

**AASHTO Technical Committee on Cost Estimating  
October 1 and 2, 2008  
Saratoga Springs, New York  
Meeting Minutes, Work Plan, and Action Items**

**Meeting Minutes**

**Welcome and Agenda Review**

The new Chair Lesly Tribelhorn (Montana) welcomed the Technical Committee on Cost Estimating (TCCE). Vice Chair, David Kent (New York) was present. The following team members were unable to attend: Darrell Richardson (Georgia); James Frick (South Carolina); Jeff Hisem (Ohio); John Riedl (Oregon); Maria Burke (Texas); and Jay Drye (Washington). The AASHTO Liaison was unable to attend. Jim McDonnell will be the AASHTO Liaison.

Representatives from the following agencies and firms attended during portions of the meeting: Louisiana Department of Transportation and Development; California Department of Transportation, New Mexico Department of Transportation, InfoTech, and Oman Systems.

See Attachment A for the Meeting Agenda.

**Roundtable Introductions, Items of Interest, Top 3 States' Issues**

Lesly Tribelhorn, Montana. – Montana has recently hired a position for cost estimating. Montana will begin tracking estimates and developing performance measures. Montana studied using forecasting tools like Ohio, but is now using a standard 3.5% inflation rate. It has been difficult to develop regional adjustments. Montana will be putting a cost risk program into place which will be suing contingencies. The challenge is to put adequate thought into the development of contingencies. Unstable revenue in Montana has impacted design activities and schedules. Even though the program has declined, it has been difficult to maintain design schedules.

Greg Davis, Florida – Florida is having the same top 3 issues as last year. They are: 1. Cost risk analysis; 2. Cost based estimating; and 3. Cost performance measures. In Florida, residential construction contractors have been coming over to highways which have resulted in increased competition and lower bids.

Dave Kent, New York – New York's top three issues are: 1. Detailed and preliminary estimating. New York has developed cost risk analysis procedures that are conducted by a consultant for larger jobs. New York would like to transition to doing the analysis in-house. 2. New York is using Tracer for preliminary or parametric estimating. New York is developing procedures, guidance, and webinar training for Tracer, including the use of contingency factors. 3. New York has experienced market uncertainty that has resulted in cost escalation that has impacted New York's program and budget.

Mike Fowler, Vermont – Vermont has created a QA/QC Estimator position in the construction section. Vermont's annual letting budget is from \$150 million to \$250 million (max). Revenue shortfalls in Vermont are declining each month. Vermont uses electronic bidding and Transport and Estimator software. Vermont's top 3 issues are: 1. Asphalt cost increases has had a major negative impact on estimates and budgets. 2. Fuel and asphalt price adjustments have accounted for 15% to 20% of Vermont's budget on pavement projects alone. 3. Transport is undergoing a significant update. The Transport update team is soliciting comments and recommendations for development of the new system.

Travis Koestner, Missouri – Missouri's program has decreased from \$1 billion to \$600 million. Missouri is now using bonds as a revenue sources due to the lack of revenue. A challenge in Missouri is forecasting asphalt and fuel prices.

Ken Spear – Wyoming – Wyoming is now moving away from Transport to IPD. The Wyoming program is increasing due to influx of more state funds. Wyoming has had a lot of energy development with royalties going to highway funding. Wyoming's program is close to \$350 million. Top issues in Wyoming are: 1. The lack of available labor (due to the high energy development) for highway construction; 2. Inflation, especially due to asphalt and steel increases. Wyoming has fuel, asphalt and steel prices adjustments. Recent data shows that the escalation for these items is not 6% as noted in CCI but closer to 18%.

Norie Calvert, Maryland – Maryland's budget has been cut by \$1 billion over the next 6 years. Maryland's program is now about \$700 million. Most of cuts are in construction projects, not design. These cuts result in a greater need to have solid estimates. Material prices and market conditions are issues in Maryland. The reduction in Maryland's program has resulted in more competition since there is less work and bids are coming down. Maryland is piloting electronic bidding with small projects. After the pilot, a decision will be made on whether to continue or expand electronic bidding. Maryland has been studying how construction methodology impacts cost estimates (i.e. activities that accelerate construction)

Scott Bickford, Maine – Maine has similar issues to Vermont. Asphalt costs have had a significant impact. Projects have been cancelled and other projects have had their scope reduced. Maine also uses electronic bidding and has begun having conference calls to listening in live at bid openings. Electronic bidding is now at 50% compared to 20% from a year ago. Maine is now considering closing down roads to accelerate construction time. Maine closed down 20 miles of Interstate 295 for a complete rehabilitation. Maine also uses increasing incentives depending how early the contractor finished.

Ryan Griffith, Kentucky – The top issue in Kentucky is the increase in asphalt and steel prices although they may have recently leveled off. Competition is another issue in Kentucky. There have been single bid contracts in Kentucky. The recent lack of funding should help competition. Kentucky is currently not able to fund all jobs. Kentucky has created a market analysis team to package bids to stimulate competition. The new

leadership at KYTC is committed to allowing more alternate bids which has been resulting in good bid results.

Roger Bierbaum, Iowa – Iowa has had a consistent program for 20 years at an increase of 3% to 5% per year. This year the cost of gas has resulted in people driving less which further resulted in declining revenue. Iowa's program/budget estimates are not keeping up with price increases. Iowa is also experiencing inconsistent program estimates.

