

Meeting Minutes

AASHTO Subcommittee on Construction

Albuquerque, New Mexico - August 16-19, 2004

Monday August 16, 2004

Chairman Len Sanderson opened the meeting at 8:05 am. He extended welcome to all of the people in attendance. He has been attending the SOC since 1983. The attendance this year is particularly good. There are 42 states, a large contingency from the FHWA, and many private sector representatives.

Mr. Sanderson then introduced the Secretary of the NMDOT, Ms. Rhonda Faught. Ms. Faught welcomed the attendees to New Mexico. During her opening remarks, she said that transportation is the backbone of the economy. She noted that 75% of all goods that are purchased in the United States come from abroad. Using Walmart as an example, just-in-time deliveries are becoming the norm. Walmart only has 11 days of inventory in-stock. Its business depends on the highway system. If something happens to the roads and highways, our national economy will be devastated. Our work on the highways is critical. She continued in her remarks to speak about the predictability of construction and construction work zones for both the traveling public and our own highway workers. Further, she remarked on the importance of Context Sensitive Design and Construction in how our industry relates to the public and to the political process. With reauthorization on the table at the current moment, we need to stress the importance of the transportation to our elected officials.

Mr. Sanderson then introduced Mr. Don Martinez, FHWA Division Administrator for New Mexico. Mr. Martinez welcomed the group to New Mexico, and encouraged everyone to partake in New Mexican chili since it will add ten years to your life. He noted the excellent relationship between the NMDOT and the FHWA Division Office. He highlighted their states efforts in Context Sensitive Solutions (CSS), and in providing a high quality transportation system with a variety of transportation choices for the citizens of New Mexico. The maintenance of our existing transportation system is important for highway safety. Congestion is a problem everywhere, and there are many other problems, but we are working together to meet the challenges. He encouraged everyone to work together and learn from each other at this meeting for the good of the nations highway system.

Mr. Sanderson then introduced Mr. John Horsley, Executive Director of AASHTO. Mr. Horsley's theme for his remarks is "It is not supposed to work this way." He noted an issue with his flight last night, and then with the 10 month delay in the reauthorization of federal funding. He continued his remarks noting the beautiful highways in the state, and congratulating the NMDOT on their recent name change. Mr. Horsely then discussed the current status of reauthorization, discussing the differences between the House and Senate Bills, and the slowness of the process. The process is now in "Silly Season" where the process is highly political, especially with the Presidential Election on the line.

The Senate has reduced their offer from \$318 Billion to \$301, the House has raised their offer from \$283 Billion to \$288 Billion, and their indication is that the Administration may support an increase from \$256 Billion to \$288 Billion. But there is widespread concern that this may not be a large enough consensus. Mr. Horsley remains ever-hopeful that action will occur with a long-term bill by October. He discussed several strategies on how to proceed if a bill isn't passed in light of the concerns about deficit reduction. AASHTO's goal is to have \$300 Billion in funding.

Mr. Horsley continued his remarks to discuss the hard work that has gone into the AASHTO Strategic Plan. There are minor changes in the mission and vision of AASHTO to clarify them. There are 4 key goals. First, reestablish transportation as a national priority. This requires net new revenues to be successful, because the Highway Trust Fund revenues are not supporting the expenditure levels needed. Second, the importance of transportation to national security will be a goal. This requires key partnerships. The third goal is to promote world-class technical services. The fourth goal is to assist state DOTs with leadership and performance. The AASHTO Executive Committee will then task each of the subcommittees to adjust their work plans to implement the goals.

Mr. Horsley noted that the new AASHTO President Brian Nichol will focus on accelerated project delivery. Using the Indiana Hyper-Fix project as an example, he noted all of the benefits of accelerated construction. The entire project delivery process, including environmental streamlining and other processes, are on AASHTO's agenda. The AASHTO SOC will be a vital part of this effort.

Mr. Horsley discussed the need for new materials, new construction techniques, and new ways of doing business. The FHWA is calling this "Highways for Life", but it is broader. We need faster, better, longer-lasting construction.

Mr. Horsley noted that the AASHTO SOC efforts in commenting on the Work Zone Safety Rules were valuable, and led the FHWA to issue a supplemental notice to accommodate the states concerns.

Mr. Horsley mentioned the international scans that have occurred during the past years, and the value that they provide to the states and industry.

Finally, Mr. Horsley thanked Mr. Sanderson and the entire SOC for their work, and for the direction that they have provided.

Mr. Sanderson remarked that transportation is indeed critical to the country. It needs to be reestablished as a national priority. We need reauthorization. We need to be ahead of the curve, working with CSS and accelerating project delivery. Construction engineers need to work proactively, beginning even in the project planning phases.

The attendees then passed a microphone around the room did short self-introductions.

After the self-introductions, Mr. Sanderson introduced the leadership team for the AASHTO SOC, and then he introduced **Lee Onstott from the NMDOT, chairman of the host committee**. Mr. Onstott discussed the meeting arrangements, and plans for the week. He thanked all of the work that was done by the NMDOT staff, and recognized the contributions from the NM AGC to the meeting.

BREAK –

Thomas Bohuslav, Vice-Chair of the AASHTO SOC, moderated the remainder of the morning session. He announce that the FHWA meeting on Friday will be from 8 am to 3 pm , and to please sign-up.

Mr. Bohuslav introduced Tommy Beatty, Secretary of the AASHTO SOC, to discuss issues that are important to the FHWA and the AASHTO SOC.

On the topic of contract administration, Mr. Beatty discussed the process of updating 23 CFR, Part 635. He discussed the steel price increase issue, and AASHTO survey and other contributions from the AASHTO SOC. Further, he discussed a current cement shortage update.

On the topic of stewardship and oversight, he reviewed the definitions, and the FHWA efforts in these areas. These efforts include quality assurance activities, major projects, stewardship reviews, and useful tools to assist State and Federal employees in providing stewardship and oversight.

On the topic of training, Mr. Beatty discussed the NHI program for training, and 2 specific courses of interest to the SOC: “Alternative Contracting” and “Conducting Reviews that Get Results.”

Mr. Beatty then moved on to discuss the FHWA initiatives. At the forefront of the FHWA efforts are the vital few initiates: Safety, Environmental Stewardship and Streamlining, and Congestion Mitigation. Several slides were presented to show the scope of the problems that exist in these areas, and the importance to the country to solve these issues.

Several other initiatives were discussed: pavement smoothness, pavement design guide implementation, accelerated construction technology transfer, and the “Highways for Life” program.

Mr. Beatty briefly discussed the reauthorization process and status.

Mr. Bohuslav introduced Ted Ferragut, President of TDC Partners, to discuss the issue of Cost Estimating from the AFH35T Task Force on Accelerating Innovation. The committee is charged with developing accelerating strategies. It has been in existence for about 5 years. There are many barriers to accelerating innovation, but they can be broken by working across the traditional stove-pipe lines, and by moving issues quickly to the top. Innovations that have been started by the committee are: the ACTT Process, Environmental Stewardship, Performance-Based Maintenance, and Cost Estimating.

Issues being addressed by the committee are: First Design Estimate, Major Projects, and Going-Public with Cost Estimates. The Boston Central Artery project was given as an example. Other examples were from Australia, Virginia (Springfield Interchange), WSDOT (SR 167, Seattle light rail.)

The Flyvbjerg Study has increased awareness of the issue of cost overruns. It is posted on the committee's website.

Mr. Ferragut offered a list of key observations about the cost estimating process, and the problems that result for the DOTs. Some of the results are better training in dealing with uncertainty, dealing with risks, and dealing with the costing of risks. The use of statistics to assist in understanding the probabilities is a powerful tool, and some are now issuing estimates as ranges of prices rather than a single hard number. There is a Cost Estimating Validation Program (CEVP) that is used in Washington State to help manage the risk valuations, and communicate the range of costs to the public. This concept is particularly important as more mega-projects come on-line.

Mr. Ferragut completed his presentation by discussing a list on why the construction personnel in every state should care about this issue. Ultimately, if there are problems in cost estimating, construction ultimately owns the project.

Mr. Len Sanderson was the next speaker. His presentation was on the AASHTO Center for Environmental Excellence. The issues of mobility and safety are important, but environmental issues can't be overlooked. There needs to be a good balance. Community values need to be accommodated.

Mr. Sanderson reviewed the mission and vision of the Center for Environmental Excellence. The goals of the Center are to increase the capacity of the DOT's to delivery environmentally sound transportation projects, provide leadership, enhance partnerships, provide expert assistance, and share best-practices. The Center serves all AASHTO committees.

Mr. Sanderson discussed the activities of the Center. Information Sharing statistics and programs were highlighted, the training program supported by the Center, and the technical assistance provided by the center.

Mr. Sanderson suggested that the Subcommittee on Construction could share much information with the Center, and post best-practices on their website. Training development could be done through the Center. The Center can help identify technical support for environmental issues.

Mr. Bohuslav introduced Stu Anderson of TTI. He is working on a project to study traffic on High Volume Roadways – as long as they are concrete pavements. The study will collect best practices and case studies on a number of various projects, and form the foundation of a new training program.

Mr. Bohuslav presented a list possible host states for 2007: AK, FL, GA, MS, SC, VA, WV.

Several questions of the attendees were then presented by Mr. Bohuslav. A list of questions had been submitted by various states prior to the meeting, and periodically throughout the meeting several will be asked.

First, on **steel price adjustment clauses**, Mr. Bohuslav asked:

- Which states are currently doing retroactive steel price adjustment clauses? Vermont, Florida, and Kentucky responded that they were.
- Is your state still considering retro-active steel price change orders (with State funding)? (Yes – VA, OR, HI, IN, NY, MD)
- Is your state allowing price adjustments for steel on new projects? CT, RI, FL, NY, IN and UT responded that they were. VA reported that there was a provision in their specifications, but that it has not been used. NE and IL reported that price adjustments were allowed, but that they had to be initiated by the contractors. NV reported using price adjustment clauses for steel on selected projects and only for selected bid items.

Second, on the **cement price adjustments**, and related topics, Mr. Bohuslav asked:

- Is your state doing cement adjustment clauses? None of the states said they were.
- Does your state have an adjustment clause for asphalt and fuel? 28 of the 42 states present said yes.
- Is your state experiencing a shortage of cement? AZ, SD, FL, VA, NC, NV, and southern CA responded affirmatively. Pennsylvania noted that contractors who had long-term relationships with cement suppliers aren't being seriously hampered by cement shortage problems – and several of the states listed above observed that was also case in their states.

LUNCH -

After lunch, the Subcommittee on Construction held breakout sections for each of the four Sections. The group as a whole reconvened at 4:00 PM.

Section Reports were made by the Section Chairs, each of whom was introduced by Mr. Bohuslav. NOTE: Accomplishments and reports for each Section are shown in the Section meeting minutes, contained as an appendix to these minutes.

- 1) Computers and Technology – Tucker Ferguson
5 work items – the. Good progress has been made on all items.
- 2) Contract Administration – Steve DeWitt
9 work plan items. Good progress made on all items.
- 3) Environment and Human Resources – Chuck Correa
Mr. Correa reported on the status of the 3 focus areas for the section. There was good progress made in on each area of the work plan.
- 4) Roadways and Structures – David Graham
There were 8 work plan items – and good progress was made. There are some carryover items that will continue into next year.

Mr. Bohuslav made the following announcements.

- 1) Each section is to identify a person to work on the consolidation of the AASHTO Construction Specifications.
- 2) There is a meeting of the Research Steering Committee tomorrow morning at 6:30 am.
- 3) Mr. Bohuslav presented a revised list possible host states for 2007: FL, GA, MS, SC, VA. These states will be giving presentations on Thursday.

Mr. Bohuslav then continued from the list of questions that were previously submitted.

- He asked various states about **traffic control regulations** in their states.
The responses focused on meeting the Federal regulations, as well as additional reviews that are conducted by state personnel. Jim Sorenson, FHWA, said that the statewide work zone reviews have been found to be inadequate in one state as a result of a bus accident in Nebraska by NHTSA. He said that states need more attention to detail in these reviews. Gene Wortham, Idaho, noted that the reports which are made out on project visits and inspections often note items that should be corrected. Mr. Wortham observed that follow-up efforts must be made to assure that the corrections are made, and that this information is well documented.
- Mr. Bohuslav asked about **Lump Sum Contracting**.
The following states do lump sum for design build contracting: AL, NC IND, OR, MD, VA, and SC. FL does it on every project. Cost and Time overruns have been the lowest in the nation. There was much discussion on Florida's extensive use of this method.
- **Other contracting methods** were discussed:
Plain Quantities for Selected Items: WI, MN
Square Yards for AC Pavements: KS, KY, Penn
Payment by CPM methods: none
Vertical and Horizontal milestone: AZ on HOV lanes.

Contractor Invoicing: Iowa, Texas stopped; CO, ND, NC on maintenance project

- **Alternate Contracting:** Penn – steel and concrete bridges – PennDOT designs either steel or concrete, then the contractor can design and bid the alternative. FL allows on bridges. TN on pavement bases and MSE walls. KY has alternate bids on pavements, with a 40 year life span and up to a 15 year warranty.
- Dean Testa, KS, spoke about the 3 types of **consultants and overhead rates** between the types consultants. Alaska, AZ, Penn, VA, CT, WI, Mass, GA, NC, TN require different overhead rates for inspection only consultants. Design consultants have high overhead rates. Mr. Sorenson states that the overhead rates are fully negotiable.
- **Distribution of liquid lime** – pressurized lines vs gravity feed. Only KS is requiring the use of pressurized lines.

