

Healthy Infrastructure Plan



Greene County, New York

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Table of Contents

I. Introduction	3
II. Community Health Data	7
III. Infrastructure Diagnosis	10
IV. Initiatives	21
V. Community Infrastructure Prescription	25
VI. Funding Options/ Conclusion	28

I. Introduction

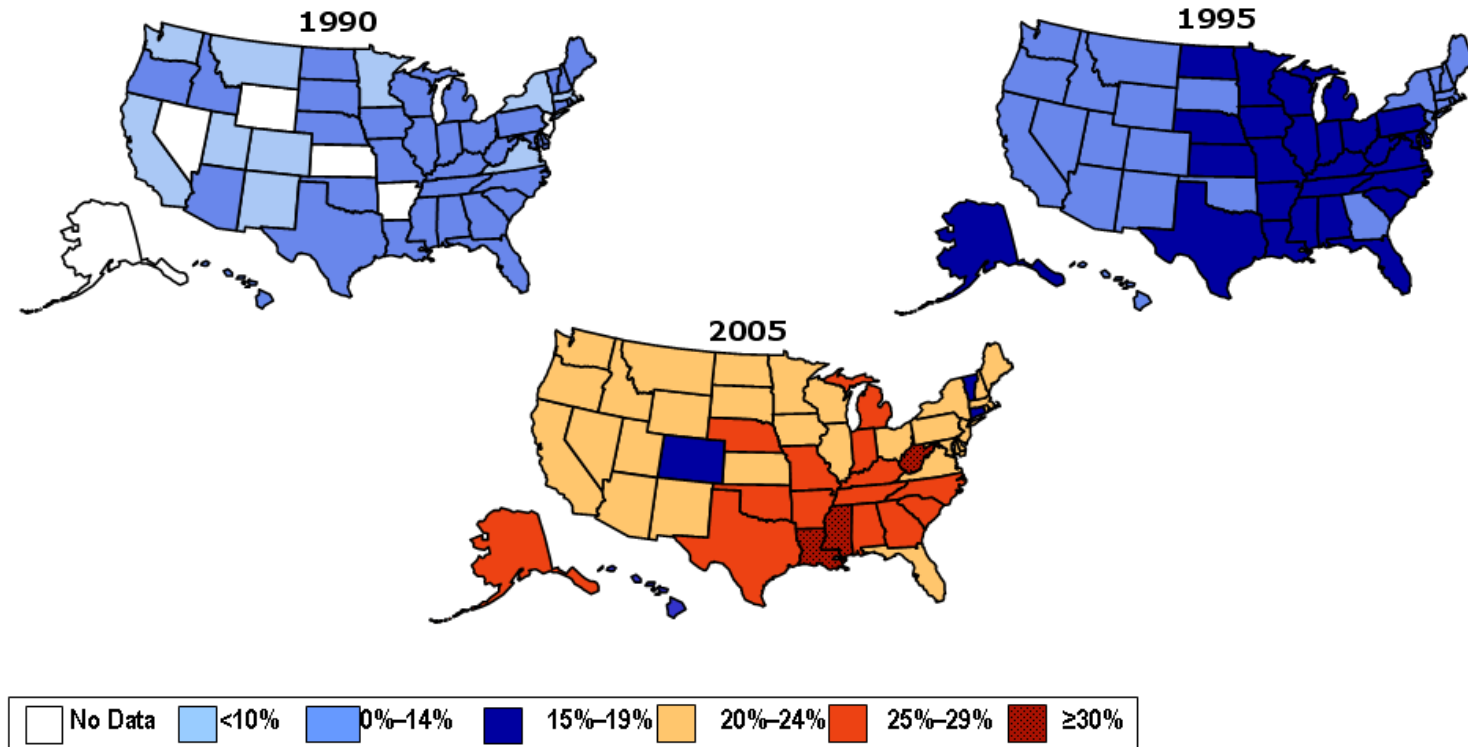
The *Initiative for Healthy Infrastructure* (iHi) project at *University at Albany* (SUNY) is designed to facilitate statewide efforts to create physical environments which fosters healthy active lifestyles. This undertaking includes a cross-disciplinary approach in addressing this issue through teaching, researching, developing policy, public outreach and planning. The primary motivation for this project is in resolving the contradiction between the need for increased physical activity and the deficit in walk-able community infrastructure. Expanding New York State's resource and research base in this area will encourage both more walk-able communities and a healthy population. This project is funded by the *Healthy Heart Program* in the *New York State Department of Health* and is supported by *The Research Foundation of The State University of New York*.