Tim Quinn, Minnesota – Minnesota is having similar problems as other states. Minnesota's program has been inconsistent. Minnesota is under its third bonding program. Bonding has funded Minnesota's 10 year program to accelerate bridge reconstruction. The bridge collapse last year has resulted in a political shakeup. Asphalt prices have risen abruptly and last summer there was a polymer shortage for cold weather asphalt. The reason was not determined, but there does not appear to be a shortage now. Minnesota is negotiating asphalt price clauses with contractors and the AGC. There is a current issue with an opt in/opt out clause. There has been no agreement on whether to include that clause. Minnesota has a better handle on cost estimating; scoping; and cost management. There is a large effort to change cost and scope management in Minnesota. There is more emphasis on risk management and identifying contingencies. Minnesota is rewriting their estimate manual and changing the way costs are identified Minnesota has been pushing projects out of the STIP, due to cost growth. Minnesota uses electronic plans and electronic bidding for projects \$1 million or more. Minnesota does not hold public lettings. The Internet is used to announce low bids. Soon this will be the main way to do business.

Guest, New Mexico – New Mexico uses Transport and Estimator. New Mexico's top three issues are: 1. Converting Estimator files to PES; 2. Cost risk analysis; 3. Asphalt prices (which are current declining). New Mexico's program is \$500 million.

Guest, Louisiana – Louisiana is implementing Transport and CES which should start in 2009. Some training has been completed but more is needed. Escalation and bidder competition are major issues in Louisiana.

Guest, California – The top three issues in California are: 1. External market conditions recently caused prices to dramatically increase but now bids are declining. Some bids are 30% under the EE and California is currently averaging 8 bidders per contract. The differences between program estimates and EE are varying significantly. 2. Estimating escalation rates is a challenge. California is using a risk-based probabilistic approach. In California, residential construction contractors have been coming over to highways increasing competition and resulting in lower bids.

The following paper, "Quantity-Based Approach to Preliminary Cost Estimates for Highway Projects" was made available. This paper is at: <http://trb.metapress.com/content/57ul0q7224n85275/fulltext.pdf>

One issue that the TCCE discussed was how to deal with funding and revenue shortfalls. The following are what some states are doing:

- Focus on high volume routes first, and then low volume routes.
- Defer projects until the spring.
- Increase bond revenues
- Limit construction to system preservation.
- Use alternates in the procurement process and then cut back on projects when needed.
- Minnesota was able to pass a gas tax increase of 7 cents.

It was noted that in some cases contracts are having difficult time getting long term quotes from asphalt. Some state DOTs are using bi-weekly asphalt adjustments.

### **Status Report of Action Items/Goals from 2007 St. Louis, Missouri Meeting** **Risk Based Cost Estimating Chapter –**

Jay Drye has sent out the latest Risk-Based Cost Estimating Chapter with revisions made based on the latest comments. Additional comments should be provided immediately to Lesly Tribelhorn. This chapter will discuss the use of contingencies and allowances and the definitions of each. The chapter should discuss the “self-fulfilling prophecy” of a contingency and how to determine enough contingency to finish the project. Also, the chapter should discuss who manages contingencies and how risk is used to set contingencies.

Jay Drye will send this chapter to Tim Quinn for word processing by the end of October and then to be sent to Keith Platte (AASHTO) for posting on the AASHTO TCCE website. The goal is to post the final draft on the AASHTO TCCE website by the end of 2008. (Lesly Tribelhorn will be clearinghouse and will send out all chapters for review. Tim Quinn and Ryan Griffith keep maintain the master for all chapters and will provide them to AASHTO (Jim McDonnell or Keith Platte) for posting.)

### **Definitions –**

Definitions are done. Chapter writers should make sure that the definitions are used consistently in the guide. In addition, Ryan Griffith is charged with reviewing draft chapters with a focus on the consistent use of terms to match the definitions.

### **Parametric Chapter (Dave Kent, Darrell Richardson, Greg Davis, Mike Fowler) –**

A rough draft has been sent out to the TCCE. The final draft chapter will be ready for TCCE review by December 15. TCCE comments should be provided to Mike Fowler within one month after receipt of the chapter. Mike Fowler will then send this chapter to Tim Quinn by February 15 for word processing. Tim Quinn will send this chapter to Keith Platte (AASHTO) for posting on the AASHTO TCCE website. The goal is to post the final draft on the AASHTO TCCE website by the end of February. This Parametric Chapter should show include a discussion on how much work and how many resources are expected when setting up a parametric system. This chapter should also include a discussion on scheduling updates to the model to ensure prices are current.

Inflation Forecasting Chapter (John Riedl, Norie Calvert, Jeff Hisem, Dave Kent)

A portion of the inflation forecasting chapter is put on hold, pending the completion of Oregon DOT's study. Ken Simonsen of the AGC may be a good resource when writing this chapter. In the meantime, the construction cost index portion of this chapter can be worked on. The second draft of this chapter should be delivered for TCCE review by end of 2009. The chapter writers should determine whether there is a planning group working on inflation forecasting. Jeff Hisem or Jennifer McAllister (Ohio DOT) can be contacted for Ohio DOT guidance. Norie Calvert will provide the write-up for the price index discussion.

