

## Proactive Preservation



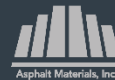
**Extends Life +  
Lowers Lifetime Cost**

# Smarter Roads, Stronger Returns: Technology-Driven Pavement Preservation

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*HG Meigs LLC*

2026 WTA Road School

April, 2026



# BITUMINOUS STABILIZATION METHODS

ASPHALTS, EMULSIONS, OILS, TARS



BULLETIN NO. 40

SEAMAN MOTORS, INC.  
305 N. 25th Street MILWAUKEE, WIS.



1950's...

...Today



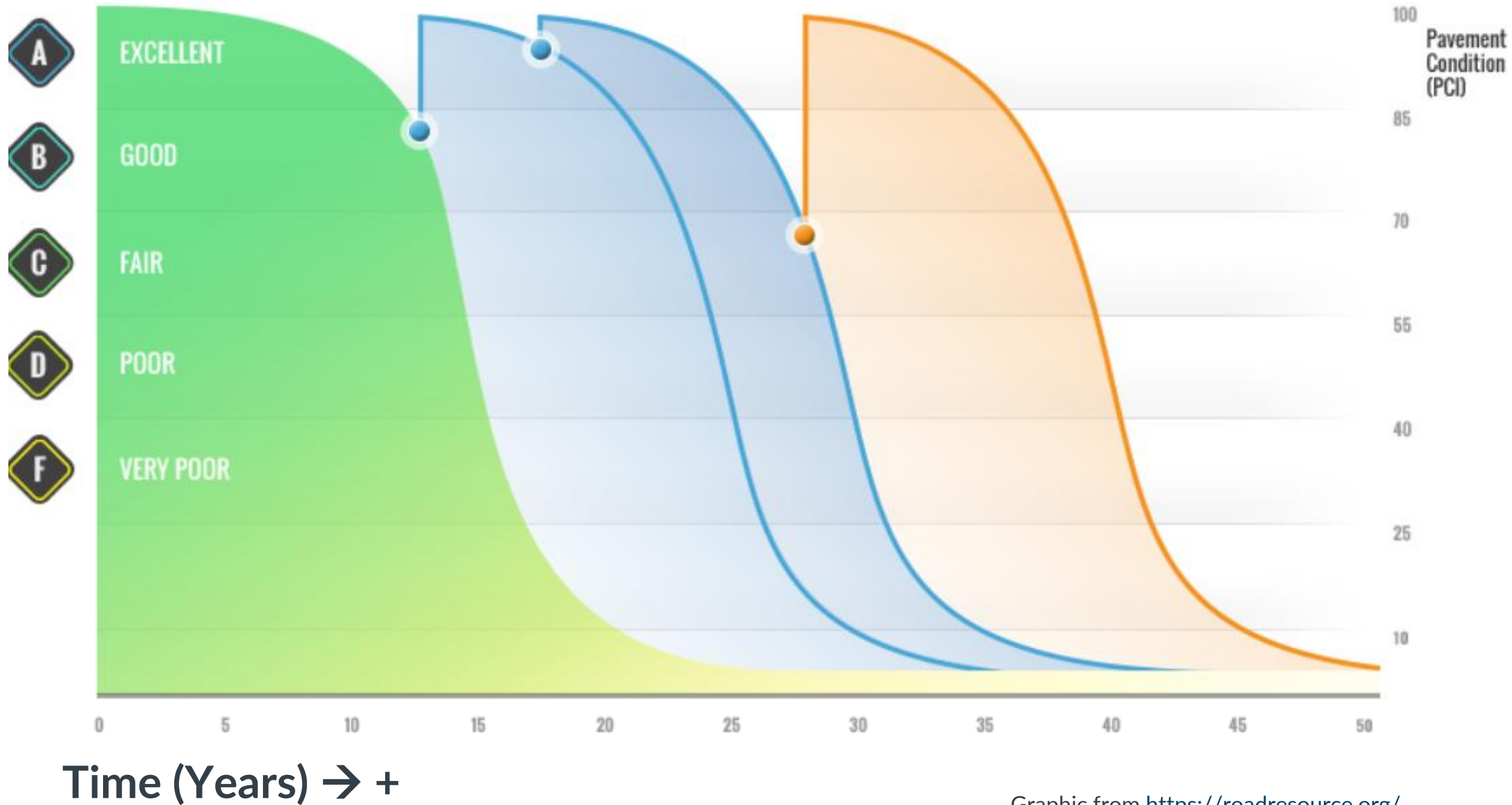
Rock County, WI





**The fundamentals of preservation  
have not changed:**

**Right Treatment,  
Right Road,  
Right Time.**



**Low rate of change in condition**

**i.e., Low  $\Delta$ PASER / time**

Low(er) cost to maintain or improve condition

EXCELLENT

**High rate of change in condition**

**i.e., High  $\Delta$ PASER / time**

GOOD

FAIR

High(er) cost to improve condition...



