

**AASHTO HIGHWAY
SUBCOMMITTEE ON CONSTRUCTION
2007 MEETING
BILOXI, MISSISSIPPI
JULY 29 - AUGUST 2, 2007**

**Gary Ridley, Oklahoma – Chairman
Thomas Bohuslav, Texas – Vice Chairman**

MONDAY, JULY 29, 2007

Opening Session

Welcome Address and General Announcements

Brad Lewis, Mississippi DOT, started the morning session by calling the group to order at 8:00 am. He then introduced the following welcoming speakers:

A.J. Holloway, Mayor of Biloxi, provided a warm welcome to all the Subcommittee on Construction (SOC) attendees to Biloxi. Mr. Holloway discussed the outstanding efforts of MDOT and the FHWA to restore the highway infrastructure. The Mississippi Gulf Coast lost 6,000 homes and businesses during Hurricane Katrina, and said everyone is working hard to bring the area back even stronger than it was before the hurricane.

Wayne Brown, MDOT Southern District Transportation Commissioner, welcomed the group to the “beautiful, but battered” Mississippi Gulf Coast. He recognized all of the resources that have been provided to MDOT by the people of the USA, nearly \$1.1 billion dollars. These funds are being well used to rebuild the highway infrastructure that was damaged by hurricane Katrina two years ago. Mr. Brown said that MDOT has some of the finest engineers and managers that he has ever known, and they all worked above and beyond the call of duty to provide services to the public in the aftermath of Katrina. Mr. Brown said, “Agencies now have to cope by working smarter and involving private partners and innovation to acquire the resources that are needed.”

Gary Ridley, ODOT and AASHTO Subcommittee Chairman, opened the meeting by welcoming the SOC delegates to Biloxi and acknowledging the presence of federal, state, local and industry representatives. Mr. Ridley recognized Mr. Len Sanderson, former chair of the SOC and thanked him for the great leadership that he provided to the Subcommittee over the years.

Mr. Ridley discussed the professionalism that pervades our transportation departments, and how it was fully exhibited in the gulf coast region after hurricane Katrina. He stated, “Department employees work hard to make a difference, and to assure that we have an adequate infrastructure.” Mr. Ridley thanked MDOT for all of its hard work in organizing this year’s summer meeting.

Thomas Bohuslav, TxDOT and AASHTO Subcommittee Vice-Chairman, greeted the AASHTO members at the summer meeting and then invited the delegates to provide self-introductions. 260 persons attended the meeting.

Brad Lewis, MDOT, made several general announcements concerning the breakout meetings for the various technical sections and events that would be happening throughout the week. He recognized the MDOT staff wearing bright green shirts, and thanked them for all of the work they were doing to ensure a successful meeting.

General Session Presentations

Thomas Bohuslav (Texas DOT): Subcommittee Vice-Chairman

General Discussion of FHWA Issues – Jim Sorenson, FHWA Senior Construction and System Preservation Engineer: Mr. Sorenson's presentation focused on two key areas: FHWA Stewardship and Oversight, and then other programs and initiatives.

The FHWA stewardship activities focused in a number of areas. Mr. Sorenson discussed Major Projects, which are the 45 projects currently being constructed that cost more than \$500 million dollars. The FHWA is anticipating that there may be up to 200 total major projects under construction in the next several years. The Local Public Agency Program, which is seen as a high-risk area for FHWA's stewardship efforts, was another key area discussed. The FHWA is working with a number of state transportation agencies to reduce the risk. An update of the FHWA's Suspension/ Debarment Work Groups was covered in the presentation. There have been an increasing number of contractors suspended and/ or debarred from work on federal-aid projects, primarily for issues involving waste, fraud and abuse. In 2003, approximately one-third of the delegates said they were having fraud issues in their states, and the FHWA is responding to help turn this around. Mr. Sorenson talked about the FHWA Quality Assurance Stewardship Reviews that have provided useful information to the state highway agencies. He mentioned that many positive findings have been documented, but a number of improvement opportunities were also found by the reviews. Regarding the Work Zone Safety and Mobility Rule in effect, all state highway agencies must be in compliance by October 12, 2007. Currently, 13 states are in full compliance, and most other states have drafted WZ policies. Mr. Sorenson asked that states contact their FHWA Division Office for assistance.

Mr. Sorenson highlighted seven other FHWA programs and initiatives that were of interest to the SOC delegates. He briefly discussed topics on construction management; construction price increases; the pavement technology programs; accelerated construction using precast/ prestressed concrete pavements; the work zone peer-to-peer program; context sensitive solutions; the National Highway Specification Website; and, training opportunities and the Transportation Curriculum Coordination Council.

Mr. Bohuslav asked a question regarding FHWA requirements for random sampling versus targeted sampling. Mr. Sorenson said that if there are problems with a project, such as segregation in the asphalt mat during paving, there needs to be a way in the specifications to allow DOT's to include increased inspection for this problem. He further discussed the

intent of Code of Federal Regulations (CFR) 637 Parts A and B in this area, and that FHWA sees the need to update the regulation.

Panel Presentations on Public Private Partnerships Requirements and Experiences

Summary of Federal Requirements and National Experience – Jerry Yakowenko, FHWA:

Mr. Yakowenko made a presentation on the Federal Requirements for Public Private Partnerships (PPP) and shared a summary of the national experiences to date. He mentioned that there is a final rule on Section 1503 of SAFETEA-LU in development, which since has been published in the August 14, 2007 Federal Register.

The USDOT/ FHWA position on public private partnerships is that market-based solutions are a necessity. Mr. Yakowenko discussed the ongoing effort to remove programmatic barriers at the federal level. He mentioned that the Transportation Infrastructure Finance and Innovation Act (TIFIA) is currently funded at \$2.4 billion per year under SAFETEA-LU. The presentation covered several congressional actions that have allowed further implementation of PPP's and related programs including private activity bonds, interstate tolling projects, model legislation development, and the SEP-15 program.

Mr. Yakowenko then reviewed the history of Design-Build contracting at the Federal level, which began in 1990, and how it has influenced the PPP movement. He discussed how the National Environmental Policy Act (NEPA) process must still be followed, but the overall project development timeline can be reduced by using Design-Build.

Mr. Yakowenko noted that 36 comments on the rule-making were received.

Virginia DOT PPP – Thomas Pelnik, VDOT: Mr. Pelnik discussed a specific PPP project in Virginia, Route 895 PPTA. He first reviewed the Public Private Transportation Act (PPTA) of 1995, which serves as the basis for Public-Private Partnerships in Virginia. The PPTA authorizes private entities to construct and/ or operate qualifying transportation facilities, and provides for solicited and unsolicited proposals. The Route 895 project was constructed, and recently has been leased for 99 years to provide a revenue stream for the Department and to ensure the ongoing maintenance and upkeep of the facility.

It was remarked that the debate between tolling versus “free” roads supported by the gas tax has been ongoing in the United States since 1939. Mr. Pelnik reviewed the options that are available to DOTs for the construction and operation of roadway facilities, and how they relate to the risks faced by agencies. He noted that Virginia has 100 years of experience in design-bid-build contracting, and VDOT is searching for how it can best procure projects. He said that approximately 15 percent of the VDOT program could be considered for PPP's; very large projects estimated to be \$500 million or more.

One of the big challenges facing agencies is the assurance of quality of construction in PPP's. Mr. Pelnik reviewed VDOT's approach to this issue. He discussed that there are some differences from the traditional contracting methods, and he noted that PPP's reduce the cost of the QC/QA process. He emphasized the responsibility of the agency for ensuring quality

roads within the State should continue, and the process for determining PPP responsibilities and risks is still being defined in Virginia and other states. He discussed that communication between all parties involved in the contracting process is key to protecting the public interest and adhering to the Federal requirements in 23CFR635.105/ 637.

Indiana DOT PPP – Dennis Kuchler, INDOT: Mr. Kuchler gave a presentation on Indiana’s Experience with 3P Projects. He mentioned that the Governor of Indiana, Mitch Daniels, and an expert panel have guided much of the process. He discussed Indiana’s “Major Moves,” a 10-year construction and major renovation schedule for projects that need to be completed. Mr. Kuchler explained the leasing of the Indiana Toll Road for 75 years. The decision to lease the toll road was based on a \$2.6 billion funding gap that was projected over this 10-year period and the toll road operating at a loss of \$40 million per year. The 75-year lease was approved in order to bring in additional revenues, cover the costs of operations, and to provide resources for the completion of I-69. The lease was for \$3.85 billion dollars. The leasing of the facility has allowed the State to fully fund its 10-year improvement program.

Texas DOT PPP – Thomas Bohuslav, TxDOT: Mr. Bohuslav presented Public Private Partnerships Activities in Texas. He began by outlining the problems and needs of the transportation system in the State. The population growth of Texas has expanded by 57 percent, but new road capacity has only increased 8 percent. There are \$188 billion in new projects needs, but only \$102 billion are available.

TxDOT now utilizes Comprehensive Development Agreements (CDA) to help with the building of additional capacity for the roadway network. A CDA is an agreement with one entity (the developer) to develop, design, construct, finance, acquire, operate and/or maintain certain kinds of facilities. Types of facilities include highways, turnpikes, freight or passenger rail, and public utilities. Mr. Bohuslav pointed out that there is a huge need for increasing capacity on the I-35 corridor, which is now known as the Trans-Texas Corridor. There are several other projects including I-69, Tx130 and Tx121 that will be delivered under the CDA procurement process.

Mr. Bohuslav stated that over \$1 billion worth of construction has already occurred and the building of additional sections/ segments along the Trans-Texas Corridor continues under CDAs. These agreements include costs of construction, revenue sharing, and requirements for levels of service on the facilities to be constructed. Toll rates are also controlled by the agreements. TxDOT has developed a comprehensive list of performance requirements for all new facilities. In addition, legacy systems have a number of performance and reporting requirements for roads, bridges, and utilities. Local governments have 80 different requirements for facilities that are develop under CDAs, depending on the type of system. To ensure quality and public satisfaction, TxDOT is also hiring quality manager to oversee projects developed under CDAs.

Questions and Answers on PPP's

On changing toll rates, daily versus schedule. TxDOT has provisions that regulate when the toll rates can change. VDOT is using a congestion-pricing concept on its High Occupancy Toll (HOT) Lanes, so prices can change by the minute.

On buy-back provisions. TxDOT has buy-back provisions for toll facilities in the event the toll authority fails financially. In addition, there are performance requirements for the facilities that require a facility to be in a pre-defined, minimum condition when it is turned back to the agency. VDOT has similar requirements.

On HMA versus PCC. TxDOT is using both materials, and it was indicated that both are competitive in the current marketplace.

By a show of hands, 20 out of 37 states present at the meeting agreed that PPP's were a direction that states should head in for the future. Mr. Ridley, ODOT, said that PPP's have been in existence since the 1800's when the term "turnpike" originated.

Mr. Sorenson, FHWA, commented that our need for PPP's can be reduced by making good use of preservation techniques and improved construction quality. He remarked that instead of building projects at an 88 percent quality level, a facility constructed at a 95 percent quality level would last longer and cost the public less over the long term.

The ACPA spoke in favor of PPP's as a portion of what is needed to provide the revenues to maintain our existing infrastructure and also expand capacity. It was commented that additional gas tax revenues are needed and it was noted that AASHTO is promoting an additional 10 cents per gallon to restore the purchasing power of the gas tax.

It was stated that the New Jersey Governor is promoting PPP's and the lease of the New Jersey Turnpike to solve education and health issues, with only a small amount going to transportation. It was commented that funds raised by transportation should be used for transportation.

It was noted that Virginia could address 10 to 15 percent of its transportation needs by PPP's while the other 85 to 90 percent fulfilled from other sources. It was commented that the NEPA process has a great influence on all related and the state gas tax has not been raised since 1986, with little support to raise it.

Washington State asked about public accountability. Mr. Bohuslav discussed the process that TxDOT used to help set toll rates and revenue sharing. On a follow-up question about dispute resolution, Mr. Bohuslav said that TxDOT is using an Alternative Dispute Resolution (ADR) process.

Caltrans raised the question of tort-liability with the PPP's because California has experienced very high tort settlements.

Mr. Bohuslav briefly discussed the SOC program activities for the week ahead and mentioned that the Research Steering Committee meeting was scheduled for 6:30 am, Tuesday morning. He explained that four Technical Sections under the SOC accomplished the bulk of the SOC work assignments and that breakout meetings for the sections were planned for the afternoon. Mr. Bohuslav introduced the chairs of each section.

Section Meetings

Monday afternoon was spent in individual Section meetings to discuss 2006-2007 accomplishments, and to begin developing the annual Work Plan. The meetings were followed by Section Chair's Reports to the assembled group. The information from these sessions is included in the individual Section minutes file.

Section Chairman's Reports

Roadway and Structures Section, David Sadler, Florida DOT: Mr. Sadler reviewed each of the six items in the Sections 2006/ 2007 work plan and reported their status. Several of the items will be continued into the next year. In addition, AASHTO has asked the Section to respond to a NTSB list of recommendations.

Computers and Technology Section, George Raymond, Oklahoma DOT: There were 25 persons and 13 DOTs represented at the Section meeting. Mr. Raymond reported on the eight work items in the Section's work plan and the planned presentations in the general session.

Contract Administration Section, Cal Gendreau, North Dakota DOT: Mr. Gendreau discussed the development and completion of a paper titled "Current Strategies to Address Increased Highway Construction Costs and Reduced Competition" that is a summary of ten strategies identified to be the most effective for encouraging competition and controlling construction costs. Former SOC Chair Len Sanderson distributed the document at the October 2006 Standing Committee on Highways meeting. Mr. Gendreau then reviewed the status of each work plan item for the Section. There were 10 states present at the Section meeting. Three ideas for the 2007/ 2008 work plan were developed at the meeting and reported.

Environmental and Human Resources (E&HR) Section, Jim Tynan, New York State DOT: Mr. Tynan, the Section's Vice-Chair, reviewed the E&HR accomplishments from the 2006/ 2007 work plan. There were several potential research topics developed for the NCHRP.

