

Walkable Mississippi: Introduction to Walking and Walkability Issues



In 2015, the U.S. surgeon general issued a call to action to promote walking and walkable communities. The surgeon general's Step It Up! report explains that only half of U.S. adults get enough physical activity to reduce the risk of heart disease and diabetes (U.S. Department of Health and Human Services 2015). In Mississippi, this issue is even more critical as the state consistently ranks near the bottom on many health indicators, with high rates of diabetes and one of the highest percentages of obesity in the nation (Centers for Disease Control and Prevention 2016).

Walking is a simple, affordable, and enjoyable way to increase physical activity and improve health outcomes. This publication provides basic information about the many benefits of walking and walkable communities,

Terms

- **walking:** although the term “walking” is used in this publication, it is meant to include those who travel by wheelchair or other such means.
- **walkability:** walkability refers to the extent to which a place encourages and facilitates walking through planning and design.

an overview of walking theory, and an exploration of categories of walking. This information is intended to extend knowledge of these subjects in order to promote walking and positive changes to the walking environment. This publication is the first part of the Walkable Mississippi curriculum; subsequent publications address policy and design issues in greater depth.



Figure 1. An interesting and enjoyable walking environment can play a role in promoting small businesses. This gallery in Aberdeen, Mississippi, shades shoppers and provides space for customers to linger and rest.

The Benefits of Walking and Walkability

Physical and Mental Health Benefits

The Centers for Disease Control and Prevention (CDC) recommends that adults get 150 minutes of moderate-intensity aerobic activity per week in order to gain a multitude of health benefits (2015). Fast walking is an easy way to gain these benefits and can be done in sessions of as little as 10 minutes. You can gain even more health benefits by exceeding the minimum recommendations.

The CDC lists the following as potential health benefits of physical activity:

1. Control your weight
2. Reduce your risk of cardiovascular disease
3. Reduce your risk for type 2 diabetes and metabolic syndrome
4. Reduce your risk of some cancers
5. Strengthen your bones and muscles
6. Improve your mental health and mood
7. Improve your ability to do daily activities and prevent falls, if you're an older adult
8. Increase your chances of living longer

(Centers for Disease Control and Prevention 2015).

For more information, visit www.cdc.gov.

Environmental Benefits

Aside from a safe, relatively flat surface and the occasional pair of shoes, walking requires very few resources. As a form of transportation, walking is hard to beat for its environmental benefits since it requires no fossil fuels and causes no air pollution. While in many communities it is difficult to live completely without a private car, even slightly reducing your number of trips can make a difference by conserving resources and reducing greenhouse gases. Even the most efficient cars can't compete with the environmental benefits of walking.

Economic Benefits

Automobile ownership is a major expense, especially for those in lower income brackets. In 2016, the American Automobile Association (AAA) estimated the cost for owning and operating a vehicle at \$8,558 per year (AAA NewsRoom 2016). According to the U.S. Department

of Transportation (USDOT), the average American family spends 19 percent of their household income on transportation; this rises to 25 percent for households living in highly auto-dependent areas (2015). We don't often notice all of these costs because they occur a little at a time, but owning even one fewer car can save households a staggering sum over time and be like getting a major pay raise. This, however, requires a location that is conducive to destination walking and perhaps serviced by other options such as public transit.

There is also increasing interest and enthusiasm for walkable retail areas from a business perspective. Some studies have suggested that businesses in more walkable areas are "able to pay higher rents for their space" and increase the value of nearby residential areas (Hack 2013). Obviously, there are many factors involved in the success of small retail establishments, but, with a critical mass of businesses and high surrounding density, walkable business districts have great potential to prosper and promote opportunities for small-business entrepreneurs.

Public Safety Benefits

As much as cars have become an integral part of our lives in the U.S., driving or riding in an automobile is the most dangerous activity that most of us participate in on a regular basis. The National Safety Council estimated that in 2015, 33,800 people were killed on U.S. roads and another 4.4 million were seriously injured (2016). The CDC estimated that in 2013, motor vehicle crashes resulted in over \$44 billion in medical and work-loss costs (2015). In Mississippi in 2015, 677 people were killed in auto crashes (USDOT: National Highway Safety Administration 2015).

