Analyzing Neighborhood Accessibility via Transit in a GIS Environment

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Abstract

Most existing research on accessibility and spatial mismatch deal with commutes via private automobile. Low-income inner city residents, who tend to have lower rates of car ownership, rely more heavily on public transport for commuting. This paper analyzes the role that public transport plays in providing accessibility to the opportunities provided by various industries in Milwaukee. Based on an integration of place and location accessibility and network analysis technology, the paper develops a new accessibility measurement technique that is better suited for commuting by transit. The analysis indicates that neighborhoods of Milwaukee's inner city north, where there is a high concentration of African-American population, has poor accessibility by transit to urban opportunities in most industries. The results support the spatial mismatch hypothesis that central city residents suffer from poor accessibility to jobs because current public transport facilities were designed to carry workers from suburbs to CBD.