Lee Onstott, NM DOT reviewed the arrangements for tonight's dinner.

The meeting was adjourned at 5:00 PM.

Tuesday, August 17, 2004

The General Session was called to order by Steve DeWitt, Chair of the Contract Administration Section at 8:06 am.

Mr. DeWitt began the meeting by introducing the morning speakers.

Dr. Keith Molenaar made a presentation on the 2004 Construction Management International Scan that took place in the Spring of this year.

The study examined three phases: pre-construction, construction, and post-construction. It was designed to look at issues that impact the US highway network to see if there were international technologies and procedures that could benefit the US.

The scan visited Canada, Germany, England, Scotland, and the Netherlands.

There are similar transportation needs internationally in terms of the amount of reconstruction and maintenance. They have Construction Management (CM) systems that promote the alignment of customer goals, and there was a lot more trust and partnership between the public agencies and the private sector. There were numerous other findings that were listed by Dr. Molenaar (please see his presentation.)

Pre-Construction:

Staffing: private sector partnerships are common.

Project Delivery: US is primarily design-bid-build. Internationally, there is a blend of delivery methods based on the project: DBB, DB, ECI and aggressive PPP. England makes widespread use of Early Contractor Involvement (ECI) and Public Private Partnerships (PPP) which are primarily Design-Build-Finance-Operate (DBFO) projects. Dr. Molenaar explained the ECI system, and the time savings that resulted in project delivery.

Procurement: Internationally, best value procurement was predominant. Contractor qualification using the Capability Assessment Tool (CAT) was a significant finding.

Risk Allocation and Management: Netherlands program was interesting and valuable.

Construction Management:

There were many findings from this scan. Dr. Molenaar focused first on Contract Administration findings, noting that the processes support customer goals. There is widespread use of lump-sum payments. Next, he spoke on Quality Plan Implementation, and noted that many contractors are ISO certified. There is widespread use of performance specifications and warranties, particularly in DBFO's where warranties are up to 30 years. With the customer orientation, public communication and 3rd party communications are critical. There is widespread use of websites to discuss detours impacting the public.

Post-Construction:

The scan gathered information on warranty inspections and management. A significant finding was that many maintenance operations are privatized.

The Scan Team is making a number of recommendations:

- Align Team Goals to Customer Goals
- Develop Risk Assessment and Allocation Techniques
- Apply alternative delivery methods
- Enhance qualification rating processes
- Use qualifications in procurement
- Pilot and ECI project in the US
- Apply alternate bids/designs in procurement
- Conduct pre-proposal meetings
- Apply more contractor quality management
- Ultimately move towards increased life-cycle responsibility.

There will be Expert Technical Group that is being formed to work on the issues observed in this scan. The group will conduct workshops and develop pilot projects, and also work with TRB and develop conferences.

Dr. Molenaar concluded by issuing a charge to the industry to promote partnerships.

Steve DeWitt took the podium to discuss Accelerated Construction. There is a need to adopt this process because the public is seeing us (transportation professionals) as part of the problem, not part of the solution. We need to demonstrate that we can provide solutions.

He provided a discussion of accelerated construction examples from NM, CT, and OK. We need to focus on work zones, life cycle costs, and performance specifications. Mr. DeWitt encouraged SOC members to participate in ACTT workshops. He noted that the use of prefabricated components will provide many benefits, and cited several examples from NY, Canada, FL, and CO. Many people are claiming that government is the problem in stifling innovation, but Mr. DeWitt stated that more often it is the contracting community that is more used to low-bid procurement. The contractors are not yet comfortable with evaluations and warranties and other concerns.

There are a number of Acceleration Construction Concepts – but the industry will have to be eased into them. States are beginning to adopt pieces of these concepts, but we need to develop a larger perspective involving all of the concepts in every state. Mr. DeWitt discussed a number of critical issues, and presented examples from North Carolina to show some good cases and bad cases that NC has experienced. Further he discussed how NC is approaching the implementation of acceleration and innovation including: reorganization, legislative opportunity, contractor prequalification, strategic planning, and the development of accelerated construction guidelines. Mr. DeWitt detailed the Accelerated Construction Process used in NC.

The next speaker was Sid Scott from Trauner Consulting. Mr. Scott spoke on Best Value Procurement Methods for Highway Construction Projects. Best value buying is commonly used by individuals in their buying decisions. We all have to decide if we only want the lowest price, or if there are other components that influence our individual decision and provide additional value but slightly higher costs.

Mr. Scott discussed the spectrum of Procurement Methods from fixed-price to sole-source bidding. Best Value involves both price and other considerations such as quality, and long-term performance.

The industry and legislative trends in procurement were discussed. FAR Part 15 allows contracting by negotiation, and the Revised ABA Model Procurement Code also promotes best value contracting. Various states have begun to legislatively address best value contracting.

Mr. Scott reported on a survey about best value. 27 out of 41 states responding said they had experience in best value contracting. There is a report available concerning the Best Value Concept, including parameter design and the analysis of the proposals. Trauner has also evaluated a number of case studies on best value, and use the results of these case studies in their analysis system. Mr. Scott discussed rating systems and award algorithms in detail – and how they relate to Trauner’s system.

Mr. Scott then discussed one-step best value procurement versus two-step procurement. Screening and selection of the projects is critical in determining when to use best value procurement, and in the evaluation of the benefits that the agency could expect.

The presentation concluded with examples of best value procurement evaluation techniques and implementation strategies. Trauner has prepared legislative guidelines and model specifications to assist the states in implementation.

Mr. DeWitt opened the floor for questions.

- 1) The University of Colorado website has a copy of the summary report.*
- 2) Copies of the presentations will be made available on the AASHTO SOC website.*
- 3) There have been protests for best-value decisions, but Mr. Scott said they are generally not frequent or successful. Dr. Molenaar said that an extensive evaluation of the protests that had been filed and the most problems occurred when there were documentation issues – not process issues – that created problems.*
- 4) A question on environmental qualifications and public record documentation was posed. Mr. DeWitt and Mr. Scott said this is a controversial subject, and delegation of responsibility for project delays due to environmental concerns is difficult.*
- 5) Prequalification of the team members of teams formed to construct large projects (e.g.: joint-ventures) is often done by each member of the team, particularly when the members haven’t worked together before. Dr. Molenaar said there is much more to best value procurement than just past-performance of the team members.*
- 6) Best value is generally not a barrier to competition, but if this is a concern, then there are methods to deal with this issue. Mr. DeWitt observed that the competition is starting to shrink in Europe, but that in the US we still value small firms – but he noted that we can raise the bar.*

BREAK -

After the break, Mr. DeWitt introduced the speakers for the next speakers.

Eric Kerness (Pinnacle-One Consulting) spoke on fraudulent claims. He first asked if there was fraud in public construction. About half of the audience raised their hands. He proceeded to give an example of fraud in NY on the Suffern Interchange, where a pile driver contractor and project inspector went to jail, and the contractor cost was \$2 million. White Construction in Florida was another example.

The Federal Code (31USC) concerning false claims has been in existence since the civil war. Since its inception, there have been nearly 6.9 billion dollars collected under this statute since 1986. Mr. Kerness reviewed each section of the code, and provided several examples of violations. Consequences of false claims include treble damages, attorneys' fees, and \$10,000 for each false claim. He noted that whistleblowers are protected and participate in the recovery award. There is a statute of limitations for filing claims.

Several of examples of false claims were provided for false certification: payment, prevailing wages, DBE record, construction inspection, Buy America violations, subcontractor claims, falsified schedules and delay analysis, double billing, and more.

David Polinsky (Wasserman, Comden, Casselman & Pearson LLP) made a presentation on the most famous false claim lawsuit in the history of America. Damage awards \$29 million against the contractor plus other fees, doubled by court: \$63 million total award. 1,048 separate findings of false claims.

The project was the MTA Redline Subway Construction project, a \$75 million dollar low bid by Tutor Saliba Perini (TSP). Construction delay claims commenced in late 1991. There were \$20 million dollars in approved change orders. In 1997, the contractor filed a claim for delay and other reasons totaling \$16 million dollars. The MTA files cross complaint for contract breaches and false claims. TSP refused to produce its bid documents. The jury trial commenced in May 2001, and the award was made in August by the Jury, and increased by the judge in 2002.

Mr. Polinsky reviewed numerous false claims that were filed by TSP, as well as Buy America violations, DBE claims, and delay claims.

Questions (or answers to questions):

- 1) Are there criminal as well as civil claims possible? Generally, the District Attorneys are satisfied with the civil penalties.*
- 2) TSP continues to bid projects with the same attorneys and bonding companies because the case is under appeal.*
- 3) Escrow bid documents should be in all contracts.*
- 4) Whistler blowers may be hesitant to file due to potentially having to pay contractor attorney fees.*
- 5) Electronic bidding may be an impediment to escrowing documents due to proprietary and intellectual rights, and the ability of the public agency to maintain the data.*

- 6) *Too many change orders add scope and time to the record, and can support delay claims by the contractor.*
- 7) *Falsely based change orders can be revoked and treble damages awarded. TSP submitted \$2 million in false night work claims, and had to return \$6 million.*
- 8) *A contractor who fails to submit documentation for a claim may be negligent – but that it is not a false claim.*
- 9) *Attorney's fees were \$12 million, expert witness fees were \$9 million.*
- 10) *Jerry Yakowenko stated that the Buy America program supersedes NAFTA.*

Lee Onstott from the NM DOT took the podium to explain the schedule for the remainder of the day, and other purposes.

Thomas Bohuslav asked several questions from the list that were submitted.

- Do States pay for “**material on hand?**” All states will pay.
- Does your State have **fly ash storage problems?** ID, CA, VA, and TX said “yes.”
- Does your state allow **payments for extended project overhead?** All said “yes” except WI.
- Does your state allow **home office overhead?** All said “yes” except for NY, TX, and WI – where home office overhead is NOT allowed.

LUNCH -

After lunch, David Graham, Chair of the Roadways and Structures Section, introduced the next speakers.

Alan Childers from the American Concrete Pavement Association was the first speaker on the topic of “Roller Compacted Concrete” (RCC). Mr. Childers discussed several of the small projects in Tennessee and Georgia which acquainted him with the product. His first experience was with RCC used on shoulders on interstate ramps. In the past 3 years there have been more projects, several in the 100,000 square yard range, for private applications that he visited. The first large (200,000 square yards) RCC contract was awarded in Atlanta on the I-85 beltway last month.

Matt Singel of the Southeast Cement Association gave more discussion on RCC. RCC is a zero-slump mix that is compacted by vibratory steel drum rollers. He provided a list of the benefits of RCC including: economics, no rutting, better lighting costs, etc. The basic construction process is that the material is made in a plant, trucked in a dump truck to the site, and placed with a screed.

Mr. Singel showed photos RCC placement dating back about 15 years. He then discussed the engineering properties of RCC, thickness design, materials properties (no air entrainment), production process, transporting the mix (covered dump trucks to maintain moisture), placement using pavers (minimum thickness is 4”) and other equipment, and compaction. Cracking occurs naturally between 70 and 140 feet, but sawing can be done and is recommended. The material can be placed to a surface tolerance of ¼ inch in 10 feet. Compaction is checked with a nuclear

gage. There have been RCC projects dating back to the 1960's, however not a lot of documentation is available for the oldest projects.

New Atlanta project: I-285 project costs and description:

6" - \$19.17 / sy

8" - \$25.55 / sy

The project is more than 17 miles long.

There is literature on this product available from the PCA and the SECA, and on the web at www.cement.org.

The next presenter was Dr. Michael Ayers of the ACPA. His presentation was on Smoothness Measurement/Interpretation of Profilometer Data.

In 1998, the problem of errors in measurement began to be investigated. He noted the difference between a laser footprint and a tire footprint. Dr. Ayers observed that texture is not the same as roughness, and that there is a problem in using lasers to measure roughness on concrete pavements.

The ACPA is promoting a plan to have the states adopt uniform specifications. They have made some good progress, such as publishing a technical guide. In January 2003, they quantified the problems of repeatability on various pavement types using 12 different types of profilers. Dr. Ayers described the experimental procedures used, and the data analysis. Using the preliminary evaluation criteria, there were very few pavements (most with poor macrotexture) that passed. ACPA now recommends that contact profilers be used to measure longitudinally tined PCC pavements.

Blanking band selection (eg: 0.2 inch vs 0.0 inch) is critical to the analysis, but there is still an issue, and new technology needs to be developed. He discussed the LISA lightweight profiler by Ames, and said that they are close to solving this problem.

Michigan DOT and Marquette University / Wisconsin DOT have done further research in the differences between profile measurement devices, IRI, and user correlations. Dr. Ayers discussed the results of these studies.

Questions (or answers):

- 1) Dr. Ayers said these numbers are critical for the 2002 design guide, which uses IRI to predict pavement deterioration.*
- 2) Contractors who are required to provide early IRI data as a part of contracts may have a problem currently. ACPA is trying to get a new add-on device to take care of these concerns.*

David Graham introduced the next speaker: Mr. Ted Ferragut. He is speaking on the topic of the International Scan on Prefabricated Bridges. The key to the scan was the use of innovative systems to replace existing bridges or construct new bridges.

Goals of the Scan were to find technologies to: minimize traffic disruption, improve constructability, improve work zones, lower costs, and more. Please see the presentation for a complete list of goals and the countries visited during the scan.