Societal Benefits

The average driver in the United States spends 55 minutes per day behind the wheel of a car (USDOT 2016); that's nearly an hour per day that could be used for other beneficial activities like exercising, planning or preparing meals, reading, or spending time with family, friends, and neighbors. Walking and walkable communities can provide families with an opportunity to slow down, spend more time together, and enjoy their community and the outdoors.

Walking Theory

Given all the benefits of walking, why don't we walk more? Some basic walking theory is useful in understanding why, how, and when people choose to walk.

The Importance of Distance

For many years, architects, planners, and designers have used the 5- and 10-minute walking distance as a way of examining neighborhood walkability. A 5-minute walk corresponds to a quarter-mile, while a 10-minute walk is equal to about half a mile, depending on how fast you walk. A quarter-mile has for many years been assumed to be the distance that a person would walk, rather than choosing to drive. However, there is little research to back up this particular claim, and some recent research is beginning to shed more light on the walking habits of U.S. residents. A thorough 2012 study found that only 16 percent of respondents reported walking, but that 65 percent of their trips were longer than a quarter-mile and 18 percent of trips were more than 1 mile (Yang and Diez-Roux 2012). The authors also found that there was a high degree of variability depending on the subgroup and walking purpose.

We have much more to learn about the relationship between distance and walking behavior. In the meantime, the quarter- and half-mile walk theory can be a rudimentary way to examine density and relative proximity.

Walk Score (www.walkscore.com)

Another way of measuring walkability has been developed by the Walk Score advisory board and can be used to quantify the walkability of a particular address. Walk Score provides a score between 0 and 100 based upon analysis of walking routes, with points given for "distance to amenities" (2017). It quantifies the walking environment by "analyzing population density and road metrics such as block length and intersection density" (Walk Score 2017). Walk Score uses a variety of data sources and can be used to determine a particular property's walkability, which is why it is sometimes used by real-estate professionals.

Jeff Speck's General Theory of Walkability

Urban planner and *Walkable City* author Jeff Speck proposes a basic theory regarding walking. Speck (2012) argues that, in order for walking to be favored as a travel mode, four conditions must be satisfied. A walk must be:

1. **Useful.** In order for a walk to be useful, daily needs must be able to be met within a distance that is easy to walk.
2. **Safe.** Streets must be designed to make walking a safe choice. In particular, people must feel safe from fast-moving automobiles.
3. **Comfortable.** Walking must be comfortable, meaning that the design is human-scaled and not geared toward the automobile exclusively.
4. **Interesting.** An interesting walk is one that provides visual interest (such as a continuous line of buildings along a street), things to do, and people to meet.

Speck also provides 10 practical steps to help communities meet these conditions. Although somewhat more geared toward urban communities, Speck's practical guide is an easy and enjoyable read for anyone wanting to learn more about how to improve the walking conditions in their own community.

Categories of Walking

It may be useful to think of walking as occurring in two broad categories: walking to destinations and walking specifically for exercise or recreation. Dividing walking by purpose can be useful primarily because the two categories require somewhat different conditions.

Destination Walking

Destination or transportation walking is walking that is related to arrival at a particular goal or location. Travel to most any large, dense city (particularly those in Europe) and you'll see many people walking to work or to run errands or to the local café for a meal or coffee. Destination walking requires denser development and a walking environment that is carefully nurtured to provide a safe, comfortable, and interesting place to walk. In the best walking environments, one can travel a considerable

distance without even noticing because there is so much to see and do. Destination walking is a simple way to improve the amount of exercise we get since it's built into the day rather than being a specific activity to which time has to be dedicated (like sports activities or going to the gym).

Design can encourage destination walking by providing an environment that is safe, comfortable, and both visually and socially interesting. Designing for people is quite different than designing for cars in terms of both size and speed. Walkers move at approximately 3 miles per hour, which means that much greater detail is necessary to make the environment interesting and dynamic. In addition, destination walking can be more leisurely, unlike walking for exercise, biking, or driving. A pleasant walking environment takes these issues into account and provides opportunities for shopping, dining, meeting people, and just enjoying the outdoors and public spaces.

Recreational Walking

Recreational walking is walking for exercise and enjoyment. In rural areas, facilities for recreational walking are more critical due to the distances between destinations and the frequent lack of pedestrian infrastructure along roadways. Dog walking is one example of recreational walking that requires a particular set of more specialized conditions. Walking and jogging trails are one way that communities can begin to promote walking and improve community health outcomes. These facilities should be designed so that there are few barriers or conflicts with cars so that they can be useful to people of all ages and abilities, as well as for people exercising in groups.

