Fuzzy inference and multi-criteria decision making applications in pavement rehabilitation prioritization

ABSTRACT

With regard to limits in annual budget for maintenance, inevitably, one must choose prioritized projects to optimize the allocated budget in the network. This paper looks into prioritization based upon models including all effects of important factors such as pavement condition index, road type, traffic volume as well as rehabilitation and maintenance cost. Analytical hierarchy process and fuzzy logic modelling was used for prioritization. Finally, in order to prove the efficiency of the models, some streets located in district No. 6 of Tehran municipality were selected and the favourite mathematical models were executed on those streets. It was concluded that fuzzy logic modelling can be used to prioritize pavements maintenance more efficiently and precisely.