

Public Health, Physical Activity and Activity-Friendly Communities: Priorities for a Healthy Spartanburg

James F. Sallis, PhD
Leslie S. Linton, JD, MPH
Julie A. Weitzel, MA

Affiliated with
Active Living Policy and Environmental Studies Program (ALPES)
San Diego State University
3900 Fifth Avenue, Suite 310
San Diego, CA 92103
Phone: (619) 260-5534

It is our pleasure and privilege to offer this White Paper to you, the Trustees of the Mary Black Foundation. We are delighted you are considering physical activity as a priority for future funding initiatives, and we trust that the following will strengthen your conviction to support strategies that will get Spartanburg County moving. We believe the issue of “activity-friendly communities” is quickly becoming a priority topic in the health professions and several other sectors of society. By supporting efforts to create an activity-friendly Spartanburg, the Mary Black Foundation could not only substantially enhance the health and quality of life of local residents, but also could serve a leadership function for the region and nation by creating a model for community-wide change. We fully recognize we are not local residents and do not share your intimate knowledge of Spartanburg County. However, we hope to offer our perspective from extensive research and experience in struggling with the issue of how to improve the health of an increasingly sedentary population – a problem seen in virtually every county across the country.

The goals of this White Paper are to:

- Document the profound effect that physical activity has on health, and describe the promise of changing physical environments as a way to address the current epidemics of sedentary living and obesity;
- Discuss the current physical activity and health situation in Spartanburg County as well as the current efforts to enhance physical activity; and
- Based on available evidence, make suggestions for how the Mary Black Foundation can establish a grantmaking program that promise to substantially increase the physical activity of residents by making Spartanburg more “activity-friendly.”

We believe the evidence clearly shows physical inactivity is one of the most critical health problems of our time. Residents of Spartanburg County have unusually high rates of inactive living and the resulting health problems, so action is urgently needed. Our recommendations focus on strategies that will create and support activity-friendly environments and policies to benefit the whole population. We recommend that the community-wide strategies initially be targeted at disadvantaged populations who have the most to gain. We provide a menu of options and are confident that the Trustees, staff and grantees of the Mary Black Foundation will craft solutions that are well suited for Spartanburg County.

TABLE OF CONTENTS

	Page
I. Physical Inactivity: Scope of the Problem, Probable Causes, and Effective Solutions	4
Physical Inactivity: An Alarming Toll on Health and Wellness	4
Physical Inactivity: Taxing Our Nation’s Resources	4
Most People are Not Active Enough to be Healthy	5
Some Population Groups are at Greater Risk for Inactivity	5
The Situation is Getting Worse	6
More Bad News: Obesity Trends	6
Lessons from Research: Lessons Learned and Directions for the Future	7
<i>Focus on moderate intensity activity</i>	
<i>Community approaches to increasing activity have proven successful</i>	
<i>Limitations of individual-based programs and the need for environmental change</i>	
An Ecological Model can Guide us to More Effective Approaches	9
Is the Environment Related to Physical Activity? A Look at the Evidence	10
Lessons from Transportation and Urban Design Studies	11
A Logic Diagram to Illustrate the Connections between Health, Physical Activity, and the Physical Environment	11
Examples of Funding Initiatives on Physical Activity through Environmental Change	12
Potential Issues of Contention	14
Conclusion	14
 II. Health, Physical Activity, and Current Initiatives in Spartanburg County	 15
Health and Chronic Disease in South Carolina and Spartanburg County	15
<i>Health care and costs</i>	
<i>Physical inactivity in South Carolina and Spartanburg County</i>	
<i>Obesity</i>	
<i>Race/ethnic differences</i>	
<i>Youth</i>	
Summary	18
Current Initiatives in Spartanburg County	19
<i>Heartwise</i>	
<i>Trail and greenway development</i>	
<i>Renaissance Project – downtown revitalization</i>	
<i>Collaboration across sectors of society</i>	
<i>Coping with issues of sprawl and growth</i>	
Conclusion	21
 III. Recommendations for Creating a More Physical Activity-Friendly Spartanburg	 22
<i>Spartanburg can be a leader</i>	
<i>A multi-level approach to change</i>	
<i>Place a high priority on the needs of disadvantaged populations</i>	
<i>You can’t do everything at once</i>	

	Page
Recommended Priorities for Environmental and Policy Change for the Spartanburg Region	24
<i>Create walkable neighborhoods</i>	
<i>Make places for people to walk and cycle</i>	
<i>Make investments in recreational facilities</i>	
<i>Create activity-friendly schools during and after the school day</i>	
<i>An activity friendly Spartanburg will benefit all residents</i>	
Recommended Priorities for Achieving Environmental and Policy Change for the Spartanburg Region	27
<i>Elements of a process to create environmental and policy changes</i>	
<i>Create walkable neighborhoods</i>	
<i>Make places for people to walk and cycle</i>	
<i>Make investments in recreational facilities</i>	
<i>Create activity-friendly schools during and after the school day</i>	
Conclusion	31
IV. Appendix	32
Other Groups	32
Resources	32
Experts Interviewed	34
V. References	35

**SECTION I. PHYSICAL INACTIVITY:
SCOPE OF THE PROBLEM, PROBABLE CAUSES, AND EFFECTIVE SOLUTIONS.**

Physical Inactivity: An Alarming Toll on Health and Wellness

As a nation, we have experienced dramatic changes in lifestyle over the last century. Technology and innovation have revolutionized the ways we work, travel and recreate. At the same time regulation, policy and economics have changed patterns of land use and shaped the neighborhoods where we make our homes. Increasingly, it is apparent that physical activity has been engineered out of our every day lives, sometimes as the result of conscious decision-making, but more often as an unforeseen by-product of innovation. As a society, we must come to terms with a public health problem so widespread and serious that it is fair to say that we are in the midst of an epidemic of inactive lifestyles.

The health consequences of sedentary lifestyles are remarkable and are documented by hundreds of studies. Overall, we know that physical inactivity is a significant risk factor for early death for both older and younger adults. A landmark Surgeon General’s Report (SGR) in 1996¹ documented the link between physical inactivity and:

- | | |
|---|--|
| <ul style="list-style-type: none">• Coronary heart disease• Colon cancer• Obesity• Diabetes• Depression & anxiety | <ul style="list-style-type: none">• Strokes• Blood lipids• Hypertension• Immune functioning• Quality of life |
|---|--|

The relationship between inactivity and coronary heart disease is so strong that the Surgeon General’s Report described it as equivalent to the risk posed by cigarette smoking. Inactive lifestyles have been estimated to be responsible for 200,000 deaths per year,² second only to tobacco (400,000 deaths per year)³ as a true cause of death among Americans. Connections between inactive lifestyles and disease and premature death continue to emerge in new literature, and we can expect that inactivity will be identified as the true cause of death for more and more Americans.

The power of a physically active lifestyle in preventing disease and death cannot be overstated. For example, a major clinical trial demonstrated that at least 10 million Americans at high risk for Type 2 diabetes would be able to reduce their risk by 58% through diet and physical activity.⁴ Similarly, regular physical activity prevents or delays the development of high blood pressure and reduces blood pressure for people who already have hypertension.¹ Inactivity is a recently recognized, but major, challenge to the health of our nation’s people.

Physical Inactivity: Taxing Our Nation’s Resources

The economic consequences of inactivity are equally dramatic, with direct medical costs of inactivity estimated to be similar to the medical costs of smoking. An economic analysis concluded that physically active individuals have medical costs that are lower than those of inactive individuals with an average differential of \$330 per year. On a national level, this translates to a savings of \$76.6 billion per year if the more than 88 million inactive Americans became active. If indirect costs are also considered, the costs of physical inactivity may be over \$150 billion per year.⁵

Most People Are Not Active Enough to Stay Healthy

Although the consequences are serious, 75% of the people in the United States do not get the minimum recommended amount of physical activity.⁶ By contrast, only about 24% of the population is at risk from daily cigarette smoking.⁷ The recommendation for adults is that they accumulate 30 minutes of moderate intensity physical activity on most, and preferably all, days of the week.⁸ See Table 1. A surprising 27% of adults are not active at all.⁹

Table 1

<i>Recommended Physical Activity</i>		
Adults	<ul style="list-style-type: none"> • Should accumulate 30 minutes or more of moderate intensity physical activity on most, preferably all, days of the week • Additional health benefits available through greater amounts of physical activity (longer periods of moderate activity or periods of vigorous activity) 	<ul style="list-style-type: none"> - moderate intensity activities that raise the heart rate, including brisk walking (3-4 mph) gardening, climbing stairs, housework - 30 minutes do not need to be continuous
Youth	<ul style="list-style-type: none"> • Should participate daily in 1 hour or more of activity of at least moderate intensity • At least twice a week, some of these activities should help to enhance and maintain muscular strength and flexibility and bone health 	

For youth, the recommendation is at least one hour of daily activity that is at least moderate in intensity.¹⁰ See Table 1. Among adolescents and young adults aged 12-21, almost half do not engage in vigorous activity, and more than 15% are not active at all.¹ Transportation for young people is focused almost exclusively on the automobile, with 85% of children's trips to school made by car while only 13% of these trips are on foot or by bicycle.¹¹ Healthy People 2010 health objectives for the nation include a target to increase walking trips of one mile or less to 50% and bicycling trips to 5%.¹²

The good news about current recommendations is that people have several options for getting enough physical activity to be healthy. Walking and gardening are now seen as providing nearly as many benefits as jogging and aerobics. We also know that small amounts of physical activity can provide benefits, so people are encouraged to make gradual increases from their current levels. Of course, larger amounts of physical activity provide greater benefits, though excessive exercise boosts injury risk. Following the current recommendations creates numerous important benefits, with minimal risk.

