

**Technical Committee on Cost Estimating  
Phone Conference  
January 16, 2009**

**Present:**

Lesly Tribelhorn, Montana  
Greg Davis, Florida  
Dave Kent, New York  
Jeff Hisem, Ohio  
Norie Calvert, Maryland  
Ryan Griffith, Kentucky

Jay Drye, Washington State  
Darrell Richardson, Georgia  
John Riedl, Oregon  
Ken Spear, Wyoming  
Jim McDonnell, AASHTO  
Jim Sinnette, FHWA

**Absent:**

Roger Bierbaum, Iowa  
Scott Bickford, Maine  
Maria Burke, Texas  
Travis Koestner, Missouri

Mike Fowler, Vermont  
Tim Quinn, Minnesota  
James Frick, South Carolina

**Agenda:**

- Introduction and attendance
- Review of SCOD strategic plan and TCCE work plan
- Chapter work discussions
  1. Risk chapter
  2. Parametric chapter
  3. Definitions
  4. Bidding strategies (outline)
  5. Inflation chapter
  6. Updates needed for posted chapters?
- Cost estimating resources web clearinghouse
  1. SCOD/TCCE site
  2. Maintenance responsibilities
- Peer survey questions/discussion
- NCHRP 20-7 Proposals
  1. Price Indexing Commodities volunteers
  2. Resubmit 2008 proposals?
- Remaining action items status and discussions
- Travel status concerns and implications for Omaha meeting

### **Review of SCOD strategic plan and TCCE work plan**

Lesly led a review of TCCE elements of the *Strategic Plan for the AASHTO Subcommittee on Design*, (Adopted July 17, 2008) and the 2009 Work Plan for the TCCE.

The TCCE's *A Practice Guide to Estimating* is expected to be completed by 2011. This is deliverable that supports most of the goals and objectives of the two Plans.

Dave Kent has been reviewing links on the TCCE website (<http://design.transportation.org/?siteid=59&pageid=756>) and on the Subcommittee on Design website (<http://design.transportation.org/?siteid=59&pageid=744>). The TCCE should be constantly looking for links to cost estimating resources. The proposed TCCE survey should include a question asking for cost estimating links. Dave Kent will update any broken links on either AASHTO website. The TCCE needs to decide if a separate web page is needed for cost estimating links and where it should be located. The Subcommittee on Right-of-way and Utilities has a separate web page for links (<http://rightofway.transportation.org/?siteid=61&pageid=1663>).

Dave Kent will also study if having a separate web page maintained by a State DOT would be better than maintaining links on the AASHTO website. The Technical Committee on Value Engineer's website is hosted by Washington State DOT (<http://design.transportation.org/?siteid=59&pageid=766>).

Jim McDonnell will check to see if he can provide access to one or two TCCE members to update the TCCE web page. Until then, requests for web page changes can be sent to the AASHTO Web Manager.

The TCCE will need to determine a layout for links on a web page, which should included specific categories for links (e.g. completed research, ongoing research, FHWA guidance, topics from the TCCE guide, etc.). The TCCE should be aware of the balance between what the TCCE needs and external user needs. The links should not be buried too deeply with the AASHTO website. Also, the TCCE needs to decide if there should be a cost estimating link on the Subcommittee on Design (SCOD) website to the TCCE website. Jim McDonnell is open to suggestions for reorganizing the SCOD webpage to improve accessibility.

The TCCE should be always documenting needs related to cost estimating. This includes research proposals and new technologies. The TCCE should be interacting with other TCs and other specialty areas and should be making sure people are aware of the TCCE. The TCCE should be regularly communicating with the Subcommittee on Design and making sure TCCE products are being delivered with good quality. The TCCE should be interacting with external stakeholders. The proposed TCCE survey should help in this area.

The 2010 TCCE work plan will be due in May.

**Chapter work discussions**

The major effort of the TCCE is the estimating guide. The next three chapters to be prepared are: Parametric, Risk, and Inflation. It's very important that we stay on task and deliver a quality product as planned.

Lesly will contact Tim Quinn to see if the Risk chapter is ready to be posted.

Dave Kent and Greg Davis have completed their portions of the Parametric chapter. There is more work to be done and the first draft for TCCE review is scheduled to be completed by January 30.

