

AASHTO Highway Subcommittee on Construction

Section Work Plans 2003-2004 / Accomplishments 2002-2003

August 15, 2003

Section Work Plans 2003/2004:

Computers and Technology Section Work Plan for 2003-2004

1. Continue to provide leadership and guidance for the enhancements of the AASHTO Trans*Port software. Specifically for next year, provide status update of the CHAMP software.
2. Solicitation from states to become a clearinghouse of Trans*Port extensions available (e.g. RTF templates, DWR templates, plug-ins, spreadsheets, etc.).
3. Continue to provide oversight and guidance for the information that is housed on the AASHTO Subcommittee on Construction web site.
4. Develop a survey on technology in construction. Focus on field surveying, construction practices, documentation, environmental compliance, and traffic control/incident management.
5. Review sections 300 and 400 of the AASHTO guide specifications.

Contract Administration Section Work Plan for 2003-2004

1. Unbalanced bidding procedures (Lead -Jerry Yakowenko- FHWA, Paul Schneider – FHWA IL, Rusty Simerl, FHWA- KS)
2. Best practices for pay reduction for sub-standard quality (Lead - Mark Richter, FHWA- VT, Gene Wortham- ID, Gene Hoelker – FHWA MWRC)
3. Dispute resolution and enforcement mechanisms for prompt payment (Lead - Cal Gendreau- ND, Gene Wortham- ID; Julie Trunk – FHWA - Headquarters)
4. Liaison with FHWA's Performance Specification Program (Lead - Amar Bhajandas, PA).
5. NPHQ coordination (Amar Bhajandas - PA)
6. Guide spec update C.,
 - a. Section 100 (Lead Jerry Yakowenko- FHWA, Ken Stoneman, DE and Assoc; Tom Smith – HDR; Gene Hoelker – FHWA - MWRC)
 - b. Section 500 (Lead – Terry Zoller -MN, Mark Richter – FHWA VT)
 - c. Pulling innovative contracting tech provisions into guide (Lead Jerry Yakowenko- FHWA, ; Lourdes Castenadas – FHWA NJ, Jason Dietz – FHWA- CA, Terry Zoller - MN)
7. Best practices for capturing unit cost information on lump sum contracts (Lead - Jim Johnson- FL)
8. Fraud – (especially related to materials test fraud) (Lead Steve DeWitt – NC, Steve Mills- FHWA-AL, Darrell Gianottia - UT, Jerry Yakowenko- FHWA)
 - a. Evaluation of extent of fraud, indicators, discovery, procedures, actions
 - b. Training material ?

- c. Statistical test methods available for comparing contractor tests vs. owner tests
9. Engineering items to reduce cost; how can we reduce the costs without exposing ourselves to risk? What items are included in a State DOT's "CEI" cost? (Lead Byron Coburn – VA; Joe Budras – FHWA Headquarters)

Environment and Human Resources Section Work Plan for 2003-2004

Environmental Stewardship

1. Continue to go forward with the activity from last year's work plan to update the Constructability Review Best Practices Guide by including a section on Post-Construction Reviews best practices. Bob Pipelow (CALTRANS) and Jeff Lewis (FHWA-CA) will collect information on best practices through an e-mail survey.
2. Bob Pipelow (CALTRANS) and Jeff Lewis (FHWA-CA) will distribute an e-mail questionnaire on environmental commitment compliance best practices. From the survey they will assemble information on best practices for ensuring follow-through of environmental features on construction projects.
3. Dean VanDeWege (CO) will serve as Section liaison to the AASHTO Subcommittee on Environment (SCOE) and Subcommittee on Design and plans to attend their meetings.

Safety and Work Zones

1. Members of this Section will review the proposed FHWA rulemaking on Work Zone Traffic Control and provide comments if additional comments are needed.
2. The Section will initiate an activity to collect information on best practices for measuring quality of work zones. John Grady (NYSDOT) will issue an e-mail questionnaire/survey to solicit current practices for measuring quality in work zones. New York currently has a process that tries to quantify work zone quality with rating factors. New Jersey also has a similar process. This survey will also include a request for best practices in techniques to slow down drivers in work zones.

