

Subcommittee on Construction Research Section Report

Officers:

Chair	John Smythe, Iowa DOT (outgoing) Jeff Carpenter, Washington DOT (incoming)
Vice Chair	Now vacant
Fran Hood – EHR	Idaho DOT
David Hoyne – Rdwy/str	Vermont DOT
Brenda O'Brien - cont adm	Michigan DOT
Don Gruel – Computers/tech	Lewis Cannon, Connecticut DOT
Secretary	Katherine Petros, FHWA

Contract Administration Section

Accomplishments October 1, 2012

1. NCHRP activity update –
 - NCHRP 10-83 – Alternative Quality Systems for Highway Construction: This effort is being led by Professor Keith Molenaar from the University of Colorado. They are in the testing phase of the guidebook.
 - NCHRP 10-93 Methods for Characterizing roughness of Urban Pavements
 - NCHRP 10-92 Risk Assessment of Materials Inspection, Testing, and Acceptance Practices
 - **NCHRP 10-91 Integrating Sustainable Practices and / or requirements into Construction Activities. (SOC submitted item)**
 - NCHRP 10-89 Determination of Best Practices for Optimal Construction Inspection (just started)
2. **Pooled Fund TPF-5(260), Next-Generation Transportation Construction Management.** Keith Molenaar then discussed the status of pooled fund TPF-5(260), Next-Generation Transportation Construction Management. This pooled fund is an outgrowth of a 2004 international scan on construction management and is an avenue for State highway agencies (SHAs) to have buy in into the effort. It is led by Colorado DOT and provides a means to share best practices. It acts as a bridge between longer term (NCHRP) research and current activities. The funding for the pooled fund is just coming through this year and they are just starting the first project to develop a guidebook that discusses highway project delivery methods and alternative contracting strategies. This project will be completed June 2014. More SHAs are welcome to join the pooled fund. The scope of the pooled fund includes doing synthesis (quick hit) projects, implementation activities, and travel for meetings. Because of CDOT's ability to award projects quickly, the pooled fund can identify a need and pull the trigger quickly. This enables focusing on our problems of today. The pooled fund has yet to decide whether they will sponsor another Transportation Construction Management (TCM) conference. John encouraged others to consider participating – this makes it more broad based. Further information can be found on the project website: <http://www.colorado.edu/ceae/TCM/> .

3. **SHRP 2 update (James Bryant):** Over 70% of the research is coming to fruition. AASHTO has an implementation task force. AASHTO and FHWA have met with SHRP2 to develop an implementation plan. Some of the projects on the implementation plan include R09, Managing Risk in Rapid Renewal Contracts and R10, Managing Complex Projects. These two projects will be having a combined implementation workshop next month. R10 will also have some pilots next year. Another project whose implementation starts in 2012 is R04, Bridge Design for Rapid Renewal. Some of the project included for 2013 starts include: R07, Performance Specifications for Rapid Renewal (draft report is due Sept 2012); R23, Long-Life Pavements and R15B Integrating Utility/Transportation. 2014 starts include R21, Composite Pavement Systems and R05, Modular Pavement Solutions (working on a development plan and proposing some pilots for bridge underpasses).

4. Reports were provided from each of the Sections:

Technical Section Research Topics

The technical section vice chairs/representatives reported on the research topics identified during the various SOC technical sections meetings.

Roadways and Structures Section – David Hoyne (VT AOT)

- Caltrans put for the suggestion to explore what are others doing to manage impaired drivers in short term or mobile work zones
- Credentialing inspectors – both consultants and State. It would cover the costs (testing, travel) of doing so as well as regional standards and reciprocity. What acceptance plans to States use and how do they differ? This could be a synthesis.

Environment and Human Resources Section – Fran Hood (Idaho Transportation Department)

- They also discussed the credentialing of inspectors – they are supportive of Roadways and Structures taking the lead on this.
- Sediment and erosion control devices – how to evaluate and test them. Agencies are inundated with requests to get them on the qualified products list. Protocols for large scale testing do not exist. Greta Smith indicated that AASHTP's NTPEP is working on this. To participate in NTPEP evaluations, manufacturers pay to have their product evaluated. Idaho needs to report back on whether they work but nobody currently does. MI and WA also have requirements to report back and Pete Kemp at WI DOT is doing this. The suggestion was made to collect the examples from MI and WA and contact Pete Kemp to see where they are at.

Contract Administration Section – Brenda O'Brien (Michigan DOT)

One of the projects that was put forth last year and which was not selected was to develop a guidebook on best value procurement. They will collect information as a one stop

shop, including SHA references and links. They will pull together what we have and this could supplement other work such as the TCM pooled fund.

Ideas that were put forth for research were:

- Digital dissemination of plans, interactive websites focused on contract administration – could be a synthesis.
- Use of videography and photography to track project progress. The building industry is doing this.
- Update NCHRP 10-58.
- Constructability reviews were also mentioned. There's a lot on designing for safety, sustainability and it fits with 3D modeling. Need to develop scope as a guide has already been developed. Perhaps it should be updated.

Computers and Technology Section – Don Greuel (Wisconsin DOT)

Two topics related to Civil Integrated Management (CIM) were discussed and handouts for each of these were distributed (attached as Attachments 3 and 4).

- NCHRP project on CIM, Assessing Highway Agency Readiness for Civil Integrated Management – This project would document the current state of the practice and readiness relative to the application of CIM throughout the project delivery process.
- Domestic scan on CIM – to examine projects that use CIM and partnering.

5. Research suggestions were prioritized

- Credentialing of inspectors
- Digital dissemination of contract documents – synthesis
- CIM project (with contractor input) on what everyone is doing.
- Distinguishing off 10-58. This could be an NCHRP 20-07 project.
- Impaired drivers: There have been a number of studies. Short duration workzones and mobile workzones – NCHRP 17-61 is ongoing and may overlap. Look into this first. Another AASHTO committee may also be interested or working on this. This topic does fit into the SOC strategic plan.
- Constructability reviews – develop a scope for 3D modeling incorporation