

# COMMUNICATION OF NCHRP RESULTS



## *TOWARD IMPLEMENTATION*

CRAWFORD JENCKS, MANAGER  
NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM  
TRANSPORTATION RESEARCH BOARD

JULY 18, 2013  
BATON ROUGE, LA

**NCHRP**  
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# TRB DIVISIONS



# “AASHTO’S RESEARCH PROGRAM”

**Sponsored by:** American Association of State  
Highway and Transportation  
Officials—State Departments of  
Transportation

**Managed by:** Transportation Research Board

**Assisted by:** Federal Highway Administration

## **NCHRP results affect State Departments of Transportation at all levels, across all functions**

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Management/Administration-Safety  
Pavements-Bridges-Design-Construction  
Materials-Maintenance-ROW-Planning  
Environment -Traffic-Operations-Geotechnical  
Hydrology/Hydraulics-Legal-Human Resources

# COMMUNICATING RESULTS FACILITATING IMPLEMENTATION INITIATIVES

- Staff commissioned analysis of 2012 survey of panels and principal investigators (CTC and Associates)  
*Identify improvements to the process by NCHRP, state DOTs, and others*
- Collaboration with the RAC Program Management and Quality Task Force (Co-chairs: Michael Bonini and David Jared)
- Communication of results from NCHRP Projects 20-83(1 to 7): Long-Range Strategic Issues

# PATHS TO IMPLEMENTATION BY STATE DOTs

- Directly applied or directly applied adaptations
- Adapted and/or adopted by AASHTO for specifications, guides, software (AASHTOWare)
- Supported by FHWA's ETGs and TWGs
- Referenced by FHWA Resource Center and other governmental agencies, industry, associations
- Used for NHI courses and other training, workshops, webinars
- Referred to McTrans for software distribution and support

# AVAILABLE TOOLS TO NCHRP PANELS AND STAFF

## **The Dollars**

- Include in original scope
- Request a continuation project funds
- Use NCHRP 20-44 funds for unexpected opportunities

## **The Techniques**

- Workshops, webinars, demonstrations
- Training material, pilot courses, PPT summaries
- Interaction with AASHTO committees or programs
- Assistance in AASHTO balloting
- Follow-up consultant assistance toward implementation (major efforts such as, LRFD Specs and the MEPDG)

# ONE SHOE DOESN'T FIT ALL

- Techniques for facilitating implementation vary because:
  - Subject matter and expert dependent
  - Differences in DOT cultures and those of other agencies
  - AASHTO committees and subcommittees do business differently
  - Variations in the thinking and approaches of panels



- LRFD Bridge Design Specifications
- M-E Pavement Design Guide
- Highway Safety Manual
- Asset Management Guides (2)
- Manual for Assessing Safety Hardware (MASH)
- Roadside Design Guide (Chapters)
- Bike and Pedestrian Guides (In development)
- Green Book (Geometric design updates)

# MEPDG & DARWIN-ME

## *AN EXAMPLE*

NCHRP produces the Mechanistic-Empirical Pavement Design Guide & DARWin-ME Software, then:

- Hires consultants for independent reviews
- Posts web-only usable version of software for all and CD to DOTs to test
- Establishes 2 technical support contractors to debug and update; 4 versions result; final 1.1 version
- Produces separate guide for local calibrations and practice
- Develops roadmap for future enhancements
- Conducts follow-on research

# NCHRP SPECIAL PROJECTS

**20-5 Synthesis Program**

**20-6 Legal Studies**

**20-7 AASHTO Highway  
Committee**

**8-36 AASHTO Planning  
Committee**

**25-25 AASHTO Environment  
Committee**

**20-65 AASHTO Public  
Transportation Committee**

**20-24 State DOT Leadership  
Support**

**20-30 NCHRP-IDEA**

**20-36 International Info.  
Sharing and Scans**

**20-59 Transportation Security**

**20-68 US Domestic Scan  
Program**

# THE NCHRP ADVANTAGE

- Projects proposed and selected by sponsors
- State DOT practitioners involved throughout
- The AASHTO relationship for standards, software, and guides
- NCHRP staff and panel interaction with AASHTO committees
- Assistance from FHWA
- Assistance from other organizations
- TRB distribution system, E-Newsletter, webinars, TR News, and standing committees