~2 months



~1 year



~2 years



~3 years



~4 years



~5 years



GOOD

FAIR





FOUR



VER



# Observations:

- “*Functional*” distresses begin in Year “0”
  - Asphalt film loss on at surface is rapid
  - Water permeability rapidly decreases at the surface
  - Mastic loss between coarse aggregate – change in texture
  - Thermal cracking (transverse) begins Year 4-5+
- “*Structural*” distresses manifest slowly but progress rapidly



# **The “Road Resilience” philosophy:**

## **“Pre-Preservation”**

**Include “Year 0” in your management plan.**

## **“Toolbox Mentality”**

**Match (treatment) function to the symptom.**

**Use a combination of treatments.**

## **“Voice of Customer (Public)”**



Surface Recycling (ex. CIR)



Full-Depth Recycling (FDR)

Highest permeability  
Intact surface films  
Low aging gradient

Moderate mastic & film loss  
Moderate aging gradient  
Less accessible void structure

Visible functional distress  
Low permeability  
High aging gradient

Structural distress manifests  
High functional distress

VRAM

Penetrating Emulsion

Rejuvenating Fog Seal

High Performance Sealer

Chip Seal or Scrub Seal

Slurry Surfacing or Combination

GOOD

FAIR

POOR

## Pre-Preservation – Year “0”

- Preservation starts at the mix plant.
- Pre-preservation = Treatments used *during or immediately following* construction.
  - Fortify **known problem areas**
  - Promote **homogeneity** in mat
  - **Reduce** surface **permeability/seal**



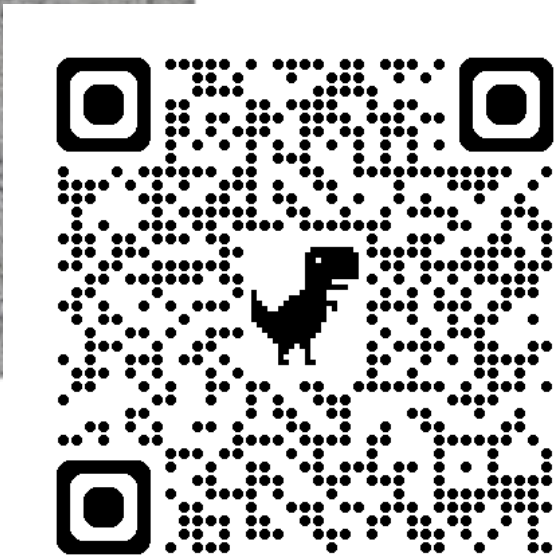
# Where do asphalt pavements fail first?