The scan observed total structure move-in move-out with self-propelled modular transporters (SPMT.) This is a one-man operation with big equipment. In Germany, they witnessed a 140 ton bridge removal using this system. In the Netherlands, they witnessed a very long span bridge move-in. Mr. Ferragut had videos of these projects.

They also looked at launch systems, where the bridges are built off to the side of the adjacent roadway and rolled into the final alignment. Horizontal skidding, jacking systems, floating systems, and pivoting systems are other technologies that were looked at on the Scan.

There were superstructure and substructure precast systems observed by the scan. Mr. Ferragut showed many photos of these systems, and these pictures are available on the web. He said that the experts think this can be a standard in America in the next 10 years. He noted that some of these systems are proprietary, and that the FHWA needs to develop methods to reward innovation.

BREAK -

After the break, John Wojakowski from KDOT, gave a presentation on the Air Void Analyzer (AVA). It is an apparatus that measures the air voids in fresh concrete. He participates in a group called the AASHTO TIG for the AVA. There was a cooperative implementation project to get the AVA used in the field.

Air entrainment is necessary for concrete to avoid freeze-thaw damage. FHWA has found that nearly half of the concrete placed doesn't have sufficient air voids. Mr. Wojakowski showed pictures of spalling in the longitudinal joints that developed in less than ten years. The project in KS had 5.5% air, so the distribution of the air was the issue. This is called the "spacing factor." He reviewed KS specifications for this. KDOT used the AVA on 3 projects in 2002, and on all projects since.

Currently, US specifications generally do not account for air void spacing. The AVA allows more control of air voids in fresh concrete. The AVA has been implemented in KS, limited use in CA, and now Iowa, Missouri, NC, NY, MN. Mr. Wojakowski then described the equipment and its use.

The TIG is recommending that AVA spacing factors be more widely used. Spacing factors can be improved in a number of ways that have been published. Each AVA test takes about 40 minutes, and is portable. The ASTM petrography method normally takes 2 weeks.

There are many applications for the AVA including pre-qualification of mixes, QC/QA, research and more. It costs about \$25,000 and about \$9 worth of concrete for each test.

The state of the art in concrete technology can be improved by the use of the AVA. Mr. Wojakowski showed a video of the test to conclude his presentation.

Questions:

- 1) *KS continues to use total air content, but spacing is also in their specs. Day to day QC is done with the total air.*
- 2) *There doesn't seem to be much difference between transit mixed and central plant mixes as long as the equipment is in good shape.*

Tucker Ferguson, Computers and Technology Section Chair, introduced the next speaker, Jerry Jones of the FHWA. Mr. Jones discussed a survey that was done as a part of the Section work plan: the Technologies in Use Survey. 17 departments out of 52 responded.

The technologies in use mentioned most often

Surveying: GPS, Total Station

Documentation: internally developed or proprietary computer programs.

Construction Practice: Machine controlled GPS and GPS use

Environmental Compliance: GPS and GIS

Traffic Control and Incident Management: Video cameras, DMS, Variable Message Signs

Benefits of Technology:

Less manpower, increased productivity, increased accuracy, time savings, and more were cited as benefits depending on the process.

Length of Use of these Technologies: two to ten years.

The technologies have been used on 15 or more projects by each organization. A couple or organizations have dropped proprietary programs for various reasons.

Other responses from the survey identifying interesting information from the states were discussed by Mr. Jones as a part of his presentation. He spent several minutes describing and then showing a video on the Minnesota Dynamic Lane Merging System.

Mr. Ferguson then introduced the next speaker: Brad Parks from InfoTech. Mr. Parks spoke on the "AASHTO Trns*Port Software Update."

There are now 40 State DOT licenses for the Trns*Port Software Suite. There are 13 different software modules. SiteManager has 23 transportation agency licenses. There are the materials side and the construction side of the SiteManager software.

Mr. Parks then discussed the enhancements that have been added in the last year. There is now better integration between SiteManager and FieldManager. There were many enhancements in the materials portion of SiteManager, and there were technology upgrades to Oracle 9i, WinXP,

Sybase 12.5, and Object Store. More enhancements are currently underway. Mr. Parks provided many details on these enhancements.

Other modules that were discussed:

- 1) The SitePad module was then discussed. 9 transportation agencies currently use this module, which is a hand-held inspection module.
- 2) SiteXchange is a tool to allow subcontract info to be transferred to SiteManager. 9 agencies currently use this tool.
- 3) FieldManager has 6 agencies, and more than 130 local agencies and 400 consultants using this tool.

Mr. Parks continued to describe other software tools, their status, and plans for future enhancements.

Jerry Jones was called back to the podium to discuss the Balsi Beam – a portable steel beam to help protect workers in work zones. He cited a number of statistical sources with varying numbers of fatalities in work zones. The Balsi Beam is a steel beam mounted on a tractor trailer that provides an extended “safe area” in a work zone. The beam can be rotated through the use of a hydraulic system to either side, thereby protecting work on either the median or outside shoulders. Mr. Jones showed a short video on the Balsi Beam.

Mr. Onstott discussed the schedule for the evening and technical tour.

The meeting was adjourned for the day at 4:50 PM.

Wednesday August 18, 2004

The meeting was called to order at by Tucker Ferguson, Chair of the Computers and Technology Section. **Mr. Ferguson was the first speaker on the agenda. He began by speaking on the topic "Paperless Project Administration."**

Mr. Ferguson's presentation described the system that is used by PennDOT, the Engineering and Construction Management System (ECMS.) The system for design began in 1996, and the construction portion began in 1997. Integration began in 1998, and full integration and implementation began in 2002. There have been substantial "soft" cost savings to the department by the use of this system, and the business processes have been simplified. Mr. Ferguson described the development process that PennDOT used, and then showed screenshots from the computer program. He described the e-mail driven philosophy in the electronic bidding process and the contract awards, and discussed benefits to the department in terms of reducing cycle time of the process. The presentation provided in-depth descriptions of the capabilities of the computer program, and the ability of the system to share information between team members. There is a website to find more information about this program: www.dot2.state.pa.us.

Mr. Ferguson then introduced Dexter Newman from the Kentucky Department of Transportation. Mr. Newman continued the presentation on Paperless Contract Administration by discussing Kentucky's efforts to adopt the Trans*Port System. He reviewed the needs of the agency to go paperless due to: loss of personnel, increased workload, cash flow management issues, and the need to know more quicker. Kentucky's original construction management system was developed in the early 1990's, and it is out of date. The costs to replace the system were too extreme, so KYDOT is moving to the AASHTO software. Much of the contract information is posted to the agency website. KYDOT connects the central office, 12 district offices, and 52 resident offices. There are T1 lines to all of the districts, and many of the other offices have DSL, cable, or 512 frame relays. All inspectors have PDA's that connect to the system.

Questions:

KY hasn't used paper forms for many years. The bidding process has been electronic, and the contractors are using the website effectively. The materials testing program won't be fully electronic for another year or longer. The FHWA Division Office has access to the KYDOT system.

Mr. Ferguson introduced Mr. Bob Pento from the Pennsylvania DOT to discuss automated speed controls for work zones. This project is designed to meet the highway safety goal of PennDOT. 85% to 90% of all crashes are caused by driver error. The national goal is to reduce the fatality rate 1.0 per 100 million VMT. Pennsylvania is currently at 1.8.

This is part of NCHRP Project Number 3-59 which is investigating Variable Speed Limits (VSL). Technology Assisted Enforcement (TAE) can help with the enforcement efforts. The project cost for the NCHRP is \$500,000, and PennDOT has provided additional funding.

Mr. Pento discussed the history and usage of variable speed limits. VSL are used in Europe, and in certain locations in the US – mostly due to weather concerns. On this work zone project, speed will be varied gradually in increments from 55 mph down to 40 mph.

Mr. Pento continued his presentation by discussing TAE. He first discussed red-light cameras. TAE is not “automated” enforcement – officers would still issue citations directly to motorists when violations have occurred. TAE allows for remote monitoring by the officers, and it is up to the officer to stop and ticket the violators. The technology combines radar speed trailers and digital video cameras.

There will be challenges with judicial acceptance, as well as legislative input and support. The initial use of the system will require a lot of cooperation from the Pennsylvania State Patrol. Northwestern University is responsible for this NCHRP project. The field implementation will be in September and October of this year on I-81 near Harrisburg.

Mr. Ferguson next introduced Ms. Sonya Dooley from InfoTech. Her presentation was on the Site*Manager Software update. She gave an overview of the software, and then discussed the change order functions and process in the software. Her presentation included many detailed slides concerning the functions of the software, and she provided two long, detailed, extremely specific case studies from New Mexico and Colorado. Please see her presentation for the details of the case studies.

BREAK -

After the break, Mr. Bohuslav and Mr. Onstott made announcements dealing with schedule. Mr. DeWitt briefly spoke about the benefits of the Transportation Research Board, and encouraged the SOC members to attend the TRB Annual Meeting in Washington, DC in January.

Byron Coburn, Chair of the Research Steering Committee, introduced the morning speakers.

The first speaker was Tim Hess from the TRB. His presentation was titled “NCHRP Update.” NCHRP has existed since 1962. It is a \$32 million dollar program which is supported by the State DOTs with 5 ½ % of the states SPR funds from the USDOT.

There is an applied research focus in the NCHRP program NCHRP is a part of TRB, which is one of the parts of the National Research Council, which is part of the National Academy of Sciences.

NCHRP Reports: There are many which are of interest to the SOC, and can be published or downloaded from the website.

Mr. Hess then provided a selected number of examples from each of these categories: NCHRP Synthesis Projects, Active NCHRP Projects, new NCHRP Projects, and Future NCHRP Projects.

The construction management committee has problem statements on line that have already been developed.

Questions:

All studies older than 3-5 years are not on the web. There are no plans to index and put the older plans on the web.

The next speaker was Kevin Dayton, Washington State DOT (WsDOT). His presentation was titled “Thermal Differentials and Density Differentials in HMA.” It was a summary of the observations and impacts of the thermal issues in Washington. He showed some photos of projects where there are distresses related to this issue. He noted the “open-boney streak areas or patches.” The problems get worse with time.

The thermal imaging cameras are an effective tool in identifying problem area where differential compaction occurs. HMA often develops a “crust” of cool material during trucking that is not effectively remixed during the lay down process. Testing protocols don’t often catch the resulting small areas of low compaction.

A material transfer vehicle (MTV) that remixes the material prior to lay down is an effective tool that is available to solve this problem.. In 2001-2002, WsDOT combined this with a density profiling test procedure, but it didn’t work as a “shadow specification.” They then devised a method to systematically look for and evaluate the bad spots, and to decide how much bad spots are worth. WsDOT included a 15% price adjustment in the unit bid price (about \$2100 per 400 tons.) This systematic density specification is at the option of the agency, and is in addition to the random specifications.

In 2003, WsDOT let 14 projects, and great progress was made in solving this problem. There was good cooperation from the industry to comply with the new specs. WsDOT is providing digital FLIR cameras (about \$20,000) to each region.

Questions:

- 1) Acceptance testing is done by WsDOT staff.*
- 2) The \$20,000 cameras were purchased directly by WsDOT, not as a contract bid item.*

Mr. Coburn introduced the next speaker: Dr. E.B. Lee of the University of California at Berkley. His presentation was on the CA4PPRS software and was titled: “Construction Analysis for Pavement Rehabilitation Strategies.”

The motivation for the development of this software was to help provide long life rehabilitation and quick construction. This is especially important in innovative contract scheduling. The software helps to determine how far a contractor can successfully work during the work zone closures using various time limitations now typical in urban areas. These include nighttime closures, weekend closures, etc. The lane closure restrictions have a large impact in the decision making process. Different types of closures and different pavement types can be used in the software, so that the contract can be designed to minimize the impacts on the traveling public.

Dr. Lee showed many screenshots from the computer program and discussed the information and importance of the information on these screens.

He provided several project analysis examples including the California 710 freeway and an I-15 project. The software is a very good tool to use on expensive, high profile, heavily trafficked, and/or accelerated construction projects.

The software is currently being updated to include more functionality.

Mr. Onstott discussed the details of this afternoon's Technical Tour and the Golf Tour.

The meeting was adjourned at 11:41 am, and the attendees headed for the buses.

Thursday August 18, 2004

Chuck Correa, Chair of the Environment and Human Resources Section announced the morning schedule and introduced the first speaker. **Marie Venner, President of Venner Consulting, spoke on NCHRP 25-25(04) "Environmental Stewardship in Maintenance and Construction."**

The research has several key goals. A compendium of environmental stewardship practices will be very useful to SOC members. The product is ten chapters, 800 pages, and over 7,000 examples. Ms. Venner reviewed the contents of several of the chapters related to construction.

SOC members are invited to preview the compendium at www.vennerconsulting.com/nchrp.

Mr. Correa next introduced Mr. Jeff Lewis of the FHWA CA Division Office and Gene Mallette of CALTRANS speaking on the topic of Constructability & Environmental Commitments.

Mr. Lewis discussed the AASHTO/FHWA Survey that was done in 2004. 28 states responded to the survey. This was a follow-up to a 1995 survey. He compared the differences in the top ten issues and how they have changed over time. Further, he reviewed the AASHTO SOC and FHWA histories on this topic.

Mr. Mallette discussed the increase in the costs of freeway construction from \$7 million to \$15 million per centerline mile from 1965 to 2003. The increased costs are parallel to the costs of environmental compliance.

Mr. Lewis discussed the Construction Management Guide, and mentioned that it is available on-line

Mr. Lewis then reviewed many of the survey results:
Mitigation costs are just a part of doing business: 100%
Local agencies do constructability reviews: 2/3
Construction involvement in planning: 50%, environmental 25%.
More of the results can be viewed in the presentation.

