

AMERICAN ASSOCIATION OF STATE HIGHWAYS  
AND TRANSPORTATION OFFICIALS



COMMITTEE CORRESPONDENCE

September 28, 2001 **Address Reply to**

Madeleine Bloom, Secretary  
Highway Subcommittee on Construction  
FHWA - Office of Asset Management  
400 7th Street, S.W. (HIAM-20)  
Washington, D.C. 20590

TO Members AASHTO Highway Subcommittee on Construction

Enclosed for your information is a copy of the minutes from the 2001 meeting of the AASHTO Highway Subcommittee on Construction in Wichita, Kansas. Once again, this year's meeting was a tremendous success. Our thanks to Mr. Dean Testa and the staff of Kansas Department of Transportation attendees for the excellent accommodations and generous hospitality. This year's meeting was attended by 187 delegates representing 39 State Transportation Agencies, DC, 1 Canadian Province, FHWA, AASHTO, TRB, universities and industry associations.

This past year we developed, refined and approved six resolutions dealing with Constructability and Post-Construction Reviews, OSHA Standards on Requirement to Install Shear Studs on Structural Steel for Highway Bridge Construction, ITS System Specifications, AASHTO Accreditation Program, the National Transportation Curriculum Coordination Council Pooled Fund Project and with Kansas Hosting the 2001 meeting. (See Attached File) All six resolutions will be presented to the Standing Committee on Highways later this year. Please mark August 4 - 9, 2002 on your calendars for the 2002 meeting. Bob McCleary of Delaware DOT will be our host and based on experiences from past meetings I am sure everyone will benefit from a visit to the First State and Rehoboth Beach.

I would like to thank each and everyone for your support and participation. The objectives in the Construction Subcommittee can only be accomplished through active participation by all of our members. In addition to the SOC Presentation Notes others are also attached, FHWA Minutes, Task Force Minutes and Work Plan, List of Briefing Papers, Resolutions etc. If you have any questions or comments, please give me a call at (202) 366-0392. John A. Perry, on my staff, is also available to provide assistance to members. He can be reached at (202) 366-2023, fax (202) 366-9981 or at [johna.perry@fhwa.dot.gov](mailto:johna.perry@fhwa.dot.gov). We have also attached the latest Subcommittee Membership Roster. Please let John know of any changes in the roster that need to be made.

Sincerely yours,

Madeleine Bloom, Secretary  
AASHTO Highway Subcommittee  
on Construction

Enclosure

Cc Art Hamilton, 3 DFO  
Hwy Ops  
HIPA, HIBT, HIPT  
K. Kobetsky, F. Gee, L. Sanderson

**AASHTO Highway Subcommittee on Construction  
2001 Meeting  
August 5-10, 2001, Wichita, Kansas  
MINI AGENDA**

**SUNDAY, AUGUST 5**

Open Registration & Hospitality

**MONDAY, AUGUST 6**

**Opening Session**

Pg 3 Welcome B Chairman, Subcommittee on Construction & Kansas Department of Transportation

**General Session**

Pg 4 FHWA Status of Asset Management  
Pg 5 Fraud Awareness, Off. of Inspector General  
Pg 5 FHWA / STA Oversight and Stewardship  
Pg 6 DBE Update, A Litigation Review  
Pg 6 Utility Delays In Const., NCHRP 20-24  
Pg 6 AASHTO Technology Implementation  
Pg 7 International Highway Tech Scanning Prog  
Pg 7 High Speed / Quality / Safety Workshop  
Pg 8 TRB Status Report

**Task Forces Meetings**

Annual Accomplishments (See TF Minutes)

**Task Force Chairmen Reports**

Year's Accomplishments  
Discussion of New Work Plans (See TF Mins.)

**TUESDAY, AUGUST 7**

**Research Advisory Group** - Breakfast Meeting

**Pavements and Structures Task Force**

Pg 8 State of the Art in Concrete Pavements  
Pg 9 Getting Density in the Field with Superpave  
Pg 9 Causes/Prev. of Bridge Deck Cracking  
Pg 10 High Performance Concrete Structures  
Pg 10 High Performance Concrete Pavements  
Pg 11 Future of Contracting

**Quality Construction Task Force**

Pg 11 Managing Personnel, State QC/QA Prog.  
Pg 12 NPHQ Update  
Pg 12 Quality in Construction, NRMCA  
Pg 12 Applications of ISO 9001, Benefits to State Transportation Agencies

Pg 13 Quality Safety Culture in a DOT

**Environmental Task Force**

Pg 13 Environmental Leadership

**WEDNESDAY, AUGUST 8**

**Computers in Construction Task Force**

Pg 14 Update on Site & Materials Manager  
Pg 14 Construction Management Questionnaire  
Pg 15 ITS in Construction  
Pg 15 Internet Bidding, Expedite Bid Express  
Pg 16 Inspection of the Future

**Research Steering Group**

Pg 16 Recent NCHRP Accomplishments  
Pg 17 Construction Engineering & Management Research Program (NCHRP 10-58)

**Kansas Technical Tours**

**THURSDAY, AUGUST 9**

**Contract Administration Task Force**

Pg 17 Quality Based Prequalification in KY  
Pg 18 Report on Best Practices Guide For Innovative Contracting  
Pg 18 Emerging Trends and Issues for the Engineering & Construction Industry  
Pg 19 Recruiting and Image Building  
Pg 19 Report on International Scanning Tour on Contract Administration  
Pg 20 Highway Work Zone Safety Summit  
Pg 20 ARTBA Report to AASHTO SOC

**Task Force Meetings & Final Work Plans**

Schedule and Assignments for Task Force Work Plans (See Task Force Minutes)

**Final Business & Wrap-Up Session**

Pg 21 Selection of the 2004 Meeting Location (2004 Location Will Be In New Mexico)

**FRIDAY, AUGUST 10**

**FHWA Meeting**

(See FHWA Minutes)

**AASHTO HIGHWAY  
SUBCOMMITTEE ON CONSTRUCTION  
2001 MEETING  
WICHITA, KANSAS  
AUGUST 6 - 9, 2001**

**Len Sanderson, North Carolina – Chairman  
Frank Gee, Virginia – Vice Chairman**

This year there were 187 representatives from 50 states, Ontario Canada, the Federal Highway Administration, American Association of State Highway and Transportation Officials, the Transportation Research Board, universities, and private industry.

**MONDAY, AUGUST 6, 2001**

**Opening Session**

Welcome Address and General Announcements - Wichita Mayor Bob Knight, Dean Carlson(AASHTO), John Rohlf(FHWA Kansas Division), Tony Kane(AASHTO), Len Sanderson (NC DOT), and Frank Gee(VA DOT): Subcommittee Chairman Len Sanderson began the meeting by welcoming the delegates to Kansas, and the Wichita area. Len discussed several quick changes to the program and introduced Mayor Bob Knight of Wichita.

Mayor Bob Knight of Wichita welcomed the delegates to Kansas and thanked them for coming to Wichita. Community pride was evident as Mr. Knight highlighted that Wichita has won the national distinction of All America City, three times and that two billion dollars annually in global commerce makes Wichita an award-winning city for business and families. Many other influences are at work in the metropolitan area of Wichita and its 500,000 residents. Mr. Knight challenged each of us to make a difference in what we do and to get out and enjoy what Kansas and Wichita have to offer.