Questions and Answers Session

Mr. Bohuslav presented two related E&HR topic questions (Q 2 and 3) submitted in advance of the meeting. Q. The Alabama DOT asked if other States have to hold post-construction flows lower than pre-construction flows? A. AL – Developers are required to limit flows onto DOT ROW. VA – The State does restrict the flows to pre-construction conditions.

TX – TxDOT conforms to local agency requirements, there are no statewide laws.

Mr. Bohuslav presented E&HR topic question 4: Discussion on the Migratory Bird Treaty Act. A. WA – WsDOT deals with this on bridge projects. It uses netting to prevent birds from nesting/ roosting. GA – The DOT has dealt with the issue, but no details were provided. CA – The issue is somewhat sporadic California and depends on the locality. A standard special provision addresses this issue, but the specification is not used on every project. Nesting birds have delayed construction. TX – There is no current FHWA guidance, but US Fish and Wildlife Service is involved, and there is a case that is progressing.

Conclusion of General Session

At the completion of the E&HR Questions and Answers, Mr. Bohuslav adjourned the session for the day.

TUESDAY, JULY 31, 2007

Contract Administration Section Presentations

Cal Gendreau, North Dakota DOT: Section Chairman

Evaluation and Assessment of Liquidated Damages – Wesley C. Zech, Auburn University:

This Auburn University research project was conducted because of the Alabama DOT's need for a Liquidated Damages (LD) rate schedule that would be upheld in the courts. Alabama contractors were claiming the DOT's LD rates were unfair and unsubstantiated, and contractors were contesting LD rates and prevailing in the courts.

Dr. Zech's presentation define LD's, as well as the three types of delays experienced by contractors. LD's are related to non-excusable delays and are not considered a penalty. They are a means to justifiably cover the additional costs incurred by an owner agency as a result of untimely performance by the contractor. He further explained how the courts examine LD's by applying three tests: Intent, Difficulty, and Reasonableness.

Dr. Zech performed a survey of various state highway agencies (SHA) to determine the standard practice for administering LD's. A response rate of 100 percent was achieved and it was found that virtually all SHA's use LD's. The research showed that LD's are generally administered at the field level, and are rarely challenged by contractors. Normally, the rates are very low, and cover only additional administrative costs experienced by the SHA. Most SHA's define LD's using a table in their standard specifications book.

Dr. Zech's presentation discussed the details of how Alabama DOT modified its LD amounts, and the data that was necessary to make the new table justifiable in a courtroom. Calendar day rates were set at approximately one-half of the working day rates. The rate setting process uses 3 years of data, and considers contract size. 856 total projects were used in the analysis. As a result of the research, the rates were generally increased above the

previous LD schedule in the ALDOT specifications. In addition, the procedural step methodology developed by Dr. Zech can be used by any state DOT to help them fully comply with the federal regulations.

Mr. Bohuslav asked the various states what percent of the projects actually apply LD's. Some responses include 15% in Texas, less than 10% in Arizona and 12% in Pennsylvania. It was reported that AL, FL and LA have had challenges to their LD procedures in the past. Ontario, Canada reported that its courts allow project specific damages, rather than a general, predefined LD schedule.

Quality Assurance, Where Does the Future Lead Us – John D'Angelo, FHWA: Mr. D'Angelo pointed out that the road building industry is one of the few industries that accept marginal materials. Many of the industry's specifications were developed as a result of the AASHTO Road Test that started in the late 1950's. He explained that the industry is moving from method specifications to statistically-based, quality assurance specifications approach that requires less testing and inspection personnel.

One of the new approaches is "Intelligent Compaction," which measure density and map roller patterns. Another approach is automated plants to help assure the quality of the materials being produced, and to assure the process control is satisfactory. Aggregate imaging is another new technology that is being developed to help assure angular materials with the correct size and shape are used in HMA pavements. The "new" QA will be linked to the internet, and everyone including the contractor will have the same information so adjustments in operations can be made more quickly. Long-term warranties will eliminate some of the inspection requirements by SHA, and PPP's will be more widespread as DBOM project delivery method.

Mr. Bohuslav asked if interactive websites are being used by various states for contractor data and inspector daily reports. VA and WA said they were moving in that direction.

Tools for Making Decisions in Project Selection and Delivery – Sidney Scott, Trauner Consulting Services, Inc.: Mr. Scott spoke to the challenges now facing the DOT's with the loss of staff, limited resources, growing funding gaps, changing capital programs and changing public expectations, and how project delivery systems are being modified to accommodate these changes.

Mr. Scott discussed California's issues in detail as an example of some challenges a DOT now has to address. Trauner Consulting is helping CalTrans with its "Innovative Procurement Program" that is in development because California does not have legislation allowing PPPs. He reviewed the various types of project delivery methods available including design-bid-build; design sequencing; CM at-Risk; Design-Build (low bid); and Design-Build (Best Value).

Trauner Consulting has developed a project selection tool that determines the project delivery method most appropriate for the particular project under consideration. Costs, specifically LCCA, are used in the tool. Mr. Scott presented a color-coded analysis matrix and results for

a single California project that CalTrans had selected Design-Build (Best Value) as the delivery method. The project selection tool has been used on five projects in California, with two selected as design-bid-build. Further, his presentation summarized lessons learned from the process, and a number of additional resources that are available on the internet if interested in this topic.

In a discussion among the general group, Arizona mentioned it was in negotiations for a CM at risk project, but there is concern about the use of federal funds. In Florida, CM at-risk has been used in vertical construction, but no federal funds were used. Florida plans to use CM at risk for a bridge rehabilitation project in 2008. Utah is very active in the CMGC projects and Oregon will use it in 2008. WSDOT is looking at the CMGC, but has not used it to date.

Post Katrina Emergency Contracting – Todd Jordon, Mississippi DOT: Mr. Jordon spoke on the topic of “Post Katrina Emergency Contracting.” Katrina hit the coast on August 29, 2005. It had a storm surge of over 30 feet, and caused over \$1 billion dollars in damage to MDOT facilities. Mr. Jordan discussed the range of damage suffered by the highway system and the difficulty MDOT and others had in communicating with each other. Highways, bridges, drainage systems, traffic signals and signs, guardrail, roadway lighting, and more incurred the damage. Virtually every feature of the highway network required repair along the coastline, and the damage extended more than 120 miles inland. No communication equipment operated after the storm, so it was very difficult to get contractors to mobilize to work.

Mr. Jordon’s presentation discussed the various phases of contract debris removal and the contracting methods used. Debris completely blocked the roadways after the hurricane. For one particular highway, \$52 million in FHWA ER funds was spent on one pass in attempt to clear the road. A second pass in clearing cost \$19 million, which was FEMA reimbursed. Additional clearing passes were required because adjacent property owners were removing and placing their in the road.

The presentation included many photographs of the damage caused by Hurricane Katrina, and of the repair efforts that were undertaken by MDOT. Many projects were described, and included the contracting methods, costs, schedules, and bonuses that were paid for early completion of the work.

Panel Discussion on Cost Savings Measures

Florida DOT – David Sadler, FDOT: Mr. Sadler discussed the cost increases experienced by FDOT since 2004. He described the agency’s efforts to adjust the engineer’s estimates to better account for construction price increases, the growth in Florida’s population (with 400 new residents per day) and the competition posed by the other markets such as housing development. It was pointed out that inflation, energy costs and labor shortages have reduced the number of bidders for FDOT projects. The impact of hurricane rebuilding efforts has also compounded the problem. As a result, a number of projects have gone unawarded or deferred to later years.

FDOT has invoked a number of strategies to deal with these issues, including refining its awards criteria, revisiting inflation rates factors, fine-tuning its estimating process, using alternate bids and bid maximum specifications, optimization of the use of night work and adjustments to the scope and length of contracts. Regarding labor shortages, FDOT is conducting a work force study and is now working with community colleges to recruit workers. Conflicts in mobility and freight are being dealt with, and risk management for material availability, specifically aggregates, is being looked at closely. Mr. Sadler noted that the availability of aggregate is a huge issue in Florida, and the DOT has been active in addressing the problem. Further, FDOT is considering opportunities for joint use of storm water ponds and borrow pits. It was mentioned that Florida is trending away from using federal-aid standards, since federal-aid funding only makes up 25 percent of the FDOT program budget. In addition, Mr. Sadler's presentation lists a number of strategies FDOT is using in attempt to increase competition and attract more bidders.

Missouri DOT – David Ahlvers, MoDOT: Mr. Ahlvers, MoDOT State Construction and Materials Engineer, described the price increases that Missouri has experienced. He discussed a likely funding gap for the State because of projected flat revenue streams compared to trending price increases.

MoDOT's strategies to address the issue include cost control through practical design, value engineering, increasing competition and DOT employee incentives for mitigating contract growth. MoDOT attributes the successful use of alternate bidding for bridges and pipe culvert for an increase in the number of bidders by 25 percent and a decreased in costs between 9 and 10 percent.

MoDOT is also seeking to maximize innovation by allowing more contractor involvement and the use of new technologies. Design-Build contracting is being applied to a number of projects, and MoDOT is expanding the concept to include long-term maintenance of certain facilities.

ARTBA – Edward Nyland, George Harms Construction Co.: Mr. Nyland, a representative of ARTBA, gave a contractor's perspective on project costs. His presentation summarized five key areas that affect project costs that include design considerations, constructability, construction means and methods, factors of costs and the presentation of drawings.

For design considerations, Mr. Nyland mentioned that geometry, standardization, structure specific elements, foundation issues, context-sensitive designs and scope creep influence cost. He said that the more standard the plans and specification, the lower the costs. Constructability issues discussed included site access, repetitiveness in form re-use, common-sized elements, environmental impacts, equipment availability, traffic control and the willingness of the agencies to partner to complete the tasks. When considering construction means and methods, Mr. Nyland expressed that the agency should provide the contractor as much leeway as possible and he suggested the use of recycled as much as possible to keep prices low. Cost factors that a contractor accounts for include market changes for materials, work rules and project scheduling, liquidated damages, and potential impacts on work qualifications for future work. He discussed that risk needs to be allocated

for materials market changes and labor cost increases have to keep pace. The “e” factor, the engineer’s reputation for fairness, is also considered in developing a bid. A rule-of-thumb is project unknowns lead to high contractor contingencies. With regard to plan drawings, Mr. Nyland said that well organized, clearly detailed plans would help the estimating process, and electronic files should be made available to the contractor.

AGC – Scott Williams, Hamilton Construction Co.: Mr. Williams represented the AGC for speaking on this issue. Mr. Williams stated some facts about the increases in costs, although the rate of increase is slower. He said there is still a strong upward pressure on materials costs and labor costs are still increasing. Mr. Williams then offered a number of strategies that the owner agencies could use to keep costs low:

1. Reduce Risks. Certain contracting methods have inherent risks such as design-build contracting and long-term warranties
2. Insurance costs related to including state employees in liability coverage
3. Utility relocation costs
4. Use of ADR
5. Flex contract time to allow the contractor to schedule in equipment and crews
6. Use of alternative bidding for asphalt and concrete
7. Keep nighttime work to a minimum. Nighttime work is less productive, and sometimes to quality issues. Labor is tough to keep, and it cost more.
8. Constructability Reviews. Let the contractor make suggestions prior to bidding, and allow the reviewing contractors to bid.
9. Better use of Value Engineering
10. Time is money, and change orders add time. The fast resolution of negotiations benefits all.

Mr. Williams noted that there is an upcoming white paper from the AGC on this topic, and there will be a joint meeting with in September 2007.

Questions to the Panel and Answers

Q. How does MoDOT allocate bonuses to the designers? A. The construction staff works with the designers in the scoping process.

Q. What states use cost-based versus historical-based for estimating? A. Texas and most other states use historical-based information. VA, TN and CO are 50-50 between the two methods. KS does a first cut using historical data, but with big quantity items there will be adjustments.

Q. How many states publish the engineers estimate before the bid? A. Approximately one-half of the states publish a range, but only a few publish an exact price.

Q. How many states allow constructability reviews by contractors prior to bidding? A. All states except for VA allow this.

Q. On insurance costs increases related to including state employees. A. Mr. Williams said that covering the state adds about 7 percent.

Q. How many states are requiring as-built drawings for underground utilities? A. Just FL, TX is just starting.

Q. On the use of electronic design files. A. ARTBA promotes the use of electronic files. Approximately one-half of the states present provide files at pre-bid. ARTBA said the files are mostly needed post-bid, and only a couple of states do not allow this.

Q. On permitting issues for asphalt plant locations. A. In Florida, there have been a number of permitting issues for asphalt plant locations. FDOT has not been able to establish sites for HMA plant locations to help increase competition.

Q. On waiver of performance bond requirements. A. In Florida, performance bond requirements can be waived on projects of less than \$250,000 per a recent legislative change. If contractor performance is poor, the FL does not allow the company to bid on future projects. In Pennsylvania, there is a 3-strike rule, which can lead to debarment. PA does not require bid bonds for smaller contracts.

Other cost savings ideas presented

1. Dan Liston, VDOT, suggested having dedicated staff to coordinate partnering. KS, HI, NC and VA have dedicated staff.
2. Ellis Powell, NCDOT, presented 15 items that the NCDOT identified and reviewed as areas where potential cost savings could be made. They include constructability reviews, waste sites, balancing earthwork, advertisement length, VE, use of GPS, resident engineer authority, relocation of utilities prior to bidding, increase RAP use, alternate bid items, group/ bundle small projects, pre-bid meetings, traffic control, A+B bidding and use of road closures for fast-track construction.

Roadways and Structures Section Presentations

David Sadler, FDOT: Section Chairman

Achieving Ride on Concrete Pavement – Keith Sasich, Kiewit Texas Construction L.P.: Mr. Sasich began his presentation by discussing the sound practices that help achieve quality rides on Portland cement concrete (PCC) pavements. A quality ride begins with the mix design. Mr. Sasich recommended using well-graded mixes and to examine the various design factors, including coarseness and workability. He explained that the equipment used in placement has an impact on the final smoothness and that a continuous paving operation is essential. He suggested that establishing the track/ stringline should be a separate bid item because it is such a critical factor towards achieving a high-quality ride.

Mr. Sasich then discussed how industry has developed new machinery to help measure smoothness. GOMACO's non-contact profile device, the GOMACO Smoothness Indicator (GSI), can measure the smoothness behind the paver. The GSI has shown that smoothness

does not require additional machines that manipulate the slab, such as bull floats. The GSI helped Kiewit earn a \$1 million smoothness bonus at the Atlanta airport.

