PROJECT NUMBER: 05104

PROJECT TITLE: Development of a Bridge Testing Manual for the Alabama DOT

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PROJECT OBJECTIVE:
The objective of this project is to develop a manual documenting procedures used by the Alabama Department of Transportation’s (ALDOT) Bridge Rating and Load Testing Section to perform load tests on highway bridges and calculate revised load ratings.

PROJECT ABSTRACT:
Over the past ten years, the ALDOT has invested in special test trucks and data acquisition equipment to develop a program for load testing Alabama highway bridges. The program has been extremely successful; of almost 100 bridges ALDOT has tested, load posting has been removed from nearly all. The load test procedures are not documented, however. This project will document those procedures in the form of a comprehensive manual covering the load test procedures from beginning to end. Each chapter of the manual will be thoroughly reviewed by a project team composed of experienced ALDOT structural engineers, and the final manual will be reviewed by an external reviewer.

The completed manual will benefit the ALDOT Bridge Rating and Load Test Section immediately by providing a resource for training new personnel and preserving the continuity of the load test program. And the process of writing, reviewing and modifying the manual will lead to a better-thought-out load test program which will be of benefit to state taxpayers and motorists in Alabama. Finally, an edited version of the manual will be posted on the internet for others interested in seeing a detailed and practical explanation of a load test program.

PROJECT TASK DESCRIPTIONS:
1) Form project team and advisory committee
2) Organizational meetings
3) Draft, review and revise chapters
4) Comprehensive review
5) Deliver manual
6) Preparation of final report
MILESTONES AND DATES
Task 1: June 15
Task 2: July 15
Task 3: Draft of Chapter 1 by October 1
   Thereafter, approximately one chapter per month
Task 4: April 30
Task 5: July 15
Task 6: August 15

TOTAL BUDGET:
Fifteen-month project: UTCA funds $45,160; UA $45,229; total budget $90,389.

STUDENT INVOLVEMENT:
One CE graduate student will participate in the project.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project is a follow-up to UTCA Project 03402, “Proof Load Tests for Concrete Bridges.” In that project, the PI and Dr. Michael Triche worked with ALDOT personnel to develop a procedure for testing Alabama’s concrete bridges.

TECHNOLOGY TRANSFER ACTIVITIES:
An edited version of the manual will be posted on the web and referenced in a paper presented at a national conference.

POTENTIAL BENEFITS OF THE PROJECT:
The manual will provide a resource for training new personnel and preserving the continuity of the load test program. The writing and review process will lead to a better-thought-out load test program. And finally, others interested in seeing a practical explanation of the load testing process can access an edited version posted on the internet.

TRB KEY WORDS:
Bridges, load tests, loading tests, load limits, bridge load test manual