



Southwest High Point Greenway Health Impact Assessment

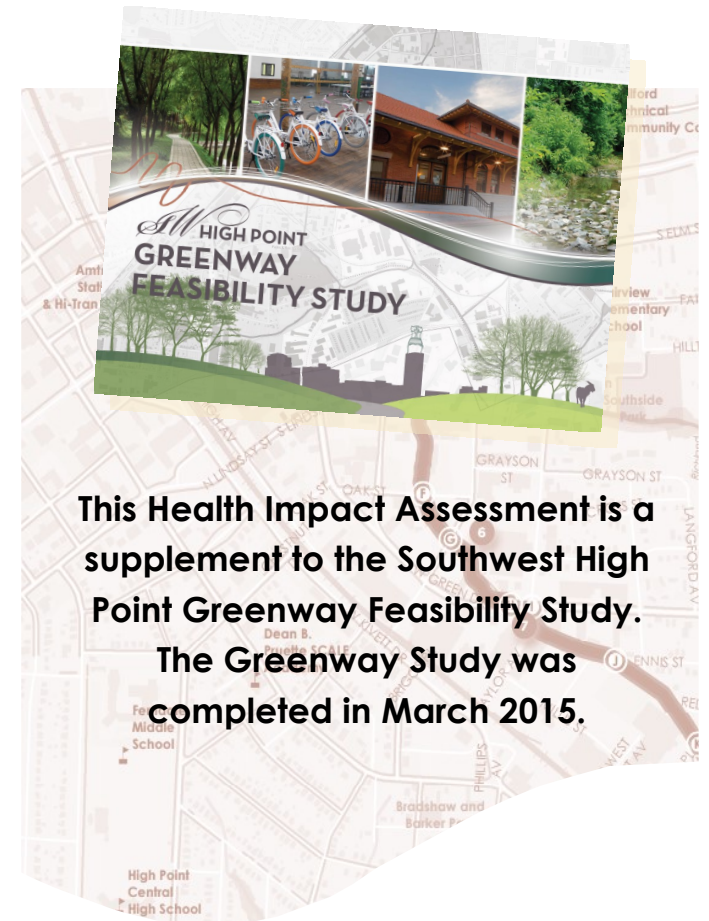
**A project of the Southwest Renewal Foundation of High Point and Guilford County Health Department
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October 2015

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This Health Impact Assessment is a supplement to the Southwest High Point Greenway Feasibility Study. The Greenway Study was completed in March 2015.



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1. Introduction

When we think about health, whether individual or public, we often limit our associations with the term to general topics such as healthcare, physical activity, and nutrition. We think about the common mantras from our peers and healthcare professionals - Don't forget your annual checkup. Run this many miles per day. Eat this, not that. We often forget, or perhaps never even realize, that true and complete health is about so much more.

According to the World Health Organization, health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Meaning that achieving complete health entails much more than merely reaching optimal physical health. In other words, health is holistic. It is made up of many interconnected components that must all be achieved individually in order to obtain overall health.

The goal of the Health Impact Assessment (HIA) for the Southwest High Point Greenway is to evaluate the greenway through this holistic lens and identify factors and features beyond the greenway itself that influence individual and community health. Building the greenway is just the starting point in terms of how the trail will impact health in the surrounding neighborhoods and citywide.

A greenway in and of itself does not greatly alter health conditions. Sure, people will walk and bike it, but real change occurs when it is connected to other destinations and easily accessible to the majority of those who use it. Changes must occur in the built environment and policy realm to entice more greenway users and optimize the investment in the greenway. These changes lead to behavioral changes by the population as utilization and frequency of use of the greenway increases. Over time, it is this behavioral change that leads to long-term positive health impacts.

This HIA attempts to identify the built environment and policy changes that can occur in addition to constructing the greenway to incentivize this behav-



Changing the Community Conversation

The Southwest High Point Health Impact Assessment brought diverse organizations and interest groups together to talk about the greenway in a broader context as it relates to health for the community and city as a whole.



Southwest High Point Greenway Vision



ioral change that creates the desired health impacts of building a greenway in southwest High Point.