Some Population Groups are at Greater Risk for Inactivity

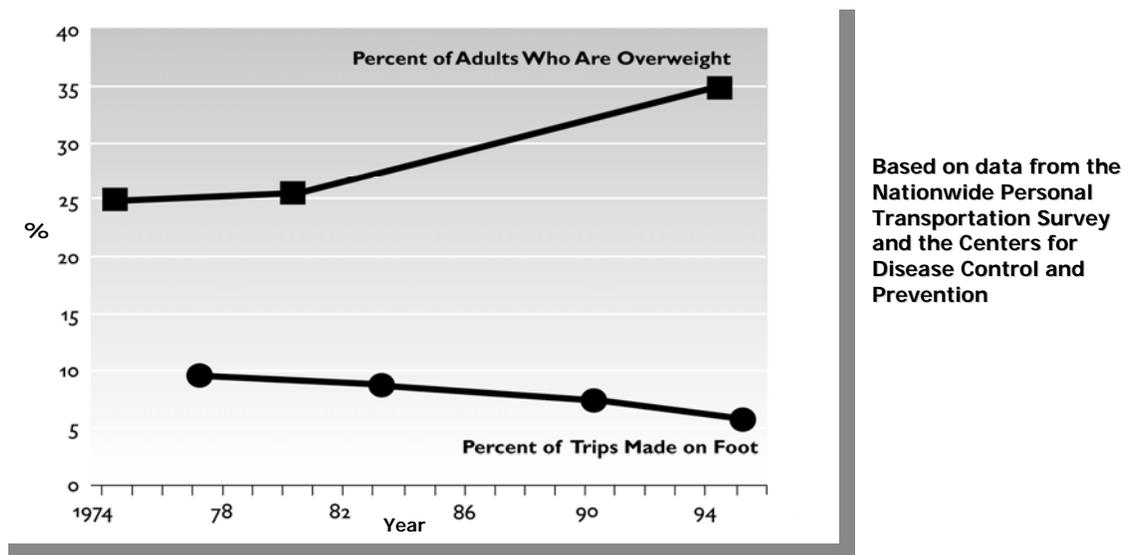
There are important demographic differences in the extent to which different groups are inactive. Population studies show that risk of inactivity is higher:

- among women than men¹;
- among older than younger people¹;
- among African American (33%) and Hispanic (32%) adults than white adults (25%)⁹; and
- among poor than affluent people¹³

The Situation is Getting Worse

Despite efforts to educate the public about the health risks of sedentary lifestyles, trends in leisure-time physical activity participation over time are not encouraging. Annual survey data collected across the country from 1990 to 1998 showed that rates of inactivity have not changed.¹⁴ However, transportation studies show that walking for transport is low and decreasing, having dropped from 9% of all trips in 1977 to just 5% of trips in 1995.^{15, 16} Over the same period of time, obesity rates have risen sharply. See Figure 1.

Figure 1. Number of Adults Who Walk Is Declining While Number of Overweight Adults Is Climbing



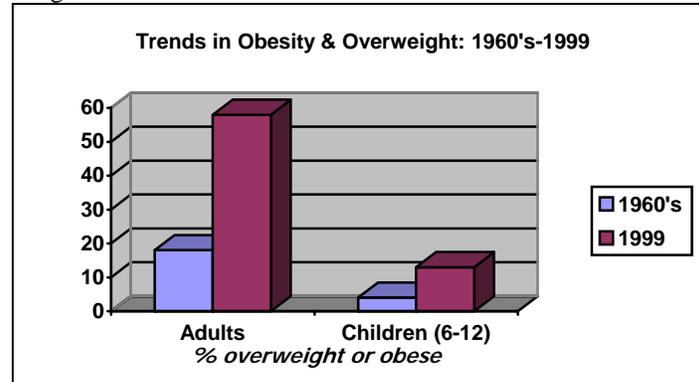
Source: Surface Transportation Policy Project

More Bad News: Obesity Trends

Nationwide health surveys provide a further call to action. More than half of the U.S. population is now classified as overweight (Body Mass Index > 24.9%) or obese (BMI >30%). Twenty percent of adults are obese, a serious medical condition. An additional 38% are classified as overweight, a risk factor for many diseases.^{17, 9} Obesity has increased a staggering 61% between 1991 and 2000. Obesity rates are particularly high among African Americans and Hispanic Americans as well as among people with less education.⁹

The news is no better for our nation's children. Obesity rates have grown from 4% in 1965 to 13% in 1999.¹⁸ Figure 2. The obesity epidemic, particularly among the young, is a powerful argument for the need to find ways of increasing physical activity in the whole population.

Figure 2



Sources: NHANES data (1999) and Flegal, et. al.¹⁹

Lessons from Research: Lessons Learned and Directions for the Future

Because physical inactivity impacts people's health in so many ways, and the majority of adults are at risk from inactive lifestyles, we must find a way to help the population become more active if we are to reduce the toll of chronic diseases. Though inactivity is at epidemic levels, the medical and public health professions have not responded with effective action. Due to lack of leadership from the health professions, nonprofit health agencies and community organizations have been struggling to mount a response. In the past, we have relied heavily on individually-based health education approaches to motivate people to change their lifestyles. While some approaches have proven successful, these programs are not widely used. In fact, many community groups use educational approaches (such as brochures) that we know from research do not work. Because little investment has been made in promoting physical activity, and most programs use ineffective methods, activity habits of the population, as a whole, have not changed. Now a developing body of research allows us to draw some conclusions that may help direct our future efforts:

Focus on moderate intensity activity

Research has shown that even relatively small increases in physical activity produce significant health benefits. Similarly, we now know it is not necessary to do vigorous physical activity to experience health benefits. This is good news, because most people are not willing to exercise vigorously.¹

Community approaches to increasing activity have proven successful

Community-based interventions to increase physical activity are considered critical to increasing physical activity on the scale that is needed, because it is possible for these approaches to reach large numbers of people.²⁰ The Centers for Disease Control and Prevention recently conducted a systematic review of scientific studies of interventions to increase physical activity. *The Guide to Community Preventive Services on Increasing Physical Activity* (The Community Guide)²¹ analyzed the evidence for many types of interventions, and categorized each as "strongly recommended" (strong evidence that the intervention is effective), "recommended" (adequate evidence that the intervention is effective) or "insufficient evidence" (lack of good quality studies about the intervention's effectiveness or conflicting studies about effectiveness). The interventions that were "strongly recommended" or "recommended" are summarized in Table 2.

Table 2

Type of Approach	Description of Studies	Conclusion ** Strongly recommended * Recommended
<i>Informational</i>		
1. Community-wide campaigns	<ul style="list-style-type: none"> • 10 studies • Large scale, highly visible, sustained, with messages delivered through variety of media • These studies were evaluated as a combined set of strategies, (e.g. environmental changes such as creation of walking trails, individual counseling, support groups) • Estimated median impact: 5% ↑ in no. people physically active 16% ↑ in energy expenditure • Effective in both rural and urban settings and among variety of ethnic & socioeconomic groups 	**
2. “Point of decision” prompts to encourage stair use	<ul style="list-style-type: none"> • 6 studies • Signs by elevators or stairs with message about health benefits / potential weight loss benefits 	*
<i>Behavioral & Societal</i>		
3. School-based PE	<ul style="list-style-type: none"> • Changes in PE curricula to ↑ amount of moderate or vigorous activity • Interventions may have included changes in type of activity (soccer vs. softball), health education 	**
4. Individually adapted health behavior change programs	<ul style="list-style-type: none"> • Programs tailored to individual’s readiness to change or specific interests • Designed to help person ↑ activity by teaching behavioral skills 	**
5. Social support interventions in community settings	<ul style="list-style-type: none"> • Focus on building or strengthening social networks • Typically involve “buddy system” or making a “contract” with others • Walking groups or other social support groups 	**
<i>Environmental and Policy</i>		
6. Creation of enhanced access to places for activity combined with information outreach	<ul style="list-style-type: none"> • Building trails or facilities or reducing barriers to such places (reduce fees or provide time for use) • May involve training, incentives • Sometimes involved worksite programs • Median net ↑ of 25.6% 	**
7. Transportation policy & infrastructure change to promote non-motorized transport		PENDING – TBA (fall 02)
8. Urban planning approaches, including zoning & land use, neighborhood and street design, and cluster development		PENDING – TBA (fall 02)

Other interventions that were evaluated, but for which there was insufficient evidence to issue a recommendation included mass media campaigns, classroom-based health education focusing on information and behavioral skills, classroom-based health education focusing on reducing television viewing and video game playing, college-age PE and health education, and social support interventions in family settings. Further studies are needed to determine whether these strategies are generally effective or ineffective.

Limitations of individual-based programs and the need for environmental change

Though some of these effective interventions can affect many people, the unfortunate reality is that few are actually widely used. Thus, the knowledge we have gained from research is not being applied. Even if all of these programs were being implemented nationwide, they would still be insufficient to adequately change physical activity in the entire population. Further, it would not be financially sustainable because these programs do not counter what many believe to be the root causes of the epidemic of inactivity. We live sedentary lives because we have engineered activity out of work, leisure, and transportation. We have built environments for the purpose of reducing the need for physical activity, and we have been successful at it. The current thinking in the field is the epidemic of sedentary living will continue until we create environments that make it easy for people to choose to be active.

An Ecological Model Can Guide Us to More Effective Approaches

It is becoming accepted in the physical activity field that in order to produce change across the population, an ecological approach is needed. Ecological approaches recognize that human behavior is influenced on multiple levels, and it is not enough to educate people about the need for behavior change in the face of environments that are hostile to physical activity.¹³ Ecological models are appealing because physical activity must be done in a physical setting, and it is likely the characteristics of that setting influence the amount and type of physical activity. Only ecological models specifically include consideration of the physical environment. An ecological model of physical activity would need to include these levels of influence:

- psychological/biological
- social/cultural
- institutional
- community
- policy
- physical environment

It is useful to consider that these levels are related to one another. For example, if you want to create an environmental change in your community, you need to start by changing the beliefs of a decision-maker. To change that decision-maker, you may need to first change the decision maker's social group, such as a committee. The decision-maker can then change a policy that is required to change the environment. The City Council (social and community levels) may need to increase the budget for sidewalks (policy) and instruct the City Manager (change beliefs) to award the contracts that result in actual new sidewalks (physical environment).

A critical lesson of ecological models is that because physical activity is caused by many types of factors, effective programs must intervene on multiple levels. Ideally, we would:

- Educate the person to change their thoughts and feelings; and
- Encourage people to support each other's positive behaviors; and

- Work with institutions like schools, workplaces, and health organizations to make environmental and policy changes that would support physical activity; and
- Work with government organizations to find ways to support physical activity and change community norms to support the behavior; and
- Change policies of public agencies and private companies and organizations so they remove barriers to, and create incentives for, physical activity; and
- Create more activity-friendly environments by changing community design, building more sidewalks, improving recreation facilities, and making investments that make pedestrians feel safe and comfortable.

