UTC RESEARCH PROJECT DESCRIPTION

PROJECT NUMBER
05209

PROJECT TITLE
Culvert Management System Implementation and Seminar

PRINCIPAL INVESTIGATOR
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PROJECT OBJECTIVE
This project will develop and deliver one-day seminars to train ALDOT, County, and Municipal employees and consultants in the proper implementation and use of the Federal Highway Administration (FHWA) Culvert Management System (CMS) and innovative techniques for management and rehabilitation/replacement prioritization of local roads bridges and culverts.

PROJECT ABSTRACT
This project will combine the expertise of the Shelby County Bridge Management Team with resources of Alabama DOT, FHWA, University of Alabama at Birmingham, and UTCA to provide training and practical experience in the implementation and use of bridge replacement prioritization technologies to DOT employees, county engineers, city engineers, and consulting engineers. Three seminars are planned through this project, and the effort will result in an annual self-supporting UTCA tech transfer opportunity that will continue to serve the State and region. This project will take a stand-alone FHWA CMS, and will develop a one-day curriculum using actual field data to teach the participants how to collect, input, and evaluate their own data. A substantial portion of the work plan will involve an implementation of the FHWA-CMS in Shelby County as a case study to provide a pilot demonstration of data collection and implementation.

PROJECT TASK DESCRIPTIONS

TASK 1: Implement FHWA CMS in Shelby County – This will Shelby County as a demonstration case for collecting the data for the CMS software.

TASK 2: Seminar Curriculum Development – This involves defining seminar particulars such as class content, subject length and breadth, expectation of participants, and handout materials. Course materials will be developed for distribution.
TASK 3: Seminar 1 – The first seminar will be comprised of invited county engineers, municipal engineers, ALDOT, contractors, etc., selected early in the project and to serve as project advisors. Seminar 1 will be a trial run of the full course content, conducted as a working meeting to gain feedback from the participants/advisors. It is expected that this seminar will be hosted at UAB and will involve approximately 10-15 participants.

TASK 4: Seminar 2 – The second seminar will be conducted at ALDOT (currently scheduled for February 2006).

TASK 5: Project Documentation – This will involve a comprehensive report and recommendations for improvement and continuation.

MILESTONES AND DATES:
Task 1: June - September, 2005
Task 2: July - October
Task 3: October
Task 4: November – February 2006
Task 5: March – May 2006

TOTAL BUDGET:
Twelve month project; UTCA budget $25,344; total budget $50,688; portions of the match will be provided by external corporate sponsors, Shelby County, and course registration fees.

STUDENT INVOLVEMENT:
A PhD Candidate at UAB (Tom Grimes) will participate in the project as a graduate student investigator and will be responsible for technical content, overall planning, curriculum development, and seminar presentation.

RELATIONSHIP TO OTHER PROJECTS:
This project will continue the strong and productive relationship between UAB, Shelby County, and UTCA initiated by UTCA projects 00219 - “Local Roads Bridge Prioritization Database Program” and 01218 - “Innovative use of Flowable Fill for LRB Rehabilitation”.

TECHNOLOGY TRANSFER ACTIVITIES:
The objective of the project is to develop and deliver seminars for ALDOT, County, and Municipal employees and consultants.

POTENTIAL BENEFITS OF THE PROJECT:
This project addresses safety, replacement of aging bridge structures, management, and cost effectiveness goals of UTCA by teaching an important user group how to effectively implement and use available software technologies.

TRB KEYWORDS:
Bridge management, bridge replacement, concrete, infrastructure, inspection, local government, transportation safety, database, prioritization, sufficiency rating, condition rating, bridge inventory