عنوان مقاله:

(Analysis of Pedestrian Access on Transit-Oriented Development (Case Study: District ۶ of Tehran

محل انتشار:

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خلاصه مقاله:

Transit-Oriented Development (TOD) is considered one of the most comprehensive urban theories concerning land use and transportation. Improving pedestrian access and urban public transport is a key objective of TOD, leading to an enhanced level of TOD within a given zone. This study aims to examine the impact of pedestrian access on public transportation, particularly through access to transit stations. A range of indicators related to pedestrian access to public transportation, such as the service area of public transportation, number of transport stations, speed, parking availability, commercial density, residential density, public spaces, walking distance, connectivity, transport modes, slope, and population density, were collected for this purpose. The quantitative values for these indicators were subsequently computed for District ۶ of Tehran (selected as a case study) utilizing ArcGIS. The aim was to determine the correlation between these indicators and the percentage of trips made using public transportation within the zone, serving as a functional criterion for assessing the level of TOD in the area. Subsequently, a model for pedestrian access modes to public transit in different zones was developed using the multi-layered perceptron neural network (MLP) technique. Based on the results, the network output with R=۰.۹۵۱۷ and MSE=۴.۸۸۸۱ indicated the satisfactory performance of the model. Furthermore, the sensitivity analysis results revealed the highest impact to be associated with parking, while the lowest impact was attributed to public spaces.

کلمات کلیدی:

Pedestrian access, urban planning and transportation, Neural Network, Geographic information system, TOD