The model teaches that the more successful you are in making changes in several levels of influences, the more change in physical activity will result. Realistically, it is not possible to make changes in all important variables on all levels, so priorities need to be set. Typically, we have chosen to educate people because no one objects to education, and there are ways to do it cheaply. Because these approaches usually have weak, short-term effects, physical activity professionals are becoming disenchanted with a reliance on educational programs. To go back to the sidewalk example, the ecological model would lead you to go through the steps to get the sidewalk built, then enhance that sidewalk with trees (more physical environment change), install pedestrian signals at intersections (policy and physical environment), work with churches, schools, and worksites (institutions) to announce the new sidewalk, and explain the benefits of the new sidewalk to the public through television coverage (psychological change). Although difficult to implement, the multi-level approach should be more effective in getting people walking than just distributing a brochure in health clinics.

Is the Environment Related to Physical Activity? A Look at the Evidence

The research on environmental influences on physical activity thus far is promising and relatively consistent. Recent research on environmental change is summarized in a recent review by Humpel and colleagues.²² Humpel identified the following environmental factors as showing positive relationships to increased levels of physical activity in multiple studies:

- accessibility of facilities (such as parks, recreation centers, health clubs, shopping malls, workplaces with exercise facilities and showers, hiking and cycling trails)
- specific opportunities for activity (such as nearby programs, availability of home equipment)
- aesthetically pleasing environments (such as attractive scenery, interesting landscapes, friendly neighborhoods)

Weather and safety showed less strong relationships in Humpel's review. However, there were few studies on these topics. A national study by the Centers for Disease Control and Prevention indicated that people who perceived their neighborhoods to be unsafe were more likely to be physically inactive.²³ Combined with anecdotal evidence, the CDC study suggests we should be concerned with the safety of the environments we expect people to use for physical activity.

Environmental changes may be an important tool for increasing activity among groups with especially low activity levels. In one study, the availability of walking trails was associated with increased levels of physical activity among women and people in lower socioeconomic groups.²⁴ Other studies showed that access to facilities may be particularly important for young people.²⁵

Studies in the health field support the conclusion that physical environments are related to physical activity, but they also reveal the limited nature of the research. There are many specific hypotheses about policies and environmental characteristics that simply have not been examined by health researchers. There is rapidly growing interest in research on environmental and policy influences on physical activity, so new information will soon be available.

Lessons From Transportation and Urban Design Studies

Fundamental changes in community design may offer the greatest potential to increase activity levels. Research from the fields of transportation and planning tells us that community design does play a positive role in increasing the amount of walking and cycling that adults do. Residents in neighborhoods with the following characteristics tend to walk and ride their bicycles more for transportation purposes, even when demographic differences are taken into account:

- *Higher residential density* (more intensive land use),
- *Greater street connectivity* (traditional grid pattern with many intersections, as distinct from winding streets with cul de sacs), and
- *More mixed land use* (multiple kinds of land use in the same geographic area, as distinct from areas exclusively zoned for single purposes).²⁶

People in neighborhoods that are highly walkable have been estimated to have 1-2 more walk trips per week than people residing in low walkable areas. This translates to 15-30 minutes of additional walking per week. Over the course of a year, for a 150-pound person, this would translate into 3,000-6,000 kilocalories or about 0.85-1.75 pounds. This amount of energy expenditure would offset the average yearly adult weight gain.²⁶ The influence of changes in the physical environment and policies on physical activity is creating great interest among policymakers.^{25,22}

Though research is urgently needed to gain insight into the particular aspects of environments and policies that impact physical activity, the studies to date consistently support the conclusion that community design and other environmental factors strongly shape physical activity in large numbers of people. Equally encouraging is evidence that changes that would create more activity-friendly communities are well received by the general public.²⁷

A Logic Diagram to Illustrate the Connections Between Health, Physical Activity, and the Physical Environment

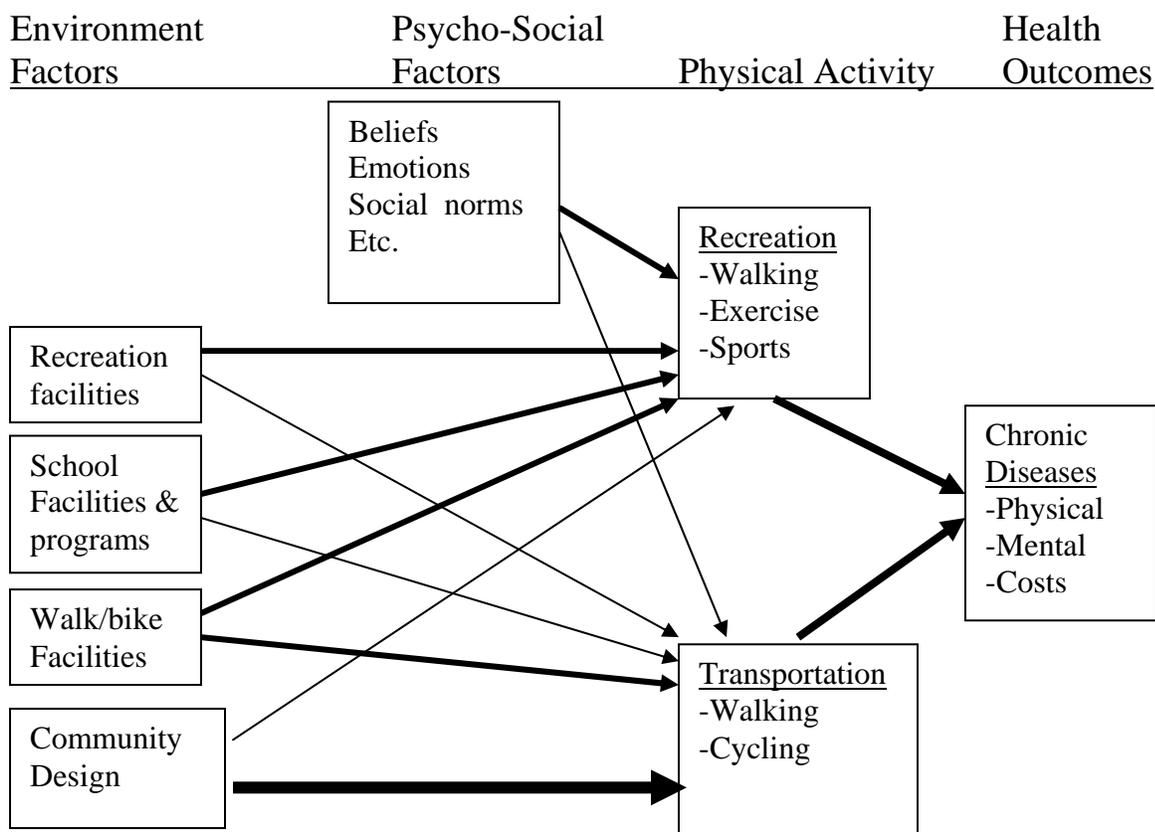
It is a new idea that the design of communities, and other policies, may be contributing greatly to the most serious health problems of our time. Because the idea comes from the convergence of health, behavioral science, transportation, planning, and exercise science concepts and data, it is unfamiliar to everyone.

This figure represents our effort to illustrate how different types of physical activity can affect health. The health field has typically considered only recreational physical activity, but it is also critical to consider activity for transportation.

The figure shows how several aspects of the environment can be related to more than one type of physical activity. This diagram summarizes lessons from the research presented above, and guides the strategies for change suggested in Section III. The thickness of arrows is related to the strength of the evidence. Note that the thickest arrow is the effect on community design on walking and cycling for transportation. So, community design should be a high priority for change. Recreation and school facilities mainly affect recreational physical activity, but improved facilities can also stimulate more people to walk or cycle to them. Walk and bike facilities probably contribute substantially to walking and cycling for all purposes. We believe the psycho-social variables contribute more strongly to physical activity for recreation than for transportation.

Figure 3

A Logic Diagram for Physical Activity, Health, and the Environment



Examples of Funding Initiatives that Address Physical Activity Through Environmental Change

Evidence of increasing societal recognition of these issues can be found in the recent interest of funders across the country in finding solutions to the problem of communities whose design discourages physical activity. This section highlights some of the more significant initiatives.

We hope the Mary Black Foundation will join these forward-thinking groups by making a commitment to creating an activity-friendly Spartanburg.

Funders Network for Smart Growth and Livable Communities is a resource for foundations and nonprofit organizations working to solve the environmental, social, and economic problems created by suburban sprawl and urban disinvestments. This organization has recognized the important connection between community design and public health. A recent “Spotlight” summarizes the programs of members working to reverse physical inactivity trends and enhance urban investment.²⁸

Robert Wood Johnson Foundation has over 140 grants focusing on strategies to increase levels of physical activity with a particular emphasis on environmental change, including:

- *Active Living Policy and Environmental Studies (ALPES)* is a \$12.5 million national program that supports research to identify environmental factors and policies that influence levels of physical activity. Findings are expected to inform environmental and policy changes that will promote active living. <http://www.alpes.ws>
- *Active Living by Design* is a \$16.5 million national program to establish and evaluate innovative approaches to increase physical activity through community design, public policies, and communications strategies. The program will support 25 community-based active living projects, with special efforts to reach low-income Americans. <http://www.activelivingbydesign.org>
- *Leadership for Active Living* is a unique partnership between local and state organizations designed to educate and assist key local and state leaders in implementing active living policies and programs that protect public health.
- *Pathways to Activity* is a resource center that will disseminate information, tools, and training to communities seeking to promote active living.
- *Active for Life* seeks to increase the number of American adults age 50 and older who engage in regular physical activity. <http://www.activeforlife.info>

Centers for Disease Control and Prevention, Division of Nutrition and Physical Activity supports a variety of cutting edge programs focused specifically on environmental change as a means to increase physical activity levels.

- *Active Community Environments Initiative* promotes walking, bicycling, and the development of accessible recreation facilities. <http://www.cdc.gov/nccdphp/dnpa/aces.htm>
- *Kids Walk to School Programs* seek to increase the number of children who walk and bike to school. The programs encourage communities to build coalitions to create a safe environment for children to walk and bike. http://www.cdc.gov/nccdphp/dnpa/kidswalk/fact_sheet.htm
- *National Physical Activity Social Marketing Campaign* encourages Americans to engage in moderate activity and includes a marketing kit for communities and groups to assist in developing strategies and programs. <http://www.cdc.gov/nccdphp/dnpa/readysset/market.htm>
- *National School Physical Education Initiative* provides support to communities and schools interested in improving physical education. <http://www.cdc.gov/nccdphp/dash/index.htm>

Wheeling Walks is one of several local campaigns to promote residents to walk for 30 or more minutes per day, 5 days per week. <http://www.wheelingwalks.org/>

Paso Del Norte Health Foundation supports *Walk El Paso*, a campaign to encourage residents of El Paso to walk more. <http://www.pdnhf.org/>

Sumter County Active Lifestyles is a local program in South Carolina designed to promote physical activity.