Best Management Practices (BMPs) for environmental commitments implementation were discussed.

Mr. Mallette discussed how CALTRANS has responded organizationally to the challenges of the environmental process.

Mr. Correa introduced the next speaker, **Mr. Bud Darby of NICET speaking on the topic of “Attracting Young People to the Construction Industry.”**

He provided a handout to the group. The first point he made is that there is an impending shortage of engineers. NCHRP Synthesis 323 “Recruiting and Retaining Individuals in State Transportation Agencies” provides many ideas on how attract and keep young people. Mr. Darby said that agency outreach activities have to begin before kids become high school seniors. He further noted that technician training programs are critical to the future of the industry, and he offered the NY state JUMP Program as a good example of getting minorities trained into the industry.

Mr. Darby noted that many community colleges have begun training programs that lead to NICET certifications, thereby almost guaranteeing a job for the participants. The Harrisburg Area Community College was highlighted.

Next, an effort by the Chicago Children’s Museum was noted. Children 10 years of age are introduced to construction at the museum through an NSPE effort.

Mr. Darby showed an outreach video titled “You Can Build Minnesota.” The video informs young people about the need for civil engineers and technicians, and what they actually do to help build and maintain Minnesota’s infrastructure.

Mr. Darby noted that NICET was created in 1981 by the AASHTO SCOH. The first certification program began in 1984. There is a new steering committee being formed to revamp the certification program. SOC members were encouraged to contact Mr. Darby if they are interested in participating.

Mr. Correa then introduced Mr. Tucker Ferguson to discuss “Construction Industry Recruitment in Pennsylvania.” He noted that construction came out 148 / 150 of most desirable jobs in a survey of young people, but that the needs of the industry are so extreme that efforts have to be made to turn around the perception. Mr. Ferguson discussed PennDOT’s outreach program to high school students. Special efforts are made to recruit the numbers of women and minorities working in the industry. PennDOT has developed a Construction Workforce Development Steering Committee. The committee is developing position descriptions and career paths, and identifying training programs that will help.

There is an effort in image and recruitment by the committee. They have developed a website (www.roadsRus.org) to get out the message, as well as a toolkit with publications and CD’s.

A curriculum has been developed for high school students. There is a heavy highway equipment/construction technology track and a Highway Engineering Track. In 2003-04 there were 234 students enrolled in the orientation, and 25 seniors participated in the full-day curriculum, and all were in the construction technology track.

Mr. Ferguson expects that the program will be expanded with additional funding, and pointed out that there is a need to track the progress of these students in their careers.

Questions (and answers):

- 1) *It isn't possible to know if these same students could have gained employment without the program. There are too many variables to isolate a finding.*
- 2) *PennDOT's investment in the program is \$439,000 over 5 years and also FHWA contributions.*
- 3) *The local AGC was active in this program.*
- 4) *The curriculum for this high school course is available for other agencies to use.*

Mr. Correa then introduced Chris Newman from the FHWA to discuss the Technology Curriculum Coordination Council (TCCC).

Mr. Newman discussed the makeup, history and goals of the TCCC. The primary thing that TCCC is working on is the development of a core curriculum for DOT employee training. This has been a 5 year effort that should be completed in October 2004. The curriculum is geared to various skill levels in the department.

There also a number of NHI Training Classes have been developed in Construction, and Mr. Newman reviewed the class offerings. He then reviewed other classes that are currently under development.

The TCCC has developed a pooled fund study that has received approximately \$600,000 over the past 2 years. FHWA has contributed nearly \$4 million dollars for the development of 28 classes in the past 4 years.

There is a research proposal to measure the effect of training on system performance. The TCCC is looking for funding through the NCHRP 20-7 program.

Upcoming activities of the TCCC include meeting with the National Transportation Training Directors in October, and new focus articles.

Questions:

Information about the Kirkpatrick 4 levels of training will be posted on the NHI website, or interested persons could call NHI directly. Also, a "Google Search" on the internet was recommended.

Mr. Bohuslav, Vice-Chair of the SOC, reviewed the remaining agenda for the day.

Mr. Bohuslav then announced the **members of the AASHTO SOC Task Force to consolidate the revisions of the AASHTO Construction Manual**. He also provided a list of action items for the task force, and the process that the task force is charged to follow to the secretary for inclusion in these minutes.

The members of the Construction Manual Revision Task Force are listed below (and the manual sections that each of the technical sections reviewed are in parenthesis):

- Jim Tynan, NYSDOT, Task Force Chairman
- George Raymond, OKDOT, Computers and Technology Section, (300,400)
- David Sadler, FLDOT, Contract Administration Section, (100, 500)
- Bob Watson, MEDOT, Environment and Human Resources Section, (600,700)
- Greg Doyle, FHWA-MA, Roadways and Structures Section, (200, 800, appendix)
- Ken Jacoby, FHWA-HQ, Secretary to the Task Force
- Jim McDonnell, AASHTO representative

The task force was charged to complete the following additional tasks:

- Add the Subcommittee on Material's provisional specifications for ride quality to Division 400.
- Add specifications on Microsurfacing to Division 400.
- Add Appendix to Guide Specifications on Innovative Specifications (such as A+B bidding, warranties, etc.) per the AASHTO SOC website and Contract Administration Section

The following 6 step process should be used by the task force:

- 1) Task Force initial video conference – September 2004
- 2) Follow-up video conference – January 2004
- 3) SOC Sections submit draft redlines – April 2005
- 4) Circulate draft redlines to all states – May 2005
- 5) Comments due back to Task Force Secretary – June 2005
- 6) Final Redline ready for SOC Meeting – July 2005.

Mr. Bohuslav announced one other appointment: Ananth Prasad will be the new SOC representative to the NPHQ.

Mr. Bohuslav then introduced the various states who are bidding to host the 2007 SOC meeting.

- ❖ Florida's presentation was a video about Orlando. Ananth Prasad introduced the video and encouraged the members to vote for Florida.
- ❖ Georgia's presentation was made by David Graham. He presented a video on Atlanta.
- ❖ Mississippi's presentation was made by Steve Twedt. He presented a video on the Mississippi Gulf Coast. (Biloxi)
- ❖ South Carolina's presentation was made by Jason Humphrey. He presented a video on Charleston, South Carolina.
- ❖ Virginia's presentation was made by Byron Coburn. In 1995, the SOC visited Williamsburg, and they are invited back again in 2007 for the 400th anniversary of the Jamestown landing. He showed a short video.

After a vote of the committee, Mississippi was selected to host the 2007 SOC Meeting

Mr. Bohuslav continued in the morning session with questions that had been submitted from the states prior to the meeting:

○ **Does your state use percent within limits in its specifications?**

MI, AL, WY, AZ, OK, Ontario, TN, NM, SD, FL, Maine, SC, and CA said “YES.”

Asphalt gradation, density, air voids, and VMA were commonly mentioned as items where the % within limits impacted pay factors and acceptance. NC also said they are currently considering to go to this contracting methodology.

○ **Does your state seek reimbursement for Consultant Design Errors?**

Maine, KY, HI, and ND said they do not ask for reimbursement, all others said they do seek reimbursement.

○ **Does your state always go back to the consultant for reimbursement of design errors?**

- ✓ Illinois will always go back to the consultant if there are design errors, but also noted that not all change orders indicate that there are design errors. Further, IL noted that it takes lots time and money to pursue these claims.
- ✓ Virginia classifies errors vs. omissions.
- ✓ New Jersey goes after consultants when the errors cost the state money.
- ✓ Indiana can only collect if there is a design error resulting in construction that has to be removed and replaced.
- ✓ Wisconsin gets the consultant involved in solutions for price mitigations, however NJ commented that may also impact liability claims.
- ✓ TX goes after consultants that require rework, or delay.
- ✓ FL goes after premium cost problems, often getting in-kind services.
- ✓ ID mentioned that FHWA does participate in the philosophy that we don't have to be 100% right.

A comment was made that the draft OIG report is already written – and there were comments that all change orders should be at the expense of the contractor. Mr. Beatty from the FHWA later said that he doesn't believe this is the case, and that he will communicate the status of the OIG report to the SOC as soon as it is available.

- WVA asked “**Which states code change orders for design errors?**” WVA noted that they recovered \$900,000 for a bridge that wasn't of the right type. Responding to the question, nearly every state coded their change orders.
- KY asked “**How much review responsibility does your state have with the consultant plans?**” Most states have a formal process for review of consultant plans.

The following comments were noted during the continuing discussion of the design errors topic:

- ✓ CA said they had a low success rate at pursuing errors by consultants. Construction site access by designers was seen as a problem, and coding is an issue.
- ✓ ID said that the PE stamp and seal by the consultant is important. Owners that change plans need to do so in consultation with the consultant.

- ✓ Arbitration boards were mentioned as a way to avoid court. FL is setting up an alternate dispute resolution process.
 - ✓ In VA, all change orders have to be signed off on by the designer.
 - ✓ Illinois now notifies the consultant of all work order changes due the OIG questions. The consultant letter describes the “error and omission” that prompted the change order.
 - ✓ OK encouraged SOC not to overreact to the OIG questions.
 - ✓ An FHWA employee noted that insurance costs may really increase for consultants as a result of the focus now being placed on errors and omissions.
- The next question posed by Mr. Bohuslav was **“How does your state handle Mathematically Unbalanced Bids?”** There was very little discussion about this question.
 - **Which states pay for Hot Mix Asphalt by the Square Yard?**
 - ✓ KY pays by the SY for warranty projects.
 - ✓ Illinois pays by the SY for projects where full-depth HMA is specified.
 - ✓ PennDOT and AL pay by the SY on all projects.

Several questions and comments concerning PCC construction were made:

- **What is the depth of saw cut required on PCC pavements?** The states responded generally one third of the slab thickness (T/3).
- **Draft Guide for Green Construction website:** <http://fedgreensteecs.wbdg.org>
- **Are you grinding PCC Pavements for smoothness?**
 - ✓ PCC grinding requiring NPDES
 - ✓ WI and TX said they were doing lots of grinding.
- KS asked **“Does any other state “plow” longitudinal PCC joints?”**
 - ✓ Sawing longitudinal joints in concrete is common
 - ✓ Plowing the joint is done in Iowa on 10”-12” PCC.

Several more questions and comments were made on contracting/subcontracting issues:

- OK had a contract where lots of subcontracting was done, and commented that there is a need for a definition of subcontracting.
 - Jerry Yakowenko, FHWA, noted that there are prime contracting definitions by FHWA, but not subcontracting definitions. This is left to the individual states.
 - AZ uses a license requirement for subcontractors.
 - WI reported that they had a licensing problem with DBE firms.
 - KY requires prequalification for subcontractors.
- **AL asked “Which states are being sued over liquidated damage specifications?”**
 - ✓ AL reported being sued over liquidated damages specs.
 - ✓ No other states said they were being sued.
 - ✓ NC has a set liquidated damage schedule, but commented the state can add in user costs, thereby increasing the damage amounts.

Kathy Walker made some FHWA meeting announcements, and then the meeting was adjourned for lunch.

LUNCH -

The technical sessions met after lunch.

Please see the appendix for notes from the technical session meetings.

AASHTO SOC Final Session

The last general session was called to order at 3:15 pm. Lee Onstott, NMDOT, addressed the group, and then the Microphone was turned over to Dexter Newman from KYDOT to discuss next year's meeting in Louisville, KY. It begins on July 31, 2005. Everyone present was encouraged to attend.

Section Reports:

Tucker Ferguson, chair of the Computers and Technology Section, discussed the 2004-05 work plans. There were six items, and they are included in the attached Section Minutes.

Steve DeWitt, chair of the Contracts Administration Section, discussed the 2004-05 work plans. There were nine items, and they are included in the attached Section Minutes.

Chuck Correa, chair of the Environment and Human Resources Section, reviewed the Sections proposed work plan.

David Graham, chair of the Roadway and Structures Section, reviewed the work plan. There are 5 items for the next year. Mr. Graham then presented the 2 resolutions that were forwarded from Section to the Subcommittee as a whole. Mr. Graham read the resolutions in their entirety, and they are contained in the appendix to these minutes. The SOC was asked for a show of hands so that Mr. Sanderson would know the level of support for the resolutions when they came before the Standing Committee on Highways, which is meeting in Philadelphia in several weeks. Both resolutions were recommended for support by Mr. Sanderson by a unanimous show of hands in favor (with none opposed.)

Mr. Bohuslav then announced the NICET Steering Committee recommendations from the SOC:

- Steven Bartos NE
- Dan Liston, VA
- Jeff Gower, OR
- Ellis Powell, NC

Mr. Sanderson, Chair of the Committee, recognized Thomas Bohuslav, Steve Mueller, and all of the committee chairs for their efforts throughout the year. Also, Mr. Sanderson recognized the efforts of Lee Onstott, and the splendid job done by the host committee – particularly the IT staff for their amazing audio and visual services that were provided throughout the week.

Mr. Sanderson invited all attendees to Louisville, KY. The meeting was adjourned at 4:25 pm.

