3ο ΔΙΕΘΝΕΣ ΣΥΝΕΔΡΙΟ
ΑΣΦΑΛΤΙΚΑ ΜΙΓΜΑΤΑ ΚΑΙ ΟΔΟΣΤΡΩΜΑΤΑ
Θεσσαλονίκη, 21-22 Νοεμβρίου 2002

A DECISION SUPPORT SYSTEM FOR HIGHWAY PAVEMENT MANAGEMENT

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ABSTRACT
In this work the structure and the main features of a pavement management system designed to assist the decision making process are presented. The system consists of a database, a user interface module, and analysis tools for pavement condition prediction, allocation of maintenance funds according to needs and priorities, and management of maintenance projects. Optimal strategy selection in the network level is obtained via a linear programming model which aims to minimize agency costs subject to constraints related to the desirable pavement condition over the network and planning horizon. In the project level, decisions about M&R project structure, planning and resource allocation are provided. The system provides output in tabular and graphical form (through GIS application) regarding pavement condition over time, proposed maintenance activities and cost distribution, project organization and management.

KEY WORDS: pavement, maintenance, management, decision support.