Potential Issues of Contention

Although research on the influences of environment and policy on physical activity is still new and developing, consensus is growing and research is strongly supportive. However, issues of contention can be expected as we continue:

- Issues that relate to sprawl, such as allocation of transportation resources to bicycle and pedestrian uses versus highways, are politically sensitive and subject to influence by special interest groups;
- We still have relatively little experience with changing environments and policies, and there are few models of success—progressive, forward-thinking change requires a certain degree of risk;
- Many people believe we will ultimately need combinations of environmental/policy change and educational programs—we still do not know the best ways to combine these two strategies;
- We do not know which environmental changes will have the greatest, wide ranging impact and how they will differently impact key subgroups such as children, older adults, and low income people.

Conclusion

Given the fact that inactivity is a health risk for at least 75% of the population, the call to action is clear. We must find ways to effectively increase physical activity levels for everyone. Trying to accomplish such a task on a person-by-person basis is an inefficient approach that has been notoriously unsuccessful. What is needed is an ecological approach that will provide activity-friendly environments for large numbers of people – environments that will last into the future. By choosing environmental and policy change as a strategy, we can effectively restore physical activity as a routine part of everyday life. Funders around the country have identified the creation of activity-friendly communities as a promising direction for meeting the critical health challenge of physical inactivity.

SECTION II. HEALTH, PHYSICAL ACTIVITY, AND CURRENT INITIATIVES IN SPARTANBURG COUNTY

In Spartanburg County, many of the issues and concerns about physical activity and health discussed in Section I become even more apparent. The rates of physical activity in South Carolina, and more specifically Spartanburg County, are provided in this section, along with a summary of the chronic health conditions in the area. Though the statistics may be alarming, they are not provided to discourage, but rather to emphasize the seriousness of the problem and to stimulate action in the community.

In response to the problems related to physical inactivity and chronic diseases, organizations in Spartanburg County have begun to look for solutions to reverse this trend. The Mary Black Foundation is supporting many of these efforts. Several of these forward-thinking efforts are highlighted in this section.

We hope these data demonstrate to the Trustees Board of the Mary Black Foundation the need for a continued and expanded commitment to physical activity promotion as a means of improving the community's physical and mental health. The Mary Black Foundation's current activities provide a solid foundation for even more effective actions, such as those suggested in Section III.

Health and Chronic Diseases in South Carolina and Spartanburg County

The demonstrated relationship between physical inactivity and chronic diseases proves especially significant when considering current health statistics of South Carolina and Spartanburg County.

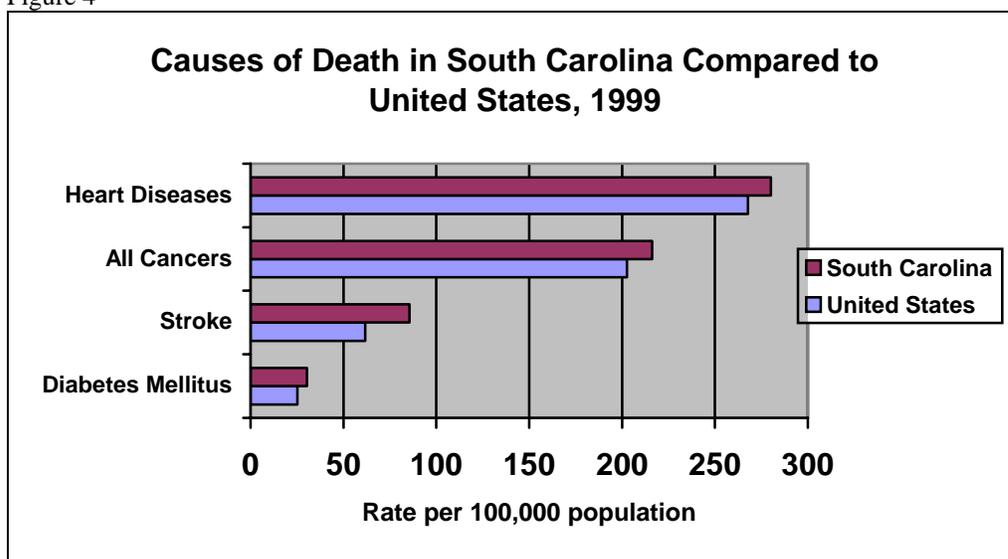
South Carolina:

- Ranks in the top ten states for incidence of heart disease, stroke, diabetes, and obesity;^{29,6}
- Has the highest death rate for stroke of any state; and
- Ranks ninth highest for cardiovascular disease.³⁰

Spartanburg County:

- Has the third highest prevalence of stroke; and
- Is in the top one-third of counties in reported heart disease.³¹

Figure 4



CDC 2002, *The Burden of Chronic Diseases and their Risk Factors*

Health care and costs

Increasing physical activity would not only lead to specific health benefits for individuals, but would also reduce health care costs significantly. It is estimated that lack of physical activity is responsible for nearly:

- 2000 deaths in South Carolina per year,³²
- 10,500 hospitalizations, and
- \$150 million in hospital costs.

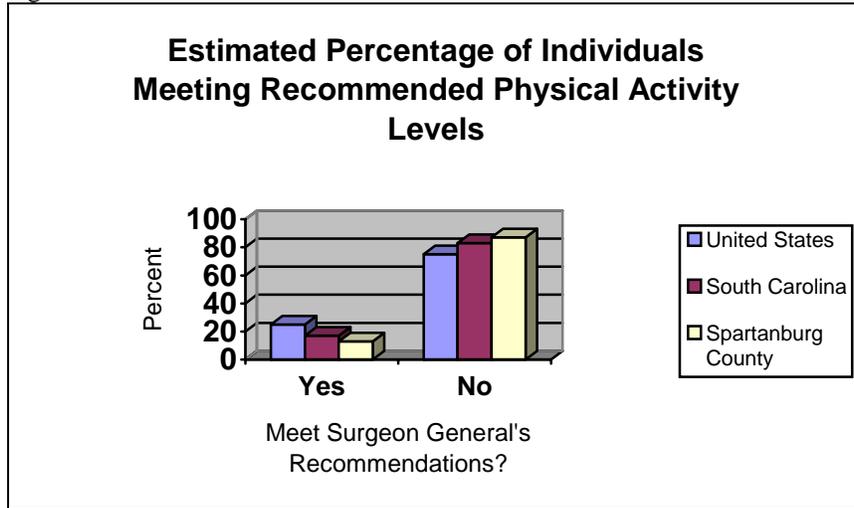
It is also possible to examine these estimates another way. The Population Attributable Risk assumes that, with all other things remaining constant, if all South Carolinians could meet the recommendations for physical activity, the following would result:

- 21% decrease in heart disease
- 21% decrease in high blood pressure
- 25% decrease in colon cancer
- 40% decrease in diabetes
- 33% fewer people falling due to osteoporosis.³²

Physical inactivity in South Carolina and Spartanburg County

Rates of individuals reporting physical activity in South Carolina and, more specifically Spartanburg County, are as alarming as those found nationwide. In comparison to 25% of people meeting physical activity recommendations, at the national level,⁶ only 17% of South Carolinians and 13% of Spartanburg County residents engage in recommended physical activity.³² See Figure 5.

Figure 5



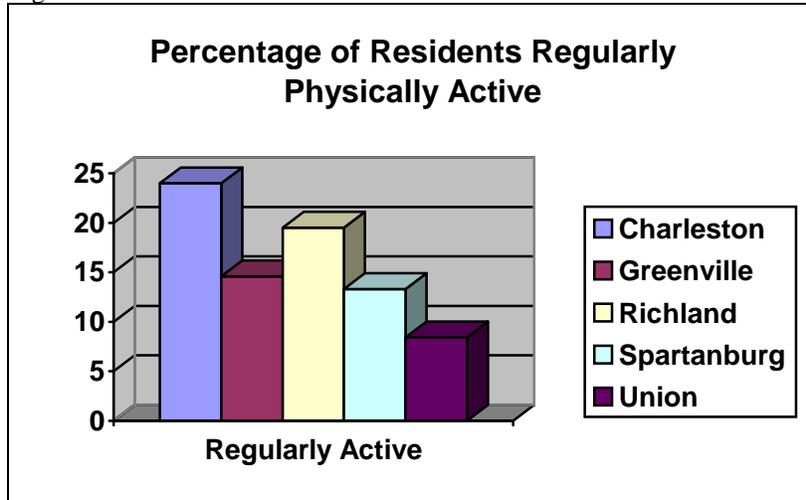
Although the rates of physical activity in South Carolina are distressing, when compared to other southern states, a higher percentage of residents of Georgia, North Carolina, and Mississippi report no physical activity in the past month.⁹

Table 3

State	Percentage Reporting No Physical Activity in Past Month
South Carolina	28.1%
Georgia	29.0%
North Carolina	30.4%
Mississippi	33.3%

Spartanburg County residents report lower rates of regular physical activity than the state average. When compared to other counties such as Charleston, Greenville, and Richland, residents of Spartanburg County ranks lower on regular physical activity levels.³²

Figure 6



Other statewide physical activity data for South Carolina indicate that:

- Men in South Carolina are more active than women;
- Whites are more active than African Americans;
- People aged 35-54 are the least active³²
- Residents in the southern area of South Carolina prove to be more active than those in the northern area of the state.³²

Obesity

In accordance with the national trend, more people in South Carolina are overweight or obese than a decade ago.

According to 2000 data from the Centers for Disease Control and Prevention:

- 37% of South Carolinians are overweight; and
- 22% are obese.⁹

Even more troubling is the trend in weight in South Carolina. From 1991-2000, South Carolinians reported an increase in obesity from 13.8% to 21.5%.⁹ Over half of the residents of Spartanburg County are overweight or obese.

