



## Evaluating and Ranking of Travel Mode in Metropolitan a Transportation Approach

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### Abstract

Nowadays metropolitans' planners faced with a significant growth of private cars and consequently, creation a lot of environmental costs. To tackle the problem, the planners should find the best suitable way with due to the stakeholders' views and other affected criteria to encourage the passengers for using the public transportation instead of their own cars. This paper has been performed to identifying and verifying main criteria affecting travel mode selection; getting different point of views; identifying the most effective travel mode from stakeholders' point of view and finally evaluating and ranking of travel modes in in Tehran metropolis. This study is a quantitative research based on survey and two structured questionnaires for passengers, experts and managers. In order to have an accurate data analysis, AHP as an MCDM models has been used to evaluate and ranking of travel modes. By identifying main criteria (variables) affecting travel mode selection, also collecting and analyzing stakeholders' different points of views, the weight of each related criterion has been identified and determined and consequently the priority of effective travel mode in Tehran metropolis has been achieved. Finally, the managerial report has been prepared.

**Keywords:** Metropolitan; MCDM; Decision Making; Travel Mode; Public Transportation.

## 1. Introduction

It seems that metropolitan planners should have proper facing with transportation issues, they should consider stakeholders' views as considering other criteria such as cost, budget, safety, resources, etc. to dominance these complications too. Also, they have to use suitable and scientific methods for their decision-making. To proper facing with transportation issues, they should take suitable decisions by using suitable methods. Moreover in order to provide effective services to passengers, it's necessary to determine how public transportation should be and what feature it should have. So, due to lack of studies about mentioned issues, current research has been performed as: "Evaluating and ranking of travel mode in a metropolitan". It has been performed to identifying and verifying main criteria (variables) affecting travel mode selection; getting all stakeholders' different point of views; identifying the most effective travel mode from stakeholders' point of view; evaluating and ranking of travel modes in Tehran metropolis. This research attempts to enrich the knowledge and criteria affecting to travel modes in metropolitans for traffic planners. Here we would like to remind that current research specially performed for Tehran metropolis and it is possible that based on culture and existing infrastructures in other metropolitans, identified passengers' point of view in this case be different with passengers in other. Besides, maybe travel modes in other metropolitans have different forms. For instance

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