Why a Health Impact Assessment?

Upon completion of the SW High Point Greenway Feasibility Study it was determined by the leadership of the Southwest Renewal Foundation and the Guilford County Department of Health and Human Services that conducting a Health Impact Assessment would be beneficial. It was realized that the greenway could promote and contribute to the overall health of the citizens of the surrounding neighborhood and city, in general.

The Foundation and Health Department pursued funding for the HIA through the Foundation for a Healthy High Point, who ultimately provided the resources to do this HIA through its Spark Grant program. Spark Grants are intended to be short-term, one-time grants for projects with quick results to improve health and wellness of Greater High Point residents. It is the first HIA conducted in Guilford County and now one of several in North Carolina that address a plan or a project for people who walk and ride a bike.

An HIA is a method of determining potential impacts on community health measures of a proposed plan, policy or project. The HIA process utilized for the SW Greenway is what’s known as a “Rapid HIA”. A Rapid HIA generally consists of a stakeholder workshop, assessment, and development of mitigation and evaluation strategies. An outline of this method is shown in Exhibit 1-1. When finished, the HIA will be a supplement to the SW Greenway Feasibility Study and a tool to help measure health impacts and pursue funding for the greenway.

The HIA effort began in July 2015 with conditions assessments and data analysis prior to a half-day stakeholder workshop in October 2015 and an assessment / evaluation period leading up to the results shown in this report.

Health Impact Assessment Method

The HIA process (Exhibit 1-1) includes six steps:

1. **Screening:** Used to determine if a plan, project, or policy would benefit from an HIA.

2. **Scoping:** Determining how to conduct the HIA, the data needed and the desired end products.
3. **Assessment:** The principal activity of the HIA, this establishes methods and data sources to determine likely impacts to a community.
4. **Recommendations:** Findings from the Assessment led to recommendations to either mitigate or strengthen the plan's outputs.
5. **Reporting:** The reporting was accomplished through this written report and presentations.
6. **Monitoring:** Lastly, monitoring is an ongoing process involving many stakeholders that ensures the plan is implemented and health impacts are assessed as greenways are built.

Screening. On the heels of the Feasibility Study's completion, it was determined that a valuable component in addition to the Feasibility Study would be to assess its findings through the lens of public health. The motivation for this was to thoroughly vet the concepts of the Study, assess the health impacts to the neighborhood, and to better inform how implementation of the plan could transpire.

Scoping. The HIA's geographic scope was determined to be an area inclusive of Census tracts within one-mile of the planned greenway route. National research indicates that this is the likely distance people would travel to access such facilities.

Assessment. The Assessment phase was extensive. It included a stakeholder workshop to gather professional insight as to the type and breadth of impacts of the planned greenway. It also considered the demographics of the population the greenway system would impact. A literature review was conducted to determine the accuracy and merit of health-related claims offered through the process. A quantitative analysis using demographic data, including an assessment of social and economic characteristics and health indicators, was performed to help identify and measure likely impacts in light of what the evidence-based research identified through the literature review suggested.

