



Physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic.¹ Among preschool children and adolescents, obesity has doubled since the 1970s. The percentage of obese children 6 to 11 years old has tripled.

The design of our communities—including neighborhoods, cities, transportation systems, parks, trails and other public recreational facilities—affects people’s ability to reach the recommended 30 minutes each day of moderately intense physical activity (60 minutes for youth).¹ Policy makers, as well as health, planning, recreation and education professionals, want to know how to design the places we live, work and play to make it easier and more enjoyable for children and adults to get up and get active.

This summary is an overview of peer-reviewed research from health, transportation and recreation literature about active living and activity-friendly environments. This briefing was compiled from three companion research summaries that explore these topics in greater depth: Designing for Active Recreation, Designing for Active Transportation and Designing to Reduce Childhood Obesity. These three research summaries can be found at www.activelivingresearch.org.



DESIGNING FOR ACTIVE RECREATION

Being physically active is more than just a matter of personal choice.²⁻⁵ A growing number of studies show that people in activity-friendly environments are more likely to be physically active in their leisure time.

Consider these facts:

- The CDC determined that creating and improving places to be active can result in a 25 percent increase in the percentage of people who exercise at least three times a week.⁶
- 43% of people with safe places to walk within 10 minutes of home met recommended activity levels, while just 27% of those without safe places to walk were active enough.⁷
- Based on objective accelerometer data, 37 percent of residents of the most walkable neighborhoods in Atlanta met physical activity recommendations, compared to just 18 percent of those living in low-walkability neighborhoods.⁸
- In a survey of residents in rural Missouri, 55 percent reported they were walking more since the opening of a new trail, and this was even higher among people without a college education: 62 percent said they were walking more.⁹

An activity-friendly environment is a place that makes it easy to make the choice to be physically active, through planned exercise or routine daily activity.



DESIGNING FOR ACTIVE TRANSPORTATION

Planning, community design, and health behavior studies consistently find that the way communities are built influences whether people drive, take transit, walk or bicycle to get where they are going.^{5,10-12}

Consider these facts:

- An analysis of studies in six communities found that on average, residents in highly-walkable neighborhoods took twice as many walking trips as people in less walkable neighborhoods. Most of the increase was due to walking for errands or to go to work.¹⁰
- People who live in neighborhoods with a mix of shops and businesses within easy walking distance have a 35 percent lower risk of obesity.¹³

Walkable communities give residents a variety of destinations within walking distance of home, and safe and connected streets and pathways to get there.

- 56 percent of residents in traditional neighborhoods walked to nearby commercial areas, versus 33 percent of those living in suburban neighborhoods.¹⁴
- Several studies have shown that placing signs in building entrances, or adding lighting and decoration to dark stairwells, increases the number of people using the stairs.¹⁵

DESIGNING TO REDUCE CHILDHOOD OBESITY

Much research has focused on educating children and changing their physical activity and eating behavior, but these approaches have had limited success.¹⁶ Changing the environments in which children eat and play is now seen as an essential strategy in fighting the obesity epidemic.¹⁷

Consider these facts:

- Only 6 percent of middle schools provide daily physical education.¹⁸
- Kids spend more time watching TV than in school.¹⁹
- As much as 85 percent of snacks in school vending machines are of poor nutritional quality,²⁰ and food and beverage companies spend \$10 to \$12 billion a year to persuade children and youth to buy their products.²¹

- Three studies of preschool children found that the more time spent outdoors, the higher the activity level.²²⁻²⁴
- More children walked to school where there were sidewalks.²⁵
- A Safe Routes to School program in Marin County, California, that included both safety improvements and encouragement, increased the number of children walking to school by 64 percent in two years.²⁶
- Promoting and increasing the availability of lower-fat foods in secondary-school cafeterias increased sales of low-fat foods by 34 percent.²⁷
- A 50-percent reduction in the price of low-fat foods in vending machines in secondary schools increased the proportion of low-fat snacks sold by 93% over a one-year period.²⁸

