PROJECT DESCRIPTION

PROJECT NUMBER:
99456

PROJECT TITLE:
Software Support for ALDOT HES Efforts

PRINCIPAL INVESTIGATORS:
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PROJECT OBJECTIVE:
This project will examine the safety program of the Alabama Department of Transportation (ALDOT), and will identify functions to transfer to the University Transportation Center for Alabama (UTCA). It will also initiate enhancements in ALDOT’s existing traffic safety software.

PROJECT ABSTRACT:
As part of TEA-21 legislation, the US Department of Transportation created and funded a “university transportation center” at the University of Alabama. This center operates under the twin theme areas of safety and management. ALDOT and UTCA are collaborating to transfer portions of the states traffic safety activities to the University, where they will function in UTCA’s Crash Analysis information Division (CAID) under the direction of Dr. David Brown. This project will plan and initiate that transfer.

A second aspect of the project will be the development of enhancements for ALDOT’s current traffic safety software. One element of this will be automation of the generation of collision diagram. A second aspect will be development of an early warning system that constantly examines accident data to identify locations where accident patterns are changing radically, and a
third aspect will be creation of software that generates criteria for determining critical thresholds of crashes and crash rates for use in identifying sites that are candidates for safety improvements.

PROJECT TASK DESCRIPTIONS:
1. Implement HES portion of plan to determine software packages that will be transitioned form ALDOT to UTCA’s Crash Analysis Information Division.
2. Develop software to automate generation of collision diagrams.
3. Develop a methodology and criteria for automatically determining critical crash thresholds for selection of candidate sites for safety improvements.
4. Establish a methodology and perform trend analyses to establish an early-warning system for locations that are undergoing changes in crash rates.

MILESTONES AND DATES:
• June 1, 1999 – Initiate project. Note that all tasks can proceed independently on each other, and that they will be conducted concurrently.
• May 31, 2000 – Conclude project.

TOTAL BUDGET:
One-year project: Alabama Department of Transportation $254,481.

STUDENT INVOLVEMENT:
One undergraduate and one graduate student will be employed on this project.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This is the initial project to study the transfer of some ALDOT safety functions to UTCA, so there are no previous or related projects.

TECHNOLOGY TRANSFER ACTIVITIES:
Each of the four work tasks will include preparation of documentation and training materials; however, there are no formal technology transfer activities scheduled as part of this project.

POTENTIAL BENEFITS OF THE PROJECT:
The transfer of some ALDOT safety activities to UTCA will produce an indirect benefit, because it will be consistently maintained and because it will be easily assessable for study by students and faculty member. The enhancements to safety software will make safety studies easier and more complete, increasing the accuracy of such studies.

TRB KEYWORDS:
Traffic safety software, crash data analysis, automated collision diagrams, safety trend analysis, crash early warning system.