



AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

COMMITTEE CORRESPONDENCE

Address Reply to

Dwight A. Horne, Secretary
AASHTO Subcommittee on Design
Federal Highway Administration, HIPA-1
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: Subcommittee on Design Annual Meeting
Burlington, VT - June 10-14, 2007
Meeting Minutes

Members
AASHTO Subcommittee on Design

Region I and the Vermont Agency of Transportation hosted the 2007 meeting of the AASHTO Subcommittee on Design (SCOD) in Burlington, Vermont on June 10-14, 2007.

Note: The meeting agenda and the slide presentations can be viewed on the SCOD web site at:
<http://design.transportation.org/?siteid=59&pageid=745>.

Opening Session and Official Welcome

Moderator: **Rick Land**, SCOD Vice-Chair (CA)

Rick Land opened the meeting and welcomed the attendees. He mentioned that **Carolann Wicks**, SCOD Chair (DE), would not be attending this year's meeting due to commitments in Delaware. He introduced the following people who also provided welcoming/opening remarks.

Neale Lunderville (Secretary of Transportation, VT) included in his remarks:

- Infrastructure needs are great in Vermont
 - Lots of bridges in the Champlain Valley are about 80 years old
- The use of CSS on the Bennington Bypass project

Richard Tetreault (Director of Program Development, VT) included in his remarks:

- Make use of this opportunity to communicate with peers from around the country to seek and convey best practices

Dwight Horne, SCOD Secretary (FHWA), included in his remarks:

- Status of implementing some SAFETEA-LU provisions

- The National Surface Transportation Policy and Revenue Study Commission; report of findings and recommendations due at end of CY 2007
- Design-Build Rule; final rule anticipated Summer 2007
- US DOT congestion initiative elements
- Innovation in financing and procurement of transportation of infrastructure
- Program areas related to design
 - Value engineering; OIG final audit report recommendations; March 2007
 - Procurement and management of engineering and design services; OIG audit and status; report anticipated Fall 2007
 - CSS; FHWA and AASHTO activities/initiatives

After the welcoming remarks, **Rick Land** asked everyone to stand and provide their name and affiliation. There were 105 people present at this roll call/self introduction. These participants represented 43 member departments (75), FHWA (16), TRB (1) and consultants/industry (13).

Executive Council and Business Meeting Sessions

Moderator: **Rick Land**

- **2007-2008 SCOD Regional Steering Committees**

Region 1

Chair: **Kirk McClelland** (MD)

Vice Chair: **Kiran Patel** (NJ)

Secretary: **Todd Pelletier** (ME)

Region 2

Chair: **Mohammad Mirshahi** (VA)

Vice Chair: **Phil McConnell** (AR)

Secretary: **Jeff Jones** (TN)

Region 3

Chair: **Mukhtar Thakur** (MN)

Vice Chair: **Mike Kennerly** (IA)

Secretary: **Tim McDonald** (OH) (unconfirmed)

Region 4

Chair: **Lesly Tribelhorn** (MT)

Vice Chair: **Paul Bercich** (WY)

Secretary: **Mary Viparina** (AZ) (unconfirmed)

- **Kathleen Penney** (DC)

- See Agenda at 10:15 a.m., June 11
- Session to discuss development of a SCOD vision statement
- Reported on progress regarding SCOD structure and operating procedures
- Includes interaction between SCOD and the Technical Committees
 - Quite a bit of discussion during this meeting was about this and the SCOH direction that means technical committee chairs must be members of SCOD
- Look at creation of goals and objectives of SCOD and pertinent action items

- **Rick Land** asked where does SCOD want to be and what should it look like upon arrival. To facilitate answering those queries, he appointed a team of volunteers to create a vision for SCOD.

- **Kirk McClelland** (MD)
- **Dan D'Angelo** (NY)
- **Dan O'Hagan** (FL)
- **Rob Cary** (VA)
- **Gary Mroczka** (IN)
- **Mike Kennerly** (IA)
- **Jim McMinimee** (UT)
- **Mark Gaydos** (ND)

- SCOD Technical Committee Work Plans will be available before the SCOD Annual Meeting. This will allow discussions during the Regional Meetings. Applicable comments, questions, resolutions/motions, and research proposals can then be discussed during the Regional Meeting report-outs and the SCOD Business Meeting.
- The future of the Design-Build Technical Committee was discussed. The Subcommittee on Construction is not continuing to participate in this technical committee and has invited SCOD to participate in one of their technical committees that will focus on innovative delivery methods.
- Research proposals will be prioritized by the SCOD Executive Council