Other tips Mr. Sasich offered for achieving a high-quality PCC pavement include:

1. Use of ice to retard hydration and keep a consistent slump in the mix
2. Use of recycled concrete aggregate and recycled asphalt to help keep costs low. Note that the Atlanta airport price was \$85/cy, and in Dallas \$55/cy using recycled.
3. Have a plan for construction to keep things moving. Be sure your sand, cement, and aggregates are sufficient for the planned operation. Participate in planning and partnering meetings.
4. Use of automated grade controls. Automated grade controls for a machine cost approximately \$240,000, an investment in technology that takes about 3 years to pay for itself.
5. Use projected grades instead of offset grades
6. Ensure line offsets and line tension are set correctly.
7. Bring a number of questions to your pre-paving meeting: Have all slips been planned by the day? Are the truck routes well-planned to eliminate starting and stopping of the paver? Has the testing been properly planned?

In response to questions for Mr. Sasich, he said that high-speed profilers are preferred because they go so much faster, and the average roughness behind a concrete paver is now 35-40 inches per mile.

Contracting Successes and Lessons Learned on the Woodrow Wilson Bridge Project – Nick Nicholson, Virginia DOT: Mr. Nicholson began his presentation with some facts about the project. Apart from the new bridge, the project is actually a 7.5-mile-long reconstruction of the Capital Beltway and totals 20 percent of Virginia's beltway miles. The original bridge opened in 1961, and it was designed for a traffic count of 75,000 vpd. The facility currently handles nearly 200,000 vpd. Project construction is \$2.5 billion, of which the FHWA will contribute \$1.5 billion. The project is currently 75 percent complete, with about \$1.6 billion in expenditures to date. The project is important to the region for improving safety, traffic, and freight mobility.

Mr. Nicholson discussed the long planning process for project, which began in 1988. The final supplemental EIS was approved in 2000, 12 years after the planning began. He then talked about the various contracts that have been executed to date. All have been Design-Bid-Build with fixed completion dates. A+B bidding and incentive/ disincentives have been used. There was a steel price adjustment clause added to a contract. The project will require 4 million pounds of high level structural steel.

There were many challenges in the construction of the bridge. Utilities dated back to the time of George Washington. Soft soils and mud were a special challenge. In fact, the Route 1 interchange in Virginia has more lane-miles of bridge than the main channel bridge because of the poor soils. Traffic congestion in the area led to a large amount of night work. Mr.

Nicholson credited the constructability reviews with helping to keep the project on time and under budget.

MSE Walls – Ryan Berg, Ryan R. Berg & Associates, Inc.: Mr. Berg’s presentation highlighted the “keys to success” and “better practice” for design and construction of mechanically stabilized earth (MSE) walls. He talked about several wall facings, including segmental panel faced walls, modular block faced walls (MBW) and temporary walls. In reviewing the specifications that agencies are currently using, he said that many are “vendor” designs and include performance specifications. There are often approved product lists for the wall system and components. Mr. Berg provided the following comments on MSE wall components and materials.

- Foundations. A MSE wall is a structure, not an embankment, so treat it as such.
- Precast and masonry facings. Mr. Berg noted that masonry blocks are subject to freeze-thaw durability issues, so some states are increasing the specification requirements.
- Soil Reinforcements; Steel and Geosynthetic. Strength evaluations of geosynthetics are best done by the state DOT.
- Reinforced wall fill. A wide range of specification requirements are in use around the country. The friction angle is assumed to be 34 degrees, which is very conservative except in coastal areas and in certain other locations. Electrochemical properties can affect steel corrosion, and need to be addressed in specification reviews.
- Drainage. This is super-critical for the MSE wall. Subsurface and surface water needs to be properly controlled.

Mr. Berg commented that the design and detailing of MSE walls is a shared responsibility between the SHAs and vendors. He mentioned that checklists have been developed to assist in this process. Mr. Berg offered a few recommendations that can prevent agencies from having problems:

1. Penetrations of MSE walls. Piles or drop drainage structures may require structural load frames. Items such as these should not be “field fitted.”
2. Joints. Ensure water can drain, and that sand backfill is retained. The amount of differential settlement that the MSE wall can tolerate is dependant upon the type of facing.
3. Use construction inspection and the checklists. The main component of the MSE wall is the fill, where compaction is the key. There should be compaction requirements. A test pad should be set up, with a method specification for the number of passes.
4. Maintenance of the system. Keep water away from the walls to minimize erosion. Use well-graded gravel at key locations.
5. Training. Attend NHI course #132080. Visit www.nhi.fhwa.dot.gov for more information on the five courses on MSE walls.

In response to questions, Mr. Berg noted the MSE wall specifications of the Arizona DOT, Minnesota DOT and WsDOT as good examples for reviewing.

Intelligent Compaction (IC) Technology – Lee Gallivan, FHWA: As a lead into his presentation, Mr. Gallivan defined “intelligence” as the ability to vary behavior in response to varying situations and requirements. He drew the comparison that these new machines have to collect and analyze data, and execute a response at a rapid rate.

In HMA pavements, proper in-place density is vital for good performance. Intelligent compaction technology may offer a better way to constructing high-quality pavements. Mr. Gallivan said that improved roller technology, clear documentation systems and advanced software will help improve compaction results. It was noted that IC is being successfully used in geotechnical applications, and progress is being made toward achieving success with HMA pavements.

Mr. Gallivan discussed several research efforts currently underway. A NCHRP 21-09 study is focused on IC applications in soils, and another study, the Transportation Pooled Fund TPF 954, involves both soils and HMA. Currently, there are 12 participating states in the pooled fund. The purpose of the TPF 954 study is to accelerate the development of QA specifications, develop experience in the USA, and to identify and prioritize needed improvements. There will be efforts to field calibrate the new technology with existing QA equipment. In addition, there has been an equipment exhibition at the MNRoad test site.

In response to questions: Mr. Gallivan said the typical double-drum roller costs approximately \$100,000. To add in the IC capabilities, the costs are about an additional 15 percent. He said that IC technology may help to provide more conformance with the specifications, but probably will not lead to a change in the specifications.

Percent Within Limits (PWL): HMA Specifications that are Statistically Valid – Matt Corrigan, FHWA: Mr. Corrigan’s presentation included a discussion of statistical analysis as it applies to HMA asphalt content measurements.

A goal is to have the contractor control the variability of his construction process in order to produce a uniform product that conforms to the mix design and related specifications. Mr. Corrigan summarized the issues with variability, which comes from four sources: the materials, materials processing, sampling procedures and testing. He discussed the concept of PWL. PWL is used to analyze the amount of material that is “good” and the amount that is “bad,” and helps to assure that a product is produced with uniformity at an acceptable quality level. PWL is a more discerning quality measure, and a better predictor of performance.

Agencies can use PWL data to help reduce the variability in contractor processes, and in turn purchase higher quality materials. Similarly, contractors who understand statistics and variability can produce improved, higher-quality materials.

FHWA is currently developing a new software package named “SpecRisks” which will help agencies to better determine specification limits, distribute and balance risks and identify pay factors. In response to a question, about a one-third of the states are using PWL.

Computers and Technology Section Presentations

George Raymond, ODOT: Section Chairman

Report of Findings on NCHRP 20-05, Synthesis Topic 37-06, Technologies For Construction Delivery and Synthesis Topic 38-02 IT Best Practices for Project Design and Construction – John Hannon, University of Southern Mississippi: Dr. Hannon presented an update of his recent research on the use of technology in construction under NCHRP 20-05, Synthesis Topic 37-06. A survey was conducted among the various DOTs for 5 topic areas that include the use of GPS, the use of handheld computers, concrete maturity and automated concrete temperature monitoring systems, use of 4D CAD Modeling (3D modeling plus time schedules used in computer aided design) and web-based video project monitoring. It was found that very few of these technologies are being utilized, despite their potential value to an agency.

Dr. Tulia A. Sulbaran, from the University of Southern Mississippi, reported on the findings in IT best practices for project design and construction. The project, NCHRP 20-05 Synthesis Topic 38-02, is trying to identify best practices in the use of information technology that is being employed by the DOTs. A literature review was conducted, and a survey was prepared that aims to answer the question “How do the states successfully transfer data and how do they integrate information from the various management systems?” The survey is dealing with the five functional areas within the DOT: Planning, Design, Procurement, Construction, and Operations/Maintenance. The project hopes to move agencies from paper-based to digital systems.

Dr. Hannon then discussed how technology applications can be used to improve Transportation Information Modeling (TIM). He discussed 3D, 4D, 5D, and 6D applications that involve a 3D design plus the added dimensions of scheduling, cost estimating and work progress, and how TIM could be beneficial to the highway construction industry and state agencies.

Conclusion of Section Presentations

After Dr. Hannon’s and Dr. Sulbaran’s presentations, the session was adjourned.

WEDNESDAY, AUGUST 1, 2007

Computers and Technology Section Presentations

George Raymond, ODOT: Section Chairman

Past, Present and Future of the FHWA’s National Highway Specifications Website (NHSW) – Linda Konrath, Trauner Consulting Services, Inc.: In Ms. Konrath’s overview and update of the NHSW, she began her presentation by discussing the origin of the website. She mentioned the NHSW was a result of a 1999 AASHTO SOC resolution and that the website was first presented to the SOC at the Asheville summer meeting in 2003.

More recently, the website has been in need of updating because the data was not being adequately maintained. State specifications posted in 2003 need replacement with the latest 2006/ 2007 versions.

Ms. Konrath discussed the results of a 2006 User Feedback Survey of SOC members. The survey indicated that the website was generally well-liked, but users rarely made use of the forum section. Most survey responders (83 percent) were unaware of the annual update and the uploading of new state specifications was expected. The survey pointed out that an easier method for uploading the specifications was needed. One goal of the current upgrade is to develop an easier method to upload the various state specifications and to expand the functionality of the website. Ms. Konrath described other enhancements planned for the NHSW including links to innovative specifications, design-build, A+B, and other new and emerging specifications, such as smoothness and intelligent compaction specifications. The biggest challenge for the website is keeping the information up to date. Trauner is developing web-based training to assist the state agencies in performing the website maintenance with greater ease.

In response to a question, about 75 percent of the meeting attendees said they used the website, and only a handful said they regularly maintained it. Mr. Bohuslav commended the website, and noted that there is a helpful Google search script developed by WsDOT that is posted on the AASHTO SOC website.

Electronic Documentation, As-Builts and Archiving of Construction Projects – Zach Wiginton, FDOT: Mr. Wiginton reviewed the needs and purposes of FDOT in the development of its Electronic Document Management System (EDMS). He said the web applications are only available to internal users at FDOT. His presentation described the functionality of the EDMS to the various construction groups and reviewed the steps that users need to perform to post and access documents in the database.

Mr. Wiginton described the special problem the As-Build Plan System posed for FDOT because of the hardware requirements for these types of documents. After careful analysis, FDOT outsourced this task to a private contractor.

In response to a questions, Mr. Wiginton said that FDOT has performed the EDMS effort over a 10-year period. The as-built system took approximately a year and \$100,000 to develop, this equates to about 1.3 cents per page.

Update on Next Generation Trns*port (NGT) Development and the Civil Rights Module – Tim Lindberg, SCDOT: Mr. Lindberg reviewed the Trns*port strategic goals. He defined NGT as a web-based application that can be accessed from any computer that has a web-browse. He described how the software might benefit the State's construction divisions.

Mr. Lindberg then discussed the Civil Rights and Labor Management System. Started in February 2007, it is an 18-month effort that will cost approximately \$3.3 million dollars to develop. He highlighted the planned functionality of this new module. Mr. Lindberg also discussed other Trns*port initiatives, such as Michigan's Initiative for Materials

Management and encouraged the audience to become involved with the software. Visit <http://www.cloverleaf.net> for more information.

Questions and Answers Session

Mr. Bohuslav asked the states about bid bond amounts and a brief discussion on the topic ensued. In summary, a few states were up to 2% with a maximum amount, but most states were in the 2-5% range.

Mr. Bohuslav next presented a question on the change order signature authority that is delegated to the various levels of the agency. Most agencies have a 3-level authority schedule, but some states have a 2-level program. The states each announced their various amounts, beginning at the Area Engineer level, then the Regional level, and finally the HQ level.

Research Steering Committee Presentations

Byron Coburn, VDOT: Section Chairman

Overview of the National Cooperative Highway Research Program (NCHRP) – Crawford Jencks, Transportation Research Board (TRB): Mr. Jencks gave an update of the program. He began by reviewing the organizational structure of the National Academies, the Transportation Research Board, and the National Cooperative Highway Research Programs (NCHRP), and the other cooperative research programs in Aviation, Transit, and others. TRB also manages other programs, including the Strategic Highway Research Program 2 (SHRP2). The NCHRP is a \$35 Million annual program and it was established in 1962.

Mr. Jencks described the SHRP2 program as a new TRB program funded at \$36 Million/year for 4 years. Themes are Safety, Renewal, Reliability, and Capacity. The first RFP was issued in September 2006. Please visit www.trb.org/SHRP2 for more information.

He explained how NCHRP is really AASHTO's research program. It uses 5.5% of SP&R funds, and the research problems are approved by AASHTO. The focus of NCHRP is applied research that addresses emerging national issues and common problems. Contract research is provided by contractors and overseen by panels with TRB managing the process.

AASHTO Committees have the greatest likelihood of having problem statements selected, followed by state DOTs, and then FHWA. The AASHTO Standing Committee on Highways selects the projects, and two-thirds of the states must ratify the project. Mr. Jencks mentioned that two projects submitted by the SOC are moving forward in the 2008 program, and two synthesis studies will be undertaken.

Mr. Jencks identified the 10 NCHRP Special Projects "Subprograms." One program that may be of particular interest is 20-36, which can be used for state DOT representatives to participate in international activities such as PIARC, or to have international experts travel to the United States. He then reviewed several of the recent NCHRP reports, including one on work zone designs.

