

## **Development of intercity work mode choice model for Saudi Arabia**

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**Abstract:** Several mode choice models are developed all over the world to predict the tripmaker choice of using a specific mode among set of transportation modes. This modeling is quite important from a planning point of view since the transportation systems usually receive huge investment. However, the development of new models for a certain locality or even modifying some to suit this locality needs a lot of funds that sometimes are not easy to provide. In Saudi Arabia, there are some characteristics of intercity tripmakers that differ from those of other tripmakers in other countries. These characteristics include cultural, socioeconomic, safety, and religious parameters. In this study, the main purpose was to develop an intercity work mode choice model for Saudi Arabia. The required data was collected from all major cities throughout Saudi Arabia. A behavioral work mode-choice model was successfully built and validated with an independent sample for work trips. This model indicated that in-vehicle travel time, out-of-pocket cost, number of family members traveling together, monthly household income, travel distance, nationality of the traveler, and number of cars owned by the family played a role in decisions related to intercity mode-choices. This model will help government and public transportation agencies and private carriers to make decisions, and to prevent under-design or over-design of the facilities.