UTC PROJECT DESCRIPTION

PROJECT NUMBER:
03114

PROJECT TITLE:
ITS Applications for Transportation Facilities

PRINCIPAL INVESTIGATOR:
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PROJECT OBJECTIVE:
This project is an initial effort to develop unique Intelligent Transportation System (ITS) applications for security of Alabama transportation facilities. Specifically, the project will be used to establish face-to-face contact with recognized experts in the field, examine ITS techniques, complete a rigorous literature review, and then develop plans that outline a path for the future development and dissemination of ITS security applications for Alabama transportation infrastructure. In addition, it will establish the UTCA as the center of expertise for technology transfer to Alabama counties and cities, and to neighboring state highway agencies.

PROJECT ABSTRACT:
The specific objective of this research is to review the past, assess the present and plan for the future critical security issues for Alabama transportation infrastructure, using Intelligent Transportation System initiatives to meet them. A preliminary review of the literature gives an alarming picture of the threat to transportation infrastructure. President Bush states that the wonderful, root characteristics of American society make us vulnerable to terrorism of catastrophic proportions. Questions are being asked like: How do we protect ourselves and our transportation facilities from attack? How do we fund these efforts? How will the uses of ITS serve to mitigate this problem? Although Alabama has not come under direct attack, what should transportation officials do if it happens? These topics will be researched and analyzed within the scope of this project. The final report will be disseminated to transportation and political professionals via UTCA technology transfer activities.

PROJECT TASK DESCRIPTIONS:
1. Review transportation infrastructure security and ITS activities.
2. Conduct formative evaluation of current literature. Establish a board of advisors consisting of a cross section of representatives from the state, county, city and private sector as a panel of experts to help guide the research.
3. Provide recommendations for integration of security into transportation facility planning, design and operation. Provide recommendations for application of ITS.

MILESTONES AND DATES:
- Task 1, Jan 1 - Jul 1, 2003
- Task 2, Apr 1- Oct 1
- Task 3, Jun 1 – Dec 31

TOTAL BUDGET:
One year project: UTCA funds $50,545, total budget $63,681. Additional matching funds will be provided by existing projects that use Alabama Department of Transportation “SPR” funds.

STUDENT INVOLVEMENT:
Two graduate students will participate in this research. The graduate students will be expected to write a dissertation and a thesis based on the findings of this study.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
Dr. McFadden’s UTCA Project 00103, “Providing Technical and Management Expert Services in Intelligent Transportation Systems for Alabama” will be used as a starting point for ITS applications in Alabama.

TECHNOLOGY TRANSFER ACTIVITIES:
The project will help the UTCA in meeting technology transfer goals by creating a body of expertise that can be used as a basis for developing training and assessment tools and methodologies that can be provided for use by local and state governments and Alabama Industries in addressing transportation security.

POTENTIAL BENEFITS OF THE PROJECT:
This will create of expertise for facilitating, transferring and developing engineering, planning, budgeting, and safety solutions for security of Alabama transportation facilities. In addition, this project will promote UTCA’s diversity and human resource goals by utilizing undergraduate and graduate students to conduct the research, thereby influencing them to enter the field of transportation. This project will also provide security expertise to two transportation professors. It will be transferred to future students, making them more employable, and decreasing risk associated with security of future transportation infrastructure.

TRB KEYWORDS:
Safety, infrastructure management, intelligent transportation systems, terrorism, security