UTC PROJECT DESCRIPTION

PROJECT NUMBER:
00110

PROJECT TITLE:
Feasibility of an Integrated Traffic Management and Emergency Communication System for Birmingham, Alabama

CO-PRINCIPAL INVESTIGATORS:
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PROJECT OBJECTIVES:
This project examines the feasibility of an integrated traffic management and emergency communication system for Birmingham and surrounding counties in Alabama. The research focuses (1) on creating a coalition of stakeholders to develop a deployment plan for the location data platform, and (2) identifying opportunities for the development and marketing of applications to stimulate private sector investment.

PROJECT ABSTRACT:
There is a pressing need for an integrated traffic management and emergency communication system in the Birmingham, Alabama area. We reviewed the research involving wireless phones as traffic data probes and operational tests of in-vehicle Automatic Collision Notification (ACN) devices, as well as research relevant to the institutional issues for deploying an integrated traffic management and emergency communication system. This preliminary research indicated that an enabling element for such a system is a location data platform deployed on the networks of wireless carriers. The study will identify coalitions of stakeholders across both government and private sectors; articulate the benefits to, and contributions from, each stakeholder; develop business and alliance models for success; and create a marketing plan for assuring stakeholders’ participation in subsequent planning and implementation efforts.

PROJECT TASK DESCRIPTIONS:
1. Review the marketing and management literature and develop a conceptual model for successful stakeholder participation
2. Review the technical and industry literature on integrated traffic management and emergency communication systems and identify state of the art technologies and major issues in their deployment
3. Collect industry and government information on support of related programs and identify funding sources for future implementation
4. Benchmark on-going programs that integrate traffic management and emergency communication and identify facilitators and barriers to success
5. Recruit key government and private sector stakeholders to participate in feasibility study
6. Identify issues facing key stakeholders by conducting in-depth interviews
7. Obtain public support of key stakeholders through information sharing and discussion of issues and possible solutions
8. Develop data platform deployment plan with key stakeholders
9. Create marketing and communication plan for disseminating deployment plan
10. Disseminate findings of the study

MILESTONES AND DATES:
Project Start Date: January 1, 2000
Task 1 completion: March 1, 2000
Task 2 completion: March 1, 2000
Task 3 completion: June 1, 2000
Task 4 completion: August 1, 2000
Task 5 completion: March 1, 2000
Task 6 completion: May 1, 2000
Task 7 completion: August 1, 2000
Task 8 completion: September 1, 2000
Task 9 completion: September 1, 2000
Task 10 completion: December 31, 2000
Project completion: December 31, 2000

TOTAL BUDGET:
One-year project: UTCA $59,999; total budget $146,634.

STUDENT INVOLVEMENT:
Two graduate students will be involved in this research. A doctoral student will be involved in all aspects of the project and is expected to be a co-author on resulting publications. She will use the background material and findings to complete a first-year seminar paper. The other student, an MBA student, will have responsibilities in managing the contacts, collecting and cataloging project information, planning the on-campus symposium, and otherwise providing support to the project participants.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project has relationships to several on-going UTCA projects:
• Project 99115 - "Improving Crash Location, Display, and Analysis by Combining CARE and GPS Technologies" by Graettinger and Anderson
• Project 99113 - "Data Mining and Visualization of the Alabama Accident Database" by Conerly, Gray, and Mansfield
• Project 99252 - "Benefits of Interaction Between UTCA and Other Safety-Focused Centers and Organizations" by Davidson

TECHNOLOGY TRANSFER ACTIVITIES:
The feasibility study involves various professionals and major stakeholders directly in the project work. Key stakeholders—local and state DOTs, traffic management centers, EMS providers, medical centers, wireless service providers, ACN device manufacturers, vehicle manufacturers, and local businesses—will be actively involved in the project’s coalition building and planning for data platform deployment. Knowledge transfer will be enhanced through meetings and a symposium, widely disseminating information about traffic management and emergency response technology to industry professionals and executives, to community and government response leaders, and to health care professionals and managers. In addition, the research results have the potential for publication in a number of scholarly journals in the health care, management, marketing, and transportation fields.

POTENTIAL BENEFITS OF THE PROJECT:
This feasibility study addresses two of UTCA’s central themes: the management and the safety of transportation systems in Alabama. The project focuses on the integration of traffic management and emergency communication and response systems in Birmingham and surrounding counties. Because of this focus on integration, it should have a direct and positive impact on transportation and safety initiatives. For example, this study has many commercial implications both for the university and local economies. These include automatic collision notification (ACN), automatic vehicle location (AVL), integrated incident management, accident investigation, and commercial traffic data uses, including monitoring the speed and direction of traffic on primary and secondary roadways.

TRB KEYWORDS:
Intelligent Transportation Systems, transportation safety, traffic management, automatic collision notification, accident coordination.