Dean Carlson, of AASHTO welcomed the group to Kansas and stressed the importance for a continued and renewed focus on highway safety improvements, and reducing the amount of aggressive driving that is occurring today. He mentioned that losing 40,000 people a year in highway accidents is too much and challenged us to continue to find innovative ways to do reduce this number as much as possible. In an effort to raise public awareness on this issue a “Put the Breaks on Fatalities Day” has been scheduled for October 10, 2001. Mr. Carlson also touched on several more topics: Get In, Get Out, and Stay Out; OIG Reviews; Boston Arterial Project cost overruns; Reauthorization; the Increased RABA Funds for highway construction across the country and the hours of delay on our nations highways costing us 78 Billion dollars.

John Rohlf, from FHWA's Kansas Division Office, welcomed the group to Wichita and the surrounding area. John talked about our AASHTO Subcommittee responsibilities and the challenges we face in implementing pavement preservation, improved highway safety, and innovative contracting. He also stressed the importance of the FHWA / State Transportation Agency partnership and working together to achieve common goals and the importance of the Federal-Aid Program.

Tony Kane, from AASHTO Technical Services Washington DC, thanked everyone for their attendance and especially the Kansas delegates for all of their hard work in putting this meeting together. Tony discussed the AASHTO Strategic Plan and its improvement plans, durable pavements, non-rush hour work, less time on road repairs, innovative contracting, ITS etc. He also addressed that AASHTO's Mission highlights four main areas, Advocating Transportation, Providing Technical Services, Demonstrate the Contributions of Transportation and Facilitating Institutional Change.

Len Sanderson, Subcommittee Chairman, North Carolina Department of Transportation, introduced the Task Force Chairman and discussed what the Subcommittee on Construction is all about. Len also talked briefly about the development of an AASHTO guide specification, reducing construction costs, environmental sensitivity, promoting safety, sharing best practices, environmental commitments, growing needs, having less staff, slow project delivery, cost overruns and user frustrations.

Frank Gee, Subcommittee Vice Chairman, Virginia Department of Transportation, provided general announcements to the group on activities and how things would be run. Frank mentioned that sharing best business practices is very important and that all of us should make this a priority and do this on a routine basis. He also addressed construction questions and how we all do business. Frank closed by mentioning the importance of picking up some of the handouts for the meeting and that two sets of briefing papers are available, one for the presentations being given this week and the other for topics not covered during the meeting. The briefing papers are available electronically through those who gave the presentations (See Attached Table of Contents for the Briefing Papers) or through FHWA by contacting John A. Perry at 202-366-2023 or [johna.perry@fhwa.dot.gov](mailto:johna.perry@fhwa.dot.gov) .

### **General Session Presentations**

Frank Gee(Virginia): Subcommittee Vice Chairman

The Purpose and Status of Asset Management, Madeleine Bloom, FHWA Office of Asset Management, Subcommittee on Construction Secretary: Madeleine highlighted the following points: General background on Asset Management, What Transportation Asset Management is and Why it is important, A Synopsis of FHWA Experiences with Asset Management, and FHWA Policies and Priorities. Madeleine also discussed the six basic components of practicing Asset Management in an organization: data collection, performance modeling, development of alternatives,

decision – making, implementation and monitoring. In closing, Madeleine mentioned that Asset Management is important because it gives managers of high level highway networks the ability to make informed, strategic decisions needed to preserve the investment made in their highway system. For additional information, brochures and primers, please contact Madeleine Bloom at 202-366-0392.

Fraud Awareness – Mark Peters, (USDOT Office of Inspector General): Mark introduced the topic of fraud awareness and as such stressed the importance of being “Fraud Fighters”. There is a three-day training course on fraud awareness which highlights that construction fraud happens everywhere. In some cases we may not be getting what our road and bridge specifications minimally specify. State Transportation Agencies (STA) are asked to assist in the effort to identify fraud, that you do not have to provide proof, and at a minimum we should be looking for fraud indicators and trends. Asphalt core substitutions, bid rigging, submission of false weight tickets and collusion are all on the rise. Fraud is occurring in non-obvious areas as well like roadway striping and mulching activities. STA’s are asked to take steps to prevent fraud. The next Fraud Conference will be held in St. Louis, MO in April of 2002. Please contact your Regional Fraud contact if you suspect fraudulent activities or Mark Peters with the Office of Inspector General at 312-353-3106. Also see briefing paper #1 for additional information. Atlanta, GA Audits: (404) 562-3770, Investigations: (404) 562-3850; Baltimore, MD Audits: (410) 962-3612, Investigations: (410) 962-2845; Cambridge, MA 02142, Audits: (617) 494-2003, Investigations: (617) 494-2701; Chicago, IL, Audits: (312) 353-0104, Investigations: (312) 353-0106; Fort Lauderdale, FL 33301, Investigations: (954) 356-7590; Fort Worth, Texas 76012, Audits: (817) 978-3545, Investigations: (817) 978-3236; Kansas City, MO, Audits: (816) 329-3880; Los Angeles, CA, Investigations: (310) 322-1410; New York, NY, Audits: (212) 264-8701, Investigations: (212) 264-8700; Oklahoma City, OK, Audits: (405) 954-3718; Philadelphia, PA, Investigations: (610) 337-2725; San Francisco, CA, Audits: (415) 744-3090, Investigations: (415) 744-3090; Seattle, WA, Audits: (206) 220-7754, Investigations: (206) 220-7754; Washington, D.C., Audits: (202) 366-1964, Investigations: (202) 366-1967.

FHWA / STA Oversight and Stewardship Roles – John Sullivan (FHWA-SC), Danny Shealy (SC DOT): John and Danny spoke in general on the continued implementation of the Oversight and Stewardship program in South Carolina and the importance of working with one another in order to carryout the Federally funded highway program. Nationally States / Federal Agencies are responsible for administering the Federally funded highway program activities, including projects and activities administered by local public agencies. States are to have sufficient procedures and processes for the management of the highway programs. Implementation of 23 USC 106 requires FHWA and States to reach agreement prior to the State assuming any project responsibilities. Discussions, should include agreement on delegations of authority, and a process for the FHWA and State to assess the implementation of the FHWA programs. FHWA and States are encouraged to look for opportunities to streamline the management of an activity through the delegation of authority to State and FHWA use of program and process management reviews. For additional information please see the following FHWA

website, [www.fhwa.dot.gov/infrastructure/stewardship/index.htm](http://www.fhwa.dot.gov/infrastructure/stewardship/index.htm) . Also see briefing paper # 2 & 3 for additional information.

DBE Update – A Litigation Review – Peter Smith (Office of General Counsel, USDOT): Peter started off by mentioning that it is important to try and avoid litigation. Several cases were discussed dealing with constitutional challenges to end the DBE program in various states. Administrative challenges to different aspects of the program have addressed DBE Certification and Useful Functions. Since 1999, due to the changes in the DBE Regulations there have been a number of challenges to the program, none of which has successfully struck down the DBE program. Cases against the program are placed under strict scrutiny and must pass two tests, compelling interest and narrow tailoring. In October 2001 the Supreme Court is scheduled to hear argument on the Adarand Case. Peter further discussed a brief history of Adarand and other DBE Litigation cases. A brief discussion on closed DBE cases also took place. For additional information contact Peter Smith at 202-366-9287 or [www.fhwa.dot.gov/programadmin/contracts/dbe797.htm](http://www.fhwa.dot.gov/programadmin/contracts/dbe797.htm) . Also see briefing paper #4 for additional information.