20-7 Proposals on Price Indexing (Attachment B) and Contract Competition (Attachment C)–

Both 20-7 proposals have been submitted to AASHTO.

Share cost estimating guidance on website –

The TCCE continues to work with the AASHTO Liaisons to post draft chapters on the TCCE website.

TCCE survey to states on TCCE and cost estimating practices –

Jim Sinnette will provide the survey questions for the TCCE before the end of the year for comments. The survey should be sent out after the latest chapters have been drafted and posted on the TCCE website. Therefore, the date for sending the survey out will be finalized after the first TCCE conference call. The survey will be sent to all FHWA Division Offices for completion by the State DOT and the Division Office. Survey responses will be requested within 2 months after the survey is sent out.

Gather list of cost estimating contacts in AASHTO region -

The list of cost estimating contacts was sent to Keith Platte (AASHTO) for posting. Please send additional contacts to Lesly Tribelhorn and she will forward them to Keith Platte.

RAP report to TCCE -

Keith Platte (AASHTO) has sent out the RAP report to the TCCE.

Check with Subcommittee on R/W and Utilities to see if they have a R/W cost study –  
Utilities did submit a 20-7 request

Draft policy for peer review team for cost estimate reviews by TCCE -

Jim Sinnette will provide the FHWA internal guidance on cost estimate reviews to Keith Platte for posting on the AASTO TCCE website.

Draft 2008 TCCE work plan for SCOD –

The 2008 TCCE work plan has been completed and submitted.

#### Draft 2008 TCCE meeting agenda -

The 2008 TCCE meeting agenda has been completed. Lesly Tribelhorn will prepare the draft 2009 TCCE work plan (See Attachment G) and the draft 2009 TCCE annual meeting agenda for the September/October 2009 meeting in Nebraska.

### **2008 SCOD Strategic Plan and Direction to Technical Committees**

#### **TCCE Major Work Tasks for SCOD Strategic Plan**

A new strategic plan for the AASHTO SCOD was completed on July 17, 2008. The TCCE developed draft TCCE strategies in support on the SCOD strategic plan. Lesly Tribelhorn will finalize the strategic plan and submit it to the SCOD by the end of October. See Attachment D.

#### **Top 3 States' Issues – Condense and compare to last year**

The following are the top 10 issues from all of the TCCE member states as tallied during the meeting. The rankings changed after a more thorough review of meeting minutes. Please see the attached table for the final rankings.

1. Inflation forecasting/ market uncertainties/impact of material cost increases on project costs – Score 11
2. Cost risk analysis – Score 6
3. Growing funding gap – Score 6
4. Market condition/competition – Score 5
5. Consistent long range estimates – Score 3
6. Tracking estimates through project life/performance – Score 3
7. Cost/schedule increases from outside forces (Labor shortage) – Score 2
8. More innovative contracting methods/construction – Score 2
9. Analyzing bidding practices/bid review – Score 1
10. Cost-based estimating- Score 1

(Note: Score is based on 2 points for first place and 1 point for second and third place.

#### **Next chapters for guidance**

The TCCE has decided to add 2 new chapters to the cost estimating guide.

The Performance Measures and Tracking Chapter will be led by Ryan Griffith with Ken Spears. The chapter may include guidance systems, too. The outline will be prepared and sent to the TCCE for review by the end of January.

The Bidding Strategies for Cost Control Chapter will discuss alternate bidding strategies to increase competition. This chapter may include packaging projects for procurement and balancing bid openings to maximize competition. This chapter will be led by Tim Quinn with Scott Bickford, Travis Koestner and Roger Bierbaum. The outline will be prepared and sent to the TCCE for review by the end of October.

A chapter on addressing life cycle costs may be considered in the future.

### **FHWA/TCCE Peer Review**

Due to budget issues, it does not appear feasible to establish a team to travel and review other States cost estimates. However, the FHWA method for reviewing cost estimates will be posted on the TCCE website.

### **Cost Estimating workshops and forums**

The TCCE noted that it is beneficial to advertise future cost estimating workshops and forums sooner so more TCCE members can attend.

On April 28, 2008, a workshop on “Cost Estimating and Cost Management in the Design and Project Development Process” was held in Minnesota. Travis Koestner, Greg Davis, and Dave Kent attended. The presentations from the workshop can be found at: [www.cts.umn.edu/costestimationworkshops](http://www.cts.umn.edu/costestimationworkshops).

### **Web based clearinghouse for Cost Estimation Resources**

The TCCE believes that a web-based clearinghouse for cost estimating resources is needed. This would include Internet links to other states and could be organized by topics. The TCCE would prefer to have this on the TCCE site with a separate webpage devoted only to the clearinghouse. Dave Kent will lead this effort and discuss this with AASHTO (Keith Platte or Jim McDonnell) Dave Kent will report back to the TCCE with sample topics by the end of November.

It was noted that anyone can log onto the TEA ListServe Support to access ListServe archives. The link to the archives: <https://mail.cloverleaf.net/pipermail/tea/>

The FHWA also reported that the new FHWA price index system by Oman Systems is likely (80% chance) to be online in December.

