

## **Transportation Pooled Fund Program**

**Project Title:** Accelerated Bridge Construction (ABC) Decision Making and Economic Modeling Tool

**Project Number:** TPF-5(221)

**Reporting Period:** 4/1/2011 - 6/30/2011

**Project Start Date:** 12/23/2009

**Expected Project End Date:** 9/30/2011

**Percentage of Work Completed:** 75%

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**Progress:** Based on the TAC members' suggestions, a reporting feature was added to the ABC decision-making software, which enables the user to print a summary of the results in a Word file. In addition, some modifications were made to the pairwise comparison process in the software to make it more user-friendly. The software manual was updated to reflect these new changes.

A teleconference with the TAC team was held on June 1, 2011. During the meeting, the results of the ABC software for four state projects in Montana, Oregon, Texas, and Utah were discussed. Also, the completed presentations (conferences, seminars, and training sessions) and the planned upgrades to the software were reviewed with the team.

On April 6<sup>th</sup> and May 12<sup>th</sup>, the research team conducted two training sessions in Portland to introduce ODOT managers and engineers to the "Accelerated Bridge Construction Decision Making Process Using AHP Software". A copy of the software on a CD was provided to all participants.

Dr. Doolen gave a presentation at the 6<sup>th</sup> annual ACEC/ODOT Partnering Conference hosted by the Oregon Department of Transportation and the American Council of Engineering Companies of Oregon (ACEC-Oregon) on April 27, 2011 in Wilsonville, OR on the topic of "ABC Decision Tool and Economic Analysis" in the "ODOT Program Innovations to support Practical Design" session.

On May 19<sup>th</sup>, Dr. Doolen presented the topic of "To Accelerate Bridge Construction or Not" at the NHI Innovations Web Conference, held by the US Department of Transportation, Federal Highway Administration. She also attended the 2011

International Bridge Conference in Pittsburgh, PA on June 8<sup>th</sup> to present the decision making tool during the “New Decision Tool - Determining When to Use Accelerated Bridge Construction” session.

The 2011 ODOT Bridge Design Conference was held in Salem, OR on May 24<sup>th</sup>-25<sup>th</sup>. The team presented the topic of “ABC Cost Analysis Decision Model” during the “Beyond Bridges” session on May 25<sup>th</sup>.

An article titled “To Accelerate Bridge Construction or Not? A Planning Phase Decision Tool for ABC” was submitted by the team to the “Public Roads Magazine” (a FHWA publication) and was accepted for publication in the Nov/Dec 2011 issue of the magazine. In this paper, the developed tool for ABC decision making process is introduced.

**Problems:** None noted.

**Work Planned for Next Quarter:** The final report of the project will be written and submitted. Also, the final version of the AHP tool along with the Visual Basic code, based on which the tool has been developed, will be turned over to FHWA.

The team will conduct a third AHP training session in Salem, OR on August 16<sup>th</sup> for the ODOT project managers and leaders. Also, the team will attend the “2011 Mid-Continent Transportation Research Symposium” held at Iowa State University in Ames, Iowa on August 18<sup>th</sup>-19<sup>th</sup> to present the topic of “ABC Tool and Economic Modeling Study” during the “Structures and Bridges” session on August 18<sup>th</sup>. Dr. Doolen will have another presentation with the same topic at the “2011 Western Bridge Engineers' Seminar” that is being held on September 25 to 28 in Phoenix, AZ.

**Funds Obligated:** *\$120,000.00*

**Expenditures:** As of June 30, 2011, OSU expenditures on this project have totaled approximately \$68,005 which represents approximately 75% of the total budget. These expenditures have been for GRA salary, hourly student wages, and fringe benefits.

**Funds Remaining:**

As of June 30, 2011, remaining OSU funds for this project total approximately \$23,000.