Utility and Other Delays in Construction – Ken Stoneman (OR DOT), Randall Thomas (Penn State), and Ralph Ellis (University of Florida): Ken began by stating that delays during construction projects cost a lot of money. He stressed the point that we need to “Get In, Get Out, and Stay Out”. Ken Briefly mentioned that a technical panel has been put together to develop a product to assist FHWA, STA, contractors and utility companies in reducing delays during construction. Ken introduced Ralph Ellis to talk about the NCHRP Study 20-24(12) Avoiding Delays During the Construction Phase of Highway Projects. Mr. Ellis discussed their efforts to isolate the root cause of the delays during the first study and to prepare recommendations for improvements in the second. He also mentioned that utility relocations and conflicts were the top two reasons for delays to construction. Randall Thomas further discussed that delays caused by unforeseen and incorrectly located utilities, delays in relocating utilities and the slow responses regarding betterments and improvements all contribute to construction delays. Mr. Thomas closed by stating that most of the solutions to reducing the amount of delays can be found within the State Transportation Agencies. Contact Information, Ken Stoneman 503-986-3023, Randall Thomas 814-863-1901, and Ralph Ellis at 352-392-3730. Also see briefing paper #5 for additional information.

AASHTO Technology Implementation Group – Byron Lord, FHWA Office of Pavement Technology: Byron started off by mentioning that the group is to build on SHRP Implementation Successes. He also discussed the vision, mission, scope and responsibilities of the group. The organizational structure and financial support were also discussed. Most of the implementation has taken place to date, however there is one more meeting scheduled for November 2001 in Fort Worth, TX. The concept view in the technology deployment process was also shared with attendees. The status of the technology deployment process was included in the presentation and noted that the group received nominations for over 50 technologies and short listed 21

for detailed reviews. Three technologies were selected for accelerated implementation. These included Precast Sub-Structural Elements, ITS Technologies in Work Zones and Accelerated Construction. Byron finished by talking about what happens next, i.e. development of implementation plans, recruit champions, commit resources, recruit partners for early implementation, identify candidate states / projects for deployment / demonstration. A second round of recruitment is anticipated for 2002. An outreach process has been developed to expand access to new technologies and partnerships for delivery and communication of objectives, activities, and opportunities. For additional information please contact Byron Lord at 202-366-1324 or at [byron.lord@fhwa.dot.gov](mailto:byron.lord@fhwa.dot.gov). Also see briefing paper #6 for additional information.

AASHTO/FHWA International Highway Technology Scanning Program – Ted Ferragut (TDC Partners): Ted spoke briefly on the scanning tour and concluded with US highways agencies are encouraged to better utilize the efficiencies and resources that the private sector has to offer, through the use of innovative financing, alternative contracting techniques, design-build, concessions, performance contracting, and proactive asset management. Agencies must focus on the users, while equitably allocating risk and seeking to establish an atmosphere of trust in the implementation of procedures. As a result of the tour the scanning team will address various actions to implement the most pertinent findings: develop draft legislation for alternative contract administration processes; develop a policy on use of concessions; utilize the AASHTO Subcommittee on Construction to develop draft specifications for best value procurement and design-build contract forms; Propose research to summarize construction procurement successes being used in the United States that are similar to those found in Europe; and, Identify and solicit state DOTs to evaluate pilot projects in the areas of innovative financing, alternative contracting techniques, design-build, concessions, performance contracting, and proactive asset management. For additional information please contact Ted at 703-836-1671 or at [tferragut@tdcpartners.com](mailto:tferragut@tdcpartners.com). Handouts were made available.

High Speed, High Quality, High Safety Workshop - Accelerating Opportunities for Innovation in the Highway Industry - Ted Ferragut (TDC Partners): Ted began by talking about the high speed, high quality, high safety workshop and discussed the national focus of this group. Attendees recommended that each jurisdiction consider setting maintenance of traffic policy statements that will guide the overall construction program for the future. Whether it is a fixed number of lanes during rush hour or a fixed level of service, such public and targeted goals would help the construction community package innovations to meet that goal through definite partnerships. The following suggestions were offered in that light: Information Needs for the Future; Construction and Traffic; Corridor Improvements; Contracting and Procurement Advancements; “Stay Out” Concepts; Utilities; Technology Transfer; Safety and Health; Training and Education; and Pre-fabrication and Modular Technology Advancements. For additional information please contact Ted at 703-836-1671 or at [tferragut@tdcpartners.com](mailto:tferragut@tdcpartners.com). Handouts were made available. Also see briefing paper #7 & 28 for additional information.

TRB Status Report, Accelerating Opportunities for Innovation in the Highway Industry – Fred Hejl, TRB: Fred briefly discussed two activities currently underway at TRB of interest to AASHTO Subcommittee on Construction. The ultimate purpose of the Building Momentum for Change Transportation Research Board Task Force A5T60 is to accelerate opportunities to implement innovations in the highway industry. Its objectives are to: advocate continuous quality improvement and positive change; facilitate removal of barriers to innovation and encourage development of strategies that generate beneficial change; and create a framework for informed consideration of innovation. This task force initiated the workshop, High Speed, High Quality, High Safety. The second activity Fred addressed was the task force on Design-Build. This task force was initiated by an earlier recommendation for long-term action to establish research, development, and implementation programs to investigate the design-build concept. In 1991, two state DOTs proposed to use the design-build concept on experimental projects. To date, ten years later, a number of state DOTs have now used the design-build concept. Projects vary in size from smaller highway projects to mega projects involving multimodal improvements. Other DOTs are considering using design-build for the first time. The Design-Build Task Force will provide an unbiased forum for transportation officials and professionals from all disciplines and sectors to share experiences regarding starting, implementing, and completing design-build projects. Specific attention will be given to best practices, lessons learned, and identification of research needs and requirements for future improvements to the design-build process. An Executive Summary is also available upon request. Contact Fred Hejl at 202-334-2953 or at [fhejl@nas.edu](mailto:fhejl@nas.edu).

### **Task Force Meetings**

Monday afternoon was spent in individual Task Force Meetings, followed by Task Force Reports to the assembled group. The information from these sessions is included in the individual Task Force Reports contained in the Appendix.