Ryan Griffith reported that the definitions are up to date.

Lesly will contact Tim Quinn for the status of the outline for Bidding Strategies for Cost Control. The outline was due for TCCE review on 10/31/08.

The TCCE team working on the Inflation chapter has scheduled a teleconference on February 20<sup>th</sup> at 10 am (Pacific Time). Lesly may sit in. Jeff Hisem will circulate a draft of index procedures developed by a consultant to the TCCE. A rough draft of the Inflation chapter will be circulated to the TCCE for review by March 5, with the expectation that the chapter will be posted by the end of June or in July. Work on this chapter should proceed and should not wait for the potential research project on the index. Construction cost indexing should be included in this chapter and may consist of information from Oregon and Ohio.

The Performance Measures and Tracking chapter outline should be circulated to the TCCE for review by the end of January.

The TCCE should constantly be evaluating the need for updating posted chapters. As new research becomes available, there may be a need to update outdated or add new information to posted chapters.

**Cost estimating resources web clearinghouse**

See discussion above (Review of SCOD strategic plan and TCCE work plan). Dave Kent will work to have the web-based cost estimating resources clearinghouse set up on the AASHTO website by the end of February.

### **Peer survey questions/discussion**

Here are some potential draft questions for the survey:

- Are you aware of the TCCE Guide?
- Would you use the TCCE Guide to assist in creating State practices?
- Would you use the TCCE Guide as State guidance?
- Do you have a formal cost estimating process?
- If so, can you provide manuals and internet links?
- Do you use performance measures for your estimating process?
- If so, can you provide information or internet links?
- What do you consider best practices in cost estimating?
- What training is required or provided for cost estimators in your State?
- Has your State or outside agency recently completed a review of your cost estimating process?
- If so, can you share the results and if available the follow-up action plan?
- What do you see as the FHWA role in cost estimating?
- What do you see as the AASHTO role in cost estimating?
- What are the important cost estimating issues in your State?
- What are your needs regarding cost estimating?
- Do you have any other comments or information to share?

Jim Sinnette will accept comments on the existing list of draft survey questions until the end of February. Then the final questions will be coordinated with AASHTO and the TCCE. It is expected that the survey will go out by March 31.

The survey will include an introduction of the TCCE. The questions will also be revised to include a multiple choice or closed format when possible. There still may be some open ended questions.

### **NCHRP 20-7 Proposals**

There is an option for the TCCE to request a NCHRP 20-7 contract to prepare the remaining chapters of the estimating guide and to finish putting the guide together. 20-7 requests are considered in the spring and fall of each year. 20-7 projects are small (less than \$100,000) applied research contracts and are completed quickly since contractors can be brought on board within a couple months. 20-7 projects are considered appropriate for implementable research. 20-7 approvals are made by the Standing Committee on Highways. There are more 20-7 requests than available funding, so it is recommended to apply early.

Lesly will prepare a proposal for the guide. However, TCCE members need to keep working on chapters in case the proposal is not approved. Jim McDonnell sent the TCCE a link to the proposal that the Green Book committee put together last fall for assistance with the next update of the Green Book as an example.

Lesly will send out the NCHRP Project 25-25, Task 39 Environmental cost reports to the TCCE.

By e-mail to Robert Cary dated January 15, Jim McDonnell asked if the Technical Committee on Preconstruction Engineering Management was planning on resubmitting the following research proposals at the upcoming spring SCOH meeting:

"Identification of Best Practices in the Estimation of Preliminary Engineering Costs"

<http://www.transportation1.org/nchrp/20-7/uploads/20-7%20Proposal,%20Estimation%20of%20Preliminary%20Engineering%20Costs.doc>

"Best Practices for the Analysis and Approval of Contractor Bids."

<http://www.transportation1.org/nchrp/20-7/uploads/20-7%20Proposal,%20Analysis%20and%20Approval%20of%20Contractor%20Bids.doc>

The TCCE is willing to co-sponsor these proposals.