### **Discussion on oil commodity price and supply questions, cost indexing effectiveness and the use of bidding alternates, including pavements and life cycle costs**

The TCCE held on roundtable discussion on this topic (suggested by John Riedl):

*Since oil is now at an “unprecedented” level – it would be helpful perhaps if each person in our group bring to the table the thoughts and discussions related to how each DOT plans to manage this commodity in the future – given the concerns that the supply will be in an ever increasing “question over supply” – we should probably discuss several area’s and recommendations to send up to the AASHTO subcommittee on design. Major topic areas could include:*

- *Bidding alternates*
- *Bidding options*
- *Owner furnished materials*
- *Prepay for supplies with a “storage bid item”*
- *Life cycle cost analysis of concrete vs. asphalt*
- *Mobility issues*
- *New build construction costs vs. preservation costs*

- *RAP*
- *Impacts to depreciation analysis on the highways (straight-line depreciation vs. GASB depreciation)*
- *Appreciation value of oil components in highways.*

The TCCE discussed what can be done to reduce exposure to escalation. There appears to be few choices to limit or mitigate this exposure. Some solutions may be:

- Bidding alternatives. Some believe this is the best and easiest solution in many cases. Alternates for overlay projects may be more difficult than new pavement. Based on the new AASHTO design guide, concrete may not be as expensive as before. Some states are biased towards one type of pavement. Also, contractor capabilities can be an issue.
- Price Indices for fuel, asphalt, steel, etc. The challenge with price indices is accounting for the costs. Some states use a fixed price pay item in the contract.
- Defer projects.
- Time project letting to take advantage of better competition (i.e. November through February).
- Stockpiling binder.
- Stockpiling material sources (e.g. Florida)
- Leasing tanks by State DOT to become the sole supplier for State DOT projects.
- Increase the amount of allowable RAP in the bottom lift of asphalt. Some believe that this needs to be carefully studied since RAP may have variations in quality.
- Assist contractors in getting firm quotes prior to letting.
- Other state furnished material (bulk purchasing) for future contracts and paying contractors for stockpiled materials. Quality can be an issue.
- It was noted that mix design changes does not appear to be a solution.

### **Report on April 2008 Cost Estimation Workshop**

The following are the presentations from the workshop:

Overview of NCHRP 574 Report by Stuart Anderson:

[www.cts.umn.edu/costestimationworkshops/documents/April2003AndersonOverview.pdf](http://www.cts.umn.edu/costestimationworkshops/documents/April2003AndersonOverview.pdf)

The TCCE should make sure the AASHTO TCCE guide is consistent with the strategies identified in the NCHRP 574 Report. The Ten Key Principles from this presentation should be incorporated into the AASHTO TCCE guide.

Cost Estimating & Cost Management Florida DOT Approach by Greg Davis:

<http://www.cts.umn.edu/costestimationworkshops/documents/April2008Davis.pdf>



Cost Estimating and Management, Virginia DOT by Richard Kiefer

<http://www.cts.umn.edu/costestimationworkshops/documents/April2008Kiefer.pdf>

In Virginia, all estimates are in one system.

### **Research updates**

Dr. Stuart Anderson provided updates on 8-60 Risk Analysis Procedures and 8-49(20) R/W Cost Procedures at the TEA. The presentations can be found on the TEA website at: <http://www.tea.cloverleaf.net/2008%20TEA/Presentations/2008Presentations.htm>

The TCCE will not be reviewing the R/W Report.

The final report for NCHRP Project 8-36 (72) DOT Approaches to Implementing Cost Estimate Management Process Improvements is now available at:

[http://www.statewideplanning.org/resources/236\\_NCHRP-8-36-72.pdf](http://www.statewideplanning.org/resources/236_NCHRP-8-36-72.pdf)

The TCCE should review the report to see if anything can be added to the TCCE guide.

There are two research projects that directly relate to TCCE work, and the TCCE would like to have the opportunity to review their draft reports. They are:

- TRB 25-25, Research for the AASHTO Standing Committee on the Environment. Task 39. Improving Project Environmental Cost Estimates, <http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=1657> and
- NCHRP 8-60, Guidebook on Risk Analysis Tools and Management Practices to Control Transportation Project Costs <http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=936> .

Lesly Tribelhorn has asked Jim McDonnell if someone from the TCCE can be on the review panel for the TRB 25-25 projects and if the TCCE can review the draft products of the NCHRP 8-60 report. The 8-60 report may have similar information to the TCCE guide chapter on risk.

Minnesota DOT is developing new estimating policy, including a new guidebook and training. This will lead to an organizational change with new roles and responsibilities established. This will also lead to more accountability. See:

<http://www.dot.state.mn.us/cost-estimating/index.html>

Montana DOT is in the process of a research project on Highway Project Cost Estimating and Management. This is similar to the Nevada research project – the same consultant is performing both studies. A risk based tracking system is proposed that uses a spreadsheet to track different schedule and cost risks, including cost increases. Lesly Tribelhorn will provide a sample spreadsheet to the TCCE. The February 2008 progress report is at:

[http://mdt.mt.gov/research/docs/research\\_proj/project\\_cost/progress\\_feb08.pdf](http://mdt.mt.gov/research/docs/research_proj/project_cost/progress_feb08.pdf)

New York is developing a check-list and tracking systems for risks. This would be a project management responsibility. Dave Kent will provide information to Lesly Tribelhorn, including New York DOT guidance on estimating contingencies.