**TUESDAY, AUGUST 7, 2001**

### **Pavement and Structures Task Force Presentations**

Gene Wortham (Idaho): Task Force Chairman

State of the Art in Design, Materials and Construction of Concrete Pavements – Dan Frentess, ACPA: Dan's presentation discussed what's old and what's new in the design, materials and construction of concrete pavements. Short jointed concrete pavements have performed the best for all levels of traffic. Dowels have become the standard method to enhance load transfer across transverse joints and continuously reinforced concrete pavements are predominately used in areas of high traffic. The basic concrete recipe mix has not changed much in most of the country and the use of fly ash and reactive aggregate particles is increasing. A few states are moving forward with Performance Based Concrete mix designs submitted by the contractor

with total QC/QA criteria. In the future we see the emphasis on the durability of the final product and not the strength of the final product. In the construction of concrete pavements we are seeing new equipment being developed both by manufacturers and contractors. We have solved the issue of whining concrete pavement surface textures with the use of either a randomized transverse tining pattern, longitudinal tining or astro-turf carpet drag textures. These new innovations are going to become commonplace as we learn to construct concrete pavements that will be more durable and built in less time, to reduce user impact initially and over the life of the facility. For additional information please contact Dan Frentess at 612-619-8399 or at [dfrentess@pavement.com](mailto:dfrentess@pavement.com). Also see briefing paper #7A for additional information.

Getting Density in the Field with Superpave Mixtures – Dave Newcomb, NAPA: Dave mentioned that the development and subsequent implementation of Superpave by state agencies has had a number of positive effects, including: 1) an improved unified asphalt binder specification, 2) a more discriminating materials selection process, and 3) a more rigorous mixture design procedure. In the construction arena, one of the most pressing issues with Superpave has been field compaction. Many Superpave mixtures are harsher and coarser than mixes previously used. While there are a number of causes for tender mixes, the cure in the field can be as simple as reducing mix temperature or moving rollers closer to the paver. Other solutions include shifting to a denser aggregate gradation, using a pneumatic roller in the breakdown position, or switching to a polymer-modified asphalt. Contractors in general have learned how to produce, place, and compact Superpave mixtures. The experience gained to date has provided a foundation for future success in constructing high quality Hot Mix Asphalt pavements. Guidance for dealing with field compaction can be found in NAPA Special Report 180, *Superpave Construction Guidelines*, published in cooperation with the Federal Highway Administration and in the National Center for Asphalt Technology Report No. 00-02, *Hot Mix Asphalt Tender Zone*, available for free at <http://www.eng.auburn.edu/center/ncat/>. Contact information, Dave Newcomb at 301-731-4748 or [dnewcomb@hotmix.org](mailto:dnewcomb@hotmix.org). Also see briefing paper #8 for additional information.

Causes and Prevention of Bridge Deck Cracking – Mike Praul, FHWA Maine Division Office: Mike started off by mentioning that concrete is a material that, by its very nature, will crack during its service life. For bridge decks this is especially significant as these cracks allow accelerated ingress of chlorides and the subsequent corrosion of the reinforcing steel and deck deterioration. Although there has been little research to document the degree of cracking occurring, there has been a general perception among highway agencies that deck cracking, particularly early-age deck cracking, is on the increase. Our goal needs to be to minimize the occurrence of cracks and properly treat the cracking that does occur. There are many causes of deck cracking; causes that span the range of design, materials, and construction issues. It is important to realize that cracking may often be the result of the cumulative effects of many different causes. While agencies may address some of the causes of cracking, either through their design practices, and materials and construction specifications, most do not have a concerted program aimed at reducing deck

cracking. The following is a list of some of the causes of bridge deck cracking Mike addressed during his presentation and what can be done to mitigate the degree of cracking experienced: Placement of Deck Reinforcing, Concrete Water Content, Aggregates, Cement Content, Use of Pozzolans, Placement Conditions, Temperature Gradient, Placement Sequence, Vibration, Curing, Concrete Girder/Deck Age Differential, and Overlay Preparation. If cracking does occur, most agencies are treating smaller cracks with high molecular weight methacrylate and larger cracks with epoxy. If epoxy is used to repair cracks in substrate concrete in preparation for a deck overlay, sand should be cast over top of the epoxy. This will offset the concrete bond-breaker effect of the epoxy. Contact information, Mike Praul 207-622-8350 ext. 11 or at [Michael.F.Praul@fhwa.dot.gov](mailto:Michael.F.Praul@fhwa.dot.gov). Also see briefing paper #9 for additional information.

High Performance Concrete Structures – Tim Chojnacki, MoDOT: To address the deteriorating conditions of the nation’s highways, and to improve their performance, durability and efficiency, Congress authorized the Strategic Highway Research Program (SHRP) in 1987. HPC is defined by the American Concrete Institute as concrete that meets special performance and uniformity requirements that cannot always be obtained using conventional ingredients, normal mixing procedures and typical curing practices. The most common characteristics of HPC in Missouri structures are high strength and/or improved durability. Resistance to deterioration from freezing and thawing and chloride permeability routinely describes durability. Improved durability results in lower maintenance costs and longer service life of the bridge. Federal funding has been used to build nearly fifty HPC bridges in thirty states. The use of 10,000-psi concrete allowed the reduction of one girder line resulting in roughly 17% less concrete required for one bridge. The main goal of HPC in Missouri has been low chloride permeability. Contact information, Tim Chojnacki at 573-751-1040 or at [chojnt@mail.modot.state.mo.us](mailto:chojnt@mail.modot.state.mo.us). Also see briefing paper #10 for additional information.

High Performance Concrete Pavements – Tim Chojnacki, MoDOT: Based on the expectation that the 1992 European designs used on the I-75 project in downtown Detroit, Michigan would result in a long-lasting, low maintenance pavement, FHWA and industry began to pursue similar projects. Innovative High Performance Concrete Pavement (HPCP) projects could be partially funded through the TE-30 if they met some of the following criteria: Increasing the service life, Decreasing construction time, Lowering life-cycle costs, Lowering maintenance costs, Constructing ultra-smooth ride quality pavements, Incorporating recycled or waste products while maintaining quality, Utilizing innovative construction equipment or procedures, and Utilizing innovative quality initiatives. There are approximately 20 – 25 projects in 13 states that have been funded by FHWA through the TE-30. While improved concrete mix design can qualify a pavement to be considered a high performance concrete pavement, it is not necessary. Several of the HPCP projects were built to evaluate alternative load transfer devices or dowel bar materials, improved surface texturing techniques, cross section design and joint design and sealing options. Tim closed by discussing several Missouri TE-30 projects dealing with fiber-reinforced

unbonded concrete overlays, and used diamond grinding for smoothness on new PCCP on a few projects. The diamond grinding resulted in a very smooth ride quality with no adverse effect on the friction characteristics of the pavement. Contact information, Tim Chojnacki at 573-751-1040 or at [chojnt@mail.modot.state.mo.us](mailto:chojnt@mail.modot.state.mo.us). Also see briefing paper #11 for additional information.

Future of Contracting – Dean Testa, Kansas Department of Transportation: In the beginning, there were few standards for the work. Eventually the responsibility fell upon the state governments who began contracting the roadwork to third parties. The work was let on the low bid system in order to keep political favors out of the industry. The contractor only had to meet the minimum standards and mostly only had to provide materials, labor and equipment. The key was finding the lowest cost materials with method-type specifications. Next there was a change to get the work done in less time and the Incentive/Disincentive and other time enhancing contracts started to gain favor still using the low bid method. During the 1990's, the results of SHRP were introduced causing Agencies to begin thinking of performance-related specifications and evaluating the results of how the roadway performed. To make things more in the contractor's control, we introduced QC/QA and warranties in conjunction with the low bid system. Where does this take us for the future? The point of Dean's presentation dealt with the combination of Total Contract Maintenance and Design Build with the contractor becoming the operator. The results will be a system that contracts for some level of service that the Agency can measure and requires the Contractor/Operator to take over sections of roadway or entire systems. This will happen over time with continued attempts to use warranties and other methods to get away from the low bid system. How soon is still a guess; but, if you look at where we have been, it appears we are rapidly heading in that direction. Contact information, Dean Testa at 785-296-3576 or at [dean@ksdot.org](mailto:dean@ksdot.org). Also see briefing paper #12 for additional information.

