

出行行为视角下社区生活圈特征识别——基于时空大数据的研究

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摘要： In this study, we propose a sophisticated analytical framework designed to holistically capture collective daily activity spaces. This innovative perspective aggregates individual behaviors based on residential locations, enabling an exploration into the overarching patterns of residents' daily endeavors. The multifaceted nature of these activity spaces is captured through five nuanced dimensional indices: spatial extent, travel distance, temporal duration, activity intensity, and diversity. Leveraging mobile phone signaling data, we apply this framework to dissect the aggregated daily activity spheres of Shenzhen's residents. Through examination of these activity spaces across multiple temporal spans, we not only validate our framework but also ascertain that a one-week temporal unit, when aided by mobile phone signaling data, can efficaciously pinpoint daily activity spaces. Our methodological approach, combined with the introduced indices, holds potential for dissecting disparities in daily activity spaces across diverse residential areas, thereby offering invaluable insights for crafting judicious urban and transport policies.

关键词： daily activity space, regularly visited places, mobile phone signaling data, multidimensional indices