

# Transportation System Preservation R & D Needs Statements



# Asset Management

- 1) Development of a Process for Estimating the Remaining Service Life (RSL) for Transportation Infrastructure
- 2) Improved Decision Making Through Effective Transportation System Preservation (TSP)
- 3) Adaptable National Guidelines to Identify the *Right Pavement/Right Time/Right Treatment*
- 4) New Technologies to Determine Preservation Indicators
- 5) Evaluate Safety Aspect of Pavement Preservation
- 6) Data and Performance Requirements Needed to Incorporate Pavement Preservation into Asset Management Systems
- 7) Integration of Transportation System Preservation into the Asset Management Framework
- 8) Convincing the Stakeholders: Communications and Institutional Issues

# Design

- 1) Determine the Economic Benefits of Pavement Preservation Strategies
- 2) Determining Pavement Preservation Treatment Lives and Related Pavement Life Extension
- 3) Validate a Methodology for Determining Optimal Timing of Pavement Preservation Treatment Applications
- 4) Develop Appropriate Pavement Preservation Treatments and Practices for Urban Areas
- 5) Framework for a Coordinated Approach to Pavement Preservation Process from an Agency Perspective
- 6) Integrating Pavement Preservation into the Design Process
- 7) Integration with a Pavement Management System (PMS)

# Construction

- 1) Development of Innovative Pavement Preservation Products, Equipment and Construction Methods
- 2) Performance Related Specifications (PRS) for Pavement Preservation Treatments
- 3) Improving the Timeliness of Acceptance Testing Results
- 4) Pavement Preservation Contractor Qualification Program
- 5) Pavement Preservation: Contractor/Agency Training and Certification
- 6) Construction - Equipment
- 7) QA/QC Guidelines for Pavement Preservation Projects

# Materials

- 1) Mechanical Binder Properties to Predict Surface Treatment Performance
- 2) Acceptance Criteria for Surface Treatments
- 3) Appropriate Installation Geometry for Crack Treatments
- 4) Cost-Effectiveness of Quality Aggregates
- 5) Performance Grading System for Asphalt Emulsions
- 6) Performance-Graded Aggregate System for Pavement Preservation Surface Treatments
- 7) Triggers for the Timing of Surface Treatments

# Contracting Methods

- 1) Analysis and Synthesis of Pavement Preservation Contracting Methods
- 2) Performance Measures and Contracting Methods for Pavement Preservation Treatments
- 3) Development of Model Specifications and Testing Requirements for Pavement Preservation Contracting Methods

# Performance

- 1) Synthesis: Pavement Preservation Data Sources
- 2) Development of Distress Identification System for Pavement Preservation Treatments
- 3) Quantify Performance and Benefits of Various Pavement Preservation Treatments and Develop Pavement Preservation Treatment Performance Models
- 4) Quantifying the Benefits of Pavement Preservation Treatments
- 5) Factors Affecting Pavement Preservation Treatment Performance and Expanded Treatment Selection and Design Guidance

Stay Tuned . . . .



# MPPP Research Recommendations

## Asset Management

- **Data and Performance Requirements Needed to Incorporate Pavement Preservation into Asset Management Systems**
- **Evaluate Safety Aspect of Pavement Preservation**

# MPPP Research Recommendations

## Design

- **Determining Pavement Preservation Treatment Lives and Related Pavement Life Extension**
- **Determine the Economic Benefits of Pavement Preservation Strategies**

# MPPP Research Recommendations

## Construction

- **Performance Related Specifications (PRS) for Pavement Preservation Treatments**
- **Pavement Preservation: Contractor/Agency Training and Certification**
- **QA/QC Guidelines for Pavement Preservation Projects**

# MPPP Research Recommendations

## Materials

- **Mechanical Binder Properties to Predict Surface Treatment Performance**
- **Performance Grading System for Asphalt Emulsions**
- **Cost-Effectiveness of Quality Aggregates**
- **Performance-Graded Aggregate System for Pavement Preservation Surface Treatments**

# MPPP Research Recommendations

## Contract Methods

- **Development of Model Specifications and Testing Requirements for Pavement Preservation Contracting Methods**

# MPPP Research Recommendations

## Performance

- Quantify Performance and Benefits of Various Pavement Preservation Treatments and Develop Pavement Preservation Treatment Performance Models
- Quantifying the Benefits of Pavement Preservation Treatments