Race/ethnicity differences

These statistics on obesity and physical activity become even more significant when examining the minority populations in the county, as there has been an increase of about 10% to 15% in those who are overweight.²⁹ In 2000 in South Carolina, according to self-reported height and weight data, 70% of African Americans, 63% of Hispanics, and 55% of whites were overweight.²⁹ These minorities in South Carolina are additionally at risk from low physical activity.

Youth

South Carolina high school students also suffer from the “epidemic” of physical inactivity. In a 2001 survey of high school students:

- about 40% reported they had not participated in vigorous activity in the past week;
- about 80% had not participated in any moderate level activity in the past week; and
- 37% percent had not participated in either type of activity in the past week.

Over half of South Carolina high school students are not enrolled in physical education classes.³³ It is possible that historical reductions in physical education have contributed to the increase in obesity in youth. In 1999, 14% of African American and 8% of white high school students in South Carolina reported being overweight.²⁹

Summary

- South Carolinians are at high risk for heart disease, diabetes, stroke, and cancer.
- Spartanburg County residents are at even higher risk for heart disease and stroke than South Carolinians in general.
- Physical activity can reduce risk for all of these diseases at the same time.
- Spartanburg County is in particular need for physical activity promotion among minorities.

Current Initiatives in Spartanburg County

Some organizations in Spartanburg County have already recognized the serious public health problem of physical inactivity and are currently taking appropriate steps to address the problem. However, considering residents' current levels of physical activity and their chronic health conditions, additional strategies are needed and other opportunities to combat physical inactivity should be considered.

HeartWise

Through its Healthy Community Initiative, the Mary Black Foundation is taking a leading role in supporting population-wide efforts and assembling the partnerships needed for widespread change. Recognizing that targeted education programs alone have not successfully increased physical activity among Americans, *HeartWise* takes a leading-edge approach of combining healthy lifestyles education with the creation of environmental opportunities to be more physically active.

HeartWise is acting on the best current thinking on physical activity promotion by:

- Recognizing the barriers to active lifestyles in Spartanburg County. These include the distance from residential areas to work/school and shopping, heavy dependence on the automobile, lack of open spaces and safe walkways and trails, and a growing reliance on technology and computers which engineers physical activity out of daily life;
- Advocating for improved policies and environments to support physical activity;
- Identifying the need for a multi-level approach to increase active living and forming important community partnerships to create healthy choices for residents; and
- Striving to increase community awareness through media and advocacy.

Based on a clear understanding of the key issues, *HeartWise* has taken several effective actions, including:

- Calling for improvement of physical education programs in the schools, a much needed improvement in Spartanburg and nation-wide;
- Developing and supporting *Safe Routes to School* Programs for local elementary schools to encourage parents and children to walk to and from school;
- Successfully sponsoring *Walk to School Day* for the last two years in Spartanburg;
- Conducting a *Pedestrian Road Show* to inform the community about issues related to physical activity;
- Becoming involved in the WABSA (Walking and Bicycling Suitability Assessment) Program, moving toward actual community change for improved walkability and bikability by assessing and mapping detailed characteristics of roads such as sidewalk width, ramps, bike lanes, traffic, crosswalks, etc.; and
- Working with numerous partners to achieve its goals, as well as providing essential community leadership.

HeartWise has certainly engaged in forward-thinking and innovation in its choice of strategies and projects, and its vision includes many of the environmental characteristics previously linked to physical activity by research.

Trail and greenway development

The Palmetto Conservation Foundation (PCF), a statewide non-profit organization, and the Spartanburg Greenway Alliance, funded by the Mary Black Foundation, are working to enhance and connect areas of Spartanburg County through trail and greenway development. The Palmetto Trail is a statewide project that will eventually include more than 400 miles of trails. It will also act as a spine for a countywide network of trails. The Palmetto Conservation Foundation wisely promotes the trail system based on multiple benefits, including the impact trails have on physical activity.

With funding from the Mary Black Foundation, the Spartanburg Greenway Alliance works to promote a greenway system and trail building within Spartanburg and focuses on the health of the residents. Linking universities, industry, residential areas, and the downtown district will provide alternative opportunities for transportation to work and other destinations. The trails also provide new and interesting opportunities for recreational physical activity.

The Palmetto Conservation Foundation is dedicated to conservation and preservation in the region. Aside from its work on the Palmetto Trail, PCF seeks to increase public awareness regarding the value of South Carolina's historic buildings, sites, and landscapes for the future use and enjoyment of all South Carolinians.

Renaissance Project – downtown revitalization

The revitalization project in downtown Spartanburg involves redevelopment that will likely bring people back into the city-center for recreational, residential, and commercial reasons. The Renaissance Project plans to connect new features of downtown with pedestrian malls, parks, trails, and greenways to promote walkability. This increase in the appeal and convenience of the downtown district will help to improve the value of the district and should bring new business to the downtown. The economic development will make living near these amenities desirable. Ideally this area will feature mixed use zoning to provide residents the convenience of walking to destinations such as shops and work. It is important to make sure this new development is built to optimize opportunities for pedestrian life.

In conjunction with this revitalization of the current infrastructure, other environmental changes occurring in the city of Spartanburg likely will increase opportunities for physical activity. Portions of the Palmetto Trail will run through the downtown and allow for greater accessibility. Events such as *Music on Main* serve to bring residents to the area for socializing and walking.

Collaboration across sectors of society

Recently, the South Carolina Department of Transportation (SCDOT) offered funding for a pedestrian coordinator and program in Spartanburg County. Again, having foresight, representatives from *HeartWise*, PCF and County Council have engaged in preliminary discussions regarding this position and program and would like to expand the position to include intermodal transportation issues, not just pedestrian issues. A proposed task list for a planning year has been developed which includes the formation of a task force and the hiring of a pedestrian/bike coordinator. This program proposes to improve pedestrian and bicycle infrastructure, reduce injuries and improve overall health in the county.

Coping with issues of sprawl and growth

As one of South Carolina's most populous counties, with more than 250,000 residents, Spartanburg is part of one of the nation's fastest growing areas along the Interstate 85 corridor. The 2000 Census data shows a near doubling in South Carolina's population from 1950, and a continued upward trend. Spartanburg County showed a 12% increase from 1990, and the larger upstate region increased 16% in the last decade. Much of the population growth in the area is due to an influx of previously out-of-state newcomers.³⁴ Even though the economic climate currently has sectors of strength and weakness, population growth will continue, so this is a critical time to consider how to manage growth so it does not negatively impact the health of new and old residents.

Issues of growth management will continue to be important in Spartanburg County. A sprawl pattern of development creates problems related to:

- conservation;
- loss of farmland;
- commute time;
- physical activity;
- risk of obesity and chronic diseases; and
- quality of life.

South Carolinians are currently spending 18.5 % more time commuting than in 1990.³⁴ This upward trend in commute time will most likely continue as residential development continues in a sprawling pattern and homes continue to be located farther from jobs.

Recognizing the significance of these issues facing South Carolinians and residents of Spartanburg County, local organizations have begun to respond. *Upstate Forever*, a grassroots, non-profit organization, promotes sensible growth in the region and hopes to decrease sprawl, traffic, crowding and pollution problems while protecting and preserving significant natural and historic resources in the region. *Upstate Forever* provides a ten-point plan for sensible growth, including revitalization of existing communities, ordinances to control design and appearance, alternate methods of transportation, and implementation of land-use plans.

Conclusion

- Physical inactivity is a serious health problem for all citizens in Spartanburg County, and especially for the minority residents.
- Local groups are showing national leadership by using a multi-level approach combining education and awareness with environmental and policy change.
- Some of the infrastructure for multi-level change already exists in Spartanburg as the Mary Black Foundation has supported initiatives addressing physical activity and the environment.
- Spartanburg is currently facing pressure for growth that are likely to affect physical activity, and we recommend the Mary Black Foundation provide the support to build on the foundations currently in place and to expand the work by adopting suggestions from Section III.

SECTION III. RECOMMENDATIONS FOR CREATING A MORE PHYSICAL ACTIVITY-FRIENDLY SPARTANBURG

If you accept that physical activity is one of the critical health challenges of our time, and the Spartanburg population is suffering from the effects of physically inactive lifestyles, then it follows that the Mary Black Foundation can make a major contribution to the physical and mental health of the local population by effectively promoting physical activity. Although it is widely believed that environmental and policy changes to create activity-friendly communities are an essential part of the solution, there is very limited experience in creating the needed changes. The Foundation grantees are pursuing several promising initiatives, and we provide suggestions for building on current work. Several barriers to environmental and policy change at the local level have been identified, and we suggest some ideas for reducing or overcoming those barriers.

Spartanburg can be a leader

It is important to realize that promoting physical activity through environmental and policy change is a very new approach. There is much reason to believe this approach can be effective, but there are few models of success that can be easily applied across the U.S. Thus, Spartanburg has the potential to become a national model, and other communities will be watching closely. Because the outside world will anticipate that a small Deep South city is an unlikely pioneer in this area, your success will be even more meaningful. However, there are no formulas for success, and there are no manuals for stimulating and managing the multiple and complex environmental changes that seem to be necessary to create an activity-friendly Spartanburg. As you travel down this road, you will be wise to continue to ask directions from knowledgeable people from elsewhere, but you will need to decide whether and how that advice can be applied to your local community.

A multi-level approach to change

Up until now, virtually all our attempts to improve physical activity involved educating the individual. Some of those approaches have been effective, but not effective enough. Think about it this way: if we motivate and educate people to be active, but they are afraid to walk around their neighborhoods and cannot afford to join a health club, the education cannot work. On the other hand, you hear many stories about walking trails, new sidewalks, or playgrounds that are simply not used. The key lesson is that neither the individual nor the environmental approach by itself is likely to be sufficient. We need to work on both together. **We need to create communities that make it easy for people to be active; then educate people to make the choice to be active.**

Because changing the environment is the first step and the one we are less familiar with, current efforts should be focused on environmental change. Thus, the recommendations presented here all deal with environmental and policy changes. Policy change is usually required for environmental change. While breaking new ground by creating a more activity-friendly Spartanburg, do not lose sight of the need to educate the individual. It may be wise to investigate research-based educational programs and make plans to implement them in Spartanburg. The CDC Guide to Community Preventive Services^{21,22} is a good place to start. However, the remainder of this section deals only with creating environmental change.