Human Resources

1. Customer focus in construction: A Florida DOT research project on this subject is scheduled to be finalized later this year. This Section will post the final report on the AASHTO web site. The final report is expected later this year in September or October. Lee Onstott (New Mexico) volunteered to lead this.
2. Lee Onstott (New Mexico) will continue to coordinate with TCCC
3. Dean VanDeWege (CO) volunteered to share comments he developed regarding ADA accessibility guidelines with the other members of this Section. This Section will monitor the issue in preparation for developing comments when appropriate.
4. Bud Darby (NSPE/NICET) will compile a list of contacts for various ways to attract and recruit young people for work force development.

5. This Section will assist in the update of the AASHTO Guide Specifications. Members of this Section are asked to review and comment on Sections 600 (incidental structures) and 700 (materials). Each Section member is asked to have comments by the 2004 Summer meeting.

Roadway & Structures Section Work Plan for 2003-2004

1. Review Section 200 and 800 of AASHTO Guide Specs.
2. Review and comment on Performance Based Traffic Control Specification
3. Chair/Co-chairs communicate every month
4. Continue communication with industry through NAPA and ACPA
5. Draft “charge” for Section to be included in Operating Guidelines
6. Develop research needs for Roadway and Structures
7. Develop presentations for next year’s meeting
8. Explore different methods, in lieu of Tid Bits, to exchange information with subcommittee members.

Research Steering Committee (RSC) Annual Report

The following statements will be submitted for to TRB for proposed projects.

Pavement and Structures Task Force

- Evaluation of High Performance Deck Membranes. The purpose would be to compare the new generation of deck sealers to older techniques. (*Research*)
- Draft Specifications for Performance Measures for Traffic Control. (*Discussion, not for submission*)
- Composite Pavements for New Construction (see Quality Task Force). (*Discussion, not for submission*)

Contract Administration Task Force

- Construction Management Techniques to Address Reduced DOT Workforces. This would include workforce issues related to fraud with test results. This could possibly be a synthesis project. NCHRP has a project just underway on the effectiveness of contractor testing. It has a bit of a different focus than what is being proposed. (*Synthesis*)
- The Effectiveness of Warranties and the State’s Ability to Enforce Them. Are States getting what they are expecting from warranties? There was discussion as to whether or not this should be a synthesis project. Synthesis projects do not conduct an analysis of the information they gather. This topic will be written as a research statement so that it includes an evaluation of how effective warranties are and possibly make recommendations on changes to warranties to improve them. (*Research*)

Environmental Task Force

- Water Quality and Turbidity Measurement in Construction. Evaluate new and existing monitoring techniques and strategies and evaluating best practices to reduce sedimentation. This was submitted last year as well. NCHRP 25-20(01) is related to this. NCHRP Report 448 has recently been released that may be related. **Check to see if Report 448 is related.** (*Research*)

Erosion control measurement and monitoring has been an issue with AGC too. Consideration should be given to partnering with the industry on this. This would also be of interest to the Environmental Subcommittee. **Lee will contact them concerning co-sponsorship.**

Quality Task Force

- Measuring the Effectiveness of Technical Training. This came out of the TCCC. Are you getting your moneys worth out of training programs? It would develop a system to evaluate the effectiveness of training systems. The Subcommittee on Maintenance has passed a resolution to support this. We agreed to sign on with the Subcommittee on Maintenance. (*Research*)
- Impact on the Quality of Construction Due to Turning Over More Responsibility to Contractors. There already is NCHRP10-58(02), "Using Contractor-Performed Tests in Quality Assurance." (*Discussion, not for submission*)
- The Impacts on the Quality of Construction Due to Accelerated Construction. There is an NCHRP project underway on the analysis of nighttime construction and its impacts on quality. It's a small study that would not have the funding to expand the scope to cover aspects other than nighttime construction; therefore, this topic will still be submitted. (*Research*)
- Composite Pavement for New Construction. This project would look at the international experience with composite pavements and make recommendations for their appropriate application. It would also cover design and evaluation guidelines, including the possible construction of test sections. This was also discussed in the Pavement and Structures Task Force and supported. (*Research*)

