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The Mismeasurement of Mobility for Walkable Neighborhoods

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Although mobility in Walkable Neighborhoods significantly impacts issues like sustainability, economic growth, and quality of life, it has not measured quantitatively and thus has often been mis-measured. This paper analyzes household travel surveys for trip times and purposes of home round trips, defined as trips from home and back home in the course of a day. Understanding these trips is part of broader research to understand Walkable Neighborhoods, which is a new field of research on delineated high-density neighborhoods.

Walkable Neighborhoods are systems of land use, travel, and transportation pricing with attractive walking distances to local business and transit. The population density is high enough to support enough business and transit to live with mobility and without owning a car. Current major US household travel surveys fail to ask the right questions to understand mobility in Walkable Neighborhoods, but this subject could not be more important for sustainability, real economic growth, affordability, and quality of life.

Study Methods

We defined mobility as the travel time typically spent to reach a destination activity outside the home, not trips among other destinations not related to the home. Trip times and purposes, taken together, constitute travel time budgets and add up to total travel time during the day. The surveys mostly reported auto trips with high speeds and distances. Our research looked for trips by sustainable modes that had similar travel times but over shorter distances reaching the same destinations.

We grouped the many trip purposes into work trip, short trips, and longer trips. For Walkable Neighborhoods, the analysis focused on the trips most important for mobility without car ownership, which were short trips for commonly needed goods, services, meals, and other. These trips had

a median travel time of ten minutes and an average time of fifteen minutes. These times are also acceptable for walking, covering less distance than a car but still reaching the purpose.

Findings

Despite having vast amounts of information, the National Household Travel Survey and three others mismeasured trips for purposes of understanding Walkable Neighborhoods. They included trips that were not home round trips. Many reported "trips" did not have real destinations: trips home, serve passenger, change mode, and auto per se (travel and activities to have a car). They often mixed trips with different purposes and different frequencies and travel times. The definitions and statistics did not allow answering important questions. Further research needs better definitions of trip purposes to understand how to improve Walkable Neighborhoods.

We did find that the total travel time and frequency for short duration trips is much greater than for work trip, showing the potential for walk trips in Walkable Neighborhoods.

Mismeasurement for mobility, especially walkability, limits usefulness for understanding neighborhoods in general and sustainable neighborhoods in particular. Household travel surveys need to be reframed to provide the data needed to understand and improve Walkable Neighborhoods.

Household travel surveys fail to cover home round trips for walking, reporting trips that are not "real" trips and mixing different trip types.

Policy Recommendations

The travel time survey data should help us understand suburbia compared to Walkable Neighborhoods. Better data would help us understand how to attain mobility without owning a car, which can be defined as travel time budgets similar to suburbia. A new survey instrument would help us understand travel behavior and trip purposes for home-based travel time budgets and more generally.

Neighborhoods are the largest land use in urban areas, and Walkable Neighborhoods reduce the social, economic, and environmental costs of mobility. Home round trips are important for understanding travel behavior in neighborhoods, yet they have not been studied in large household surveys, let alone for Walkable Neighborhoods. The problem of mismeasurement needs more awareness among academics, economists, planners, survey agencies, and elected officials. Better data can be used to improve all neighborhoods and use of sustainable modes.

About the Authors

Sherman Lewis is a retired professor of political science at California State University East Bay Hayward. He specialized in citizen policy and in environmental politics and leads a small advocacy group, the Hayward Area Planning Association. He was a leader in the California Sierra Club and served four years on the BART Board. Emilio Grande del Valle graduated from California State University East Bay Hayward and is pursuing graduate studies in hydrogeology. Ralph Robinson is a student in the Master of Urban Planning program at San Jose State University and a research assistant with the Mineta Transportation Institute.

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For more details about the study, download the full report at transweb.sjsu.edu/research/2060

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