# Pre-Preservation using Void Reducing Asphalt Membrane (“VRAM”)

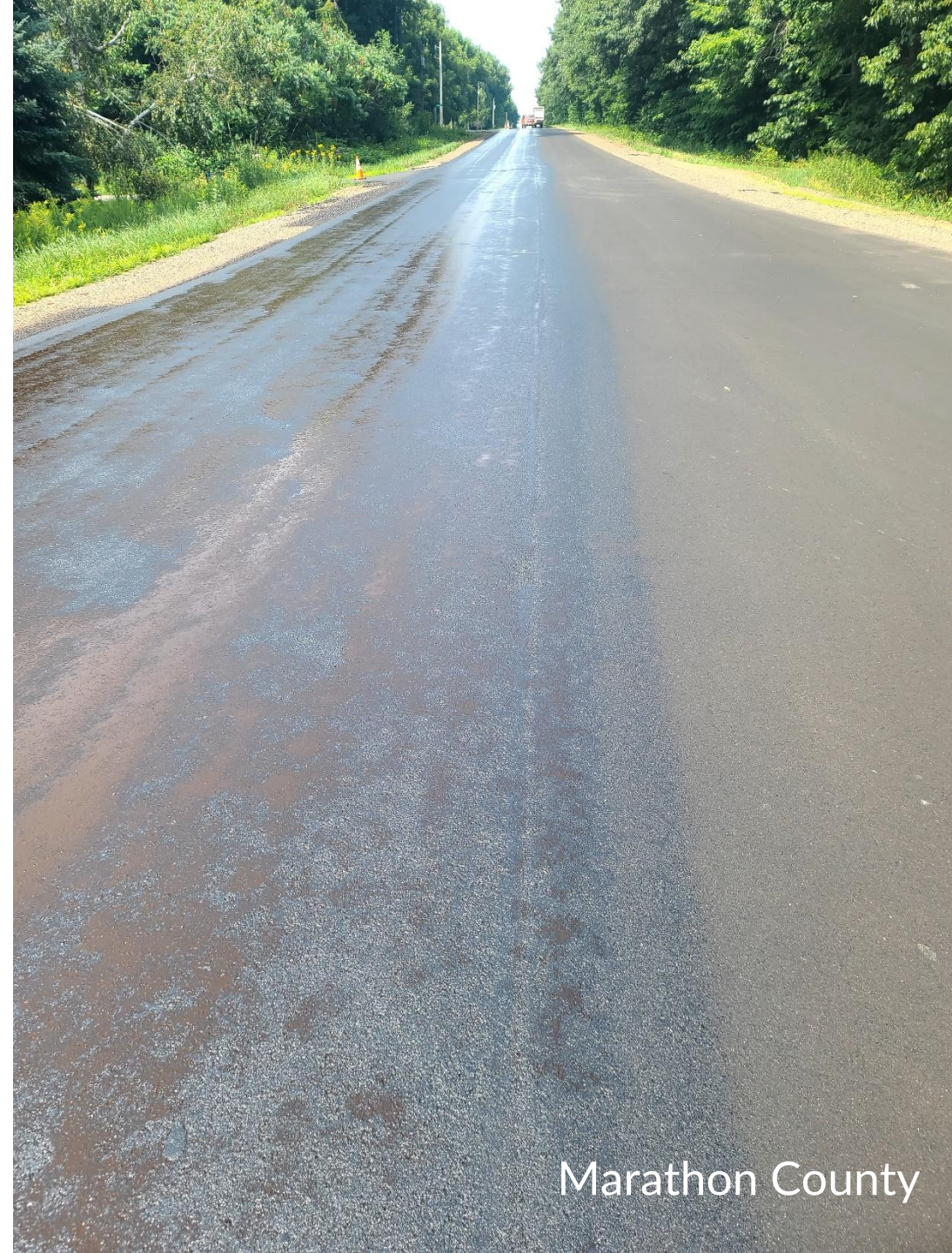
- “J-Band” is the AMI product.
- Used before paving surface layer.
- Addresses low void, high variability area near cold joints.
  - Centerline, intersection tie ins
  - Shoulder joints, esp. concrete curbs
- Result is near impermeable joint area, crack growth reduction





# Pre-Preservation using Penetrating Asphalt Emulsion

- **AMIGuard-RPE** is AMI product
- Liquid asphalt emulsion, spray applied after surface paving, before striping
- No sand, no loose chips
- Engineered to physically permeate mixture void structure from top, down
  - Recall “Functional Distress” discussion...
- Promotes surface sealing and drying, mastic durability, adds darker color
- Stripe after application

