

Transportation Mode Choice Analysis for Accessibility of the Mehrabad International Airport by Statistical Models

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Abstract : Countries are progressing, and the world's busiest airports see year-on-year increases in travel demand. Passenger acceptability of an airport depends on the airport's appeals, which may include one of these routes between the city and the airport, as well as the facilities to reach them. One of the critical roles of transportation planners is to predict future transportation demand so that an integrated, multi-purpose system can be provided and diverse modes of transportation (rail, air, and land) can be delivered to a destination like an airport. In this study, 356 questionnaires were filled out in person over six days. First, the attraction of business and non-business trips was studied using data and a linear regression model. Lower travel costs, a range of ages more significant than 55, and other factors are essential for business trips. Non-business travelers, on the other hand, have prioritized using personal vehicles to get to the airport and ensuring convenient access to the airport. Business travelers are also less price-sensitive than non-business travelers regarding airport travel. Furthermore, carrying additional luggage (for example, more than one suitcase per person) undoubtedly decreases the attractiveness of public transit. Afterward, based on the manner and purpose of the trip, the locations with the highest trip generation to the airport were identified. The most famous district in Tehran was District 2, with 23 visits, while the most popular mode of transportation was an online taxi, with 12 trips from that location. Then, significant variables in separation and behavior of travel methods to access the airport were investigated for all systems. In this scenario, the most crucial factor is the time it takes to get to the airport, followed by the method's user-friendliness as a component of passenger preference. It has also been demonstrated that enhancing public transportation trip times reduces private transportation's market share, including taxicabs. Based on the responses of personal and semi-public vehicles, the desire of passengers to approach the airport via public transportation systems was explored to enhance present techniques and develop new strategies for providing the most efficient modes of transportation. Using the binary model, it was clear that business travelers and people who had already driven to the airport were the least likely to change.

Keywords : multimodal transportation, demand modeling, travel behavior, statistical models

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