How can I get involved in NCHRP and TRB’s Construction Committees?

AASHTO Committee on Construction
August 11-15, 2019
Franklin, Tennessee
(NCHRP Liaison: Amir N. Hanna)
Why get involved in NCHRP and TRB’s Construction Committees?

• Help TRB and NCHRP better serve state DOTs and transportation stakeholders
• Help state DOTs and the Committee better benefit from TRB activities and NCHRP products
The National Academies of Sciences, Engineering, and Medicine Structure
How can I get involved in NCHRP and TRB’s Construction Committees?

1. How can I get involved in TRB’s Construction Committees?
2. How can I get involved in NCHRP?
TRB Technical Activities Division

Over 200 Committees led by the Technical Activities Council (TAC)

Eleven Groups
1. Policy and Organization (Group B)
2. Planning and Environment (Group D)
3. Design and Construction (Group F)
4. Operations & Preservation (Group H)
5. Legal Resources (Group L)
6. System Users (Group N)
7. Public Transportation (Group P)
8. Rail (Group R)
9. Freight Systems (Group T)
10. Aviation (Group V)
11. Marine (Group W)
9 Committees in the Construction Section

- Construction Management (AFH10)
- Quality Assurance Management (AFH20)
- Construction of Bridges and Other Structures
- Asphalt Pavement Construction & Rehab (AFH60)
- Disadvantaged Business Enterprises (AFH80)
- Project Delivery Methods (AFH15)
- Emerging Design & Construction Technologies (AFH30)
- Concrete Pavement Construction & Rehab (AFH50)
- Fabrication and Inspection of Metal Structures (AFH70)
Unlocking the Mystery of Committee Codes

Example: **AFH20**

- **“A” – Division**
  - i.e. Standing Committees/TRB Annual Meeting, not NCHRP

- **“F” Group = Design & Construction**
  - i.e. Highway Infrastructure

- **“H” Section = Construction**
  - Other letters for Pavements, Bridges, Concrete etc.

Committee Two-digit Number

- **“20” = Quality Assurance Management**

Subcommittee in Parenthesis

- **(1) Subcommittee on QA in Alternative Delivery**

**AFD20(1)**
How can I get involved in TRB’s Construction Committees?

1. Explore the make-up of the Section

2. Find committees that are working on topics of interest to you

You do not have to be a Member of the committee to get involved

3. Connect with the chair of the committee
Committee Functions

1. Engagement in Topic Area
   – TRB Annual Meeting
     • Sessions: Paper-based and invited speakers
     • Workshops
     • Committee Meetings: Exchanges and presentations
   – Specialty workshops/conferences
   – Mid-year meeting
   – Networking
   – Responses to requests for information
   – Referral to other experts
Committee Functions

2. Stimulate Research
   – Developing and publishing RNS
   – Submitting RNS to research organizations:
     • NCHRP (through AASHTO, DOT or FHWA)
     • Pooled Funds (Championed by a DOT or FHWA)
     • others
   – Defining and publishing critical issues
   – Identifying cross-cutting issues and stakeholders
Committee Functions

3. Synthesize Research

– Developing TRB e-Circulars
– Sponsoring special webinars, workshops, and conferences
– Publishing compendiums of special papers
– Recommending topics for NCHRP, ACRP, and TCRP Synthesis series
Committee Functions

4. Encourage diverse participation on committee
5. Recommend papers for award consideration
6. Cosponsor special activities with other committees or organizations
7. Conduct periodic strategic planning and self-evaluations (TSP)
8. Upon request, serve or nominate others to serve on project panels, etc.
www.MyTRB.org
Sign Up as a Friend of a Committee

• Send a note to the committee Chair about your interest

• Consider volunteering to:
  – review research papers
  – work on a committee project
  – give a presentation
  – or preside at a session of the annual meeting or a specialty conference.
Construction Management\_AFH10

- A Workforce to be able to support construction management and executing new skillsets
- Advanced technology: CIM, BIMS, AV, Mobile IT
- Performance impacts from accelerated construction and new QA/QC methods
- and more...
Project Delivery Methods AFH15

• Promote evolution of Alternative Delivery
• Better handoff to operations, focus more on the facility
• Quantify P3 value-for-money
• Focus on O&M cost of P3 vs. non P3
• Reduce barriers to implementation (legislative, public sentiment, bundling projects)
• Insurance requirements
Quality Assurance Management_{AFH20}

- QA of base course, subgrade, bridge superstructure and decks, preservation (going beyond the pavement surface materials)
- Data analytics & digital models
- Interconnectedness of the lifecycle
- Connecting as-built data with QA
- Non traditional QA processes for alternative delivery
Emerging Design and Construction Technologies $^{AFH30}$

- Technologies outside the transportation sector
  - Additive manufacturing (3D printing)
  - Automated construction
  - Robotic inspection
  - Wireless power transfer
  - LiDAR
- Human interaction and how to use it properly
- NASA, DOD, Major Tech Companies
Construction of Bridges and Structures

- Integrating new Materials and Construction techniques
- UHPC as a stay-in-place formwork
- Digital Contracting
- Tangible aspects of girder connections, integral piers and how to design not to crack
- Mass concrete still a huge issue
Concrete Pavement Construction and Rehab.\textsubscript{AFH50}