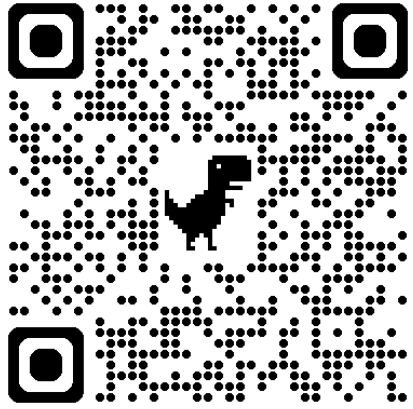




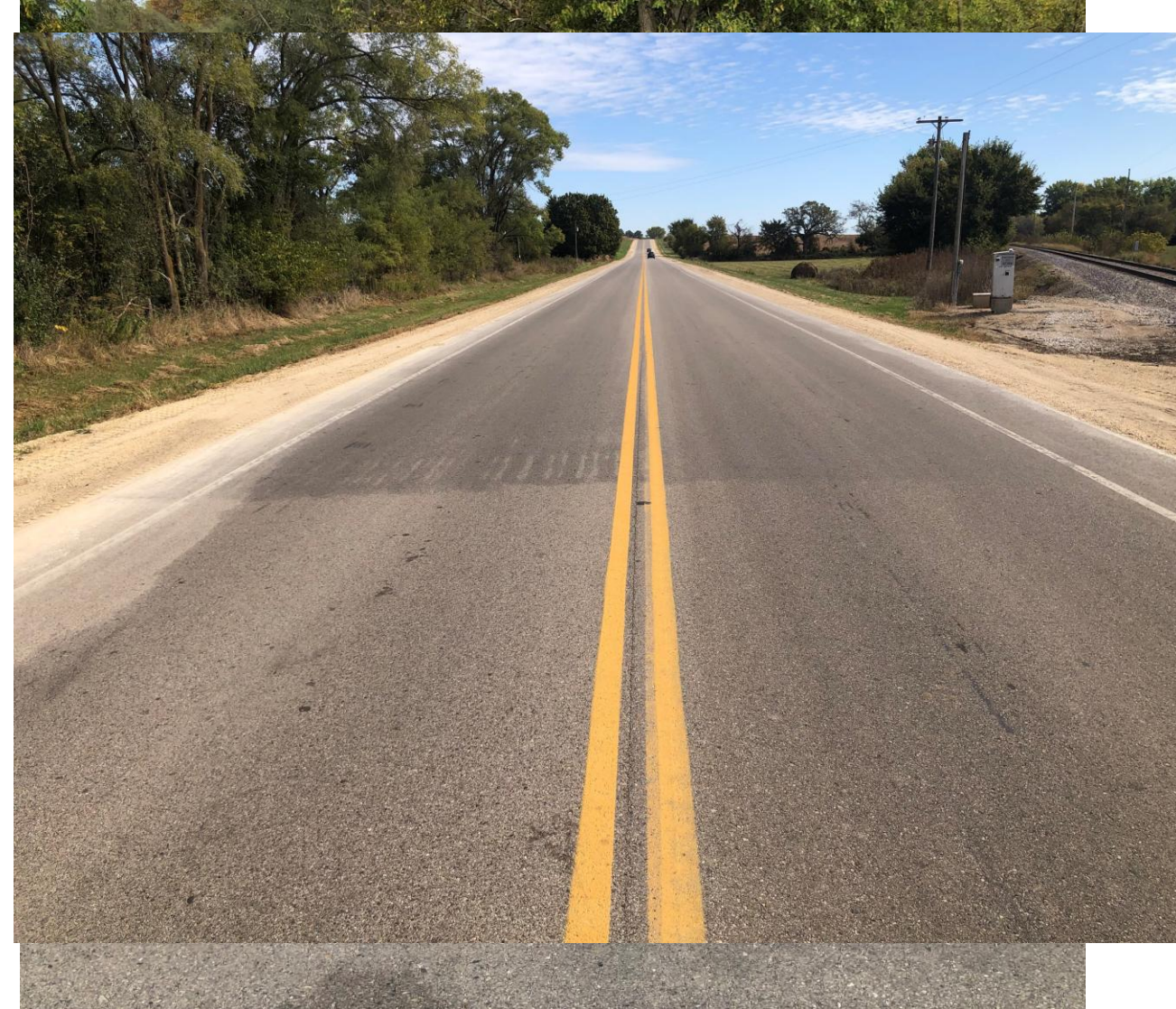
Dodge County, WI



# Full Width Example – RPE Applied “Year 0” – Immediately after paving



Surface at ~+1 year old



Surface at ~+2 years old

# Early Life Preservation using Spray-on Rejuvenators

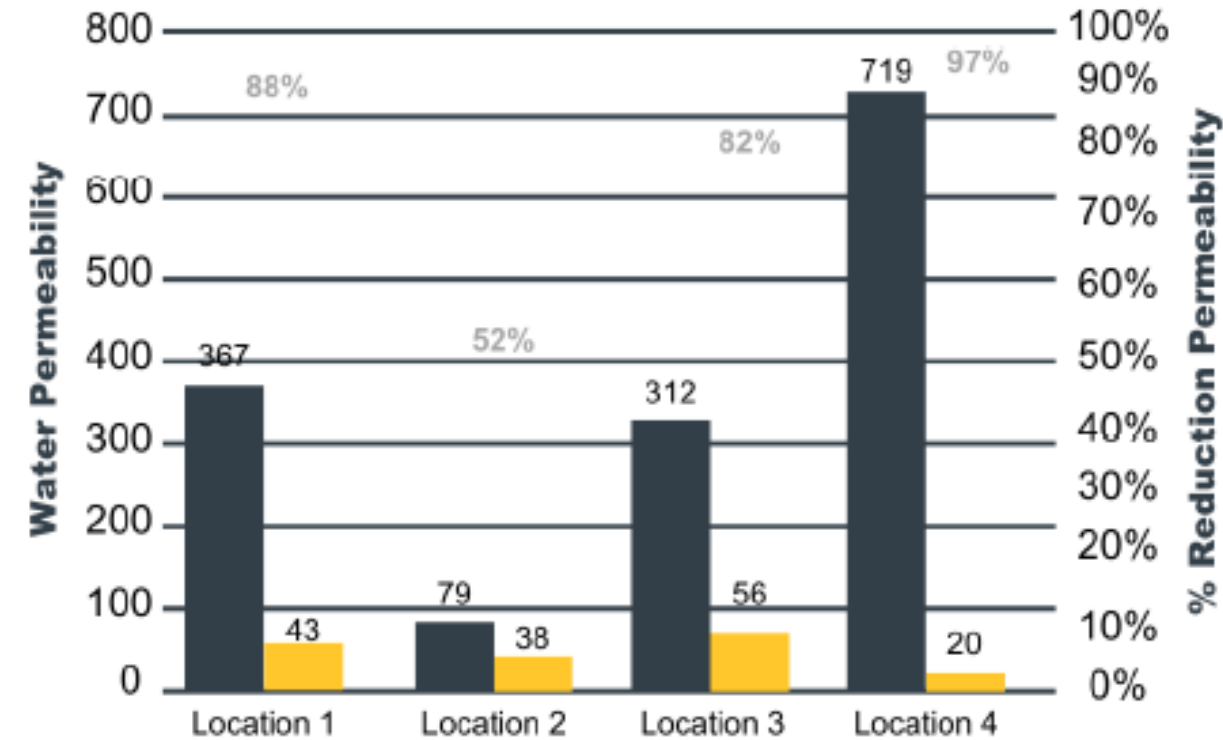
- AMIGuard-Rejuvenate (“RPE-R”) is AMI product
- Liquid, non-asphalt emulsion, spray applied with std. distributor
- Engineered permeate mixture void structure and react with asphalt binder
  - “You can’t rejuvenate rocks”
- Offsets aging gradient, reduce surface distress, seals the surface
- Can be applied on existing stripes
- No loose chips, incidental sanding