Exhibit 1-1: The 6 Steps of HIA

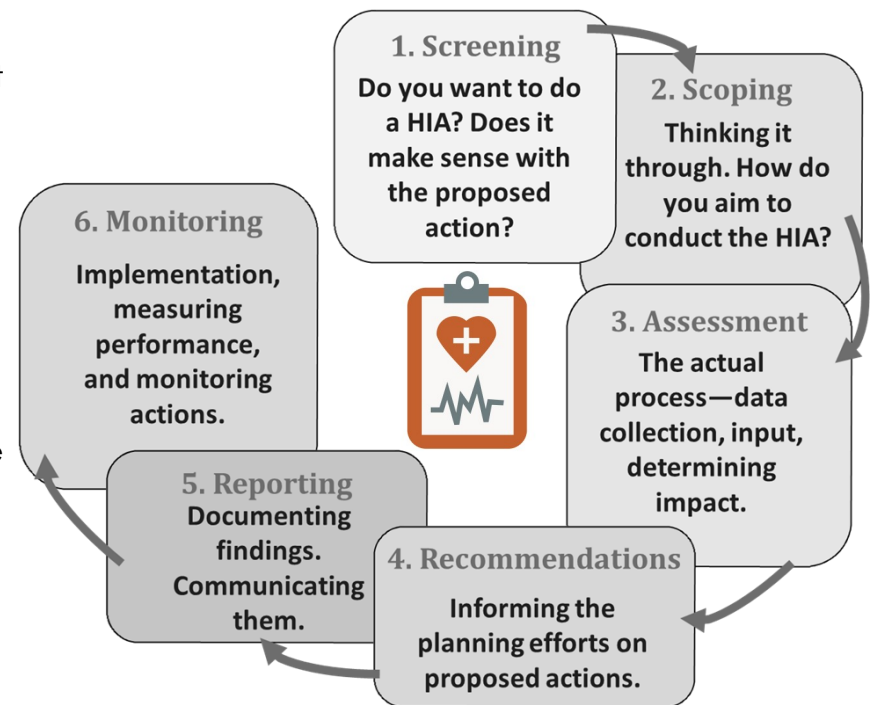
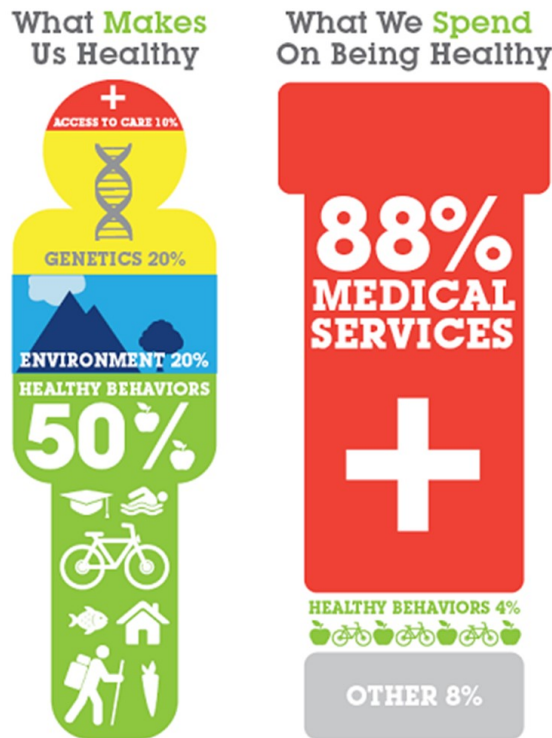


Exhibit 1-2: The Healthy Spending Conundrum



Source: Lots to Lose: How America's Health and Obesity Crisis Threatens our Economic Future (2012)

Recommendations. The recommendations offered as part of the HIA were determined through numerous methods. Several of the recommendations are derived by directly engaging stakeholders through an interactive workshop. Stakeholders were invited to participate in several information and opinion gathering exercises focused on greenway systems and the many associated elements serving them. Other recommendations were determined through further evaluating comments or academic research as well as using health and demographic observations to project timing and geographic consideration as well as towards greenway design.

Reporting. The reporting of findings is offered through the HIA and future outreach efforts stemming from the Feasibility Study and associated HIA. Health professionals, county staff and others will hopefully use the findings of this HIA to pursue grant funding, work with health professionals, and identify where policies can help merge the goals and interests of the health profession with the many stakeholders tasked with funding, building and supporting the Southwest High Point Greenway.

Monitoring. Local agencies, non-profits, and other organizations associated with this HIA will be tasked with keeping the HIA process alive into the future by performing certain, periodic support tasks. These tasks include measuring the progress of the plan and working with local health agencies to determine actual impacts of the greenway system on the health of residents. In some cases, new and unique monitoring tasks were identified through the HIA process. In others, monitoring steps were simply added on to existing efforts already on-going within area agencies.

Summary Recommendations

The HIA process is intended to provide stakeholders with a logical assessment of how the proposal will impact communities as well as to develop a series of steps useful to either mitigate potential negative impacts or accentuate determine positive impacts. These are:

- Use the health and demographic priority areas when considering where to construct the first segments of greenways.



