Transportation Research Board (TRB) of the National Academies

National Cooperative Highway Research Program (NCHRP)

Update

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Manager, NCHRP

AASHTO Highway Subcommittee on Construction
August 2, 2006
San Juan, Puerto Rico
NCHRP (& TRB) Overview

- Organization
- Cooperative Research Programs
- SHRP II
- NCHRP
- Construction Interests

Transportation Research Board
of the National Academies
COOPERATIVE RESEARCH PROGRAMS

- National Cooperative Highway Research Program (NCHRP) - 1962
  - FHWA - AASHTO - TRB
- Transit Cooperative Research Program (TCRP) - 1992
  - FTA - APTA - TRB
- Airport Cooperative Research Program (ACRP) - 2004
  - FAA - ACI - TRB
- Commercial Truck and Bus Safety Synthesis Program (CTBSSP) - 2001
  - FMCSA - TRB
‘NEW” COOPERATIVE RESEARCH PROGRAMS, FY2006-09

- National Cooperative Freight Research Program (NCFRP)
  - RITA- TRB

- Hazardous Materials Cooperative Research Program (HMCRP)
  - PHMSA- TRB
New TRB Division

$51.25M/yr. ($36M for FY’06) for 4 years

Themes: Safety, Renewal, Reliability, Capacity

Major issue: re-prioritize research program to match reduced funding level

RFPs summer-fall ‘06

TRB.org/SHRP II
National Cooperative Highway Research Program (NCHRP)

Managed by: Transportation Research Board (TRB)

Sponsored by: American Association of State Highway and Transportation Officials (AASHTO)

Assisted by: Federal Highway Administration (FHWA)
AASHTO’s Research Program - Since 1962

- **State DOTs**
  - Funds (5.5% of SP&R funds)
  - Problems (Approved by AASHTO)
  - Leveraged funds

- **Applied research focus**
  - National issues (emerging concerns)
  - Shared issues (common problems)

- **Contract research**
  - Panels
  - Research contractors

Transportation Research Board of the National Academies
## SAFETEA-LU
### NCHRP Funding

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>$ Millions</th>
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<tbody>
<tr>
<td>2004*</td>
<td>35.4</td>
</tr>
<tr>
<td>2005</td>
<td>33.0</td>
</tr>
<tr>
<td>2006</td>
<td>32.7</td>
</tr>
<tr>
<td>2007</td>
<td>33.0 (est.)</td>
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</table>

*TEA-21 based
Research Projects

- 20-72, Tools to Aid State DOTs in Workforce Issues
- 20-73, Best Practices on Accelerating Project Delivery
- 20-76, Standards and Models of a Disparity/Availability Study Standard for DBE Programs
More Projects

- Risk Management Methods to Control Cost Escalation (8-60)
- Warm Mix Asphalt (9-43)
- Specs for Mineral Fines (9-45)
- Specs for Externally Bonded FRP Repair Systems (10-73)
- Fly Ash Properties (18-13)
- Cracking at Ends of Pretensioned Girders (18-15)
- High-Performance/High-Strength Lightweight Concrete (18-15)
NCHRP “Sub-” Programs

- 20-5, Synthesis Program (state of practices)
- 20-6, Legal Studies (legal reviews)
- 20-24, Administration of State DOTs (for state DOT CEOs)
- 20-30, NCHRP-IDEA (support for product initiation)
- 20-36, International Info. Sharing & Scans
- 20-68, US Domestic Scan Program (New)
- AASHTO Committee Support--20-7: SCOH; 8-36: SCOP; 25-25: SCOE; 20-65: SCOPT
New Syntheses (20-5)

- 38-01, Quality Assurance in Design-Build Construction
- 38-02, Information Technology for Project Design and Construction
- 38-06, Pre-Overlay Repair for Existing Pavements
- 38-12, Alternative Contracting Methods to Facilitate Faster Construction and Reconstruction
Legal Studies (20-6)