Place a high priority on the needs of disadvantaged populations

Section I showed that minority and low-income Americans have higher rates of chronic disease and less active lifestyles than affluent white Americans. Section II showed the same pattern in South Carolina and Spartanburg. It is well known that low-income and low-education are strong determinants of health, and it is still the case that African Americans and Hispanics are most likely to be economically disadvantaged. Thus, these groups can benefit the most by increasing their physical activity, but by definition they lack the resources that could help them become more active. Special planning is required to meet the needs of the disadvantaged in Spartanburg.

The environmental change strategies described here have the advantage of providing benefits to all residents, regardless of race or income. This is in contrast to educational programs that are less accessible to those who cannot read, do not have the free time to attend classes, do not have transportation to educational sessions, and do not have money to join health clubs or buy equipment. Actually, creating mixed use neighborhoods where stores are in walking distance can be particularly helpful to low-income residents who do not have cars. Improving parks has special benefits for low-income children who cannot afford to join soccer leagues or take dance lessons.

To be maximally responsive to the disadvantaged in Spartanburg it is important to obtain as much participation as possible from minority and low-income community members in identifying needs and planning change strategies. Different strategies may be needed to involve disadvantaged and affluent community members. Because it will not be possible to make environmental improvements in all parts of the County at once, it may be advisable to work in low-income neighborhoods earlier in the process, rather than later. In the priorities for change described below, we assume that the changes will benefit all sectors of society, and the process of change should be applicable in all communities, but we recommend concentrating more resources on disadvantaged communities.

You can't do everything at once

This White Paper lists a wide variety of goals, policies, and environmental changes. The Mary Black Foundation, however, does not have enough funds to pursue all of these. So it is necessary to prioritize. We recommend you base your priorities on a consideration of a combination of factors:

- what we know from research;
- partners and opportunities in Spartanburg; and
- community support.

RECOMMENDED PRIORITIES for Environmental and Policy Change for the Spartanburg Region

This section describes a small number of targets for change that we would expect to have large and long-lasting effects on physical activity of most people in Spartanburg. This list is organized by broad themes that are related to sector(s) of society that need to be engaged in the change process. These categories are meant to help you plan the change process. You could say that making places for people to walk and cycle is part of creating walkable neighborhoods. However, transportation professionals must be deeply involved in changing policies and practices related to pedestrian and bicycling facilities, and they will not be as involved in making decisions about mixed land use. We anticipate that somewhat different collections of participants will be needed to make the policy and environmental changes listed under each priority for change, although there will be much overlap in the types of representatives needed.

We anticipate the Board would adopt only some of these target areas for initial funding, so adequate funds and staff support can be devoted to achieving success. Each of these targets is actually a complex set of needed changes that are briefly described here. In the final sub-section, we provide our suggestions on how to achieve the targeted changes.

Create walkable neighborhoods

Research clearly demonstrates that people walk more when their neighborhoods:

- Are mixed use—have stores, workplaces, and schools near homes;
- Have connected streets—so you can walk from place to place directly; and
- Are higher density—which is needed to support nearby stores.

Our review of the transportation studies shows that people in “high walkable” neighborhoods walk or cycle about 30 minutes more per week than people in “low-walkable” neighborhoods. A small study we recently completed in San Diego showed people in a high-walkable neighborhood did more than one more hour of total physical activity per week than similar people in a low-walkable neighborhood.³⁵ This amount of physical activity, by itself, could lead to 3 pounds of weight loss in a year. We found that 60% were overweight in the low-walkable neighborhood, compared to only 35% in the high-walkable neighborhood. Thus, walkable neighborhoods contribute to overall physical activity and improved health. In contrast to educational programs that have short-term effects, neighborhood design should have basically permanent effects on the residents.

The problem, of course, is that most development for the past 50 years has been the low-walkability, auto-dependent, sprawl that causes a variety of health and other societal problems. Spartanburg appears to be in a period of major growth, and this growth will permanently affect residents’ physical activity. Decisions being made now will determine whether the health effects of the growth will be mainly positive or negative.

Make places for people to walk and cycle

Our transportation investments are driven by the needs of automobiles. The result is that we have enough roads to drive everywhere, and driving is the most convenient way to get anywhere. The current challenge is to create a transportation system that gives people choices about how to transport themselves. We have so ignored the needs of pedestrians and cyclists that it is now

impossible, dangerous, or inconvenient to walk or cycle for daily needs. But we know it is possible for cars and pedestrians to co-exist.

Many streets are built without sidewalks. Roads are built without consideration for how people will safely cross them. Bike lanes and trails may be available for recreational use but do not help people cycle safely to work or school. Some sidewalks and bike lanes are simply unpleasant to use because they are too close to traffic and have no shade.

Unfortunately, research is not yet available (although it is underway) that demonstrates that sidewalks, bike lanes, and trails lead to more physical activity. However, the experience of trying to walk in an urban area or trying to cross, a suburban, auto-oriented arterial street with many wide lanes and fast traffic, is usually enough to illustrate the need for better facilities for pedestrians.

Make investments in recreational facilities

Even people who live in high-walkable neighborhoods may not get enough physical activity to stay healthy. Thus, we need to make it easy and attractive for people to do recreational physical activity. Sidewalks in neighborhoods can be used for many purposes, but our small study in San Diego found that aesthetic factors, such as trees and interesting sights, were mostly related to walking for recreation.

Most communities in the U.S. have had declining investments in parks and recreation facilities. Even though we have few research findings, it is likely that well-designed parks can attract nearby residents to be active. We know that children need places for active play.³⁶ Because most parents are reluctant to allow their children to play in the streets, parks and organized activity programs at recreation centers are needed in many communities.

Different population groups use parks in different ways. Children need safe playground equipment and space to run around. Walking is the main physical activity for adults of all ages, but many parks are not well set up for walking. Many parks are designed for team sports such as baseball and basketball, but they ignore the needs of walkers. More trees and interesting walking routes may attract more people to walk in parks. Greenways, trails, and linear parks promote walking and cycling and need to be given higher priority by recreation professionals. Brownson and colleagues³⁷ showed that constructing and publicizing walking trails stimulated much physical activity in rural areas.

Create activity-friendly schools during and after the school day

It is a sad fact that physical education (PE) is a mismanaged resource across the country. Because of research-proven programs like SPARK and CATCH,²¹ we now know how to make all PE excellent. Schools need to invest in the curricula, teacher training, equipment, and support required for health-related PE.

PE cannot provide children all the physical activity they need. Because young people get about 70% of their physical activity after school, it is essential to provide programs to all youth. These programs can be at school, in parks, or in private facilities, but they are needed for everyone.

Schools are the most commonly available, but least used, resource for physical activity³⁸ (Sallis et al., 1990). Most schools have policies that prohibit them from being used after hours, but

those policies can change. Schools can be community physical activity centers when they open their doors, provide some equipment, and sponsor classes. The school system should not be solely responsible for these programs, but they need to collaborate with other community partners.

An activity-friendly Spartanburg will benefit all residents

All of the suggestions that follow in the next section are relevant for everyone in Spartanburg: young, old, black, white, affluent, and poor. In fact, environmental changes are more likely to reduce racial and economic disparities in physical activity than educational programs. Mixed-use communities can also be mixed-income and mixed-race communities. Some people do not walk out of choice; they walk because they do not have cars. Thus, making walking pleasant particularly benefits low-income people. Re-investing in parks and recreation facilities benefits everyone but is especially important for low-income citizens who cannot afford to pay fees for recreation in other places. Improved physical activity programs for schools clearly benefit all youth, and opening facilities for physical activity can benefit the entire communities, but especially low-income communities.

RECOMMENDED STRATEGIES for Achieving Environmental and Policy Changes for the Spartanburg Region

Change is difficult, especially around such sensitive issues that can affect all residents on a daily basis. Just because goals are set does not mean they will be achieved. In providing these ideas for strategies we draw from our training and experience, rather than intimate knowledge of the Spartanburg community. However, we have studied change strategies, have been involved in many change efforts, and have learned from successes and failures. These suggestions are based on our experience and the information we recently gained from speaking with people in Spartanburg and reading relevant materials.

ELEMENTS OF A PROCESS TO CREATE ENVIRONMENTAL AND POLICY CHANGES

We propose a general approach to change that contains all the elements described here. These elements are described only once, but they should be applied to each of the target areas, with the exception that an overall “leadership group” should coordinate, and be a champion for, the entire physical activity promotion effort. To avoid redundancy we do not explain how these elements can be applied to each target area.

The New South Wales (Australia) Physical Activity Task Force is the best example of a well-functioning coordinated effort to change policy to promote physical activity,²⁵ so we have drawn heavily from their experience. There are many similarities with the *HeartWise* approach, so some of these elements should be familiar.

Leadership group. Change requires leadership, and a group with representatives from many sectors of society is probably needed to coordinate all aspects of the strategy. The Mary Black Foundation can play a critical role by convening and funding this leadership group. The *HeartWise* partnerships are consistent with this approach, but it may not be necessary for *HeartWise* to be the lead agency if another leadership group emerges.

Work groups. Each of the recommended priority targets requires the participation of different partners. Thus, a work group devoted to each target is probably needed.

Formative research. This is the collection of data to help guide the development and implementation of the strategy. Common methods are focus groups, interviews, and surveys with segments of the public and community leaders. This process will identify which potential change targets are supported, likely barriers, and educational or informational needs.

Community involvement. Changing land-use policies, transportation priorities, and investments in recreational facilities are major public concerns. The community in general needs to be educated about the issues and involved in the decision making process. This is a long-term process that will require substantial effort. The National Charrette Institute conducts a good model for community involvement in development and redevelopment visioning and decision-making.

Multi-level, long-term approach. The factors leading to the epidemic of sedentary lifestyles are woven throughout society. Because the causes are multi-level, there is no one single change that is going to solve the problem of inactivity. Over time, it will be necessary to make changes to environments, policies, social norms, and individual skills and knowledge. An effective approach will create many changes, one at a time. It will not be possible to make all these changes at once, so a long-term commitment is needed to achieve the goal of helping the population become more active.

Evaluation. It is critical to make a commitment to evaluation from the very beginning. Evaluating each component of the strategy will identify which components are working and which need to be changed. Evaluation results can be communicated to policy makers and the general public to maintain interest in the effort. The current walkability audits are a good beginning to an evaluation, and they are already building community support and creating a baseline from which change in the environment can be measured.

Create walkable neighborhoods

Potential Partners:

Citizens (diverse), public health representatives, planning department, developers, business representatives, local insurance representatives, bankers/lenders, park & recreation department, local elected officials, and media representatives.