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Appendix B: Contract Administration Section Minutes

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Appendix D: Roadways and Structures Section Minutes

Appendix E: Research Steering Committee Minutes

Appendix F: Resolutions Supported by the SOC

Appendix A: Computers and Technology Section Minutes

2004 Annual Meeting
Albuquerque, NM
August 15 – 19, 2004

Attendees - August 16 - 19, 2004

	First	Last	Agency	Email
1.	Tucker	Ferguson	PADOT	hferguson@state.pa.us
2.	Jerry	Jones	FHWA - RC	Jerry.jones@fhwa.dot.gov
3.	Dennis	Kuchler	INDOT	dkuchler@indot.state.in.us
4.	Dexter	Newman	KY Transp. Cabinet	Dexter.newman@mail.kv.gov
5.	Brad	Parks	Info Tech, Inc.	Brad.parks@infotechfl.com
6.	Ellis	Powell	NCDOT	epowell@dot.state.nc.us
7.	George	Raymond	OKDOT	graymond@odot.org
8.	B.B.	House	Mississippi DOT	bbhouse@mdot.state.ms.us
9.	Jim	Garling	FHWA- PA	Jim.garling@fhwa.dot.gov
10	Keith	Meyer	Nebraska DOR	kmeyer@dor.state.ne.us
11	Charles	Eleazer	SCDOT	eleazer@scdot.org
12	Don	Miller	Wisconsin DOT	Donald.miller@dot.state.wi.us
13	Jeff	Gower	Oregon DOT	Jeffrey.l.gower@odot.state.or.us
14	Kurt	Vosburg	Nebraska DOR	Kvosburg@dor.state.ne.us
15	Sonya	Dooley	Info Tech	Sonya.dooley@infotechel.com
16	Tom	Kratochvil	NMDOT	Tom.kratoch@nmshtd.state.nm
17	Morris	Williams	NMDOT	morris.williams@nmshtd.state.nm
18	Byron	Coburn	Virginia DOT	Warner.coburn@virginiadot.org
19	Hooshang	Tavannepour	NMDOT	Hooshang.tavannepour@nmshtd.state.nm
20	Robert	Orthmeyer	FHWA	Robert.orthmeyer@fhwa.dot.gov
21	Gene	Mallette	Caltrans	Gene.mallette@dot.ca.gov
22	John	Uher	NMDOT	John.uher@nmshtd.state.nm.us

Tucker opened the meeting by passing out the agenda for the meeting. Tucker stated that the section will focus on project delivery this year. Self-introduction of attendees followed.

- The agenda and expectations of the section for the week was reviewed. The WP accomplishments were reviewed and are discussed below.
- Minutes of the 2003 meeting were passed out.
- The report on “Technologies Used in Construction” survey was passed out.

2003-2004 Work Plan Accomplishments

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.

This activity is an ongoing initiative to improve the operation and functionality of the AASHTO Trans*Port software. The next release is scheduled to be sent shortly, and Brad Parks from Info Tech will make a presentation at this summer's meeting to bring everyone up to date on the current products. Owners of CHAMP are still negotiating with AASHTO to try to bring that under the AASHTO umbrella. New Mexico DOT is using CHAMP, independently of Site Manager, with moderate success.

2. Solicitation from states to become a clearinghouse of Trans*Port extensions available (e.g. RTF templates, DWR templates, plug-ins, spreadsheets, etc.).

Preliminary analysis has been complete on several extensions and data has been placed on the Cloverleaf website. We'd like to pursue additional funding for further development of these tools to catalog and for future retrieval. More specific information will be presented at the summer meeting in NM.

3. Continue to provide oversight and guidance for the information that is housed on the AASHTO Subcommittee on Construction web site. (ALL)

This is an ongoing initiative. Items are reviewed and comments are submitted on an as needed basis.

4. Develop a survey on technology in construction. Focus on field surveying, construction practices, documentation, environmental compliance, and traffic control/incident management. (Jerry Jones)

Survey sent to all states on February 25, 2004. Responses were due by March 30, 2004, and we received 17 responses. A presentation of the results will be shared at the summer meeting.

5. Review sections 300 and 400 of the AASHTO guide specifications. (George Raymond and Danny Shealy)

Comments on both sections have been received, and will be shared at the summer meeting

RESEARCH

Danny Shealy, Vice Chair and Research Coordinator, is no longer a member of the section and a replacement was solicited. Dexter Newman volunteered to serve as Vice Chair of the Section and representative to the Research Group.

The group brainstormed topics, including a review of Byron Coburn's presentation on "Next Generation of Trans*Port" for submission for Research. Bob Orthmeyer gave an overview of the technologies that have been identified for use in pavement smoothness. Below are topics agreed to for submission to Research review.

1. Best Bridge painting practices-encapsulated or not
2. Innovations in technology in industry standards that will affect DOT practices
3. Tracking plant/site and inspected material
4. Electronic plans, moving from design to construction

George Raymond volunteered to represent the Section on the Guide Spec rewrite committee

2004-2005 Work Plan

1. Establish team to develop guide for construction management system automation. (Byron Coburn, Dexter Newman, Tucker Ferguson, Brad Parks)
2. Provide information to AASHTO website (partner with Pavement and Structures Section). (Tucker Ferguson)
3. Continue to provide leadership, extension, and guidance for the enhancements of the AASHTO Trans*Port software. (Don Miller, Jim Johnson, and Brad Parks)
4. Review and provide feedback to VDOT project to speed up migration of Trans*Port to a web based application. (Tucker Ferguson)
5. Survey States, contractors, and consultants to determine those using Stakeless Construction and gather information to develop a guide specification. (Dennis Kuchler & Jeff Gower)
6. Provide representative to the following:
 - a. Guide Specification Task Force (George Raymond)
 - b. National Specification Website (Jeff Gower and Jim Garling)
 - c. NICET steering committee representative. (Jeff Gower)

Proposed Presentations for 2005 Meeting

1. Results of all survey conducted by section.
2. Archiving Documents and Legal Consequences (George Raymond)
3. Stakeless Construction (Dexter Newman)
4. Turbidity and GPS Readings (Gene Mallette)
5. Non-nuclear gauge Testing (Dexter Newman)

Appendix B: Contract Administration Section Minutes

Minutes from the August 16 and August 19, 2004 meeting of the

Contract Administration Section

of the AASHTO Subcommittee on Construction
Albuquerque, New Mexico

Steve DeWitt welcomed the Subcommittee members and guests to the 2004 Contract Administration Section meeting. An attendance list is attached for reference.

Status of 2003-2004 Work Plan Items

The first order of business was a review of the status of the 2003-2004 Section work plan items. The following is a brief summary of the status and accomplishments of the work plan items:

1. *Unbalanced bidding procedures*

Jerry Yakowenko gave an overview of the results of this survey. The results will be posted on the AASHTO SOC CA Section web site.

2. *Best practices for pay reduction for sub-standard quality*

Gene Wortham gave a PowerPoint presentation overview of the results of this survey. The results will be posted on the AASHTO SOC CA section web site.

3. *Dispute resolution and enforcement mechanisms for prompt payment*

Cal Gendreau gave a PowerPoint presentation overview of the results of this survey. The results will be posted on the AASHTO SOC CA section web site.

4. *Liaison with FHWA's Performance Specification Program*

Amar Bhajandas, PennDOT was not able to provide a report on these activities but Jerry Yakowenko provided a brief summary of FHWA's activities in this area. Ken Jacoby, FHWA, 202-366-6503 has the lead for FHWA in coordinating Performance Specifications.

5. *NPHQ coordination*

Amar Bhajandas – was not present to report and another Subcommittee member should be designated to provide coordination for the Subcommittee.

6. *Guide spec update :*

a. *Section 100* : A draft final edited version is currently ready.

b. *Section 500* : no action was taken during the past year.

c. *Pulling innovative contracting tech provisions into guide*

Jerry Yakowenko reports that these innovative contracting special provisions are already published in the Primer on Contracting for the 21st Century as Appendix B. See: <http://www.transportation.org/download/ContractPrimer.pdf>. This seems to meet the intent of the work plan item.

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7. *Best practices for capturing unit cost information on lump sum contracts.*

No progress was made on this work item but Ananth Prasad volunteered to provide Florida DOT's experience with lump sum contracts for the 2004-2005 work plan.

8. *Fraud – (especially related to materials test fraud)*
 - a. Steve DeWitt received some survey responses, however, Steve indicates that he would like to make some additional contacts with industry and other State DOTs to revise the survey results.
 - b. NCDOT, FHWA, and NH DOT have developed fraud related PowerPoint presentations that will be posted on the SOC web site for others to use.

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9. *Engineering items to reduce cost; how can we reduce the costs without exposing ourselves to risk?*
 Jerry Yakowenko reported that the CA Section did not complete this work item, however, in late 2003, the AASHTO Subcommittee on Quality released “Strategies for Reducing Highway Project Delivery Time and Cost” (see: http://downloads.transportation.org/Quality-FinalReport_Partnerning.pdf). This report seems to address many of the objectives of this task.

2004-2005 Work Plan

Steve DeWitt led a discussion of potential work plan items and research topics for 2004-2005. The Section brainstormed topics related to construction management with the following topics suggested for consideration:

Best value procurement
Cost effectiveness of Owner controlled insurance programs
Warranties
Bid alternates
Use of stipends
Construction Manager at Risk
Proprietary products
Environmental permitting issues
Privatization
Cost Growth
Constructability reviews and contractor involvement
Consultant selection criteria for construction engineering
Authority given to consultants for construction engineering and inspection
Contractor quality management
Prequalification of contractors
Contractor rating systems
Delay claim analysis methods
Compensable items in delay claims
Bid price data
Target pricing / guaranteed maximum price
Maintaining QC in a design-build contract
Legislative restriction for procurement

Utility coordination by contractor
Utility movement by contractor
Aesthetics in design-build
Risk allocation / Risk management
Surety problems
Advertise, award and administer local projects
Conflict of interest in design-build
Owner oversight of quality control on design-build projects
Incentive / disincentive clauses
Web based project management
CPM scheduling
Alternate dispute resolution techniques
Partnering

2004-2005 Contract Administration Section Work Plan

- 1) *Fraud issues – educational tools or briefing paper jointly developed with industry (AGC, ARTBA, ACEC, etc.).*
 - a. Consider the possibility of a joint development effort with industry to raise awareness (ethics briefing / flyer/ fact sheet)? (Assigned to: Ananth Prasad and Steve DeWitt will coordinate with industry)
 - b. OIG video? (Assigned to: Jason Dietz will assist in converting the OIG videotape to CD format)
- 2) *AASHTO Guide Specifications* (Jim Tynan overall coordination, Dave Sadler, Florida DOT)
 - Section 500 (Assigned to: Brenda O’Brien, Mary Ridgeway)
 - Section 100 (Assigned to: Jerry Yakowenko)
- 3) *Best practices for capturing unit cost information on lump sum contracts*
Florida DOT will prepare a summary of their experiences with lump sum bidding.
(Assigned to: Ananth Prasad, Jerry Yakowenko and Steve DeWitt will assist in the review)
- 4) *Develop an AASHTO position paper on errors and omissions / recovery of costs. When the OIG final report becomes available, develop an AASHTO response.*
(Assigned to: Steve DeWitt, Ananth Prasad, Ken Stoneman, Jerry Yakowenko, Vince Mammano, Cal Gendreau)
- 5) *Update the Primer on Contracting for the 21st Century*
(Assigned to: Jerry Yakowenko, Jerry Blanding, Mike McGrath)
- 6) *Summary of State Practices on Delay Claim Analysis*
(Assigned to: Julio Alvarado, Gene Wortham, Jeff Benefield)
- 7) *Summary of State Practices for Authority Given to Consultants for Construction Engineering and Inspection*
(Assigned to: Yakowenko, Bob Bowden, Ananth Prasad, Greg Schiess, Ken Stoneman)
- 8) *Summary of State Practices for conflict of Interest*
(Assigned to: Steve Mills, Jerry Yakowenko, Manu Chacko)
- 9) *Summary of Idaho’s practices for alternate dispute resolution*
(Assigned to: Gene Wortham, Jennifer Balis)

Suggestions for Research

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The CA Section voted for the following issues for suggestion for research items:

- 1) Delay claim analysis methods / compensable items in delay claims
- 2) Design-build contract administration
- 3) Role of construction management in environmental compliance

However, Cal Gendreau reported the difficulty of advancing these items as none of the above items clearly fit within the list of recommended research topics that were already prioritized by the Subcommittee under NCHRP 10-58 – Construction Engineering and Management Research Needs.

<http://construction.transportation.org/doc/FinalReportTeal-Web2.pdf>.