NCHRP Project 10-68 Guidelines for the Use of Highway Pavement Warranties – Sidney Scott, Trauner Consulting Services, Inc.: Mr. Scott reviewed the project scope. He discussed how Trauner conducted surveys and interviews to determine the benefits and challenges of implementing warranties, and quantified the benefits of warranties. The project included a comparison between US and European models, which Mr. Scott discussed.

Mr. Scott described three types of warranties: Materials and Workmanship, Short-Term Performance, and Long-Term Performance. He explained how the duration of the warranty can impact whether method specifications or performance specifications are used, and the type of contracting method that is used.

For HMA pavements, the study identified over 700 projects at the state level. In addition, there were 370 PCC pavement projects identified. The research gathered data on both business and technical administration features. One challenge of the research was to develop a tool to address a multi-dimensional decision process. As an outcome, a seven-step approach is recommended to implement pavement warranties:

1. Convene a committee
2. Identify and weigh warranty objectives
3. Evaluate the likelihood of success based on weighted objectives
4. Decision to proceed
5. Assemble a list of candidate projects
6. Evaluate risk of different warranty types (types as defined above)
7. Warranty Decision Type

Phase II of this research project will begin in the fall 2007, and should be completed in the next year.

In response to questions, Mr. Scott said that there have not been many cases for agencies to collect from contractors in the long-term. Although, there have been instances of call-backs, and the contractor has performed additional work to bring the roadway back to the proper condition.

Florida Pipe Material Selection – David Sadler, FDOT: The design service life for pipe ranges from 25 to 100 years, depending on the use. Side drains are generally designed for 25 years of service, and most other pipe applications are designed at 100 years. Mr. Sadler reviewed the various types of pipe materials approved by FDOT and discussed the FDOT Drainage Design Manual that is used in the pipe selection process. In addition, a Culvert Service Life Estimator computer program assists the agency to determine cost/ benefit optimization in pipe selection during the bid process. This executable service life estimator program is available to all on FDOT's website.

Mr. Sadler said that the capital cost of pipe failure is a primary concern for the agency and that structural evaluations must be performed, and the design standards enforced during construction. Post-installation inspection procedures for pipes now require a CCTV

videotaping of the pipe and a laser-ring deflection analysis (as discussed at the 2005 SOC meeting in Louisville, KY.)

Mr. Sadler explained that there is a regularly scheduled meeting held between industry and with FDOT to discuss pipe-type selection, and FDOT has an active technical evaluation committee that is involved.

ODOT asked a question concerning how FDOT approaches pipe-type selection on interstate projects. Mr. Sadler said these discussions were handled under the scheduled industry meeting.

TxDOT asked about backfill requirements. Mr. Sadler said that backfill is specified and included in the cost per linear foot bid price.

INDOT asked about manhole inspections. INDOT requires separate manhole inspections. In a follow-up, it was clarified that the laser deflection testing helps in the pipe acceptance process, but does not substitute for manhole testing.

FDOT has observed that most pipe failures are related to poor construction/ installation practices rather than the pipe material failures. The inspection process has helped to identified construction defects before final acceptance.

FDOT inspects some pipe types and provides inspection stamps; the manufacturer certifies others.

ADS Pipe recommended the use of the national NTPEP data for certification purposes.

Conclusion of Section Presentations

After adjourning at midday, the group spent the afternoon participating in the Mississippi Technical Tour, which included site visits to the Bay St. Louis Bridge and Biloxi Bay Bridge replacement projects, both design-build projects the result of destruction by Hurricane Katrina.

THURSDAY, AUGUST 2, 2007

Thomas Bohuslav, Vice-Chair of the SOC, called the meeting to order at 8:03 am. He asked the attendees to observe a moment of silence in honor of those involved in the I-35W bridge collapse in Minneapolis, Minnesota, which occurred on the evening of August 1, 2007.

Environment and Human Resources Section Presentations

Robert Pieplow, CalTrans: Section Chairman

Erosion and Sediment Control in Florida Construction – David Sadler, FDOT: Mr. Sadler discussed the environmental permitting process in Florida and the responsibilities of FDOT and the contractor regarding erosion and sediment control. He explained that FDOT obtains

the project environmental permits, provides a stormwater pollution prevention plan (SWPPP) in the contract plans, identifies areas to be protected such as wetlands and surface waters and provides the directions of runoff in the plans. The contractor is responsible to develop a project specific erosion and sediment control plan, obtain dewatering permits or any other permits related to contractor means and methods of performing work and keep turbid discharge and sediment contained within project controls. In addition, the contractor must monitor the condition of all erosion and sediment control facilities. FDOT has standard details that most contractors use and has developed a manual on this topic. FDOT has 15 standard pay items for erosion and sediment control work.

Mr. Sadler discussed contractor non-compliance, and said FDOT can hire another contractor to perform corrections. Any fines that FDOT is assessed are passed to the contractor. As a result, the contractor's performance grade would be reduced.

FDOT is beginning a new approach to pay for sediment and erosion control as a lump sum. FDOT would provide the SWPPP to the contractor, and the contractor would then become the environmental permit holder.

Stormwater Pollution Prevention Process & Contractor Responsibilities – David Graves, NYSDOT: Mr. Graves emphasized that the contractor's primary responsibility is to keep the water clean! The contractor has to read, understand, and comply with all permit provisions. In New York, the NYSDOT is the permittee for all construction in State right-of-way (ROW). All SWPPP's must contain erosion and sediment control (E&SC) plans and Stormwater management plans. The DOT has 50 pay items. The contractor must designate an erosion control supervisor and the maintenance of facilities must be monitored and reported. He mentioned that no clearing, grubbing, or earthwork can occur until the E&SC plan is approved by the area engineer, and stop work orders on a project can be issued for non-compliance with the SWPPP or E&SC.

In response to questions, Mr. Bohuslav said that there are a significant number of states that have limits on the land areas that can be exposed to erosion.

It was remarked that utility company stormwater control can be an issue on DOT project sites, and several comments were made on this topic.

It was noted that there is a difference between big-box site development stormwater control processes and the type of controls used by DOTs on linear highway construction.

On the subject of NPDES manuals and training courses, a number of states responded in saying they have a manual or in the process of developing one. NC, AL, KS, NV, TX, NY, FL, GA and WS responded.

SD, WS, NY, TX, and PA all have joint-signatures required on Notice of Intent documents. The SOC has sent out a survey on this topic.

Hazardous Materials Procedures During Construction – David Moore, WsDOT: Mr. Moore briefed the SOC attendees on the history, geography, and hydrology of Washington State. He discussed the sensitive habitat for a number of endangered species that commonly exists next to DOT ROW, and how it is assumed that fill material along the urban shoreline of Seattle is polluted because of the many gasoline stations, dry cleaners, boat yards, and other potential pollutant sources that have been built and rebuilt in this area over time.

Mr. Moore then summarized WsDOT Hazmat procedures during construction that include the activities of identification, notification, on-site management to temporarily store, sample and test material to prevent the spread of problems, and disposal or reuse.

Polluted Legacy: Transportation Construction in Contaminated Sites of New York State – Jeanne Hewitt, NYSDOT: Ms. Hewitt provided a brief history, and a discussion of the geography and hydrology of New York. She mentioned that the port of New York City is the third largest in the nation, and its first wharf was built in 1643. She described how the Erie Canal changed the history of the State. Construction of the canal started in 1817 and its completion in 1825 linked the Great Lakes to the Atlantic Ocean. The canal cut transportation costs by 95% in the region. Today, Interstate 90 follows the general alignment of the canal.

Ms. Hewitt discussed New York's dense network of rail and road corridors and the activities along these corridors that generated contaminated waste. Smelters, kilns and coal gas plants all generated waste, and cyanide and other chemical pollutants were common. Ms. Hewitt's presentation discussed the different methods New York uses today to handle these waste contaminates.

Ms. Hewitt reviewed several ideas on what has work with success in New York. She described how contractors are given information on potential and known contamination discovered during design and contractors are required to provide a materials handling plan that is reviewed and approved by the DOT before work starts in contaminated areas. She discussed ECOPAC, which is New York's Environmental Commitments and Obligations Package for Construction and the special specifications for underground fuel storage tanks and contaminated soil. The contractor is often required to supply a 40-hour training class for its own and DOT personnel as a first item. The NYSDOT also presents a training class on dealing with hazardous wastes.

In response to questions, approximately 25% of the states said they had contractors and consultants on standby to deal with hazmat issues.

FHWA asked to what extent were hazmat issues investigated prior to construction. Mr. Moore, WsDOT, said if there is a concern in the EIS, then a Phase I Investigation, a literature search, is undertaken. If warranted, further efforts are made. Ms. Hewitt said a similar process is used in New York.

Electronic Submission of Contractor Payrolls – Renee Frisinger, TxDOT: TxDOT's Electronic Project Records System (EPRS) is designed to allow a secure electronic

submission of project documents and records. In the system's first phase, contractor submissions of electronic payrolls and automated monitoring reports for TxDOT personnel were enabled. EPRS Phase I functions consist of creating a payroll, and signing and submitting a payroll. Digital certificates issued through agreements with Verisign constitute a legal, binding signature.

Ms. Frisinger's presentation showed a number of screen shots from the new software. The EPRS is real-time on the TxDOT website. The system is formatted in CSV files, so payrolls can be created and then uploaded to TxDOT's EPRS in CSV file format.

The system will enable TxDOT to improve its auditing functions. Prevailing wage reports are of primary concern. In addition, the contractors will be able to better obtain reports on their own employees in the future, and prime contractors will be able to verify that subcontractors have submitted their weekly reports. Social security numbers are included in the reports, as required by the Department of Labor, but users are limited in their ability to access this information beyond the specific project payroll to which they have access. All contractors and subcontractors will require the use of the software.

The goal of the new system is to reduce the administrative burden on the Department, and save money for TxDOT and contractors.

Chairman and Vice-Chairman Topics

Steve DeWitt, North Carolina Turnpike Authority, Subcommittee member served as moderator for this session.

Construction Management Expert Task Group (ETG) Status of Activities – Steve DeWitt, NCTA: Mr. DeWitt briefly reviewed the accomplishments of the international scanning tour completed in 2004. The Scan included locations in Canada and Europe. A report has been written and published, and a number of ideas resulting from the scan are being implemented in the United States. Mr. DeWitt discussed the new definition of contract management, which is more comprehensive than that used in the past, and focuses on long-term project performance. He reviewed the upcoming activities of the ETG, which include implementation of a risk workshop, SHRP 2 activities, Quality Systems and an International Construction Management Conference.

Risk Assessment for Highway Construction – Bill Roberds, Golder Associates: Mr. Roberds explained that the problem with many projects is they do not come in on time and on budget. The average project is 15% over budget. A risk assessment can help identify, quantify and account for uncertain variables early on in the project delivery process. A risk assessment can help control the critical problems and opportunities, and establish reasonable budgets and project milestones.

Mr. Roberds discussed the risk-based approach to project scheduling in comparison to the contingency (traditional) based approach. The amount of uncertainty in a project is more clearly defined by a risk assessment. Before risk can be examined, there needs to be a baseline scope, strategy, and cost and schedule estimates. He pointed out that risk changes

with time. Environmental risks usually happen very early in the project development process. Mr. Roberds presented nine steps in the risk assessment process, and provided several flow charts of various construction projects that can be used in the risk assessment process. Risks vary by the project phase, and many examples were offered.

Based on his experience, Mr. Roberds said that risk assessment is an effective tool that can lead to a 5% savings in total project costs. Mr. Roberds offered a number of suggestions on the implementation of risk assessments, including do not limit the scope of the assessment to exclude sensitive subjects, ask the right questions, try to avoid the common pitfalls related to subjective assessments and try to ensure that probabilistic analyses are properly structured and conducted.

The following states said they are using a risk assessment process: CalTrans on the Oakland Bay Bridge; FDOT on I-4 and I-595; and WSDOT on CEVP projects up to \$10 billion.

Project Quality for Design-Build – Bob Burns, CH2M Hill: Mr. Burns began his presentation by asking the audience who had experience with Design-Build (DB) projects, of which half the group acknowledge they did have experience with DB.

Mr. Burns explained the first step with a DB project is to perform a risk assessment to consider cost, time and quality of the project. He talked about the need for manuals for each DB project, and the trend towards using the ISO 9001 process. The manuals describe a number of objectives for the owner in the execution of the specific project. Mr. Burns presented several WsDOT manual pages as an example. DB project manuals try to describe quality in operations, product controls and documentation. It was noted that the industry is moving towards electronic formatting and web-based solutions. Site Manager, an AASHTOware product, is one such product. He discussed the importance of well-defined QC/QA responsibilities of the agency and the contractor and construction quality documentation.

Coordination and communication are critical for DB projects. Regular task force meetings should be held. Checklists, inspections and test plans should be utilized and recording/reporting forms incorporated into the project in a digital format. Mr. Burns discussed “Hold Points” identified in the schedule to allow the owner agency the opportunity to examine work before activities progress. He described four resolutions for non-conforming work, which are remove and replace, repair, deduction and remain as-is.

Mr. Burns then described the 19 steps used by WsDOT to measure quality. He emphasized the need to have well-trained, dedicated quality personnel and stressed that quality improvement should always be a goal.

FHWA-WFLHD asked if the QC/QA process would be simplified in form for better understanding and administration. Steve DeWitt, NCTA, said there are efforts underway in this area and things are moving forward. CalTrans said that it is still performing most of the testing, except in the HMA and PCC areas. TX and NC are using QC/QA in HMA and PCC. Clark County, NV, conducts one agency QA test for 10 contractor tests.

In response to a question from FL, Mr. Burns said that planned quantities for testing are used in many construction contracts to assure that the contractors are performing enough tests. This was the approach for the COSMIX project in Colorado Springs, where the quantity of testing was better defined as a result of Colorado's T-REX project. Mr. Bohuslav, TxDOT, said that having sufficient testing to allow Delay-Fault testing statistical analysis to be performed has been beneficial to TxDOT.

AASHTO Draft Response to the NTSB – David Sadler, FDOT: Mr. Sadler, Chairman of the SOC Roadways and Structures Technical Section, made a presentation on the Subcommittee's draft response to NTSB recommendations made to AASHTO following the Colorado girder collapse that occurred on May 15, 2004. The draft AASHTO response to each NTSB recommendation was made known to the Subcommittee members. With input from the group, the draft responses were discussed, evaluated and further edited.

