National Cooperative Highway Research Program (NCHRP)

Update

AASHTO
Highway Subcommittee on Construction
August 6, 2008

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Cooperative Research Programs
Transportation Research Board (TRB)
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TRB Activity

- TRB in general
- Other cooperative programs
- SHRP 2
- NCHRP & Opportunities
THE NATIONAL ACADEMIES

Private, Nonprofit Institution

TRANSPORTATION RESEARCH BOARD

TECHNICAL ACTIVITIES
STUDIES & SPECIAL PROGRAMS
ADMIN & FINANCE
SHRP 2

COOPERATIVE RESEARCH PROGRAMS

NCHRP

* TCRP
* ACRP
* NCFRP
* HMCRP
## TRB
### Cooperative Research Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Established</th>
<th>$ Millions</th>
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<tbody>
<tr>
<td>NCHRP (Highways)</td>
<td>1962</td>
<td>36</td>
</tr>
<tr>
<td>TCRP (Transit)</td>
<td>1992</td>
<td>9</td>
</tr>
<tr>
<td>ACRP (Airports)</td>
<td>2004</td>
<td>10</td>
</tr>
<tr>
<td>NCFRP (Freight)</td>
<td>2006</td>
<td>2.6</td>
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<tr>
<td>HMCRP (HazMat)</td>
<td>2006</td>
<td>0.9</td>
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Strategic Highway Research Program 2 (SHRP2)

Themes

1. Safety
2. **Renewal:** “performed rapidly, with minimum disruption, and long-lived”
3. Reliability
4. Capacity
NCHRP

What’s it to you?

IT’S YOUR PROGRAM!!!
National Cooperative Highway Research Program (NCHRP)

Managed by: Transportation Research Board (TRB)

Sponsored by: American Association of State Highway and Transportation Officials (AASHTO) i.e., the state DOTs

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

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

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

- **Contract research**
  - Panels (> 50% state DOTs)
  - Research contractors
  - TRB management/facilitation

Transportation Research Board of the National Academies
Problem Submittals and Selections

- Authorized sources
  - State Departments of Transportation
  - AASHTO committees /subcommittees
  - Federal Highway Administration

- Selection of recommended NCHRP projects by AASHTO Standing Committee on Research (March)

- Approved by AASHTO Board of Directors (2/3rds vote-July)
FY 2009 (New) Projects

10-77 Developing Guidelines for GPS Controlled Construction Machine Guidance and Required CADD Software

10-78 Analysis of Nighttime Construction Activities and Impacts to Safety, Quality, and Productivity

(from HSOC and Project 10-58 Construction Research Plan)
Project 20-83
Long Range Strategic Issues Facing the Transportation Industry
$5,000,000

- Capture futuristic thinking on the economic, social, and environmental realities that will place new demands on transportation.
- Create a framework for a research agenda.
- May involve global trends such as climate change, increasing cost of oil, the availability of alternative fuels, new technology and artificial intelligence, changing demographics and lifestyle expectations, and the limitations of current highway finance.
Ongoing NCHRP Projects

10-58(01) Time-Related Incentive and Disincentive Provisions in Highway Construction Contracts

10-68 Guidelines for the Use of Highway Pavement Warranties

10-69 Guidelines for Dowel Alignment in Concrete Pavement

10-75 Guide to Pavement-Type Selection

21-09 Intelligent Soil Compaction Systems
NCHRP Reports

- 574 Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction
- 581 Design of Construction Work Zones on High-Speed Highways
- 589 Improved Conditioning and Testing Procedures for HMA Moisture Susceptibility
- 609 Recommended Construction Specifications and Process Control Manual for Repair and Retrofit of Concrete Structures Using Bonded FRP Composite
NCHRP Research Results Digests

- 323 Using the Results of Contractor-Performed Tests in Quality Assurance
- 330 Temporary Bridging to Avoid or Minimize Impacts to Waters and Wetlands During Highway Construction
NCHRP Special Projects
“Subprograms”

- 20-5 Synthesis Program ($1.2M)
- 20-6 Legal Studies ($75K to $150K)
- 20-7 AASHTO Highways Com. ($1M)
- 20-24 Adm. of State DOTs (for CEOs) ($1M)
- 20-30 NCHRP-IDEA ($1.25M)
- 20-36 International Info. Sharing ($850K)
- 8-36 AASHTO Planning Com. ($600K)
- 25-25 AASHTO Environmental Com. ($600K)
- 20-65 AASHTO Public Transportation Com. ($300K)
- 20-68 US Domestic Scan Program ($500K)
NCHRP Syntheses