Other items of discussion during the Section Meeting:

1. The Section nominated Steve Bartos (Nebraska DOR) for our liaison for coordination with the NICET work group.
2. Jerry Yakowenko gave an overview of FHWA Contract Administration issues, including:
 - a. Status of the revision of FHWA's regulations for construction and maintenance
 - b. Michigan DOT / Michigan Division / US DOL clarification for Davis-Bacon Site of the Work
 - c. Upcoming design-build meetings
 - d. DBE contract administration research report status and community of practice web site.
 - e. Status of the revision of form FHWA-1273
 - f. Status of the FHWA Contract Administration Core Curriculum Course
 - g. Alternative Contracting NHI Course, and Community of Practice Web Site
 - h. FHWA Notice of Proposed Rule Making for "green rod" for welding rods

2004 Contract Administration Section Attendance

Firstname Last Name	Agency	Business Phone	Business Fax	E-mail	
1 Iyad Alattar	FHWA NV	(775) 687-1206	(775) 687-3803	iyad.alattar@fhwa.dot.gov	
2 Julio Alvarado	AZ DOT	(602) 712-7323	(602)712-7323	jalvarado@dot.state.az.us	Deleted: 2
3 Stuart Anderson	Texas A&M	(979) 845-2407	(979) 845-6554	s-anderson5@tamu.edu	Deleted: 3
4 Jennifer Balis	FHWA HIPA	(202) 493-7302	(202) 366-3988	Jennifer.Balis@fhwa.dot.gov	Deleted: 4
5 Steven Bartos	NE DOR	(402) 479-4455	(402) 479-4854	sbartos@dor.state.ne.us	Deleted: 5
6 Jeff Benefield		(334)242-6213	(334)264-3727	benefieldj@dot.state.al.us	Deleted: 6
7 Jerry R. Blanding	FHWA ERC	(410) 962-2253	(410) 962-4586	Jerry.Blanding@fhwa.dot.gov	Deleted: 7
8 Bob Bowden	FHWA-KS	(785)267-7299 x309	(785)267-7290	Bob.Bowden@fhwa.dot.gov	Deleted: 8
9 Lourdes Castaneda	FHWA NJ	(609) 637-4237	(609) 538-4913	lourdes.castaneda@fhwa.dot.gov	Deleted: 9
10 Byron Coburn	VA DOT	(804) 371-2531	(804) 786-7778	Warner.Coburn@Virginia.DOT.org	Deleted: 0
11 Kenneth Coelho	FHWA MA	(617) 494-2481	(617)494-2745	ken.coelho@fhwa.dot.gov	Deleted: 1
12 Stephen Cooper	FHWA CT	(860) 659-6703	(360)619-7846	stephen.i.cooper@fhwa.dot.gov	Deleted: 2
13 Gary Corino	FHWA SRC	(404) 562-3570	(404) 562-3701	gary.corino@fhwa.dot.gov	Deleted: 3
14 Matthew Corrigan	FHWA HIPT	(202) 366-1549	(202) 493-2070	matthew.corrigan@fhwa.dot.gov	Deleted: 4
15 Brian Deery	AGC	(703) 837-5319	(703) 837-5407	deeryb@agc.org	Deleted: 5
16 Steve DeWitt	NC DOT	(919) 715-4458	(919) 733-8441	sdewitt@dot.state.nc.us	Deleted: 6
17 Jason Dietz	FHWA CA	(916) 498-5886	(916) 498-5886	jason.dietz@fhwa.dot.gov	Deleted: 7
18 David Donoho	TN DOT	(615) 741-2414	(615) 741-0782	david.c.donoho@state.tn.us	Deleted: 8
19 Mark Eisenhart	WY DOT	(307) 777-4456	(307) 777-4765	Mark.Eisenhart@dot.state.wy.us	Deleted: 9
20 Jose A. Fernandez	PR DOTP	(787) 729-1550	(787) 727-6850	jfernandez@act.dtop.gov.pr	Deleted: 10
21 Richard Fondi	RI DOT	(401)222-2468 x 4312	(401) 222-4953	rgfondi@dot.state.ri.us	Deleted: 11
22 Cal Gendreau	ND DOT	(701) 328-2563	(701) 328-4928	cgendrea@state.nd.us	Deleted: 12
23 Stanley Graczyk	FHWA MN	(651) 291-6119	(651) 291-6000	stanley.graczyk@fhwa.dot.gov	Deleted: 13
24 Joe Gregory	FHWA UT	(801)963-0028 x 238	(801) 963-0182	joseph.gregory@fhwa.dot.gov	Deleted: 14
25 Arthur Gruhn	CT DOT	(860) 594-2701	(860) 594-2706	arthur.gruhn@po.state.ct.us	Deleted: 15
26 Gehe Hoelker	FHWA MWRC	(708) 283-3520	(708) 283-3501	eugene.hoelker@fhwa.dot.gov	Deleted: 16
27 Allan Holmes	AK HTD	(501) 569-2251	(501) 569-2119	allan.holmes@ahtd.state.ar.us	Deleted: 17
28 Rich Juliano	ARTBA	(202) 289-4434	(202) 289-4435	rjuliano@artba.org	Deleted: 18
29 Joseph Jurasic	FHWA IA	(515) 233-7304	(515) 233-7499	joe.jurasic@fhwa.dot.gov	Deleted: 19
30 Theodore Kitsis	NH DOT	(603) 271-2571	(603) 271-3461	tkitsis@dot.state.nh.us	Deleted: 20
31 Brad Lewis	MS DOT	(601) 359-7301	(601) 359-7333	blewis@mdot.state.ms.us	Deleted: 21
32 Vince Mammano	FHWA VA	(804) 775-3355	(804) 775-3356	vincent.p.mammano@fhwa.dot.gov	Deleted: 22
33 Norman Marzano	RI DOT	(401) 222-2468	(401) 222-4953	Norman.Marzano@ridot.state.ri.us	Deleted: 23
34 Steve Mills	FHWA OK	(334) 223-7391	(334) 223-7375	steve.mills@fhwa.dot.gov	Deleted: 24
35 Keith Molenaar	U. COL BOULDER	(303) 735-4276	(303) 492-7317	keith.molenaar@colorado.edu	Deleted: 25
36 Floyd Moore	FHWA GA	(404) 562-3654	(404) 562-3701	floyd.moore@fhwa.dot.gov	Deleted: 26
37 Brenda O'Brien	MI DOT	(517) 322-1085	(517) 322-1094	obrienbj@michigan.gov	Deleted: 27
38 Ananth Prasad	FL DOT	(850) 414-4140	(850) 412-8021	ananth.prasad@dot.state.fl.us	Deleted: 28
39 Mark Richter	FHWA VT	(802) 828-4423	(802) 828-4424	Mark.Richter@fhwa.dot.gov	Deleted: 29
40 Gary Thompson	MN DOT	(651) 215-0445	(651) 296-9571	gary.thompson@dot.state.mn.us	Deleted: 30
41 Gary Todd	MTO ONTARIO	(905) 704-2199	(905) 704-2481	Gary.Todd@mta.gov.on.ca	Deleted: 31
42 Alan Woodmansey	FHWA MT	(406)449-5302 x 233	(406) 449-5314	alan.woodmansey@fhwa.dot.gov	Deleted: 32
43 Gehe Wortham	ID TD	(208) 334-8426	(208) 334-4440	gwortham@itd.state.id.us	Deleted: 33
44 Jerry Yakowenko	FHWA HIPA	(202) 366-1562	(202) 366-3988	gerald.yakowenko@fhwa.dot.gov	Deleted: 34
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Appendix C: Environment and Human Resources Section Minutes

ATTENDEES:

Chuck Correa	AK DOT
Amos Hubbard, Jr.	KY TC
Bud Darby	NICET
Jamie Sikora	FHWA - NH
Paul Little	NMDOT
Lee Onstott	NMDOT
Nate Danforth	VT – AOT
David Whitworth	FHWA – KY
Jeff Lewis	FHWA – CA
Michael Lonergen	DOT – CT
Dale Lewis	FHWA – AK
Bob Watson	Maine DOT
Kevin Ward	FHWA – IL
Mary Lou Masko	FHWA – Atlanta
Jim Tynam	NYS DOT
Randy Furst	CDOT
Ron Sperial	FHWA – CO
Chris Newman	FHWA – HQ’s Asset Mgt.
Eugene Mallette	Caltrans
Martin Okabe	Hawaii DOT
Randy Crockett	NMDOT
Greg Doyle	MA – FHWA
Douglas Townes	RC – ATL
Ellis Powell	NCDOT
Keith Meyer	NE DOT
Kurt Vosburg	NE DOT
Marie Venner	Venner Consultant
Paul Zagone	NMSHTD

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Summary of Section Minutes

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Environmental Stewardship

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Design errors and omissions – what are states doing,

FL is recovering some costs. CDOT has accounting for consultants (\$65,000 – 70,000 recovered) but not sure when recovery was sought. AK had a couple hundred thousand recovered for wind loading on a structure. NM just starting as \$75,000 acquired after construction done (note: after XX \$ goes to contractors, insurance/legal battles start). CT \$140 m

claim during construction by contractor, however, CT concerned about trying to determine when to go after the claim.

Maintaining project commitments, tracking and making sure commitments for follow-through.

KY has CAP – communicate all promises. 12 districts have Env coor that reports to construction. IL has all state and federal agencies coming into discuss (including legal) for a 1 ½ day meeting and have been doing it for 3 years. Copy of meeting notes requested (Kevin Ward to provide) Communication was done with resource agencies to head off any concerns early. NM has a statewide consultant to go over env commitments to assist District for coordination at pre-con and throughout construction activity to follow-through in documenting that commitments have been constructed. AK is getting better at permit compliance. Higher expectation by resource agency's. ME is using staff people (env COOR) like in NM. From advisereal to wanting to work together. Dual reporting to both construction and Env section. PY is owned by construction. VT's regional env coordinators report to planning is showing lack of responsiveness. 1 person in construction created to be timely& responsive. Working good by resource agency. Storm water regs has black and white reading by state and/or resource staff causing concern. CO is giving various training to various agencies/state and consultants. Funds ½ time positions for Dept of Health and on major projects, they fund a resource agency position. CDOT's Design/build TREX formed a new innovative contract unit past few months to address env issues.

TURBIDITY ISSUES

NC has problems with dewatering of borrow pits and jetting for piles.

How many have turbidity specs? How included in NPDES permit?

KY is considering turbidity specs to calibrate. CT has water quality control board to regulate turbidity. Any performance specs? CA had previously submitted a NCHRP proposal last year for pooled fund study that was not accepted.

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Safety and Work Zones

How many use a numerical rating system?

CDOT – 6 regions with 5 projects per year to review. Have standardized guidelines. Get a copy of guidelines. Checking flagger certs, etc. Publication of 1 draft proposal has brought better recognition to get things done correctly. State's process / debriefing sit down with (IE. Traffic supervisor) to go over issues as a learning experience. Low score reflects on CDOT inspector. NY has a handout for evaluating worker oversight control. CDOT has been doing it for several years but have revamped it. They are able track from year to year. NM had a Team that went out in which timely corrections were made, though State RE had already made an issue of it.

Pre-qualification process?

ME - 5% of bid item for nonrefundable deduct. CT – liquidated damages of \$X amount into job. Site review tells CT how many issues observed.

Enforcement used?

AK – speeding. VT – speed regulatory signs. NJ – speed. KY – double finds in construction. NM – state police reluctant to work. Local enforcement can work on state projects. Most states have traffic supervisor as part of TCP. There is training for Highway Patrol. Get them certified AGC for work zones vs speeding. Paying for OT can be issue.

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Human Resources

TCCC – Chris gave brief overview to be presented Thursday. Using pooled-funds for various training. IE. surveyors training for inspectors (VA had a good existing course). 5 areas - Construction, maintenance, employee development, materials, safety

NHI – to provide material as needed vs material and instructor. More useful to state.

NM – Chris/Lee – proposed resolution to support NCHRP – “...effective training”. Soft side issues (env, funding, design) are addressed in other ongoing efforts.

ADA guidelines - Chris handed out very draft position paper. HI has requirement to complete all ADA work by June 2005. CT’s standard plans have to be approved by state architect. Most states using truncated domes in curb cuts. Concern expressed in using domes for cold weather states with freezing weather / snow.

Need a state rep to be on a AASHTO committee this next year in developing the next AASHTO Draft guide spec. John Grady – NY volunteered.

Post-construction BMP’s in HI. Features built into project for long term.

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.

Subjects not carried forward:

Adequate funding for maintenance to perpetuity of environmental commitments? Education / training opportunity for resource agencies to participate in projects?

CO dealing with truckers tea? As a bio hazard? Concern by maintenance. POE’s install waste areas for disposal. Meth lab waste? Etc.?

**AASHTO SUBCOMMITTEE ON CONSTRUCTION
ENVIRONMENT and HUMAN RESOURCES SECTION
August 6, 2004**

2003-2004 WORK PLAN STATUS REPORT

Chair: Chuck Correa, AK

Vice Chair: Amos Hubbard, KY

Secretary: Jeff Lewis, FHWA

ENVIRONMENTAL STEWARDSHIP

1. Constructibility Review Best Practices Guide. Lead: Jeff Lewis (FHWA-CA). Jeff and Bob Pieplow (Caltrans) have conducted a survey on this topic, have tabulated the results, and Jeff will present their findings to the Subcommittee at the meeting. ₂
2. Environmental Commitment Compliance Best Practices. Lead: Jeff Lewis (FHWA-CA). Jeff and Bob Pieplow (Caltrans) have conducted a survey on this topic, have tabulated the results, and Jeff will present their findings to the Subcommittee at the meeting.

ITEM #1 & #2 done. Gene Mallette from Caltrans subbed in for Pieplow in assisting on the presentation to the Conference. 28 states were represented in the survey.

3. AASHTO Standing Committee on Environment. Liason: Dean Van DeWege (Colorado). The SCOE and SOD Meeting was combined this summer and Dean sent a representative to it. A CDOT representative will report to this Section on topics of interest.
4. AASHTO Subcommittee on Design. Liason: Dean Van DeWege (Colorado). See #3 above.

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ITEM #3 & #4 done. See meeting minutes.

