

Pavement Preservation in the USA

**“Preserving the Investment
in Our Highways”**

What is Pavement Preservation?

Includes:

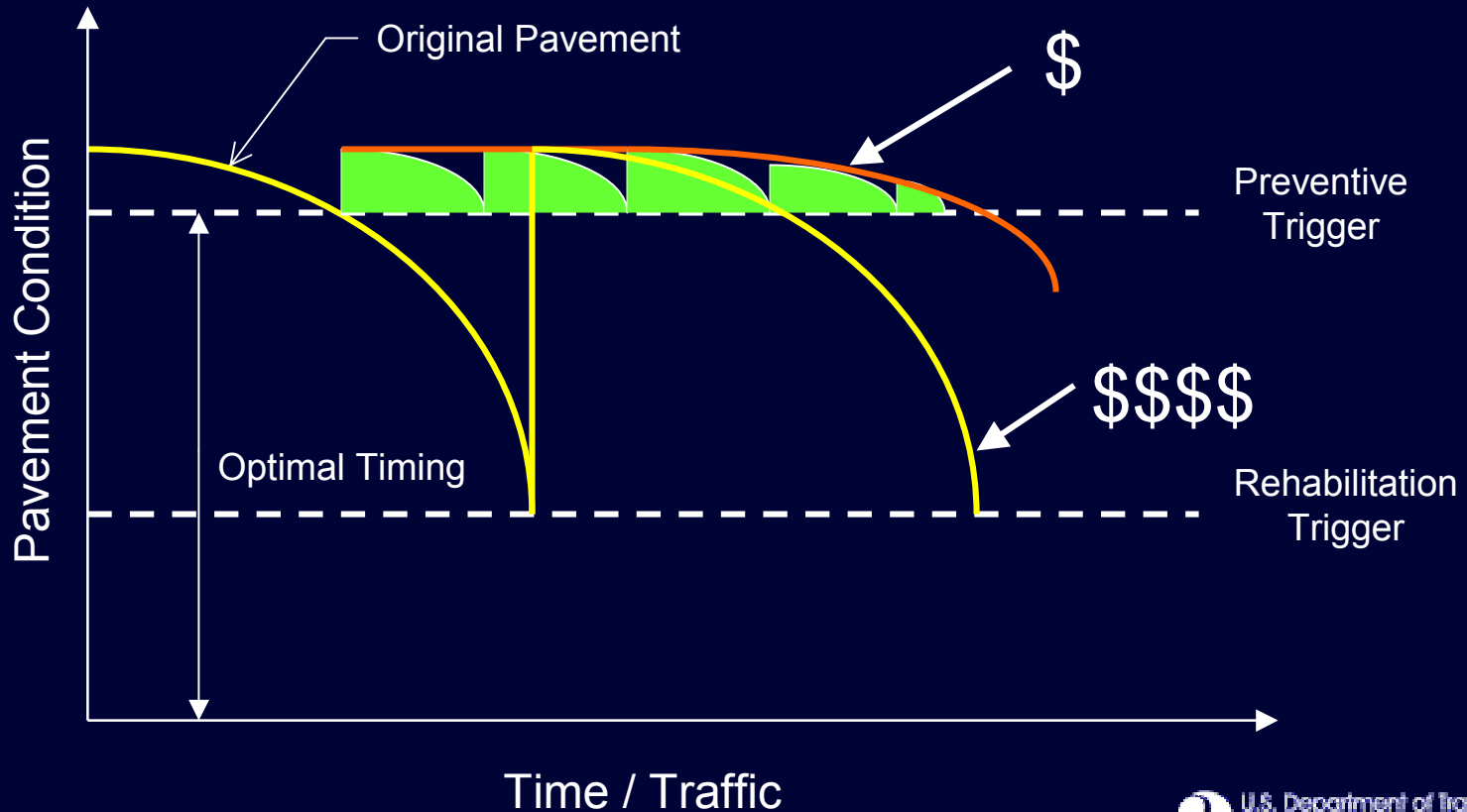
- Preventive Maintenance
- Minor Rehabilitation (non-structural)
- *Some Routine Maintenance*

Does Not Include:

- New Pavement Construction
- Reconstruction
- Major Rehabilitation (increase in structural capacity)
- Corrective Maintenance



