

COMMUNITY DESIGN



The communities where we live, work, learn, and play have a significant impact on our health. The way communities are designed and built—including the design and maintenance of sidewalks, public transportation, housing, retail establishments, etc.—has a profound effect on residents’ physical and mental health. For example, when communities have ample walkable sidewalks and bike-friendly transit routes, residents tend to be more active and less obese. Moreover, decreasing vehicular traffic improves air quality, a boon for respiratory health. Other benefits accrue as well.

The Problem

Active Transportation

The Partnership for Active Transportation defines active transportation as “a means of getting around that is powered by human energy, primarily walking and biking.”¹ By planning and building communities that support active transportation, we can increase rates of physical activity. Land use mix, the balance of jobs to housing, the distance between residential and retail areas, and the numbers of intersections are all important design considerations.² Locating sidewalks along roads, for instance, increases the likelihood of walking fourfold.³ Given that half of all vehicular trips in the US are less than three miles long—creating more pollution per mile than longer trips—there is much room for improvement.⁴

Healthy and Safe Workplaces

A healthy, safe, and capable workforce is a critically important resource for the US economy.⁵ Yet, the societal cost of work-related illnesses, injuries, and fatalities in the US was estimated at \$250 billion in 2007, including medical costs and productivity losses.⁵

Healthy Schools

A healthy school environment supports children’s overall health, school attendance, and academic success in the same way that a healthy work environment supports worker health, safety, and productivity. Given the amount of time children spend indoors, particularly in learning environments

(e.g. child care centers, early learning centers, schools), it is important that these environments are healthy. Resources to support healthy school environments are critically needed.⁶

Public Spaces

Availability of green space, walking paths, and other outdoor public spaces is known to improve health for all.⁷ As the distance to a park increases, the likelihood of using the park decreases.³ Moreover, people who have access to a park are almost 50 percent more likely to meet the daily-recommended level of walking than those without such access.³ Additionally, parks and green spaces provide mental health benefits, reduce stress, encourage social interaction, and reduce heat islands in urban areas.^{8,9} Despite these benefits, low-income and minority communities experience inequitable access to parks and recreation facilities.^{3,10}

Food Safety and Security

Each year, foodborne pathogens sicken 48 million US residents, cause more than 128,000 hospitalizations, and kill about 3,000 people.¹¹ Hospitalizations due to foodborne illness are estimated to cost more than \$3 billion dollars annually, and lost productivity is estimated to cost between \$20 billion and \$40 billion each year. The US Department of Agriculture estimates that foodborne illnesses cost the US economy more than \$15.6 billion annually.¹¹

Several studies document unequal access to retail food outlets in the US. Supermarkets and other fresh food sources, for example, tend to be scarcer in low-income, minority, and rural communities. Fully 7.9 million US children lack food security, meaning they do not have reliable access to a sufficient quantity of affordable, nutritious food.¹²

Safety

Lack of safety, or even the perceived lack of safety, is often a barrier to walking and other outdoor physical activities. Past transportation decisions and policies have led to high-traffic, high-volume roadways through communities of color and low-income communities. Approximately 35,000 traffic deaths occurred in 2015, with a disproportionate impact on older adults, youth, and people of color.^{13, 14}

Obesity

Regular physical activity improves health and increases life expectancy. Yet, just under half of US adults meet the 2008 *Physical Activity Guidelines for Americans*. Since walking is the most common form of exercise, communities can promote physical activity throughout the day by providing more sidewalks and walking trails.^{1, 15} In fact, the health benefits of active transportation outweigh any associated risks by as much as 77 to 1 and can add more years to life than are lost from inhaled air pollution and traffic injuries.⁴

Housing

Adequate, safe, and affordable housing is a hallmark of a healthy community. Healthy housing is addressed in the next Focus Areas section.

Opportunities for Action

Everyone deserves to live in a community with a safe and healthy home, access to safe and healthy food, and decisionmakers who consider health and equity when making transportation and land-use decisions.

- 1) Implement equitable design practices that support all modes of transportation.
 - a. Increase access to safe multi-modal transportation alternatives.
 - b. Engage the community during transportation planning.
- 2) Ensure access to healthy and affordable food, water, housing, and transportation.
 - a. Increase access to green spaces and recreation centers to promote physical activity in communities of color and low-income communities.
 - b. Invest in clean-up of former industrial or commercial sites, also known as *brownfields*, to repurpose them for green, public spaces.
 - c. Offer shared-use agreements to encourage community use of public buildings.
- 3) Enact policies that promote a mix of land uses to serve residents at a variety of income levels.
- 4) Dedicate funding from multiple sectors of the federal government to braid funding for healthy community design across the country.

