



Americans, including fitness professionals, are aware that the obesity epidemic is affecting our nation's health and well-being. According to the *Journal of American Medical Association* study, "Prevalence and Trends in Obesity Among U.S. Adults, 1999–2008," approximately 34% or 73 million American adults were obese. In addition, results from the 2007–2008 National Health and Nutrition Examination Survey (NHANES) indicate that an estimated 17% of youth and adolescents 2 to 17 years of age were obese. However, Americans may not realize that the built environment affects their health. What do fitness professionals need to know about built environments?

### **The Road to Automobile Dependence**

Nearly 50 years ago, walking was a frequent mode of transportation because most of the city population lived within walking distance of work, shops, entertainments and recreation. The Federal Highway Act of 1956 and other policies increased the construction of roads and highways, which encouraged Americans to reside in suburbs.

The urbanization of America in the last century demanded the use of the automobile; therefore, walking became outmoded. This "Suburban sprawl" is commonly known as the unchecked distribution of a cities' population outward to lower density areas. New developments utilize segregated land use that separates residential from retail. As a result, Americans are highly automobile-dependent.

### **The Impact on Physical Activity**

These environments affect our everyday lives and activities. Health Canada describes the built environment as "...including our homes, schools, workplaces, parks/recreation areas, business areas and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways. The built environment encompasses all buildings, spaces and products that are created or modified by people. It impacts indoor and outdoor physical environments (e.g., climatic conditions and indoor/outdoor air quality), as well as social environments (e.g., civic participation, community capacity and investment) and subsequently our health and quality of life."<sup>1</sup>

Research indicates that where people live and what surrounds them can have an effect on their physical activities. Proximity to recreation centers and parks and the design and quality of streets, houses and pedestrian/cycling paths affect the amount of physical activity that a person will take part in.<sup>2</sup> Areas that

have a high degree of connectivity and pedestrian activity will help increase the amount of people who walk in that area.<sup>3</sup>

In simple terms, easy to navigate environments that incorporate activity and have aesthetically pleasing routes will increase the amount of walking or cycling. These dense environments or neighborhoods include grocery stores, shops and cafés, among others. In addition, use of these active areas often induces a decrease in the number of obese and / or overweight persons who reside in these locations.<sup>4</sup>

Researcher R. Ewing and colleagues examined the relationship between sprawl (low density) and obesity and a lack of physical activity. Results indicated that residents of sprawled communities had lower levels of walking, increased BMI levels and obesity rates, and more prevalent hypertension.<sup>5</sup> A 2007 study conducted in New York City researched numerous variables, including the built environment, that led to higher rates of obesity. People in areas that were predominantly residential or mostly commercial had significantly higher BMI rates than those that had an even distribution of residential and commercial areas.<sup>6</sup>

This research confirms that high-density environments encourage people to be less automobile-dependent in their daily lives. When residents of a city or town are able to visit multiple destinations within a reasonable walking distance, driving is not as necessary. In addition, such areas are friendlier toward pedestrians and bikers with larger sidewalks and fewer traffic lanes. These environments may offer park benches, public art and shrubbery, which is known as “streetscaping.”

## **A New Plan**

A planning concept that has been gaining momentum in the last decade is “New Urbanism.” This movement was founded through architect and city planner, Andrés Duany. One of the principles of New Urbanism identified by Duany is walkability: the idea that most places should be within a 10-minute walking distance from work and home. New Urbanists believe that one of the solutions to unhealthy communities is to develop walkable towns. An example of New Urbanism is Seaside, Fla., a Duany-inspired town designed for residents to use multiple modes of transportation instead of driving. Elementary schools and playgrounds are within close walking proximity. In addition, social activities are approximately one-quarter mile away from the city center.

Another method planners are using to increase walking in cities is Transit Oriented Design (TOD). In this system, developers build multiple activities around the transit stops. TOD encourages people to leave the car at home and arrive at a destination where they can walk around a dense area to accomplish most, if not all, of their tasks. Active transport such as cycling and walking are also encouraged by this form of development.

## **Analyzing the Community**

An entertaining way to rate your community’s walkability index is through [walkscore.com](https://www.walkscore.com). This website uses an algorithm to calculate a neighborhood’s walk score. An automobile dependent area will result in a walk score of 0 to 24. A walker’s paradise will score 90 to 100 and does not require an automobile to complete daily tasks. Fitness professionals are “sprawled” across the United States amongst healthy

and unhealthy communities encouraging people to hit the gym and get fit. We need educate our clients that the 23 hours spent outside of the gym can enhance or negatively affect our health and well-being.<sup>7</sup>

## Exercise and Energy

Energy expended during activities such as walking or biking varies depending on the weight and height of the individual. Calculating the net calorie cost is vital to encourage the extra calorie burn. This calculation is the exercise energy expenditure minus the resting energy expenditure.<sup>8</sup> Another method of calculating energy costs is based upon the MET level of activity. The calculation is  $(\text{METS} \times 3.5 \times \text{body weight in kg}) / 200 = \text{kcal} / \text{min}$ . Note that MET ranges are based upon the intensity and terrain.

## Planning Lifestyle Changes

As it takes longer to walk and bike than to drive, so many time-crunched Americans may resist this mode of transportation. However, fitness professionals can educate clients that the long-term expenditure results in weight maintenance or attaining weight loss goals. This method may be helpful for health seekers, outdoor enthusiasts or social butterflies who enjoy walking and talking.

Lifestyle changes are challenging; however, planners', architects' and urban designers' innovative projects may allow Americans to easily accept the challenge to create and promote a healthy lifestyle and community. **AF**

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