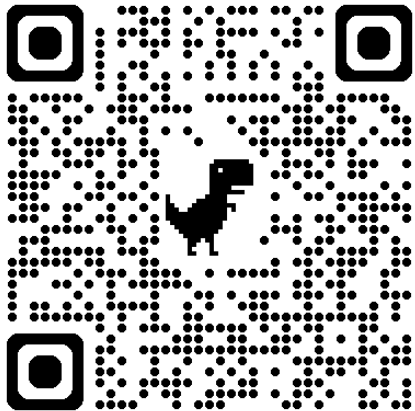


Dodge County, WI

# Sealing

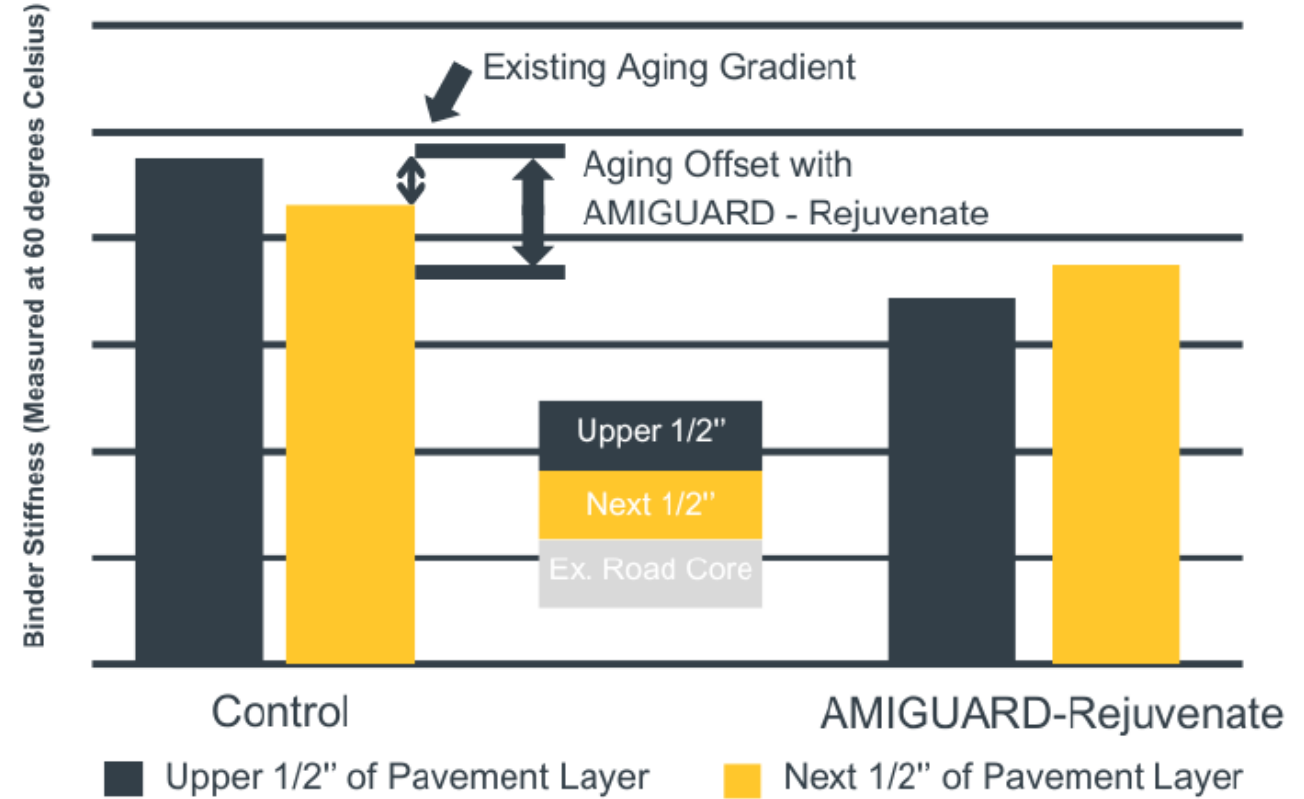


■ Pre-Application  
