A Case Study of Two South Carolina Communities Pursuing Complete Streets Policies:

Considerations for Implementing A Community Guide Recommended Practice

South Carolina Department of Health and Environmental Control
South Carolina Institute of Medicine and Public Health

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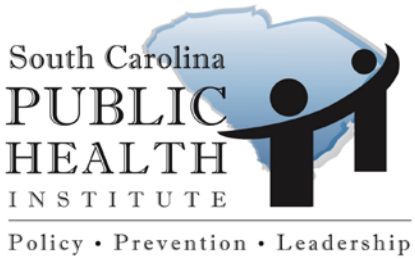

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Introduction to the Guide for Community Preventive Services

The Guide to Community Preventive Services (Community Guide) is a resource for evidence-based recommendations and findings about what works to improve public health in the United States (www.thecommunityguide.org/index.html). Through task forces comprised of volunteer subject area experts, a systematic review process is performed with existing research on common public health programs and policies. Through this collaborative and open process, the Community Guide aims to answer the following questions about the interventions studied in order to make recommendations related to their use:

- What interventions have and have not worked?
- In which populations and settings has the intervention worked or not worked?
- What might the intervention cost? What should I expect for my investment?
- Does the intervention lead to any other benefits or harms?
- What interventions need more research before we know if they work or not?

Established in 1996 by the US Department of Health and Human Services, the Community Guide is housed at the Centers for Disease Control and Prevention (CDC) and covers a multitude of health issues and is focused on community-level interventions, such as education, behavior modification, and changes to the environment. Topical areas include Adolescent Health, Alcohol, Asthma, Birth Defects, Cancer, Diabetes, Health Communication, HIV/AIDS, STIs & Pregnancy, Mental Health, Motor Vehicle, Nutrition, Obesity, Oral Health, Physical Activity, Social Environment, Tobacco, Vaccines, Violence, and Worksite.

Complete Streets as a Community Guide Recommended Practice

Physical inactivity is a leading contributor to morbidity and disability in the U.S., accounting for 22% of coronary heart disease, 22% of colon cancer, 18% of osteoporotic fractures, 12% of diabetes and hypertension, and 5% of breast cancer (Colditz, 1999). Physical inactivity accounts for about 2.4% of U.S. health care costs or approximately $24 billion a year (Colditz, 1999). Various national surveillance programs consistently demonstrate that most adults and youth in the U.S. do not meet current physical activity recommendations. Because regular physical activity reduces the risk for depression, diabetes, heart disease, high blood pressure, obesity, stroke, and certain kinds of cancer, it is an important component of a healthy lifestyle.

A number of environmental and policy approaches that enhance opportunities and support for people to be more physically active have been implemented in communities across the country. One such set of interventions termed by the Community Guide as "Community-scale urban design land use policies and practices," involves the efforts of urban planners, architects, engineers, developers, and public health professionals to change the physical environment of urban areas of several square miles or more in ways that support physical activity. They include the following:

- Design elements that address:
  - Proximity of residential areas to stores, jobs, schools, and recreation areas
  - Continuity and connectivity of sidewalks and streets
  - Aesthetic and safety aspects of the physical environment
- Policy instruments such as zoning regulations, building codes, other governmental policies, and builders' practices

These recommended design and policy components are central to an increasingly popular strategy known as Complete Streets. Complete Streets is based on the idea that there is room for more than one mode of transportation on the roads in our communities, that roads should be safe and accessible for pedestrians and bicyclists as well as for motor vehicles and those using public transit, and that transportation budgets should be broken down accordingly. Additionally, many current roads do little to meet the needs of the growing population of older Americans. Incomplete streets limit safe mobility and can lend to increased isolation of older citizens (National Complete Streets Coalition).

The National Complete Street Coalition has identified ten elements of a comprehensive complete streets policy. Complete Streets policies promote streets that are safe and accessible to everyone of all ages. Communities with such policies are encouraging healthy and active lifestyles by promoting physical activity. Additionally, when people chose to walk or bike for transportation instead of driving, the effect is a reduction in the number of motor vehicles on the roads, which leads to better air quality and fewer motor vehicle accidents (Complete Streets Advocacy Manual, South Carolina 2010).

There is no singular design prescription for Complete Streets or for a Complete Streets policy. Each approach is unique and responds to its community context. Design features of a Complete Street may include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more.

Since the Community Guide recommendations are for community-scale design land use policies and practices are focused on urban areas, additional research must be done to demonstrate the effectiveness of such policies in rural settings. A complete street in a rural area will look quite different from a complete street in a highly urban area, but both are designed to balance safety and convenience for everyone using the road. Access to jobs, groceries, health care, education, and other destinations is just as vital in rural communities as in suburban or urban areas.