Concept of Pavement Preservation (P²)



Preservation Treatments

Asphalt:

- Chip Seals
- Fog Seals
- Slurry Surfacing
- Surface Seals
- Micro-Surfacing
- Thin Overlays
- Profile Milling
- Crack Sealing

PCC:

- Joint Resealing
- Crack Sealing
- Spall Repair
- Dowel Bar Retrofit
- Full and Partial Depth Repair
- Diamond Grinding

Other P² Treatments

- Paver Placed Surface Seal (Nova Chip)
- Compound Surface Seal (DRM)
- Macro-Surfacing (Road Armor)
- Medium and High Volume Ultra-Thin Overlays
- Concrete Longitudinal Joint Repair
- Ultra-Thin White Topping
- Hot In-Place HMA Recycling



Preventive Maintenance

As defined by AASHTO:

“Preventive maintenance is a planned strategy of cost effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without substantially increasing structural capacity).”

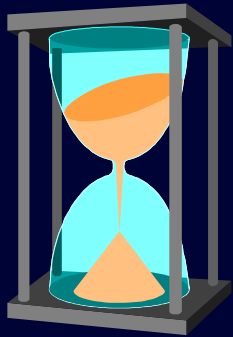
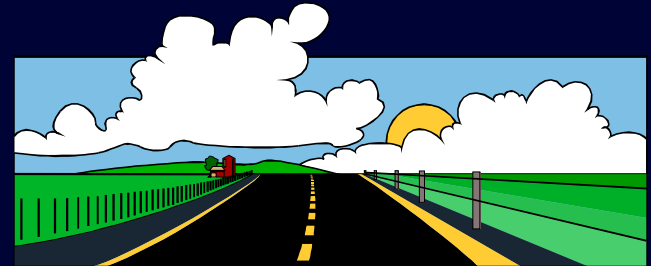


