Walkability

Photo by Sangwoo Hong

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Creating walkable environments is an essential part of developing age-friendly, complete communities. Complete communities need complete streets where the needs of vehicles, bicycles and pedestrians are balanced. This section will discuss the benefits of pedestrian friendly environments and explore various elements that make neighborhoods walkable.

Defining Pedestrians and Walkability

How pedestrians are defined can have a strong influence on how they are accommodated in the design of the built environment (Lo, 2009). Defining pedestrian simply as 'a person walking' could result in an inaccessible urban environment. A more inclusive definition of pedestrian, such as "any person travelling by foot and any mobility impaired person using a wheelchair or other mobility aid" (Lo, 2009, p. 146), is better suited for a discussion of age-friendly walkability.

Pedestrian: "any person travelling by foot and any mobility impaired person using a wheelchair or other mobility aid"

Defining walkability is a little more challenging. Walkability is essentially a measure of how pedestrian friendly an area is. Efforts to define walkability typically involve adapting performance measures used for vehicle transportation, such as flow capacity and level-of-service (Lo, 2009). Fruin developed a mechanistic understanding of walkability based on personal space and sidewalk capacity requirements (Fruin, 1971). A multi-modal approach to evaluating walkabilty that considers the relationship between pedestrians, land use, the built environment and other modes of mobility provides a more refined approach to understand pedestrian activity (Lo, 2009). Finally, qualitative approaches that attempt to measure the quality of pedestrian environments are also valuable, however they are difficult because they can be very subjective.

Benefits of Walkable Neighborhoods

The benefits of walkable neighborhoods are numerous. They reduce reliance on automobiles, resulting in less pollution, noise, and public space devoted to cars. Less reliance on cars is particularity relevant when considering age-friendly communities as driving for older adults becomes more difficult due to diminished vision and driving ability. Walkable neighborhoods also play a role in promoting physical activity in people of all ages. There is a strong

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relationship between physical activity and positive health outcomes, but as people age, activity levels generally decline (King, 2008). Studies have found that walking is the preferred physical activity for older adults and the walkability of a neighborhood plays an important role in determining levels of activity (Hooker, 2007). This is especially true for older women. A study published by *Health and Medicine Week* found that older women who feel their neighborhoods are favorable for walking are up to 100% more physically active than those who see their neighborhoods as unfavorable for walking (Health and Medicine Week, 2003). High levels of physical activity have been shown to reduce adverse health outcomes and prevent obesity in older adults as well (King, 2008). Walkability also has links to mental health. There is evidence to suggest that neighborhood walkabilty is associated with depressive symptoms in men (Berke, 2007).

Walkability also plays an important role in maintaining independence for older adults.

There are also social benefits to neighborhood walkability. Walkable cities have been shown to have higher levels of civic engagement (Frederickson & Mason, 2006), and cities with high levels of walkability are conducive to more democratic, inclusive societies (Lo, 2009). Walkability also plays an important role in maintaining independence for older adults. When older adults are unable to drive, the ability to access necessary services and amenities by walking allows individuals to remain independent for longer, enabling community interaction and participation.

Photo by Ryan Gilmore
Figure 1: Quality pedestrian environments are essential to walkability

Walkability and the Built Environment

There is no one solution for creating walkable environments since each neighborhood has unique challenges and opportunities. Design of the built environment plays an important role in determining walkability and there appears to be general consensus among experts as to what design characteristics contribute to developing walkable neighborhoods. Quality pedestrian infrastructure is essential. This includes well maintained sidewalks and curbs that eliminate tripping hazards and incorporate universal design elements that accommodate wheelchair and other mobility aids. It is also important to consider connectivity of pedestrian areas to the built environment and other modes of travel, including pedestrian crossings, building access and

Figure 2: Quality pedestrian crossings are an important part of both pedestrian connectivity and safety.

Figure 3: Destinations such as parks are essential to achieving high levels of physical activity.

navigation tools such as signage. Land use patterns have considerable influence on walkability. Compact development is much more conducive to walkability than de-centralized development. As a result, we see significant differences in levels of walkability between urban, suburban and rural areas. Finally, designing for pedestrian safety is a critical consideration when developing walkable neighborhoods. Measures to ensure pedestrian safety include creating a buffer between pedestrians and traffic, reducing traffic speed, creating refuge areas, and introducing street furniture to allow pedestrians to rest. To properly address safety issues, the pedestrian must be given priority over drivers in both design and policy.