- Recognize there is a need for High Point and its partners to construct sidewalks along major routes and connect the greenway with sidewalks and on-street bicycle facilities.
- Use the health and demographic areas to bolster programmatic features of the greenway plan such as bike clinics, safety campaigns, or promotional events.
- Continue to explore the potential of the greenway to improve access to health care, food outlets and community gardens, and affordable housing.
- Carefully consider the adjacent user groups and their characteristics when designing new segments of the greenway system.
- Ensure roadway and intersection projects in known greenway planning areas consider the HIA findings and the greenway interface when proceeding with design.
- Do not overlook the benefits of mental health and strongly consider features that provide peaceful, natural, or cultural elements which add to the quality of life experience.

What's next?

This HIA is full of ideas and concepts to improve health for area residents and the overall High Point community through greenway and related investments. Some recommendations may take years or decades to realize while others are achievable within a year or two of completion of the HIA. Below are some strategies the SW Renewal Foundation, Guilford County Health Department, the City of High Point and others can pursue upon completion of the HIA:

- **Use the HIA to pursue funding:** Rather than simply saying the greenway will improve health, that concept is now fully vetted through a process based on defining how exactly it will do that. The HIA should be used to pursue funding for the greenway and adjunct improvements. Funding sources will appreciate the deeper look at health impacts, which improves the likelihood of receiving funding in an era when competition for limited funds is as intense as ever.



Engaging the Neighborhood

The Southwest Renewal Foundation and its partners should continue to engage the neighborhood and work to refine health-based initiatives in the area as part of greenway implementation and other community efforts.



\$223 million

Total estimated health benefits of the SW High Point Greenway over 20 years

9

Deaths prevented per year (20-year average) if the SW High Point Greenway is built.

- **Engage the neighborhood.** The limited scope and schedule of this project did not afford the resources to vet the HIA and its findings comprehensively through face-to-face neighborhood interaction. The HIA can be viewed as a starting point for conducting this outreach and working with the community to determine which recommendations are most important to them.
- **Organize a Joint Steering Committee on Greenways and Health:** The HIA workshop conducted of the greenway brought new partners to the table and changed the conversation about health and greenways for High Point. Organizing a standing group to meet annually (or more frequently) to discuss progress on the greenway and identify other neighborhood-based strategies will be critical if the health impacts identified in this document are to be achieved.
- **Address racial disparities in pedestrian and bicyclist crash rates:** Data show that African Americans in High Point are disproportionately represented in pedestrian and bicyclist crashes when compared to the overall population percentage. High Point's population is 33.0% African American while nearly 50% of pedestrian crash victims and more than 62% of bicyclist crash victims are African American. The High Point community should take a more focused look at these disparities and determine how to address them. A greenway is one method to separate pedestrians and bicyclists from vehicles and reduce conflicts between the modes. Sidewalks, bike lanes, intersection design, and vehicle speed are other key factors to address.
- **Incorporate walkability and bikeability into the area's economic development and health messaging:** This HIA includes sections on the impacts to health and those tie directly to economic development as High Point looks to continue to improve quality of life for its residents. Pathways and sidewalks help create jobs and strengthen neighborhoods. They have potential for widespread health impacts and improving socioeconomic conditions.
- **Be bold:** Walking is original transportation and bicycling pre-dates automobile travel by at least 100 years. Don't shy away from that premise. Build upon that when formulating policy, approving new development and negotiating project features with the city, NCDOT and others.