Resolutions/Motions

- Resolution #1: Implementation of CSS – Using comments obtained during Business Meeting, the Executive Council (led by **Messrs. Land** and **Jim McDonnell** (AASHTO)) will redraft the proposed resolution to reflect that the SCOD members will continue to support and advance the principles of CSS and that what is being done in many states actually demonstrates incorporation of the principles into project development. SCOD balloting will be via e-mail.
- Resolution #2: Review of the SCOD Operating Procedures – The resolution was adopted as written with a task force performing the prescribed work and presenting it to SCOD for adoption.
- Resolution #3: Establishment of a Joint Technical Committee on Electronic Engineering Data – The resolution was adopted as written to recommend the establishment of the technical committee with endorsement by SCOH.
- Motion: *SCOD supports the continuation of the Design-Build Technical Committee, in coordination with the Subcommittee on Construction, to be renamed the Technical Committee on Innovative Contracting (or the Technical Committee on Alternative Project Delivery), with a broadened scope to include additional procurement methods. Mr. Land will contact key members of the Subcommittee on Construction regarding proceeding with this.*
- Motion: *Modify the SCOD operating procedures to reflect the SCOH requirement that Chairs must come from the parent committee (i.e., technical committees must be chaired by a member of the subcommittee) and to include the new procedures for approving research. The Executive Council will draft procedures and send to SCOD for adoption. Alternatively, this may be accomplished by Resolution #2.*
- Motion: *Request that SCOH allow PDIT to be a voluntary activity to be conducted at the discretion of each State DOT. This motion was adopted.*

Research

Potential topics from Regional Meetings

- 3R design best practices (Region 4)
- Cable barrier design (Region 2)
- Cross spacing in urban areas for access to crashes by responders (Region 2)
- RSAP program (Region 4)
- Self-enforcing roadways from a CSS and design perspective (Region 1)

SCOD Awards Banquet

Dinner Cruise on the Spirit of Ethan Allen III

Moderator: **Rick Land**

Awards Recipients

- National, **William “Bill” Prosser** (FHWA)
- Region 1, **Dan Dawood** (PA)
- Region 2, **Robert “Rob” Cary** (VA)
- Region 3, **LaMonte “Corky” Armstrong** (KS)
- Region 4, **Frank Csig, Jr.** (NV)

Future SCOD Meetings

- 2008 – Region 4, New Mexico
 - 2009 – Region 3, Indiana
 - 2010 – Region 2, South Carolina
 - 2011 – Region 1
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- June dates are problematic for attendance by the SCOD Chair. Scheduling the meeting during a different month will be studied by the Executive Council.

Regional Meetings

Two sessions

- 1 p.m. – 5 p.m., June 11
 - 8 a.m., June 12, Regional Chairs reported on top 3 “hot topics”
- 8 a.m. – 12 p.m., June 13
 - 1 p.m., June 13, Regional Chairs provided an overview of the discussions

Topics of note:

- ADA transition plans
- ADA upgrades with preventive maintenance
- Cable barrier
- CSS
 - Application of criteria
 - Flexibility in guiding documents
- Cross over spacing in urban areas
- Electronic engineering data Sharing/transfer
- Errors and omissions
 - Change orders
 - Responsibility
- Increased construction costs
- LPA project oversight
- Pipe culverts - alternate materials and bidding
- Roundabout software
- Rumble strips
- Recruiting and retention of staff
- Self-enforcing roadways from a CSS and design perspective
- SCOD operations with focus on technical committee tie and interaction
- Work zone taper lengths
 - Short term, e.g., utilities
 - Adherence to MUTCD

Technical Committee Reports

10:15 a.m., June 12

Moderator: **Rick Land**

Cost Estimating

Reported by: **Frank Csiga**, Chair (NV)

- Creating primer
- Three chapters provided for balloting
- Three chapters under development
- Three chapters in concept stage

- Regional Comments or Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Keep moving forward on guidance on cost estimating currently under development (Region 4)
 - Coordinate with Preconstruction Engineering Management Technical Committee to prevent overlaps in work (Region 4)
 - Develop a synthesis of state practice related to inflation, specifications, and escalation clauses, with emphasis on development of early cost estimates (Region 1)

Design-Build

Reported by: **Mark Leja**, Member (CA)

- Web based report created/updated
- Need to insert FHWA's 2006 report to Congress
- Subcommittee on Construction curtailed their participation in this technical committee
- After some discussion, it was decided that **Mr. Land** should contact key members of the Subcommittee on Construction regarding proceeding with this.

