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Walkability and Connectivity: Enhancing the pedestrian travel environment for healthier communities

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WALKABILITY IN THE 21ST CENTURY

Our built environment patterns can be more supportive of pedestrian experiences rather than that of vehicle travel. Since the mid-20th century, housing developments have sprawled beyond city limits with convenient and connected infrastructure such as road networks. However, such built environment patterns have influenced personal lifestyles. Partly, this results from the lack of appropriate environmental settings for safe and engaging outdoor activities within close distances to and connections to where we live and work. Attention and interest in planning and design of our built environment has brought about the need to return to walkable communities for a variety of goals and objectives, including investing in attractive pedestrian focused environments, engaging in more physical activities and pursuing healthy lifestyles. In addition to the physical health of communities, walkability characteristics of communities also have indirect influences on a community's economic performance, sense of community and place identity.

The goal for this publication is to focus on guiding the development of a sustainable, walkable and connected community that is suitable for implementation in not only in urban but also small communities and in rural settings. The aim is to inform and illustrate to communities the benefits of enhanced walkability, and how one can initiate community projects to improve the overall health and the pedestrian experience. Tools and phasing for relevant public space projects will be introduced along with other topics such as trails and streetscapes. But this will focus less on walkable environments within larger public spaces such as parks or plazas. Information related to the latter topics can be found in other documents in the landscape architecture extension publications.

WHAT IS WALKABILITY?

Walking is the most economical and healthy way to get around in one's environment. However, our built environment has developed into a form mostly dependent on motorized vehicles and left behind the pedestrian experience. Litman defines walkability as "the quality of walking conditions, including safety, comfort, and convenience" (2003, 3) whereas Speck also includes "interesting" and "useful" conditions as necessary (2012, 11). To resolve the barriers and challenges against walkable environments, researchers and organizations such as Smart Growth America, the National Complete Streets Coalition (2015) and Center for Applied Transect Studies (2009) have been developing ways to improve the built environment to address more walkable conditions including sharing the public right-of-way with other travel modes. When looking at walkability, there are several variables that different disciplines and fields emphasize based on their special interest, such as overall health (health field), safety (transportation field), and amenities and use (design and planning fields). Ultimately, in order for the built environment to be walkable, it needs to be inclusive, inviting, interesting and safe so that pedestrians can be engaged and continuously use the physical environment.

WHAT IS CONNECTIVITY?

In order for people to truly experience and benefit from walking in a walkable environment, starting points and target destinations need to be continuously connected so a traveler can safely and comfortably walk or bike to their destination without having to get on to the road and share it with motor vehicles. Filling in the missing segments

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or gaps in a network can be an efficient and effective way to enhance walkable environments. Properly designated travel paths and lanes for alternative travel modes, such as bike lanes, along with sidewalks or crosswalks are additional considerations for walkable environments. Speck (2012) asserts that urban fabrics, which include but are not limited to streets, blocks and buildings, are important for walkable environments and should be more than safe and pretty spaces. Therefore, both walkability and connectivity need to be addressed simultaneously for pedestrians, bicyclists and even motorists to ensure a sound travel and social experience.

BENEFITS AND CHALLENGES

Walkability and connectivity projects are beneficial for towns and communities, as they not only support health and wellness goals for individuals and communities as a whole but also the physical environment, economic activity, aesthetics and social aspects of sustainable communities. Proactive communities have developed and adopted master plans and other action-oriented policies that promote pedestrian and bicycle pathways as a mean to increase connectivity within the built environment and enhance pedestrian activities. Several communities have developed and adopted pedestrian/bike master plans such as in London or Berea, KY. One characteristic of walkable communities is that they have an up-to-date, well-maintained physical environment that includes a quality sidewalk network (Figure 1). Successful sustainable communities continuously or periodically improve or enhance their pedestrian environment to maintain efficiency and safety. Furthermore, connected walkable environments can help strengthen the livability of a community.

Figure 1. Quality walkable environment with space for pedestrians as well as amenities in Maysville, KY.

Some walkability challenges in communities include poor or deteriorated sidewalks, paths that dead-end or connect to nowhere, and lack of safer street design standards (Figure 2). Developing and managing attractive, comfortable and safe built environments in which people can engage in

Figure 2. Example of poor (top) and fair (bottom) walkability conditions that could benefit from maintenance and further contextual considerations such as street planning or shade.