### **Quality Construction Task Force Presentations**

Task Force Chairman: Ken Stoneman, Oregon

Managing Agency Personnel in State QC/QA Programs – Greg Xanders, Florida DOT: Greg started off by talking about Quality Assessment Training for Construction, a process of making sure we are all doing our jobs. The question of why do we all do quality assurance was brought up and discussed. Responses included, effective processes, to standardize QA procedures, and to focus on improving quality. QC is usually done by project inspectors and QA by project managers. Looking at persistent problem areas, indicators of overall quality can locate critical requirements of the process. Construction activities can be broken down into assessment categories, frequency of reviews etc. Assessment categories can include, Compliance, Non-Compliance, and Action Plans. Documentation is extremely important. This overall process forces managers to be managers and allows the opportunity to coach and train project staff to do their jobs. In his summary, Greg mentioned that inspectors and managers at all levels are responsible for tracking critical requirements via frequency matrices and documentation reviews

in order to improve various products and processes. Contact information, Greg Xanders, at 850-414-5203 or at [greg.xanders@dot.state.fl.us](mailto:greg.xanders@dot.state.fl.us).

National Partnership for Highway Quality -- Bobby Templeton, NPHQ: The Awards Subcommittee is currently evaluating nominations for the 2001 NPHQ National Achievement Award. Awards include the Achievement Award, Special Recognition for a Small Highway Project, Special Recognition for a Structure Project, and the Gold Level winners. The Awards Banquet is set for the evening of November 29. Under this year=s program, NPHQ has published the NPH Who? brochure. Work is currently underway to publish a document that correlates the highway user survey data reported in FHWA=s Moving Ahead report to the 1995 NQI Highway Users Survey. In addition, work will begin soon to publish NPHQ=s current Long Range Plan. Liberal distribution of these publications will be made to heighten visibility of this highway quality program and to encourage those states not partnering with their local highway industry organizations to initiate a local highway quality program. NPHQ.org is the new web site and it is being used to promote quality and to communicate news about the quality accomplishments being achieved by various States. In closing Bobby mentioned that NPHQ stands ready to assist states that want to more fully orient their highway program toward higher quality, longer-lasting highways and toward better customer service. Contact information, Bobby Templeton at 512-301-9899 or at [btemplenphq@aol.com](mailto:btemplenphq@aol.com). Also see briefing paper #13 for additional information.

Quality in Construction, National Ready Mix Concrete Association Certifications – Bob Garbini, NRMCA: NRMCA certifications began in 1966 and has been continually expanding and improving its operations since the program began. The certification program conforms with ASTM, AASHTO, Plant and Truck Mixer Standards. Plants are monitored and reviewed by technicians and re-certified every two years. NRMCA personnel training and certification programs include short courses on concrete and aggregate technology, concrete sales and delivery, and plant operator certifications. Level 2 courses include concrete fundamentals, ingredient materials, material handling and storage, batching mixing and delivery, proportioning concrete mixtures, quality control procedures and testing, and specifications and interpretation of test results. Truck mixer driver training is also provided. Concrete Delivery Professional (CDP) certification was developed in 2000 and establishes standards for mixer drivers. The written exam includes modules on safety, customer relations, environmental, product knowledge and vehicle maintenance and operation. A pre-trip inspection is also part of the hands on exam portion of the CDP Certification. State Highway Agencies were encouraged to take advantage of these training and certification programs. Contact information, Scott Haislip at 219-922-8104 or at [shaislip@nrmca.org](mailto:shaislip@nrmca.org). Also see briefing paper #14 for additional information.

Application of ISO 9000, Benefits to State Transportation Agencies – Derek Coppinger, National Quality Assurance: Mr. Coppinger started off by giving an overview of ISO registration worldwide and gave some details on construction

organizations that have registered to ISO 9000. Thousands of companies in over 100 countries have recognized the value of achieving ISO certification to establish and maintain a quality system in their organization. Reported benefits include expanded market share, improved efficiency, improved customer satisfaction, lower costs, and improved uniformity. It is believed that effective quality systems manage a wide variety of elements that influence the quality of a product. These elements include design, workforce competency, technology, resource levels, inspection and testing, and management. Certification programs provide a means to control these elements so that products and services are provided that meet established quality attributes. The highway construction industry often competes in a low bid business environment that includes specific requirements of completed work. Typically, there is a reliance on subcontractors that contribute to the quality of the project. Product acceptance is generally the responsibility of the owner. Highway construction contracts do not typically include a requirement that contractors must possess an ISO 9000 or other certification for an internal quality system. In conclusion Derek discussed the future of ISO 9000 standards nationally and internationally. Contact information, Derek Coppinger at 978-635-9256 or at [dcoppinger@nqa-usa.com](mailto:dcoppinger@nqa-usa.com). or at [www.asq.org](http://www.asq.org). Also see briefing paper #15 for additional information.

Quality Safety Culture in a Department of Transportation – Anker Winther, New Jersey DOT: Mr. Winther began by giving a summary of what he would be talking about during his presentation, the process, annual reviews, feedback and analyzing whether or not an agency is making a difference. As part of exploring the process an agency should look at user-friendly standard details, individual training, suppliers, utilities, human factors etc. A sample of pulling construction details out of the design details was given to stress making plans user-friendly. The use of electronic cameras to show good and bad safety issues was stressed and can be used as training aides. Workzone Partnerships was also discussed along with highlighting contractor safety and health programs. The need for a traffic control coordinator on all projects is extremely important. In closing, Winther mentioned that the traffic control coordinator must be trained, have access to and be knowledgeable of the traffic control plan, the MUTCD, need to plan ahead, and should be on the lookout and continually protect their employees. The “Sudden Change of Plans” driver education video was made available for free, through Steve DeWitt or Anker Winther. Contact information, Anker Winther at 609-530-5523 or at [anker.winther@dot.state.nj.us](mailto:anker.winther@dot.state.nj.us). Also see briefing paper #16 for additional information.