Since one of the goals of the *Healthy Heart Program* is to encourage walking as a routine activity, it is logical to connect this concept with planning, particularly in the development of sidewalks, streets and trails. Unfortunately, community 'health' is not currently considered a performance measure for public works infrastructure, so a new approach that brings together the issue of public health and planning communities is needed. There is increasing evidence that community supports for a heart healthy lifestyle can be effective in reducing the risk of Cardiovascular Disease (CVD). Numerous sources, including the Centers for Disease Control and Prevention, have advocated walking as a primary means of increasing routine physical activity.

The national obesity trend is illustrated in these graphics developed by the Centers for Disease Control and Prevention (CDC). *Source: www.cdc.gov.*

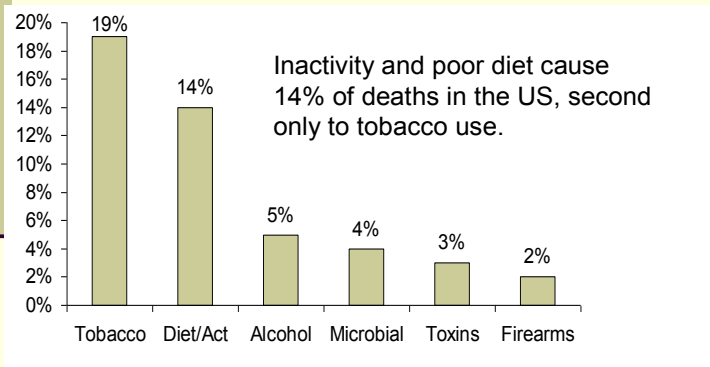
Obesity Trends* Among U.S. Adults BRFSS, 1990, 1995, 2005

(*BMI ≥ 30 , or about 30 lbs overweight for 5'4" person)

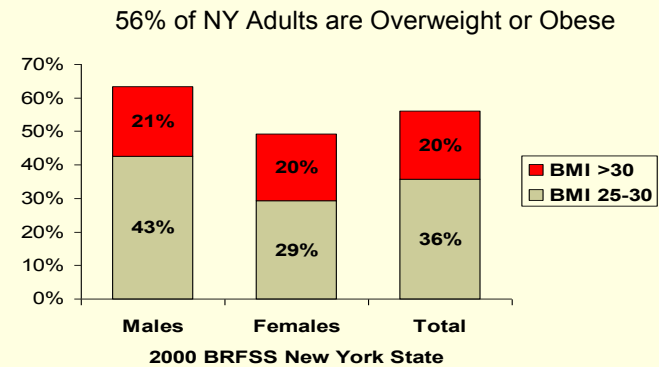


Cardiovascular disease (CVD) is the leading cause of death, disability and health care expenditures among New York State residents. In 1998, more than 70,000 New Yorkers died of cardiovascular disease, accounting for 45% of all deaths. According to data from the 2001 Behavioral Risk Factor Surveillance System, 56% of New Yorkers are insufficiently active (no activity or less than 20 minutes a day, or less than three times/week). At the same time, pedestrians and bicyclists accounted for more than 20% of New York State's traffic fatalities and injuries, 48% of hospitalizations and 59% of injury related hospitalization costs according to data from the Statewide Planning and Research Cooperative System (SPARCS) system. (Provided by the NYS Department of Health (DOH)) In order to encourage people to walk or bicycle more, it is critical to provide a safe infrastructure that supports an active lifestyle.

Underlying Causes of Death (US)



Overweight and Obesity Among NYS Adults (2001 BRFSS)



The data for the U.S. and New York State indicate that inactivity, poor diet and obesity are serious issues. Graphics provided by Deb Spicer, NYS Department of Health.