In California, Caltrans is tracking risks on the San Francisco-Oakland Bay Bridge East Span bridge project. The Caltrans Sample Risk Register is available at: [http://www.dot.ca.gov/hq/projmgmt/guidance\\_prmhb.htm](http://www.dot.ca.gov/hq/projmgmt/guidance_prmhb.htm) Caltrans Division of Design Cost Estimate information is available at: <http://www.dot.ca.gov/hq/oppd/costest.htm> Jack Young (Caltrans) volunteered for reviewing the TCCE estimating guide draft chapters.

### **Notes from the TCCE Update for the TEA Conference**

Lesly Tribelhorn provided an update of the TCCE activities to the TEA Conference on October 3. See TEA website for the presentation: <http://www.tea.cloverleaf.net/2008%20TEA/Presentations/2008Presentations.htm>

The presentation consisted of a brief overview of the TCCE mission and a discussion of the cost estimating guide begin prepared.

The Top States' Issues from 2007 were presented (See Attachment E):

- Market consolidation/competition
- Consistent long range estimates
- Cost/schedule increases from outside forces
- Inflation forecasting
- Scope Management

The Top State's Issues from 2008 were presented (See Attachment F):

- Inflation forecasting/market/material costs
- Cost risk analysis
- Growing funding gap
- Market consolidation/competition
- Consistent long range estimates

Specific Issues for the TCCE are:

- Asphalt binder issues
  - Scheduling/program impacts
  - Index payouts
- Fuel prices
- Competition

The TCCE submitted research topics (20-7) regarding indices used on construction contracts and tools to maximize contractor competition.

The TCCE draft guide to estimating is available on the AASHTO TCCE website.

Future chapters will include topics on innovative tools for cost control (e.g. maximizing competition) and performance measures for estimates.

The TCCE also is updated on other research proposals (e.g. 8-49; 8-36; 8-60)

The TCCE develops annual work plans that are aligned with the SCOD Strategic Plan.

Questions were then taken from the TEA conference audience to ensure that the TCCE is working to meet the needs of the TEA. The following are the TEA top issues:

1. Parametric models are considered a good idea (e.g. Tracer), especially with respect to more rigorous CADD modeling.
2. Early estimates, contingencies, and risk are 3 focus areas. The risk chapter should discuss contingencies from both a risk-based and a deterministic basis.
3. Estimates presented as ranges and escalation costs are big issues. The discussion of estimating ranges will be in the risk chapter; and escalation costs will be part of the inflation chapter.
4. The FHWA sample index for the fuel price adjustment uses a 1987 base year. Will this base year be changed? [The FHWA does not have any plans to revisit this calculation or to change the base year.]
5. Using pro-active purchasing as a cost management tool. This could include state furnished material (bulk purchasing) for future contracts and paying contractors for stockpiled materials.

### **Future Meetings**

Lesly Tribelhorn will schedule future quarterly conference for the TCCE. Tentatively they will be scheduled on the fourth Thursday of January, March, June and September.

### **Summary of Action Items:**

- Jay Drye and Lesly Tribelhorn will finalize the Risk Based Cost Estimating Chapter and send it to Tim Quinn for word processing by the end of October. Tim Quinn will then send the final draft to Keith Platte (AASHTO) for posting on the AASHTO TCCE website. The goal is to post the final draft on the AASHTO TCCE website by the end of 2008.
- Mike Fowler will send out the final draft of the Parametric Chapter to the TCCE by December 15. TCCE members will provide comments back to Mike Fowler within one month. Mike Fowler will finalize the chapter and send it to Tim Quinn for word processing by February 15. Tim Quinn will then send the final draft to Keith Platte (AASHTO) for posting on the AASHTO TCCE website. The goal is to post the final draft on the AASHTO TCCE website by the end February 2009.
- Norie Calvert will prepare the write-up for the price index discussion of the Inflation Forecasting Chapter.

- Jim Sinnette will provide the survey questions for the TCCE before the end of the year for comments. The date for sending the survey out will be finalized after the first TCCE conference call. Survey responses will be requested within 2 months after the survey is sent out.
- The list of cost estimating contacts was sent to Keith Platte (AASHTO) for posting. Please send additional contacts to Lesly Tribelhorn and she will forward them to Keith Platte.
- Jim Sinnette will provide the FHWA internal guidance on cost estimate reviews and the conference call minutes to Keith Platte for posting on the AASTO TCCE website.
- Lesly Tribelhorn will prepare the draft 2009 TCCE work plan and the draft 2009 TCCE annual meeting agenda for the September/October 2009 meeting in Nebraska. See Attachment G.
- Lesly Tribelhorn will finalize the TCCE strategic plan and submit it to the SCOD by the end of October. See Attachment D.
- The outline for the Performance Measures and Tracking Chapter will be prepared and sent to the TCCE for review by the end of January. The team will be led by Ryan Griffith with Ken Spears.
- The outline for the Bidding Strategies for Cost Control Chapter will be prepared and sent to the TCCE for review by the end of October. The team will be led by Tim Quinn with Scott Bickford, Travis Koestner and Roger Bierbaum.
- Dave Kent will discuss a web based clearinghouse site with AASHTO (Keith Platte or Jim McDonnell). Dave Kent will report back to the TCCE with sample topics by the end of November.
- Lesly Tribelhorn has asked Jim McDonnell if someone from the TCCE can be on the review panel for the TRB 25-25 projects and if the TCCE can review the draft products of the NCHRP 8-60 report. COMPLETED.
- Lesly Tribelhorn will provide a sample risk tracking spreadsheet from Montana to the TCCE.
- Dave Kent will provide information to Lesly Tribelhorn on New York's check-list and tracking systems for risks.
- Jack Young (Caltrans-Guest) provided the website Caltrans Sample Risk Register [http://www.dot.ca.gov/hq/projmgmt/guidance\\_prmhb.htm](http://www.dot.ca.gov/hq/projmgmt/guidance_prmhb.htm) and Caltrans Division of Design Cost Estimate information <http://www.dot.ca.gov/hq/oppd/costest.htm>