### **Environmental Task Force Presentation**

Task Force Chairman: Arthur Gruhn (Connecticut)

Environmental Leadership – Gene Cleckley, FHWA Southern Resource Center: Gene started off by saying that environmental leadership is all about satisfactions, results and choices. “Doing your job is all about your head and your heart.” Construction and maintenance personnel are all environmental stewards. Its extremely important for people to come together to discuss transportation decision making. Gene presented a good summary of the evolution of various environmental

laws and regulations beginning in the 1950's. The criteria for an environmentally conscious agency were also presented. They included senior management commitment, well defined environmental policies, environmental corporate culture, institutionalization of environmental ethics, communication and training, integration of environment in delay decisions, environmental accountability, incentives and reporting, and supporting environmental organizational structures. The Environmental Leadership Seminar was discussed and addresses environmental consciousness, structure, ethics, and collaborating with inter-agency departments. TEA-21 environmental laboratories exist in the Florida and North Carolina Department of Transportations. Gene has been working very closely with the North Carolina DOT and Len Sanderson in the environmental leadership area. In closing, Gene stressed that environmental stewardship is developed through partnerships. Gene also challenged each and everyone of us to make a difference and to not only think about being environmental stewards but to elevate it from the head to the heart and act on it. Contact Len Sanderson at 919-733-73384 for details on North Carolinas Environmental Leadership Program or Gene Cleckley for additional information, overhead slides, or training opportunities at 404-562-3571 or at [Gene.Cleckley@fhwa.dot.gov](mailto:Gene.Cleckley@fhwa.dot.gov).

**WEDNESDAY, AUGUST 8, 2001**

### **Computers in Construction Task Force Presentations**

Claude Oie (Nebraska): Task Force Chairman

Update on SiteManager – John Carpenter, Info Tech Inc.: John began by talking about SiteManager state highway agency production, implementation, and how many agencies are interested and involved. Updates and application enhancements were also discussed. The Intranet/Internet module provides web browser access for analysis and data query to all Trns•port systems. Site Pad is an application for the inspector to collect all current SiteManager field inspector data. Expedite Subcontract Data Transfer is a standalone program to manage subcontractor data flow between agencies and prime contractors. The champ interface exports contract and reference data from SiteManager. Open Enrollment Training will be available in Atlanta, Georgia and begins in September 2001. Future initiatives were also discussed. John also let us know that the SiteManager and other Demo CD's are available upon request. Please contact Brad Parks of Info Tech Inc. at 770-261-8371 or at [brad.parks@infotechfl.com](mailto:brad.parks@infotechfl.com). Also see briefing paper #17 for additional information.

State of Construction Management Questionnaire – Dexter Newman, KY DOT: Dexter began by disusing the results of his survey on construction management. A copy of the questionnaire was sent out to all of the state DOT's early in 2001. Dexter discussed construction management computer systems, what's used, periodic progress payments, functions performed, interfacing with other programs, payment of project funds, data entry, staff size, Trns\*port interest, and construction budgets. Dexter also talked about electronic bidding, whether it has been implemented, mandatory vs

voluntary, requirements for paper bids, use of bid express, use of computer bid disks, bid bonds, other electronic bidding programs, in house programs, electronic bidding accepted by contracting industry, training provided, staff size and whether electronic signatures are legal in each of the states. Contact Information, Dexter Newman at 502-564-4780 or at [Dnewman@mail.kytc.state.ky.us](mailto:Dnewman@mail.kytc.state.ky.us). Also see briefing paper #18 for additional information.

Intelligent Transportation Systems (ITS) in Construction – James Pol, FHWA Washington DC: James started off by discussing how ITS represents an opportunity to achieve greater integration among all the operations that collectively provide the transportation system to the travelers. Armed with high quality data, management of the transportation operations can be refined in a manner that was not effective or achievable in the past. This opportunity for greater efficiency through enhanced data collection is present for construction operations as well. Many agencies have successfully applied ITS to enhancing their construction operations. There are three general areas in which ITS has been applied in construction operations to date: Work Zones, Construction Vehicle Monitoring and Traveler Information. As ITS applications in construction mature and become more refined, there will certainly be other functional areas that will be developed. James also spoke about the opportunities for State DOT's to get involved in the incorporation of FHWA's new Maintenance and Construction Operations (MCO) user service, into the National ITS Architecture. The need for the MCO User Service was identified by stakeholders of the rural ITS deployment community. The user service was developed, with broad stakeholder participation, and accepted by FHWA earlier in 2001. The MCO User Service describes the need for effectively integrating ITS maintenance and construction services with other ITS services. The four functional areas are maintenance vehicle fleet management, roadway management, work zone management and safety, and roadway maintenance conditions and work plan dissemination. FHWA is also examining some aspects of weather and winter weather maintenance as forwarded by the weather community. Please contact James Pol at 202-366-4374 or at [james.pol@fhwa.dot.gov](mailto:james.pol@fhwa.dot.gov) if you would like to be involved in the incorporation of the new MCO User Service. The next in Process Review has been scheduled for November 7, 2001. For additional information please contact FHWA's ITS Office at toll free 1-866-367-7487 or [www.its.dot.gov](http://www.its.dot.gov). Also see briefing paper #19 for additional information.

Internet Bidding, Expedite Bid Express – Terry Sullivan, Info Tech.: Terry started off by discussing how bid documents can be delivered via email. The Expedite Bid program is used to process bids used by DOT and Contractors as an Internet site. Electronic Bid System (EBS) advantages were discussed and include the following: two way controlled exchange, elimination of bidding errors, direct interface with Trns\*port, immediate posting, access to a larger group of contractors and eliminates the use of paper. EBS is secure, the bid is safe, it can be updated or withdrawn and it is reliable. The implementation status was discussed for the states of Georgia, Iowa, South Carolina and Wisconsin. In Georgia, 70% of the projects are using Bid Express as a volunteer program. Equipment needs for DOT's include a Pentium PC,

web browser, modem and a BERC Computer. Contractors only need a standard PC, access to a national Internet Service Provider and a web browser. Costs for state DOT's already using PES is usually about 50,000 dollars. Contractors pay an access fee of 25 dollars a month, 300 a year and a one-time fee of 50 dollars to create a Digital ID. Enhancements for bid express include the ability to do Bid Bonds (September 2001), Proposals – Cross Sections – and Plan Shopping Cart (Summer 2001) and increased speeds and searches. Issues that need to or have been addressed by state DOT in order to implement Bid Express are legislative constraints, charting a DOT's business process, forming a task force and needing to have a plan. Contact Information, Info Tech at 352-381-4400.

Inspection of the Future – Tucker Ferguson, Penn DOT: This presentation took a virtual look at using advances in technology to allow an inspector to combine the freedom of the field with the resources he or she has in the office. In striving to perform inspection responsibilities in a safer, swifter, and smoother manner, we take a look at some of the products and technology currently on the market and in use, as well as a glimpse of where we would like to be in the future. Tucker briefly discussed the inspector of the future and then showed a video that Penn DOT developed on this subject. The inspector of the future will have a cell phone and a personal data warehouse. An on person computer is envisioned to include: a head set, digital camera watch, infrared thermometer, compressive strength tester, soil moisture radar, acoustic emissions sensors to monitor cracks, laser range finder for distance measuring, thermal imagery camera and robotic bridge inspection capabilities. The current cost per inspector to equip them with these instruments in between 15 and 20 thousand dollars. The costs are expected to come down as more equipment is purchased. Additional information is also available by contacting Tucker Ferguson at 717-787-7894 or [ferguhl@dot.state.pa.us](mailto:ferguhl@dot.state.pa.us). A copy of the video is also available upon request. Also see briefing paper #20 for additional information.

