



FHWA and the MIEPDG

Katherine Petros

*Pavement Design & Performance Modeling
Team Leader*

Federal Highway Administration

Turner-Fairbank Highway Research Center

<http://www.fhwa.dot.gov/>

Pavement Performance Prediction
Symposium 2006

Outline

- MEPDG Status
- FHWA's Support Activities
- FHWA's Interest in Models

MEPDG Releases

- Version 0.7 - July 2004
- Version 0.8 - December 2005
 - ❖ Increased Climate Data
 - ❖ Corrected various bugs
- Version 0.9 – July 2006
 - ❖ Revised climatic characterization
 - ❖ Fixed identified errors
 - ❖ Batch mode capability
 - ❖ TrafLoad inputs
 - ❖ Recalibration of PCC & AC Models
 - ❖ Online only release
- Version 1.0 – Early 2007
 - ❖ May include recalibration
 - ❖ Final NCHRP version
 - ❖ Version to be balloted by AASHTO

To Report MEPDG Issues

<http://mantis.ara-tracker.com>

- See what issues/bugs have been reported
- Impact
- Status of their resolution
- Report new issues

FHWA's MEPDG Activities

- Workshops for agencies and industry
 - Introductory
 - Materials inputs
 - Climatic inputs
 - Traffic inputs
- Available online:
<http://www.fhwa.dot.gov/pavement/dgit/dgitcast.cfm>
- Developing an NHI course

Additional Support Activities

- Lead States
 - 19: AZ, CA, FL, KY, MD, ME, MN, MO, MS, MT, NJ, NY, NM, PA, TX, UT, VA, WA, WI
 - Technical briefs and website
- Highlighting the role of pavement management
- Demonstration of E* testing
- E* inclusion in LTPP database

Benefits of the MEPDG

- Can analyze the effects of materials
- Can analyze impacts of varying traffic loads
- Compatible with Superpave
- Can compare rehabilitation strategies
- Can use for forensic analyses

FHWA's Interest in M-E

Alters how people think about pavements

- Scientific basis for considering factors affecting performance
- Predicts distresses and ride
- Optimization of materials and structure
- Integration of materials, construction, pavement management

Performance Specifications

- MEPDG is a first step
- Local calibration
- Models can assess expected performance
 - Analysis of design proposals
 - As-constructed compared to as-designed
- Framework for improved models

Forces Changing Traditional Contracting

- Loss of agency personnel and expertise
- Spike in infrastructure renewal needs
- Demand for more rapid project completion
- Unwillingness to raise gas taxes

SAFETEA-LU Changes

- Design-Build Requirements Relaxed
 - Minimum cost removed
 - Awards prior to NEPA
- Tolling Provisions
 - Allowed for new Interstate construction
 - Allows private entities reasonable return on investment
- Private Activity Bonds
 - Changed Internal Revenue Code
 - Tax exempt financing for highways by private sector

Public-Private Partnerships

- 20+ States have enabling legislation
 - US DOT encouraging more
 - FY07 Budget: Open Roads Financing Pilot Program
 - Key Congestion Relief Strategy
- Turns State facilities into marketable assets
 - Wall Street seeking to invest

Innovative Financing

- Use of Performance Specifications
- Performance Prediction Models are Key
 - Investors/Owner
 - To know what they are buying
 - Contractors
 - To know their risk

Direction Forward for Models

- Foundation of multi-million \$ decisions
- More mechanistic basis
- Sooner, rather than later

Summary

- MEPDG has been revised
 - Release is imminent
- FHWA supports the MEPDG
- FHWA supports advancing the state of pavement performance prediction



Thank You!

Questions?