach

SHRP2 R26 Research

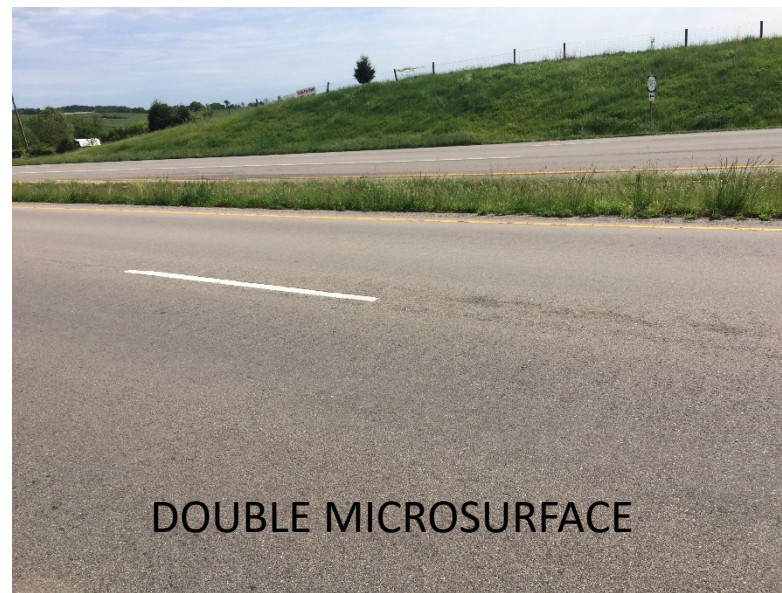
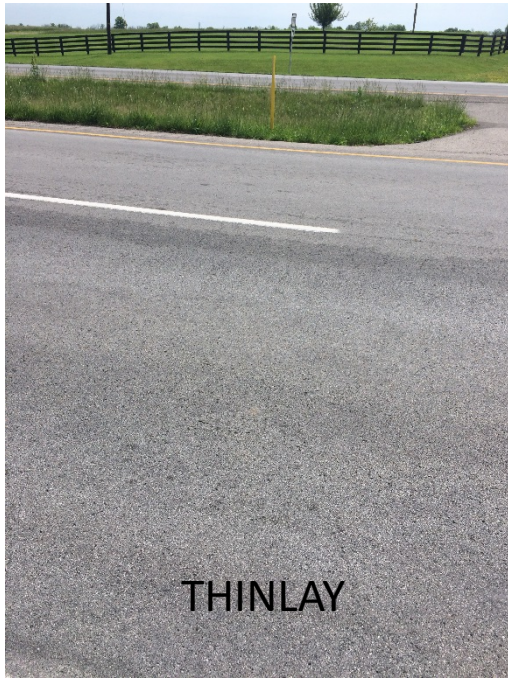


