Mission

- The FHWA PPETG will advance and improve the state of the practice in the area of pavement preservation by working collaboratively with federal, state, local agencies, industry, and academic interests.
Overview

- Pavement Preservation
  “A program 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 motorist expectations”
Components of Pavement Preservation

- Pavement Preservation
  - Minor Rehabilitation
  - Preventative Maintenance
  - Routine Maintenance
Overview

- Goals
  - Pavement preservation acceptance and implementation by Agencies
  - **Support preservation programs** at the federal, state, and local levels
  - Identify and **address customer needs**
  - **Support preservation centers** for excellence/regional organizations
  - **Integrate** pavement preservation into pavement management
Background

- Established in 1991
- Promote the institutionalization of the concepts of pavement preservation
- Parent group of “Emulsion Task Force”
Advocate the implementation of Pavement Preservation

Expand Training and Certification Efforts

In Conjunction with the Pavement Preservation Road Map Advance Pavement Preservation Research

Examine Impacts of New Policies on Pavement Preservation Implementation

MAP21 – Recognizes Pavement Preservation
Working Topics (cont.)

- **Sanction** and Support Emulsion Task Force Efforts
- **Endorse Advancement** of New Treatment Technologies
PPETG Emulsion Task Force (ETF)
Background

- Idea conceived at AEMA-ISSA-ARRA meeting February 2008 under guidance of Jim Sorenson, FHWA

- Identified need for industry expertise and involvement in ongoing research activities pertaining to asphalt emulsions and finished product systems

- First meeting in Newport Beach, CA April 7-8, 2008
Original Mandate

✓ Advance the Effort to Develop Performance Based Methods & Specification for Emulsions
  ● Protocols for design
  ● Protocols for performance
  ● Protocols for inspection & acceptance

✓ Encourage Adoption of Uniform National Standards
ETF is comprised of:

- Members
- Friends
- Experts
Task Force Representation

Co-Chair- Chris Lubbers, Kraton Polymers
Co-Chair- Colin Franco RI DoT, TSP2, PPETG, SOMtrls, RRAC

Members From:
- Industry: AEMA/ ARRA/ ISSA
- Academics: CSU/ Tx A&M/ U.WISC/ NC State
- State DOT’s: TX, IA, RI, CA, LA, AZ
- FHWA
- National Center PP (NCPP)
Subcommittees

1. **Residue Recovery and Testing** - 18 members
   - Arlis Kadrmas (Chair)    BASF - AEMA

2. **Design Group**
   - **Spray** (17 members) – Gary Hicks (Co-chair)    CS4
   - **Mix** (13 members) – Jim Moulthrop (Co-chair)    Fugro FP2

3. **Supplier Certification and Quality Assurance** - 16 members
   - Tom Wood (Chair)    MnDOT

4. **Recycling Emulsions** - 9 members
   - Todd Thomas (Chair)    COLAS ARRA

5. **Research** - 12 members
   - Darren Hazlett (Chair)    TxDOT
Original Tasks

✓ Review needs for Preservation Materials Research - Emulsion & Aggregate
✓ Evaluate existing R&D Roadmap Problem Statements in the Area of Emulsions
✓ Evaluate Work Plans and Review Ongoing Research in PP Emulsion

( cont )
Original Tasks (cont.)

- **Coordinate** and Share Activities and Results with Existing **Superpave binder/mix/modeling** ETGs
- **Facilitate Adoption** of New Findings and Research Results Through Appropriate AASHTO / ASTM Channels
- **AEMA / ISSA / ARRA Coordination**
Additional Tasks

✓ Develop Performance Specifications and Design Standards for Adoption by AASHTO for All Emulsion Treatments and Uses in Pavement

✓ Work with the PPETG to Facilitate Adoption of Emulsion Treatments in Pavement Preservation
ETF Survey

Emulsion Use and Performance

- Emulsion Product/System Evaluation
- Identify/prioritize widely used emulsion applications
- Define 2 critical distresses and mechanism of failure for priority application
- Determine testing needs
  - Existing Tests which are applicable
  - Research needs for new test methods
- Conducted by Andrew Hanz of Univ. Wisconsin Madison and Colin Franco of RIDOT
ETF Survey Results

● Top Emulsion Product Usage Priority
  – Chipseals = 100%
  – Tack Coat = 66.7%
  – Microsurfacing = 62%

● Modes of Failure Defined - e.g: Chipseals
  – Chip Loss
  – Bleeding
  – Binder Cracking (Reflective or Environmental)
  – Underlying Mechanisms Identified

● Existing Tests Available - 84% Yes
AASHTO Submittals - Deliverables

- Four Standards submitted to AASHTO for Adoption
  1. Standard Practice for **Certifying** Suppliers of Emulsified Asphalt - Provision
  2. **Recovering Residue** from Emulsified Asphalt using Low Temperature Evaporative Techniques - Provision
  3. Determining **Asphalt Binder Bond Strength** by Means of the Bitumen Bond Strength Test (BBS) - Provision
  4. **Performance-Graded** Asphalt Binder for Surface Treatments (Surface Performance Graded (SPG) Spec) – tabled
AASHTO Submittals - Deliverables

- Six Provisional Standards submitted to AASHTO (currently being reviewed by ETF)
  1. Test for Determining the **Strain Sensitivity of Asphalt Emulsion Residue Using Strain Sweeps** Performed on a Dynamic Shear Rheometer (DSR)
  2. Test for **Embedment Depth of Chip Seal Aggregates** in the Lab and the Field
  3. Test for Laboratory **Chip Loss** from Emulsified Asphalt Chip Seal
  4. Test for Measuring **Moisture Loss from Chip Seals**
  5. Test for **Recovery of Asphalt from Emulsion by Stirred-Can Method**
  6. Test for **Field Emulsion Viscosity**
Subcommittees have to come up with:
1. Short term plan
2. Long term plan

Short term missions include getting the following treatments into AASHTO Standards
- Micro-surfacing
- Chip Seal
  a) Design Specification
  b) Design Practice
  c) Construction Guide Spec
Current ETF Status

- Best Practices Document
  - This was the original deliverable for Chip Seal and Micro-surfacing.
  - This is a working reference document for the 3 standards as well as for determining the gaps and needs for research.

- Low temperature Recovery Method
Current ETF Status

- ETF is moving toward standards for:
  - Tack Coat
  - Fog Seal
  - Scrub
  - Sand Seal
  - Slurry Seal
  - Micro-surfacing
  - Chip Seal
  - Foam Asphalt Stabilization
  - Bonded Surface Treatment (NOVA Chip)
  - Cold Mixes
    - Virgin
    - Recycled
    - CIR
Questions