- Regional Comments or Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Keep web site that contains Current Practices in Design Build up to date (Region 4)
 - Retain focus on the design-build process (Region 1)

Environmental Design

Reported by: **John Narowski**, Member (VT)

- Currently rewriting 1991 Guide for Right-of-Way and Landscape Design
- CSS future within SCOH
- CSS in all AASHTO committees and subcommittees
- In the future will work with the Hydrology and Hydraulics Technical Committee on bio remediation with vegetation
- Green Highways will be folded in

- Regional Comments or Recommendations (to be discussed and finalized by the Executive Council at a later date)

- Consider development of guidance or a state-of-the-practice report on environmental permitting and tracking (examples: Utah and North Dakota) (Region 4)
- Develop a state-of-the-practice document, guidance, and/or recommendations on low-impact design (Region 1)
- Explore opportunities for collaboration with the Geometric Design Technical Committee (Region 1)

Geometric Design

Reported by: **Jeff Jones**, Member (TN)

- Conflicts with clear zones in AASHTO publications
- In Green Book, remove references to Roadside Design Guide
- NTSB recommendation to have managed lanes and toll plaza information in Green Book
- July 2007 meeting will focus on review of working draft of Green Book update

- Regional Comments or Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Provide additional detail on technical decisions in reports to SCOD (Region 4)
 - Consider the incorporation of appropriate sections of the Very Low Volume Local Roads Guide into the Green Book (Region 4)
 - Development of geometric design guidance for 3R projects, to be developed by this technical committee (Region 4)
 - Develop guidance and/or request research on topics such as express toll lanes, innovative designs, traffic calming, self-enforcing roadways (Region 1)
 - Provide clarifying guidance on barrier curb, both in urban areas and transition areas between high and low speed areas (Region 1)

Highway Lighting

- Presently inactive

- Regional Comments and Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Coordinate with the dark skies initiative (Region 1)
 - Provide guidance on LED lighting, current practice, assessment, research (Region 1)

Hydrology and Hydraulics

Reported by: **David Henderson**, Chair (NC)

- New format for drainage manual which will be balloted in 2009
- Future work on natural stream design, including fish passage, with TRB panel

- Regional Comments and Recommendations
 - Keep up the good work (Region 4)

Nonmotorized Transportation

Reported by: **Dick Albin**, Chair (WA)

- Bike and pedestrian guides should be responsibility of this technical committee
- ADA issues

- Transition from urban to suburban, effect on bikes and pedestrians
- Working on bike guide update and bike route system

- Regional Comments and Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Provide additional guidance on bridge rail heights for bicyclists (Region 4)
 - Provide guidance to the states, through the NCHRP research project, on the update of ADA transition plans, including best practices for existing plans and practices for updating (Region 4)
 - Take over lead responsibility for the Bicycle and Pedestrian Guide (Region 4)
 - Develop a synthesis of practice on reinforcing good driver behavior at pedestrian crosswalks (Region 1)

Pavements

Reported by: **Dan Dawood**, Chair (PA)

- Slide presentation
- Reviewing the pavement friction guide; concerns with Chapter 3
- Goal to combine pavement design stuff into comprehensive document on pavements
- Complete MEPDG; working on since 1996
- Software being balloted with the manual

- Regional Comments and Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Provide guidance on alternative pavements, including life cycle costs (Region 1)

Preconstruction Engineering Management

Reported by: **Rob Cary**, Chair (VA)

- Updating guide for consulting contracting
- Future focus will be on
 - Errors and omissions
 - Measurement and performance trends
 - Best practices, etc.
- Also working on project development toolkit, PPPs, and bidding analysis

- Regional Comments and Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Provide guidance on errors and omissions policies of the states (Region 3)

Public Transportation Facilities Design

- Presently inactive

Roadside Safety

Reported by: **Keith Cota**, Chair (NH)

- Slide presentation
- Full update of the Roadside Design Guide by 2008 with balloting in 2009
- Mail box design and installation
- New pick-up truck as design vehicle for roadside devices

- Domestic task force scan report
- Task Force 13 publication updates
- Clear zone conflicts in AASHTO publications

- Regional Comments and Recommendations (to be discussed and finalized by the Executive Council at a later date)
 - Consider the incorporation of appropriate sections of the Very Low-Volume Local Roads Guide into the Roadside Design Guide (Region 4)
 - Continue to request research funding to update the Roadside Safety Analysis Program (which accompanies the Roadside Design Guide) (Region 4)
 - Coordinate on CSS issues with Nonmotorized and Geometric Design Technical Committees (Region 1)

