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Healthy Communities

Background

Many lawmakers and organizations are recognizing the connection between public health and community planning. A 1998 study from the Centers for Disease Control reports that approximately 29% of adults in the US are considered “sedentary” and 50% are considered overweight, creating what some consider a formidable health burden (Centers for Disease Control and Prevention, 1998). Many interest groups and professionals agree that physical inactivity can be remedied in part by healthy city planning, but differ on the best way to implement changes.

Healthy Residents

There are proactive ideas to help community members become more active, most prominent is the push to include walking and/or bicycling into one’s daily routine (Killingsworth 2001). Walking is perhaps the most accessible form of exercise for all people, and studies suggest that it can be beneficial. For instance, in a study published in the *New England Journal of Medicine*, it is reported that “among retired, nonsmoking men, those who walked less than 1.6 km a day had a mortality rate nearly twice that of those who walked more than 3.2 km per day” (Hakim et al, 1998).

Bicycling is another popular form of exercise that can allow people to get school and work every day. The League of American Bicyclists reports that about 42 million Americans own bicycles, but many people use them recreationally rather than as a primary form of transportation (Killingsworth 1998). Killingsworth also reports that “in the United States, nearly 25% of all trips are less than 1 mile, but more than 75% these short trips are made by automobile, so it is reasonable to expect that many trips could be made on foot or bicycle” (1998).

Community Layout

The planning and design of cities and towns impacts the feasibility of routine walking and biking. Many communities are trying to figure out how to have safe biker- and walker-friendly

space on roads and sidewalks. Active Transportation, a Canadian organization, offers the following list of actions that are characteristic of communities that promote active transportation:

- designated bicycle lanes and routes allowing roads to be shared by cyclists that are properly maintained and upgraded;
- access to public transit integrated with pedestrian and cycling facilities to encourage intermodal travel;
- measures that ensure the safe integration of pedestrians, cyclists and other active users among motorized vehicle traffic;
- urban design that reduces the distances that people have to travel to get to work, retail areas, schools and recreational/leisure pursuits;
- retail and service sectors support for customers who use active modes of transportation;
- a network of green spaces throughout the urban and suburban areas which make the walking area more pleasing and inviting for pedestrians;
- active feedback from citizens, pedestrian and cycling advocacy groups (Active Transportation, 2002).

Federal Legislation and Studies

The 1998 Transportation Equity Act for the 21st Century (TEA-21) has mandated funding and programming support of state departments of transportation to include biker and pedestrian planning, including the employment of a program coordinator (Killingsworth 1998).

Active Community Environments (ACES) is a Center for Disease Control program that is responsible for promoting public health and community planning connections. According to the program description, ACES:

- have sidewalks, on-street bicycle facilities, multi-use paths and trails, parks, open space, and recreational facilities;
- promote mixed-use development and a connected grid of streets, allowing homes, work, schools, and stores to be close together and accessible by walking and bicycling.

Most communities today were designed to favor one mode of travel, the automobile, and usually do not have many sidewalks or bicycle facilities. Building roads, schools, shopping centers, and other places of interest only for convenient access by cars often keeps people from safely walking around town, riding bicycles, or playing outdoors (Center for Disease Control 2002).

Between 1977 and 1995, trips made by walking declined while driving trips increased. Currently, One-fourth of all trips people make are one mile or less, but three-fourths of these short trips are made by car (Center for Disease Control 2002).

Walk and Bike Trips vs. Automobile Trips (1977-1995)

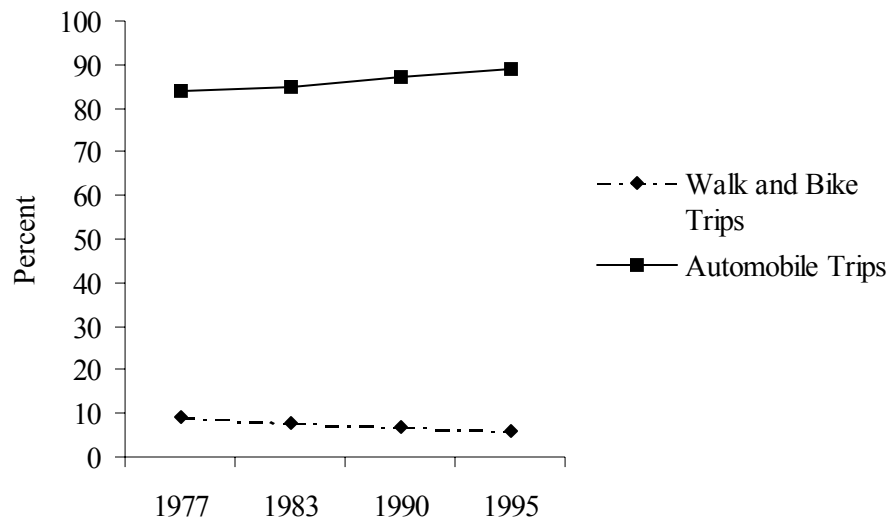


Figure 1: Percentage of trips made by automobile versus percent made by walking or bicycle. Source: US Department of Transportation, *National Bicycling and Walking Five Year Study* (1999).