WORK ZONE SAFETY

1. Proposed FHWA Rulemaking on Work Zone Safety. Lead: Kevin Dayton (Washington). Most state DOT's have already commented on this. In June we asked if anyone would like to provide comment through this Section, to please forward them to Kevin, to be forwarded to the Subcommittee Chairperson. The comment period is now over.
2. Best Practices for Measuring Quality of Work Zones. Lead: John Grady (New York). John conducted a brief email survey of E&HR members on how the quality of work zones is measured and a NYSDOT representative will present their findings at our E&HR breakout session. **John handed out copy of NY's BMP. See meeting minutes for discussion.**

HUMAN RESOURCES

1. Customer Focus In Construction. Lead: Lee Onstott (New Mexico).

Florida DOT has completed research on this topic. Lee will discuss their report at our E&HR breakout session. **Lee provided hard copy of report Copy to be posted on AASHTO site.**

2. **Transportation Curriculum Coordination Council (TCCC).** Liason: Lee Onstott (NM). This Section is charged with assigning a representative to the TCCC. Lee and Chris Newman (FHWA) attended the December meeting and Chris will report on it to the Committee. A research proposal to measure the effectiveness of technical training will be discussed at our breakout session, as will a proposed resolution supporting the training. **Proposed resolution was not made as it was determined to be the incorrect way to support topic. Chris provided update to conference attendees during env presentations.**
3. **ADA Accessibility Guidelines.** Lead: Chuck Correa (Alaska). As reported on at the 2003 meeting, the U.S. Access Board was going through the federal rulemaking process to establish new ADA Accessibility Guidelines for public rights-of-way (www.access-board.gov/news/prow-update.htm). These will have a profound effect on state DOT projects. In addition, FHWA has concerns that state DOT's will eliminate or postpone pavement rehabilitation projects because of the costs associated with the required ADA improvements. To address this concern, FHWA is proposing a program, similar to the Highway Safety program, that would allow states to prioritize and pool ADA improvements into stand alone projects. Members were encouraged to increase awareness of the Access Board action in their Departments so that DOT concerns are voiced in the rulemaking process. Members were also encouraged to review the proposed FHWA program and submit comments to Chuck Correa, to be forwarded to the SOC Chairperson and on to FHWA. **No comments were received or forwarded.**
4. **Attracting and Recruiting Young People to Construction.** Lead: Bud Darby (NSPE/NICET). Bud has collected information from several organizations (NY City, American Subcontractors Assoc., NSPE, AGC, PennDOT) on recruiting young engineers and technicians. He will summarize the information for the Subcommittee. In addition, Tucker Ferguson (PennDOT) will make a presentation on his department's efforts to attract young engineers and technicians. **Bud and Tucker completed assignments.**

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AASHTO GUIDE SPECIFICATIONS

1. **Review and Comment on Sections 600 and 700.** Lead: Chuck Correa (Alaska). AASHTO intends to publish an updated "Guide Specifications for Highway Construction" in 2006. Each member of the E&HR Section was asked to review Sections 600 (Miscellaneous Construction) and 700 (Materials Requirements) of the AASHTO Guide Spec and provide comment. Three states provided comment, and those comments are being forwarded to the Committee. **DONE.**

E&HR SECTION PRESENTATIONS

1. **Presentations for the 2004 SOC Meeting.** Lead: Chuck Correa (Alaska)
The E&HR Section is sponsoring the following presentations at this year's meeting.
NCHRP 25-25(04) Compendium of Environmental Practices in Construction – Marie Venner (Venner Consulting)
Environmental Commitment Compliance Best Management Practices – Jeff Lewis (FHWA)
Attracting Young People to the Construction Industry – Bud Darby (NICET)

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PennDOT's Highway Technology High School Curriculum – Tucker Fergeson (PennDOT)
Transportation Curriculum Coordination Council (TCCC) Update – Chris Newman (FHWA)
All 4 presentations were made as mentioned above.

2. Presentations for the 2005 SOC Meeting. Lead: Chuck Correa (Alaska)
We are soliciting ideas and presenters of Environment & Human Resource topics for the 2005 Meeting in Kentucky. These have to be ready by August 1, 2005. We need to have four or five presentations, and are shooting for two environmental topics, one work zone safety topic, and one or two human resource topics. Some of our work tasks should spawn presentations. **See next years work plan.**

**AASHTO SUBCOMMITTEE ON CONSTRUCTION
ENVIRONMENT and HUMAN RESOURCES SECTION**

August 19, 2004

2004-2005 WORK PLAN

Chair: Chuck Correa, AK

Vice Chair: Amos Hubbard, KY

Secretary: Jeff Lewis, FHWA

ENVIRONMENTAL STEWARDSHIP

1. Coordinate the Review of the New EPA Guide Specification (Green Spec). Lead: Chuck Correa (Alaska) and Jeff Lewis (FHWA-CA).
Jeff will consult with FHWA HQ to determine the applicability of the new Green Spec to highway projects. If it is intended to apply to highway projects, state DOT's will be alerted and encouraged to submit comments directly to the EPA. Chuck will report to Len Sanderson by 9-14-04.
2. Construction Involvement in the Environmental Permitting Process. Lead: Ellis Powell (Colorado) and Marie Venner (Venner Consulting).
Determine how involved state DOT Construction staffs are in the environmental permitting process. Comment on the effectiveness of the different practices.
3. Innovative Environmental Practices on Construction Projects. Lead: Ellis Powell (CO) and Marie Venner.
Report on the use of innovative environmental enhancements and mitigation, the use of incentives/disincentives for environmental compliance, incentives for the reduction of environmental impacts, and other administrative tools. Determine how states are handling environmental permits in Design-Build contracts.
4. Dealing with Turbidity on Construction Projects. Lead: Gene Mallette (California)
Investigate what the state practices are for controlling, monitoring, and reporting water turbidity. Specific problem areas are excavations, borrow pits and quarries, and jetted piles. How are turbidity limits specified in contracts?
5. AASHTO Standing Committee on Environment. Liaison: Dean Van DeWege (Colorado).
Attend the SCoE meeting and report to this Section on any areas of interest.
6. AASHTO Subcommittee on Design. Liaison: Dean Van DeWege (Colorado).
Attend the SoD meeting and report to this Section on any areas of interest.

WORK ZONE SAFETY

1. Survey of State Work Zone Safety Programs. Lead: Amos Hubbard (Kentucky).
Survey of states to determine practices for certifying or prequalifying construction staff, both state and contractor, for implementing Work Zone Traffic Control.

2. Practices for Using Law Enforcement in Construction Zones. Lead: Amos Hubbard (KY). Survey the states to determine practices for the use of law enforcement to enhance safety in construction zones.
3. Practices for Administering Traffic Control Items. Lead: Amos Hubbard (KY). Survey the states to determine who is responsible for Traffic Control Plans (owner or contractor) and how traffic control is paid for (lump sum, contingent sum, unit price).

HUMAN RESOURCES

1. Qualification Programs for Field Inspectors. Lead: Ellis Powell (North Carolina) and Douglas Townes (FHWA). Determine what states have formal inspector qualification programs and report on how some of those programs are administered. Also identify which states require consultant inspectors to be qualified under a formal program.
2. Report on State DOT Efforts to Reduce Construction Staff. Lead: Ellis Powell (NC) and Douglas Townes (FHWA). Determine how frequently consultants are being used in contract administration, what states are using contractor results for acceptance testing, and how States are maintaining oversight of consultant and contractor inspections and testing.
3. Transportation Curriculum Coordination Council (TCCC). Liaison: Lee Onstott (New Mexico). Attend TCCC meeting and coordinate issues of interest with this Section.
4. Update on TCCC’s Work Zone Safety Core Competencies. Lead: Chris Newman (FHWA). Report to this Section the status of this TCCC program.
5. Status of NICET’s Effort to Update the Highway Technician Certification Program. Lead: Bud Darby (NICET).

Report to the Section on the update of NICET’s program. Ellis Powell has agreed to participate in the Steering Committee on behalf of the E&HR Section. Douglas Townes and Dale Lewis volunteered from FHWA.

AASHTO GUIDE SPECIFICATIONS

Participate in the Review Committee for the AASHTO Guide Specification. Lead: Bob Watson (Maine). Bob Watson will represent this Section on the review committee.

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Appendix D: Roadways and Structures Section Minutes

David Graham, Georgia, Chair
Mark Elicegui, Nevada, Vice-Chair on Structures
Kevin Dayton, Washington, Vice-Chair on Pavement
Gus Shanine, FHWA Georgia, Secretary

August 16, 2004 Breakout Session

After welcoming from Chairman David Graham and introductions from everyone, the task force reviewed the previous year work plan.

The following work items were completed from the 2003/2004 Work Plan:

1. Reviewed Section 200 and 800 of AASHTO Guide Specs and recommended changes.
2. Provided comments on Performance Based Traffic Control Specification
3. Chair/Co-chairs have kept communication going throughout the year
4. Continued communication with industry through NAPA and ACPA
5. Draft "charge" for Section to be included in Operating Guidelines. Nothing was done.
6. Developed research needs for Roadway and Structures.
7. Developed presentations for next year's meeting.
8. Explore different methods, in lieu of Tid Bits, to exchange information with subcommittee members. Considering creating a web site to disseminate information to interested AASHTO members.

Research Projects:

There were 3 or 4 areas to research this year. They were discussed to be presented as topics this year.

Mass concrete diameter drill shafts, upcoming technology of nuclear equipment to be used on projects, tie bars in concrete pavement, magnetic image technology (dowel bars location and its impact on concrete pavement) and others.

Review of Guide specs: Dean Testa reviewed the 200 section, and Greg Doyle assisted David on the 800 sections, 804, 805, 806, 807. A complete rewrite is needed on the 303 section. These sections need to be compared with FHWA guide specs. Greg Doyle with FHWA volunteered to review specs 804, 805, 806. Greg indicated that these specs have no imperative language and they are at this time being implemented by some States. David Graham will distribute these specs to our task force members and solicit comments to finalize our review as necessary.

Project Delivery: David Graham discussed with the group project delivery and what could we include in our work plan for next year that help expedite project delivery. Somebody from the group suggested to send a survey regarding this matter. A discussion was made about giving incentive to contractors to complete construction of projects on time.

There were few comments/questions made.

- Who determine or sets completion time? Most of the States use Construction Division to determine contract time.
- Are Time Extension given for weather delay? Virginia, yes in extreme weather conditions. Missouri, No Time Extension is granted for weather conditions.
- Most of project delivery is accomplished during preconstruction stage.
- Consulting inspection is being used in most States. Iowa States does not use them.
- Young designers think that there are construction items that could be delivered during the winter, but they are actually not deliverable or feasible.
- Constructability group checks on plans in some States. Some States hire consultants to check on plans and found some poor designs. The quality of plans is essential. Some States invite the contractors to comments on the plans when they are 90 percent complete.
- Survey on constructability reviews was made 2 years ago but no results are available.
- Time vs money, you may pay more for material to expedite completion
- Involving Construction Project Manager at early stages of design, prove to improve constructability and delivery. Some States designate a Project Manager at the scope stage of a project. There are problems when 6 different Project Managers are assigned for the same project due to promotions, transfer, or other reasons.
- The public has some influence on project delivery especially in big metro areas. Keeping the public aware of what is going on a construction project is essential.
- Utilities affect delivery. It is a problem.

There are several factors that influence project delivery at preconstruction and construction stages. We should put things together and dedicate steps to be done for different types of projects "Best Recommended Guide For Project Delivery". Innovative contracting is another tool to deliver projects on time. More discussion on this issue will be done on Thursday.

August 19, 2004 Meeting Summary:

Work Plan for 2005

David Graham began the meeting by stating the following:

- 1- Finalize the work plan for next year
- 2- Complete our review of Section 200 & 800
- 3- Find examples of best practices for improving project delivery for roadway pavement and structures (i.e. Constructability Reviews)
- 4- Cathy Nicholas volunteered to do something similar Tid Bit (Create a web site to share information)
- 5- Guide spec for light weight profilometer
- 6- Continue to Review Guide Spec, Section 200 & 800 of the specifications to work on its review due for next year presentation to subcommittee. Mr. Greg Doyle will review the 800.

Research:

Mark Elicigeu, co-chair requested research topics from the group. The following items were presented:

Find the latest technology using nuclear gauges.

Tracking material samples looking for new technology.

Contract Administration: Guide on delay claim, what is compensable?, What is the role of construction in environmental mitigation?

Human Resources: Evaluating the effectiveness of training.

Maintenance: Our group has recommended to support and to endorse the Maintenance group resolutions for system preservation. Examples of system preservation are like the establishment of technical services team (Asset management for Pavement preservation), communication, public information efforts telling the needs and benefits in protecting the public.

Ideas for presentations next year

- Performance specifications
- Concrete
- Asphalt
- Demo of Profile Viewer Analysis software
- Balance cantilever bridge (Failure)
- Success Construction Stories

See below what our subcommittee has submitted on August 19, 2004 for the 2003/2004 Accomplishments and the 2004/2005 Work plan to AASHTO.

Roadway & Structures Task Force

2003/2004 Accomplishments

1. Reviewed Section 200 and 800 of AASHTO Guide Specs and recommended changes.
2. Provided comments on Performance Based Traffic Control Specification
3. Chair/Co-chairs have kept communication going throughout the year
4. Continued communication with industry through NAPA and ACPA
5. Draft "charge" for Section to be included in Operating Guidelines. Nothing was done.
6. Developed research needs for Roadway and Structures.
7. Developed presentations for next year's meeting.
8. Explore different methods, in lieu of Tid Bits, to exchange information with subcommittee members. Considering creating a web site to disseminate information to interested AASHTO members.

Roadway and Structures

2004/2005 Work Plan

1. Develop research needs for roadway and structures
2. Complete changes to Sections 200 & 800 of AASHTO Guide Specs
3. Find examples of best practices for improving project delivery as related to roadway pavement and structures
4. Work with Computer and Technology Task Force to get "Tid Bits" included on the web page
5. Guide spec for light weight profilometers

Appendix E: Research Steering Committee Minutes

AASHTO Subcommittee on Construction Research Steering Committee 2004 Summer Meeting Minutes August 17, 2004

ACTION ITEMS are indicated in **bold**.