Value Engineering

Reported by: **Richard Jaffe**, Vice-Chair (NJ)

- Will be adding the following into their work
 - Design-build
 - Performance measures
 - CSS

Workshop on CSS

1 p.m., June 12

Facilitator: **Janet D'Ignazio** (ICF International)

John Deatruck (DC)

- Background
- Video of a DC initiative in the Anacostia region
 - Lowering north end of the Douglass bridge over the Anacostia River

Mark Van Port Fleet (MI)

- Safety with design exceptions
- Cost from a program standpoint
- Time commitments
- Stakeholders will tell you whether or not it works
- Program delivery enabled with less folk trying to stop project
- Long-term trust; beyond governmental entities
- Better early coordination within project development disciplines

Biggest challenges and needed actions identified by participants through a group exercise

- Increased stakeholder coordination
 - Defining and reaching consensus
 - Dialogue with upstream project delivery folk
 - Managing difficult decision making process
- Cost
 - Resources
 - Time
 - Better concept level scope setting will help contain scope creep
- Cultural change within organization, including addressing adversity to taking risk
 - Sell as evolutionary change rather than revolutionary change
 - Recognize that roads exist for the benefit of users
 - Acknowledging what is right with what is being done presently
 - Evolve to CSS and know the reasons for doing so
 - Analysis of risk
 - Awareness of agency or community issues that rise to affect budget and schedule

What can AASHTO or SCOD do to assist with integration of CSS into design processes or initiatives?

- As a base lining action, SCOD can encourage AASHTO to establish model process to identify things underway that are considered CSS

The four questions from SCOH (provided at the end of the workshop)

- How might SCOH help integrate CSS within SCOD?
- What direction from SCOH does SCOD need to implement or integrate CSS within itself and its technical committees?
- What modifications do you think might be appropriate to AASHTO's publications (technical guidance) to facilitate the mainstreaming of CSS?
- Does SCOD need anything from SCOH to make CSS evolve?

Panel Discussions

Cost Escalation and Cost Containment Strategies

10:45 a.m., June 11

Moderator: **Lesly Tribelhorn** (MT)

Kathy Harvey (MO)

- Slide presentation – also in binder
- Culture change using system wide approach
- Be bold in design; Practical Design
- Every project is safer than before
- Smoother roads; from 47% to 74% in 2 years
- Good projects not great projects is the goal

Lora Hollingsworth (FL)

- Slide presentation – also in binder
- Began experiencing high costs in 2004/2005
- Tough estimating project costs
- Effect of hurricanes on costs
- Less bidding experienced before upturn

Dwight Horne (FHWA)

- Handout in binder
- Web site on Highway Construction Cost Increases and Competition Issues
- Assistance for states and industry in dealing with price and competition related issues

Cross-Cutting Issues

1 p.m., June 13

Moderator: **Jim McDonnell** (AASHTO)

Standing Committee on Highway Traffic Safety

Mark Van Port Fleet (MI)

- Slide presentation – also in binder
- Be ambassadors for safety
- DOTs influence on local agencies
- How to more quickly implement safety and measures
- Key elements
 - 4 Es
 - legislation regarding seat belts, etc.
 - partnerships with agencies
 - 12 focus areas for roadway and user behaviors
- Emphasizes signing, marking, guardrail, work zones
- Local agency initiative
 - Free engineering and safety audits
- What are needs of designers to help you enhance safety
 - Off state system data
 - Rapid access to crash data

- Highway safety program should have specific obligation authority for better flexibility

Standing Committee on Right-of-Way and Utilities

Chuck Schmidt (NH)

- What causes late plan revisions?
 - Permits
 - Mitigation identified
 - Property owners and land development
 - Final drainage needs identified
 - Utilities
- How are utilities handled on the critical path?
 - TN – state reimburses utilities for moving
 - WA – relocate into a utility corridor
 - MD – designs utility work and firms review
 - MD – design-build provide contractor flexibility

New Ideas in Recruitment and Retention of Engineers

9:30 a.m., June 14

Moderator: **Mohammad Mirshahi (VA)**

Mukhtar Thakur (MN)

- Slide presentation – also in binder
- Very challenging
- Budget constraints
- Strategic issue
- Diversity issue
- Early career track
- 95% retention

Tony Laird (WY)