By e-mail to Charles Schmidt dated January 15, Jim McDonnell asked if the Subcommittee on Right of Way and Utilities was planning on resubmitting the following research proposal at the upcoming spring SCOH meeting:

"Databases for Estimating Costs of Utility Relocations"

[http://www.transportation1.org/nchrp/20-7/uploads/Problem%20Statement\\_2.doc](http://www.transportation1.org/nchrp/20-7/uploads/Problem%20Statement_2.doc)

The TCCE is willing to co-sponsor this proposal.

### **Remaining action items status and discussions**

Jim McDonnell will post cost estimating contacts by AASHTO region on the TCCE website. The proposed TCCE survey will also request updating of the cost estimating contact, if necessary.

### **Travel status concerns and implications for Omaha meeting**

There is serious concern that due to the States' economic situations, attendance at the TCCE meeting and the TEA will be significantly reduced. Most States already have serious restrictions on travel. A letter from AASHTO discussion the importance of attending the TCCE meeting may help. Also, consideration should be given to have videoconferencing capabilities and structuring the TCCE agenda to short 1 to 2 hour sessions. Lesly will work with the meeting organizers from Nebraska and TEA to see if the optional meeting formats will be possible. Additional costs and resources will be necessary to provide video and phone conferencing services.

### **Estimation TRT**

Lesly asked the group for permission to provide draft TCCE documents to members of the Transport Estimation TRT. The members present were in favor as long as all material is dated and clearly marked as draft. The Estimation TRT is tasked with defining the estimation functionality desired in a future web Transport Estimation module which may or may not include the functionality of the following existing client/server modules: Estimator, CES, and TRACER. The TRT will determine additional/new functionality desired in the potential new software. John, Lesly, and Mike are members of the TRT. The TRT has used the "Practical Guidance for Cost Estimation" outline and definitions to define the desired "new build" functionality.

**TCCE 2009 Action Items**

The TCCE 2009 Action Items have been revised and are included at the end of these notes.

**Next Meeting**

The next teleconference will be Thursday, March 5 at:

1:00 pm Eastern

12:00 pm Central

11:00 am Mountain

10:00 am Pacific

The meeting should last about 2 hours.

## ATTACHMENTS PROVIDED BEFORE THE TELECONFERENCE

### Subcommittee on Design Technical Committee on Cost Estimating

### 2009 Work Plan

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**Chair:** Lesly Tribelhorn, Montana  
**Vice-Chair:** Dave Kent, New York  
**Secretary:** Jim Sinnette, FHWA  
**AASHTO Liaison:** Jim McDonnell

#### Technical Committee Charge Statement

- To be a focal point for and develop guidance on cost estimating within the State DOTs for all stages of project development

#### Publications Responsibility

- This committee is not responsible for any existing AASHTO publications. However, the ultimate goal of this technical committee is to have guidance on cost estimating from cradle (conceptual estimate) to grave (final estimate). The working title of this guidance is “A Practical Guide to Estimating” and it’s available online through the Subcommittee on Design Website:  
<http://www.transportation.org/sites/design/docs/TCCE%20Report%20-%20A%20Practical%20Guide%20to%20Estimating.pdf>

#### Committee Work Underway/Planned for 2008-2009

- The technical committee is continuing its work to develop “practical” guidance on preparing cost estimates, including recommended procedures and guidance on reviewing bids prior to concurrence in award. Guidance will also be included for improving pre-bid, bid review, and evaluation policies and procedures. Three chapters: *Estimating Using Historical Bid Pricing*, *Cost Based Estimating*, and *Evaluation of Contractor Bids*, have been completed and are available for comment. Current work is posted on the TCCE webpage:  
<http://www.transportation.org/sites/design/docs/TCCE%20Report%20-%20A%20Practical%20Guide%20to%20Estimating.pdf>
- Work is underway on the next three chapters: *Parametric Estimating*, *Risk Based Estimating*, and *Inflation Forecasting*. Completion is anticipated in 2008 for the Risk Chapter and early 2009 for the Parametric Chapter. The Inflation Chapter will be delayed while team members research the impact of emergent fuel technology on inflation forecasting.
- The committee has developed a common set of *Definitions* for cost estimating work to be incorporated into the practical guidance and will continue to investigate existing AASHTO definitions as well as other resources. The *Definitions* section of the guidance will be dynamic as additional cost estimating guidance chapters are developed.
- Work began on two more chapters during our October 1-2, 2008 meeting: *Bidding Strategies for Cost Control and Performance Measures and Tracking*. Potential future

topics include: Quality Control/Quality Assurance procedures; Estimation Training; and Real Estate/Utility Cost Estimates.