Since 1977, walking and riding a bike has declined well into the 1990s. Automobile trips have increased since 1977 into the 1990s and still climbing. Only 6% of Americans ride their bike or walk to their destinations, while over 89% of Americans take their cars (US Department of Transportation 1999).

Many States and localities rediscovered bicycling and walking in the 1990s, and began devoting staff and financial resources to the creation of a more bicycle-friendly and walkable infrastructure. Since the 1990s, the number of both bicycling and walking trips has increased (by 89 percent and 13 percent respectively). Simultaneously, there was, however, an increase in the total number of trips by all modes of more than 50 percent. If the level of overall travel continues to increase at this rate, increasing the percentage of overall trips made just by bicycling and walking is going to be a tough challenge.

In the five years since the *National Bicycling and Walking* study was released, bicycling and walking issues have become more a part of the day to day activities of Federal, State, and local transportation agencies in the United States and some progress has been made towards the twin goals of increasing use while improving the safety of the two modes. Approximately half the States and 10 percent of cities have adopted the overall goals of the US Department of Transportation's *National Bicycling and Walking* study.

Local Projects

“Critical Mass is a monthly bicycle ride [sic] assert cyclists' right to the road. The idea started in San Francisco in September 1992, and quickly spread to cities all over the world . . . Critical Mass has a very different flavor from city to city; there's a big variety in size, respect of traffic laws (or lack thereof), interaction with motorists, and intervention by police.” (Bluejay 2002). There is no unifying organization but rather independent movements started by individuals in various cities, which is why the organizations vary a great deal between cities. The only critical mass group in Vermont is located in Burlington. They do not appear to have a website but do have a group email list serve (which appears to be inactive).

Local Motion is another group that promotes bicycling in Vermont. They are non-profit organization that promotes “cycling, blading and walking and the trails, bikeways, and sidewalks that make such travel safe, easy and fun!” (Local Motion 2002). They have done this by starting a bicycle ferry that connects the Burlington Bike Path and the Colchester Causeway path, as well as providing trail maps and information about local bike and blade rental outlets.

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Appendix

Note: Much of the material cited above came from the following article.

Community Design and Transportation Policies: New Ways to Promote Physical Activity

Richard E. Killingsworth, MPH, CHES; Thomas L. Schmid, PhD, *The Physician And Sportsmedicine* - Vol 29 (2) – February 2001.

Public health and city planning share common goals and similar histories (1,2). Both disciplines seek to improve living conditions and health by preventing, identifying, investigating, and eliminating problems that may pose threats to residents' health and welfare.

Physical inactivity exacts an enormous public health toll. Lack of physical activity is thought to be a primary factor in more than 200,000 deaths per year in the United States (3), a total equivalent to 25% of all chronic disease deaths and 10% of all deaths. Thus, for the US population, in which 29% of adults are sedentary and more than 50% are overweight (4), becoming moderately active can provide a meaningful health benefit. Inactivity's negative effects have generated interest in collaboration between public health, city planning, and transportation organizations.

The Health Benefits

How can public health, city planning, and transportation officials work toward reducing the burden of physical inactivity? One strategy is to promote the integration of walking and bicycling into daily routines, substituting these activities for part of the 73 minutes a day that the average person spends driving (5). Many communities, however, are designed to accommodate automobile traffic rather than safe and convenient pedestrian or bicycle travel. Data from the Nationwide Personal Transportation Survey revealed that in 1995, 89% of all trips were made by automobile, while only 6.4% made were on foot and bicycle (5).

Walking

Walking is generally suitable for most people, regardless of age, sex, race, or income. Research also reveals that walking is beneficial. Morris and Hardman (6) reported that men who walked at moderate intensity for at least 30 minutes a day reduced their risk of coronary heart disease (CHD). In another study, Hakim et al (7) showed that among retired, nonsmoking men, those who walked less than 1.6 km a day had a mortality rate nearly twice that of those who walked more than 3.2 km per day. Bicycling. Bicycling is another way to increase physical activity. According to the League of American Bicyclists, more than 42 million Americans have bicycles and use them at least occasionally, though primarily for recreation rather than transportation (8). Currently, less than 1% of all trips are made by bicycle (5); however, significant health benefits could accrue if only a small portion of short automobile trips were replaced with bicycle trips. In his study of 9,000 British government employees, Morris (9) showed that employees between the ages of 45 and 64 who bicycled for at least 1 hour or at least 40 km per week had less than half the fatal and nonfatal CHD of those who were sedentary.

Urban Design Challenges

Literature from various disciplines suggests that community design and transportation systems often neglect pedestrians and bicyclists because destinations of interest are distant and not very well connected, making safe and convenient walking and bicycling difficult, if not impossible. Aspects of community design impart significant effects on our choice to walk or bicycle (10,11). These factors include the amount of residential, commercial, and retail development; street design, open spaces, and mass transit availability; and the density of housing, employment, and population.

