Transportation Pooled Fund Program

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

Project Number: TPF-5(221)

Reporting Period: 1/1/2011 - 3/31/2011

Project Start Date: 12/23/2009 **Expected Project End Date**: 9/30/2011

Percentage of Work Completed: 65%

Principal Investigator: Dr. Toni Doolen
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Progress: A few modifications were made to the ABC decision-making software based on the comments of the TAC members. The software manual was updated to reflect these changes. These changes were mostly related to the software interface, the process for entering data, and the way in which software displays results.

In addition, data for bridge construction projects were obtained from Departments of Transportation in Washington, Texas, California, Oregon, and Montana. Data were entered in the decision-making software tool, and AHP analysis reports were generated. The reports were sent to the designated contacts in these states for review and approval. Project reports from Iowa were also updated using the updated software and criteria hierarchy.

A teleconference with the TAC team was held on February 22, 2011. During the meeting, Dr. Doolen presented a review of the TAC team December meeting in Portland and then discussed the general results of the ABC software for projects in Iowa, California, Washington, and Texas with the TAC members. Also, the cost weighted analysis function of the software was discussed and approved by the TAC.

In January, Dr. Doolen attended TRB conference in Washington, D.C. On January 23rd, she presented "Economic Modeling Study" in "Accelerated Bridge Construction: Research, Design, and Practice" session. She also presented the same topic on January 24th during the Structures Committee session.

In March, Prefabricated Bridge Elements and Systems (PBES) online seminars were held by FHWA's Every Day Counts. The sessions were held via the FHWA LTAP/TTAP

Clearinghouse online Seminar Room. Dr. Doolen and Ben Tang presented "ABC Decision Making and Economic Modeling Tool" in East coast, Pacific, and Central/Mountain sessions of this webinar on March 23rd and 30th.

Problems: None noted.

Work Planned for Next Quarter: Some additional modifications to the software were requested after a comprehensive training session was held for members of the Oregon Department of Transportation. The team will work to incorporate the new suggestions. In addition, the team will conduct a second training session on May 12, 2011.

The 6th annual ACEC/ODOT Partnering Conference will be 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. Dr. Doolen presented the topic of "ABC Decision Tool and Economic Analysis" in the "ODOT Program Innovations to support Practical Design" session, which was held from 3:00 pm to 4:30 pm.

On May 19th from 2:30 to 4:00 pm Eastern Time, Dr. Doolen will present a webinar on the topic of "To Accelerate Bridge Construction or Not" at the NHI Innovations Web Conference, which will be held by the US Department of Transportation, Federal Highway Administration.

On May 25th, the team will present an overview of the tool at the ODOT Bridge Design Conference in Salem in the morning session. Also on June 8th, Dr. Doolen will present the decision-making tool at the 2011 International Bridge Conference in Pittsburgh, PA during the "New Decision Tool - Determining When to Use Accelerated Bridge Construction" session from 11 am to 12 pm.

Furthermore, the team will work on a draft of an article for the Public Roads Magazine (a FHWA publication). The article will provide an overview of the decision making tool that was generated for the ABC project.

Funds Obligated: *$120,000.00*
Expenditures: As of March 31, 2011, OSU expenditures on this project have totaled approximately $59,000 which represents approximately 65% of the total budget. These expenditures have been for GRA salary, hourly student wages, fringe benefits, travel for the PI to attend TRB, and F & A.

Funds Remaining: *to be completed by ODOT*
As of March 31, 2011, remaining OSU funds for this project total approximately $32,000.