Table 1. Benefits and Challenges of Walkability and Connectivity Projects.

	Walkability	Connectivity
Benefits	-Assess quality of walkable environments: physical, infrastructure, etc. -Collect data about actual users, non-users -Address varied range of other related goals (i.e., increase economic activities, safety, etc.) -Assess ADA compliance in the public realm for traveling	-Diagnose missing pathways, segments, gaps in the sidewalk network -Identify potential project areas to connect -Assess need for a well-connected network of quality pathways -Projects may be less expensive than creating a network from the scratch
Challenges	-Need to collaborate with various agencies, organizations, groups, etc. -Projects may be expensive depending on the total scope of the project -Funding may be limited or take longer to be accrued	-Need to collaborate with various agencies, organizations, and groups -Difficulty when attempting to connect community areas in conflict -Some gaps may be difficult to resolve due to ownership, land use policies, etc.

outdoor activities are not always economical for communities in the short-term. Public spaces such as parks and plazas may be appropriate destinations to get involved in physical activities, but often one needs to drive to the destination. The ideal walkable environment would be one where people can walk or bike to such public spaces to participate in their activities, as well as perform everyday errands, along safe and comfortable streetscapes. Therefore, planning and design solutions for these types of issues can encourage effective and efficient development and maintenance.

WHAT CAN COMMUNITIES DO?

Creating community walkability and connectivity will benefit both the average pedestrian and bicyclist as well as the public by providing healthier user experiences and increased community wellness. Walkability projects typically address, promote and coordinate events and activities for people to engage in the outdoor environment. Community health goals can be addressed through physical planning and improvements to the built environment. Ultimately, improved walkability and connectivity can attract a variety of demographics and promote outdoor activities by increasing accessibility. Increased outdoor physical activity can reduce issues related to obesity, while improving health awareness.

Communities need to prepare, plan and implement walkability and connectivity projects to enhance their built environments, whether in the form of walkability assessments, pedestrian/bike plans, or streetscape projects. Such community endeavors should be suitable to the location and scope of the project, and may utilize established assessment tools and guidelines that typically recommend minimum standards. There are a number of tools and software services available to aid trained volunteers and other decision makers as communities begin projects, such as the Centers for Disease Control's The Built Environment assessment manual (2015); Clifton, Livi and Rodriguez's Pedestrian Environment Data Scan (PEDS) (2004); and the Pedestrian Bicycle Information Center's (PBIC) Walkability Checklist survey. Local governments can initiate or integrate smart growth goals or policies into their overall development strategy that include a range of walkability features for local planning and design practices. Ultimately, each community needs to determine their own goals, objectives, needs and visions to address and plan for successful walkability and connectivity projects.

CONCLUSION

Improving the walkability and connectivity of the built environment has the potential to support and facilitate healthier lifestyles and the wellness of a community. The typical walkable and connected environment, like all other features and amenities of a supportive community infrastructure, needs to be conceptualized and managed to provide a safe, convenient and attractive environments for enhancing the pedestrian experience. More people walking in their community can positively enhance community health and quality of life.

REFERENCES

Centers for Disease Control and Prevention. (2015). The Built Environment: An Assessment Tool and Manual (An Adaptation of MAPS). Retrieved from https://www.cdc.gov/nccdphp/dch/built-environment-assessment/index.htm

Clifton, K., Livi, A., and Rodriguez, D. (2004). Environmental Audits [Pedestrian Environment Data Scan (PEDS) Tool]. Retrieved from http://planningandactivity.unc.edu/RP1.htm

Smart Growth America and National Complete Streets Coalition. (2015). Safer Streets, Stronger Economies: Complete Streets project outcomes from across the country. Retrieved from https://smartgrowthamerica.org/resources/evaluating-complete-streets-projects-a-guide-for-practitioners/?download=yes&key=42146941

Speck, J. (2012). Walkable City: How Downtown Can Save America, One Step at a Time. New York, NY: Farrar, Straus and Giroux.

Litman, T.A. (2003). Economic Value of Walkability. Transportation Research Record, 1828, # 03-2731, 3-11.

Pedestrian and Bicycle Information Center. (n.d.). Walkability Checklist: How Walkable is your Community?. Retrieved from http://www.pedbikeinfo.org/data/library/details.cfm?id=12