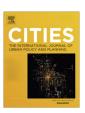


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Does walkability matter? An examination of walkability's impact on housing values, foreclosures and crime



John I. Gilderbloom a,*, William W. Riggs b, Wesley L. Meares c

- ^a University of Louisville, Urban and Public Affairs, United States
- ^b California Polytechnic State University San Luis Obispo, City and Regional Planning, United States
- ^c Georgia Regents University, Political Science and Public Administration, United States

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ABSTRACT

In this study, researchers examined 170 neighborhoods in a medium-sized city to see whether walkability influences neighborhood sustainability. Until 2008, there had not been a reliable measure of the social, health, and economic impact of walkable neighborhoods. This dramatically changed when scholars were able to quantify walkability with tools such as Walkscore™; which measures how accessible daily living activities are by foot. The researchers investigated how walkability impacts the quality and sustainability of a neighborhood. They developed models that evaluated the correlation between an area's Walkscore™ and four broad measures of urban sustainability: neighborhood housing valuation; foreclosures; and crime. Our analysis shows a positive impact not only on neighborhood housing valuation but also on neighborhood crime and foreclosure. These results provide policy opportunities for planners and citizen groups to pursue strategies to encourage the development of more walkable and sustainable neighborhoods.

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Introduction

In *The Death and Life of Great American Cities*, the world's most famous urban planner, Jane Jacobs (1961), argues that the ideal neighborhood is designed to facilitate walkability. Jacobs used language that highlighted the features that make a neighborhood well suited to pedestrianism with some specific benefits, including crime reduction and the creation of social capital. In the introduction to the Modern Library edition of the book, she explains that there are "foot people" and "car people," and that her book is written for foot people. She is not necessarily saying that neighborhoods or cities designed for cars are inferior, but rather that there are benefits to allowing the development of neighborhoods that allow for the choice of walking—what modern planners call 'multi-modal' access or complete streets.

Given this language, we frame our work in a new era in which urban thinkers began to quantify and assess neighborhood walkability. We use the term 'walkability' as a way to measure the lives of "foot people," evaluating the questions of whether walkability impacts crime, foreclosures and housing values in neighborhoods. Where Jacobs used qualitative evaluation, the development of walkability measurement tools has enabled planners and

academics to measure the social and economic impacts of walk-ability on a more empirical level—comparing places where daily living activities can be accomplished by foot and one might not need a car to other areas that require inhabitants to be more car-dependent.

In general, inner-city neighborhoods built before the mass production of cars are more walkable than sprawling suburban neighborhoods; however, walkability does not inevitably eradicate car dependency. People may live in walkable neighborhoods in which they can walk to the grocery store or their gym, but they may still need a car to get to work or other places. Walkability is an important emerging topic in the growing dialogue concerning neighborhood sustainability in the sense of community resilience from foreclosures, the decline in housing prices, crime and even environmental justice (Gilderbloom and Meares, 2012; Gilderbloom, Meares, & Riggs, 2014). Many US neighborhoods built in the early 20th century had walkable features, such as local stores and shops, and streetcars that served the need for transportation between housing and jobs. Other neighborhoods were designed for automobiles with little connectivity; thus, the ease of moving via walking or cycling to destinations such as schools, stores, and work places was limited (Sallis, Frank, Saelens, & Kraft, 2004). A dependence on automobiles has been correlated with reduced physical activity and an increased likelihood of obesity (Ewing, Brownson, & Berrigan, 2006; Ewing, Schmid,

^{*} Corresponding author.

Killingsworth, Zlot, & Raudenbush, 2003; Frank, Andresen, & Schmid. 2004).

Literature review

The 'Great Recession' from December 2007 to June 2009 (NBER.org, 2012) offers an opportunity to discover which neighborhoods are economically resilient. Many neighborhoods have suffered from a glut of foreclosures for which the only solution is to find creative strategies for demolition (Saito, 2011). Although the literature has shown that rent-to-own and neighborhood stabilization programs may help decrease foreclosures, it also indicates that communities with dense and walkable urban environments have seen fewer foreclosures and fewer declines in prices (Ball, 2012; Joice, 2011; Lacko, McKernan, & Hastak, 2002; Towe & Lawley, 2010). This paper assesses the relationship between walkability, housing values, foreclosures and crime in Louisville, Kentucky. The context is the idea that walkability is an important economic and social resource.

