



Seeking the Effects of Land Use on Modal Shift of Automobile Commuters in Response to TDM Policies: Case Study of Tehran

Reyhaneh Sadat Shahangian ^{1*}

^{1*} Assistant Professor, Institute for Management and Planning Studies, Tehran, Iran
(r.shahangian@imps.ac.ir)

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ABSTRACT

To reduce the number of private cars and respectively to decrease the side effects of congestion in central business districts (CBD) of metropolitans is one of the main purposes of implementing transportation demand management policies. This study uses a set of stated preference data to investigate the relationship between land use characteristics, five TDM strategies and modal shift from private car. The target group of the study includes commuters who often drive to CBD for work or study during the morning peak hours. Results reveal the effectiveness of some of the tested variables on the choice to give up driving.

Keywords:

Binary Logit, Central Business District (CBD), Land Use, Modal Shift, Transportation Demand Management (TDM).

1. Introduction

Transportation demand management strategies emerged to reduce the use of private cars and increase the efficiency of the available road network facilities. This strategies aiming to decrease car use try to achieve the goal by either making driving more expensive or sometimes prohibited or motivating other options like transit, walking, etc. However, studies reveal that the expected results of the implementation of the strategies are not always accomplished. The main reason of the gap between prediction and real reaction to the strategies might be the incomplete capturing of the effective elements of the neighborhood, and some socioeconomic characteristics on one's mode choice. O'Fallon et al. [1], accepting the idea, suggested that the differences between expected and real effects of policies are according to the presence of some constraints influencing commuter mode choice [1]. Some studies mention that the more accurate the effective factors on people reaction to TDM policies are, the more precise would the forecast of people's behavior in response to these strategies be (e.g. [2], [3]). So, some studies focused on different policies and showed the