- Lesly Tribelhorn will schedule future quarterly conference for the TCCE. Tentatively they will be scheduled on the fourth Thursday of January, March, June and September.

# ATTACHMENT A –

## 2008 TCCE Annual Meeting Saratoga Springs, NY

<b>Wednesday, October 1, 2008</b>	
8:00 am - 8:30 am	Welcome & Agenda Review (Chair)
8:30 am - 10:00 am	Roundtable Introductions, Items of Interest, Top 3 States' Issues (All)
10:00 am – 10:15 am	Break
10:15 am – 12:00 pm Discussion Topics	<ul style="list-style-type: none"><li>· Status Report of Action Items/Goals from 2007 St. Louis, Missouri Meeting (Chair)</li><li>· 2008 SCOD Strategic Plan and Direction to Technical Committees (Lesly Tribelhorn)</li><li>· TCCE Major Work Tasks for SCOD Strategic Plan (All)</li></ul>
12:00 pm – 1:30 pm	Lunch (on your own)
1:30 pm – 3:00 pm Discussion Topics	<ul style="list-style-type: none"><li>· Top 3 States' Issues - Condense and compare to last year (All)</li><li>· Next chapters for guidance (All)</li><li>· FHWA/TCCE Peer Review</li><li>· Cost Estimating workshops and forums</li><li>· Web based clearinghouse for Cost Estimation resources (All)</li></ul>
3:00 pm – 3:15 pm	Break
3:15 pm – 5:00 pm Roundtable Discussion	<ul style="list-style-type: none"><li>· Discussion on oil commodity price and supply questions, cost indexing effectiveness and the use of bidding alternates, including pavements and life cycle costs (John Riedl)</li></ul>

**2008 TCCE Annual Meeting  
Saratoga Springs, NY**

<b>Thursday, October 2, 2008</b>	
8:00 am – 10:00 am Discussion Topics	<ul style="list-style-type: none"> <li>· Report on April 2008 Cost Estimation Workshop (Dave Kent, Greg Davis, Travis Koestner)</li> <li>· Research updates: <ul style="list-style-type: none"> <li>8-49 (Greg)</li> <li>8-36-72</li> <li>25-25</li> <li>8-60</li> <li>MnDOT project (Tim Quinn)</li> <li>MDT project (Lesly Tribelhorn)</li> </ul> </li> <li>· Research Proposals: <ul style="list-style-type: none"> <li>Price Indexing (Mike Fowler)</li> <li>Maximizing Contractor Competition (Tim Quinn)</li> </ul> </li> <li>· Cost Estimating Surveys (Jim Sinnette) <ul style="list-style-type: none"> <li>Results from compiled surveys</li> <li>New questions</li> </ul> </li> </ul>
10:00 am – 10:15 am	Break
10:15 am – 12:00 pm Work Session	<ul style="list-style-type: none"> <li>· Work on new chapter outlines and 20-7 proposals (Groups)</li> <li>· Report back to TCCE, develop timelines (All)</li> </ul>
12:00 pm – 1:30 pm	Lunch (on your own)
1:30 pm – 2:45 pm Work Session	Chapter work
2:45 pm – 3:00 pm	Break
3:00 pm – 4:00 pm Discussion Topics	<ul style="list-style-type: none"> <li>· 2009 Work Plan (Chair)</li> <li>· Presentation for 2009 SCOD meeting (Lesly Tribelhorn)</li> <li>· Scheduling Quarterly Phone Conferences (Chair, Jim McDonnell)</li> <li>· Summary of Action Items, Assignments, and Deadlines (Chair, Jim Sinnette)</li> </ul>
4:00 pm – 5:00 pm	Adjourn for TEA board meeting

# ATTACHMENT B –

## **NCHRP 20-7 Proposed Research Needs Statement**

*Submitted by:*  
AASHTO Technical Committee on Cost Estimating  
Ms. Lesly Tribelhorn, PE, Chair

September 2008

### **TITLE**

Development of a Synthesis on the Practices of and Warrants for Price Indexing Commodities by State Agencies

### **BACKGROUND/NEEDS STATEMENT**

Whenever in the past a commodity used in transportation infrastructure projects has seen a significant rise in cost the incorporation of price indexing or cost escalation clauses into a DOT contract becomes a popular topic of discussion. This has been most recently experienced through the increase in cost of fuel and asphalt products but over time has also been seen in a number of other commodities as well, such as the raw material cost of steel. Many involved in the construction industry are quick to support the use of such provisions which results in a pressure on DOTs to implement a cost escalation clause to relieve contractors of risk in predicting the impact of these increases in cost in their bid prices. However, there has been no guidance developed for state agencies to follow in the decision making process as to whether this results in a corresponding disadvantage to a DOT, the effects on competitive bidding and a competitive market, the long term effect on bid prices, or if such a practice is even warranted.