While some community design features may have important independent effects on walking and bicycling, participation will depend on a mix of interdependent features. People who live in neighborhoods with higher population densities, proximity to destinations of interest, and factors such as grid-pattern streets, sidewalks, and easy street crossings make more walking and transit trips compared to those who live in communities that lack this mix of characteristics (10,11).

Promoting Walking and Bicycling

In the United States, nearly 25% of all trips are less than 1 mile, but more than 75% of these short trips are made by automobile, so it is reasonable to expect that many trips could be made on foot or bicycle (figure 1) (S. A. Ham, unpublished calculations from the 1995 Nationwide Personal Transportation Survey, US Department of Transportation, Volpe Research Center, Cambridge, MA, 1998). Although bicycling and walking will not replace all short trips, these modes may be practical for many of them. Metropolitan areas may benefit the most from pedestrian- and bicycle-oriented environments, because most urban areas have the highest concentration of people, stores, offices, schools, and services (10,11).

Public health practitioners, especially physicians, nurses, and therapists could make significant contributions to health by recommending that patients incorporate more daily walking and bicycling. Public health practitioners should collaborate with city planners, developers, and transportation engineers to encourage community designs that promote and encourage physical activity.

Since the 1990s, the emphasis of transportation planning has been on managing travel behavior and demand. Key federal legislation highlighting this shift includes the Clean Air Act Amendments of 1990, Intermodal Surface Transportation Efficiency Act of 1991, and Transportation Equity Act for the 21st Century (TEA-21), passed in 1998. These bills now provide ample state and federal funds to help finance programs that encourage walking and bicycling.

Through TEA-21, funding and planning requirements were strengthened to improve conditions for walking and bicycling. TEA-21 also mandates that each state department of transportation have a bicycle and pedestrian program coordinator, and that every local government include pedestrian and bicycle projects in its transportation plans. This mandate gives walking and bicycling due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and state department of transportation.

Evidence is building that bicycle- and pedestrian-friendly environments can have benefits beyond transportation. Nationwide, many cities have experienced economic benefits from encouraging nonmotorized transportation. Recent experience reveals that the presence of pedestrians and bicyclists in a city is an indicator of community cohesiveness, quality of life, and health (10).

Programs for Children

Children have also suffered from dependence on the automobile, and while most children have bicycles, few use them for transportation. Over the last 20 years, nonmotorized trips made by children to school have declined by more than 40% (P. Schimek, unpublished calculations from the 1995 Nationwide Personal Transportation Survey, US Department of Transportation, Volpe Research Center, Cambridge, MA, 1999). This precipitous decline may hinder children's social, emotional, and physical development because it impedes their opportunity to engage in spontaneous outdoor physical activity. Furthermore, the absence of positive environmental cues for promoting physical activity may be a contributing factor in the burgeoning epidemic of overweight children. These children now must be chauffeured to places that traditionally were reached by foot or bicycle.

These challenges to children's health and safety are important reasons why several national organizations and federal agencies formed the Partnership for a Walkable America (<http://www.walktoschool-usa.org>) to promote the necessary changes to make walking easier and safer for everyone, especially children. One of the major programs of the partnership is National and International Walk to School Day (<http://www.iwalktoschool.org>). This popular and successful event has been important in getting local communities involved in making their neighborhoods more suitable for walking. In support of these programs, the Centers for Disease Control and Prevention has developed a comprehensive handbook ("KidsWalk-to-School" available online at <http://www.cdc.gov/nccdphp/dnpa/kidswalk/index.htm>) that helps parents, community leaders, and healthcare practitioners develop "walkable" communities. As a result of the new emphasis, California was the first state to implement legislation directing a portion of state transportation funds for safe pedestrian and bicycle routes to schools.

Small Changes and Big Benefits

Walking and bicycling for transportation have tremendous potential for improving the health and well-being of Americans. Solutions to increase walking and bicycling are complex and would involve extensive changes in the way Americans live, work, and go to school. Even small changes, however, can yield significant public health benefits.

Proposed strategies. We propose three strategies to help promote public health through walking and bicycling. First, integrated survey systems are needed to identify all factors and indicators known to influence these activities for both transportation and recreation. A second strategy is to implement city planning, transportation, and public health policies that afford transportation alternatives, especially walking or bicycling to destinations. The third strategy is to examine scientifically how various behaviors can be influenced through community design and transportation systems. For example, empiric evidence can be gathered on the effectiveness of safe-routes-to-school campaigns for children.

Collaborative efforts. Community design and transportation choices are important factors to consider when developing policies. Public health, city planning, and transportation officials, therefore, should continue to collaborate on developing designs that promote and encourage physical activity.

Additionally, it is important for public health practitioners to become involved with organizations such as the American Planning Association (<http://www.planning.org>), the Institute of Transportation Engineers (<http://www.ite.org>), the Urban Land Institute (<http://www.uli.org>), the Congress for the New Urbanism (<http://www.cni.org>), and the Environmental Design Research Association (<http://www.telepath.com/edra>). Advocating for public health and physical activity with such organizations is a vital health promotion strategy.

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