Keeping in mind that one of the primary health benefits supported by a complete street is the opportunity for physical activity, it is important to note that childhood obesity is even more of a crisis in rural communities than in urban areas (South Carolina Rural Research Center, 2007). Similarly, residents of rural areas are at greater risk of death caused by motor vehicle collisions; in 2006, 23% of the U.S. population lived in rural areas, yet 56% of all traffic fatalities occurred in rural areas (National Highway Traffic Safety Administration, 2008). Creating safe bicycling and walking options builds a more livable and accessible community for people of all ages, abilities, and income levels and supports economic development for both rural and urban residents.

Complete Streets Policy in South Carolina

A number of communities in South Carolina have been planning and/or implementing Complete Streets policies (please see Appendix A for more information). Each community has worked towards a policy (ordinance or resolution) in its own way. The following case study explains how two communities in South Carolina (Allendale and Rock Hill) have worked to promote implementation of a Complete Streets policy for their residents. It is intended to highlight how two different communities have successfully approached the planning of a Complete Streets policy. For communities that are considering a Complete Streets policy, it will aid in an understanding of the universal opportunities and challenges in the process and as well as the community-specific contextual factors that affect the development of such policies.

The two communities highlighted in the case study are very different; Allendale is a very rural, remote community in the southern most part of South Carolina (ten miles from the Georgia border) with a large vulnerable population (over 40% of the community lives under the poverty line according to the 2000 Census). Allendale County has the highest percentage of unemployment (21.4%) in South Carolina, which has one of the highest unemployment rates in the country at 11.7 percent (Bureau of Labor Statistics, 2009). Rock Hill, in contrast, is a small city (identified as an urban area) located only 26 miles from Charlotte, North Carolina in York County, South Carolina. The County has a 14.2% unemployment rate and 14 percent of Rock Hills' population lives below the poverty line (Census, 2000) (in South Carolina, 17 percent of the population lives below the poverty line, as of the 2010 Census).

Demographic Data

TABLE 1: U.S. CENSUS DATA OVERVIEW: ALLENDALE COUNTY, YORK COUNTY, SOUTH CAROLINA, ALLENDALE (TOWN), AND ROCK HILL

	2010 U.S. Census Data				2000 U.S. Census Data	
Measures	**Allendale County**	**York County**	**South Carolina**		**Allendale (Town)**	**Rock Hill**
Population	10,419	226,073	4,625,364		4,052	61,620
Population 18 years and younger	23.5%	25.3%	23.7%		32.6%	25.10%
Population 65 and over	13.3%	12.1%	13.7%		11.9%	11.30%
Female Residents	46.7%	51.3%	51.3%		54.1%	54.20%
Race: Caucasian	23.7%	74.8%	66.2%		18.2%	58.70%
Race: African-American	73.6%	19.0%	27.9%		80.0%	37.30%
Race: Hispanic	2.3%	4.5%	5.1%		2.2%	2.50%
High school graduates	74.4%	84.6%	82.2%		25.6%	75.20%
Bachelor's degree or higher	13.4%	25.3%	23.5%		10.7%	24.30%
Population below poverty line	39.7%	12.4%	17.1%		41.2%	14.0%
Median Household Income	$23,942	$50,644	$42,580		$16,632	$37,336

*Allendale County, York County and South Carolina statistics from Census 2010, Allendale (Town) and Rock Hill statistics from Census 2000

When it comes to population increase or decrease since 2000, South Carolina's population has increased by 14% from 2000 to 2010. For Allendale County, there has been a decrease of 7% in population between 2000 and 2010, while York County increased its population by 31% during the same time frame.

Health Analysis

To put the health status of the case study communities into context, it is important to understand first that the United States ranks 34th internationally for healthy life expectancy, which is the number of years a person can expect to live in good health (America's Health Rankings, 2011) and South Carolina ranks 41st out of the 50 states in health status (America's Health Rankings, 2011).

Comparative health data is available at the county level (and not the city, town, or zip code level), so the health analysis and comparison of the two case study communities will be made for the counties in which they are located. The data used for the following health analysis for Allendale and York Counties is provided by the University of Wisconsin's Population Health Institute and the Robert Wood Johnson Foundation in their recent report, County Health Rankings: Mobilizing Action Toward Community Health, South Carolina, 2011. The report ranks each county in South Carolina in two composite measures: health outcomes and health factors. For health outcomes, Allendale County ranks 45th out of 46 counties and York County ranks third out of 46. For health factors, Allendale County again ranks 45th out of 46 counties and York County ranks ninth out of 46. York County ranks higher in all areas of each composite measure except for the physical environment.

