

# National Cooperative Highway Research Program (NCHRP)

## Update

**AASHTO  
Highway Subcommittee on Construction  
August 6, 2008**

**Crawford Jencks, Deputy Director  
Cooperative Research Programs  
Transportation Research Board (TRB)  
cjencks@nas.edu**

# TRB Activity

- **TRB in general**
- **Other cooperative programs**
- **SHRP 2**
- **NCHRP & Opportunities**

# THE NATIONAL ACADEMIES

*Private, Nonprofit Institution*

## TRANSPORTATION RESEARCH BOARD



# TRB

## Cooperative Research Programs

Program	Established	\$ Millions
NCHRP (Highways)	1962	36
TCRP (Transit)	1992	9
ACRP (Airports)	2004	10
NCFRP (Freight)	2006	2.6
HMCRP (HazMat)	2006	0.9

# 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)**

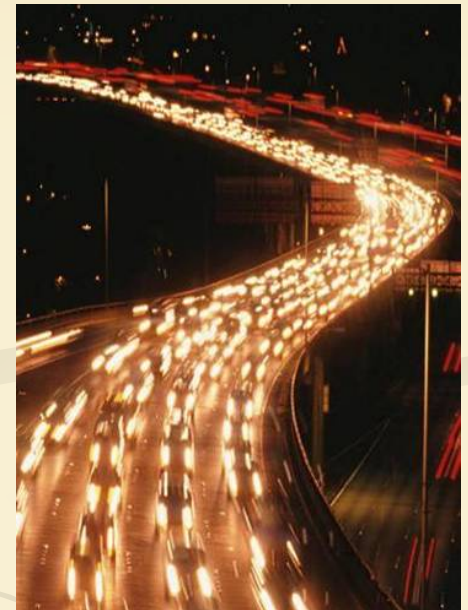
**Managed by: Transportation Research Board (TRB)**

**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**  
REPORT 480

A Guide to  
Best Practices for Achieving  
Context Sensitive Solutions

TRANSPORTATION RESEARCH BOARD  
OF THE NATIONAL ACADEMIES



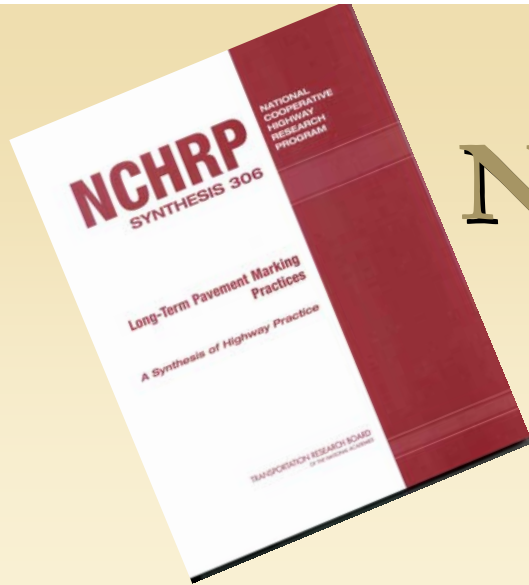
# NCHRP Research Results Digests

- **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!**

The background is a solid light beige color. In the bottom right corner, there are several overlapping, wavy, light grey lines that create a sense of movement or a stylized path.

- CRP Projects**  
Find Projects  
Current RFPs  
RFP Email List  
Upcoming Projects
- NCHRP**  
Overview  
All Projects  
AASHTO Products
- TCRP**  
Overview  
All Projects  
Accomplishments
- ACRP**  
Overview  
All Projects  
User Manual  
Research Problems
- NCFRP**  
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## 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](#) or [Microsoft Word DOC](#)).
- **NEW!** TCRP solicits panel nominations for its FY 2007 program. The solicitation can be found [here](#), 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](#) for the results of this survey.
- The *Mechanistic-Empirical Pavement Design Guide*, related documentation, and Version 0.910 of its software are available online for evaluation at <http://www.trb.org/mepdg/>. Software errors can be reported or identified ones reviewed at <http://www.ara-tracker.com/> (free registration required).
- TCRP reports and other products are available at [APTA's Product Dissemination Website](#).
- [NCHRP: Leveraging Resources for Better Transportation](#) (PDF), an informational brochure highlighting 40 years of NCHRP.
- NCHRP's [Summary of Progress](#) (PDF) as of June 2006
- TCRP's [Annual Report 2005](#) (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](#).

[Sign up](#) to be notified when new requests for proposals are available.



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