- The committee continues to review NCHRP Report 574, “Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction” and will incorporate appropriate information into the practical guidance chapters. The committee feels the report has substantially beneficial information and recommends it as a valuable reference on estimating tools and techniques. TCCE members are involved in and staying current on other research projects related to cost estimating issues.
- The Technical Committee completed work with the FHWA in developing a peer review program to utilize State DOT expertise in the review of project cost estimates and in the FHWA process reviews of State DOT cost estimating processes.
- The committee will continue to work with the Transportation Estimators Association (TEA), as well as meet in conjunction with their annual meeting, to help ensure that its work has benefits to all State DOTs.

### **Meetings**

- The Technical Committee on Cost Estimating (TCCE) will meet at the next annual Transportation Estimators Association (TEA) Conference in Omaha, Nebraska.
- Members of the committee will attend national workshops on cost estimating sponsored by AASHTO when possible.
- The committee will also participate in conference calls, as needed, to advance the committee’s work.

### **Research**

- The Technical Committee will track the progress of the following research projects:
  - The Right of Way component of NCHRP Project 8-49, “Procedures for Cost Estimation and Management for Highway Projects during Planning, Programming, and Preconstruction.” The Technical Committee would like to continue an active role in reviewing the progress and deliverables of this NCHRP project.
  - NCHRP Project 8-36, Task 72; Implementing Project Cost Estimation and Management Process Improvements.
  - NCHRP Project 25-25, Task 39; Improving Project Environmental Cost Estimates.
  - NCHRP Project 8-60; Guidebook on Risk Analysis Tools and Management Practices to Control Transportation Project Costs.
- The TCCE co-sponsored two NCHRP 20-7 research proposals with the Technical Committee on Preconstruction Management:
  - Best Practices for the Analysis and Approval of Contractor Bids
  - Identification of Best Practices in the Estimation of Preliminary Engineering Costs
- Additional research proposals submitted for funding under NCHRP 20-7 in 2008:
  - Maximizing Contractor Competition for Design/Bid/Build Contracts
  - Development of a Synthesis on the Practices of and Warrants for Price Indexing Commodities by State Agencies



**5-Year Goals**

- Publish and keep current guidance on cost estimating from cradle (conceptual estimate) to grave (final estimate)
- Maintain a list of resources for a peer review program to utilize State DOT expertise in the review of project cost estimates and in the FHWA process reviews of State DOT cost estimating processes
- Provide up-to-date web based resources for cost estimation practices

## Strategic Plan for the AASHTO Subcommittee on Design

*Adopted July 17, 2008*

### **Vision:**

The AASHTO Subcommittee on Design will be the national voice and leading source of innovation and technical guidance for transportation design projects and programs.

### **Mission:**

The AASHTO Subcommittee on Design leads transportation project development and delivery through the creation and promotion of practices to achieve safe, efficient, and effective solutions to meet transportation needs.

### **Goals and Strategies:**

The Subcommittee on Design will accomplish its mission by focusing on the following goals:

<b>1. Improve the timely delivery of projects</b> a. Identify and share best practices for project delivery methodologies from across the country and around the world. b. Develop policy statements and proposals for streamlining project delivery processes and procedures. c. Identify and share best practices related to project management.				
TCCE	Guidance on Cost Estimating	Finalize risk based and parametric chapters and continue work on inflation chapter as well as additional chapters not yet started	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
TCCE	Post links to DOT's Cost Estimating web resources	Work with AASHTO liaison to revamp TCCE webpage to include links to State and Provincial DOT's web-based cost estimating resources	Web-based resource links	Mid-2009
<b>d. Provide technical input and guidance during the development of federal rules and regulations.</b>				
TCCE	Review and comment on guidance related to cost estimating	Work with FHWA Liaison (Jim Sinnette)	Technical comments	As needed

