

# North Central Superpave Center Update

by

Becky McDaniel  
Steering Committee Meeting  
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# Vision

A recognized source of hot mix asphalt expertise

# Mission

To lead further development and implementation of hot mix asphalt and Superpave technology by providing services to its customers



# Status Update

- Personnel
- Training
- Communication and Technology Transfer
- Research
- Involvement on National Level
- Challenges and Status

# Personnel

- Jan Olek, Director
- Becky McDaniel, Technical Director
- Lynn Warble, Communications
- Steve Bowman, Technician
- Ayesha Shah, Research Engineer
- James Esler, Research Assistant

# Training in 2002

- **Regional Training**

- ◆ 2 Binder and 1 Fundamentals courses for a total of 21 participants.

- **NHI Courses**

- ◆ NHI is revising courses again - old ones available
- ◆ Taught one course in New Mexico to 24 participants

- **Customized Courses**

- ◆ Payne and Dolan, Binder Course (8 students)
- ◆ Iowa binder course; emphasis on DSR and Rheology
- ◆ Personalized binder training for representative of a Peruvian University



# Training in 2003

- One binder course held in January (7 participants), another scheduled for March (have 7 signed up so far)
- One Fundamentals Mix Design for beginners course in February (have 2 signed up)
- One Mix Design course for experienced designers in February (have 4 signed up)
- Partnered with Nichols Consulting Engineers to bid on developing training course on use of recycled materials in highway applications for the Recycled Materials Resource Center (RMRC)

# Video Production

- NCHRP hired Fugro/BRE to market results of NCHRP 9-12, completed by NCSC and AI in 2000.
- NSCS worked with Rita Leahy to write, produce, direct and star in (!) promotional video summarizing use of RAP in Superpave (12 minutes).
- NCHRP negotiated with NAPA to advertise. Being duplicated now and will be available from NCHRP soon.
- Very well received.

