

The evaluation of using the new methods of Roads-maintenance-reparation by analytic hierarchy process (AHP)

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Abstract:

Nowadays, classical procedures cannot exactly satisfy the requirements needed for road-maintenance-reparation programming. Therefore, in this way, using new technologies is a vital concept. Beside economical deriving-force as an intensive factor, other parameters such as production turnover, environmental measurements, safety conditions and communicational interactions have led to an expansion on the use of new technologies in decision-making processes. HDM-4 is the one of the new mentioned technologies, as a computer-programming software, in which in this study was used to consider the above parameters in the case of road-maintenance-reparation programming. On the other hand, as it was told, there are many factors affecting the concept of road-maintenance-reparation decision-making process. That is why HDM-4 was used in this study. Like this, group-hierarchy Delphi-based analysis is a novel procedure applied for decision-making process. To do this, nine conventional road-maintenance-reparation procedures were selected and, consequently, required input data were supplied the software to take the results as a twenty-year program. After that the Expert Choice software with the incident of AHP, as a multiple decision-making device, was used to compare new technologies and classical procedures.

Keywords: Roads-maintenance-reparation, analytic hierarchy process, evaluation of the new methods