- Laramie Design Squad
- Began in 1980 at the University of Wyoming
- 2 permanent Wyoming DOT employees
- 10 students on part-time employment with Wyoming DOT
- Produce contract documents and plans
- Learn and gain experience in highway design
- 112 of 117 graduates as engineers
- Go to work for Wyoming DOT and others
- Wyoming (state government) salaries hinder hiring

Robert Miles (UT)

- Need to keep good employees
- Pay for performance

Presentations

Innovative Geometric Design

9 a.m., June 11

Moderator: **Phil McConnell** (AR)

Continuous Flow Intersection (CFI) Experience in Louisiana

Nick Kalivoda, III (LA)

- Slide presentation - also in binder
- CFI is an intersection configuration that will reduce the number of signal phases
- Location: Baton Rouge intersection of US 61 and LA Rte 3246

Diverging Diamond Interchange

Joe Bared (FHWA)

- Slide presentation - also in binder
- Design and operational performance
- Example: near Versailles, France at A13 and RD 182
- Alternate described: Displaced-Left Diamond Interchange
- Non-traditional intersections information report being proposed

Center Turn Overpass

Saed Rahwanji (MD)

- Slide presentation – not in binder
- Location: Rossville, MD intersection of US 40 and Rossville Boulevard
- Unconventional Arterial Intersection Design information can be found at:
<http://attap.umd.edu/UAID.php>

Vermont Spotlight Project – Bennington Bypass

2:30 p.m., June 13

Introduction: **Kevin Marshia** (VT)

Presenters

Jim Harris (VT)

Dale Gozalkowski (Clough Harbor Associates)

Slide presentation

Status Reports on Ongoing Projects

Moderator: Rick Land (CA)

Update of NCHRP Report 350

Ben Buchan (GA)

- Test vehicle change – new pickup truck
- Full scale crash tests
- Will have a combined ballot for
 - Draft implementation plan
 - Test procedures as AASHTO document
- Transition period for updated procedures is addressed

Project Delivery Improvement Tool (PDIT)

Overview by **Brian Hare** (PA)

- Background
- Purpose
- Program areas (10)
- Guiding issues
 - Access processes
 - Access tools and relationship between FHWA and states
- Design core elements (10)

State Experience by **Kathy Harvey** (MO)

- Not thrilled with tool
- No real value offered
- Contradictory parts
- Who is leadership?
- Nothing of quality working
- Does not ask about use of process and outcome on results
 - Missouri responded yes in 40 of 66 design queries
- Focus on results is needed – best practices
- Recommend voluntary rather than mandatory usage

Clear Zone Conflicts in AASHTO Publications

Dick Albin (WA)

- Terminology of horizontal clearance or clear zone
- NCHRP20-7(171) project resulted in 15 recommendations
- Main 3
 - Roadside Design Guide addresses roadside issues
 - Single definition
 - Green Book clarify horizontal clearance, operational offset, and clear zone
- Urban area treatments
 - Lateral offset vs horizontal clearance and operational offset
- Transition area between rural and urban or vice versa
- The Roadside Safety and the Geometric Design technical committees will work to resolve these conflicts in the next updates of their publications

Quick Bites

Considerations in Designing for Machine Controlled Equipment

8:45 a.m., June 12

Moderator: **Mukhtar Thakur** (MN)

Tom Taylor and Tim Tometich (McAninch Corporation)

- Slide presentation – not in binder
- Machine control integration development
- Innovative utilization
- Contractor needs from surveyor
- Contractor wants the electronic file
- Discussed data preparation challenges from contractor’s perspective

Mike Kennerly (IA)

- Slide presentation - also in binder
- Machine Control Grading – The Iowa DTO Experience
- Described experiences and lessons learned

Highway Safety Manual

9:30 a.m., June 12

Moderator: **Kirk McClelland** (MD)

John Zegeer (Kittelson and Associates)

- Slide presentation – also in binder
- Manual will be ready for balloting in 2008
- How do you judge what is an unsafe design even when it meets standards?
- The manual will help

Accelerating Project Delivery

11:30 a.m., June 12

Moderator: **Mike Kennerly** (IA)

Joyce Taylor, Vice-Chair, Subcommittee on Accelerating Project Delivery (ME)

- Parent committee is the Standing Committee on Quality
- Described the mission of the subcommittee
 - Do it right the first time
 - Communicate
 - Don’t point fingers
- Managing survey
 - Contract cost and quality
 - Best practices
- Fiscal constraint is upcoming work

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