II. Community Health Data

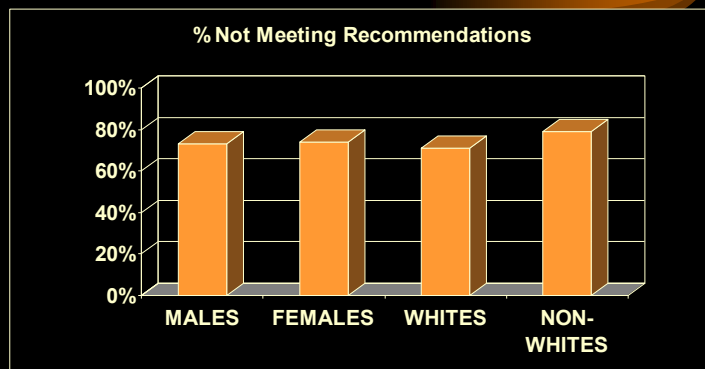
Greene County is fortunate to have a detailed set of data for assessing public health. The New York State Behavioral Risk Factor Surveillance System (data) provides a general overview for statistical comparisons between state, national and county data. The following sections use available local and statewide health data to identify existing conditions and issues for Greene County.

NYS BRFSS

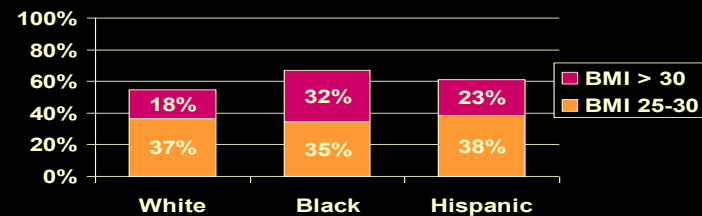
The national trends and data are reflected in the public health data provided by NYS DOH from the 2000 and 2001 BRFSS. The two charts below show levels of physical activity statewide and obesity prevalence in ethnic groups among NYS adults.

The data below indicates that more than 70% of New York State adults (1) do not meet recommended levels of physical activity and (2) that more than 50% of the State's adults are overweight or obese.

Physical Activity Among NYS Adults, (BRFSS 2000)



Obesity Among NYS Adults, By Ethnicity 2001, BRFSS



Mortality data for Greene County

	Population (2006 data)	Total Deaths (per 100,000)	Total Deaths (rate)	Cerebrovascular Disease (#)	Cerebrovascular Disease (rate)	Diseases of the Heart (#)	Diseases of the Heart (rate)
NYS	19,306,183	147,615	764.6	6,310	32.7	50,202	260.2
Greene	49,822	510	1,023.6	22	44.2	86	337.2

*heart disease is a major public health issue, with levels above the statewide level

Traffic Safety Data

Health and safety are related issues. The amount that people will walk or bicycle is affected by perceived and real concerns about traffic safety. In recent years, Greene County has been subject to considerable development pressure. The built environment that has resulted from these pressures, often presents barriers to active living. In a report entitled, "Greene County Traffic Safety Data" 2005-2006, the Institute for Traffic Safety and Research provides the following summary of Greene County safety Statistics.

Please see the following page for complete traffic safety data.

INSERT PDF CRASH DATA

III. Infrastructure Diagnosis

For the purposes of this study, the medical term ‘diagnosis’ is applied to the county’s public works infrastructure to investigate possible connections between the built environment and public health. The ‘patient’ in this case is Greene County, and the diagnosis looks at whether current levels of physical activity are related to the provision of built environment features such as rural roadways with paved shoulders, trails, parks and other facilities that encourage a physically active lifestyle. Note that at the county level this is a very general analysis, and precision and scope are limited to an overview of existing conditions. Additional investigations will be necessary to supplement this study with more detailed observation and data at the community and neighborhood level.

U.S Census Transportation Data

While limited in its ability to capture all travel by walking and bicycling (it focuses only on trips to work, not travel for shopping, school, or leisure), the U.S. Census Transportation data is a useful source of county level data. From 1990-2000, the census shows that walking and bicycling in Greene County DECLINED.

