UTC RESEARCH PROJECT DESCRIPTION

PROJECT TITLE
Long-Term Warranties on Highway Projects

PROJECT NUMBER
06109

PRINCIPAL INVESTIGATORS:
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PROJECT OBJECTIVE
The purpose of this research is to investigate the legal and economic viability of using warranty provisions in highway projects to shift responsibility for quality control to the contractor after the work is completed.

PROJECT ABSTRACT
There is an increasing need for the Alabama Department of Transportation (ALDOT) to explore alternative ways to provide adequate oversight on construction projects. As one of the innovative contracting techniques encouraged by the FHWA, warranty provisions hold contractors accountable for the potential maintenance for a given period of time after project completion. The warranty practices in other states indicate that warranty contracting would benefit state DOTs by improving quality, life-cycle cost, and schedule as well as encouraging contractor innovations. On the other hand, the challenges associated with warranties could be substantial, including higher initial costs, a reduction or even elimination of small contractors from the bidding process, and an increase in contract disputes and litigation.

This research will investigate the warranty practices in other states and identify the pros and cons of warranty provisions in highway projects. Particularly, this research will analyze the contracting industry perspectives on warranty provisions and investigate the legal viability of warranty contracting in the State of Alabama. Additionally, this research will evaluate the impact of warranties on the life cycle cost of highway projects. It is hoped that this research will help ALDOT to determine whether and how to use warranties in highway projects. This research will also focus on technology transfer activities including a one day workshop/seminar. It is expected that the workshop and seminar will promote awareness of warranty contracting and address any concern that ALDOT engineers might have regarding the use of warranty provisions in highway projects.

PROJECT TASK DESCRIPTIONS
Task 1: Review and document the current practice of highway warranties in the US
Task 2: Develop evaluation model for highway warranties in Alabama
Task 3: Collect data and conduct LCCA analysis
Task 4: Workshop/Seminar
Task 5: Final report/Technical Paper

MILESTONES AND DATES
Task 1: Jan. – Apr, 2006
Task 2: May. – Jul.
Task 3: Jul. – Nov.
Task 4: Nov
Task 5: Nov. – Dec.

TOTAL BUDGET
12 months project: UTCA funds $49,060; UA $49,265; total budget $98,325.

STUDENT INVOLVEMENT
A master’s student will work half time on this research. His/her master’s thesis will be on life cycle cost analysis of warranties provisions. This project will also employ another undergraduate student assistant to help in collect data, document literature, and assisting with organizing the workshop.

TECHNOLOGY TRANSFER ACTIVITIES
The project will promote the awareness of the warranty contracting through technology transfer activities including workshop and publications.
  1. A one day workshop on the research findings will be organized in November, 2006
  2. At least one paper will be developed and submitted to an ASCE journal (J. of Infrastructure System, J. of Transportation Engineering, etc.), in addition to at least one conference presentation (for instance, at the TRB annual meeting).

POTENTIAL BENEFITS OF THE PROJECT
Highway warranties may reduce project cost from a life cycle perspective. This research will also help ALDOT to identify opportunities to use federal support in funding highway projects in Alabama under Special Experiment Project Number 15 (SEP-15), which was created by the FHWA to study the effects of innovative contracting techniques including warranties.

TRB KEYWORDS:
Warranties, innovative contracting, quality control, LCCA, maintenance