The health outcomes rank is based on two components: mortality and morbidity. The mortality rank is based on the number of premature deaths[1] and the morbidity rank is calculated using the number of poor or fair health days, poor physical health days, poor mental health days, and the percentage of low birth weight babies. Twenty-two percent of adults in Allendale County report having poor to fair health compared to 14% of adults in York County (Center for Disease Control and Prevention, 2006). On average, people in Allendale County report having 3.4 poor physical health days in the past 30 days compared to 3.1 for York County residents (Center for Disease Control and Prevention, 2006).

TABLE 2: ALLENDALE COUNTY AND YORK COUNTY 2011 HEALTH RANKINGS

	Allendale County	York County
Measures	**Rank**	**Rank**
Health Outcomes	**45**	**3**
Mortality[2]	46	5
Morbidity[3]	25	3
Health Factors	**45**	**9**
Health Behaviors	43	13
Clinical Care	9	7
Social and Economic Factors	46	9
Physical Environment	33	42

*Rank out of 46 South Carolina Counties

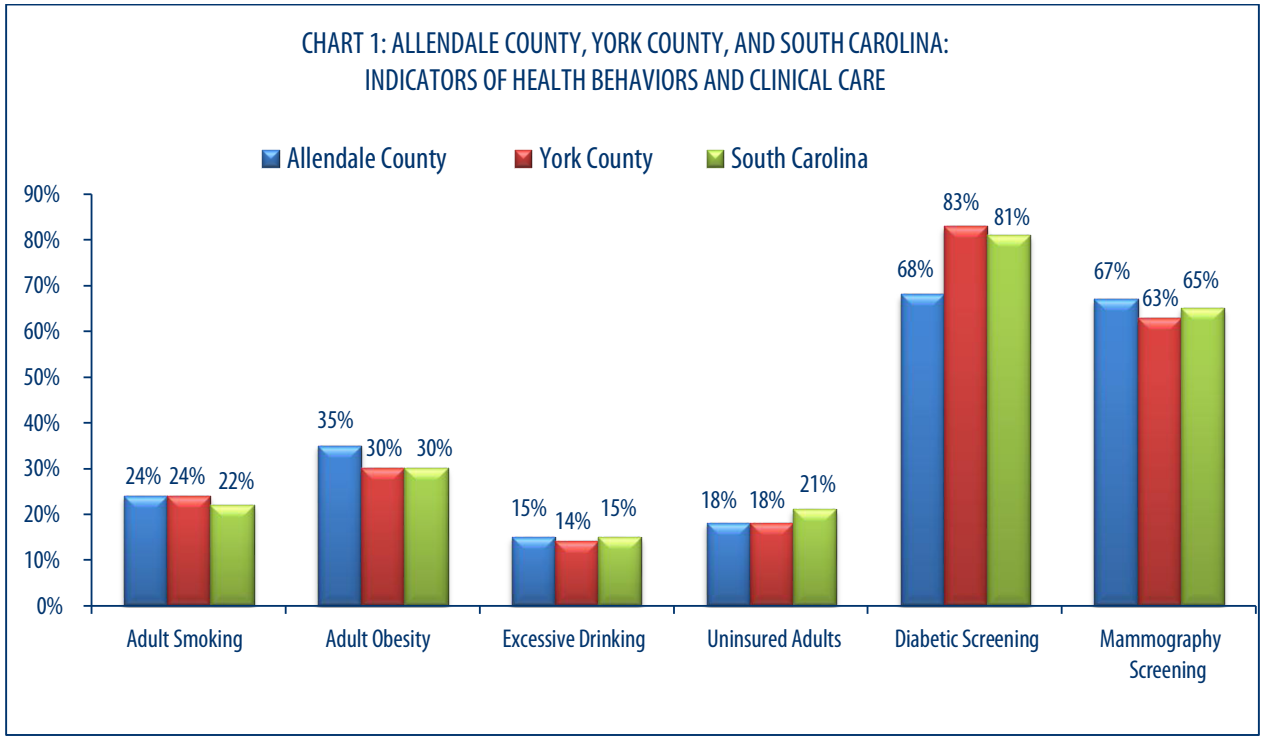
[1] *Premature death is the years of potential life lost before age 75*