■ Post-Application  
■ % Reduction



# Rejuvenation

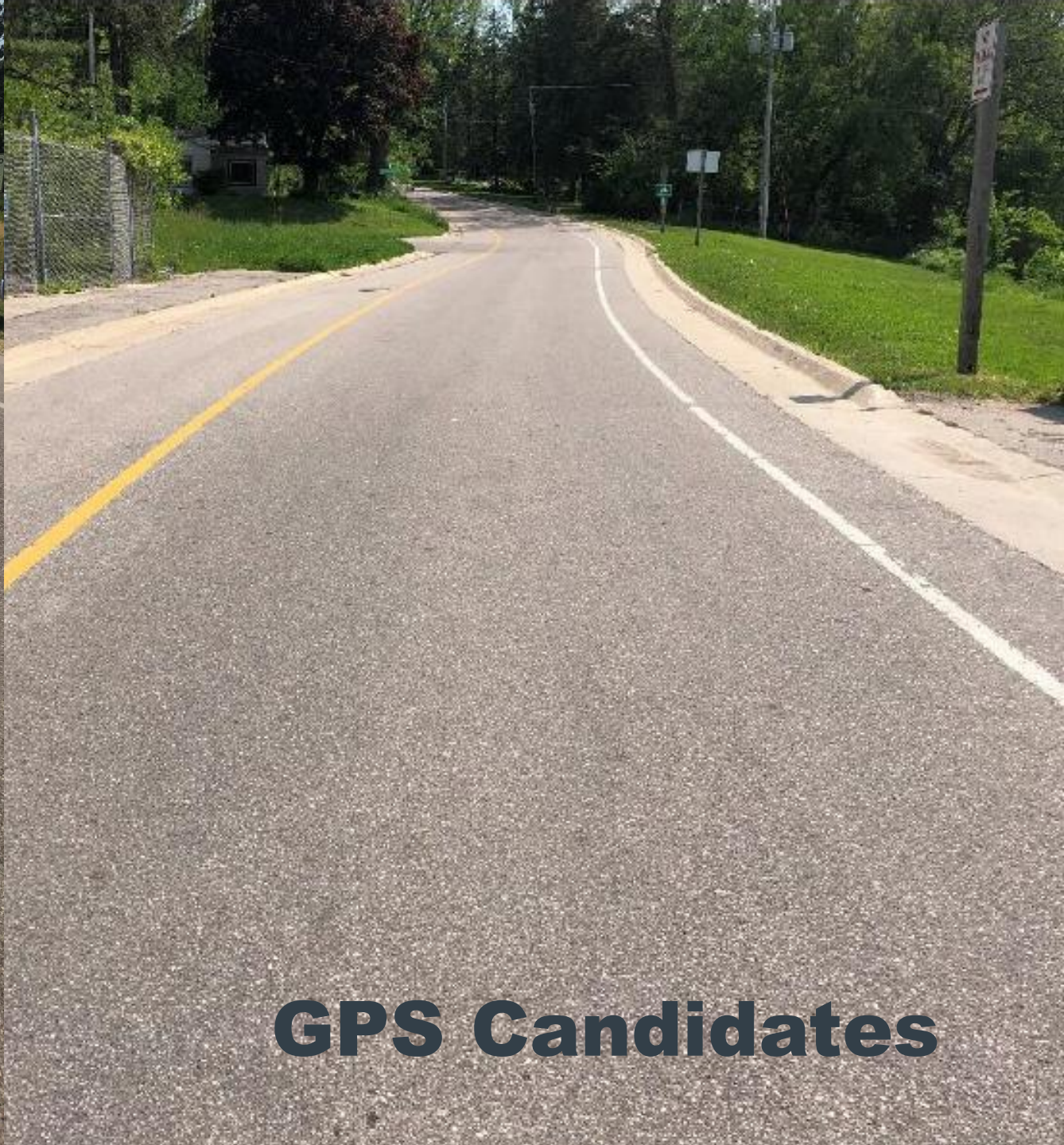
## Recovered Asphalt Binder Stiffness (Total Aging)