<b>2. Develop design solutions that meet the purpose and need of a project, address its context, and protect the natural and human environment</b> <ul style="list-style-type: none"> <li>a. Promote flexibility in design practices.</li> <li>b. Research and share techniques and processes for involving communities and other stakeholders in the development of transportation facilities.</li> <li>c. Promote better integration of project delivery efforts from planning and environment, through design, to construction, maintenance, and operations.</li> </ul>				
TCCE	Guidance on Cost Estimating	Provide guidance to improve estimating from project inception through construction to include the identification of all/realistic costs	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
TCCE	Guidance on Cost Estimating	Write future chapter on tracking and measuring performance of cost estimates throughout life of project	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
<ul style="list-style-type: none"> <li>d. Participate in the development of guidance for communicating environmental commitments through design to construction.</li> <li>e. Play an active role in the development of guidance on climate change and energy efficiency efforts in the design of projects.</li> <li>f. Promote participation in land use planning for transportation.</li> <li>g. Provide guidance for mobility and accessibility of non-motorized users.</li> </ul>				

<b>3. Improve the quality and cost effectiveness of projects</b>				
a. Support performance management objectives within the design phase of project delivery, including the identification and recommendation of appropriate performance measures for design activities.				
TCCE	Guidance on Cost Estimating	Write future chapter on tracking and measuring performance of cost estimates throughout life of project	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
b. Promote project management techniques to improve quality and cost effectiveness.				
TCCE	Guidance on Cost Estimating	Finalize risk based and parametric chapters and continue work on inflation chapter as well as additional chapters not yet started	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
c. Provide guidance on constructability best practices for designers.				
d. Develop cost-effective solutions for delivering projects that minimize the operational and maintenance resources needed to sustain system effectiveness and functionality.				
TCCE	Guidance on Cost Estimating	Finalize risk based and parametric chapters and continue work on inflation chapter as well as additional chapters not yet started; chapters will include information on cost management and risk analysis	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
TCCE	Guidance on Cost Estimating	Develop future guidance to identify strategies for cost controls; share with other technical groups within state DOTs	AASHTO "A Practical Guide to Estimating"	2011; individual chapters will be posted as completed
e. Identify the need for and deliver technical and policy publications and other timely information on design-related topics.				
TCCE	Identify design-related cost estimating needs	Attend and interact at annual SCOD and Transportation Estimators Association (TEA) conferences; survey States' and Provinces' needs via FHWA and/or email	Documentation of needs	On-going
TCCE	Submit research proposals	Stay updated on current research in progress and submit research proposals as needed to fill the gaps in design-related estimating needs; resubmit proposals as necessary when not selected in previous round	Research proposals	On-going (twice per year)
TCCE	Review FHWA guidance	Work with FHWA liaison to review technical publications to ensure inclusion of identified information	Review comments	As needed

**4. Improve safety for the traveling public and the workforce**

- a. Develop and promote timely research into safer highway and transportation facility designs for all modes.
- b. Identify and share improvements made to enhance work zone safety.
- c. Support efforts to enhance the involvement of construction, maintenance, and operations personnel in the design phase of project delivery.
- d. Develop and implement guidance on safety issues.

**5. Advance the state of the practice**

- a. Develop, promote, and implement research on new technologies.

TCCE	Promote and implement research on new technologies	Identify the need for new technologies related to cost estimating, submit research proposals, and participate in the research	Research reports	As needed
TCCE	Stay current on cost estimating practices and tools	Identify new technologies through job related reading of journals and research reports, attendance at conferences, and interaction with consultants and contractors	New technologies	On-going

- b. Engage other AASHTO committees in the development and use of new technologies and processes throughout project delivery.

TCCE	Interact with other specialty areas	Talk with other specialty areas within our DOT's; share information on technologies and processes that would assist other areas; maintain web based clearinghouse on AASHTO TCCE website; work with AASHTO liaison to pass along information to other AASHTO committees	Improved communication	On-going
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- c. Coordinate and set priorities for the inclusion of new technologies and processes into design guidance.

- d. Increase coordination with and provide feedback mechanisms to/from academia, consultants, and contractors.

TCCE	Interact with academia, consultants, and contractors	Continue to coordinate annual TCCE meeting with TEA/TUG conference; participate in cost estimating research; attend other national meetings related to estimating	Improved communication	On-going
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- e. Monitor vehicle modifications for highway design considerations.