The 2004 meeting of the AASHTO Subcommittee on Construction (SOC) Research Advisory Task Group was convened at 6:50am on August 17, 2004 in Albuquerque, New Mexico. Those in attendance are listed at the end of the minutes. The Chair, Byron Coburn (Virginia), began the meeting reviewing the meeting purpose and giving an overview of the planned discussion topics.

SUBCOMMITTEE ON CONSTRUCTION STRATEGIC PLAN

Fred Hejl and Tim Hess (TRB) lead a discussion on a strategic plan for SOC research that was finalized three years ago. At that time, the SOC requested assistance in developing a strategic plan for SOC research and Jeff Russell and Stuart Anderson (TTI) conducted this effort under NCHRP 10-58. The plan includes a priority list of research problem statements that were, at the time, identified to be important to the SOC. There is a need to revisit this list and see what has been researched and how newly identified needs fit in. The list of statements was circulated to the group. It includes 16 projects identified under the NCHRP 10-58 effort and three projects identified by TRB's Construction Management Committee, AFH10.

Stuart Anderson currently chairs TRB's Construction Management Committee (AFH10) and that committee has adopted the plan and put it on their website. Funds were available for the first two projects on the list. Those projects, #1, "Evaluation of the Use of Incentive/Disincentives to Reduce the Time to Complete Highway Construction Projects", and #2, "Analysis of Nighttime Construction Activities and Impacts on Safety, Quality, and Productivity have each been funded at \$70,000. Tim Hess is soliciting panel members for the first 2 projects on the list. **Anyone who is interested in serving on an NCHRP panel should send an e-mail to Tim Hess.** Item #4, "Innovative Rapid Construction/Reconstruction Methods" has been written up by the TRB committee and submitted as a problem statement this year (sponsored by Arizona DOT) and will be considered in this year's cycle by AASHTO's Standing Committee on Research (SCOR).

Cal Gendreau (ND DOT) recommended handing out copies of the 19 projects to the general SOC membership. Tim plans to mention it in his presentation to the SOC on 8/18/04. The list should be updated based on what gets funded. It would be helpful to have this list as the SOC task forces consider their research needs. **Consider distributing it next year in Louisville or e-mail it out prior to the meeting.** The question was asked about how the SOC would go about activating a project from the list. The SOC would need to take it and modify the 10-58 project statement to fit its current needs and then submit it to NCHRP as it would any other problem statement. The NCHRP 10-58 list is just a head start.

NCHRP

Tim Hess reviewed ongoing and recently completed projects of interest to the AASHTO SOC. They are listed in his presentation handout in the binders received as a part of the SOC registration. The NCHRP submission deadline is 9/15/04 and it is a one-stage submission process. There are three sources of problem statements: AASHTO member departments, AASHTO committees, and FHWA. The funding

approval averages for statements submitted by AASHTO committees has typically been higher than from the other sources. \$180M in project requests go to SCOR and about \$25M gets funded in March. There are three options to fund projects: 1) Synthesis of practice – usually small projects in the range of \$25-30K, 2) 20-7 projects: These are AASHTO Standing Committee on Highway (SCOH) requested projects. SCOH gets about \$600K/year to fund these and SCOH decides which projects to fund. They are typically small (<\$100K), fast turnaround projects, and 3) NCHRP projects: funded by SCOR. These are larger sized projects. Decisions are made on priorities at SCOR's meeting in March.

TASK FORCE PROPOSED TOPICS

Following the Strategic Plan and NCHRP update, the discussion turned to the research priorities that had been identified at the meetings of the SOC's various task forces during the 2004 annual meeting. The individual task force issues are as follows:

Roadways and Structures Task Force – Mark Eliceui (Nevada)

Temperature differentials in large diameter drilled shafts – This may be a synthesis project. Should there be a concern about temperature differentials because of their size? Large is defined as 6-8ft or larger. In the past, NV hasn't differentiated between 2-4 ft shafts and larger shafts. This project could tie in with Subcommittee on Materials (SOM) geotechnical priorities. During discussion it was decided that this topic may be more appropriate as a regular research project to develop a guide based on CORPS and Bureau of Reclamation studies. **Mark will refine the statement with David Graham and pursue it as a project.** Mark will also check with his geotechnical counterparts to see if they are aware of ongoing or completed research.

Application of the NCHRP 1-37A Pavement Design Guide to contract pay adjustments- With the new design guide now out, agencies have a tool to assess the impacts of questionable materials on long term pavement performance. This project would demonstrate how an agency could apply the guide to determine how detrimental out of spec materials are to pavement life and how those effects can be included in contract pay adjustments.

Guidance/best practices for alternative equipment to test unbound materials – The intention of this project would be to replace nuclear equipment. It may be a synthesis project.

Options for replacing finger joints on structures to reduce delays to public – possible synthesis

Contract Administration Task Force – Cal Gendreau (North Dakota)

Delay claim analysis methods – what items are compensable? It may be a synthesis project. **Cal will write that up as a problem statement.** During the discussion it was concluded that since the deliverable would be a guide, this would then be a regular project rather than a synthesis.

Design build contract administration – how does the owner maintain quality control?

The role of construction in environment compliance – maybe develop a guide. How involved is construction in the design process? This may fit under #16 of the Strategic Plan.

Environment and Human Resources Task Force – Amos Hubbard (Kentucky)

AASHTO's SOM and Subcommittee on Maintenance have passed resolutions to the Standing Committee on Highways endorsing "Effective Technical Training for Effective Transportation Systems" – a study to see how effective this training is. SOC last year agreed to sign on with the Subcommittee on Maintenance. This project could fit into #11, Task 2 of the Strategic Plan. This project could be submitted to SCOH for a 20-7 or to SCOR as an NCHRP project. It was decided to seek the SOC's endorsement of the resolution later in the week. The SOC did endorse it during the Business Meeting.

Computers and Technology Task Force – Dexter Newman (Kentucky)

Adapting some of the Walmart-type inventory systems for tracking construction materials. This fits in somewhat with #10 off the strategic plan. The study would research State's methods of tracking plant, site, and laboratory collection, transportation, testing, and documentation of materials samples and test results using new technology, accuracy, and credibility for both agency and contractor tests.

Synthesis on stakeless construction projects- develop a guide specification. Could fit with #4 off the plan. #4 has already been submitted, but Stuart didn't think stakeless was specifically mentioned.

The Chair requested that research and synthesis project statements be submitted to him by September. The plan is to ballot these statements amongst ourselves electronically and prioritize them. The prioritized list from an AASHTO Subcommittee of normal projects (not synthesis) carries a lot of weight with SCOR.

It was also mentioned that prior to SCOR's meeting, the SOC chair receives a letter from NCHRP of all the construction related projects that have been submitted and the letter requests that the SOC prioritize the projects. It was not clear whether in previous years anyone beyond the chair has had input into this. **Byron will check into this with Len Sanderson and Thomas Bohuslav.**

The meeting was adjourned at 8:06 am.

AASHTO Subcommittee on Construction
 Research Steering Committee
 2004 Summer Meeting Minutes
 August 17, 2004

Attendees List

<u>Name</u>	<u>Agency</u>	<u>Phone</u>	<u>E-mail</u>
Tim Hess	TRB - NCHRP	202-334-2049	timhess@nas.edu
Mark Elicegui	Nevada DOT	775-888-7460	melicegui@dot.state.nv.us
Cal J. Gendreau	North Dakota DOT	701-328-2563	cgendrea@state.nd.us
Katherine Petros	FHWA- Turner-Fairbanks	202-493-3154	katherine.petros@fhwa.dot.gov
Byron Coburn	Virginia DOT	804-371-2531	WarnerCoburn@VirginiaDOT.org
Fred Hejl	TRB	202-334-2953	fhejl@nas.edu
Amos Hubbard, Jr.	KY Transportation Cabinet	502-564-3730	amos.hubbard@ky.gov
Dexter Newman	KY Transportation Cabinet	502-564-4780	dexter.newman@ky.gov
Stuart Anderson	Texas Transportation Institute	979-845-2407	s-anderson5@tamu.edu

AASHTO Subcommittee on Construction
 Research Steering Committee
2004 –2005 Work Plan

Byron Coburn (VDOT)-Chair

The following were established as action items for the 2004-2005 work plan:

1. Record definitions, process and deadlines for submitting problem statements, (Synthesis of practice, 20-7 projects, NCHRP projects by SOC sections for distribution to new members.
2. Redistribute to membership the previously completed NCHRP 10-58 strategic study plan which included a priority list of statements. www.trb.org search on 10-58 second topic.
3. From the Roadway and Structures Section- Mark Elicegui (Nevada) working David Graham will submit a problem statement concerning **Temperature differentials in large diameter drilled shafts** – This may be a synthesis project.
4. From the Contract Administration Task Force- Cal Gendreau (North Dakota) will submit a problem statement concerning **Delay claim analysis methods – what items are compensable?** This may be a synthesis of practice.
5. From Computers and Technology- Dexter Newman (Kentucky) will submit a problem statement concerning Inventory **systems for tracking construction materials**. This fits in somewhat with #10 off the strategic plan.
6. The research section is proposing to work the TRB Construction Section to develop a special Edition of TRB News on **Raising the Bar on Building Quality into Accelerated Construction Schedules while meeting Tomorrow Challenges**.

Appendix F: Resolutions Supported by the SOC

Resolution 04-01
AASHTO Highway Subcommittee on Maintenance

RESOLUTION REGARDING THE ESTABLISHMENT OF A TRANSPORTATION SYSTEM PRESERVATION TECHNICAL SERVICES PROGRAM

WHEREAS, the AASHTO Highway Subcommittee on Maintenance has been charged with the responsibilities to provide technical leadership, guidance and support to facilitate the preservation of transportation system infrastructure assets, and

WHEREAS, it has been recognized that implementation of system preservation and preventive maintenance programs are essential to accomplishing the overall objectives of asset management, and meeting the needs of our transportation customers, and

WHEREAS, AASHTO subscribes to the concept that Member Departments, and appropriate agencies in the states, counties, and cities should consider developing and adopting for their respective jurisdictions transportation system preservation programs that are based on the timely application of preventive maintenance techniques which incorporate best practices and technologies available world wide, and

WHEREAS, the goal for system preservation programs is to implement technologies, treatments, products, and techniques that cost effectively extend the life of transportation assets and at the same time improve driver safety and reduce vehicle operating cost, and

WHEREAS, AASHTO has previously passed resolutions supporting the development of a Transportation System Preservation Technical Services Program to address the needs of Member Departments in the implementation of best practices for managing and preserving transportation infrastructure assets and to provide them technical guidance suitable for their traffic, geographic and climatic conditions, and

WHEREAS, AASHTO passed a resolution supporting the creation of a National Center for Pavement Preservation (NCPPI) which was established in August 2003 at Michigan State University and which has existing expertise and resources to respond to the research, technical and program needs of the maintenance community in all aspects of transportation system preservation through its existing staff, its affiliation with a major university, and its partnerships with various other organizations.

THEREFORE BE IT RESOLVED that the AASHTO Highway Subcommittee on Maintenance requests the establishment of a Transportation System Preservation Technical Services Program to support the research, technical, and program needs of the member States in their development of Transportation System Preservation programs. AASHTO will contract with the National Center for Pavement Preservation at Michigan State University for continued management of the technical program. This technical service program will be revalued in 2008 to access the value of the program.

BE IT FURTHER RESOLVED that the AASHTO Highway Subcommittee on Maintenance recommends the Standing Committee on Highways request member Departments, NACE and other related national interest groups to support a voluntary assessment of \$6,000 to provide funding to support the functions of the Transportation System Program Service Center.

July 1, 2004
Bismarck, North Dakota
Submitted by:
Steve Varnedoe, Chairman, Pavements Task Force
Peter Weykamp, Chairman, Bridge Task Force
Calvin Roberts, Chairman, Traffic Services and Safety Task Force

Resolution 04-02
AASHTO Highway Subcommittee on Maintenance

**ESTABLISH A PUBLIC INFORMATION EFFORT TO PUBLICIZE THE NEED AND BENEFIT OF
PROTECTING AND PRESERVING AMERICA'S INFRASTRUCTURE INVESTMENT**

WHEREAS, the AASHTO Highway Subcommittee on Maintenance has been charged with the responsibility of providing technical leadership, guidance and support for protecting, preserving and maintaining of the America's transportation infrastructure assets, and

WHEREAS, America's four million mile highway network represents an investment of over \$1.75 trillion dollars, and

WHEREAS, the economic vitality, security interests, and mobility of the nation depends on this transportation highway network, and

WHEREAS, the highway network requires special attention to protect America's infrastructure investment, and

WHEREAS, protecting this investment is the highest priority of the maintenance community, and

WHEREAS, it is widely acknowledged that system preservation practices extend infrastructure service life, improve performance, enhance safety and meet motorist expectations.

NOW, THEREFORE BE IT RESOLVED, the AASHTO Highway Subcommittee on Maintenance requests that the Standing Committee on Highways support the establishment of an AASHTO public information effort touting the needs and benefits of protecting American's infrastructure investment through timely preservation of roads, bridges and other transportation asset.

July 1, 2004
Bismarck, North Dakota

Submitted by:

Steve Varnedoe, Chairman
Pavements Task Force