# Early Life Preservation using Gilsonite Seal

- **CSS-1hG** is AMI product used in **Gilsonite Preservation Seal (“GPS”)** process
- “Engineered” asphalt emulsion
- Unique asphalt chemistry will not fade, lock in mastic
- Light sanding at time of application, no loose chips or dust
- Re-Striping is required

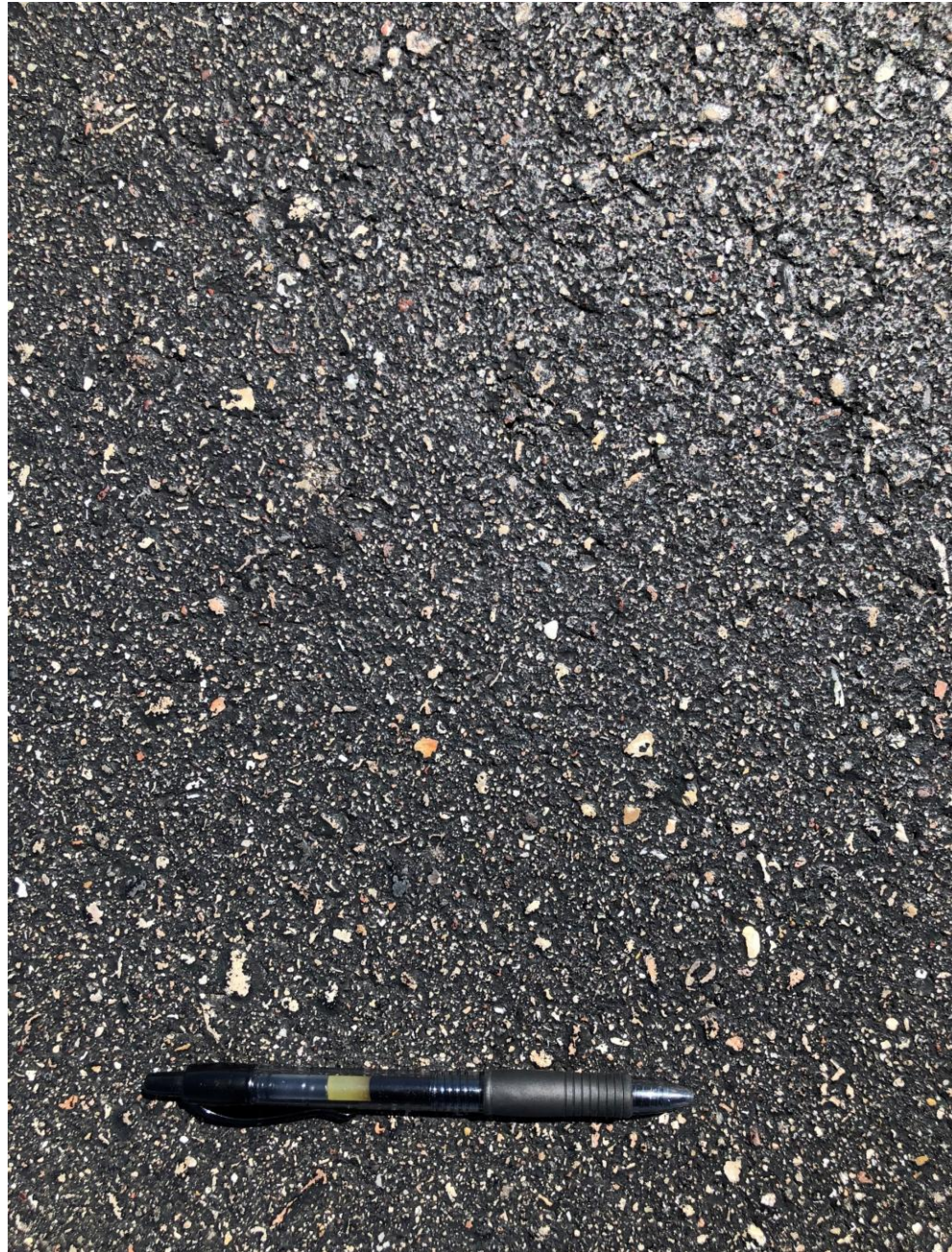




**GPS Candidates**



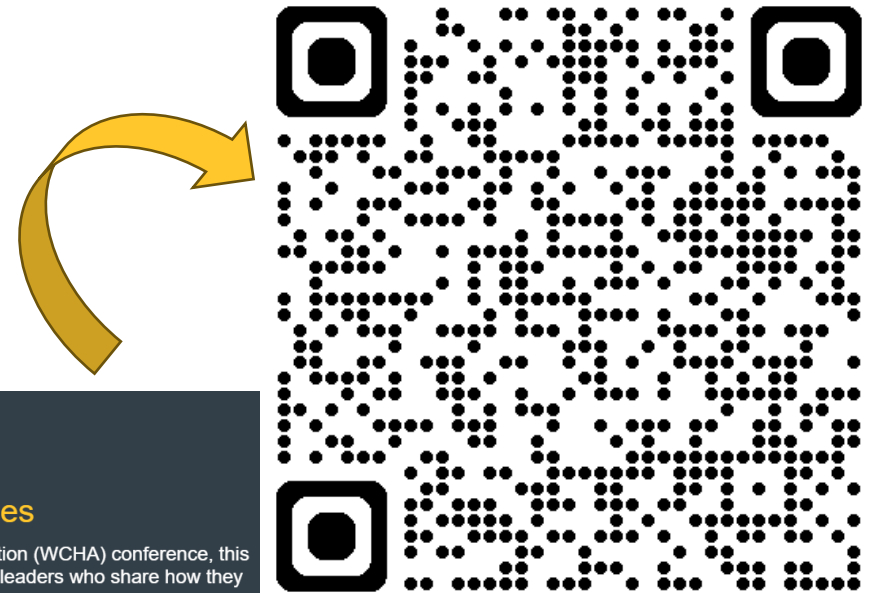
Freshly Cured GPS Treatment



GPS- 1 year of service on 4-year old surface

# Takeaways & Tools:

- A combination of treatments targeting specific distress prevention and desired functional attributes is usually 'best'.
  - Consider pre-preservation to access unique mixture characteristics
  - Maintain a "toolbox" mentality
- How to start:
  - Assess your network using data metrics
    - Equivalent Annual Cost
    - Remaining Service Life
    - Cost-Benefit-Value
- Many resources available:
  - <https://roadresource.org/>
  - Your peers...



## ON-DEMAND WEBINAR

**Pavement Preservation in Practice:**

**County Perspectives on Local Challenges**

Recorded at the Winter 2026 Wisconsin County Highway Association (WCHA) conference, this engaging panel discussion hosts five county highway department leaders who share how they tackle the complex challenge of pavement preservation in their communities.

A PDH certificate will be issued to viewers of this recording.

# Thank You

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Asphalt Materials,