

## A Study on the Measurement of Spatial Mismatch and the Influencing Factors of “Job-Housing” in Affordable Housing from the Perspective of Commuting

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**Abstract :** Affordable housing is subsidized by the government to meet the housing demand of low and middle-income urban residents in the process of urbanization and to alleviate the housing inequality caused by market-based housing reforms. It is a recognized fact that the living conditions of the insured have been improved while constructing the subsidized housing. However, the choice of affordable housing is mostly in the suburbs, where the surrounding urban functions and infrastructure are incomplete, resulting in the spatial mismatch of "jobs-housing" in affordable housing. The main reason for this problem is that the residents of affordable housing are more sensitive to the spatial location of their residence, but their selectivity and controllability to the housing location are relatively weak, which leads to higher commuting costs. Their real cost of living has not been effectively reduced. In this regard, 92 subsidized housing communities in Nanjing, China, are selected as the research sample in this paper. The residents of the affordable housing and their commuting Spatio-temporal behavior characteristics are identified based on the LBS (location-based service) data. Based on the spatial mismatch theory, spatial mismatch indicators such as commuting distance and commuting time are established to measure the spatial mismatch degree of subsidized housing in different districts of Nanjing. Furthermore, the geographically weighted regression model is used to analyze the influencing factors of the spatial mismatch of affordable housing in terms of the provision of employment opportunities, traffic accessibility and supporting service facilities by using spatial, functional and other multi-source Spatio-temporal big data. The results show that the spatial mismatch of affordable housing in Nanjing generally presents a "concentric circle" pattern of decreasing from the central urban area to the periphery. The factors affecting the spatial mismatch of affordable housing in different spatial zones are different. The main reasons are the number of enterprises within 1 km of the affordable housing district and the shortest distance to the subway station. And the low spatial mismatch is due to the diversity of services and facilities. Based on this, a spatial optimization strategy for different levels of spatial mismatch in subsidized housing is proposed. And feasible suggestions for the later site selection of subsidized housing are also provided. It hopes to avoid or mitigate the impact of "spatial mismatch," promote the "spatial adaptation" of "jobs-housing," and truly improve the overall welfare level of affordable housing residents.

**Keywords :** affordable housing, spatial mismatch, commuting characteristics, spatial adaptation, welfare benefits

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