

## Time-Varying Multi-Criteria Decision Making Model for Iranian National Plan for Intelligent Transportation Systems Architecture

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### Abstract

In Iran, there is a project defined on national plan for intelligent transportation systems (ITS) architecture. For this aim, the perspectives of stakeholders including ministry of roads and urban development, police, ministry of interior and also peoples should be taken by a decision support system (DSS) into account. In this DSS different perspectives will be gathered by a famous form namely user-needs. They are aggregated by a multiple-criteria decision making method such as analytic hierarchy process (AHP). The architecture of ITS for Iran can be defined with respect to these results and using profitability analysis including benefit-cost and risk assessment. Also the proposed architecture can be compared with same architectures in other countries. Then with respect to the resource limitations and different goals of Iranian stakeholders through a time horizontal, we propose a time-varying model to find the best combination of ITS for next years. The solution of such dynamic program is national plan for ITS and can be used to define short-term and long-term programs in ITS industry.

**Keywords:** *Decision Support Systems (DSS), Artificial Intelligence, Multi-Criteria, Decision Making, Systems Architecture, Dynamic Programming.*

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