UTC PROJECT DESCRIPTION

PROJECT NUMBER:
00102

PROJECT TITLE:
Potential Applications of Video Technology for Traffic Management and Safety in Alabama

PRINCIPAL INVESTIGATOR:
John McFadden
Civil & Environmental Engineering
University of Alabama
Box 870205
Tuscaloosa, AL 35487-0205
(205) 348-0747
jmcfadden@coe.eng.ua.edu

PROJECT OBJECTIVE:
The goal of this research is to perform a comprehensive review of the current and potential use of video technology for traffic management and safety in Alabama. This will include a literature review, sites visits, a statewide review conducted with the Critical Analysis and Reporting Environment (CARE) software, and development of recommendations for video technology applications in Alabama.

PROJECT ABSTRACT:
Agencies are beginning to implement video technology for management of traffic without a complete understanding of the costs and benefits. Such systems require substantial investments to purchase, install, operated and maintain them. Offsetting these costs are benefits like automated enforcement programs to reduce violations and crashes due to red light running, speed, railroad crossing, and aggressive driving. Video systems can be configured to solve various traffic management problems, but specific applications often require specific hardware and software items. This project is being conducted to assist the ALDOT and Alabama communities by providing information on capabilities, implementation steps, appropriate uses, and target locations to take advantage of video technologies.

PROJECT TASK DESCRIPTIONS:
1) Literature review
2) Data collection and site visits
3) Evaluation of Alabama’s needs related to traffic management and safety
4) Prepare recommendations for video technology applications in Alabama
5) Develop a list of considerations to guide implementation of various video technologies for traffic management and safety
6) Prepare technical report, and disseminate the results in a one-day seminar

MILESTONES AND DATES:
Startup – Jan 1, 2000
Task 1 – Apr 15, 2000
Task 2 – Aug 31, 2000
Task 3 – Aug 31, 2000
Task 4 – Oct 31, 2000
Task 5 – Nov 30, 2000
Task 6 – Dec 31, 2000

TOTAL BUDGET:
One-year project: UTCA $50,524; total budget $101,267.

STUDENT INVOLVEMENT:
Two graduate student research assistants and two undergraduate students will work on this project, primarily in acquiring and “cleaning” video data. Both graduate students will use this research as their thesis project.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project is related to UTCA project 00103-“Proving Tehnical and Management Expert Services in Intelligent Transportation Systems for Alabama” conducted by Dr. John McFadden, which involves providing expert services in the field of ITS for ALDOT and Alabama cities.

TECHNOLOGY TRANSFER ACTIVITIES:
A final report will be prepared and presentations made to local and state transportation officials. In addition, the material developed in this course will be assembled into an ITS course for regular offerings to UA students.

POTENTIAL BENEFITS OF THE PROJECT:
This projects amounts to development of a “primer” that can help Alabama cities learn about and utilize video technology to improve traffic operations, and to identify traffic safety problems. Although it is difficult to quantify the benefits, they can be significant.

TRB KEYWORDS:
Video technology, traffic management systems, intelligent transportation systems, ITS, crash reduction.