



NORTH CENTRAL SUPERPAVE CENTER

Update on Center Status and Activities

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*NSCS Steering Committee Meeting
February 2, 2010*

NCSC STAFF

- Jan Olek, Director, Ph.D., P.E.
- Becky McDaniel, Technical Director, Ph.D., P.E.
- Ayesha Shah, Research Engineer, Ph.D.
- Mark Baker, Laboratory Manager
- Stephen P. Bowman, Technician



OTHER STAFF AND CHANGES

- Jody Reigel Leddy moved to Annapolis
- Grad Student Wubeshet Woldemariam continues to work on Quiet Pavements
- One undergrad, Yemi Atomori, helps in lab and office (web)
- Drew Szabat, sophomore, worked last summer and Christmas break
- Vacancies for a post doc and one or two graduate students (pending funding). Referrals appreciated.

CURRENT ACTIVITIES

- Research
- Technology Transfer
- Technical Support
- Training
- Presented in terms of topics/emphasis areas

RECYCLING/SUSTAINABILITY

Current Research Projects

- Development of High RAP Content Mix Guidelines and Informational Documents (with NCAT and UNH, funded by FHWA) thru October 2010
- RAP Plant Mix Study, Phase 2 (funded by FHWA); final report 90% complete
- Use of RAP in Surface Courses; testing complete, report in progress

RECYCLING/SUSTAINABILITY

Technical Support

- ▶ RAP characterization for contractor mix design
- ▶ Requests for information

Technology Transfer

- ▶ Member of FHWA Recycling Expert Task Group
- ▶ Articles/Papers – Roads and Bridges
- ▶ Recent Presentations on Recycling

Training

- Roads and Bridges presentation

TIRE/PAVEMENT NOISE

Research

- Quiet Pavement Study (FHWA)
- Long Term Performance of a Porous Friction Course (draft final report prepared)
- Collaboration with Institute for Safe, Quiet and Durable Highways (SQDH)

Technology Transfer

- ▶ Presentations
- ▶ Television – Modern Marvels still airs episode

TIRE/PAVEMENT NOISE

Technical Support

- Field Noise Testing
 - On Board Sound Intensity
 - Statistical Pass-By
 - Industry funded
 - State sponsored
- Participant in FHWA Sponsored Tire/Pavement Noise Symposia and Strategic Planning Workshops
 - Voicing practical, regional concerns



SURFACE CHARACTERISTICS

Technical Support

- Continuing support for Maryland State Highway Administration
- Testing thermoplastic pavement marking materials
- Collaboration with NCAT
- Past applications
 - Tack Coat Texture Testing
 - Seal Coat Texture and Permeability Testing



SURFACE CHARACTERISTICS

Ongoing Research Efforts

- RAP in Surface Courses
- Maximizing the Use of Local Aggregates
 - New study
 - Blending poor frictional quality aggregates with steep and blast furnace slag in HMA and SMA
- Risk Management of Low Air Void Mixes
 - Sections on NCAT Track with low air voids
 - Replicated in APT, trafficking to begin soon.
 - Lab testing too

SURFACE CHARACTERISTICS

- Friction in Pavement Management
 - Correlation of towed friction trailer, DFT/CTM and high speed laser texture measurements.
 - Field testing completed, analysis underway
- Optimizing Friction in Superpave Mixes – draft final report submitted and in review.

SEEKING NEW RESEARCH OPPORTUNITIES

- Partnered with California Center for Pavement Preservation to bid on NCHRP 9-47, *Properties and Performance of Warm Mix Asphalt*
- Partnered with Michigan Tech University to bid on *Handbook for Pavement Design, Construction and Management*
 - PI backed out at the last minute
- Submitted four research need statements to INDOT for potential funding

TECH TRANSFER – PRESENTATIONS

- Polyphosphoric Acid Workshop* – recorded and posted on web
 - Mark Buncher thanked us for keeping it available
- NAPA WMA and Recycling Symposium*
- Roads and Bridges Conference
- National Slag Association*
- Asphalt Shingle Recycling Forum – facilitate
- Kansas Asphalt Conference
- Missouri Asphalt Conference
- WMA and Recycling ETGS*
- Tennessee Quality Asphalt Initiative*

TECH TRANSFER – REPRESENTATION

- Long Term Pavement Performance ETG*
- RAP ETG*
- NCHRP 9–22, Beta Testing HMA PRS*
- NCHRP Synthesis on CIR, HIR and FDR*
- AAPT Board
- TRB Committees – General Issues, Binder and Mineral Aggregates*
- ASTM

TECH TRANSFER

○ Newsletter

- Uncertain if Southeast Superpave Center will continue working on newsletter with us.
- They were transitioning to all electronic distribution.
- Do we want to do the same?
- We plan to continue and publish another newsletter in a month or so.
 - Intelligent Compaction
 - Warm Mix Symposium
 - Kansas, Missouri and Tennessee conferences
 - Shingle Recycling Conference

TECHNICAL SUPPORT

- Participated in review of FHWA TFHRC Asphalt Research Program (2008)*
- National Science and Engineering Research Council of Canada, Calgary*
- Questions/ Requests for Information
 - Still coming in at least every week

THIRD PARTY TESTING

- Testing new aggregate source for contractor
- Binder extraction and testing for Vermont contractor for RAP mix design
- Testing thermoplastic pavement marking materials



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THIRD PARTY TESTING MAY INCREASE
because....

**American Association of State Highway and Transportation Officials
AASHTO Accreditation Program - Certificate of Accreditation**

This is to signify that

**North Central Superpave Center
West Lafayette, Indiana**

has demonstrated proficiency for the testing of construction materials
and has met the minimum requirements in AASHTO R18
set forth by the AASHTO Highway Subcommittee on Materials.

The scope of accreditation can be obtained by viewing
the AAP Directories of Accredited Laboratories (www.amrl.net)
or by contacting AMRL.


Executive Director


Chair, AASHTO Highway
Subcommittee on Materials

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AASHTO R18

OTHER THINGS WE CAN OFFER

- ▶ Testing Capabilities
 - Field and Lab
 - Binder, mixture and components
 - Formal research and informal forensics/evaluations
 - Equipment and test protocol evaluations
- ▶ Training Resources
 - ▶ Internships, one on one, our place or yours
- ▶ Technical Advice
 - Proposal review
 - Strategic planning
 - Research in progress/Literature synthesis
 - Speakers

QUESTIONS AND COMMENTS?