Please see CTPP data on following page



CTPP PDF

INSERT HERE

Spatial Analysis using Geographic Information Systems

Through the use of census data and geocoded locations for specific spatial attributes, it is possible to identify key features within the county. For the purposes of this phase of IHI's project, Healthcare and Education facilities were identified as types of community destinations which can help describe the potential for walking to routine destinations as part of an active lifestyle. The potential of a resident walking to a destination can be identified as accessible within a .5 mile radius. This is the equivalent of approximately a 10 minute walk at an average pace of 3 miles per hour. Note that this distance is also a relatively short bicycle ride – approximately a 3 minute ride at a 10 mile per hour pace. The purpose of this diagnostic tool is not to specifically identify which individuals within the county walk or bicycle, but rather to provide a broad perspective on whether it is possible to walk or bike to certain key features within the area.

Education

Access to schools is a part of the daily travel routine for Greene County families. Nationally, the trend in the past several decades has been away from children walking or bicycling to school, and towards children being bused and driven to school. The data showing the lack of physical fitness in children (as well as faculty, staff and college students) is related to this change in daily routine. As a result, investigating the potential for schools to be a destination within walking distance of the local population can be an important step towards encouraging a more active lifestyle.

Please see Education map on following page.

Parks

Parks and Recreation Facilities provide locations intended for physical activity, sports and other leisure time activities. Walking, hiking and bicycling are primary activities at these locations, yet in a rural setting, it is important to determine if people are able to walk or bike to parks and recreation, or if they are limited to driving a car to reach these destinations. Greene County is fortunate to have a significant amount of parks and public lands focused along lakeshores, rivers, and in local communities. It also contains part of the Catskill Park.

Please see Parks map on following page.

Health Institutions

Just as schools and parks can provide walk-able community destinations, health institutions can play a similar role in being a place that encourages physical activity and fitness by being a role model as a destination. This is often not the case with large hospitals and medical centers, and there are many examples of hospitals being surrounded by large parking lots without appropriate consideration for how walking and bicycling relate to public health and the medical institution's role in creating a healthy neighborhood environment. For the purpose of this analysis, healthcare institutions were identified and geocoded, and the same walking distance buffer was applied for the .5-mile radius around the facility.

Please see Health Institutions map on following page.

Transportation Infrastructure (following page)

For many people, local streets and roads define access to jobs, education, healthcare and recreation. Unfortunately however, data is not currently available to determine the percentage of all these roads that include paved shoulders, sidewalks, bike lanes or trails. An investigation of NYSDOT sufficiency file data indicated that paved shoulders and sidewalks are not systematically included in the State's pavement management and information systems.

The available data table for the Greene County highway system is provided on the following page.

INSERT PDF

DOT HWY

Infrastructure Investment Analysis

Healthcare is a significant budget expenditure and cost for New York State and local communities. The direct and indirect costs due to medical care, workers compensation claims, and lost time related to injuries is illustrated below in a graphic provided by NYSDOH.

Slide Source (bullets 1 & 2): Chenoweth, "Physical Inactivity in NYS, An Economic Cost Analysis", 1999
Slide Source (bullet 3): Pratt, M. "Higher Direct Medical Costs Associated with Physical Inactivity", The Physician and Sports Medicine, October, 2000. This study used data from the 1987 National Medical Expenditures Survey.

Cost of Physical Inactivity in NYS

- Inactivity costs NYS **\$3 billion** a year
- A 5% increase in physical activity rates in adults would save NY **\$180 million** a year.
- Inactive adults have \$330 more per year in direct medical costs than active adults (in 1987 dollars).

IV. Initiatives for Greene County

Village of Catskill Downtown and Waterfront Revitalization Plan

The first phase of a "Downtown and Waterfront Revitalization Plan" for the Village of Catskill has been completed and focuses on the most critical areas for revitalization efforts. Catskill has enormous potential to become a regional tourism destination, as well as a hub for local activity, if existing restaurants, retail shops, services, boating amenities, public spaces and entertainment activities are complemented by the creation of additional businesses, parks, public amenities and water-related activities are created in strategic locations around the village.

Cairo Main Street Plan

As part of its Main Street Revitalization Program, the County is working with the Town of Cairo on the creation of its first Main Street Strategy. The Strategy will analyze the physical and business conditions in the Main Street study area, which is the entire Main Street from its connection with Route 23 east to its connection at Route 23 west. There are almost 60 businesses and well over 100 buildings in the study area. The Town has appointed a study committee that includes public and private-sector representatives.

