

Period Covered: September 30, 2002 through March 31, 2003

KSDOT Progress Report
for the

State Planning and Research Program

PROJECT TITLE: Midwest Accelerated Testing Pooled Fund

PROJECT MANAGER:

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Dr. Stefan Romanoschi, KSU, PI

Project No: SPR-3(047)
RE-0165-01

Project is:

PLANNING
 RESEARCH &
DEVELOPMENT

Annual Budget (active projects)
FY 2002: \$269,992

Multi Year Project Budget

FY 2002 Project : The objectives of this research were to determine the structural performance of foamed asphalt stabilized recycled asphalt pavement (RAP) material when use as a base layer underneath asphalt concrete surface layers. The experiment consisted of constructing four pavements having the same asphalt concrete surface layer, of 3.5 inches in thickness. On three pavement structures, the base layer was made of foamed asphalt stabilized RAP. The base layer thicknesses were 6, 9 and 12 inches. The fourth pavement structure was built with a conventional crushed stone base layer. Half a million passes of ATL machine were applied to each of the four pavements. The bituminous base constructed using recycled asphalt pavement (RAP) stabilized with foamed asphalt performed much better than expected by the design. The measured stresses and strains as well as the rutting observed on the four pavements clearly indicated that foamed asphalt stabilization is an efficient technology for utilizing recycled asphalt pavement (RAP) material in the construction of base layers for flexible pavement, especially when the RAP material is contaminated during milling of distressed HMA layers with soil or crushed rock.

Progress: The full-scale accelerated testing of pavements constructed for FY 2002 project was finalized during September 2002. The four pavements failed by rutting. The post-mortem analysis consisting of trenching and coring of the four pavements was conducted in October 2002. A TAC meeting was held at Manhattan, KS on October 31 and November 1, 2002 to observe the FY 2002 test pavements at the end of the experiment, tour the new KSU Fielder Hall (CE) facility and labs, provide updated information on the FY 2003 experiment ready for installation and discuss interests and options for developing the FY 2004 experiment. Note: The FY 2003 and 2004 work is under project TPF-5(048). The analysis of the performance and response data measured on the four pavements, as well as the data collected during the post-mortem analysis was completed. The draft final report is in preparation.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

FY 2002 Project: Complete draft final report during April. Complete technical and editorial reviews of the final report and put in queue for publication.

STATUS AND COMPLETION DATE

Percentage of work completed to date for total project is: 99

 on schedule x behind schedule, explain:

FY 2002 project testing and reporting got behind schedule because of equipment repairs and modifications that were required on earlier experiments

Expected Completion Date: July 1, 2003