[2] *Mortality refers to the number of deaths within a given population*

[3] *Morbidity refers to a person's poor mental and physical health*

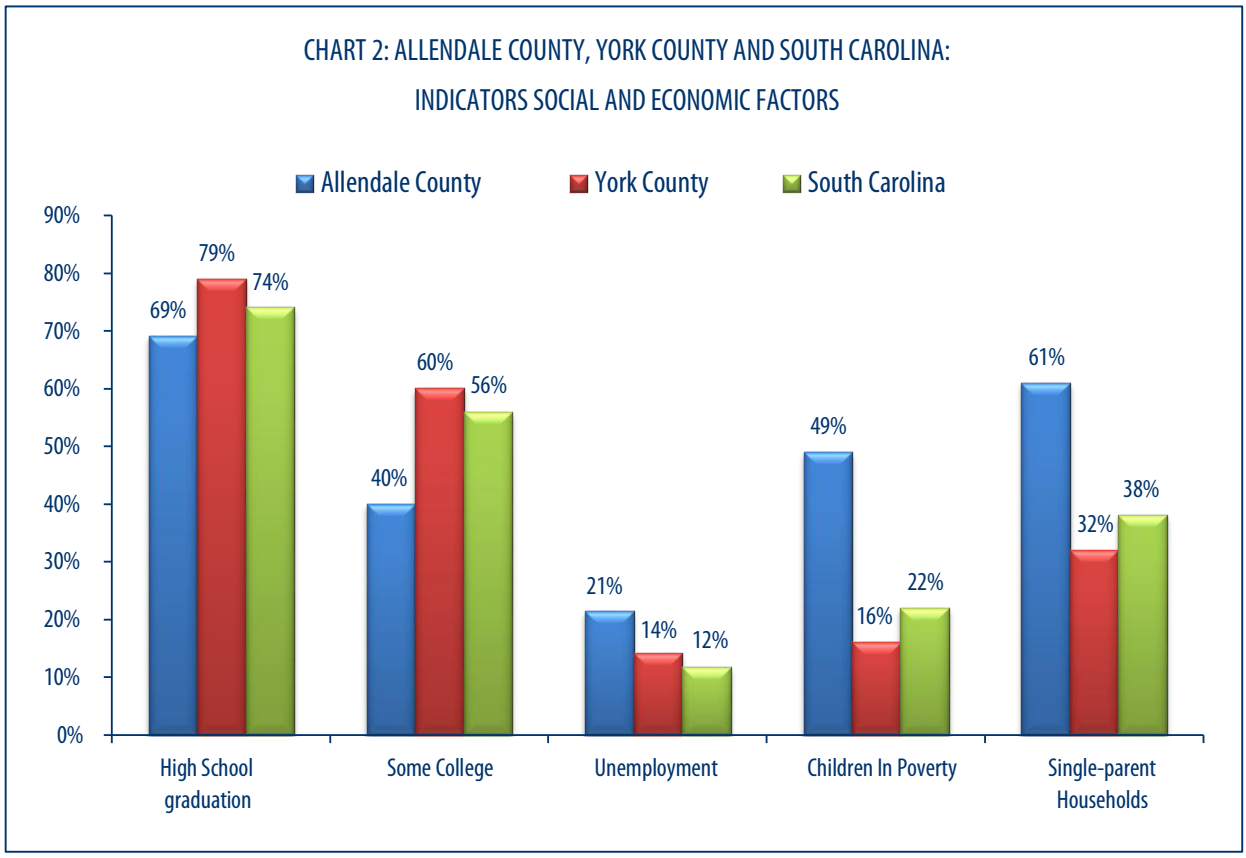
For health factors, there are five key measures that determine the rank; health behaviors, clinical care, social and economic factors, and the physical environment.

Chart 1 displays a comparison of several of the variables for health behaviors and clinical care:



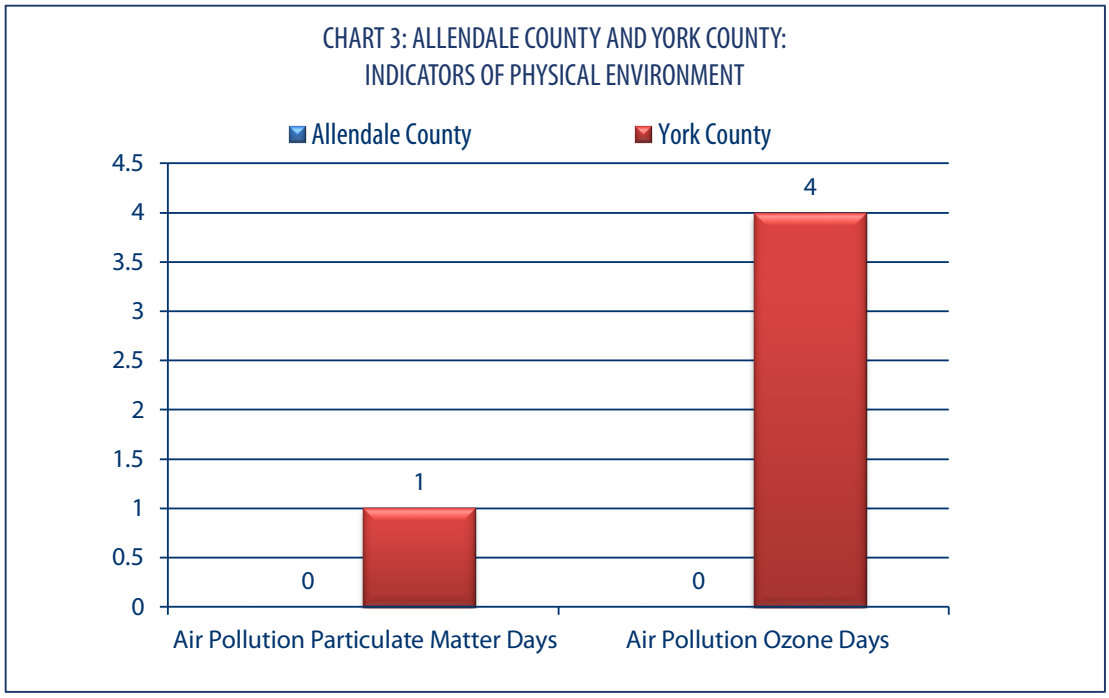
(Behavioral Risk Factor Surveillance System,2003-2009; National Center for Chronic Disease, 2008; Medicare/Dartmouth Institute, 2006-2007; U.S. Census, 2007)