The Main Street Strategy builds on the success of the County's Main Street Revitalization façade program, and the Cairo-Tannersville New York Main Street grant that has provided additional funding for projects in Cairo, including the transformation of the Kaaterskill Engineering building.

V. Community Infrastructure Prescriptions

The information gathered for this project can help in informing Greene County and local communities about the issues and potential solutions related to physical activity, cardiovascular fitness, and the built environment. Data in the previous sections (see NYS BRFSS data) have indicated that Greene County residents are at risk for heart disease, that physical activity is declining, and that transportation and health care costs represent a significant amount of local public expenditures. In order to translate these facts into action, it is first necessary to understand the current recommendations of the health profession in terms of change in individual behavior. Currently the Surgeon General of the United States is recommending that adults have 30 minutes of moderate physical activity on most, if not all days of the week and that children have at least 60 minutes of physical activity on most days, if not all days of the week. In many cases, this amount of physical activity can be achieved while walking to work, school, or for recreation within a local community – if these destinations are accessible in terms of pedestrian facilities. At the same time, research is beginning to show that for many people, leisure time physical activity frequently involves walking, and that roads, streets and sidewalks are important facilities for this purpose.

While it is not certain that there is a direct cause and effect relationship between providing sidewalks, paved shoulders, trails and bicycle facilities and specific improvements in the conditions of cardiovascular disease, there is sufficient evidence to indicate that Greene County would benefit from infrastructure improvements that encourage a more active lifestyle. **The following sections identify several possible policy and funding opportunities for Greene County.**

Policy Suggestions

Safe Routes to School

There is a growing national and international movement towards encouraging children to walk and bicycle to school. Schools are a logical focal point for creating safe, healthy, physically active communities. While current conditions indicate the majority of children are being bused and driven to school, changes in the physical environment (including sidewalks, crossings and traffic calming of school zones) can be combined with encouragement programs to facilitate a return to safe routes to school in Greene County. Please see the iHi NY Safe Routes to School document on our website here: <http://www.albany.edu/~ihi/2briefing.pdf>.

Complete Streets

Benefits of *Complete Streets* range from improved safety conditions for pedestrians and bicyclists to less congested roadways. Numerous communities across the country have already adopted such policies. A proposed *Complete Streets* policy for Greene County can be found here: <http://www.completestreets.org/index.html>.

Local Sidewalk Program / Winter Maintenance

It is common practice in Upstate New York communities for adjacent property owners to be responsible for construction and maintenance of sidewalks. While this limits a municipality's maintenance cost and shifts the existing or perceived liability to the adjacent landowner, it also creates discontinuous and often nonexistent pedestrian facilities. While there may not be a single, one size fits all solution to these issues, there are a number of excellent best practices which could be facilitated at the county level. Examples include mapping the existing sidewalk systems and identifying missing links. Sidewalk construction could be facilitated into group discount purchases in order to ease the cost burden on property owners. Winter maintenance could be enhanced through economic opportunity programs, providing jobs for the unemployed or youth seeking to enter the workforce.

Land Use and Walkability

As a 'home rule' state, New York does not have regional land use planning for rural counties, and as a result, most land use decisions are made at the local municipal level. With a dispersed rural population, the creation of compact development centers in villages and hamlets would support walking, especially if combined with locating public facilities such as post offices, libraries and local government offices within town centers. In order to encourage people to walk as part of their daily routing, it is important to group destinations and activities within walking distance of businesses and residences to the greatest extent possible.

Road Shoulder Guidelines

Many of the County's highways are low volume two lane roads. In most cases where there are few motor vehicles and traffic speeds are kept slow, these are already good places to walk or bicycle. On roads with higher traffic volumes and speeds, providing paved shoulders can be a significant benefit to motorists, bicyclists and pedestrians. A consistent policy for providing paved shoulders as a typical roadway feature could be implemented by NYSDOT, the County and municipal agencies. The document on the following page, developed in Oregon, provides an excellent rationale for these facilities.