Larry L. "Butch" Brown, Executive Director of MDOT was the keynote speaker during the luncheon. He provided the SOC members with an overview of MDOT's financial accomplishments and the future needs for the agency, and highlighted what MDOT has done in response to the destruction created by hurricane Katrina.

After lunch, the Subcommittee's Technical Sections convened to develop their Final Work Plans. The information from these sessions is included in the individual Section Reports provided in Attachments B through F of this document.

SOC Members Final Business and Wrap-up Session

Gary Ridley, ODOT: Chairman

Mr. Bohuslav, Vice-Chairman of the SOC, called the session to order. A preliminary count of hands showed representatives from 27 states present. The meeting continued with presentations from the Technical Sections of their 2007/ 2008 Work Plans for the coming year.

David Ahlvers, MoDOT, and David Hoyne, VTrans, were acknowledged as the new Vice-Chair for Roadways and the new Vice-Chair for Structures, respectively, filling the two vacant positions in the Roadways & Structures Technical Section.

Cal Gendreau, NDDOT, announced that Ellis Powell, NCDOT, would become the new Chairman of the Contract Administration Section.

Following the Section Reports, Mr. Bohuslav recounted the states that were present. The final count was 29 states, short of the 35 states required for a quorum. As a result, the business meeting could not be officially convened.

Mr. Bohuslav thanked the entire SOC leadership team for its efforts throughout the year. He recognized each Technical Section Chair, Vice-Chair, and Secretary. He recognized Bob

Pieplow, CalTrans, as the Chairman of the Environment and Human Resources Section, who took over the position in early summer, and Thomas Pelnik, VDOT, who will become the new Chairman of the Research Steering Committee replacing Byron Coburn, VDOT. A complete listing of the current SOC Officers is provided in Attachment A of this document.

Mr. Bohuslav also recognized Chris Schneider and Steve Mueller of FHWA for their assistance and note taking for the SOC meetings throughout the year.

Mr. Bohuslav then recognized George Raymond, ODOT, for presenting a resolution originally passed by the AASHTO Subcommittee on Design to recommend the establishment of a joint technical committee on electronic engineering data. Mr. Raymond spoke in favor of the resolution as submitted. See Attachment G of this document for 2007 SOC resolutions.

Mr. Bohuslav accepted Maryland and Washington, D.C. as candidates for hosting the 2010 SOC summer meeting. The two agencies were not represented in Biloxi; however were included on the ballot because both agencies submitted a request for consideration.

Lou Cannon, ConnDOT, made a presentation for the purpose of Connecticut hosting the 2010 SOC summer meeting. ConnDOT sponsored the SOC in 1994, and will do so during the full AASHTO meeting in the summer of 2008. ConnDOT proposed holding the meeting at the new convention center in Hartford. There will be a technical tour to a new bridge on the billion-dollar I-95 corridor.

David Hoyne, VTrans, presented a video on Vermont "Always in Season" to encourage SOC attendees to consider having the 2010 SOC summer meeting in Vermont. The meeting would be held in Burlington, on Lake Champlain. It was noted that the area has good airport service.

By a vote of the Subcommittee members present, Vermont was selected as the 2010 summer meeting location.

Mr. Bohuslav announced that Julius "Butch" Wlaschin was selected as FHWA's Director, Office of Asset Management, and will become the Secretary of the AASHTO Subcommittee on Construction.

The 2008 SOC summer meeting will be August 3-7, 2008, in San Antonio, Texas. The meeting will be held at the Crowne Plaza Riverwalk Hotel in downtown San Antonio. Mr. Bohuslav noted that San Antonio is the 8th largest City in the USA, and there are wonderful shopping, dining and cultural opportunities for all attending.

The remainder of the afternoon was used as a Questions and Answers session. Mr. Bohuslav then presented several questions to the SOC:

1. A question concerning what to do with encroachments. The CFR requires that ROWs be free of encroachments. In FL, some businesses use the ROW for parking, but FDOT does not promote the issue unless there is a specific need.
2. On how many states have a formal letting collusion analysis processes. KS and VA acknowledged that they do. NC said the AASHTO bid rigging system reviews bidding patterns in the State. TX has a section that performs reviews.
3. On prompt payment issues. KS and MO said zero-retainage is working well. In IN, zero-retainage has hindered the project closeout process, and is starting a contractor rating system. AR has zero-retainage, and there has been some challenge for the agency in getting final payments out on DBE related payments. TX holds a portion of the mobilization charges. GA has zero-retainage, but the main issue is assuring that the prime contractor pays its subcontractors. In IA, there is only a maximum retainage of \$30,000, with the prime certifying that the subs have completed their work. OK does partial acceptance of subcontractor work, but it remains a responsibility of the prime until final acceptance. FL allows partial acceptance, but it is rarely used. In AZ, the subs have pushed for prompt payment from the primes, but the resident engineers tend to hold back quantities. OK has considered holding a separate non-biddable bid item for project finalization/completion. MS has zero-retainage as long as the primes are paying the subs. CA has a contract provision that allows withholding if the contractor is behind schedule. SC has zero-retainage and noted that it is difficult to recover funds if quantities have been overpaid. WI has a system that allows all subs to see when the prime has been paid. In NC, there is no retainage on federal projects, but there is retainage on state-only projects.
4. On how quickly do states pay out mobilization. The amount in NY is 4% and AR has 5%. Most states are 10%. Most states pay within one or two months, but some are paid through the life of the contract. In IN, up to 5% is paid as mobilization; any overage amount is paid as demobilization.
5. AR asked about the various techniques that states are using to get the primes to pay their DBEs? In response, most states said final payment would not be made until DBE payments were completed.

Gary Ridley, SOC Chairman, offered closing comments to the attendees. He said that many do not consider the importance of the highway and transportation system when we [the highway community] do our jobs well. He remarked, "A lot of people go to school to make money; most public servants go to school to make a difference." Mr. Ridley thanked everyone for attending, and for the work that we all do.

The meeting was adjourned at 5:00 pm.

ATTACHMENTS

Attachment A – AASHTO SOC Officers and Meeting Attendance List

Attachment B – Contract Administration Section Report

Attachment C – Roadway and Structures Section Report

Attachment D – Computers and Technology Section Report

Attachment E – Environment and Human Resources Section Report

Attachment F – Research Steering Committee Report

Attachment G – 2007 SOC Resolutions

Attachment H – FHWA Meeting Minutes

Attachment A

AASHTO SOC Officers and Meeting Attendance List

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Revised: August 2, 2007

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2007 Summer Meeting, Biloxi, Mississippi
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Attachment B

Contract Administration Section Report

**Contract Administration Section
Meeting Minutes
AASHTO Subcommittee on Construction
July 30 and August 2, 2007 – Biloxi, Mississippi**

2007-2008 Section Leadership

*Chairman – Ellis Powell, North Carolina DOT
Vice-Chairman - Jeff Benefield, Alabama DOT
Secretary - Jerry Yakowenko, FHWA*

Minutes

Mr. Gendreau welcomed the Subcommittee members and guests to the 2007 Contract Administration Section meeting. 37 representatives (including 13 State DOTs) attended the meeting.

2006-2007 Work Plan Accomplishments

The first order of business was a review of the status of the 2006-2007 Section work plan. The following is a brief summary of the status and accomplishments of the work plan items:

- 1) *Develop a report on “Current Strategies to Address Increased Highway Construction Costs and Reduced Competition”.*

The [April 2006 AASHTO / FHWA Survey on Construction Cost Increases and Competition](#) was posted on [FHWA’s Highway Construction Cost Increases and Competition Issues](#) web site.

At the request of the SOC Chairs, the members of the Contract Administration Section completed a report summarizing the March 2006 survey responses for Mr. Sanderson’s use at the October 25, 2006 Standing Committee on Highways meeting.

- 2) *Maintain the [“Primer on Contracting for the 21st Century”](#).*

This document was revised in 2006. The Section should plan to update this every three years. The next update is planned for 2009.

- 3) *Update information on State use of price adjustment clauses*

FHWA collected information from the SOC members in August 2006 to update a spreadsheet concerning the current use of price adjustment clauses.

4) *Liaison with the FHWA / AASHTO / Industry DBE Work Group –*

A meeting of the FHWA / AASHTO / Industry DBE Work Group took place on October 26, 2006 at AGC's Office in Washington DC. Steve DeWitt (North Carolina Turnpike Authority, Roc A. Stacey (Nevada DOT / AASHTO Committee on Civil Rights) and Jerry Yakowenko (FHWA) represented AASHTO and the SOC.

5) *Develop program for the 2007 SOC meeting. This year's program includes:*

- Evaluation and Assessment of Liquidated Damages – Wesley C. Zech, Auburn University
- Quality Assurance, a Look to the Future – John D'Angelo, FHWA
- Choosing the Best Project Delivery Method – Using a Selection Tool – Sidney Scott, Trauner Consulting
- Post Katrina Emergency Contracting – Todd Jordan, Mississippi District Maintenance Engineer
- Cost Savings Measures - Florida DOT – David Sadler, FLDOT; Missouri DOT – David Ahlvers, MoDOT; ARTBA – Edward Nyland, President of business Development, George Harms Construction Co., Inc.; AGC – Scott Williams, President, Hamilton Construction Company.

2007-2008 Work Plan

1) *Update spreadsheet on State DOT Use of Price Adjustment Clauses* (Jerry Yakowenko- FHWA) FHWA will email all State DOTs and request that they update their information on a spreadsheet that summarizes the current use of price adjustment clauses.

2) *Current Practices for Cost Containment* (such as bid alternates, contract bundling, VE reviews, etc.) (Linea Laird- WSDOT, Claude Oie – Nebraska DOR, , Gene Hoelker- FHWA RC, Jerry Yakowenko – FHWA-HQ)

3) *Approval Authority for Contract Change Orders / Time Extensions / Scope* (Greg Mayo – Georgia DOT, Jeff Benefield – Alabama DOT, Cal Gendreau – North Dakota DOT, Lewis Harden – FHWA - Alabama, Craig Actis – FHWA RC)

4) *Current Practices for Fuel and Asphalt Cement Price Adjustment Clauses* (Ellis Powell- NC DOT, Linea Laird – Washington State DOT, Jerry Yakowenko – FHWA).

5) *Liaison with the FHWA / AASHTO / Industry DBE Work Group* – Jerry Yakowenko and Ellis Powell volunteered to participate in coordination activities.

6) **Develop a program for the 2008 SOC CA Section meeting.** Potential topics and speakers include:

- *Bonding / Surety issues* - general surety perspectives, bond ratings, surety risk, consequences of non-performance, bonding limitations on major projects, risk analysis for bonds that do not cover full contract amount, bonding limitations on long-term projects such as warranty or design-build-warranty projects) (potential speakers: National Surety Bond Producers or Surety Association of America; prefer a surety broker)
- *Case law on inclement weather delays* (potential speakers: Mike Loulakis, Cordell Parvin, etc.)
- *OIG Fraud speaker*
- *Cost Containment strategies*

The Section members also discussed potential work plan items for certain subjects, but elected not to pursue these as work plan items for the coming years. These items include:

- Perform a follow-up survey for the March 2006 April 2006 AASHTO / FHWA Survey on Construction Cost Increases and Competition (AASHTO plans to initiate a revised survey in August 2007),
- Issues associated with contractor's insurance certificates (general liability and workman's compensation),
- Contractor risk reduction strategies,
- Contractor quality management procedures for workmanship,
- Calculation of liquidated damages – after a short discussion of Dr. Zech's report for Alabama DOT on liquidated damages, the Section members agreed that further work was not warranted,
- Performance specifications, and
- Procedures for calculating road-user costs.

New Section Chair

Ellis Powell with North Carolina DOT will be the Section Chairman for the coming year.

Construction Contract Administration Related Research Needs

Mr. Benefield led a discussion of construction management / contract administration research needs. The section members reviewed the list of research items discussed at last years meeting including:

1. Cost / Benefit analysis for innovative contracting techniques
2. Effectiveness of alternate pavement bidding procedures
3. The effects of time-related incentive/disincentive provisions on quality and long term performance
4. Issues relating to single-bid contracts
5. Legal issues associated with the use of liquidated damages
6. Innovative ways to use road user costs to provide increased contractual incentives
7. Quality of consultant work
8. Bonding/ surety requirements for warranties

9. Comparison of bid prices versus engineers estimates related to the time of the year and State DOT letting cycle
10. Green highways / recyclable products
11. Innovative cost cutting techniques (practical design)
12. Synthesis on the definition of “substantial completion”
13. Synthesis on inefficiency claims
14. Synthesis on pavement markings and applications
15. Synthesis on proprietary issues for materials
16. Cradle to Grave Project management
17. Life Cycle Cost Determination beyond pavements
18. Cost Estimating for DB Project
19. Value Engineering for DB
20. Scope Development for DB
21. Materials Acceptance
22. Mitigating Barriers to Bonding/Insurance of Small Businesses
23. Methodologies for Post Construction/Maintenance Feedback
24. Risk Allocation (underway by ETG)
25. Synthesis of Innovative Cost Cutting Tech
26. Innovative Construction Techniques Regarding Safety
27. Costs Associated w/ Awarding Contracts
28. Weather Delays on Cal Day/Completion Date Projects
29. Reduced construction windows/ traffic best practices

After some discussion, the CA Section members voted on their top research needs. The following subjects were recommended for further consideration by the SOC Research Committee members:

- 1) Synthesis on how States determine the On-Time Performance of Contractors
What are States using to track or evaluate a Contractor’s performance from a time standpoint? CPMs? Bar graphs? Simple comparison of money earned vs. time elapsed? Other?
- 2) Synthesis on Contractor QC Management Practices
What methods are States using to require Contractors to follow the best QC management practices? Are written QC procedures required? Are construction tolerances shown in specifications followed by DOT QA inspections? Other?
- 3) Summary of Legal Precedents involving Contract Time charges
What case history exists for lawsuits involving DOTs being challenged over time charges, LD assessment, I/D assessment, etc?