Chart 2 displays a comparison for several of the variables for social and economic factors:



(National Center for Education Statistics, 2006-2007; Bureau of Labor Statistics, 2009; American Community Survey, 2005-2009; U.S. Census 2008)

Chart 3 displays a comparison for two indicators of air pollution, one of the variables comprising the ranks related to the physical environment:



(U.S. Environmental Protection Agency, 2006)

Table 3 displays the proportion of the population that has access to healthy foods, an additional variable comprising the rank for the physical environment:

TABLE 3: ALLENDALE COUNTY,YORK COUNTY, AND SOUTH CAROLINA INDICATOR OF PHYSICAL ENVIRONMENT

Measure	Allendale County	York County	South Carolina
Access to Healthy Foods	50%	46%	65%

(Census Zip Code Business Patterns, 2008)[4]

An additional measure of access to healthy foods is the Retail Food Environment Index (RFEI). The RFEI is a ratio describing the relative abundance of different types of retail food outlets in a community and is an indicator of the density of food outlets that are less likely to offer fresh fruits and vegetables and other healthy food compared to food outlets that are more likely to offer healthy food. The higher the RFEI, the greater the number of fast food outlets and convenience stores in relationship to grocery stores and produce vendors.[5]

South Carolina's RFEI is 5.9, meaning that on average, for every grocery store within the state, there are almost 6 fast food outlets or convenience stores. The Allendale County RFEI is the lowest in the state at 1.4 and York County's is just below the state average (5.7) (SC DHEC 2011).

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[4] *This measure is based on data from the US Census Bureau's Zip Code Business Patterns. Healthy food outlets include grocery stores and produce/farmers' markets, as defined by their North American Industrial Classification System (NAICS) code which is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.*

[5] *The RFEI is constructed by dividing the total number of fast-food restaurants and convenience stores by the total number of supermarkets and produce vendors (produce stores and farmer's markets) in the area*

Community Approaches to Complete Streets

The following case studies highlight the approaches that two communities have taken in their pursuit of a Complete Streets policy.

Allendale:

Allendale County, which is comprised of the towns of Allendale, Fairfax, Sycamore, and Ulmer, has a population of just over 10,000 people, with the town of Allendale having about half the population of the County. As evidenced by the demographic and health status data, Allendale is a struggling community. A community health assessment conducted in June of 2008 concluded that the areas of most concern for the town include the lack of available health care providers, low employment rates, limited availability to healthy foods, neighborhood safety, reliance on health myths, limited insurance coverage, and lack of transportation. High rates of sexually transmitted infections and teen pregnancy are also troubling.

While there are multiple areas of concern in Allendale, there are also many organizations and individuals working together to improve community health. A chapter of Eat Smart, Move More South Carolina (ESMM SC), was formed in May of 2011. During the late spring of 2011, several key informants reported that 19 out of the 204 girls in the local high school were currently pregnant. To address this, the Allendale County Campaign to Prevent Teen Pregnancy has been reaching out to other partners, including the local ESMM chapter. Together they are working to improve local health outcomes by creating an environment that supports healthy eating, active living, and self-confidence for youth and adults. One example of this partnership is an after school program hosted by members of ESMM Allendale to engage young women at the high school in gardening and healthy food preparation. This program teaches basic skills, builds self-esteem, and creates youth mentors for the community. Recently they linked with Clemson Extension (also an ESMM Allendale member) to offer the opportunity to participate in related 4-H activities.

Assessments conducted by the Allendale Healthy Communities Collaborative and the South Carolina Department of Health & Environmental Control (SC DHEC) Region 5 have informed the creation of programs and policies over the last several years to help address other major health issues in the community. One example is the recent development of a two-mile walking trail that links the community and creates a safe place to walk. City government has placed benches and natural barriers to aid in trail visibility and usability. Additionally, Allendale's new community garden is a project designed to improve access to healthy foods while also providing an opportunity for community and social cohesion. It is located near the downtown area and food demonstrations for community members are routinely conducted using produce from the garden. The garden is located near an elementary school, which provides the opportunity for children's educational activities.