### **Research Steering Group Presentations**

Steve DeWitt, North Carolina: Research Steering Group Chairman

Recent NCHRP Accomplishments – Crawford Jencks, TRB/NCHRP: Crawford addressed NCHRP Projects of Interest to the AASHTO Highway Subcommittee on Construction which included the following: Completed Research Projects - Guide on Pavement Rehabilitation Strategies, Appropriate Use of Waste and Recycled Materials in the Transportation Industry, Field Procedures and Equipment to Implement SHRP Asphalt Specifications, Designing Stone Matrix Asphalt Mixtures, Refinement of the Superpave Gyrotory Compaction Procedure, Segregation in Hot-Mix Asphalt Pavements, Incorporation of Reclaimed Asphalt Pavement in the Superpave System, Performance-Related Specifications for Hot-Mix Asphalt Construction, Constructibility Review Process for Transportation Facilities, Improved Contracting Methods for Highway Construction Projects, Quality-Based Performance Rating of Contractors for Prequalification and Bidding Purposes, Transverse Cracking in Newly Constructed Bridge Decks, Development of Guidelines for Nighttime Road Work to Improve Safety and Operations, Mitigation of Nighttime

Construction Noise, Vibration, and Other Nuisances, Development of Training Material for Highway Construction Personnel etc. Crawford also discussed completed syntheses of highway practices, active research projects, an NCHRP Overview, and recent and upcoming NCHRP publications. For additional information or a free Transportation Research Information System search, please contact Crawford at 202-334-2379 or [cjenchs@nas.edu](mailto:cjenchs@nas.edu). Also see the NCHRP website at [www4.trb.org/trb/crp.nsf](http://www4.trb.org/trb/crp.nsf). Also see briefing paper #21 for additional information.

NCHRP 10-58 “Construction Engineering and Management Research Program” – Jeff Russell, University of Wisconsin: Ten years have passed since the last assessment of research and development needs in highway construction engineering and management (CEM). A new research program was necessary to indicate the direction and focus of future research. This study identified the critical issues requiring future research and development. The research program indicated topics in which future research will reduce the cost and improve the efficiency of CEM of transportation projects. The report summarizes the efforts to produce the recommended research program and implementation plan. The top five of seventeen recommended research problem statement titles included: 1) Evaluation of the use of incentives/disincentives I/Ds to reduce time to complete highway projects, 2) Analysis of nighttime construction activities and impacts on safety, quality, and productivity, 3) Expanded use of contractor-performed QC processes for acceptance of highway projects, 4) Implementation of the use of new materials into highway construction practice, and 5) Innovative rapid construction/reconstruction methods. The recommended research program is expected to span approximately 10 years. The research team is currently awaiting the NCHRP 10-58 panel’s review and comments. Contact information, (608) 262-7244 or [russell@engr.wisc.edu](mailto:russell@engr.wisc.edu) or at [www.engr.wisc.edu/cee/faculty/russell\\_jeffrey.html](http://www.engr.wisc.edu/cee/faculty/russell_jeffrey.html) Also see briefing paper #22 for additional information.

**THURSDAY, AUGUST 9, 2001**

#### **Contract Administration Task Force**

Ron Williams (Arizona): Task Force Chairman

Quality Based Prequalification in Kentucky – Donn Hancher, University of Kentucky: This presentation covered the results of research performed for the Kentucky Transportation Cabinet (KyTC) on the development of a quality-based prequalification system for contractors desiring to do work for the Cabinet’s Department of Highways (DOH). Kentucky has had a formal contractor prequalification system for many years which establishes both the type of work that a contractor may perform for the DOH and the maximum dollar volume of work that the contractor can do, including work done for other clients, at one time. It was desired to strengthen the weight given to work quality in the prequalification analysis. A new performance evaluation was developed for highway engineers to evaluate the performance of contractors on projects. This will be done annually for all projects or

at the end of the project if it finishes prior to the end of a year. The contractor is given a copy of the annual evaluation and can appeal the rating. A summary rating of the performance rating on all projects worked on for the DOH during the year is calculated for each contractor and subcontractor. This overall rating is used in the prequalification process to determine the amount of work that will be allowed in the coming year. Lower quality work will reduce the allowable work volume, while high quality work will increase the allowable work volume. There is also an appeals process for the final work volume limit set each year. A new performance evaluation was also developed to allow the contractor to evaluate the performance of the DOH on a project each year. This information will be used by the DOH to improve its processes and to develop training for its personnel. Contact Information, Donn Hancher at 859-257-4857 or [hancher@engr.uky.edu](mailto:hancher@engr.uky.edu). Also see briefing paper #27 for additional information.

Report on Best Practices Guide For Innovative Contracting – Doyt Bolling, Utah T2 Center: Doyt began by sharing information on various resources that are available on their website, [www.ic.usu.edu](http://www.ic.usu.edu). The Innovative Contracting Best Practices Guide and the Innovative Contracting Project Selection Tool are both available. The Best Practices Guide discusses general warrants, objectives and which projects are most suitable for innovative contracting techniques. The Innovative Contracting Project Selection Tool presents a questionnaire on Innovative Contracting Experience and Lessons Learned. On the website you will also be able to find innovative contracting methods, do searches, download and add your questions or provide answers to those found on the message boards. Construction Tidbits, the Newsletter of the Pavements and Structures Taskforce is also located on this website. For additional information please contact Doyt Bolling at 435-797-2931 or [doyt@cc.usu.edu](mailto:doyt@cc.usu.edu).

Emerging Trends and Issues for the Engineering & Construction Industry – Corey Hessen, FMI: As we enter the new millennium, the demand for professional design services is the strongest it has been for a generation. High demand for skills, limited supply of professionals and changing dynamics in the way business is done calls for an explanation of the existing and emerging trends for this service sector. In Corey's presentation, he looked at some of the overriding themes that are shaping the way design firms do business today and will do business in the future. During the presentation, we examined how owners are creating more effective owner-contractor strategic alliances. He also discussed what owners and contractors are really looking for out of their relationships. Next, Corey discussed the leadership challenge facing our industry. Specifically, why generations differ, the impact on their attitude towards work, and how each generation can be lead most effectively. Trends in marketing and sales were also discussed and included, continuing consolidation towards a two-tiered market, growth through increasing acquisition activity, convergence of design and construction and its effect on contractors, and the extraordinary battle for ordinary people. How alternate delivery methods have changed marketing and sales tactics was looked at briefly. In closing, Corey discussed the skill sets needed to market and sell engineering and construction services in the new millennium. He also mentioned that in order to recruit

employees, agencies must sell the quality of life they can provide. For additional information please contact Corey Hessen at [CHessen@fminet.com](mailto:CHessen@fminet.com) or at (303) 377-4740. Also see briefing paper #23 for additional information.