# NCHRP PROJECTS: 20-83 SERIES

*\$1,000,000 EACH*

- 1) Freight and the economy--*NCHRP Report 750, Volume 1: Scenario Planning for Freight Transportation Infrastructure Investment*
- 2) Technologies and system performance
- 3) Preservation, maintenance, and renewal
- 4) Energy supplies and alternative fuels
- 5) Climate change
- 6) Socio-demographics and travel demand
- 7) Sustainability systems and organizing principles

**NCHRP PROJECT 20-83B**  
**COMMUNICATING THE RESULTS OF NCHRP**  
**STRATEGIC TRANSPORTATION ISSUES RESEARCH**

- Purpose:
  - Communicate the results of 7-\$1M long-range strategic issues projects
  - Explore different techniques
- Contractor: Burns & McDonnell Engineering Company  
Kansas City, KS
- Principal Investigator: Julie Lorenz
- NCHRP Panel Chair: Sandra Larson, Iowa DOT
- NCHRP Staff: Lori Sundstrom, [lsundstrom@nas.edu](mailto:lsundstrom@nas.edu)

# NCHRP PROJECT 20-83B WORKSHOP - JANUARY 2014

Title: To the Future and Beyond! Big ideas that Change Transportation as We Know It.

When: Sunday, January 12, 2014, 1:30pm to 4:30pm

Where: 2014 TRB Annual Meeting, Hilton Hotel,  
Washington, DC

What will happen: Interactive sessions to push the envelope in wide-ranging futurist discussions based on the best long-term research in the industry.

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# IMPACTS

## NCHRP AT 50 YEARS



THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM  
Advancing transportation and meeting states' needs for the 21st century

### NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM IMPACTS ON PRACTICE

Making the most of NCHRP results

#### Iowa DOT's relentless pursuit of excellence

At Iowa DOT, every new research result from NCHRP represents an opportunity for improvement. "We judge the value of NCHRP—or any research

"NCHRP offers great value in the technical information it provides."

### NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM IMPACTS ON PRACTICE

NCHRP meets a small state's big needs

#### New Hampshire's go-to source for research

New Hampshire  
way  
\$800,000  
into \$35  
By annual  
Glenn Rob  
wouldn't h  
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vide us.

### NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM IMPACTS ON PRACTICE

Leveraging the state research investment

#### NCHRP pays off for Caltrans

Randy Iwasaki, director of the California Department of Transportation, knows the three steps to getting the most out of research: "Deploy, deploy, deploy." Caltrans invests in research to get results it can implement at



### NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM IMPACTS ON PRACTICE

NCHRP from a Chief Engineer's Perspective

#### Delivering value across a transportation agency

Temple, chief engineer of the Louisiana Department of Transportation and Development, can name off the top of his head a dozen NCHRP research reports that his office uses on a regular basis to get its work done. Topics range from Superpave testing to pavement drainage issues, from access management to design-build contracting. However, when Temple did some asking around Louisiana DOTD, he found that his list was just the tip of the iceberg.

"The agency's design team never could have completed this work without relying on NCHRP research."

program's full-scale research projects is a variety of other research products cited by Louisiana DOTD division heads, including NCHRP synthesis reports, series 20-07 "quick response" studies, and Innovations



Systems Engineering is another frequent user of NCHRP research, calling upon

TRANSPORTATION RESEARCH BOARD  
OF THE NATIONAL ACADEMIES



**Senior Program Officers**

- ⊙ Mark Bush
- ⊙ Waseem Dekelbab, PhD
- ⊙ Ray Derr
- ⊙ Chris Hedges
- ⊙ Amir Hanna, PhD
- ⊙ Ed Harrigan, PhD
- ⊙ Andy Lemer, PhD
- ⊙ David Reynaud
- ⊙ Bill Rogers, PhD
- ⊙ Nanda Srinivasan
- ⊙ Lori Sundstrom

**Primary Focus Areas**

Safety  
Structures  
Traffic, Geometrics, Safety  
Special projects, Design, Impact Analysis  
Materials, Pavements, Maintenance  
Materials, Asphalt, Pavements  
Org. and policy issues, Asset Manage't,  
Construction, Hydraulics  
Freight  
Planning, Environment  
Planning

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