AN INVESTIGATION TOWARDS THE APPLICABILITY OF
FINITE ELEMENTS FOR THE BACKCALCULATION
ANALYSIS OF ASPHALT PAVEMENTS

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ABSTRACT
The present research work, focuses towards the practical applicability of
finite elements as a tool for the backcalculation analysis of existing asphalt
pavements. For this purpose the finite element software program FELPA,
has been developed and verified using data obtained through in situ Non
Destructive Tests. The backanalysis of the measured deflection data based
upon FELPA, was quite satisfactory at least compared with relevant results
obtained through well known backanalysis software based upon the multi
layer theory. It is believed that the encouraging results based upon the
present experiment, will constitute a guarantee towards a future
development, by the Laboratory of Highway Engineering of the NTUA, of
a backanalysis program for nonlinearity, which will be based on FELPA.