<b>6. Foster collaboration within AASHTO and with other organizations and disciplines</b>				
a. Promote implementation of the subcommittee's strategic goals through active participation and involvement of the technical committees.				
TCCE	Complete and update Strategic Plan for the AASHTO SCOD	Fill out or update this form during the annual TCCE meeting as a group task	TCCE's portion of the Strategic Plan for the AASHTO SCOD	October 31, annually
b. Coordinate and collaborate with SCOH and other AASHTO committees in the development of guidance, processes, and procedures.				
TCCE	Participate in AASHTO committee meetings	AASHTO liaison; chair is active participant in annual SCOD meeting	Improved efficiency and quality of TCCE products	On-going
TCCE	Avoid duplication and improve quality of TCCE products	Include an agenda item for TCCE annual meeting for the AASHTO liaison to provide information on what other committees are doing	Improved efficiency and quality of TCCE products	Annually
c. Coordinate with external organizations and other stakeholders to meet industry needs.				
TCCE	Interact with external organizations and stockholders	Continue to coordinate annual meeting with TEA/TUG conference; participate in research; attend other national meetings related to estimating	Improved communication	On-going
TCCE	Request input on draft documents	Seek input from external entities during development of guidance through posting on TCCE website and email notifications to stakeholders	Improved efficiency and quality of TCCE products	On-going
d. Work with federal, state, and local agencies to promote greater intermodal integration.				
e. Promote information sharing within and between member agencies.				
TCCE	Interact with other States and Provinces not represented on TCCE	Use regional contact list to promote communication between TCCE members and non-members within AASHTO regions; get on the agenda for the SCOD annual meeting; promote use of cost estimating guidance through email notifications	Shared information, improved quality of TCCE products	On-going
TCCE	Interact with other cost estimating experts	Continue to use TEA list service to communicate, gather data, pass along information related to TCCE work	Shared information, improved quality of TCCE products	On-going

**Technical Committee on Cost Estimating**  
**2009 Action Items – REVISED AS OF JANUARY 22, 2009**

<b>Completion Date</b>	<b>Who</b>	<b>What</b>	<b>Due Date</b>
	TCCE and AASHTO (Jim or Keith)	Share cost estimating guidance on website	On-going
	AASHTO (Jim McDonnell)	Post list of cost estimating contacts in AASHTO region on website	ASAP
10/28/08 to Tim	Jay, Lesly, Travis, Roger	Risk Chapter posted on website for SCOD/TEA review	1/30/09
	Ryan	Review chapters for consistent use of terms	On-going
	Mike, Greg, Dave, Darrell	Parametric Chapter	1/30/09 to TCCE 3/13/09 to Tim 4/30/09 to TEA/SCOD
	John, Norie, Jeff, Dave	Inflation Forecasting Chapter (Construction Cost Index portion)	3/5/09 to TCCE
10/2/08 – Fall submittal	Tim, Lesly	20-7 Proposal on Contractor Competition / Resubmit for Spring	10/3/08 – Fall 1/30/09 - Spring
12/15/08	Jim Sinnette	Provide survey questions to TCCE for comments  TCCE review and comment	12/31/08  2/27/08

	Jim Sinnette	TCCE survey to states through FHWA on TCCE and cost estimating practices	3/31/09
1/12/09	Jim Sinnette/AASHTO (Jim, Keith)	FHWA Peer Review Guidance posting on website	ASAP
10/31/08	Lesly	Strategic Plan to AASHTO (Jim)	10/31/08
	Lesly	2009 TCCE Work Plan to AASHTO (Jim)	May '09
	Ryan, Ken	Performance Measures and Tracking Chapter – outline to TCCE	1/31/09
	Tim, Scott, Travis, Roger	Bidding Strategies for Cost Control Chapter – outline to TCCE	1/30/09
	Dave	Work with AASHTO (Jim McDonnell) to get web-based cost estimating resources clearinghouse set up on AASHTO website	2/27/09
	Lesly	2009 TCCE meeting agenda for Omaha, Nebraska	7/15/09
done	Lesly	Schedule regular teleconferences for TCCE	ASAP