Philosophy of Preventive Maintenance



Applying the right treatment

... To the right pavement



... At the right time

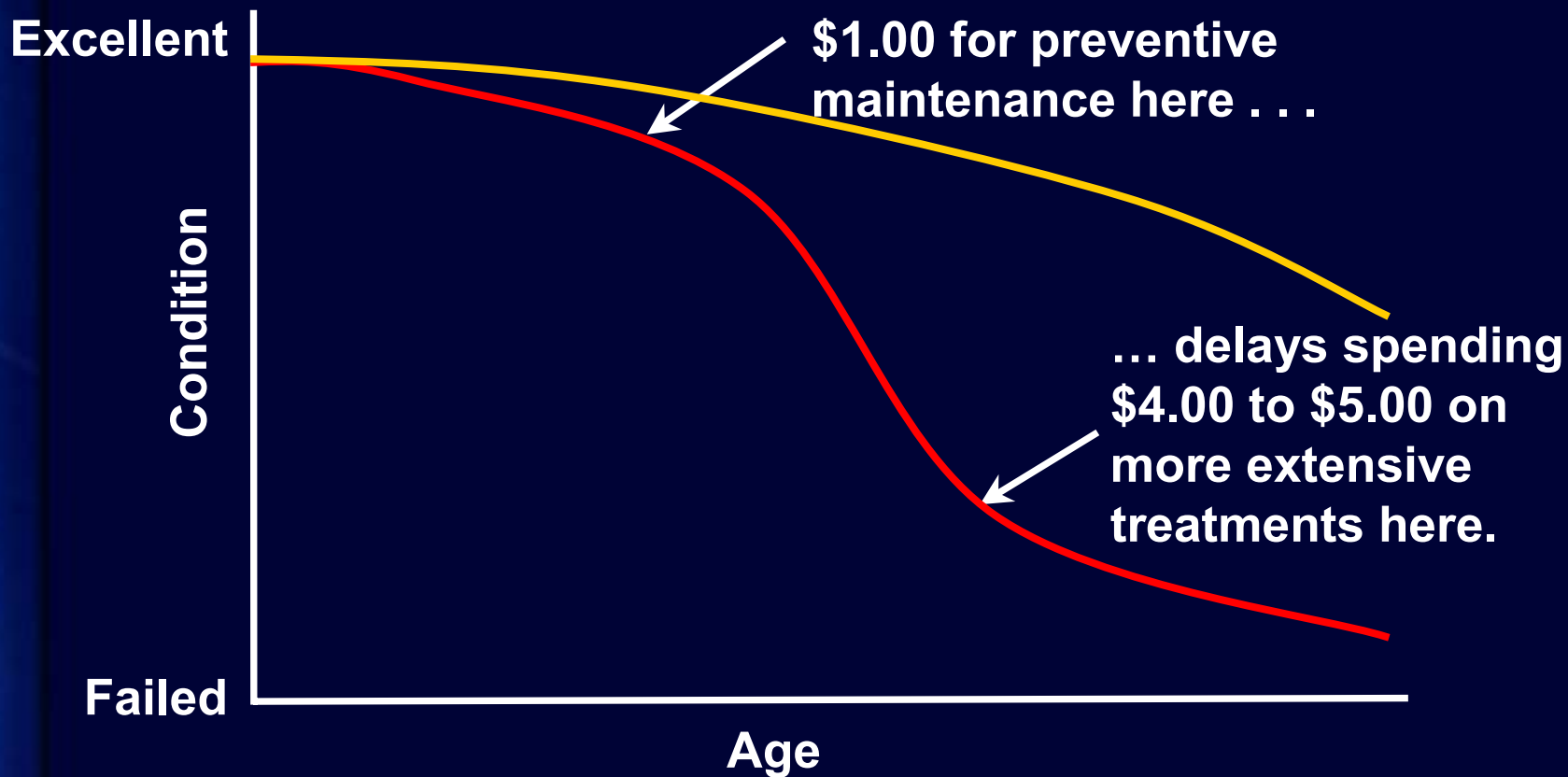
Importance of Preventive Maintenance

As we move into the 21st century, it is clear that the Federal-Aid highway program is undergoing a significant transition from its original focus on new construction to that of preservation of the highway system.

