

# Creating a Walkable Community

Julie Burk

The way we design our communities plays a big role in how much physical activity we get. And our physical activity helps determine our weight. Existing patterns of development have led to an increased dependence on automobiles, more congestion and air pollution, loss of open space, and ultimately, less physical activity. The U.S. Department of Health and Human Services' Healthy People 2010 report (2000) talks about urban development in its environmental health section, and numerous studies have shown the link between suburban sprawl and obesity. These studies show, for example, that people who live in low-density suburban areas are more overweight, walk and bike less, use cars more often, and have higher rates of obesity-related illnesses.

Far-flung suburbs in large cities and outlying subdivisions in small towns, with their low population densities, cannot support cost-effective and comprehensive public transportation. Instead, people who live outside the city center must rely

on automobiles to get from place to place. According to CDC, one-fourth of all trips people make are one mile or less, but three-fourths of these short trips are made by car.

In *Urban Sprawl and Public Health*, Howard Frumkin, Lawrence Frank, and Richard Jackson say, "Heavy reliance on the

automobile for transportation results in more air pollution, which contributes to respiratory and cardiovascular disease. More driving also means less physical activity, contributing to a national epidemic of overweight and associated diseases."

As a result of a decrease in activity, obesity is now considered to be one of the top 10 leading health indicators by CDC, which estimates that almost 15 percent of children aged 6–19 years are overweight, and 64 percent of U.S. adults aged 20 years and older are either overweight or obese. Overweight and obese individuals are at an increased risk for physical ailments such as high blood pressure, high blood cholesterol, type 2 (non-insulin dependent) diabetes, heart disease, and stroke.

In Montana, an estimated 18.8 percent of adults are obese, and 8.1 percent of high school students are overweight, according to the non-profit organization Trust for America's Health.

Concerned about the connection among land use patterns, transportation, and obesity, the Lewis and Clark City-County Health Department in Helena, Montana, wanted to become involved in helping to make Helena a less motorized community.

The department is focusing on three specific strategies: promoting more walking by children; increasing safe and inviting walking and biking opportunities for people of all ages; and creating guidelines that require non-motorized transportation facilities in new developments.

## Promoting children's walking

In response to the death of an 18-year-old boy who was killed in an unlit crosswalk in front of Four Georgians School in 1998, the city-county health department joined the Montana Department of Public Health and Human Services (DPHHS), the Montana Department of Transportation, the Helena Police Department, the Helena Fire Department, BlueCross BlueShield of Montana, and the nonprofit Alternative Energy Resources Organization to sponsor Walk Our Children to School Day (an international event that promotes walking and biking to school).

Helena's efforts to increase the amount children walk to school have been generally quite successful. Organizers have succeeded in increasing school participation in the walk from two Helena elementary schools in 2000 to ten last year, with approximately 1,200 students participating in 2004. The city-county health department's role in the event consists of handling the publicity. The department's public information specialist writes and distributes news releases, makes appearances on local talk radio shows, and works with the public information officer from DPHHS to promote the event statewide.

Another goal of the walk-to-school event is to promote children's walking and biking safety. Children are some of the most vulnerable pedestrians and bicycle riders. According to the AAA Foundation for Traffic Safety, children don't see traffic the way adults do. Younger children, in particular, don't have the ability to deal with moving vehicles; they have poor directional hearing, narrow peripheral vision, and they can't judge speed and distance the way older children and adults can.

## Increasing safe walking and biking opportunities

The physical environment affects how much residents can and will walk. In communities with suburban sprawl, with few sidewalks, and inaccessible



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Walk Our Children to School Day 2002. Walking to Smith School, a school area with few sidewalks, are then-Governor Judy Martz (center), Mike Spence, state medical officer at Montana Department of Public Health and Human Services (left), and State Rep. Dave Gallik (right).

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sible pedestrian destinations such as large malls and big box stores surrounded by large parking lots, it can be difficult to find safe, interesting places to walk. According to CDC, most communities today were designed to favor one mode of travel—the automobile—and usually don't have many sidewalks or bicycle facilities. Building roads, schools, and shopping centers that are accessible only by car often prevents people from safely walking around town, riding bicycles, or playing outdoors.

In 2001, three schools in Helena—Four Georgians, Smith, and C.R. Anderson—used Walk Our Children to School Day as a way to call citizens' attention specifically to the lack of sidewalks in their neighborhoods and to community walkability in general. As a result of the attention the walk garners every year, the city has installed thermo-plastic crosswalks (long-lasting crosswalks that are embedded in the pavement) and green neon signs in front of elementary schools, and the school district has conducted workshops on safe biking. Several off-street bike trails have also been built connecting subdivisions and neighborhoods to two schools in the Helena Valley.