Definition of walkability

Because many individuals define walkability using different terms (e.g., proximity, accessibility, and suitability), it is important to establish an operational definition for the purpose of this study. Walkability is often associated with suitability factors such as street width, the number of lanes, safe speeds, crossing improvements, the presence of trees, and other pedestrian level-of-service and suitability factors (Dowling et al., 2008). Others cite the perception of safety, such as the fear of crime or heavy traffic (Southworth, 2005). Although these factors are important in the quality of walking trips, the literature would indicate that accessibility-based factors such as destinations for travel, land use and population characteristics are more indicative of walkability and have a stronger pull on walking behavior-that suitability factors are subordinate to the idea of accessibility in promoting walking behavior (Ewing & Cervero, 2010). This is underscored by the work of those such as Frank, Leslie and Ewing, who were instrumental in developing Walkscore™ using measureable factors such as including land use entropy, street connectivity and population density. We employ the Walkscore™ measurement tool to build on work by those such as Carr, Duncan, and Lienberger, who have conducted preliminary work that validates the tool as an appropriate proxy for walkability and the propensity for walking behavior on the scale of our research (Carr, Dunsiger, & Marcus, 2011; Duncan, Aldstadt, Whalen, & Melly, 2013; Duncan, Aldstadt, Whalen, Melly, & Gortmaker, 2011; Leinberger & Alfonso, 2012).

Walkability and health

A large body of research has correlated neighborhood walkability with higher density, street intersections, a higher land use mix, and closer access to resources (Frank, Schmid, Sallis, Chapman, & Saelens, 2005; Frank et al., 2004; Moudon et al., 2006). Studies have found that neighborhoods classified as walkable (using walkability-benchmarking tools) have higher levels of incidental walking and a lower incidence of obesity (Frank, Kerr, Chapman, & Sallis, 2007).

One study reported that obesity is responsible for 2.6 million annual deaths worldwide (World Health Organization, 2013). The American Obesity Association (2007) reports that 65% of American adults are overweight and 30.5% are considered obese; in addition, the rate of obesity is expected to double within the next 10 years (U.S. Center for Disease Control). Being overweight or obese increases the risk of developing high blood pressure, high

cholesterol, heart disease, stroke, cancer, gall bladder and respiratory disease, joint and bone disease, and diabetes (Pi-Sunyer, 1993).

Studies suggest that obesity is mitigated by increased activity associated with a more walkable environment. Studies have shown that light-to-moderate activity is associated with a substantially reduced risk of developing disease (Hu, Li, Colditz, Willett, & Manson, 2003; (Thompson, Edelsberg, Colditz, Bird, & Oster, 1999). Many urban planning scholars agree that the built environment influences physical activity levels (Ewing, 2005; Handy, Cao, & Mokhtarian, 2005, 2006). Furthermore, environments that are more walkable (Doyle, Kelly-Schwartz, Schlossberg, & Stockard, 2006; Saelens, Sallis, & Frank, 2003) are correlated with a decreased risk of obesity and related illnesses (Frank et al., 2004, 2005).

Walkability, economic value and demand

A growing body of work shows that walkable neighborhoods have intrinsic economic value by encouraging economic transactions and social exchanges (Leinberger & Alfonso, 2012; Litman, 2003, 2011) and bolstering real estate property values (Cortright, 2009; Diao & Ferreira, 2010; Meares, 2014) in addition to promoting health benefits. Research by Matthews and Turnbull (2007) shows that a more grid-like street pattern increases property values in more pedestrian-oriented neighborhoods and decreases property values in automobile-oriented neighborhoods. Other work finds that each incremental increase in walkability, using Walkscore as a metric, can be associated an increase in property values of up to 9 % (Pivo & Fisher, 2011).

Improved walkability can entice consumers to purchase more local goods and promote greater economic resilience (Litman, 2006). The attributes associated with walkability may also have the capacity to improve safety and decrease crime (Foster & Giles-Corti, 2008; Leslie et al., 2005; Troy & Grove, 2008), which have an indirect effect on real estate values. There is also literature suggesting that walkability bolsters real estate values. A recent study showed that a spike in consumer demand for walkable neighborhoods spans socio-economic statuses (Handy, Sallis, Weber, Maibach, & Hollander, 2008). This finding is somewhat at odds with the conventional wisdom that upper-income families (especially Caucasians) prefer large, single-family, single-use suburban homes (Bajari & Kahn, 2005) and racial homogeneity (Farley, Schuman, Bianchi, Colasanto, & Hatchett., 1978; Farley, Fielding, & Krysan, 1997; Krysan & Farley, 2001; Meen & Meen, 2003; Quigley, 1985).

There is limited evidence showing the extent to which walkability factors influence housing purchases; however, a survey of a broad spectrum of real estate professionals showed walkability to be a major amenity (Riggs, 2011). This has been underscored by those such as Dr. Lawrence Frank (2011) of the University of British Columbia, who has stated in lectures that "There is no question of a large unmet demand for walkable neighborhoods... which drives price increases in central cities."

Walkability and equity

It is important to emphasize the limitations associated with self-selection and the disproportionate resource choices available to the poor and minorities. Research indicates that the self-selection of housing is often related to income (Nakosteen & Zimmer, 1980) and that neighborhood self-selection shapes behaviors (Handy et al., 2006; Joannides & Zabel, 2008).

Many minorities remain unable to find adequate housing in cities and cannot afford to purchase nicer housing in the suburbs for a variety of reasons, including predatory lending and insurance practices (Cutler, Glaeser, & Vigdor, 1999). Past studies suggest a

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