- FHWA Program Development Office



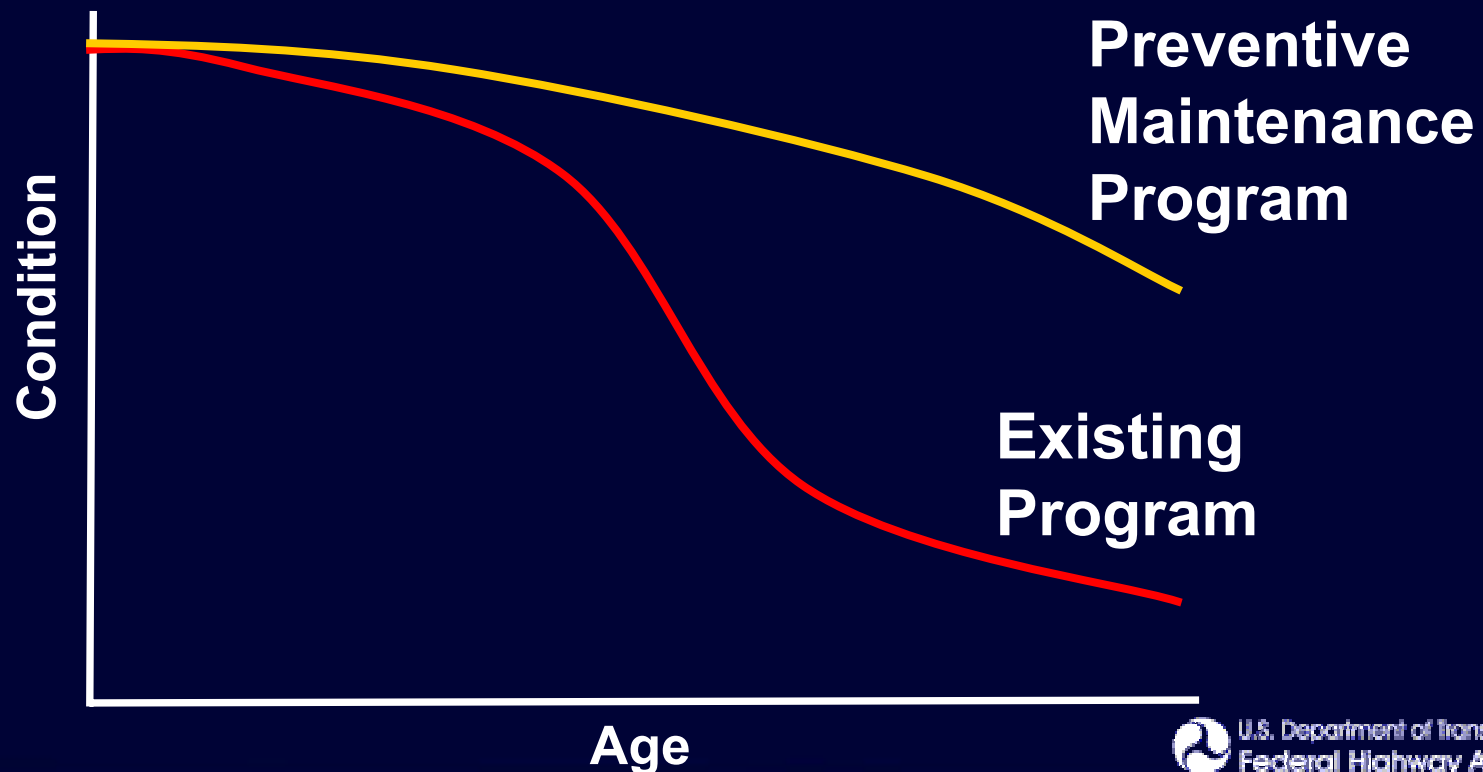
The Preventive Maintenance Concept



Preventive Maintenance

Key Objective

- Improve the overall pavement condition of the network



Michigan DOT Example

$$\begin{array}{rcl} \$315 \text{ million} & & \$190 \text{ million} \\ \text{Rehabilitation and} & & \text{Rehabilitation and} \\ \text{Reconstruction} & \text{=} & \text{Reconstruction} \\ & & + \\ & & \$10 \text{ million} \\ & & \text{Preventive} \\ & & \text{Maintenance} \end{array}$$

Achieved same results for \$115 million less

Meeting The Challenge

Through Partnerships:

- AASHTO
- FHWA
- LTAP
