

# ***Why We do Preventive Maintenance***

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**North Dakota Asphalt Conference  
March 28-29, 2017  
Bismarck, ND**



# ***Presentation Outline***

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- **What is FP<sup>2</sup> Inc.?**
  - **Mission**
- **Preventive Maintenance**
  - **Definition**
  - **PM vs. Pavement Preservation**
  - **Why do we do it?**
- **FP<sup>2</sup> Inc.**
  - **Advocacy, Research, Communications**
  - **Supporters**



# ***FP<sup>2</sup> Inc.***

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- **What is FP<sup>2</sup> Inc?**
  - **An Industry supported trade association**
- **Purpose of FP<sup>2</sup> Inc?**
  - **Promoting the importance of protecting and preserving the huge investment in our nation's pavement infrastructure**



# ***What do we do?***

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- **Mission**

- **Advocacy**: educate public officials at all levels & involved with legislation.
- **Research**: Funding partner in NCAT 2012 PG study and 2015 NCAT/MN Road PG project
- **Communication**: sponsor key events, publish the Pavement Preservation Journal, distribute educational materials



# ***Definitions***

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**Preventive Maintenance**

**vs.**

**Pavement Preservation**



# ***Preventive Maintenance***

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- **What is preventive maintenance?**

***MAP-21, SEC. 1507, Maintenance. Section §116 of 23 U.S.C Definitions***

**“The term ‘preventive maintenance’ includes pavement preservation programs and activities”**



# ***Preventive Maintenance***

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**2/25/16 FHWA Memo-Guidance on Highway Preservation and Maintenance**

**“Preventive maintenance is a cost-effective means of extending the useful life of the Federal-aid highway (23 U.S.C.§116 (3))**



# *Preventive Maintenance*

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- **What's the difference?**
  - **MAP-21**, “includes pavement preservation programs and activities”
  - **Guidance Document-**”cost-effective means of extending useful life of the Federal-aid highway”.



# ***Pavement Preservation***

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- ***MAP-21, SEC. 1507, Maintenance. Section §116 of 23 U.S.C Definitions.***
- **The term “pavement preservation programs and activities’ means programs and activities employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety, and meet road user expectations”**



# ***Pavement Preservation***

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- **2/25/16 FHWA Memo-Guidance on Highway Preservation and Maintenance,**

**“Preservation consists of work that is planned and performed to improve or sustain the condition of the transportation facility in a state of good repair.. do not add capacity or structural value.. restore overall condition”**



# Pavement Preservation

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- What's the difference?
  - **MAP-21-** “network level, long term strategy, enhance pavement performance, cost-effective practices, extend pavement life”
  - **Guidance Document-** “work that is planned and performed, improve or sustain condition of a transportation facility in a state of good repair”

# ***PM vs. Pavement Preservation***

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- Extending the useful life of the Federal-aid highway **vs.** planned and performed work to improve or sustain the facility in a state of good repair
- **Are these different?**
- **Both are eligible for Federal funding!!**



# ***Preventive Maintenance***

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- **So why do PM?**

- **Keep our system in good condition**
- **\$\$\$-budgetary constraints**
- **The condition of our highway network, ASCE recently rated it a D. In fact it has been a D or D- since 2005! See**

**<http://www.infrastructurereportcard.org/>**

- **The last increase in the Federal user fee (gas tax) was 1993 and the CCI has increased by 300% since then**



# ***Preventive Maintenance***

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- **So if I want to do PM, where do I begin?**
  - 1. Develop a Strategy**
  - 2. Perform a condition survey, visual or automated, to determine the properties of the system**
  - 3. Choose the “right road” for a PM treatment**

# ***Develop a Strategy***

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- **Inputs to know:**
  - **Available Budget**
  - **Lane Miles of Network**
  - **Unit Costs of Work Types**
  - **Life Extensions of Preventive Maintenance Treatments**
  - **Design Life of Reconstruction & Rehabilitation Work**

# ***Preventive Maintenance Candidate?***

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# ***Preventive Maintenance Candidate?***

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# ***Preventive Maintenance Candidate?***