Computers Task Force

- Innovations in Technology in Industry Standards that will Affect DOT Practices. This was submitted last year and they would like to resubmit it this year. (*Research*)
- Lead Paint on Bridges. This would be a synthesis on what States are doing in terms of lead abatement and containment. (*Synthesis*)

Task Force Accomplishments 2002/2003:

Computers in Construction Task Force 2002-2003 Accomplishments

1. Subcommittee on Construction Web Site – the task force provided oversight on the web site and coordination of the information placed on the site.
2. AASHTO-Ware Trans*Port – the task force provided leadership and guidance for the enhancements of the Trans*Port software.
3. National Specification Web Site – the task force provided leadership and input into the design of the web site. The web site will be available for use in the fall of 2003. It contains the standard highway specifications for 49 of the 50 states, the standard specifications of FHWA's Federal Lands Division, the AASHTO guide specifications, as well as the ASTM summaries. The web site also includes an area for states to include special provisions/specifications on new and innovative areas such as quality assurance, warranties and performance-related specifications. The web site also provides an area for a discussion forum to encourage practitioners to share ideas.

4. Transportation Curriculum Coordinating Council (TCCC) – the task force arranged to provide a presentation by Mark Moravec of FHWA, to the Subcommittee on Construction on the efforts of the TCCC and the use of computer-based training.
5. Robotics in Construction – the task force arranged to have a presentation by Dr. Steve Platt from the University of Nebraska on his work on robotic construction Type II barrels.
6. New Technology Survey – work on a survey of new technologies in construction was completed and will be continued in 2003-2004.
7. Web-Based Reference Documents – a presentation on Alabama's use of the web to share Blue Book information with resident engineers was not accomplished because of travel restrictions.
8. Technology-Assisted Speed Enforcement – a presentation by PennDOT was postponed because the pilot project was in the early development and implementation phase and not enough information was available for a presentation.

Contract Administration Task Force Accomplishments 2002-2003

- 1) Continue to coordinate and finish the Subcommittee's report on construction contract growth. (DeWitt, NC DOT, assisted by Ted Burch, FHWA-MT and Jerry Yakowenko, FHWA HQ). *Status: Steve DeWitt is finalizing the report and has provided some information to Frank Gee for a report to the AASHTO Standing Committee on Highways. Mr. Gee's report will be submitted for AASHTO's endorsement at the September 2003 annual meeting.*
- 2) Ensure that the Fourth Edition of the Primer on Contracting for the 21st Century is posted on a web page and, if possible, published in hard copy format. (Yakowenko, FHWA HQ will coordinate with Jim McDonnell, AASHTO). *Status: (The Fourth Edition was published as a hard copy report in 2002, and is posted on AASHTO's web page: <http://transportation.org/committee/construction/references.html#reports>).*
- 3) Continue to support of the Utah State University Innovative Contracting web site (www.ic.usu.edu). (All Section members should ensure that their State SEP-14 evaluations are posted on the web site. Suggestions for the web site should be forwarded to Mr. Doyt Bolling with Utah State University (doyt@cc.usu.edu). *Status: FHWA authorized \$10,000 on June 16, 2003 for the continued operation of the web site. Continued technical and programmatic support of the web site by the Subcommittee membership is encouraged (<http://www.ic.usu.edu>).*
- 4) Assist the FHWA's in the update four technical advisories:
 - a) TA T 5080.4, Preparing Engineer's Estimates and Reviewing Bids / combined with TA T 5080.6, Guidelines on Contract Procedures with Emphasis on Bid Reviews and Evaluation (Jeff Grossklauss, MI DOT; Mark Eisenhart, WY DOT). *Status: Comments have been received from several Subcommittee on Construction members as well as the AASHTO TEA/TUG Committee. The current draft is 90% complete.*

