PROJECT NUMBER: 04406

PROJECT TITLE: Characterizing Work Zone Configurations and Effects

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PROJECT OBJECTIVES:
The principle objective of this project is to assemble data for typical work zone lengths, configurations, and durations for various asphalt pavement and concrete pavement reconstruction or rehabilitation activities on major highways.

PROJECT ABSTRACT:
For major highway projects, the Alabama Department of Transportation (ALDOT) performs life-cycle cost analyses (LCCA) to compare alternative pavement designs and reconstruction strategies. UTCA Project 02409 investigated potential queue lengths at major highway work zones and the effect of user costs on typical ALDOT LCCAs. The UTCA research team concluded that ALDOT must gather better data for work zone lengths, configurations and durations before queue lengths may be determined or user costs reliably may be added to LCCA calculations. This new project will gather such data by obtaining relevant ALDOT data, by gathering data from other Southeastern State DOTs, and conferring with state and national associations and agencies.

PROJECT TASK DESCRIPTIONS:
Task 1 – Evaluate ALDOT data
Task 2 – Consult with Southeastern state DOT’s
Task 3 – Consult with various state agencies
Task 4 – Consult with various national agencies

MILESTONES AND DATES:
Task 1 – November 1, 2003 – December 20, 2003
Task 2 – December 21, 2003 – February 15, 2004
Task 3 – February 16, 2004 – April 5, 2004
Task 4 – April 6, 2004 – May 30, 2004
TOTAL BUDGET:
7 month project; proposed budget $32,000

STUDENT INVOLVEMENT:
Two graduate students will aid in data gathering and reduction: Mr. Patrick Clark and Mr. Brett Wood.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project is an extension to the work done in UTCA Project 02409.

POTENTIAL BENEFITS OF THE PROJECT:
The successful completion of this project will provide ALDOT with data required to perform reliable LCCAs for major highway projects.

TRB KEYWORDS:
Life cycle cost analysis, queue lengths, user costs, work zone lengths, work zone durations