A search of the TRIS (Transportation Research Information Services) database and the national Research in Progress database has revealed that no similar research has been conducted nor is currently underway.

Therefore, the AASHTO Technical Committee on Cost Estimating proposes to develop a *Synthesis on the Practice of Price Indexing by DOTs*. The proposed *Synthesis* will include guidelines and recommendations for the implementation of such practices. The *Synthesis* will be based on the experiences of those states which have used price indexing or cost escalation clauses as well as any other available data that illustrates the effectiveness or ineffectiveness of this practice. Also, to be included will be an analysis that will either prove or disprove indexing is even warranted under any economic conditions.



## **RESEARCH OBJECTIVE**

The objective of this project is to develop a synthesis that will provide guidance and a base of understanding for State DOTs in the decision making process on whether or not to include contract provisions associated with commodity price indexing or cost escalation clauses.

## **WORK TASKS**

The scope of the proposed project includes the following tasks:

1. Review the existing experience of those State DOTs that have used price indexing or cost escalation clauses as part of their construction contracts and use this feedback as a base from which to develop a more generic set of recommendations for all states.
2. Review any other available economic data either in the construction industry or other industry to determine if such practices are warranted and/or results in a corresponding advantage/disadvantage to the contracting agency/owner. This could include interviewing the contractors that typically bid on and construct State contracts to get the industry perspective.
3. Perform an analysis on the economics of price indexing and/or cost escalation clauses that will offer some determination as to whether such practices are warranted and whether such practices have an overall effect on the market for the commodity it applies to. This includes how such contracting procedures affect the industry price trends and comparison of bid prices, and overall payout for items indexing or escalation clauses as compared to not having these clauses. Also include the ratio of DOT payout vs. contractor payout as a result of the clause, as well as an analysis of the administrative costs to the DOT.
4. Perform an analysis to determine whether indexes provide some measurable (artificial) influence to open competition, specifically with respect to bid competition and stability of the bid market. Measurable components to be considered are:
  - Reduction of 'added risk pricing' (reduction in potential extra profits).
  - Stability to an otherwise unstable bid market (index trigger point effects on bid stability).
  - Increased desirability to "unwilling bidders" in the market (new entries to the market).
  - Assistance in avoiding contractor default issues (high risk commodities such as steel).
  - Increased bid competition – thus reducing overall bid prices (increases in bids per project).
5. Develop recommendations based on the findings of the review of experiences of DOTs, other industries, and the analysis which will provide guidance and evaluation methods for transportation agencies to use in the decision making process regarding this matter.

6. Prepare a draft version of the *Synthesis on the Practices of Price Indexing Commodities by State Agencies*.

#### **FUNDING REQUESTED AND TIME REQUIRED**

It is estimated that this will be an 18-month project and will require \$100,000.

#### **CONTACT PERSON**

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# ATTACHMENT C –

## **NCHRP 20-7 Proposed Research Needs Statement**

*Submitted by:*  
AASHTO Technical Committee on Cost Estimating  
Ms. Lesly Tribelhorn, PE, Chair

September 2008

### **TITLE**

Maximizing Contractor Competition for Design/Bid/Build Contracts

### **BACKGROUND / NEEDS STATEMENT**

History has shown that increased competition for constructing highway projects will result in lower contract bid costs in the design/bid/build process. This cost competition carries throughout the construction market to include prime contractors, subcontractors, and suppliers. Significant owner cost savings can be realized by employing contract bidding strategies and methods that encourage contractors to put their most competitive bids on the table.

This research is proposed to identify and develop guidelines for State Highway Agencies to utilize the most effective bidding strategies that will encourage the most competitive contract bids and overall best value.

### **RESEARCH OBJECTIVE**

This research will result in a best practices guide for increasing competition and number of bidders in a design/bid/build environment. The best practices compilation will identify methods and describe the advantages, disadvantages, history, expected impacts, and implementation barriers; from both the owner and bidder's perspectives.

The research will explore and assess the following bidding strategies:

1. Contract size: Assess how to size contracts to fit the scale of the local contracting market.
2. Balancing lettings: How to set up an annual letting schedules with respect to cost drivers such as project size, cost, number of projects, dollars, project type, etc. to achieve the best bid costs.
3. Time of year.
4. Use of alternatives in projects.
5. Use of state furnished materials.
6. Use of cost indices and escalation clauses.
7. Contract time.
8. Project advertising.
9. Optional grouping: Group contracts to allow for single bids on one, all, or any combination of projects within the grouping.