For more information, visit:

Center for Active Design

- Active Design Guidelines: <https://centerforactivedesign.org/guidelines/>

Centers for Disease Control and Prevention

- Healthy Places Program: <https://www.cdc.gov/healthyplaces/>
- Transportation Recommendations: <https://www.cdc.gov/transportation/default.htm>
- National Center for Environmental Health, Healthy Community Design Toolkit: <http://www.cdc.gov/healthyplaces/toolkit/>
- Agency for Toxic Substances and Disease Registry, Brownfield and Land Reuse Program: <https://www.atsdr.cdc.gov/sites/brownfields/index.html>
- Built Environment and Public Health Clearinghouse: <https://www.planning.org/nationalcenters/health/bephc/>
- CDC and US Department of Transportation, Transportation and Health Tool: <https://www.transportation.gov/transportation-health-tool>

- National Environmental Health Tracking Program
 - Community Design Data: <https://ephtracking.cdc.gov/showCommunityDesign.action>
 - Health Impact Assessment: <https://ephtracking.cdc.gov/showHealthImpactAssessment>
 - Homes Data: <https://ephtracking.cdc.gov/showBuildEnvironment>

Federal Highway Administration

- Bicycle and Pedestrian Program: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/
- Pursuing Equity in Pedestrian and Bicycle Planning: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/resources/equity_paper/

National Association of County and City Health Officials

- Healthy Community Design Program: <http://www.naccho.org/programs/community-health/healthy-community-design>

Robert Wood Johnson Foundation

- Exploring the Social Determinants of Health: Housing and Health: http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70451
- Exploring the Social Determinants of Health: Neighborhoods and Health: http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70450

References

1. U.S. Centers for Disease Control and Prevention. Data on Healthy Community Design. 2015. Retrieved from: <https://www.cdc.gov/healthyplaces/docs/hcdi-data-on-healthy-community-design.pdf> on April 17, 2017.
2. Reid Ewing and Robert Cervero. Travel and the Built Environment: A Synthesis. *Transportation Research Record: Journal of the Transportation Research Board*. 2001;1780:87-114.
3. National Recreation and Park Association. Safe Routes to Parks: Improving Access to Parks through Walkability. 2015. Retrieved from: http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/Park-Access-Report.pdf.
4. Alliance for Biking and Walking. Bicycling and Walking in the United States: 2014 Benchmarking Report. 2014. Retrieved from: <http://www.aarp.org/content/dam/aarp/livable-communities/documents-2014/2014-Bike-Walk-Benchmarking-Report.pdf>.
5. Centers for Disease Control and Prevention U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health. National Institute for Occupational Safety and Health. 2015. Retrieved from: <https://www.cdc.gov/niosh/docs/2013-140/pdfs/2013-140.pdf> on April 17, 2017.
6. U.S. Environmental Protection Agency. About EPA Schools. 2016. Retrieved from: <https://www.epa.gov/schools/about-epa-schools> on April 17, 2017.
7. Office of the Surgeon General U.S. Department of Health and Human Services. Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities. 2015. Retrieved from: <https://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/call-to-action-walking-and-walkable-communities.pdf>.
8. Jenny Rowland. Parks for All: Building a More Inclusive System of Parks and Public Lands for the National Park Service's Centennial. *Energy and Environment*. 2016;2017.
9. American Planning Association. How cities use parks for... Climate Change Management. 2007. Retrieved from: <https://www.planning.org/cityparks/briefingpapers/climatechange.htm> on April 17, 2017.
10. James F. Sallis, Rachel A. Millstein and Jordan A. Carlson. *Community Design for Physical Activity Making Healthy Places*: Springer; 2011: 33-49.
11. U.S. Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases and Waterborne Division of Foodborne, and Environmental Diseases. CDC and Food Safety. 2016. Retrieved from: <http://www.cdc.gov/foodsafety/cdc-and-food-safety.html> on April 14, 2017.
12. Economic Research Service U.S. Department of Agriculture. Key Statistics & Graphics. 2016. Retrieved from: <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx> on April 17, 2017.
13. National Highway Traffic Safety Administration. NHTSA Data Shows Traffic Deaths up 7.7 Percent in 2015. 2016.

14. U.S. Department of Transportation. Road Traffic Fatalities by Mode. 2016. Retrieved from: <https://www.transportation.gov/mission/health/road-traffic-fatalities-mode> on 2016.
15. Ralph Buehler, Thomas Götschi and Meghan Winters. Moving toward active transportation: how policies can encourage walking and bicycling. *Active Living Research*. 2016.