During the Thursday afternoon Contract Administration Section Meeting, Mr. Benefield reported that the Research Committee recommended that research item #3 – “Summary of Legal Precedents involving Contract Time Charges” would move forward. Mr. Benefield will prepare a research statement for submittal.

Other Issues

The Contract Administration Section members also discussed potential topics for the International SCAN program. One member inquired if an asphalt laydown SCAN had been performed. However, it was mentioned that a recent SCAN of asphalt cement warm mix technology had recently been conducted. There were no other suggestions for the SCAN program.

Attachment C

Roadway and Structures Section Report

**Roadway and Structures Section
Meeting Minutes
AASHTO Subcommittee on Construction
July 30 and August 2, 2007 – Biloxi, Mississippi**

2007-2008 Section Leadership

*Chairman – David Sadler, Florida State DOT
Vice-Chairman, Structures – David Hoyne, Vermont DOT
Vice-Chairman, Roadways – David Ahlvers, Missouri DOT
Secretary – Gus Shanine, FHWA*

July 30, 2007 Breakout Session

Dave Sadler, Florida DOT, is the new chair of the task force. He introduced himself, and asked the people in the room to also perform self-introductions. Mr. Sadler asked that everyone sign-in (See the attached list of attendees). He noted that the section needs 2 vice-chairs: one for roadways and one for structures – and he made request for volunteers. Mr. Sadler then began reviewing the 6 work plan items for the section in 2006/2007.

1) Inspectors use of time: Steve Mueller and Dan Liston reported that the development of a survey is proceeding, but that the survey has not been distributed. It was recommended that this work plan item be continued into the 2007/2008 work plan. (Dan Liston Will provide an electronic copy of the survey results)

2) Quality Assurance: Greg Doyle from the FHWA reviewed the results of the summary survey for “Best Practices for Inspecting and Measuring Quality of Workmanship.” The survey consists of 6 questions and 20 states responded to the survey. It was recommended that the survey be redistributed to collect more data. It was also suggested that the information for improvements gathered as a result of the survey would be included in the new NHI course titled Project Level Workmanship (See Attachment #1 for survey results).

Mr. Doyle then presented a draft report on “Transportation Construction Quality Assurance Programs” which the committee developed for the Section to consider. This excellent document is not quite complete, and Mr. Doyle recommended continuing this work plan item forward into 2007/2008 (See Attachment # 2 for the draft document).

3) Pavement Markings: Best Practices white paper. Terry McDuffie has gathered data, but is still working on compiling the report into a usable format for the various DOT agencies. His task is approximately 75% complete. Mr. Jason Humphrey has volunteered to assist Terry in this effort. Terry recommended continuing this work plan item into 2007/2008.

4) Catalogue of Reviews (constructability, VE, contractor solicited input, and post construction feedback) to improving the quality and selection of plan sets: Julio Alvarado reported that a survey is being developed and will be distributed in 2007/2008. Rob Elliott will assist Julio in

determining what they should include in the survey. Find out what is being done, what is working and what are the best practices.

5) Survey on Specialty Construction Inspection (ITS, Bridge Painting) Dan Liston distributed a copy of the survey results and noted that 22 states had responded. The survey data is present, but there needs to be a summary report, and this will be a future work plan item. High-scoring needs may be distributed to the TCCC for potential class development, however it was noted that some of the specialty areas involve rapidly changing technologies that could render classes out of date before they hit the street. Mr. Sadler will transmit the survey results to the Workforce Development Section and others.

6) "TidBits" Newsletter – Mr. Sadler reported that TidBits was not published this year. Upon discussion, it was determined to take this item off future work Plans. In lieu of this, Mr. Sadler suggested that the AASHTO SOC post a list of the individual DOT websites, and that this be included in the 2007/2008 work plan. It was suggested that a one-stop shop construction website that comment on all construction issues should be developed. Rob Elliot referred to probably take advantage of this website: WWW.fhwa.dot.gov/webstate.htm

Mr. Sadler reported that as a result of a bridge girder bracing failure in Colorado, AASHTO has asked the Section to develop a specification on bracing, and to include the results of the NTSB report recommendations. He presented a draft of a letter responding to the NTSB request. The NTSB had asked for some major changes in the AASHTO Manual on Roadways, which does not include bridges. Mr. Sadler suggested that the NTSB concerns should be addressed in another document, the LRFD Bridge Manual. He prepared draft language to be included in the letter, which was discussed by the Section members present. Based on the discussion, some of the language of the letter will be amended by Mr. Sadler prior to forwarding the draft letter to the SOC leadership (See Attachment # 4).

After a break, Mr. Sadler reviewed the status of the research projects that were submitted from last year. The project on nighttime construction project quality was originally ranked #114 because people thought it was more related to safety and other items. It was discussed that some revisions to the proposal might be warranted in order to improve the ranking. The project has been selected for contingency funding.

Mr. Sadler requested additional ideas for research problem statements. In Montana, roundabouts are an issue. There are some construction issues that could be resolved through research. It was mentioned that jointing details in concrete roundabouts are critical.

A second idea was to research the cracking mechanisms in concrete pile columns.

David also discussed the idea of end-result specifications for durability of Portland cement concrete pavement materials and specifications that can be used for in-place pavement. The ASTM C-666 specification on freeze-thaw durability does not help the Southern states.

Wet-sticking rebar for coping MSE walls and parapet walls was identified as an issue in construction. There were many voids noticed.

There have been some premature failures of “Superpave” mixes. The long-term performance of some pavements is questionable. Superpave is not always functioning as superpave. Gyration is being lowered. Minimum asphalt content specifications are being instituted. Segregation is an issue. Sealer-related bumping is an issue.

Dan Liston mentioned that there is a moratorium on plastic pipe application. Pipe issues and service life determinations of the pipe materials are an issue in Florida.

Certification of safety officers for private contractor personnel is an issue in VA, and they now use another term to define these responsibilities under another category. This was driven by the insurance companies.

High Performance Concrete is still experiencing early age cracking.

August 2, 2007

Mr. Sadler opened the Section meeting at 1:30 pm.

The first order of business was to announce the names of the two new vice-chairmen: David Alhvers, Missouri, Vice-Chair for Roadways; David Hoyne, Vermont, Vice-Chair for Structures.

Mr. Sadler then announced the results of the Research Committee Meeting. One of the topics that was discussed in Monday’s meeting

The section then discussed the 2007/2008 Workplan Items, and agreed on the following Work Plan:

2007/2008 Work Plan

1. Amount of time inspectors spending time not inspecting –Emphasis of this is to review the amounts of time inspectors are spending doing work other than inspecting to determine if there are areas that can be improved upon by determining if there is value in the non-inspection work being done. Are there opportunities to reduce paperwork or data collection? What parts add value? Inspector Time Use Survey to be complete by December 2007 **Joint effort Dan Liston and Steve Mueller.**
2. Construction workmanship and QA program. Obtain and summarize current best practices for inspection and measurement of workmanship. Prepare recommendation QA program guide (which includes workmanship) for SOC. DOT additional surveys on QA by end of September, finish paper by December **Greg Doyle**
3. Pavement markings – Scope of effort entails a white paper describing the best practices being used around the country(75% complete). Will look at removals of existing striping, transition areas, and installations of new stripes. **Joint effort Jason Humphrey with Terry McDuffie**

4. Develop a catalogue of various practices of reviews (constructability, VE, Contractor solicited input, and post construction feedback) to improving the quality and effectiveness of plan sets. Market the result of this effort to DOT's. Catalog Various Best-Practices: Complete by December 2007. **Julio Alvarado, Assist from Rob Elliott**
5. Conduct a survey to determine how DOT's are accomplishing specialty construction inspection (ITS, Bridge Painting). Specifically determine if it is through outsourced means or State resource, the type of certification process used (if any), and the relative cost difference in outsourced services compared to agency staff. Certification findings complete (Dan) – forward to TCCC to decide how to move forward(Rob Elliot) **Dan Liston, Assist from Rob Elliott**
6. Girder Bracing. David Sadler will include all comments received in the draft and will coordinate with the structure committee to finalize the report. **David Sadler**
7. Mid-year meeting webinar in December **Rob Elliott**

Potential Presentation Topics for Next Year:

- Perpetual Pavements – In Illinois, Dr. David Timm, Auburn
- Use of Carbon Wrapped Fibers for Bridge Repairs to existing structures
- Precast/Prefab pavement slabs – NY, Texas, Georgia, Missouri
- Performance Based Specifications – Highways for Life, Idaho, GA; VMS in GA,FL
- Deck Failures (cracking/delamination) Missouri
- Fly Ash – Purdue, Univ of Illinois, Univ of Colorado – Charles(CO), Steve M.
- Hoover Dam composite Steel/Concrete Bridge – Julio contact CFLHD project Engineer
- Non-Redundant foundation design (Monoshaft foundation,12' diameter drilled Shafts)
- Bridge Deck Joint Replacement – What Works?
- Historic Bridge Restoration Context Sensitive vs. Replacement – VA, FL
- Pavement Surface Characteristics – Rejuvenation, noise, splash & spray, friction, ride
- Use of High Early Concrete Mixtures in making repair on concrete pavements and bridge decks– is type 3 cement going away?
- Smoothness Specifications in Colorado (Profile software)
- Use of alternative testing devices – maturity meters, air voids analyzers
- Inverted Base Pavement – (Gus Shanine)
- Incident Management – unified commands, reactions to events, plans. Jason Humphrey, Policies and relationship to homeland security.
- Self-Consolidating Concrete – who is using it, how – prestressed, cast-in-place. David Hoyne

Attachment D

Computers and Technology Section Report

**Computers and Technology Section
Meeting Minutes
AASHTO Subcommittee on Construction
July 30 and August 2, 2007 – Biloxi, Mississippi**

2007-2008 Section Leadership

*Chairman – George Raymond, Oklahoma DOT
Vice-Chairman – Jeff Gower, Oregon DOT
Secretary – David Hawk, FHWA*

2007-2008 Work Plan

1. Continue to provide information to AASHTO website.
 - Continue to provide updates to national website and the National Highway Specification Website. Establish a roster of responsible individuals in each state to update Specification Website
 - Participate in FHWA effort to enhance National Highway Specification Website (George Raymond and Ken Jacoby)
 - Pursue reorganization and update of AASHTO SCOC Website to increase ease of navigation (Jim McDonnell, George Raymond, David Hawk)
2. Continue to provide leadership, extension, and guidance for the enhancements of the AASHTO Trans•Port software and CRLMS. (George Raymond, Jim Johnson, Brad Parks, Ken Jacoby, Billy Owen)
3. Support TCCC in the development of one-day training module for stakeless construction. Working with Doyt Bolling, ITAP Utah State to develop a Short one day or half day course. Example specifications are listed on the National Highway Specification website. (Jeff Gower, Douglas Townes, Tom Ravn, Don Greuel)
4. Provide representation to the following committees:
 - a. NICET steering committee (Jeff Gower, Douglas Townes)
 - b. Participate in the Electronic Engineering Data Technical Committee. Continuity of Planning, Design, Construction, Maintenance documentation. Sharechive, SiteManager, etc. compatibility (Brian Blanchard, Greg Mayo, Victor Barbour)
 - c. AASHTO TIG (Brian Blanchard)
5. Survey state of the practice in electronic project documentation, as-built documentation, and archiving (types of native files – scans or editable documents). Brian Blanchard draft questions to share with group. (Zac Wiginton, Brian Blanchard, Douglas Townes, Ken Jacoby)

6. Participate in promoting traffic modeling (e.g. CA4PRS) efforts to improve work zones in urban corridors at macro level. Identify need for a number of workshops including design and construction engineers to increase awareness of modeling software and technologies to integrate into plans and specifications. Notes from last workshop will be transmitted to committee. Based on notes scope of future workshops can be formulated. (Jeff Gower, Kathy Petros, Ken Jacoby)
7. Participate in teleconference (scheduled for October) for NCHRP 20-5 Topic 38-02 “IT Best Practices for Design and Construction” (George Raymond and Ken Jacoby)
8. Develop a white paper to identify opportunities and challenges for automation of materials production and placement during construction including production (e.g. bar coding, RFID chips) and testing (e.g. maturity metering): where we are today, what technology and specifications are currently available, and where we would like to go. Start with an outline. (FHWA RC, Tom Deddens, Don Greuel)

Potential Presentations

- Minimizing congestion from construction and maintenance operations through work zones using traffic modeling techniques e.g. compliance with Work Zone Final Rule (Traffic Management Plan) and smart work zones
- Concrete monitoring (maturity metering) for acceptance testing? (OR, MN, IA, IN) Dennis Kuchler will investigate the states utilizing maturity metering (Keith Platt, AASHTO TIG, may have information)
- AASHTO TIG Update – General presentation with panel of SCOC participants (Brian Blanchard)
- Successful practices of uses of AASHTO Trns•Port software construction functions (Jim Johnson, Brad Parks)
- Research project on radio frequency identification tags in HMA. Project being sponsored in MD (University of Maryland). (Kathy Petros)
- Final result of National Highway Specification website. Example of integration of specifications and construction manual

Machine controlled grading, paving, etc. – Potential Speaker: Professor Vonderohe, University of Wisconsin – Madison

Attachment E

Environment and Human Resources Section Report

**Environment and Human Resources Section
Meeting Minutes
AASHTO Subcommittee on Construction
July 30 and August 2, 2007 – Biloxi, Mississippi**

2007-2008 Section Leadership

*Chairman – Robert Pieplow, CalTrans
Vice-Chairman – James Tynan, New York State DOT
Secretary – Jeff Lewis, FHWA*

Summary of Activities and Accomplishments from November 2006 to September 2007

Environmental Stewardship

- 1) An updated survey of SWPPP payment (lump sum and/or bid items) was conducted to determine the various methods of payment being used. The findings were presented to the SOC.
- 2) Participated in NCHRP 25-25 Environmental Stewardship project, which is an ongoing plan by Parsons Brinckerhoff to create a “Best Practices Library from the Environmental Stewardship Practices in Construction and Maintenance Compendium.” Status of this effort was presented to the SOC.

