

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

MANAGEMENT OF MAINTENANCE WORKS IN HIGHWAY NETWORKS USING THE ASSIGNMENT PROBLEM

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ABSTRACT

The need for production increase of the highway maintenance leads to the application of mathematical methods so that manhours and machinery are better performing to capacity.

This study presents adaptation possibilities of the assignment problem for decentralized services of low grade, as the Greek are, and describes two specific works of road maintenance, that can be studied with the help of this problem:

- The coordination of road maintenance, namely the best time for executing specific work to the various sections of the road network. Special attention is given to the road markings, as traffic must continue as the work is being done.
- The snow removal management, i.e. the best distribution of the snow removal equipment in the various sections of the road network during the winter season.

The best criterion to identify each problem is followed as well as the mathematical model. Subsequently the model is modified so that local conditions, geometric road characteristics and peculiarities of the machinery (equipment) are considered for the solution of the problem.

KEY WORDS: Road maintenance, management, road marking, snow removal, assignment problem