372 Technologies for Construction Delivery

375 Bridge Inspection Practices

376 Quality Assurance in Design-Build Projects
2008 NCHRP Synthesis 20-05
New Topics

40-01 Properties and Applications of Recycled Materials and Byproducts for Use as Construction Materials

40-02 Construction Manager-at-Risk Project Delivery for Highway Programs

40-04 Utility Location and Highway Design

40-13 Recycling of Asphalt Pavement Using In-Place Methods
Project 20-7 for SCOH

PROJECT NO. 20-7/TASK 172
RECOMMENDED AASHTO DESIGN-BUILD PROCUREMENT GUIDE
FINAL REPORT
Prepared for
National Cooperative Highway Research Program
Transportation Research Board
National Research Council
Keith Molenaar, PhD, DBIA, University of Colorado
Boulder, Colorado; et. al
Project 20-06, Legal Studies

- *Selected Studies in Transportation Law*: Volume 1: Construction Contract Law
- *Legal Research Digest 49*: Emergency Contracting: Flexibilities in Contracting Procedures during an Emergency
- *Legal Research Digest 50*: Current Practices in the Use of Alternative Dispute Resolution
NCHRP Help

- Submit “regular” NCHRP research projects
- Submit synthesis topics--state of the practice (Project 20-5)
- Submit “quick response” projects to help conduct subcommittee business (Project 20-7)
- Submit international scan topics (Project 20-36)
- Submit domestic scan topics (Project 20-68)
NCHRP Problem Submittals

- **Research Problem Statements**
  - Due by September 15, 2008 from State DOTs, AASHTO committees, & FHWA
  - Select in March 2008 by AASHTO Research Committee

- **Project 20-5 Synthesis Topics**
  - Due by January 31, 2009
  - Select in May 2009 by NCHRP panel

- **Project 20-7 Tasks**
  - Due prior to semi-annual meetings of SCOH
  - Send to chair of 20-7 NCHRP panel (AASHTO website)

- **Project 20-68 Domestic Scans**
  - Due August 29, 2009 thru AASHTO
Objectives

- Encourage NCHRP interest
  - Use it as a resource
  - Call staff for assistance
- Encourage NCHRP involvement
  - Volunteer for panels
  - Submit problem statements
- Encourage use of NCHRP findings
  - Adapt and/or adopt results
  - Champion results ($$$ available for support)
And remember its your program!
Cooperative Research Programs

The National Cooperative Highway Research Program (NCHRP), Transit Cooperative Research Program (TCRP), Airport Cooperative Research Program (ACRP), National Cooperative Freight Research Program (NCFRP), and Hazardous Materials Cooperative Research Program (HMCRP) are applied, contract research programs that develop near-term, practical solutions to problems facing transportation agencies. Both NCHRP and TCRP include annual projects addressing ongoing needs.

- **NEW!** TCRP announces its FY 2007 projects for potential contractors ([Adobe PDF](http://www.trb.org/nchrp) or [Microsoft Word DOC](http://www.trb.org/nchrp)).
- **NEW!** TCRP solicits panel nominations for its FY 2007 program. The solicitation can be found [here](http://www.trb.org/nchrp), and panel nominations are due no later than January 12, 2007.
- ACRP announces its FY 2007 projects (PDF), and RFPs are expected to be posted starting in November 2006.
- NCHRP announces its FY 2007 projects (PDF).
- In 2004, NCHRP surveyed panel members to learn what they knew about the implementation of their research findings. An additional question asked how panel members would rate the program using four performance factors. [Click here](http://www.trb.org/nchrp) for the results of this survey.
- TCRP reports and other products are available at [APTA's Product Dissemination Website](http://www.trb.org/nchrp).
- **NCHRP: Leveraging Resources for Better Transportation** (PDF), an informational brochure highlighting 40 years of NCHRP.
- NCHRP's [Summary of Progress](http://www.trb.org/nchrp) as of June 2006.
- TCRP's [Annual Report 2005](http://www.trb.org/nchrp). (PDF)
- Principal investigators should review [Preparing Your CRP Final Report, Author Guidelines for Submitting CRP Reports, Style Manual, Executive Summary Guidelines, and Quality Checking Figures and Tables](http://www.trb.org/nchrp).

[Sign up](http://www.trb.org/nchrp) to be notified when new requests for proposals are available.
National Cooperative Highway Research Program (NCHRP)