- FP², ARRA, AEMA, ISSA, TAI, ACPA...
- Other industries and stakeholders



Current Partnership Initiatives

- Expert Task Group (ETG)
- FHWA NHI Training Course Series
- Research Projects
- AASHTO Subcommittee on Maintenance
- Publications
- Preventive Maintenance Workshops
- P² International Scanning Tour
 - France
 - South Africa
 - Australia

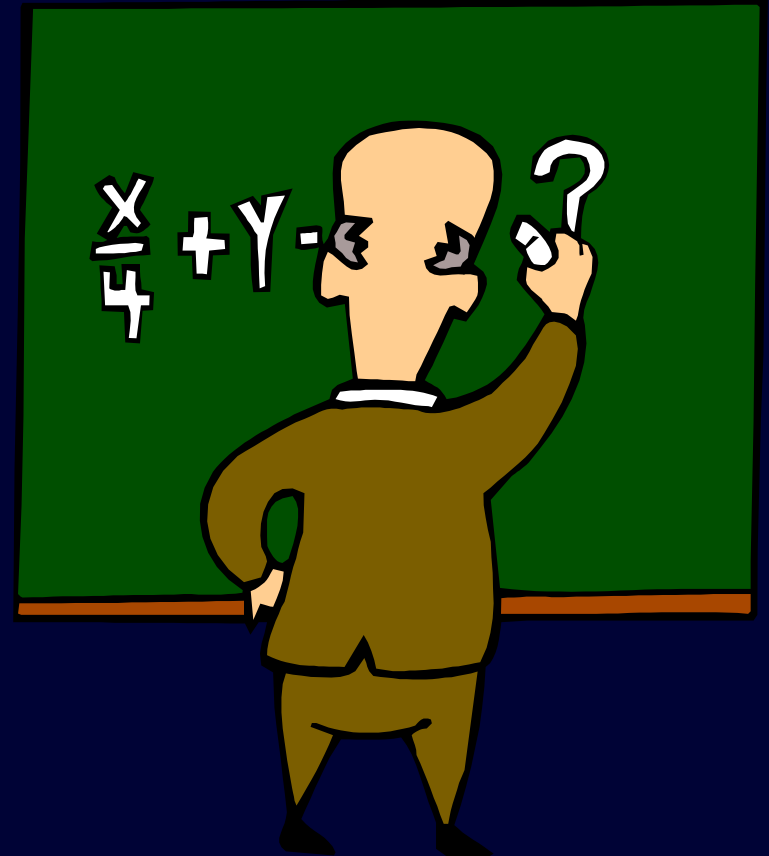


Expert Task Group

- Industry/agency cross cutting team representing various disciplines
- Input and technical support for all FHWA sponsored activities in Pavement Preservation
- Meets periodically to discuss current and plan future activities