### Creating transportation guidelines

To prevent sidewalks and bike paths from being built haphazardly, city and county officials are working to determine what kinds of non-motorized facilities will be built in the future. Currently, the city and county are revising the Greater Helena Area Transportation Plan, which contains a chapter on non-motorized transportation focused on building a bicycle network for commuters, recreational users, and children.

The non-motorized transportation plan was developed over the past few years through many hours of citizen and agency involvement. The city-county health department's involvement in the non-motorized plan grew out of its participation with the walk-to-school event and is seen as a continuation of its obesity-prevention efforts.

To increase non-motorized transportation, the plan emphasizes the three Es: engineering, enforcement, and education. Engineering refers to installing pedestrian and bicycle facilities whenever construction is slated to occur if those facilities make sense in a particular location. Enforcement involves ensuring that drivers, pedestrians, and cyclists obey traffic laws, including yielding to pedestrians in crosswalks and shoveling snow from driveways and sidewalks in a timely manner. Education refers to increasing public awareness about the benefits of non-motorized transportation, including health, fitness, and air quality. The city and county are expected to incorporate the non-motorized chapter into the greater transportation plan sometime in 2005.

As Helena's experience suggests, when public health professionals participate in land use and transportation planning, their input can help create non-motorized transportation options that get people out of their cars and into their walking shoes.

The Helena area is no different than many towns and cities across the country. Traditional neighborhoods with boulevard sidewalks exist in the city's core, but the farther one goes beyond that point, the more one encounters subdivisions and commercial development that require the use of a private vehicle. And, like many small towns, there is no meaningful public transit system. It's no wonder that the United States has become a nation of drivers, as Frumkin has written. It remains to be seen how effective the health department's efforts will be in helping Helena become a more walkable community, but one thing is certain: The human health implications of sprawl are many. 🐾

## Effects of Land Use and Transportation on Health

**Less Physical Activity.** Children between the ages of 5 and 15 do not walk or ride their bicycles as much as they used to (40 percent less from 1977 to 1995). One-fourth of all trips people make are one mile or less, but three-fourths of these short trips are made by car. Source: *Nationwide Personal Transportation Survey*. US Dept. of Transportation, Federal Highway Administration, Research and Technical Support Center. 1997.

**Air Pollution.** Not only are there more cars on the road, but sprawl forces people to drive each car farther, increasing congestion and emissions of greenhouse gases and the precursors to ground level ozone (smog). Source: U.S. Environmental Protection Agency (EPA), [www.epa.gov/region5/sue/whyconcern.htm](http://www.epa.gov/region5/sue/whyconcern.htm).

Nationwide, "mobile sources" (mostly cars and trucks) account for approximately 30 percent of emissions of oxides of nitrogen and 30 percent of hydrocarbon emissions. Source: EPA. National Emission Inventory. Air pollutant emission trends. Current emissions trend summaries (cited 2002 July 30). [www.epa.gov/ttn/chieftrends/index.html](http://www.epa.gov/ttn/chieftrends/index.html), cited in "Urban Sprawl and Public Health." Howard Frumkin, MD, DrPH. *Public Health Reports*. May–June 2002. Vol. 117.

Ozone is an airways irritant. Higher ozone levels are associated with higher incidence and severity of respiratory symptoms, worse lung function, more emergency room visits and hospitalizations, more medication use, and more absenteeism from school and work. Source: Committee of the Environmental and Occupational Health Assembly, American Thoracic Society. Health effects of outdoor air pollution. *Am J Respir Crit Care Med* 1996; 153:3-50, 477-98, cited in "Urban Sprawl and Public Health." Howard Frumkin.

**Cancer and Mortality.** The effects of long-term exposure to combustion-related fine particulates in air pollution were studied in 500,000 U.S. adults, as part of a study conducted by the American Cancer Society. Fine particulate pollution was associated with both lung cancer and cardiopulmonary mortality. Source: Pope CA, Burnett R, Thurston GD, Thun MJ, Calle EE, Krewski D, Godleski J. Cardiovascular Mortality and Long-Term Exposure to Particulate Air Pollution: Epidemiological Evidence of General Pathophysiological Pathways of Disease. *Circulation* 109(1):71-77.

**Diabetes, Obesity, and Hypertension.** It is estimated that obesity and its concomitant health problems, such as hypertension, diabetes, heart disease, and osteoarthritis, rival tobacco in their effect on health. It has been suggested that the trend of living in sprawling suburbs with design features that discourage walking and biking and encourage residents to drive more, may be a contributing factor to the epidemic of obesity. Source: *Report on Public Health and Urban Sprawl in Ontario: A Review of the Pertinent Literature*. Environmental Health Committee, Ontario College of Family Physicians. Authors: Riina Bray BAsc, MSc, MD, CCFP; Catherine Vakil MD, CCFP; David Elliott, PhD. January 2005. ■