- b) TA T 5080.15, Construction Contract Time Determination Procedures (Mark Eisenhart, WY DOT). *Status: (complete; posted on FHWA's web page on 10/15/02; <http://www.fhwa.dot.gov/legsregs/directives/techadv/t508015.htm>).*
- c) TA T 5080.10, Incentive/Disincentive (I/D) for Early Completion; draft should be available in late 2002; (Gendreau- ND, Angles-OH, Hundley – TXDOT). *Status: delayed; lead coordination re-assigned to Gene Hoelker, FHWA, Olympia Fields.*
- d) Electronic bidding; draft pending, should be available in Fall, 2002; (Skelnar-TXDOT, Miller- WisDOT, Nichols – TXDOT; assistance from the AASHTO TEA-TUG Committee). *Status: complete, posted on FHWA's web page 11/15/02; <http://www.fhwa.dot.gov/programadmin/contracts/interbid.htm>.*
- 5) Document the current state of the practice and identify best practices (by performing surveys, preparing briefings, summarizing existing research or policies, preparing training material, etc.) for the following topics:
- a) State DOT rating of consultants providing construction management or construction inspection services (Terry Zoller, MN DOT; Gary Angles, OH DOT; Yakowenko, FHWA). *Status: This item is complete. The summary report is posted at: <http://construction.transportation.org/references.html#surveys>.*
- b) Fraud training / potential PowerPoint presentation for State DOT training purposes (DeWitt, NC DOT; Nate Danforth NH DOT; Kevin McLaury FHWA-IL). *Status: complete, Powerpoint presentations from NC and NH have been emailed to all Subcommittee members.*
- c) Unbalanced bidding (Kathy Walker, FHWA NM; Bill Hakala, FHWA- WRC; Jerry Yakowenko, FHWA- HQ). *Status: This item was tabled and will be included in the 2003-2004 work plan. FHWA will consider for possible inclusion in the Technical Advisory TA 5080.4 revision, noted above.*
- d) Reduction of project documentation for lump sum design-build contracts (Bob Dyer, UT DOT; Dave Cough, FHWA- PA; Sandra Garcia, FHWA- UT). *Status: This issue was raised by PA (D. Cough and T. Ferguson) as documentation on PennDOT's DB project was similar to D-B-B. Dave Cough indicated that the L. Meyers on Bob Dyer's staff (UT) would be responsible for preparing the survey; however, there was no one who could address this issue at the 2003 annual meeting. This item is tabled indefinitely.*
- e) Recouping the costs of utility delays from utility owners (Thomas Bohuslav, TX DOT; Vince Tabor, FHWA- NY; Gene Wortham, ID DOT). *Status: Completed 7/29/2003 by Texas DOT (Elizabeth Boswell and Paul St. Louis on Thomas Bohuslav's staff). The final survey results need to be posted on the Subcommittee's website. (Yakowenko and McDonnell)*
- f) Best practices for pay reduction for substandard quality (Cal Gendreau, ND DOT; Mark Richter, FHWA VT, Jeff Grossklaus, MI DOT). *Status: Mark Richter has the lead. This will be a 2003-2004 work plan item.*

- g) Incentive-based contracting (Bob Dyer, UT DOT; Gene Hoelker, FHWA-WI).
Status: Not initiated. This item is table indefinitely.

Environmental Task Force Accomplishments 2002-2003

1. Update Constructability Review Best Practices Guide

This work item was to update the previously published Constructability Review Best Practices Guide including the addition of a chapter on benefit-cost of constructability reviews and post-construction reviews best practices. The updated guide was to be released by August 2003. Due to personnel changes within the Task Force, this item was not accomplished.