INSERT PDF

ROAD

SHOULDERS

VI. Funding Options

Bicycle and Pedestrian Improvements can be made possible in Greene County with funding through multiple avenues. There are numerous funding sources, including federal grant programs such as the Transportation Improvements Program or Congestion Mitigation Air Quality Improvement Program. Both the New York Bicycling Coalition and Parks and Trails New York (PTNY) have excellent information regarding funding.

New York Bicycling Coalition: <http://www.nybc.net/programs/funding.shtml>

Parks and Trails New York: <http://www.ptny.org/index.shtml>

There may also be state, local and private money available too. In addition, see the iHi website for more information on funding sources.

Conclusion

This report is part of our efforts to develop an approach for identifying connections between public health, transportation infrastructure and community decision-making. With that caveat in mind, the following discussion can provide some useful concepts both for Greene County and for the future development of the iHi program. One way of summarizing the data collected for this document is to connect the physical activity and transportation needs of Greene County with an image common to promoting healthy lifestyles – the food pyramid. While people may disagree on the exact proportions of carbohydrates and protein in a healthy diet, the concept of the food pyramid is that the most resource intensive food group – meat – should be eaten in moderation, and that the food group which can be produced with the least amount of energy and the greatest return to the population – grains – should form the basis of a healthy diet. The same principle can be applied to transportation. If we used the forms of transportation that consume the greatest amount of resources (petroleum), we would place automobiles and air travel at the top of the pyramid and attempt to conserve our use of these costly forms of travel. Walking and bicycling would form the foundation of a pyramid that is based on the principals of a healthy transportation diet.

Do you know how much your local school district spends on student transportation?

Many districts allocate more funding on transportation than on physical activity programming! See the NYS Comptroller's Report and select school districts: http://www.osc.state.ny.us/localgov/datanstat/findata/index_choice.htm

The 'Transportation Food Pyramid' (Olson, 2003) shows the relationship between a healthy diet and a healthy use of transportation resources.

Please Note: The USDA now has a tool online so individuals can customize their own pyramids. Go to: <http://www.mypyramid.gov/>

The Transportation "Food Pyramid"

AIR
CAR
BUS/RAIL
WALK/BIKE

Fats, Oils & Sweets
USE SPARINGLY

Milk, Yogurt, & Cheese Group
2-3 SERVINGS

Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group
2-3 SERVINGS

Vegetable Group
3-5 SERVINGS

Fruit Group
2-4 SERVINGS

Bread, Cereal, Rice, & Pasta Group
6-11 SERVINGS

UAlbany / iHi 2003 20

Additional Important Links

Greene County Department of Public Health: <http://www.greenegovernment.com/>

Greene County Planning Department: <http://greenebusiness.com/>

NYS DOH: <http://www.health.state.ny.us/>



For additional information, please contact:

Initiative for Healthy Infrastructure – iHi
State University of New York at Albany
Department of Geography and Planning
www.albany.edu/gp/ihi



Healthy Infrastructure Action Plan / Survey

Thank you for being part of our efforts to connect public health, infrastructure and your community. We'd appreciate it if you would spend a few moments providing us with your opinion on this project.

County Name:

1. On a 1 to 10 scale, with '10' being the best score, is this document useful for your community?
(please circle your response)

No 1 2 3 4 5 6 7 8 9 10 **Yes**

2. On the same 1-10 scale, are you more aware of the connection between public health and infrastructure now that you have read this document?
(please circle your response)

No 1 2 3 4 5 6 7 8 9 10 **Yes**

3. Will you personally become and advocate for healthy infrastructure in your community as a result of this plan? *(please check one)*

Yes No Not Sure

4. What plans, programs or projects should be added to the plan?

.....

.....

.....

5. What actions will your community implement as a result of this plan? *(check all that apply)*

- Formal adoption of the plan by elected officials
- Increased funding for healthy infrastructure projects
- Formation of a healthy infrastructure task force
- Safe Routes to Schools Program
- New Policy to Include Pedestrian and Bicyclist Facilities



Healthy Infrastructure Action Plan / Survey

County Name:

6. Completion of a specific project.

Project name:

7. Other. Please describe:

.....
.....
.....
.....

Would you like to receive more information about iHi?
Please provide us with your contact information:

Name.....

Organization.....

Address.....

Phone.....

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