P² Training Courses

- Funded by FHWA and Industry
- Guided by the ETG and technical panels
- Series of four Courses



NHI Course Listing

- “The Preventive Maintenance Concept” NHI Course #130154
- “Selecting Pavements for PM” NHI Course #130158
- “Design and Construction of Quality PM Treatments” – *Winter 03/04*
- “Integrating PM into Pavement Management Systems” – *Winter 03/04*

Research Projects

- NCHRP 14-14 “Guide for Optimal Timing of Pavement Preventive Maintenance Treatment Application”
- NCHRP 20-50 “Effectiveness of Maintenance and Rehabilitation”
- TPF-5 (045) – National Pooled Fund for “Development of Guidelines for the Selections of Crack Sealants”
- Spray Applied Polymer Emulsion Field Studies

AASHTO Subcommittee on Maintenance

- Promote P² Activities through Focus Groups, Workshops, Publications, etc.
- 10th AASHTO/TRB Maintenance Management Conference
Duluth, Minnesota
July 13-17, 2003

- Web Site:

<http://transportation.org/committee/maintenance/>



Publications – FHWA and FP²

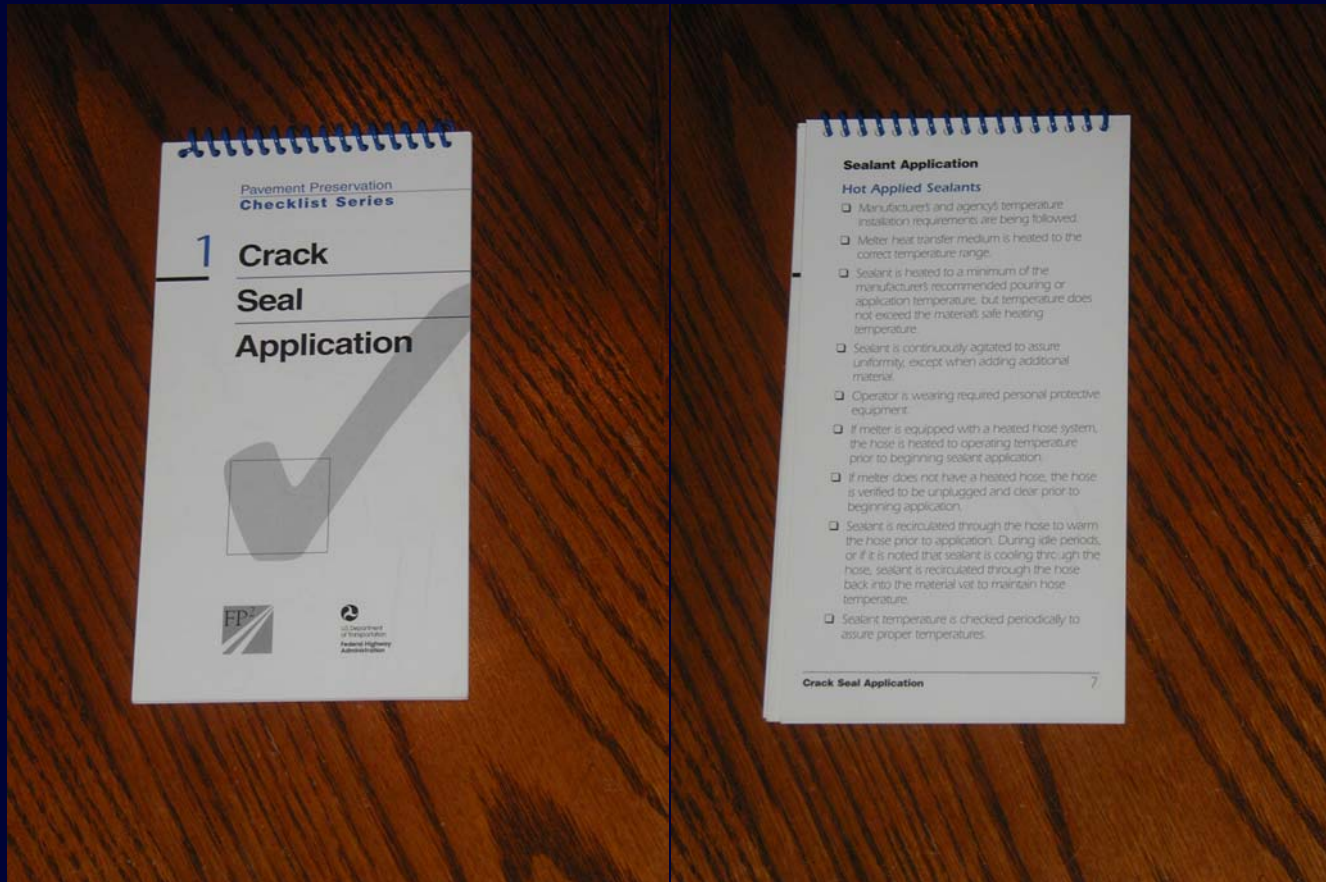
- P² Checklists – Series of 10, 6 complete and available July 2003, final 4 to be completed Winter '03/'04
- P² CD-2 “State of the Practice” is available
- P² Updated Toolbox and CD – available in July.
- P² Forum CD – articles and presentations from the P² Forum – available in July.
- P² Compendium: Compilation of recent papers and articles about P² – available in July.