2. Best practices for tracking environmental commitments

Jeff Lewis (FHWA-CA) participated in a scanning tour of seven States on this subject and will be making a presentation to the Subcommittee on August 7 during this Sections presentation slot. The report on the scanning review is also expected to be out in a few weeks. Jeff will e-mail the report to interested members of this Section.

Pavement & Structures Task Force Accomplishments 2002-2003

1. Initiated on going communication with the National Asphalt Pavement Association and the American Concrete Pavement Association. Both organizations addressed the Task Force at our August 4th meeting.
2. Updated the status of the “bridge Painting Certification” course being established in conjunction with the FHWA.
3. Developed and submitted research needs in the area of pavement and structures.
4. Arranged for presentations to the subcommittee on the new pavement design guide, high performance concrete cracking, certification of bridge painting inspectors, and certification of grouting contractors and inspectors.

Quality Task Force Accomplishments 2002-2003

1. Finalize and distribute Florida’s “Development of Improved Procedures on Business Customer Focus for Transportation Construction Projects.” The report includes surveys and case studies on several projects from across the USA. The group decided to recommend that the report be made available at the meeting and through AASHTO.
2. Finalize and make available the report on “Major Types of Transportation Construction Specifications.” This report is done and published, and will be distributed at this meeting and through AASHTO.
3. Continue coordination with the ETG on Performance Specifications. Amar Bhajandas, Penn DOT, will continue this project with the Contract Administration Section.
4. Liaison with NPHQ. Contract Administration Section will continue this work, and Amar Bhajandas, Penn DOT, will do this.
5. Coordination with TCCC. Lee Onstott will continue with this on the Environment and Human Resources Section.

6. Conclude TCCC Best Practices Guide on Resident Engineers Academy. This report is published and available.
7. “Quality Construction Though Certification” presentation by Bud Darby is complete. The Environment and Human Resources Section will do follow-up.
8. “Work Zone Workmanship” presentation was not completed. This task will be forwarded to the Environment and Human Resources Section.
9. “NPHQ Performance Measures and Performance Results” presentation will be made at this meeting.
10. Coordinate quality efforts through other sections. Every new section is being tasked to include this topic area.

Research Steering Committee (RSC) Accomplishments 2002-2003

Projects submitted by the RSC are listed below. In addition, several members of the task force are serving on ongoing projects and will propose to serve on selected projects.

Items appropriate for F-SHRP are indicated by (F-SHRP).

Pavement and Structures Task Force

1. Protective coatings for concrete in harsh environments. (Research)
2. Construction administration of design-build. (Synthesis)
3. What costs for smoothness can you pay and/or penalize? (Synthesis)

Environmental Task Force

1. Utility location technology. The current technology to locate subsurface is lacking, (F-SHRP).
2. Accelerated construction impacts on human resources – both agency and contractor. We are being asked to do more with last, faster. How much of this accelerated construction can they stand? (F-SHRP will be covering worker fatigue)
3. Water quality and turbidity measurement in construction. There is a wide range of acceptable criteria for turbidity. The EPA may possibly be proposing new controls. (Research Project)

Computers Task Force

1. Develop guide specifications for verification of contractor data obtained using stake-less equipment. (Research)
2. Innovations in technology in industry standards that will affect DOT practices. (Synthesis).

Contract Administration Task Force

1. Synthesis on Identifying where we are at with State Quality Assurance programs (CFR 637).
2. Synthesis on State sanctions for traffic violations in work zones.
3. Traffic mitigation techniques and cost effectiveness, including the public in the process, (F-SHRP).

Quality Task Force

1. What is the state of the practice of what can be done to develop for customer-based contractor incentives? (F-SHRP)

2. Incorporating quality in the low-bid process. What systems need to be in-place to assure quality? (Dropped – To be addressed by ongoing research)

Scanning Tours

A proposed scan tour topic on construction management was submitted. The topic includes testing, inspection requirements, pavement processes, and project documentation.