- *Selected Studies in Transportation Law* (on CRP-CD-20)
  - Volume 1, Construction Contract Law
  - Volume 2, Environmental Law and Transportation
  - Volume 4, Tort Liability of Highway Agencies
Task 220, Update of the AASHTO Guide Specifications for Highway Construction

Task 225, Best Practices in the Management of Design Errors and Omissions

Task 227, Technology Transfer Guidebooks for Implementation of Innovative Technologies

Task 229, Bridge Construction Practices Using Incremental Launching
20-24 Series
Addressing State DOT Leadership

- 20-24(51), State DOT CEO Leadership Forum (September 24-26, 2006)
- 20-24(52), Future of the Interstate Highway System
- 20-24(54), AASHTO Bottom Line Report (for reauthorization and other Congressional input)
NCHRP-IDEA (20-30)
Products

- Pavement Quality Indicator
- MMFX 2 Steels, Corrosion Resistant Rebar
- Fiber-Reinforced Honeycomb Composite Bridge Deck
- Damper System for Stay Cable Vibrations
- Filtration System for Removing Lead from Wash Water
- Basalt Fiber Rebar
- Robotic Safety Markers
- Shape Memory Alloys for Seismic Rehabilitation
International Scans (20-36)

- Recent FY 2006 Scans
  - Oversight of Large and Innovative Projects
  - Long-Life Concrete Pavements

- Proposed FY 2007 Scans
  - Warm Mix Asphalt Technologies
  - Bridge Inspection and Health Monitoring
Domestic Scans (20-68)

- New, pilot phase
- Completed 1-Week Scan: Accelerated project delivery (focus on ROW and utilities)
- Upcoming 2-Week Scan (Sept. ’06):
  Transportation Asset Management
- More to come, new solicitation
Problem Submittals for FY 2008
NCHRP

- **Research Problem Statements**
  - Due by September 15, 2006 from State DOTs, AASHTO committees, & FHWA
  - Selected in March 2007 by AASHTO Research Committee

- **Synthesis Topics**
  - Due by February 9, 2007
  - Selected in May 2007 by NCHRP panel

- **Project 20-7 Tasks**
  - Due prior to semi-annual meetings of SCOH
  - Send to chair of 20-7 NCHRP panel
## NCHRP Programming FY 2007

<table>
<thead>
<tr>
<th>Continuations</th>
<th>Requested</th>
<th>Programmed</th>
<th>Contingent</th>
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<tbody>
<tr>
<td></td>
<td>Items</td>
<td>(millions)</td>
<td>Items</td>
</tr>
<tr>
<td>Contingent</td>
<td>0</td>
<td>0.000</td>
<td>0</td>
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<tr>
<td>New Projects</td>
<td>167</td>
<td>64.827</td>
<td>33</td>
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<tr>
<td>Submitted by:</td>
<td>96</td>
<td>37.247</td>
<td>8</td>
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<tr>
<td>Member Departments</td>
<td>68</td>
<td>27.080</td>
<td>24</td>
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<td>AASHTO Committees</td>
<td>3</td>
<td>0.500</td>
<td>1</td>
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<tr>
<td>FHWA</td>
<td>188</td>
<td>74.772</td>
<td>53</td>
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NCHRP Programming FY 2007

- **Total Items Submitted**: 188
- **Total Programmed Dollars**: $20.450 million
- **Total Contingent Dollars**: $1.950 million

Submitted by:

- **Member Departments**: 188 items, $74.772 million
- **AASHTO Committees**: 68 items, $27.080 million
- **FHWA**: 3 items, $0.500 million

**Total**: 188 items, $74.772 million

**Programmed**: 53 items, $20.450 million

**Contingent**: 4 items, $1.950 million
NCHRP WEBSITE
<trb.org/nchrp>

- Information on NCHRP and TCRP
- Search engine
- Project Info since 1988: Anticipated / Active / Completed
- CRP publication lists / ordering info
- Requests for proposals
- Registration form for notification of RFPs
- AASHTO Products List
TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES
Wanted!

Senior Program Officer
National Cooperative Highway Research Program