Work Zone Safety

- 1) Performed an updated survey of state DOTs on practices for certifying or pre-qualifying construction staff, both state and contractor, for implementing Work Zone Traffic Control and presented to the SOC.
- 2) Performed an updated survey of state DOTs on responsibilities for owner or contractor developed Traffic Control Plans (TCP); how traffic control is paid (lump sum, contingent sum, unit price); use of temporary markers for centerline during construction; removal of markings; Incentive/Disincentive (I/D) clause; and other guidance. The results were presented to the SOC.
- 3) Performed an updated survey of state DOTs on practices for using law enforcement in construction zones and the effectiveness/enforcement value of fines (including double) in work zones. The results were presented to the SOC.

Human Resources

- 1) Participated in the development of a National Highway Institute (NHI) course on Workmanship in Construction through the Transportation Curriculum Coordination Council (TCCC) and participated in the National Institute for Certification in Engineering Technologies (NICET) to develop highway construction certification programs. Status was reported to the SOC.

Names of Other Committees Involved or with an Interest in Each Activity:

None

Dates and Locations of Future Committee Meetings:

Quarterly Status Teleconference Meetings are being initiated. The first 07/08 Status Meeting will be held the first week of October.

2007-2008 Work Plan, August 2, 2007

Environmental and Human Resource Section (Bob Pieplow, CalTrans):

Environmental Stewardship

- Selection of appropriate BMP's for specific applications - Auburn University. Partner with Center for Environmental Excellence. Lead: Barry Fagan.
- Dust off proposed Domestic Scan for Storm Water and Pollution control (SWPPP & NPDES) and find status of ever completed. Lead: Jeff Lewis – FHWA
- Survey of contractors requirements to have a point environmental representative similar to traffic control supervisors for work zones. Lead: Jeff Lewis – FHWA
- Participate in NCHRP 25-25 Environmental Stewardship project. Lead – Jim Tynan

Work Zone Safety

- Survey of positive protection used in mobile operations for highly mobile work zones (IE, striping operations, BALSIBEAM). Lead: Bernie Kuta – FHWA
- Feedback of new FHWA work zone implementation regulations. Lead: Bernie Kuta (Jeff Lewis) – FHWA
- Report from Texas Transportation Institute (TTI) on new/innovative work zone items that FHWA will help market. EHR section members to review/comment on the report to help it address state concerns/buy-in. Byron Coburn – VA, Chuck Correa – AK, Lead: Bernie Kuta – FHWA

Human Resources

- Attend meetings of the Transportation Curriculum Coordination Council (TCCC) and coordinate issues of interest. Douglas Townes/Chris Newman - FHWA
- Survey the states to see what they are presently doing to overcome cultural/ language/etc. differences in determining how they can be adequately staffed and trained. Lead: Byron Coburn – VA, Jim Tynan – NY
- Survey of states on recruiting/retention of employees. Allow incentives (IE, Missouri), recruiting, VE studies % savings, bonuses, performance incentives, coop programs (allow benefits early). Lead: Byron Coburn – VA, Jim Tynan – NY
- Participate on a pilot panel for a new National Highway Institute (NHI) class on “Environmental Factors in Construction.” Lead: Jeff Lewis - FHWA

From 2007 AASHTO SOC Annual Meeting Minutes

Environmental and Human Resources Section, Bob Pieplow, Caltrans:

Mr. Pieplow discussed the Section's 2006-2007 accomplishments in the areas of Environmental Stewardship, Work Zone Safety and Human Resources.

Under Environmental Stewardship:

- A survey of SWPPP payment (lump sum and/or bid items) was conducted to determine the various methods of payment being used. The findings were presented to the EHR attendees.
- Status of participation in NCHRP 25-25 Environmental Stewardship project was presented to the EHR attendees in which there is an ongoing plan by Parson Brinckerhoff to create a “Best Practices Library from the Environmental Stewardship Practices in Construction and Maintenance Compendium.”

Under Work Zone Safety, a survey to determine:

- (1) Practices for certifying or pre-qualifying construction staff of both the state and contractor for implementing Work Zone Traffic Control,
- (2) Responsibility for Traffic Control Plans (owner or contractor) and how traffic control is paid for (lump sum, contingent sum, unit price) were completed and,
- (3) Practices for the use of law enforcement to enhance safety in construction zones, and the effectiveness/enforcement value of fines (including double) in work zones.

Note this survey was a resubmittal of the previous year’s survey to the States with a few more questions to get a better return of responses. Findings were presented to the EHR attendees.

Ongoing Human Resources initiatives include:

- TCCC coordination - Douglas Townes/Chris Newman - FHWA
- NICET Status – Douglas Townes/Chris Newman – FHWA

Agenda 2008

- Report out on the above items

Presentations being considered:

- Implementation of work zones survey findings related to new FHWA past years rule making implementation for a TMP – Kevin Radel - CO
- Industry capacity expansion – Bob P. – CA (labor availability, material availability, env permits, etc.)
- SWPPP – Bob. P- CA
- Status of DBE workforce (BOWD – Business Opportunity Workforce Development). FHWA has allowed grants for 22 locations. Frank Issler – FHWA (Lewis to coordinate).

Anything new in TCCC? Julio

Attachment F

Research Steering Committee Report

**Research Steering Committee
Meeting Minutes
AASHTO Subcommittee on Construction
July 31, 2007 – Biloxi, Mississippi**

2007-2008 Section Leadership

*Chairman – Thomas Pelnik, Virginia DOT
Secretary – Katherine Petros, FHWA*

ACTION ITEMS are indicated in **bold**.

The 2007 meeting of the AASHTO Subcommittee on Construction (SOC) Research Steering Committee was convened at 6:35am on July 31, 2007 in Biloxi, Mississippi. Those in attendance are listed at the end of the minutes. The Chair, Byron Coburn (Virginia DOT), began the meeting by announcing that he will no longer be the chair and that Tom Pelnik (Virginia DOT) will be the new chair.

NCHRP Update

Crawford Jencks (TRB/NCHRP) updated the group on TRB and NCHRP activities. On the whole, projects submitted by the SOC had pretty good success last year. Two research problem statements had been submitted by the SOC. One of those projects, Analysis of Nighttime Construction Activities and Impacts to Safety, Quality, and Productivity is on the NCHRP contingency list (#D-02), should additional funding be forthcoming. NCHRP believes that it may get advanced as they learn the amount of funding for FY08. The other project which the SOC submitted on bid selection was not selected outright, however a related project on Evaluation of Pavement Type Selection Processes Including Alternate Design / Alternate Bidding (NCHRP 10-75) was selected, and it is expected that aspects of the SOC-submitted project will be rolled into it. The SOC also submitted three proposed projects as synthesis or 20-7 projects last year. There was no activity in the 20-07 program, but for the 20-05 synthesis program, the project on Performance Based Contractor Pre-qualifications, US and International (Topic 39-04) was selected. Another of the proposed syntheses on maintenance of traffic when the construction window is limited was selected as an alternate.

Jencks also briefed the group on other activities at TRB/ NCHRP. He discussed SHRP II and the fact that many of the projects in the Renewal track in particular will relate to the SOC. Information can be found on the TRB website at www.trb.org/shrp2.

Jencks also discussed the domestic scan program. NCHRP has an RFP out to manage that program that includes five initial scans. The five scans that have been identified are: 1) Project delivery management, 2) Accelerated construction techniques, 3) Winter maintenance, 4) Regional, multi-agency traffic signal operations management, 5) Bridge management decision making.

With respect to ongoing NCHRP research, project 10-58(2), “Using Contractor-Performed Tests in Quality Assurance” is just finishing up. The NCHRP is determining how best to present the results. NCHRP 10-58(1), “Time-Related Incentive and Disincentive Provisions in Highway

Construction Contracts” is underway. These two projects and the nighttime construction project discussed above are the three projects that have been submitted from the SOC Research Plan. The SOC research plan was printed as NCHRP Web Document #51 and can be found at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w51.pdf.

Finally, Jencks informed the group that NCHRP has a replacement for Tim Hess. His name is David Reynaud.

The Chair then asked the vice chairs representing the various SOC technical sections to report on the research topics identified in their section meetings.

Technical Section Research Topics

Contract Administration Section - Jeff Benefield (Alabama DOT)

The Contract Administration section identified three possible topics. All would probably be synthesis studies.

- 1) Synthesis on how States determine on-time performance of contractors: What are States using to track or evaluate a Contractor’s performance from a time standpoint? CPMs? Bar graphs? Simple comparison of money earned versus time elapsed? Other? There is a Standing Committee on Quality (SToQ) effort to look at performance measures and they looked at on time/on budget delivery. States compared and matched data. They went to the top five performing states. It’s on the AASHTO SToQ website at <http://www.transportation.org/sites/quality/docs/Comparing%20State%20DOTs.pdf>.
- 2) Synthesis on Contractor QC Management Practices: What methods are States using to require contractors to follow the best QC management practices? Are written QC procedures required? Are construction tolerances shown in specifications followed by DOT QA inspections? Other? What would enhance the SHA’s ability to not have to constantly look over the contractor’s shoulder. The AASHTO Subcommittee on Materials (SOM) is requesting research on quality systems and alternate systems and how they work to achieve QA objectives. They would welcome SOC endorsement of this proposed research.
- 3) Summary of legal precedents involving contract time charges: What case history exists for lawsuits involving DOTs being challenged over time charges, liquidated damage assessment, incentive/disincentive assessment, etc? Alabama has a significant number of liquidated damage suits. The tech section may want to explore sending out surveys on these topics.

Roadways and Structures Section – David Sadler (Florida DOT)

Sadler solicited hot button issues from his technical section. As a result, they had eight different ideas that could possibly be research. They were:

- 1) Roundabout designs and construction: synthesis and survey of practice. FHWA may be updating their guidance. **Jim McDonnell will look into it.** Also, NCHRP has an active project on roundabouts.
- 2) Hairline cracking in long prestressed members – what research is available?
- 3) End result tests for concrete pavement durability beyond freeze thaw.

- 4) Wet sticking rebar into parapets on MSE walls.
- 5) Superpave what's working, what's not, what are people doing that are calling Superpave?
- 6) Use of optional pipe for drainage and pipe liner with respect to long-term effects. NCHRP may have a new project on that. NCHRP has a project about to start on culvert rehabilitation which may or may not relate.
- 7) Consultant maintenance of traffic officers versus calling them safety officers: how does this effect liability
- 8) High performance concrete early cracking and ways to remedy it.

Environment and Human Resources Section – Jim Tynan (New York State DOT)

They have three items for consideration.

- 1) They had previously submitted a problem statement on turbidity. They would like for it to be reconsidered for submission again this year.
- 2) Workzone safety: Determine the effectiveness of speed prevention measures, particularly, dynamic warning signs and law enforcement dedicated to the work zone. Are they helping? The University of Alabama has looked into this. New York and Virginia have some anecdotal findings, but nothing definitive.
- 3) Survey of storm water best management practices. Why should the agency be dictating how to do it, when there's a lot of information available to the contractor? Also, the University of New Hampshire has an ongoing program to assemble what's going on with respect to storm water and pollution prevention. Perhaps this information can be combined to form a resource document. NCHRP has also done quite a bit of work in this area.

Computers and Technology Section – Jeff Gower (Oregon DOT)

Computers and Technology identified three possible topics:

- 1) Calculating fuel usage factors for escalation. This may need updating. **Sadler said that Florida has been exploring this issue and they will share their information.** Virginia has also done work in this area.
- 2) Synthesis on the use of profilers and their certification
- 3) Synthesis on the various functions of Site Manager and other construction management systems

Coburn then discussed a letter from the chair of AASHTO's Standing Committee on Research (SCOR) to the Subcommittees. The letter, which is attached as Appendix A, asks that when submitting proposed research, Subcommittees consider a number of items especially whether the proposed research to the Subcommittee's strategic plan. Subsequent to the meeting, Secretary Petros emailed the letter to the group. Coburn asked that this letter be considered as problem statements are developed. Jencks recommended referencing the NCHRP 10-58 SOC strategic plan, if a proposed project relates to it.

Another item that should be addressed when submitting problem statements is that they should they reflect whether a literature search has been conducted. It helps those evaluating the problem statement if it discusses upfront whether there is related work and how a statement may be different that work. TRIS is State DOT supported and a convenient way to do a literature search.

Coburn then asked the group which topics of those just discussed by each of the technical sections should be advanced. First, he asked each vice chair to identify the top need from their respective technical section. Those were identified as follows:

The vice chairs identified the top need for each of their sections:

Contract Administration - Legal precedents for liquidated damages

Roadway and Structures - Hairline cracking in prestressed piling

Computers and Technology - Fuel usage estimation

Environment and Human Resources – Storm water

Coburn then asked each vice chair which topic most interested them from the technical sections that they do not represent. The topics that were identified were:

Turbidity

Storm water

Legal issues around contract time

Hairline cracking

Based on the commonality from those two rounds of prioritization, it was decided that the following three projects will be put forth from the SOC:

1) Development of storm water guidance. **Tynan to draft and explore what else is ongoing.**

2) Legal precedents relative to liquidated damages. **Benefield to draft**

3) Prestressed hairline cracking. **Sadler to write up.**

Coburn requested that the problem statements be drafted and sent to Petros by the end of the week. NCHRP's deadline for problem statement submittals is 9/14/07 this year. 20-07 projects need to be written up by early October in time for the AASHTO annual meeting.

In addition, the group was asked to read the proposed problem statement from the Subcommittee on Materials (SOM) on quality assurance and alternate systems and how they work to achieve QA objectives. Coburn would like their recommendation as to whether the SOC should co-sponsor the research with the SOM. The State DOT research steering committee members endorsed the proposed problem statement. Pelnik will submit the proposal for the SOC. Post meeting note: This problem statement was endorsed by the SOM on 8/17 at their annual meeting in New Hampshire.

FHWA, AASHTO and the asphalt industry have produced an Asphalt Roadmap. The Executive summary document for this Roadmap was distributed to the group, and the full roadmap, which includes problem statements for each identified project, can be found at www.hotmix.org. Fred Hejl suggested that these national roadmaps (Asphalt, and Concrete which was developed a few years ago, and the SOC NCHRP 10-58 roadmap) be looked at prior to technical section meetings. In addition to seeing which cross-cutting groups have identified as needs, it may eliminate the need for the technical section to write up problem statements if their needs match what is already in a roadmap. Looking at these roadmaps also helps address SCOR's letter. **Petros agreed to send the Asphalt and Concrete Roadmaps to the group.**

The meeting was adjourned at 7:53 am.