Design can also encourage recreational walking by providing an appropriate environment. Walking for exercise requires a smooth, comfortable surface; this is especially true for the very young, senior citizens, and



Figure 2. The Neshoba County Fair in Mississippi provides an example of an environment that is sized and designed for walking. The richness of the design encourages strolling, lingering, and interacting, making walking a more desirable option than driving.

people with disabilities. Distance is also important; loops or trail systems can provide more interest and variety for walkers and joggers, but even a well-located, 1-mile loop without car crossings can help promote exercise. Water, shade, places to rest, and a variety of options in terms of distance can also be helpful. Such facilities can often be accommodated in existing public parks.

Conclusion

Walking is a simple and enjoyable way to maintain or improve physical and mental health outcomes. As explored above, walking also has many hidden economic, environmental, and social benefits. However, not all walking environments are created equal. Encouraging more walking requires thoughtful improvements to the built environment.



Figure 3. The Tanglefoot Trail in northeast Mississippi is a 43.6-mile Rails-to-Trails project that stretches from Houston to New Albany. The former railroad corridor is used by walkers, hikers, and bicyclists primarily for recreation and exercise. With very few road crossings, the trail provides a safe, comfortable, and peaceful setting for walking.

References

- AAA News Room. (2016, April 7). Your Driving Costs. Retrieved March 10, 2017 from <http://newsroom.aaa.com/auto/your-driving-costs/>.
- Centers for Disease Control and Prevention. (2015, June 4). How Much Physical Activity Do Adults Need? Retrieved July 28, 2016, from <http://www.cdc.gov/physicalactivity/basics/adults/index.htm>.
- Centers for Disease Control and Prevention. (2015, June 4). Physical Activity and Health. Retrieved July 28, 2016, from <http://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>.
- Centers for Disease Control and Prevention. (2015, December 14). State-Specific Costs of Motor Vehicle Crash Deaths. Retrieved March 9, 2017, from <https://www.cdc.gov/motorvehiclesafety/statecosts/index.html>.
- Centers for Disease Control and Prevention. (2016, September 1). Adult Obesity Prevalence Maps. Retrieved March 15, 2017, from <https://www.cdc.gov/obesity/data/prevalence-maps.html>.
- Hack, Gary. (2013). Business Performance in Walkable Shopping Areas. (Technical Report). Retrieved from http://activelivingresearch.org/files/BusinessPerformanceWalkableShoppingAreas_Nov2013.pdf.
- National Safety Council. (2016, February 17). Motor Vehicle Deaths Increase by Largest Percent in 50 years. Retrieved July 28, 2016, from <http://www.nsc.org/Connect/NSCNewsReleases/Lists/Posts/Post.aspx?ID=103>.
- Speck, Jeff. (2012). Walkable City: How Downtown Can Save America, One Step at a Time. New York, NY: Farrar, Straus and Giroux.
- U.S. Department of Health and Human Services. (2015). Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities. Retrieved March 10, 2017, from <https://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/index.html>.
- U.S. Department of Transportation: Bureau of Transportation Statistics. National Household Travel Survey Daily Travel Quick Facts. Retrieved July 28, 2016, from https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/subject_areas/national_household_travel_survey/daily_travel.html.
- U.S. Department of Transportation: Federal Highway Administration. (October 20, 2015). Transportation and Housing Costs. Retrieved March 9, 2017 from https://www.fhwa.dot.gov/livability/fact_sheets/transandhousing.cfm.
- U.S. Department of Transportation: National Highway Safety Administration. (August, 2015). Traffic Safety Facts: Research Note. Retrieved March 10, 2017 from <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318>.
- Walk Score. (2017). Walk Score Methodology. Retrieved February 1, 2017, from <https://www.walkscore.com/methodology.shtml>.
- Yang, Y. and Diez-Roux, Ana V. (2012). Walking distance by trip purpose and population subgroups. *American Journal of Preventive Medicine* 43(1), pp. 11-19.

Publication 3110 (POD-07-17)

By **Michael W. Seymour**, Professor, Landscape Architecture.



Copyright 2017 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi State University Extension Service.

Produced by Agricultural Communications.

We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director