- Rapid setting concrete
- Timing selection and application of preservation, how it affects rehabilitation
- Roller Compacted Concrete and RCC Pavements
- Performance of different dowel bars, long term
- Building (and designing) for durability
Fabrication and Inspection of Metal Structures_{AFH70}

- New means and methods to
  - Increase production rate of fabrication
  - Increase reliability
  - Decrease rejection occurrences
  - Accelerate QC
  - Decrease cost

- Further adoption of digital radiography
- PAUT inspection
- Virtual assembly and fit-up
Disadvantaged Business Enterprises

- Aspect of DBE regulations that cause unintended consequence to DBEs, contractor, and DOT/Agency Staff
- Factors that would promote Regional DBE Certification Cooperatives
- DGBE Commitment Submittals / impact of Responsibility vs. Responsiveness
- Best Practices for Construction and Professional Services Contracts
How can I get involved in NCHRP and TRB’s Construction Committees?

1. How can I get involved in TRB’s Construction Committees?
2. How can I get involved in NCHRP?
NCHRP: Goal-Oriented Research Program

- **Responds to state DOT needs:** DOTs and AASHTO committees propose research topics; AASHTO R&I Committee selects projects.

- **Ensures applicability of the results:** Practitioners from State DOTs and other sectors of the highway industry participate in monitoring the research.

- ** Produces practical, ready-to-use results:** Research products are prepared as guides, manuals, specifications, test methods, tools, etc. for use by state DOTs and other organizations, and adoption by AASHTO.
A Year of NCHRP

Problem Statements Due Nov 1

Evaluation

Program Formulation

Panel Formulation

Proposal Process

Agency Selection

Research Phase Begins

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr
NCHRP Research Process

1. Define Scope of Research (2 day meeting)
2. Select Contractor (1 day meeting)
3. Monitor Progress (1 or more meetings)
4. Review and Approve Report (mail ballot and/or meeting)

Comments & Modifications
- Proposals
- Interim Deliverables

Guidance
- Draft Report

RFPs
How can I get involved in NCHRP?

- Submit problem statements
- Participate in Panels
- Participate in the research
- Disseminate research findings
- Implement/use research products
Submit Problem Statements

• Research Projects: Practical-to-implement solutions to pressing problems facing the industry

• Synthesis Projects: Reports on current knowledge and practice (no detailed direction/recommendation)

• Activities to advance Committee business (Project 20-123, Support for AASHTO Committees and Councils)

• Domestic Scan Program (Project 20-68)

• Implementation Activities (Project 20-44)
Participate in Panels

- Research Project Panels: Develop RFP, Review proposals, select contractor, review progress and final reports, provide oversight, interact with peers

- Synthesis Project Panels: Develop scope of work, select consultant, review survey, review draft and final reports

- Project 20-123 panels: Represent AASHTO Committee and its intent.

- Domestic Scans: Help plan activity, select consultant, review report, share state practices with other members and with other agencies.
Participate in Research

• Research Projects: Respond to surveys, provide case studies, provide test sites, provide data

• Synthesis Projects: Respond to surveys, provide case studies

• Domestic Scans: Be host state or participating state, provide information
Disseminate Research Results

Review published reports; identify those useful for construction personnel:

- Recommend for AASHTO adoption/publication
- Recommend for the webinar series
- Recommend for a workshop
- Report on your use of research results
- Write TR News or Research Pays Off articles
Implement/Use Research Products

Resources are available through NCHRP Project 20-44, *Accelerating the application of Research Results* to

- Assist with the publication process
- Organize webinars, demos, workshops, etc.
- Conduct training
- Prepare briefing materials
NCHRP FY 2020 - Summary

• 11 Continuation and special projects: $7.740 million

• 58 New projects (includes 2 syntheses): $25.590 million

Total 69 projects ($33.330 million) in about 20 problem areas (bridges, maintenance, materials, pavements, traffic, security, safety, etc.)
# NCHRP FY 2020 New Projects

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<th></th>
<th>Submitted</th>
<th>Programmed</th>
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<tbody>
<tr>
<td>Member Dept.</td>
<td>34 ($14.025)</td>
<td>11 ($5.045)</td>
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<tr>
<td>AASHTO Com.</td>
<td>77 ($31.105)</td>
<td>46 ($20.195)</td>
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<tr>
<td>FHWA</td>
<td>3 ($1.000)</td>
<td>1 (0.350)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>114 ($46.130)</td>
<td>58 ($25.590)</td>
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<td>COC</td>
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NCHRP FY 2020 Projects
(Related to Construction)

• Project 03-140: Application of RFID and Wireless Technologies for Highway Construction
• Project 14-43: Guide Construction Specifications for Cold In-place Recycling and Cold Central Plant Recycling
• Project 14-44: Construction Specifications for Pavement Treatments: Slurry Seals and Tack Coats
• Project 15-69: Utility Conflict Impact During Highway Construction
NCHRP FY 2021 Program

• July 15, 2019: Solicitation of FY 2021 problem statements
• Nov. 1, 2019: End date for problem statements – New template
  - NCHRP & FHWA review
  - Review to submitter/submitter comment
  - Problem statements to R&I Committee and RAC for comment and ratings
  - Summary report with R&I/RAC comments and rating, and overall rankings to R&I.
• April 14-15, 2020: R&I Committee meeting/project selection
NCHRP: Advancing transportation and meeting states’ needs for more than half a century

For more information: http://www.trb.org ...... NCHRP

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