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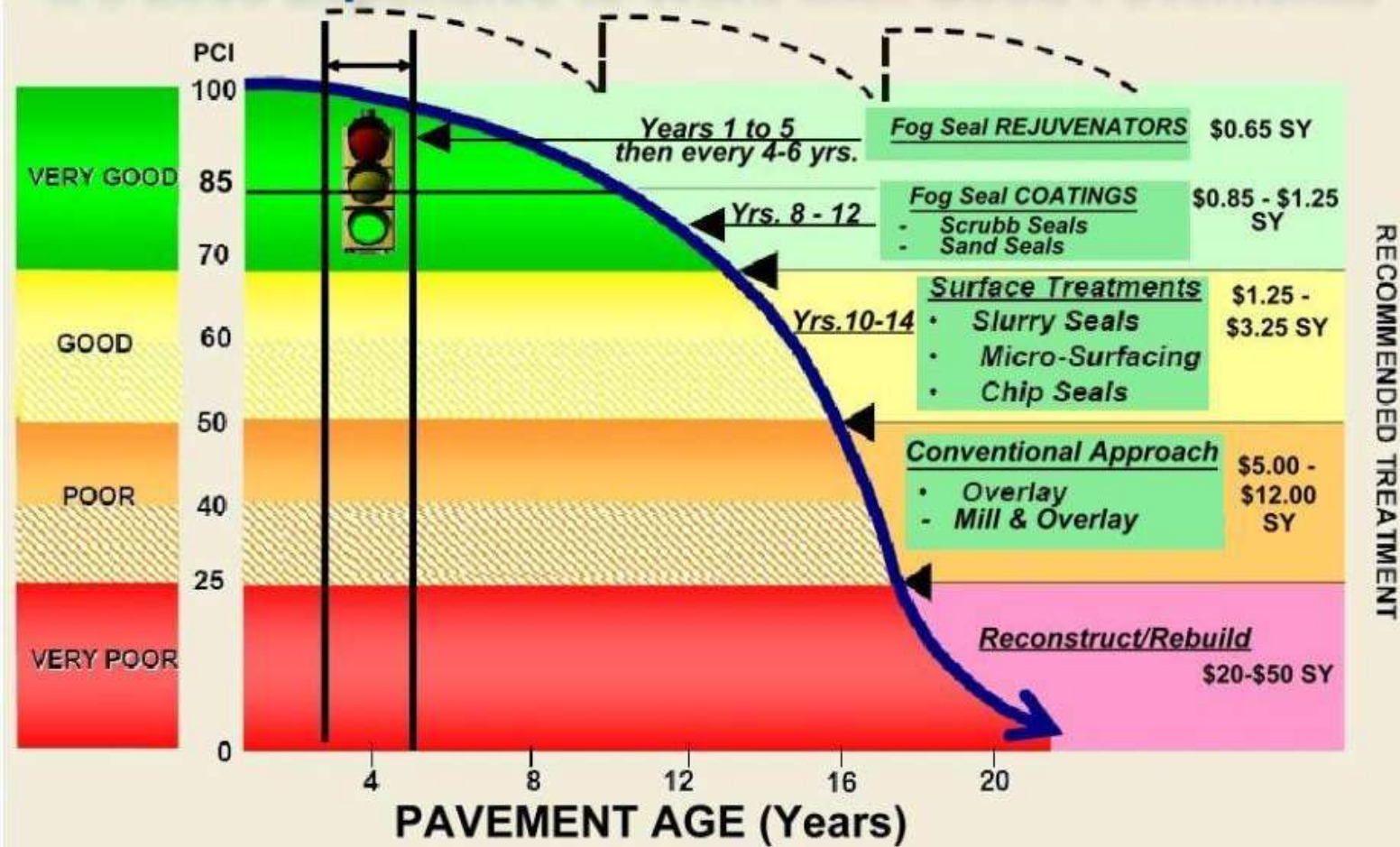
Shallow  
Swale

Center Line  
Cracking



# Pavement Preservation

## It's Less Expensive to Work with Good Pavements



# ***Preventive Maintenance***

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- **So now I want to do PM, what do I do next?**

**4. Determine the most cost-effective treatment to keep a “good road good” or extend it’s useful life**

**5. Chose from a variety of treatments for both flexible and rigid pavements**

**6. There is no “silver bullet”, each have their limitations**

**7. Commonly used flexible and rigid pavement treatments**



# ***Flexible Pavement Treatments<sup>1</sup>***

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## **Seals**

- Crack Sealing
- Thin Cold Seals
  - Fog Seal
  - Chip Seal
  - Slurry Seal
  - Scrub Seal
  - Micro surfacing
  - Cape Seal
- CIR-HIR