Ideas for strategies:

- Small study in Spartanburg to link land use with physical activity, health, and quality of life. Could install electronic “people counters” on sidewalks and in parks to assess pedestrian use. Feedback results to the community.
- Survey residents and leaders to assess interest in walkable communities, identify barriers and effective messages. Use as marketing survey for housing preferences.
- Partner with the County Planning Commission to sponsor visioning process.
- Encourage the County to develop community-planning boards to provide citizen input into development plans.
- Support planners to attend Smart Growth or public health conferences.
- Sponsor visits of state and national experts on physical activity, smart growth, zoning change, and obtain media coverage. Continue to support regional conferences.
- Identify zoning regulations and ordinances that could affect walkability (such as street widths, building setbacks, parking, sidewalk requirements, traffic calming measures).
- Survey the public about zoning and planning issues, and develop a strategy to educate the public about how zoning can lead to improved quality of life.
- Eventually, develop a plan for altering zoning and housing codes to make mixed use development legal.
- Convene a group of lenders to develop loan guidelines for mixed-use projects.
- Identify local media representatives and sponsor their attendance at conferences to become expert in relevant areas.
- If still relevant, analyze Renaissance Project plans to provide recommendations how to make it more pedestrian-friendly.
- Sponsor local Chamber of Commerce analysis of economic benefits of walkable communities.

Likely barriers and possible solutions:

- Unfamiliarity with benefits of walkable communities:
Work with Dan Burden of Walkable Communities, Inc. to convene a public forum or the National Center for Bicycling and Walking for technical assistance. Take groups of citizens and media to walkable and low-walkable communities to compare experiences.
- Zoning, building codes, and lending practices that prohibit or discourage mixed use development:
Engage local government officials and lenders in a process to reform these practices.
- Objections of developers:
Engage developers in the leadership group. Bring in successful developers who specialize in walkable communities.
- Public concern about property rights and zoning:
Provide data on health and quality of life. Survey public opinion. Intensive public involvement throughout the process. Engagement of groups who could fuel public opposition.

- State laws and local ordinances that discourage development of walkable communities: Analyze state laws and develop a coalition working to reform those that make walkable communities harder to develop. Work with statewide groups to educate legislators of the need to actively provide incentives for smart growth.

Make places for people to walk and cycle

Potential Partners:

Citizens (diverse), transportation engineers and planners, planning department, public health representatives, developers, business representatives, environmental group representatives, park & recreation department, school representatives, local elected officials, state legislators, and media representatives.

Ideas for strategies:

- Survey residents and leaders about satisfaction with pedestrian/bike facilities, support for improving them, barriers to change, effective messages. Publicize findings.
- Find and provide examples of ordinances and funding mechanisms for pedestrian/bike facilities.
- Supplement or expand SPATS (Spartanburg Area Transportation Study) grant program through SCDOT.
- Support grant writer for state and federal transportation funds for pedestrian/bike facilities.
- Work with SCDOT to alter priorities in favor of pedestrian/bike needs.
- Provide matching grants for environmental groups or others to plant trees on city streets.
- Sponsor local Chamber of Commerce analysis of economic benefits of more and better sidewalks.
- Continue to generate community support for safe and attractive routes to school that then are available for everyone. HeartWise has already had success in this area, but the program could be expanded.
- Find incentives to get transportation professionals engaged in this topic, such as sponsoring an award for best pedestrian/bike project each year.

Likely barriers and possible solutions:

- Lack of interest in sidewalks, etc:
Stimulate media coverage of need for safe routes to schools and dangers to pedestrians. For example, follow children and others as they encounter dangers and obstacles. HeartWise has already begun engaging the media.
- Categorical transportation funding that prohibits use for pedestrian/bike facilities:
Work with SCDOT to alter priorities.

Make investments in recreational facilities

Potential Partners:

Citizens (diverse, including young people), recreation professionals, planners, developers, environmental group representatives, local elected officials, and media representatives.

Ideas for strategies:

- Survey residents and leaders about satisfaction with park and recreation facilities, support for improving them, barriers to change, effective messages. Publicize findings.

- Continue and strengthen current trails initiatives, including the Spartanburg Greenway Alliance. Use media to promote trail use.
- Seek transportation funding for trails and greenways that can be used for transport.
- The Foundation could fund youth physical activity programs for parks in poor neighborhoods through competitive grants.
- The Foundation could sponsor training in effective physical activity leadership and marketing skills for recreation leaders.
- Change requirements regarding size and amenities for parks in new developments or redeveloped areas.

Likely barriers and possible solutions:

- Lack of public interest in improving parks:
Stimulate media coverage of survey results about support for parks. Media coverage of park and trail users. Educate the public about benefits of parks including economic, physical health, and mental health.
- Demoralization of park and recreation staff and officials:
Sponsor visit from respected recreation professionals to inspire and provide ideas. Find incentives for excellence among recreation professionals, such as sponsoring an award for best park or recreation program improvement each year. Support park official(s) to attend physical activity and health training program.

Create activity-friendly schools during and after the school day

Potential Partners:

Citizens (diverse), students, school officials, PTA representatives, recreation professionals, business representatives, lawyer, local elected officials, and media representatives.

Ideas for strategies:

- Survey residents and leaders about support for school-related physical activity improvements, barriers to change, and effective messages. Publicize findings.
- Sponsor a workshop for school district officials and school board members to inform about childhood obesity, inactivity, and successful school-based approaches. Engage them in developing an action plan for the schools.
- Work to allow schools to open their facilities after hours for students and the public.
- Work with PTA's to advocate for improved PE funding and policies in schools.
- Work toward a policy to have PE specialists to teach PE in all schools.
- Expand the Footsteps to Fitness program for after-school physical activity.
- The Foundation could fund supervision for youth physical activity programs at schools, especially in poor neighborhoods.
- The Foundation could sponsor training in effective physical activity leadership and marketing skills for recreation leaders.
- The Foundation could provide matching funds for schools to adopt and implement research-based PE programs.

Likely barriers and possible solutions:

- School officials will not see health as part of their responsibility:
Stimulate parent input hold a workshop to inform school officials to increase their awareness and motivation to act.

- Legal liability when using schools for community physical activity: A small work group of school officials and lawyers should be able to research this issue and create solutions.
- Cost to schools for extending hours: Other sources of funding need to be developed, from Department of Parks & Recreation, business sponsorship, or private activity providers.

Each priority target will require its own dedicated effort, selection of a small number of strategies, a long-term commitment, staff support, and ongoing data collection for evaluation. When promoting recreation or physical education programs, it is essential to ensure the quality of those programs by providing leaders training and adequate equipment. The key to success may be long-term commitment. Even with strong partners and informed planning, there will be trial-and-error learning required. The Mary Black Foundation cannot pursue all these target areas at once. Thus, it will be necessary to make decisions about which to select as the initial priorities. This is the hard work of the Trustees.

Conclusion

In this White Paper we have attempted to demonstrate that physical inactivity is one of the most critical health problems of the 21st century. Because citizens of Spartanburg are at very high risk of being inactive and suffering the health consequences of inactivity, there is an urgent need for action. The Mary Black Foundation has the opportunity to take leadership in this effort for Spartanburg, and in doing so, provide a needed model for the nation. The Mary Black Foundation has already funded grants that are an excellent beginning, but much more needs to be done—and continued over time. The Foundation has the connections, credibility, and resources to make Spartanburg one of the most physical activity-friendly communities in the nation. Creating a more activity-friendly Spartanburg is likely to do more to improve the physical and mental health of your citizens than virtually any other health intervention.

APPENDIX

RESOURCES AND OTHER GROUPS

WORKING TO CHANGE ENVIRONMENTS RELATED TO PHYSICAL ACTIVITY

Because the Mary Black Foundation and your grantees have been exploring these issues for some time, you have already made many contacts and become discovered many useful resources. However, we present this list in hopes that some of this information may be new to you.

Other Groups

The Partnership to Promote Healthy Eating and Active Living. PPHEAL is exploring public-private solutions to improve health habits. In addition to academic workshops (the next one on the economics of eating and physical activity), the Millennium Communities project is aiding two cities to make changes on multiple levels. Contact Laura Simonds, MS, MPH, laurasimonds@hotmail.com

New South Wales Physical Activity Task Force. NSW is taking a “whole of government approach,” because the premier (governor) has adopted physical activity as a high priority and has instructed all state departments to get involved. Contact Philip Vita, MS, pvita@doh.health.nsw.gov.au. Other Australian states have similar task forces modeled after NSW.

California Physical Activity and Health Initiative. This group at the California Department of Health Services has a specific focus on creating more walkable communities and has brought in a wide variety of partners. Contact Anne Seeley, aseeley@dhs.ca.gov.

Nova Scotia, Canada. The government of Nova Scotia has adopted a priority of promoting physical activity among youth. They could provide guidance on working with schools and recreation professionals. They have a good evaluation plan. Contact Mike Arthur, arthurmh@gov.ns.ca.

Active Living by Design. This Robert Wood Johnson Foundation (RWJF) program will provide funding and extensive support to selected community groups pursuing multi-level strategies to promote physical activity. Contact Rich Killingsworth rich_killingsworth@unc.edu or Sarah Strunk sarah_strunk@unc.edu Website: www.activelivingbydesign.org.

Resources

University of South Carolina Prevention Research Center. You are fortunate to have this resource nearby, because this group is the leading academic center regarding physical activity and public health. Their annual courses would be of value for people involved in Spartanburg change efforts to attend.

The National Center for Biking and Walking has been funded by the RWJF to provide technical assistance to communities attempting to create more activity-friendly environments. They can connect you with a wealth of resources. Website: www.bikefed.org.

Walkable Communities, Inc. Dan Burden's group has extensive experience working with communities to make them more walkable and livable. They know the technical solutions as well as how to gain community support.

Local Government Commission. This group is part of the RWJF Leadership for Active Living program. The LGC focuses on providing assistance to local governments to create more walkable and livable environments.

National Charrette Institute. NCI has developed methods for working with communities to create visions for growth and redevelopment and generate public consensus and support for the vision that meets multiple needs the best. Website: www.charretteinstitute.org.

University of Maryland Center for Smart Growth. Maryland has been the national leader in smart growth, and they even have a Secretary for Smart Growth. This Center conducts research, consulting, and holds training programs for elected officials and others. Website: www.smartgrowth.umd.edu/index.html.