# US 127 MERCER COUTY MP 12.75 - MP 17.1

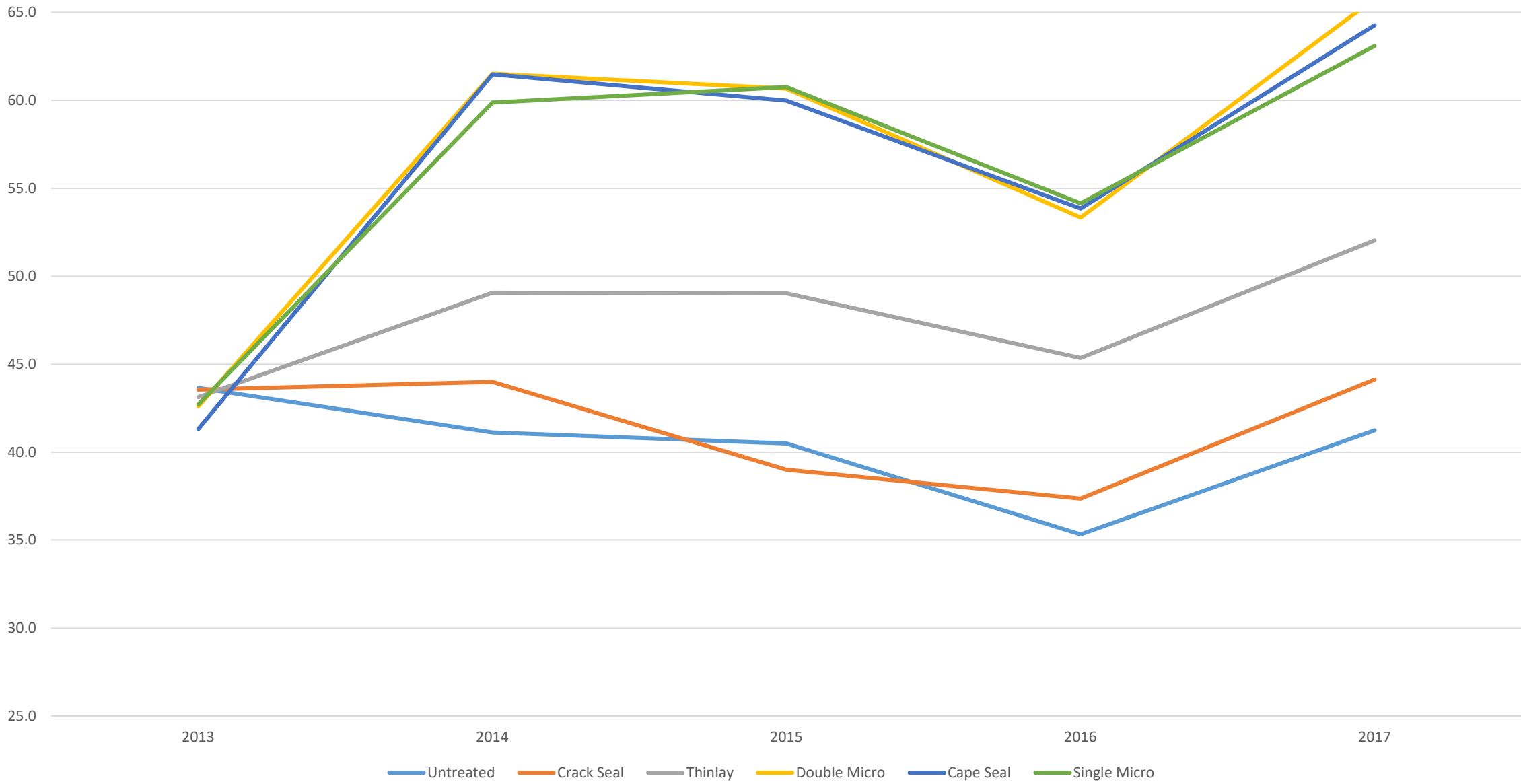
- 2012 HMA overlay from 14.4 to 17.15
- 2003 HMA overlay from 11.0 to 14.4
- 1500' sections
- Installed August 2014
- Monitoring plan with KTC
  - Cracking
  - Raveling
  - Rutting
  - Friction
  - Permeability
  - Smoothness
  - Pavement marking reflectivity

| 12.740          |        | NB         |                     | SB                  |            |      |
|-----------------|--------|------------|---------------------|---------------------|------------|------|
| South Test Site | 13.036 | Untreated  | Untreated           | Untreated           | Untreated  | 1564 |
|                 |        |            | Crack Seal          | Crack Seal          |            | 1500 |
|                 | 13.320 | Black Onyx | 4B Thin HMA Overlay | 4B Thin HMA Overlay |            | 1500 |
|                 |        |            | Double Microsurface | Double Microsurface | Black Onyx | 1500 |
|                 | 13.888 | Untreated  | Cape Seal           | Cape Seal           |            | 1532 |
|                 |        |            | Single Microsurface | Single Microsurface | Untreated  | 1532 |
|                 | 14.179 | Reclamite  | JointBond           | JointBond           | Reclamite  | 2000 |
|                 |        |            | Untreated           | Untreated           | Untreated  | 2000 |
|                 | 14.469 | Reclamite  | JointBond           | JointBond           | Reclamite  | 2000 |
|                 |        |            |                     |                     |            |      |
| North Test Site | 17.150 |            |                     |                     |            |      |





Average Skid Numbers for US 127



# Permeability

---

In-situ permeability testing performed by KTC with an Air-Induced Permeameter

Measurements taken adjacent to the longitudinal joint and in the right wheel path