## **Plant Mixes**

- Thin/Ultra Thin Hot Mix Asphalt Overlays
  - Warm Mix
  - Dense Graded mixes
  - Porous Friction Courses
  - Bonded wearing course
  - AR modified
  - RAP-RAS
  - Polymers

<sup>1</sup> SHRP 2 Report S2-R-26



# ***Rigid Pavement Treatments***

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- **Crack Sealing**
- **Undersealing**
- **Spall Repair**
- **Partial Depth Repair**
- **Full Depth Repair**
- **Diamond Grooving**
- **Joint Resealing**
- **Dowel Bar Retrofit**
- **Cross Stitching -  
longitudinal cracks  
& joints**
- **Diamond Grinding**
- **CPR**

# ***FP<sup>2</sup> Inc.***

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- **Advocacy, Research, and Communications**
- **Supporters**



# ***Advocacy Effort***

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- **FP2 has a contract with Williams and Jenson to represent the Pavement Preservation (PP) industry**
- **FP2 was very instrumental in getting PP language in MAP 21**
- **Have had many meetings with Transportation committees as well as key members of Congress and their staff**





# ***What do we do?***

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- **FP<sup>2</sup> Inc. financially supports**
  - **The National Center for Pavement Preservation at Michigan State University**
- **FP<sup>2</sup> Inc. works closely with**
  - **Regional Preservation Center in California**
  - **Regional Preservation Partnerships in the Northeast, Southeast, Midwest, and Rocky Mountain West**
  - **Federal Highway Administration**



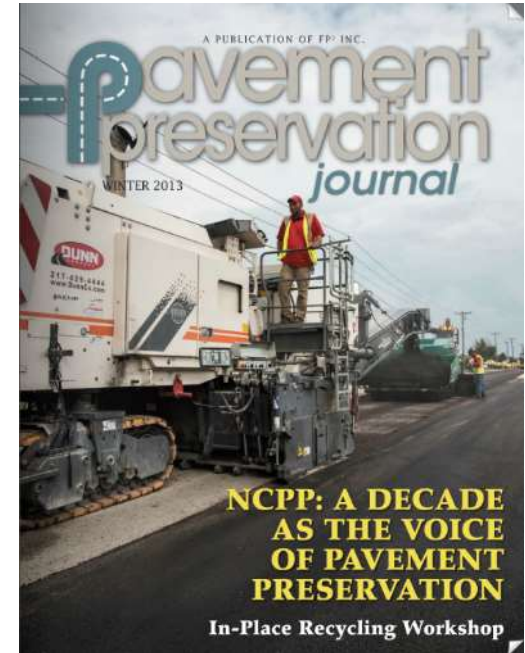
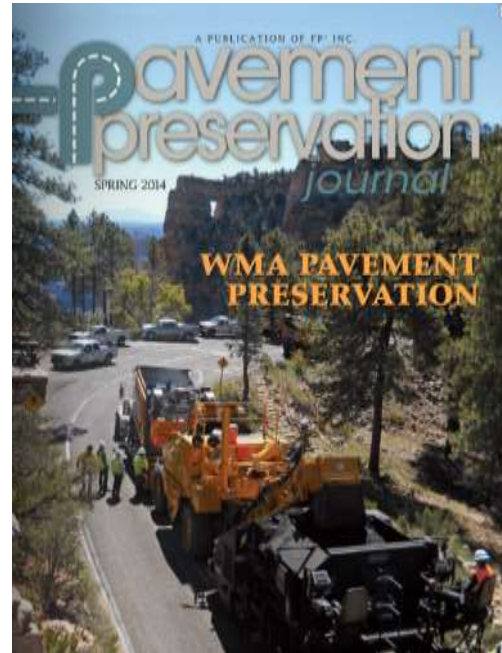
# ***NCAT/MN ROAD Research Partnership***

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To facilitate high value pavement research that addresses national needs using full-scale pavement testing facilities in both **warm** and **cold** climates on flexible, rigid, and composite pavement structures.



# Communication Efforts



- **FP2 Inc. Website – [fp2.org](http://fp2.org)**



# ***James B. Sorenson Excellence in Preservation Award***

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**Jim Sorenson**



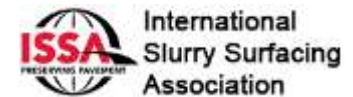


# FP2 Contributors

## Corporate Sponsors



## Sponsoring Associations



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# Questions?

# Contact Information

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