Recruiting and Image Building – Chris Drda, Penn DOT: The current emphasis on addressing infrastructure needs has drained the pool of qualified personnel. Recent studies indicate that this workforce dilemma is further compounded by the younger generation’s lack of interest in construction as a career. The image of the highway construction industry is so tarnished among America’s youth that recent Wall Street Journal polls of high school-aged technical school students ranked construction work in the bottom ten out of possible 250 occupations. In response to the immediate need for construction personnel, an Image and Recruitment Subcommittee to the Penn DOT’s Work Force Development Committee was formed (late 1999) to encourage careers in highway design and construction. The following are initiatives that have been developed by the committee and implemented through the fall of 2000: [www.roadsRus.org](http://www.roadsRus.org), a website promoting careers in the construction industry; Show Me the Money, a two page advertisement developed for Magazines; “Build Up!” Kit, a tool selected to reach the younger generation; Construction Inspectors Course, another avenue for targeting of underemployed and unemployed individuals through learning facilities at community colleges and vocational schools; Needs Assessment, a tool used to identify training needs for all partners; Career Days, current availability of full time, part time, and summer positions as well as co-op and internship positions are publicized; Building Your Future CD, an interactive CD targeted at recruiting 9<sup>th</sup> to 12<sup>th</sup> grade students into the construction industry; and a 4-Year Highway Technology Curriculum for Vo-Tech Schools, highlighting educational programs for those interested in highway construction. For additional information on any of the initiatives introduced here please contact Chris Drda or Amar Bhajandas at 717-787-6989 or [abhajan@dot.state.pa.us](mailto:abhajan@dot.state.pa.us). You can also visit their website at [www.pacareerlinks.state.pa.org](http://www.pacareerlinks.state.pa.org) for additional information. Also see briefing paper #24 for additional information.

Report on International Scanning Tour on Contract Administration – Keith Mulinah, University of Colorado: Recognizing the similarities and benefits that could result from an international examination of innovative contracting procedures, a diverse team of experts was assembled to research, document, and promote the implementation of best practices found in Europe that might benefit US practitioners. In June of 2001, a team comprised of Federal, State, contracting, legal, and academic representatives traveled to Europe to investigate and document innovative contract administration procedures that are employed in Europe to cope with growing transportation needs. The team traveled to Lisbon, Portugal; The Hague, Netherlands; Paris, France; and London, England. Additionally, the team met with Swedish transportation officials while in the Netherlands. The ministries of transportation, numerous private sector contractors, and research organizations involved in contract administration hosted the team. In recent years, the European community has faced a multitude of problems that are similar to those that the US transportation community faces today. The scan team discovered that European

highway agencies are better exploiting the efficiencies and resources that the private sector offers, through the use of innovative financing, alternative contracting techniques, design-build, concessions, performance contracting, and active asset management. European agencies have created contracts that focus on the users, while equitably allocating risk and seeking to establish an atmosphere of trust in the implementation of procedures. The United States can directly and immediately employ many European procedures to help cope with its most urgent transportation needs. A seven page executive summary is available upon request. Dave Cox and Ron Williams were Co-Chairs for this Scanning Tour. For additional information please contact Steve DeWitt, at 919-733-2210 or [sdewitt@mail.dot.state.nc.us](mailto:sdewitt@mail.dot.state.nc.us). If you would like to submit your own ideas for future scanning tours please feel free to contact Steve. The Utah T2 Center also holds additional information and can be located at [www.ic.usu.edu](http://www.ic.usu.edu). Also see briefing paper #25 for additional information.

Highway Work Zone Safety Summit, Recommendations for a National Strategy – Brian Deery, AGC: Brian began by discussing the importance of “Partnership Strengthening”. He mentioned that there were three phases of recruiting materials available. Phase I “Build Up” targets 3<sup>rd</sup> – 5<sup>th</sup> graders, Phase II “On Site” targets 6<sup>th</sup> – 8<sup>th</sup> graders and Phase III (Under Development) targets the High School level. In addition to AGC’s emphasis on recruiting, a renewed focus on work zone safety is also a high priority. On July 10, 2001, a “Highway Work Zone Safety Summit.” was held. The Summit was organized because the number of deaths, injuries and accidents in highway work zones is unacceptably high and the numbers have been rising. The purpose of the Summit was to develop a national strategy that includes an action plan with specific goals and objectives for reducing accidents, injuries and fatalities in highway work zones. Six working groups spent a day brainstorming and developing recommendations to address these concerns. Many overriding themes were apparent during all of the work groups, however, five specific actions that may have the best possibility for the most immediate positive results and which should be implemented as soon as possible are as follows: develop a model communications plan; develop brochures, posters and other public information measures; develop a model work zone safety unit for inclusion in drivers’ education materials; develop and implement a nationwide policy of using positive barriers between workers and traffic on medium to high risk projects; develop and implement a law enforcement policy modeled after the New Jersey program; and develop model specifications for including safety items as bid items in construction contracts and implement as a requirement through the Federal-aid highway program. In closing, Brian challenged everybody to keep work zone safety a high priority. For additional information or copies of AGC’s recruiting materials targeted for the young at heart, please contact Brian Deery at [deeryb@agc.org](mailto:deeryb@agc.org) or at 703-837-5319. Also see briefing paper #26 for additional information.

ARTBA Report to AASHTO Subcommittee on Construction – Greg Smith, ARTBA: Greg started off by discussing Transportation Construction Funding Issues. He mentioned that Congress is nearing completion of its work on the FY 2002 transportation appropriations bill and is expected to again approve record funding for

highway, mass transit and airport construction programs. ARTBA's plans for TEA-21 Reauthorization was also discussed. "Americans for Transportation Mobility" will work to educate the American public, elected officials and other opinion leaders about the value of transportation infrastructure to the nation's economy and quality of life. ARTBA continues to press for environmental streamlining for all modes of transportation construction. ARTBA has also been very active in wetland litigation (challenging the new Tulloch rules and changes to the Nationwide Permit), a challenge to so-called "environmental justice" lawsuits, and successfully defeated a morning ban on the use of off-road diesel engines in Texas etc. To further Work Zone Safety Awareness ARTBA testified before Congress in July about many of the activities the industry is undertaking to minimize work zone accidents and offered recommendations for action generated at two separate conferences ARTBA held on the topic in the past year. The association's foundation manages the National Work Zone Safety Information Clearinghouse, which is housed at the Texas Transportation Institute in College Station, Texas. Greg also discussed the upcoming ARTBA 100<sup>TH</sup> Anniversary Celebration in 2002. ARTBA has several special events for the celebration planned across the U.S., including a state-of-the-art permanent exhibition called "America on the Move" at the Smithsonian's National Museum of American History, in Washington, D.C. Lastly, ARTBA is publishing a book on the history of transportation construction and the impact it has had on our country. For additional information please contact Greg Smith at 202-289-4434 or [gsmith@artba.org](mailto:gsmith@artba.org). Also see briefing paper #28A for additional information.

### **Task Force Meetings**

For the remainder of the morning the Task Forces met individually to finalize their work plans and proposed resolutions. The information from these meetings is contained in the Task Force Minutes File.

### **Final Business and Wrap Up-Session**

(Frank Gee, Virginia):

Subcommittee Vice-Chairman Frank Gee chaired the wrap-up session, in which the following issues were decided:

- The 2004 Subcommittee on Construction Meeting will be held in New Mexico.
- Six resolutions were passed by the Subcommittee, and are included as an appendix to this report. Constructability and Post-Construction Reviews, OSHA Standards on Requirement to Install Shear Studs on Structural Steel for Highway Bridge Construction, ITS System Specifications, AASHTO Accreditation Program, the National Transportation Curriculum Coordination Council Pooled Fund Project and with Kansas Hosting the 2001 meeting. (For Additional Information, See Resolutions File)