REFERENCES

- 1 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1996). *Physical activity and health: A report of the Surgeon General*. Washington, DC: Government Printing Office.
- 2 Owen, N., Humpel, N., Leslie, E., et al. (2004). Understanding environmental influences on walking: Review and research agenda. *American Journal of Preventive Medicine*, 27, 67-76.
- 3 Humpel, N., Owen, N., & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity. *American Journal of Preventive Medicine*, 22, 188-199.
- 4 Sallis, J., Prochaska, J., & Taylor, W. (2000). A review of correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise*, 32, 963-975.
- 5 Two prominent public health journals released special issues on health and the built environment that are recommended reading: Northridge, M. (Ed.), (1993). Built environment and health [Special issue]. *American Journal of Public Health*, 93, 1369-1608; Killingsworth, R. (Ed.), (2003). Health promoting community design [Special issue]. *American Journal of Health Promotion*, 18, 1-122.
- 6 Centers for Disease Control & Prevention, Guide to Community Preventive Services. (2002). *Creating or Improving Access to Places for Physical Activity is Strongly Recommended to Increase Physical Activity*. Retrieved January 10, 2004 from <http://www.thecommunityguide.org/pa/default.htm>.
- 7 Powell, K.E., Martin, L., & Chowdhury, P.P. (2003). Places to walk: convenience and regular physical activity. *American Journal of Public Health*, 93, 1519-1521.
- 8 Frank, L.D., Schmid, T.L., Sallis, J.F., et al. (2005). Linking objectively measured physical activity with objectively measures urban form. *American Journal of Preventive Medicine*, 28 (252) 117-125.
- 9 Brownson, R.C., Housemann, R.A., Brown, D.R., et al. (2000). Promoting physical activity in rural communities: Walking trail access, use, and effects. *American Journal of Preventive Medicine*, 18, 235-241.
- 10 Saelens, B.E., Sallis, J.F., & Frank, L.D. (2003). Environmental correlates of walking and cycling: Findings from the transportation, urban design, and planning literatures. *Annals of Behavioral Medicine*, 25, 80-91.
- 11 Handy, S.L., Boarnet, M.G., Ewing, R., et al. (2002). How the built environment affects physical activity: Views from urban planning. *American Journal of Preventive Medicine*, 23 (2S), 64-73.
- 12 Ewing, R. & Cervero, R. (2001). Travel and the built environment. *Transportation Research Record*, 1780, 87-114.
- 13 Frank, L.D., Andresen, M.A., & Schmid, T.L. (2004). Obesity relationships with community design, physical activity, and time spent in cars. *American Journal of Preventive Medicine*, 27, 87-96.
- 14 Handy, S.L. (1996). Urban form and pedestrian choices: Study of Austin neighborhoods. *Transportation Research Record*, 1552, 135-144.
- 15 Kahn, E.B., Ramsay, L.T., Brownson R.C., et al. (2002). The effectiveness of interventions to increase physical activity: A systematic review. *American Journal of Preventive Medicine*, 22 (Suppl. 4), 73-107.
- 16 Centers for Disease Control and Prevention, Guide for Community Preventive Services. (2005). *A review of the effectiveness of multi-component school interventions for improving nutrition related behavior and status of children and adolescents*. Manuscript in preparation.
- 17 Koplan, J.P., Liverman, C.T., & Kraak, V.I. (Eds.). Committee on Prevention of Obesity in Children and Youth. (2004). *Preventing childhood obesity: Health in the balance*. Washington, DC: Institute of Medicine. Retrieved December 7, 2004 from <http://books.nap.edu/catalog/11015.html>.
- 18 Burgeson, C.R., Wechsler, H., Brener, N.D, et al. (2001). Physical education and activity: Results from the School Health Policies and Programs Study 2000. *Journal of School Health*, 71, 279-93.
- 19 Gorely, T., Marshall, S.J., & Biddle, S.J.H. (2004). Couch kids: Correlates of television viewing among youth. *International Journal of Behavioral Medicine*, 11, 152-163.
- 20 Center for Science in the Public Interest. (2004, May). *Dispensing junk: How school vending undermines efforts to feed children well*. Washington, DC. Retrieved January 11, 2004, from http://www.cspinet.org/new/pdf/dispensing_junk.pdf.
- 21 Nestle, M. (2003). *Food politics: How the food industry influences nutrition and health*. Berkeley, CA: University of California Press.
- 22 Klesges, R.C., Eck, L.H., Hanson, C.L., et al. (1990). Effects of obesity, social interactions, and physical environment on physical activity in preschoolers. *Health Psychology*, 9, 435-449.
- 23 Baranowski, J., & Puhl, J. (1993). Observations on physical activity in physical locations: Age, gender, ethnicity, and month effects. *Research Quarterly for Exercise & Sport*, 64, 127-133.
- 24 Sallis, J.F., Nader, P.R., Broyles, S.L., et al. (1993). Correlates of physical activity at home in Mexican-American and Anglo-American preschool children. *Health Psychology*, 12, 390-398.
- 25 Ewing, R., Schroeder, W., & Greene, W. (2004) School location and student travel: Analysis of factors affecting mode choice. *Transportation Research Record*, 1895: 55-63.
- 26 Staunton, C.E., Hubsmith, D., & Kallins, W. (2003). Promoting safe walking and biking to School: The Marin County success story. *American Journal of Public Health*, 93, 1431-1434.
- 27 French, S.A., Story, M.I., Fulkerson, J.A., et al. (2004). An environmental intervention to promote lower-fat food choices in secondary schools: Outcomes of the TACOS Study. *American Journal of Public Health*, 94, 1507-12.
- 28 French, S.A., Jeffery, R.W., Story, M., et al. (2001). Pricing and promotion effects on low-fat vending snack purchases: The CHIPS Study. *American Journal of Public Health*, 91, 112-7.

For research summaries that explore these three topics in greater depth, visit www.activelivingresearch.org.

Active Living Research, a national program of The Robert Wood Johnson Foundation, encourages and supports cross-disciplinary research about environmental factors and policies with the potential to substantially increase physical activity among Americans of all ages, incomes and ethnic backgrounds. Active Living Research wants solid research to be part of the public debate about active living.

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