UTC PROJECT DESCRIPTION

PROJECT NUMBER:
99247

PROJECT TITLE:
Transfer of Transportation Materials Technology for Concrete Pavements

PRINCIPAL INVESTIGATOR:
Norbert Delatte, P.E., Ph.D.
Department of Civil and Environmental Engineering
The University of Alabama at Birmingham
Birmingham, AL
(205) 934-8436
ndelatte@eng.uab.edu

PROJECT OBJECTIVE:
The objective of this project is to acquire state-of-the-practice information and to prepare a training course to improve management, economy, and performance of constructed transportation facilities through transfer of construction materials technology.

PROJECT ABSTRACT:
The purpose of this project is to investigate the performance of concrete pavements in the southeastern United States using data from the Federal Highway Administration Strategic Highway Research Program Long Term Pavement Performance database. This investigation will determine the design features that improve pavement performance in this geographic region, including pavements in Alabama, Florida, Georgia, Mississippi, Tennessee, and North and South Carolina. A continuing education course for transportation professionals will be developed and taught from the findings.

PROJECT TASK DESCRIPTIONS:
1) Conduct literature review
2) Design an investigation using database to determine the design features that improve pavement performance in the geographic region
3) Retrieve and analyze data from database
4) Determine how field performance compares to that predicted by design procedures currently in use
5) Write final report
6) Develop a continuing education one-day course

MILESTONES AND DATES:
Project Startup – August 1, 1999
Recruit Student for Fellowship – Aug-Dec, 1999
Award Fellowship – Jan 1, 2000
Task 5 – Dec 31, 2000
Task 6 – Aug-Dec 2000
TOTAL BUDGET:
One-year project: UTCA $17,327; other (HPP) $8,456; match (UTCA) $17,079; match (HPP) $8,456; total budget $51,318.

STUDENT INVOLVEMENT:
This project will provide a fellowship for one year for one graduate student to encourage student to pursue a MSCE thesis in the area of performance and economy of concrete pavements.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project can be viewed as a stand-alone project as it does not tie into any other UTCA projects.

TECHNOLOGY TRANSFER ACTIVITIES:
The principal focus of this project is technology transfer. This project will determine lessons learned from concrete pavement performance in this region for subsequent technology transfer.

POTENTIAL BENEFITS OF THE PROJECT:
By utilizing the latest technologies for construction materials, transportation professionals will be able to improve the durability and economy of Alabama’s constructed facilities. Technology transfer projects of this nature will involve more engineering students and professionals in Alabama in transportation. This study will improve the management and maintenance of concrete highway pavements in Alabama and the southeastern U.S.

TRB KEYWORDS:
Concrete, specifications, quality control, technology transfer, concrete pavements, performance, design, roughness, distress.