

## **A Quantification Method of Attractiveness of Stations and an Estimation Method of Number of Passengers Taking into Consideration the Attractiveness of the Station**

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**Abstract :** In the metropolitan areas in Japan, in many stations, shopping areas are set up, and escalators and elevators are installed to make the stations be barrier-free. Further, many areas around the stations are being redeveloped. Railway business operators want to know how much effect these circumstances have on attractiveness of the station or number of passengers using the station. So, we performed a questionnaire survey of the station users in the metropolitan areas for finding factors to affect the attractiveness of stations. Then, based on the analysis of the survey, we developed a method to quantitatively evaluate attractiveness of the stations. We also developed an estimation method for number of passengers based on combination of attractiveness of the station quantitatively evaluated and the residential and labor population around the station. Then, we derived precise linear regression models estimating the attractiveness of the station and number of passengers of the station.

**Keywords :** attractiveness of the station, estimation method, number of passengers of the station, redevelopment around the station, renovation of the station

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