PROJECT TITLE
Development of ITS-related Educational Activities

PROJECT NUMBER
06112

PRINCIPLE INVESTIGATOR
Steven L. Jones, Jr.
Assistant Professor
Department of Civil and Environmental Engineering
University of Alabama
213A Shelby Hall, Box 870205
Birmingham, AL 35487
T: 205.934.8462
F: 205.934.9855
e: sjones@eng.ua.edu

OBJECTIVE
The objective of the project is to develop educational activities to take advantage of the new Intelligent Transportation Systems (ITS) lab at the University of Alabama (UA) campus in Tuscaloosa (developed under UTCA Project 04116). Specifically, this project will result in:

- An advanced undergraduate/graduate level course on Advanced Traffic Management System (ATMS) planning, design and operation to be offered at UA;
- A set of ITS laboratory exercises for students from the UAB and UAH campuses; and
- A short course on ATMS delivery to transportation professionals throughout the State (consultants, city and county personnel, ALDOT, etc.).

PROJECT ABSTRACT
As the Alabama Department of Transportation (ALDOT) continues to plan, design and deploy ITS around the State, there is an increasing need for ITS-savvy transportation graduates. The project meets this need by developing educational activities to take advantage of the new ITS lab at UA. Specifically, the project will result in: an a new course on Advanced Traffic Management Systems (ATMS) at UA, a set of ITS lab exercises for UAB and UAH students, and a new short course on ATMS. The courses developed herein expose students to relevant ITS technologies as well as ITS management issues (e.g., funding, maintenance, security) faced by agencies and contractors charged with operating traffic management centers. The project enhances the educational offerings of UTCA. It capitalizes on the momentum and accomplishments of UTCA Project 04116 and allows UTCA to offer hands-on educational opportunity to students and professionals that is unique to Alabama and the southeast. The project raises overall awareness among students and professionals as well as build new, much-needed technical skills in the growing area of ITS. Due to the uniqueness of the ITS lab facility and the basing of an educational program (graduate course, training course, seminars, etc.), there exists a distinct potential to generate national presentations and publication showcasing the results of the proposed project and furthering the technology transfer goals of the UTCA.
TASK DESCRIPTIONS
The project will be accomplished via the following tasks.
Task 1 – Review literature relevant to ITS education and ATMS planning, design and operations.
Task 2 – Review applicable CITE courses and make arrangements for delivery of materials.
Task 3 – Develop a syllabus for an undergraduate/graduate course on ATMS.
Task 4 – Develop an outline for a short course on ATMS-related technologies and issues.
Task 5 – Design laboratory exercises in conjunction with City of Tuscaloosa ITS professionals.
Task 6 – Test pilot materials in various student seminars (include UAB and UAH students).
Task 7 – Coordinate with UAB and UAH to arrange student activities in the ITS lab during the Fall 2006 offering of the UAB Intelligent Transportation Systems course.
Task 8 – Deliver the ATMS course on UA campus.
Task 9 – Review the feasibility of adapting the materials for delivery via the Intercampus Interactive Telecommunication System (IITS) to the UAB and UAH campuses.
Task 10 – Deliver ATMS short course to transportation professionals.
Task 11 – Develop the final report and seek other opportunities to publish project results.

MILESTONES
It is intended that the project will begin in January 2006 and run through December 2006.
Task 1: Jan – Apr 2006
Task 2: Jan – Mar
Task 3: Mar – May
Task 4: Apr – May
Task 5: Apr – May
Task 6: May – Aug
Task 7: May – Nov
Task 8: Aug – Dec
Task 9: Aug – Dec
Task 10: Nov

BUDGET
This is a one-year project that will encumber a total of $29,445 of UTC funds, with a total budget of $58,890.

STUDENT INVOLVEMENT
Project will involve a graduate student in the research and assembly of course materials as well as the design and checking of lab “experiments”.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
The project is directly related to UTCA Project 04116 and will also build on momentum of previous UTCA ITS-related projects 00103, 00463 and 03114. Also, as the proposed project has a significant technology transfer component (see below); it also relates to the UTCA technology Transfer projects (03217, 04213, and 05205).

TECHNOLOGY TRANSFER:
The project is inherently a technology transfer effort.

POTENTIAL BENEFITS OF THE PROJECT:
The project will enhance the educational offerings of UTCA. It will capitalize on the momentum and accomplishments of UTCA Project 04116 and allow UTCA to offer hands-on educational opportunity to students and professionals that is unique to Alabama and the southeast. The project will raise overall awareness among students and professionals as well as build new, much-needed technical skills in the growing area of ITS. Due to the uniqueness of the ITS lab facility and the basing of an educational program (graduate course, training course, seminars, etc.), there exists a distinct potential to generate national presentations and publication showcasing the results of the proposed project and furthering the technology transfer goals of the UTCA.

TRB KEYWORDS:
ITS, Traffic Management, Education, Training