ESMM Allendale recently completed a strategic plan to promote healthy lifestyles through a focus on policy and systems level changes as well as on creating environments that support healthy eating and active living. These approaches are complimented with an emphasis on consumer education and resource maximization. In implementing a number of strategies to support the goals of increased physical activity and improved nutrition, ESMM Allendale hopes to decrease the number of deaths due to chronic diseases and increase adult and child involvement in physical activity and healthier eating habits. Support for the initiatives of ESMM Allendale comes from a variety of partners, including Allendale County Hospital, local schools and the school Board, local churches, local physicians and medical professionals, First Steps, HeadStart, law enforcement, government and community representatives, the housing authority, and a number of other governmental agencies.

The concept of Complete Streets was introduced in Allendale by SC DHEC and has been discussed by community leaders for several years. The hope is that now with a formal structure and partnership in place through ESMM Allendale and with a focus in their strategic plan on promoting physical activity in general (and a Complete Streets policy as part of that agenda), that a Complete Streets policy will be possible in the near-term. To increase the proportion of the population that are physically active, ESMM Allendale plans to promote and advocate for a Complete Streets ordinance. This process is in its infancy, but is supported by a strong coalition of community partners that have been working together for several years. A member of Town Council is active with ESMM Allendale and serves as a catalyst for change. She is a strong advocate and encourages local leaders and the community to support the recommendations made by ESMM. The County administrator is also very supportive and will provide technical support and link the group to appropriate county resources and staff.

ESMM Allendale realizes it must also work to increase local awareness and educate citizens about the benefits of physical activity and healthy eating. Many citizens lack transportation and view walking as a necessity and ultimately as a negative. Advocates are working to change the local mindset and reinforce the need to walk for health. They have hosted a variety of walking events to encourage use of the local walking trail. This has made a positive impact and more people are walking to access downtown destinations.

The Allendale coalition has learned that building a strong foundation is essential to success. The group evolved out of a previous health initiative focused on diabetes and realized that they did not make the desired changes and impact on the community through awareness and education alone. ESMM Allendale now provides some of the necessary structure and resources to impact change through policy and environmental efforts such as Complete Streets. Allendale is challenged by the fact that they do not have the infrastructure or resources that may be readily available in urban areas to support quick implementation. Therefore, the group must effectively educate the community about policy and environmental change to gain commitment of local resources that can support the county and city staff to enact a policy. ESMM Allendale will build on existing energy by advocating for a Complete Streets policy at a community forum planned for the fall of 2011.

Barriers that community leaders face in their efforts to improve public health in Allendale include a lack of education and understanding of healthy lifestyles, a lack of interest in biking for transportation or for physical activity, a cultural stigma against walking for transportation, even for short distances and for those who do not have a vehicle, and in many areas, a lack of sidewalks to allow for safe pedestrian activity. Since many of these barriers are part of the culture and infrastructure of the community, there is need for long-term community education and promotion of healthy living.

Rock Hill:

The process for promoting Complete Streets has been different in the City of Rock Hill. Although the City does not currently have a Complete Streets Policy, it has many policies, ordinances, and best practices that support Complete Streets concepts. It is important to note that Rock Hill also has a high unemployment rate but has a number of assets on which to build momentum for adoption of a Complete Streets policy. Rock Hill is known for being a sports tourism community and the city has a history of promoting active living. City ordinance has required sidewalks in all new developments since the late 1990s. In 2010, the development standards were revised to incorporate certain Complete Streets concepts, including facilities that serve pedestrians and cyclists while helping to calm motor vehicle traffic. Complete Streets supportive standards that are now required for newly developed streets include curb bump-outs for on-street parking, narrower travel lanes, smaller curb radius requirements, and provisions for bike lanes and separate bike paths for certain streets.

A new multi-phased, 1,000 acre mixed-use community village, River Walk, is currently under construction. This development is based on the concept of an active pedestrian and bicycle friendly community, featuring over three miles of river waterfront, miles of walking trails, and public open spaces and opportunities for canoeing, kayaking, and other outdoor activities. The City and developer forged a public-private partnership to facilitate development of the Cycling and Outdoor Center of the Carolinas, which is scheduled to open in the spring of 2012. The facility will include an Olympic-caliber track cycling velodrome (Giodana Velodrome), a cyclo-cross and criterium course, 13 kilometers of competitive mountain biking trails, and an Olympic-caliber BMX track integrated into a super-cross. Another way the city is promoting physical activity is through a coordinated regional partnership in support of the Carolina Thread Trail (CTT), a planned regional network of trails and greenways connecting major destinations in 15 counties in both North and South Carolina. In March 2008, Rock Hill's City Council endorsed a resolution of support for the CTT. Several segments of the trail have already been completed and dedicated.