10. Single work type contracts.
11. Self imposed contractor limits: Allow contractors to self impose a cost limit for one letting, allowing a contractor to bid aggressively on multiple contracts, to be awarded at the owners discretion.
12. Contractor proposed design: Contractor to Multiple stage bidding: Bidding option.
13. Effects of multi- year contracts.

## **WORK TASKS**

Tasks anticipated in this project include the following:

- Inventory best practices; Include all owners employing low bid award.
- Conduct a literature search on low bid award methodologies and best practices.
- Assess methods, with respect to advantages, disadvantages, barriers, and outcomes for each viable method.
- Develop a how-to guide for best practices, applicable to state transportation agencies.

## **URGENCY**

This research will become part of the 'AASHTO Practical Guide to Estimating'. The AASHTO Technical Committee on Cost Estimating (TCCE) will meet in September 2009 to review and incorporate the product into the guidebook.

## **FUNDING REQUESTED AND TIME REQUIRED**

It is estimated that this research will take 9 month to complete and will require \$90,000.

## **CONTACT PERSON**

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## **ATTACHMENT D –**

## 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:

#### 1. Improve the timely delivery of projects

- a. Identify and share best practices for project delivery methodologies from across the country and around the world.

Committee Name	Major Work Task or Activity	Plan for Accomplishing Work Task	Product	Committee Completion Date
EXAMPLE: TCDB	Share best practices in design-build	Refine output from NCHRP Project 20-7, Task 172, "Recommended AASHTO Design-Build Procurement Guide"; develop draft official AASHTO guide document; ballot committees; submit to AASHTO for publication	AASHTO "Guide for Design-Build Procurement"	June 2007

- 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

d. Provide technical input and guidance during the development of federal rules and regulations.

TCCE	Review and comment on guidance related to cost estimating	Work with FHWA Liaison (Jim Sinnette)	Technical comments	As needed
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**2. Develop design solutions that meet the purpose and need of a project, address its context, and protect the natural and human environment**

a. Promote flexibility in design practices.

b. Research and share techniques and processes for involving communities and other stakeholders in the development of transportation facilities.

c. Promote better integration of project delivery efforts from planning and environment, through design, to construction, maintenance, and operations.

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

d. Participate in the development of guidance for communicating environmental commitments through design to construction.

e. Play an active role in the development of guidance on climate change and energy efficiency efforts in the design of projects.

f. Promote participation in land use planning for transportation.

- g. Provide guidance for mobility and accessibility of non-motorized users.

### 3. Improve the quality and cost effectiveness of projects

- 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
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- 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
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- 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.

## 6. Foster collaboration within AASHTO and with other organizations and disciplines

- 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
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- 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

## ATTACHMENT E –

2007 Top Three States Issues - Condensed					
Issue	Rank*	Comments	Chapter subject?	Future chapter?	Related chapter
Market consolidation/competition	9		No		Risk-based estimating
Consistent long range estimates	7		Yes		Historic, cost-based, parametric, risk-based
Cost/schedule increases from outside forces	6	Alt. pipes; stormwater reg's; R/W costs; Env. Mitigation costs	No		Risk-based estimating
Inflation forecasting	6		Yes		Inflation forecasting
Scope management	4		No		Risk-based estimating
Cost risk analysis	3		Yes		Risk-based estimating
Tracking estimates through project life/performance measures	3		No	Yes	
Analyzing bidding practices/bid review	2		Yes		Evaluation of Contractor's Bids
Consolidated estimating software system	2		No		
Design-build estimates	2		No	Yes	
Developing cost estimating guidelines	2		N/A	Purpose of guidance	All chapters
Growing funding gap	2		No		
CO supplemental cost agreements	1		No		Cost-based estimating
Cost estimates for asset management	1		No		
Cost-based estimating	1		Yes		Cost-based estimating
Estimating value of millings	1		No		Cost-based estimating
Impact of material cost increases on project costs	1		No		Risk-based estimating
More innovative contracting methods	1		No		
Organizational changes	1		No		
	*2 points for top issue; 1 point for other two issues				

## ATTACHMENT F –

<b>2008 Top Three States Issues - Condensed</b>					
<b>Issue</b>	<b>Rank*</b>	<b>Comments</b>	<b>Chapter subject?</b>	<b>Future chapter?</b>	<b>Related chapter</b>
Cost/schedule increases from outside forces/growing funding gap	12	Material costs, Labor shortages	No		Risk-based estimating and Cost-based estimating
Inflation forecasting/market uncertainties/Impact of material cost increases on project costs	12		Yes		Inflation forecasting
Consistent long range estimates	6		Yes		Historic, cost-based, parametric, risk-based
Cost risk analysis	5		Yes		Risk-based estimating
More innovative contracting methods/constructability	3		No		
Tracking estimates through project life/performance measures	3		No	Yes	
Cost-based estimating	2		Yes		Cost-based estimating
Market consolidation/competition	2		No		20-7 proposal; AASHTO "Suggested guidelines for "; FHWA guide from 80's
Analyzing bidding practices/bid review	1		Yes		Evaluation of Contractor's Bids
Developing cost estimating guidelines	1		N/A	Purpose of guidance	All chapters
Scope management	1		No		Risk-based estimating
	*2 points for top issue; 1 point for other two issues				

# ATTACHMENT G –

## 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