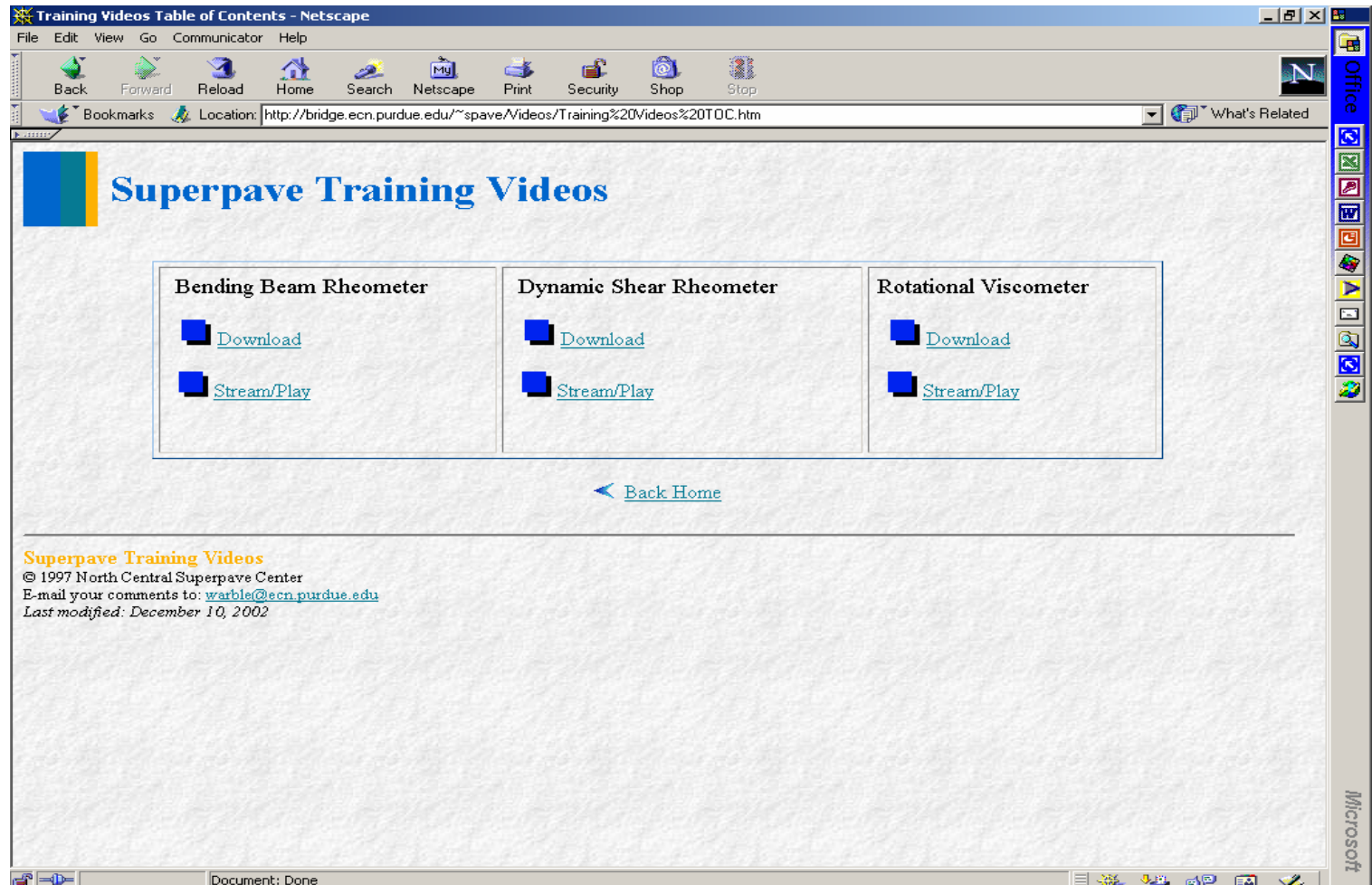


# Alternate Training Delivery Methods

- Investigating and implementing
  - ◆ Utilization of Internet technology
  - ◆ Combination of printed material & video clips
  - ◆ Now have three videos on Searchable Database: BBR, DSR, and Rotational Viscometer
  - ◆ Currently working on Direct Tension
- Offers
  - ◆ Ability to customize to fit clients' needs
  - ◆ Sharing of field/lab expertise
  - ◆ Training on *clients* schedule.



# Training Videos



# Communication

- ***Newsletter (regional and national editions)***
  - ◆ hard copy mailed to ~4000 people
  - ◆ electronic copies available on web page
  - ◆ coordinated, printed and distributed by NCSC three times a year for three centers
  - ◆ Current contract with NCSC and SESC only
  - ◆ Next issue Spring 2003
- ***Website***
  - ◆ Maintained and updated periodically
  - ◆ Addition/expansion continuing
  - ◆ Searchable database well received and expanding

# Presentations - 2002

- Ohio Asphalt Paving Conference
- APAI Seminar for Local Governments
- Southeast Asphalt User/Producer Group
- Iowa Asphalt Paving Association
- Institute for Safe, Quiet and Durable Highways
- Transportation Research Board Committee A2D03

# Equipment/Protocol Evaluations

- FHWA sponsored evaluation of candidate simple performance tests
  - ◆ Collected nine mixtures from Midwest
  - ◆ Look at how typical mixtures perform in SPT
  - ◆ Start building "library" of test results for 2002 Design Guide
  - ◆ Results to be presented later today
  - ◆ Look at testing SMAs in the SPT

# Equipment/Protocol Evaluations

- Participating in ruggedness testing on Binder Direct Tension
  - ◆ Testing 600+ samples from Raj Dongre
- Status
  - ◆ Invited to participate in evaluation of Gilson automated aggregate specific gravity device vs. Corelok and AASHTO
  - ◆ Awaiting equipment loan and protocols
- Other equipment/protocols possible - work with NCAUPG Technicians, DAV, etc. - suggestions?

# Implementation

- INDOT began allowing referee SST testing to evaluate mixes with less than 2% air voids on volumetric acceptance projects.
- We provided testing for two contractors on three projects.
- INDOT will go 100% volumetric next year.

# Completed Research at the NCSC

- *Use of Reclaimed Asphalt Pavement Under Superpave Specifications*    **Completed**
- *Performance Evaluation of Fiber-Modified Asphalt Mixes* - **Completed**
- *Asphalt Additives to Control Rutting and Cracking* - **Completed 1/31/03**



# Ongoing Research at the NCSC

- *Identification of Laboratory Techniques to Optimize Superpave HMA Surface Friction Characteristics - Iowa, Indiana and SQDH*
- *Effects of Hot Plant Fuel Characteristics and Combustion Conditions on Asphalt Concrete Quality - SDDOT (March 2003)*
- *Performance Certification of Indiana Superpave Hot Asphalt Mixes - INDOT*
- *Superpave Simple Performance Testing*



# Ongoing Research at the NCSC

- *Evaluation of Porous Asphalt Mixes (SQDH)*
- *Evaluation of Surface (Top-Down) Longitudinal Wheel Path Cracking in Indiana*
- *F-SHRP Renewal* (April 2003)
- Worked with Virginia Tech to bid on an NCHRP project on *Friction and Noise*. Came in a very close second.

# Pending Research at the NCSC

- *NCAT Pooled fund study on Noise*
- *Pending INDOT Projects*
- *Preparing to bid on more NCHRP projects*
- *Your suggestions for regional pooled fund projects???*

# Involvement on National Level

- TRB
- AAPT
- ICAR
- Long Term Pavement Performance Materials Data ETG, New Chair
- ASTM D4, Road and Paving Materials
- National Highway Institute Instructor
- NCHRP Project Chair, Surface Energy
- F-SHRP Renewal Team
- Binder and Mixture ETGs

# Challenges and Status

- Space limitations
  - ◆ INDOT adding 14,000 sq. ft. lab space for us to share. Construction to start in Spring 2003.

# Future Directions

- Need for stronger state-center partnership
- Identify potential areas of joint activities
  - ◆ MP1a implementation/investigation
  - ◆ DAV
  - ◆ RAP assistance
  - ◆ Ignition oven for carbonates
  - ◆ Friction and surface texture evaluations
  - ◆ Local Roads seminars
  - ◆ Research projects
  - ◆ State visits, paving conferences/seminars

# Discussion