The city's residents are very active and there is a large biking and bicyclist advocacy community. Safety is a concern for both current and future bicyclists in the City of Rock Hill. These concerns have resulted in a strong interest in Complete Streets by governmental and non-governmental agencies in the Rock Hill community.

In 2000, the Mayor of Rock Hill started a Trails and Greenways Advisory Committee in the Parks, Recreation, and Tourism (PRT) Department with the City. Bike Rock Hill is a subcommittee of the Trails and Greenways Advisory Committee and works in tandem with the City of Rock Hill and Eat Smart, Move More York County (ESMMYC) to bring awareness to the community of existing bicycle paths and trails and plans for additions to this network. Additional partners included in this committee are the Rock Hill Bike Club, Winthrop University, local bike shops, and the Palmetto Cycling Coalition. Passing a Complete Streets resolution is one of Bike Rock Hill's primary objectives, as it will create a community that more broadly supports multi-modal transportation. The Parks and Recreation Commission has approved a draft Complete Streets resolution received from the Trails and Greenways Advisory Committee to be presented to city council in 2011.

The Planning and Development Department works closely with the PRT Department and in their most recent comprehensive plan, Vision 2020, Complete Streets policy components are highlighted in a number of areas of strategic focus. There are seven priority policies in Rock Hill's Vision 2020: 1) focus on redevelopment and infill, 2) achieve sustainability, 3) plan for Dave Lyle Corridor East, 4) enhance mobility and connectivity, 5) promote redevelopment and infill development along key corridors, 6) create livable places, and 7) leverage resources through partnerships and coordination. These policies summarize the recommendations within the Vision 2020 Comprehensive Plan focus on promoting healthy and active lifestyles by incorporating sidewalks and pathways to encourage different modes of transportation in the community.

It should be noted that SC DOT is actively involved in many of Rock Hill's road projects and is supportive as long as the projects are reasonable and cost-effective. Local SC DOT staff have been involved in the discussion about a Complete Streets policy from the very beginning and participated in training sessions about Complete Streets held by ESMM SC, Palmetto Cycling Coalition, and SC DHEC several years ago. Also participating in the training was staff of the Regional SC DHEC Office, staff from the City of Rock Hill Planning and Development and PRT Departments, representatives of ESMMYC, law enforcement, a city council member, a developer, the mayor of Rock Hill, and a representative from Winthrop University.

The Complete Streets workshop in Rock Hill was instrumental in the development of Bike Rock Hill and in creating community energy for such policies. During this training, session participants learned the different concepts related to Complete Streets, the environmental and health benefits of Complete Streets policies, and the increase in safety that such policies can bring to a community. Other agencies that have been involved in the planning process for a Complete Streets policy include the regional Council of Governments and Piedmont Medical Center, Rock Hill's community hospital. The City representatives involved feel that having the right people involved from the beginning is another reason for their momentum and success.

Community support has also been a major factor in the success of promoting Complete Streets in Rock Hill. Support from the Mayor and City Council as well as support from the development community have aided in the success. One major barrier for Complete Streets in Rock Hill is the amount of existing, constrained roadway facilities. Since they are already built it would be very costly to go back and put in sidewalks and re-do the design of the roads. One possible approach is that as Rock Hill moves towards more Complete Streets, changes would apply to new roads or roads slated for major work. To gain the attention of a broader audience, it is felt that more effort needs to be put forth into making a connection between a healthy environment and economic development issues.

Conclusions & Recommendations

As discussed, the components of Complete Streets policies have many potential benefits for both urban and rural communities.

Keys to success in pursuing such policies include:

1. Considering the community context and its unique challenges and opportunities to design an approach that 'meets people where they are' and can support incremental change in situations without a lot of existing support or understanding of the importance of such policies
2. Ensuring ongoing and widespread community education about the importance of physical activity as a component of a healthy lifestyle, particularly in rural areas without mass transit where walking as a mode of transportation may have a negative stigma
3. Cultivating support from elected officials and other community leaders and stakeholders and ensuring their involvement in the education and planning process for Complete Streets policies
4. Capitalizing on existing cultures of collaboration among diverse stakeholders and a history of established, well-functioning partnerships where they exist
5. Promoting productive relationships between the community coalition and Complete Streets advocates and the SC DOT