Pavement Preservation Toolbox

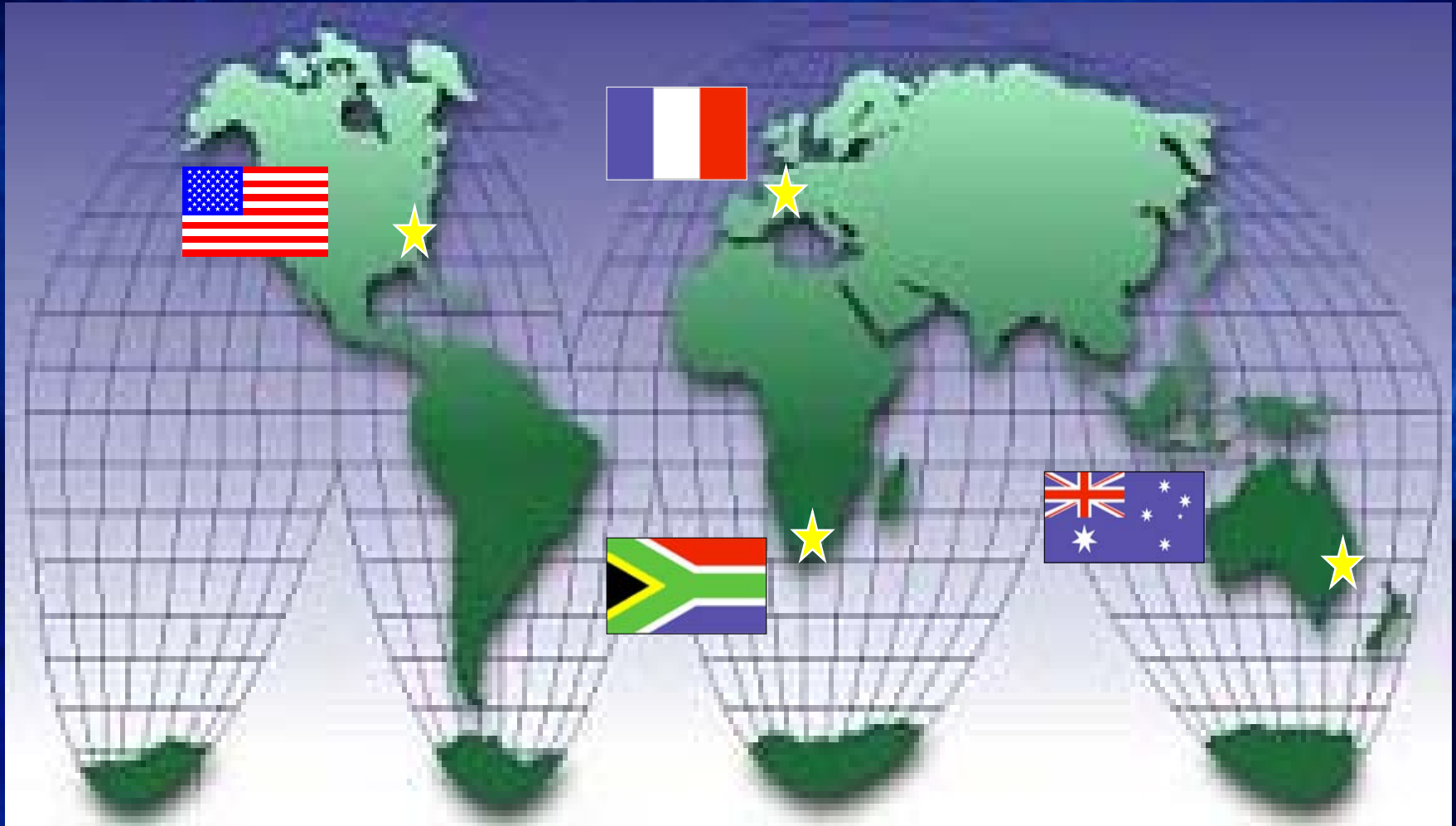


P² Checklists

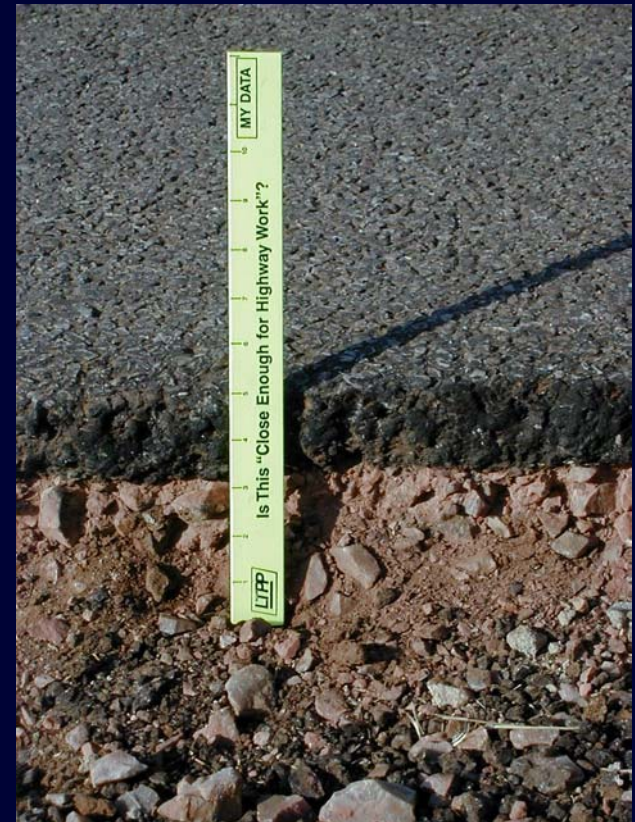
Ten Checklists covering HMA and PCCCP



P² International Scanning Tour



Different Approach to Pavements



Different Approach to Pavements



Different Approach to Pavements



Demo of Geotextile-Reinforced Sprayed Seal



Workshops – Conferences- Partnerships

- Over 35 workshops, seminars and presentations supported by industry/agencies
- Sharing information / developing a better understanding
- Midwestern Pavement Preservation Partnership
- State & local gov'ts considering P² programs with dedicated funding



Future Initiatives

- National Conference on Pavement Preservation- Spring 2004
- P² clearinghouse (www.FP2.org or www.fhwa.dot.gov/preservation)
- Continue research and training/workshop development
- And . . .

5th National Transportation Asset Management Conference & Workshop

Atlanta, GA September 29-30, 2003

and

Seattle, WA October 21-22, 2003

[www.mrutc.org/about/5th National Transportation Asset Management
Conference.pdf](http://www.mrutc.org/about/5th_National_Transportation_Asset_Management_Conference.pdf)



U.S. Department of Transportation
Federal Highway Administration

Contacts

- FHWA P² Web Site
 - <http://www.fhwa.dot.gov/preservation/>
- Foundation for Pavement Preservation
Web Site : <http://www.fp2.org>



THANK YOU!