Attachment G

2007 SOC Resolutions

AASHTO Subcommittee on Construction
Title of Resolution: Establishment of a Joint Technical Committee on
Electronic Engineering Data
August 2, 2007

WHEREAS, The AASHTO Highway Subcommittee on Construction met in Biloxi, Mississippi, July 30-August 2, 2007; and

WHEREAS, Changes in technology are providing opportunities for the transfer of electronic engineering data from design to construction; and

WHEREAS, There is a need for strategic direction at the national level; and

WHEREAS, There is a need for national guidance and standards for electronic engineering data used to develop and deliver capital projects; and

WHEREAS, There is a need for a national forum for contractors, equipment manufacturers, and software vendors; and

WHEREAS, There is a need for design and construction to work closely to understand and identify business needs for state transportation agencies; and

WHEREAS, The AASHTO Subcommittee on Design recommends the establishment of a Joint Technical Committee on Electronic Engineering Data through the passage of a Resolution at their 2007 Annual Meeting; and

WHEREAS, The Subcommittee on Design requests that the Subcommittee on Construction and Bridges and Structures support the establishment of the joint technical committee and provide representatives to participate on the committee;

THEREFORE BE IT RESOLVED, that this joint technical committee be a joint effort of the Subcommittee on Design, the Subcommittee on Construction, and the Subcommittee on Bridges and Structures; and

BE IT FURTHER RESOLVED, that the Subcommittee on Construction requests that the Standing Committee on Highways endorse the creation of this joint technical committee.

Resolution 07-02

AASHTO Highway Subcommittee on Construction 8-2-07

A resolution to encourage the development of an AASHTO Guide for the Implementation of Remaining Service Life Concepts for Transportation System Preservation and Asset Management Programs

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

WHEREAS, it has been shown that the use of Remaining Service Life analysis is beneficial in communicating the needs to protect, preserve, and maintain America's transportation infrastructure assets.

WHEREAS, there is a need to develop a guide for the member States to assist in their implementation of Remaining Service Life concepts in a uniform manner throughout the nation for pavements, bridges, and other roadway features and assets.

NOW, THEREFORE BE IT RESOLVED, the AASHTO Highway Subcommittee on Maintenance requests that the Standing Committee on Highways support the development of an AASHTO Guide for the Implementation of Remaining Service Life Concepts of Transportation System Preservation and Asset Management Programs.

Supported by:
Roadways and Structures Section, David Sadler, Chair

Resolution 07-03

AASHTO Highway Subcommittee on Construction 8-2-07

A RESOLUTION TO ENCOURAGE THE ESTABLISHMENT OF A PUBLIC INFORMATION EFFORT TO PUBLICIZE THE NEEDS AND BENEFITS 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 \$2.0 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 one of the highest priorities of the maintenance community, and

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

WHEREAS, this resolution was originally submitted in 2004 with a recommendation for approval by this committee, and the need for public education to protect and preserve our nation's investment in the transportation infrastructure is continuing to increase.

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 outreach touting the needs and benefits of protecting American's infrastructure investment through timely preservation of roads, bridges and other transportation assets.

Roadways and Structures Section, David Sadler, Chair

Resolution 07-04

AASHTO Highway Subcommittee on Construction 8-2-07

A Resolution to Acknowledge the Federal Highway Administration Leadership by Adopting Preservation as a Strategic Goal for the Agency.

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 within the various states, and

WHEREAS, America's four million mile highway network represents an investment of over \$2.0 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, that the AASHTO Highway Subcommittee on Maintenance expresses our thanks and commends the Federal Highway Administration for including preservation as a national strategic goal for their agency.

BE IT FURTHER RESOLVED that this resolution be forwarded to the AASHTO Standing Committee on Highways and the AASHTO Board of Directors with a recommendation for similar recognition of this milestone action by the Federal Highway Administration.

Supported by:
Roadways and Structures Section, David Sadler, Chair

**AASHTO Highway Subcommittee on Construction (SOC)
Recognizing the Mississippi Department of Transportation
Host of the 2007 AASHTO SOC Summer Meeting**

WHEREAS, The AASHTO SOC met in Biloxi, Mississippi July 30 thru August 2; 2007; and

WHEREAS, The SOC met and discussed highway construction business and technical issues on the beautiful shores of the Gulf of Mexico in the state of Mississippi; and

WHEREAS, the attendees heard inspirational accounts of heroics and Mississippi DOT employee service in the wake of hurricane Katrina; and

WHEREAS, attendees were treated to shrimp boils, cool weather (for August on the beach), and rock and roll from Queen and Elvis; and

WHEREAS, the Mississippi DOT utilized extensive resources, including a staff that went all out to show the attendees a grand time; and

WHEREAS, let it be known, that the SOC is indebted to the Mississippi Department of Transportation; and

THEREFORE BE IT *RESOLVED*, that the Mississippi DOT is formally recognized by this Subcommittee and thanked for their efforts in providing an inspirational and memorable meeting, and

BE IT FURTHER *RESOLVED*, that the AASHTO SOC members have established an effective date of this resolution of August 2, 2007 at the SOC summer meeting in Biloxi, Mississippi.

Attachment H

FHWA Meeting Minutes

**AASHTO HIGHWAY
SUBCOMMITTEE ON CONSTRUCTION
2007 MEETING
Biloxi, Mississippi
Friday, August 3, 2007**

FHWA Meeting Minutes

Opening Remarks & Introductions

Jeff Schmidt of the Mississippi Division Office called the meeting to order at 8:00 am.

Mr. Schmidt introduced Rob Elliott, NRC Construction and Program Management TST Team Leader. Mr. Elliott began the meeting with a safety message. He then discussed the personnel changes on CPM TST.

The CPM TST is involved with providing assistance in the following areas: Project Management; Value Engineering; LCCA; Contract Administration; Emergency Relief and Process Reviews.

Mr. Elliott reviewed the FALCON Team areas. FALCON is an acronym for Focus Area Leadership and Coordination. The teams were established to replace the former HIPT pavement roadmap effort, and will be used to develop a coordinated Strategic Plan for pavement related activities. Each team has co-chairs from HQ and the NRC, and includes other members from the Division, and liaisons from agency leadership.

The teams are involved in each of these six focus area:

1. Pavement Design and Analysis
2. Materials and Construction Technology
3. Pavement Management and Preservation
4. Pavement Surface Characteristics
5. Construction Quality Assurance
6. Environmental Stewardship

Mr. Elliott mentioned that training is one of the important functions of the NRC-TST's. Currently, the CPM TST is working on the development of four training courses. The Team is also involved with the deployment of technologies, GPS, Work Zones, and more.

Jeff Lewis, formerly of the CA Division office and a new member of the CPM TST, led a discussion of the Division's perspective on a number of issues related to the Construction program. Mr. Lewis first asked the group if they felt comfortable calling HQ and the RC. The attendees were generally more favorable toward the responsiveness of the RC employees. He

highlighted the need for communication improvements among all components of the FHWA organization.

Mr. Lewis asked a number of questions regarding various tasks that need to be completed in each FHWA Division office:

1. Stewardship Agreements Updated
2. Local Assistance Oversight
3. FIRE – Financial Integrity Review and Evaluation
4. Major Projects
5. FHWA Forms 45, 47, and 810 rescinded.
6. ER National Task Force Review

The attendees participated in an active discussion of each of these areas.

There were a number of questions from the various Division office's which were submitted for this meeting.

Ken Jacoby, HIAM-20, discussed some of the HQ efforts by the Construction and System Preservation Team:

1. TCCC: the Transportation Curriculum Coordination Council (Chris Newman)
2. FALCON Teams: Most of the HIAM staff is involved in this area. Ken is working on quality issues.
3. There is a new Construction Website that is Topic Based, which is now live.
4. Highways for Life efforts with Performance Specifications (Ken Jacoby)
5. AASHTO Involvement with the Subcommittees on Construction and Maintenance.
6. ACTT – Accelerated Construction (Chris Schneider)
7. TSP – Transportation System Preservation (Joe Gregory) – including a preservation roadmap, training classes, reviews of the State DOT efforts. Preservation is now a part of the FHWA Strategic Plan for FY08.

Jerry Yakowenko, HIPA-30, was recognized to discuss FHWA Contract Administration efforts.

- The Contract Administration Core Curriculum Course has been presented at many locations around the country. His presentation includes a map of locations that were presented this year.
- As noted earlier, Mr. Horne's May 22, 2007 memo announced the discontinuance of forms FHWA -45, FHWA-47 and FHWA-810. Some of the important data may be captured in the future through a separate contract with Oman Systems. This is a database that is generated from State DOT websites that post bid prices to the internet, and can be use to validate cost data. Five Division offices are using Oman's software for estimating purposes, and CA is beginning a pilot.
- Revision of FHWA-1273. This form includes Required Contract Provision for Federal-aid Construction Contracts, and was last updated in March 1994.

- Suspension & Debarment Decisions – 151 decisions in the last 5 years, involving 41 cases. When a DO engineer is made aware of an issue, they should consult the fraud checklist in the back of the CA manual. At that point, they should decide whether to involve the Division Administrator and possibly contact the IG and Department of Justice. The IG has been very active in the last 5 years. Mr. Yakowenko asked the FHWA engineers to help the State DOTs to develop and implement fraud and collusion avoidance programs such as BAMS in their states. Please call Julie Trunk in HQ for more information
- Buy America program – Administrator Capka was required to testify at a Congressional Hearing regarding the Oakland Bay Bridge project on this program. Several different legislative proposals have been introduced in the US Congress to address this issue. Please coordinate any waivers with Edwin Okonkwo in the Contract Administration Office at HQ.
- Patented and Proprietary Product Issues. Dwight's Horne's 1/11/2006 memo provides an update of FHWA's policies for patented and proprietary products through a series of questions and answers. There have been a number of PIF requests for DG3 signing material from 3M. ARTBA and AASHTO had a meeting with HOA-1, and claimed that FHWA policy is a barrier to innovation, which Mr. Yakowenko said is not intended to be the case. This issue was specifically addressed in Mr. Horne's memo. To the extent possible, the FHWA needs to be consistent in enforcing our policy of ensuring competition in the selection of materials, while balancing this with the need to allow evaluation of innovative products in the marketplace.
- Reorganization of Part 635 Subchapter G.

The group participated in an informal discussion of this topic, led by Jennifer Balis, HIPA-30, for her efforts to consolidate parts of 630, 633, and 635 to make the regulations more process oriented since the index has been eliminated. In addition, she discussed the regulatory efforts involving congestion reduction.

After a break, Mr. Bernie Kuta of the CPM TST was recognized to discuss Public Interest Findings (PIF) for the Federal-Aid Highway Program. He developed a database with the assistance of a summer intern, Ms. Carla Gallardo. There are 346 PIFs in the database, but he had anticipated there would be over 1,000, if there had been more uniformity in the record keeping processes. A PIF is an exception to the Federal rules regarding proprietary items. State DOTs must request the Division office to approve a PIF. The database is a Microsoft Access file, and is therefore usable on all FHWA computers.

The database currently lists approvals, but needs to be expanded to include non-approvals. Mr. Kuta is considering expanding the project to a web-based system, rather than through the CD-ROM, which was included in the handout for this meeting. The State/ Division processes and procedures need to be tracked to help provide more uniformity for the FHWA in administration of the program.

Mr. Jason Dietz, CA DO, discussed California's Cost Effectiveness/Public Information Finding Guidelines. The guidelines define when a PIF is required, and many of the specific issues that have arisen in CA are discussed.

Mr. Douglas Townes, RC CPM-TST, provided an update on the TCCC activities. There is a pooled-fund effort to support the TCCC efforts. Some of the funds are being used to develop a Maintenance Academy. There is a matrix of training requirements and levels, which is being widely used. A searchable training course website database is being developed, including points of contact within the States. A briefing package concerning TCCC was handed out at the AASHTO SOC meeting.

Ken Jacoby was recognized to discuss the Quality Assurance (QA) Reviews. His presentation outlined the need for quality assurance, the scope of the reviews, and the goals of the reviews. There are six core elements of QA Programs listed. The review team consisted of six persons.

There are several major observations, each with key findings and recommendations, which resulted from the reviews. The five major review observations were:

1. Agency emphasis on QA is not commensurate with the level of investment and risk
2. Existing QA regulations do not address areas of concern to Divisions and States (CFR637)
3. Unclear distribution of QA functions within HQ and the RC
4. Lack of Understanding of the six QA elements that go into a QA plan, and the application of those elements.
5. Divisions could not assess the effectiveness of the six elements of the QA program.

As a result of the review, the Construction and Materials FALCON Team is currently evaluating the report's recommendations. A plan to address the recommendations will be prepared.

There was a discussion of when to hold this meeting during the AASHTO SOC meeting timeframe.

Jeff Lewis was recognized to answer the Division's Questions:

Mr. Lewis provided some additional information that may be of interest to the Construction Engineers:

- CPM Inspection Guide Workshops in 2007... all but 6 states participated in a workshop: UT, CO, NC, SC, and VA have not schedule or planned a workshop. Alaska is currently considering a workshop.
- Communication is still an issue in getting information from HQ into the proper hands into the field offices. Mr. Lewis will be trying to get at least a two-person list on contacts for construction related issues in each DO.
- Mr. Lewis will discuss all of the questions that were submitted and try to provide answers to the FHWA Construction Engineers.
- There is a plan to put together a series of State reviews for the construction programs, similar to what was done with the Pavement Preservation Technical Appraisals
- There is a new NHI Class on "Workmanship in Construction."

The following questions were posed by Mr. Lewis and discussed:

- If a change order is ineligible, are CE costs also ineligible? Change orders involve both dollars and time.
- Are additional PE costs eligible after a project is awarded?
- Does your Division require a 1446B “Final Acceptance”?
- Interest in creating a QA intranet for FHWA staff? (i.e.: a Knowledge Exchange)
There needs to be more work at the regional level on peer-exchanges.

Please see the meeting handout for additional questions. This document is included as an appendix to these minutes.

Jeff Schmidt thanked everyone for his or her attendance and participation. The meeting was adjourned at 11:40 am.