Testing done in accordance with Kentucky Test Method KM-64-449-05

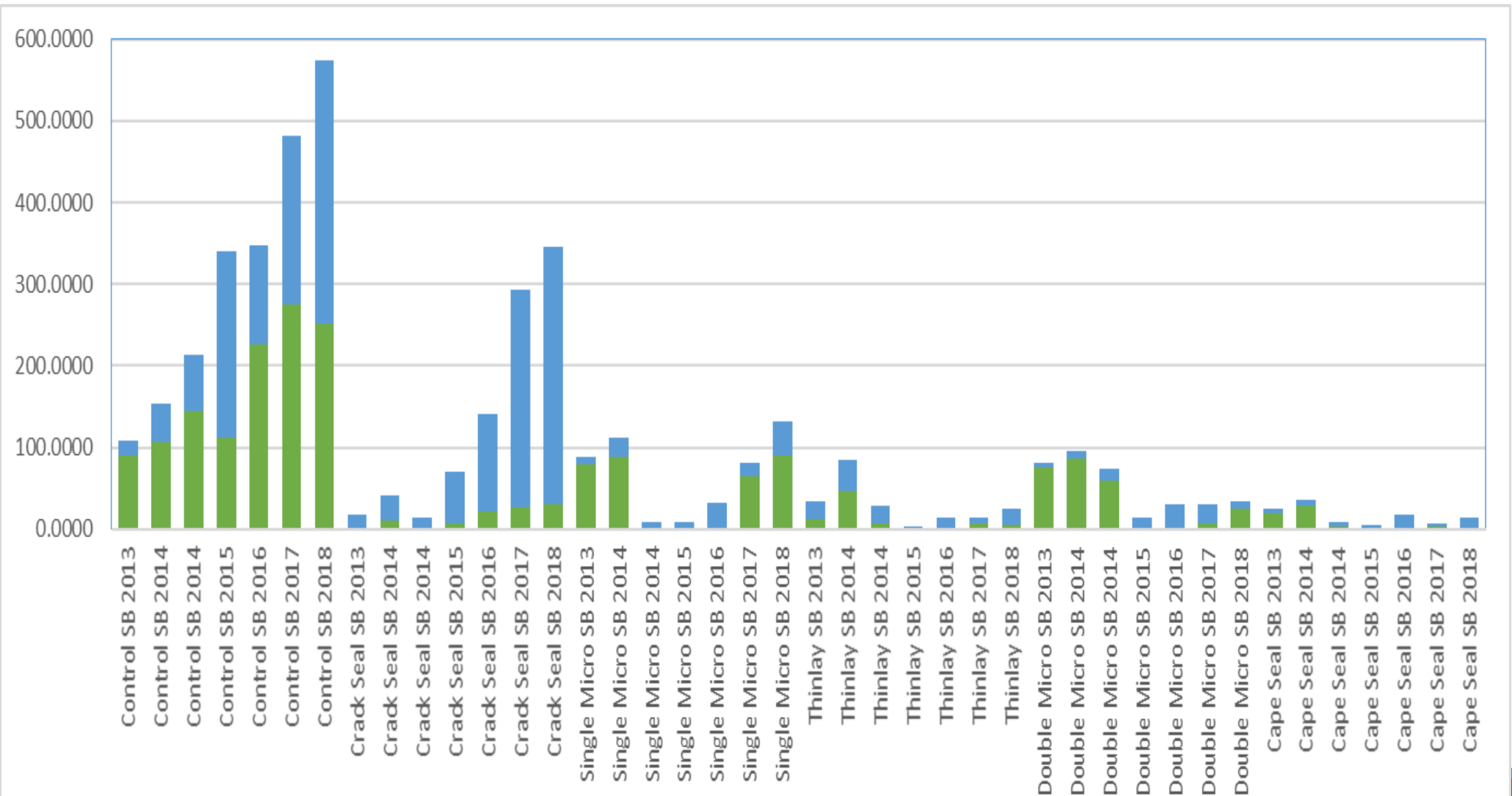
Permeabilities low in right-wheel path of all sections

Thinlay exhibits highest permeabilities adjacent to the longitudinal joint

| Average Readings (ft/day) | NB CL | NB RWP | SB CL | SB RWP |
|---------------------------|-------|--------|-------|--------|
| Crack Fill                | 2.5   | 2.6    | 2.1   | 1.8    |
| Thinlay                   | 20.5  | 1.5    | 5.4   | 1.5    |
| Double Microsurface       | 3.8   | 1.5    | 3.5   | 1.5    |
| Cape Seal                 | 2.9   | 1.5    | 2.8   | 1.5    |
| Single Microsurface       | 3.6   | 1.5    | 2.9   | 1.5    |