Congress for the New Urbanism. CNU has many useful publications that not only explain the benefits of new urbanism/smart growth/walkable communities, but also provide technical guidelines. Website: www.cnu.org.

Smart Growth America. This group advocates for smart growth and related issues. Contact Don Chen, dchen@transact.org.

Julie Campoli and Elizabeth Hamilton. These planners have conducted the most extensive investigation of development patterns in small towns. They could help create a vision of an activity-friendly Spartanburg that retains its small-town character. We recommend their book, "Above and Beyond: Visualizing Change in Small Towns and Rural Areas," (Planners Press, 2002).

SPARK. Our SPARK program began as an NIH study of elementary PE. Currently, we provide curricula, training, and support to schools and recreational facilities on a non-profit basis. Contact Paul Rosengard, prosegard@projects.sdsu.edu. Website: <http://www.foundation.sdsu.edu/projects/spark/index.html>.

National Recreation and Parks Association. NRPA has become interested in their contribution to health. They might be able to provide useful guidance on recreation programs and parks standards.

Nike GO program. Nike is upgrading its support of physical activity programs at Boys and Girls Clubs. They will be piloting this next year, with SPARK providing training for activity leaders. In subsequent years, Nike GO should be a source of funds and technical support for activity programs at Boys and Girls Clubs nationally.

EXPERTS INTERVIEWED (for Mary Black Foundation White Paper)

We gratefully acknowledge the following people who generously allowed us to interview them in the preparation of this paper so that we might gain insight into the needs of Spartanburg:

1. James E. Emery, MPH, University of North Carolina at Chapel Hill
2. Carolyn E. Crump, PhD, University of North Carolina at Chapel Hill
3. Diane Lambert, Director, *HeartWise*, Spartanburg, South Carolina
4. Yon Lambert, Palmetto Conservation Foundation, Spartanburg, South Carolina
5. Lisa Bollinger, Intermodal Transportation Planner, Spartanburg County Planning Department
6. Richard Killingsworth, MPH, Robert Wood Johnson Foundation Active Living by Design National Program Office, University of North Carolina at Chapel Hill
7. Marla Hollander, MPH, Leadership for Active Living and Active Living Policy Center, San Diego State University, San Diego (formerly a Program Officer at the Robert Wood Johnson Foundation)
8. Tom Schmid, PhD, Active Community Environment Workgroup, Centers for Disease Control and Prevention, Atlanta (reviewed this paper)

REFERENCES

- ¹ U.S. Department of Health and Human Services. *Physical activity and health: A report of the Surgeon General*. Atlanta, GA: Centers for Disease Control. 1996.
- ² Hahn, R.A., Teutsch, S.M., Rothenberg, R.B., & Marks, J.S., *Excess deaths from nine chronic diseases in the United States*. 1986. *Journal of the American Medical Association*, 164, 1654-2659.
- ³ McGinnis J.M., & Foege, W.H. (1993). *Actual causes of death in the United States*. *Journal of the American Medical Association*, 270, 2207-2212.
- ⁴ McGinnis, J.M. (2002). *Diabetes and Physical Activity*. *Am J Prev Med* 2002; 22 (4S)1-2 (citing National Institute of Diabetes data).
- ⁵ Pratt, M., Macera, C.A., & Wang, G. *Higher direct medical costs associated with physical inactivity*. *The Physician and Sportsmedicine*, 2000. 28(10), 63-70.
- ⁶ CDC. *Physical Activity Trends – United States, 1990-1998*. *Morbidity and Mortality Weekly Reports* 2001, 50(09):166-9. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5009a3.htm>
- ⁷ “CDC. *Cigarette Smoking Among Adults – United States 1998*” *Morbidity and Mortality Weekly Reports* 2000, 49(09) 881-4. http://www.cdc.gov/tobacco/research_data/adults_prev/ccmm4939_fact_sheet.htm
- ⁸ Pate RR, Pratt M, Blair SN, et al. *Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine*. *Journal of the American Medical Association*. 1995, 273:402-407.
- ⁹ National Center for Chronic Disease Prevention and Health Promotion. Behavioral Risk Factor Surveillance System, 2000. Website: <http://www.cdc.gov/brfss>.
- ¹⁰ Biddle, S., Sallis, J.F., and Cavill N.A. (Eds.), (1998) *Young and Active? Young People and Health Enhancing Physical Activity: Evidence and Implications*. London, England: Health Education Authority.
- ¹¹ CDC *Walk to School Programs* Fact Sheet: http://www.cdc.gov/nccdphp/dnpa/kidswalk/fact_sheet.htm
- ¹² U.S. Department of Health and Human Services. *Healthy People 2010*. (Conference Edition in Two Volumes). Washington, DC: USDHHS, 2000. <http://www.health.gov/healthypeople/Document/tableofcontents.htm>
- ¹³ Sallis, J. and Owen, N., “Physical Activity & Behavioral Medicine,” Thousand Oaks, California: Sage Publications. 1999.

-
- ¹⁴ CDC. *Physical Activity Trends – United States, 1990-1998*. Morbidity and Mortality Weekly Reports 2001, 50(09):166-9. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5009a3.htm>
- ¹⁵ National Personal Transportation Survey (1995 data). <http://www.fhwa.dot.gov/ohim/nptspage.htm>
- ¹⁶ Surface Transportation Policy Project, “Mean Streets 2000”, June 15, 2000, last accessed at: <http://www.transact.org/report.asp?id=181>
- ¹⁷ Mokdad, A.H., Bowman, B.A., Ford, E.S., Vinicor, R., Marks, J.S., & Koplan, J.P. (2001). *The continuing epidemics of obesity and diabetes in the United States*. Journal of the American Medical Association, 286(10), 1195-1200 (2001).
- ¹⁸ National Health and Nutrition Examination Survey (NHANES), 1999. Website: <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/obese/obse99tab2.htm> and <http://www.cdc.gov/nchs/fastats/overwt.htm> (same, includes children, as well)
- ¹⁹ Flegal, KM, Carrol MD, Kuczmarski, RJ, Johnson, CL, *Overweight and obesity trends in the United States: prevalence and trends. 1960-1994*. Int J Obes Relat Metab Disord. 1998;22:39-47.
- ²⁰ Kahn, E.B., Ramsey, L.T., Brownson, R.C., Heath, G.W., Howze, E.H., Powell, K.E., Stone, E.J., Rajab, M.W., Corso, P, & The Task Force on Community Preventive Services, *The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review*, Am J Prev Med 2002;22(4S)73-107 (2002).
- ²¹ CDC. *Increasing Physical Activity: A Report on Recommendations of the Task Force on Community Preventative Services*. Morbidity and Mortality Weekly Reports 2001, 50 (RR-18). <http://www.cdc.gov/mmwr/PDF/RR/RR5018.pdf>
- ²² Humpel N, Owen N, Leslie E. (2002). *Environmental factors associated with adults' participation in physical activity: a review*. American Journal of Preventive Medicine, 22(3), 188-199.
- ²³ Centers for Disease Control and Prevention. “Neighborhood safety and the prevalence of physical activity-selected states, 1996.” Morbidity and Mortality Weekly Reports 1999;47:143-6.
- ²⁴ Brownson, R.C., Housemann, R.A., Brown, D.R., Jackson-Thompson, J., King, A.C., Malone, B.R., and Sallis, J.F. (2000). *Promoting physical activity in rural communities: Walking trail access, use, and effects*. American Journal of Preventive Medicine, 18, 235-241.
- ²⁵ Sallis JF, Bauman A, Pratt M. *Environmental and policy interventions to promote physical activity*. Am J Prev Med 1998. 15(4):379-397.

-
- ²⁶ Saelens, B.E., Sallis, J.F., and Frank, L.D. *Environmental correlates of walking and cycling: Findings from the transportation, urban design, and planning literatures*. *Annals of Behavioral Medicine*. (In Press)
- ²⁷ Brownson, R.C., Baker, E.A., Housemann, R.A., Brennan, L.K., and Bacak, S.J. (2001). *Environmental and Policy Determinants of Physical Activity in the United States*. *American Journal of Public Health*, 91, 1995-2003.
- ²⁸ Smart Growth Funders Network Website access to “Spotlight #7: http://www.fundersnetwork.org/info-url_nocat2778/info-url_nocat_show.htm?doc_id=114732
- ²⁹ National Center for Chronic Disease Prevention and Health Promotion. *The Burden of Chronic Diseases and their Risk Factors: National and State Perspectives*. 2002.
- ³⁰ American Heart Association. 2002 Heart and Stroke Statistical Update.
- ³¹ County Comparison Data, South Carolina Department of Health and Environmental Control, Bureau of Chronic Disease Prevention and Control, Division of Cardiovascular Health, 2000 County Comparison.
- ³² USC SPH – 1999. Prevention Research Center at the University of South Carolina School of Public Health. *Good Health: It’s Your Move – a Report on Physical Activity in South Carolina*, May 1999.
- ³³ National Center for Chronic Disease Prevention and Health Promotion. Youth Risk Behavior Survey, 2001. <http://www.cdc.gov/nccdphp/dash/yrbs/index.htm>.
- ³⁴ *Upstate Forever Update* Number 34, 6/24/02 <http://www.upstateforever.org/UpstateUpdate34>
- ³⁵ Saelens, B.E., Sallis, J.F., Black, J., & Chen, D. *Measuring perceived neighborhood environment factors related to walking/cycling*. *Society of Behavioral Medicine*. Washington, DC. April 5, 2002.
- ³⁶ Biddle, S., Sallis, J.F., and Cavill N.A. (Eds.), (1998) *Young and Active? Young People and Health Enhancing Physical Activity: Evidence and Implications*. London, England: Health Education Authority.
- ³⁷ Brownson, R.C., Housemann, R.A., Brown, D.R., Jackson-Thompson, J., King, A.C., Malone, B.R., and Sallis, J.F. (2000). *Promoting physical activity in rural communities: Walking trail access, use, and effects*. *American Journal of Preventive Medicine*, 18, 235-241.
- ³⁸ Sallis, J.F., Hovell, M.F., Hofstetter, C.R., Elder, J.P., Caspersen, C.J., Hackley, M., and Powell, K.E. *Distance between homes and exercise facilities related to the frequency of exercise among San Diego residents*. *Public Health Reports*, 1990. 105, 179-185.