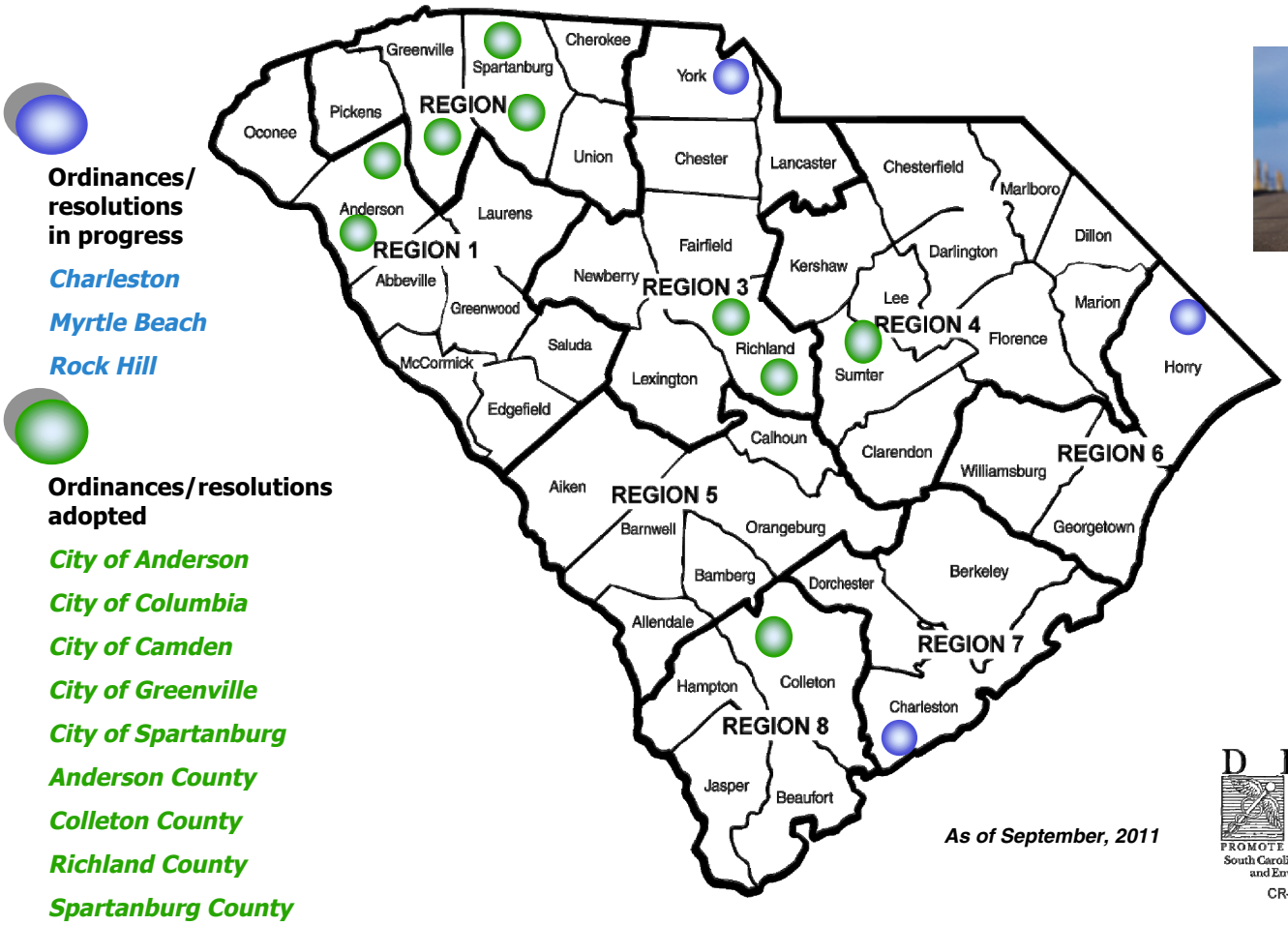
Partnerships with state agencies and statewide organizations such as SC DOT, SC DHEC, ESMM SC, and Palmetto Cycling Coalition, can help to provide communities with the resources and technical support necessary to implement Complete Streets policies.

Throughout the entire process, it is important to clearly communicate the benefits of such policies to all stakeholders as they relate to:

1. Increased opportunities for physical activity and improved health and the positive economic impact of a healthier, more productive workforce
2. Increased options for multiple modes of transportation, especially for those without a motor vehicle
3. Through enhanced transportation options, opportunities for economic development as residents can reach more locations and businesses through transportation options not previously available (this would include improved access to healthy foods from local farmer's markets and/or grocery stores)
4. Improved safety for motorists, cyclists, and pedestrians among all ages, including the aging populations
5. Increased community pride and social cohesion through events to promote the benefits of re-designed roadways

APPENDIX A: SOUTH CAROLINA COMPLETE STREETS

Complete Streets



Ordinances/ resolutions in progress

Charleston

Myrtle Beach

Rock Hill

Ordinances/resolutions adopted

City of Anderson

City of Columbia

City of Camden

City of Greenville

City of Spartanburg

Anderson County

Colleton County

Richland County

Spartanburg County

As of September, 2011

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CR-000228 3/06

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