Winter cities like as Winnipeg face unique challenges with respect to walkability

Design of the built environment strongly influences walkabilty, but it is not the only factor. Studies have demonstrated that there is a positive association between walkability and the availability of utilitarian destinations such as shopping malls (Michael, 2006). Older women who live near services and amenities such as shopping and parks have higher levels of physical activity (Health and Medicine Week, 2003). Parks and green space provide important and attractive destinations for pedestrians. King argues that the built environment may actually be secondary to social factors, such as safety and social cohesion, when determining walkablity (King, 2008). In Compete Streets, Barbara McCann also sees design as secondary, suggesting that a shift in transportation priorities from a vehicle-oriented to a multi-modal approach is need first before design should be considered (Complete Streets, 2010).

Figure 4: Winter in Winnipeg poses many challenges to walkability including snow removal and storage.

Walkability in Winter Cities

Winter cities such as Winnipeg face unique challenges with respect to walkability including snow removal and storage, sidewalk safety (slippery surfaces), and creating outdoor spaces that can be used year round. Winter cities tend to focus on keeping people indoors, and removing them from the street and civic spaces (Bergum, 2009). Pressman stresses the importance of provided attractive outdoor spaces with year round usability, that are connected to nature and that will draw people outside (Pressman, 1996).

Conclusion

The benefits of walkabity are extensive. However, creating walkable neighborhood requires more than designing attractive pedestrian spaces. It requires a shift in policy direction from auto-centred planning to a more holistic approach that balances the often conflicting needs of drivers, cyclists and pedestrians. Enhancing walkability is critical when developing age-friendly communities, but there is no one-size-fits-all solution. Urban, suburban, and rural areas each have their own unique challenges and require equally unique solutions.

Sources:

Bergum, C., & Beabien, L.A. (2009). Smart Growth and Winter City Design. Bulletin 14, Oct 15, 2009. Retrieved from http://www.wintercities.com/Winter_Cities_Institute_Resources.html

Berke, E. M., Gottlieb, L. M., Moudon, A., & Larson, E. B. (2007). Protective Association Between Neighborhood Walkability and Depression in Older Men. Journal of the American Geriatrics Society, 55(4), 526-533.

Coleman, P. (n.d.). Pedestrian Mobility in Winter. Retrieved from http://www.wintercities.com/Winter_Cities_Institute_Resources.html.

Eby, D., & Molnar, L. (2009). Older Adult Safety and Mobility: Issues and Research Needs. Public Works Management & Policy April 2009 13: 288-300.

Fredericksen, P. J. and Mason, S. , (2006). Civic Engagement in the Face of Urban Growth. Paper presented at the annual meeting of the Western Political Science Association, Albuquerque, New Mexico Online from http://www.allacademic.com/meta/p97764_index.html

Fruin, J. (1971). Pedestrian Planning and Design. New York: Metropolitann Association of Urban Designers and Environmental Planners.

Hooker, S., Cirill, L., & Wicks, L. (2007). Experience Walkable Neighborhoods for Seniors: The Alameda County. Journal of Applied Gerontology, 26: 157.

King, D. (2008). Neighborhood and Individual Factors in Activity in Older Adults: Results From the Neighborhood and Senior Health Study. Journal of Aging and Physical Activity, 16, 144-170.

Lo, R. (2009). Walkability: what is it?. Journal of Urbanism, 2(2), 145-166.

McCann, B. & Rynne, S. (2010). Complete Streets: Best Policy and Implementation Practices. Chicago: APA Planning Advisory Service

Michael, Y., Beard, T., Choi, D., Farquhar, S., & Carlson, N. (2006). Measuring the Influence of Built Neighborhood Environments on Walking in Older Adults. Journal of Aging and Physical Activity, 14, 302-312.

"Neighborhood 'walkability' determines activity level of older women." Health & Medicine Week 15 Sept. 2003: 229. Health Reference Center Academic. Web. 13 Oct. 2011.

Pressman, N. (1996). Sustainable winter cities: Future directions for planning, policy and design. Atmospheric Environment, Volume 30, Issue 3, 521-529.