# WP CRACKING TOTAL (LONG AND PAT)





# TOTAL CRACKING SOUTHBOUND

---

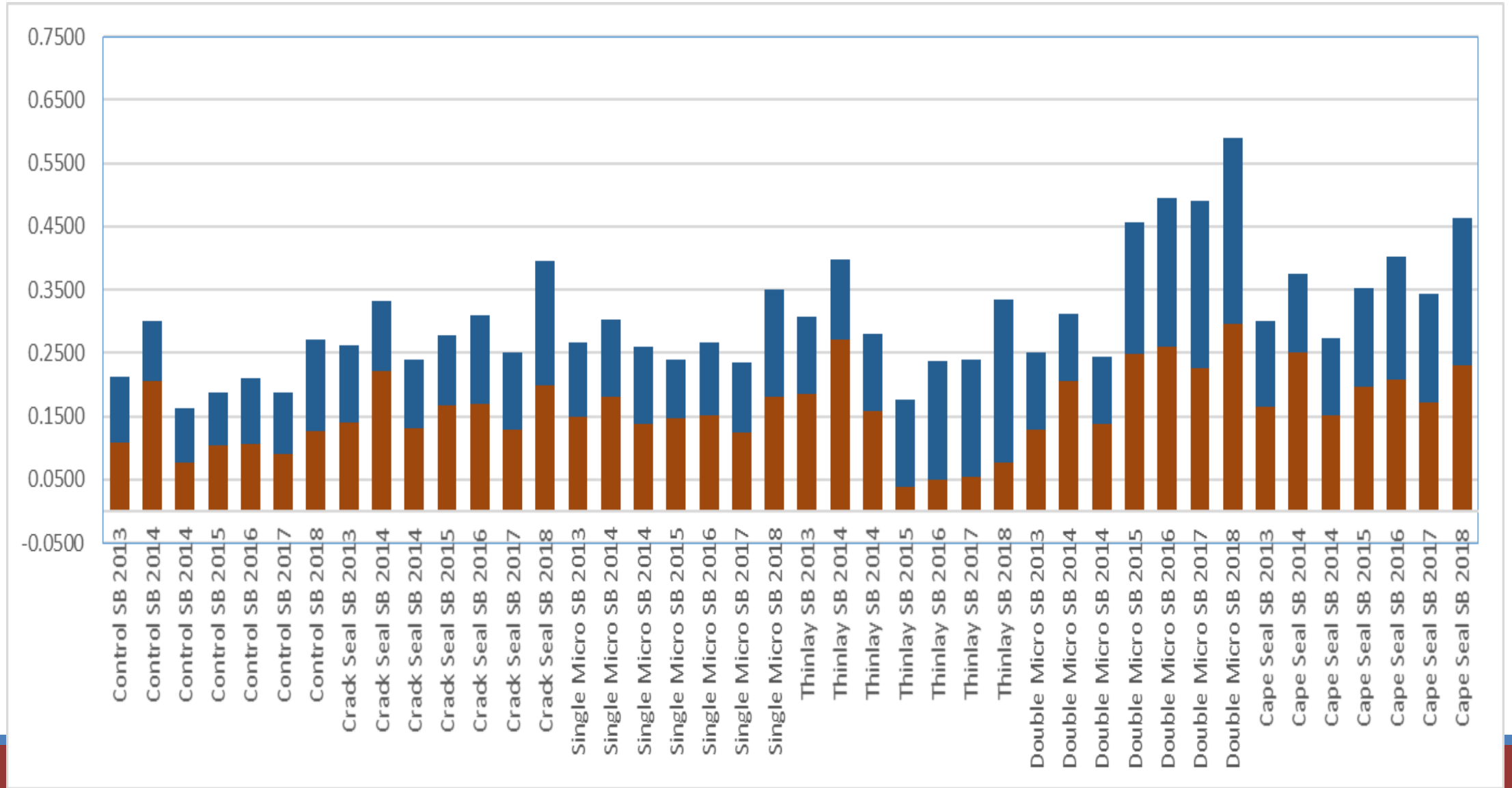
## Control and Crack Seal Sections

- Ready for mill and fill

## PM treatments at least 4yrs from overlay

- Small cracking measurements
- Thinlay, Double Micro, Cape Seal performing similar
- Single Micro starting to show higher cracking

# RUTTING RIGHT AND LEFT



# RUTTING MEASUREMENTS

---

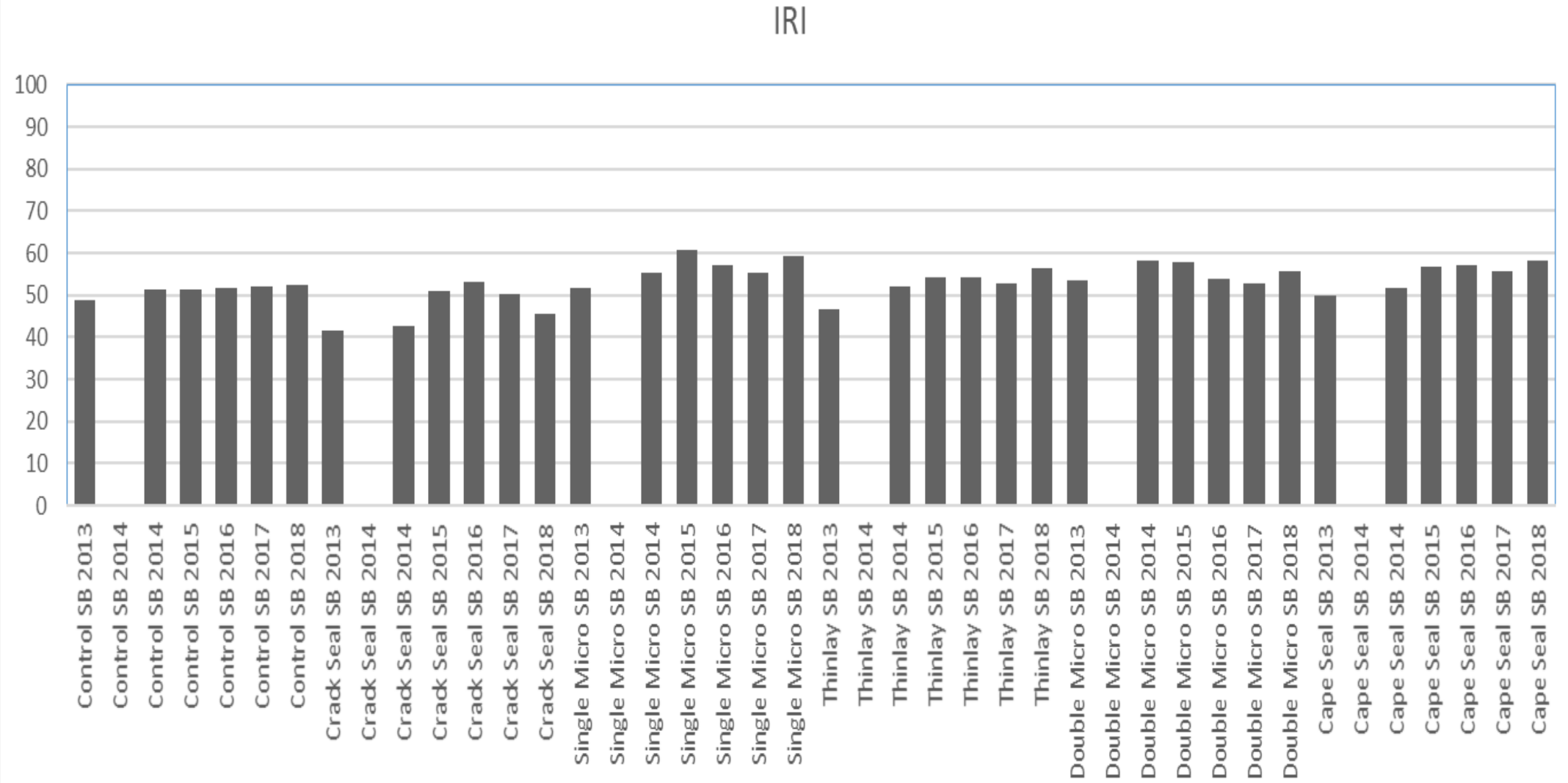
Mostly consistent rutting in right WP

Left WP picking up centerline overlaps

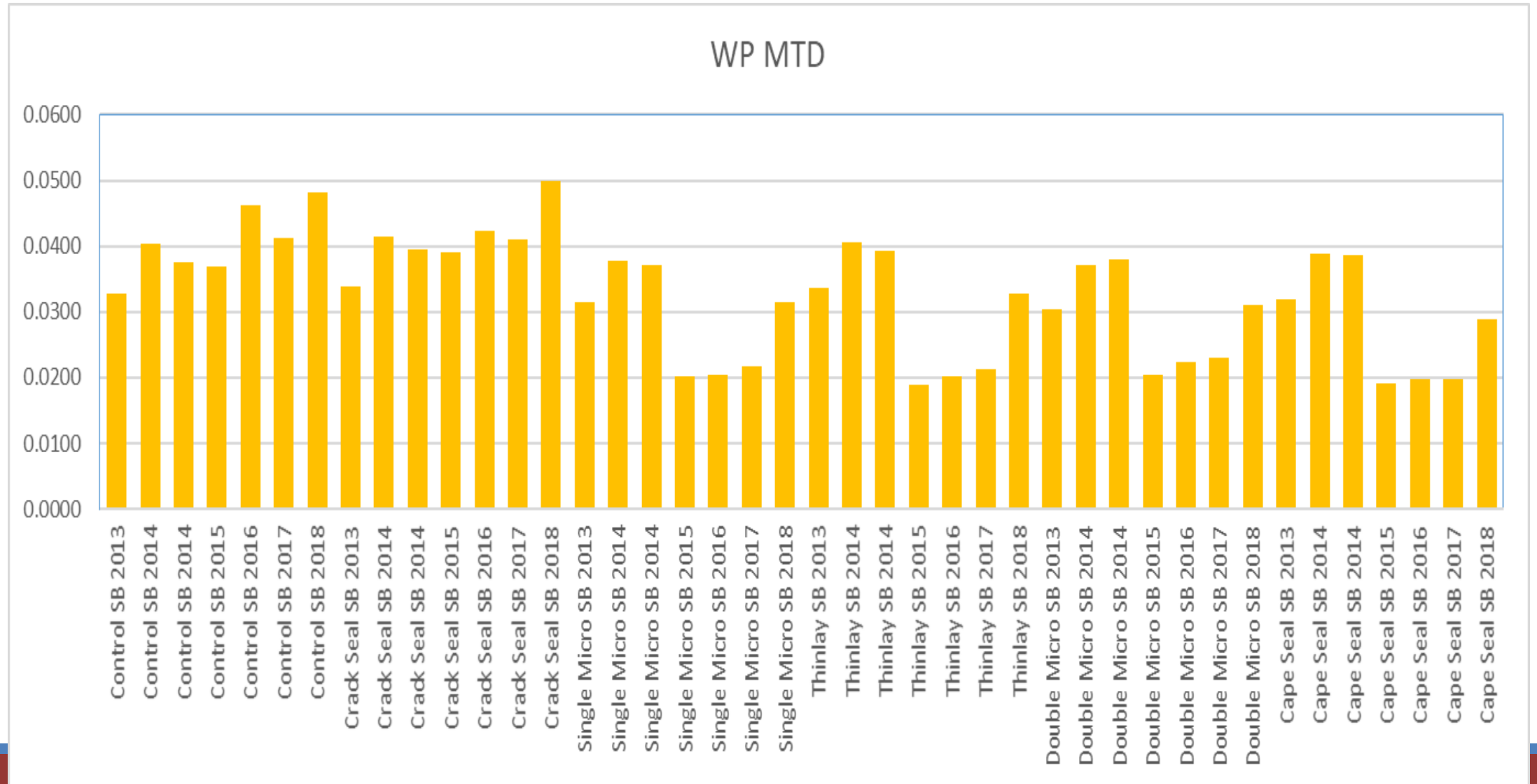
Thinlay showing early rut resistance



# IRI



# MEAN TEXTURE DEPTH



# The Work Goes On

---



In House Equipment

Program Growing and Changing

Incorporating into one Pavement Preservation Program

# Pavement Liability