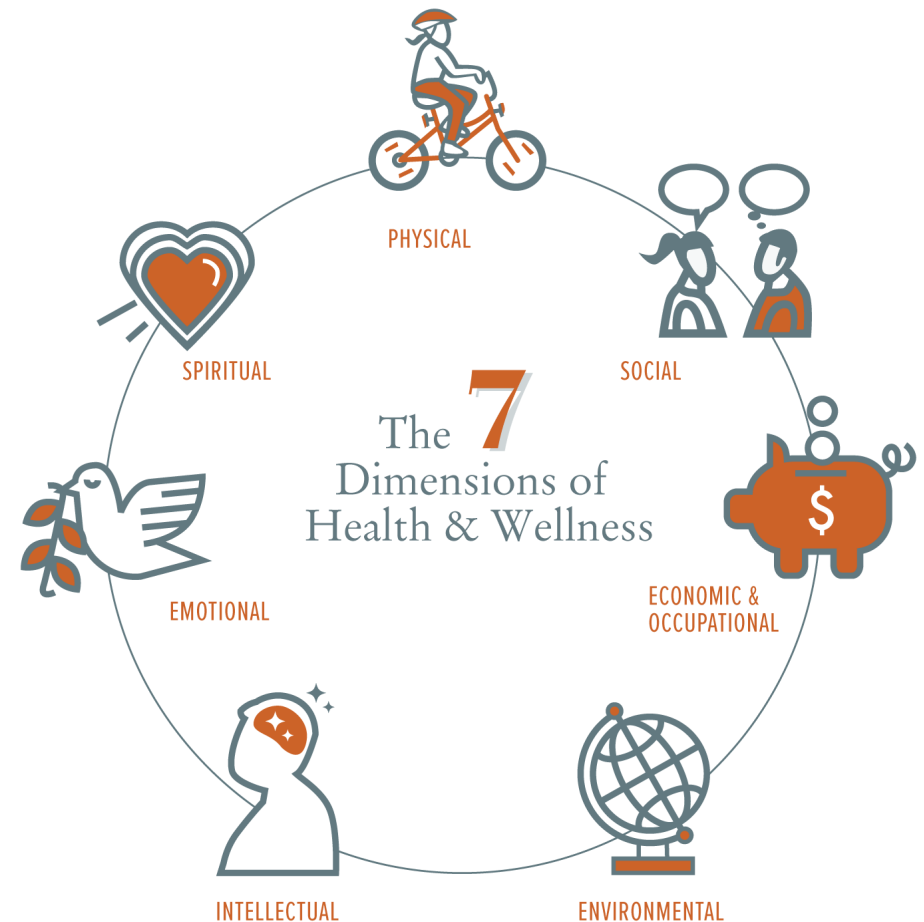


2. The 7 Dimensions of Health & Wellness

As noted in the Introduction, addressing health should be a holistic endeavor focused on the whole person and the whole community. Health is made up of many interconnected components that must all be achieved individually in order to obtain overall health.

These components can be easily organized into what is known as *The Seven Dimensions of Health and Wellness*: physical; social; economic/occupational; environmental; spiritual; emotional; and intellectual. These dimensions are interrelated and each has the ability to strongly influence the others.

The implementation of active transportation methods, specifically walking and biking, has been proven to help both individuals and communities thrive in each of these seven dimensions and ultimately achieve total health. The HIA attempted to address the impacts of the greenway through the lens of the seven dimensions, recognizing that some dimensions are and will continue to be more applicable than others.



New ideas and themes emerge when examining active transportation facilities, such as greenways, through the lens of the 7 Dimensions of Health and Wellness.



Physical Health & Wellness

The ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress. The ability to recognize that our behaviors have a significant impact on our wellness and adopting healthful habits while avoiding destructive habits will lead to optimal Physical Wellness.

Physical Health

Perhaps the most obvious benefit of practicing active transportation is its positive effects on our physical health. There is extensive evidence that supports the benefits of regular physical activity on many parts of the body. To help prevent the millions of annual deaths related to physical inactivity, the Surgeon General recent Call to Action showcases the need to walk so adults get at least 150 minutes of moderate physical activity per week, and youth get at least one hour every day. Using active transportation methods is an excellent way to reach these recommendations. Both walking and biking can be easily and affordably practiced, and each has been proven to have wonderful benefits for physical health.

Walking is a particularly accessible form of physical activity: it is low impact, appropriate for all age-groups, and free! Regular walking has been shown to benefit physical health in many ways including: increasing energy levels; improving sleep quality; improving blood pressure; decreasing the risk of heart disease and some cancers; strengthening muscles and immune systems; preventing weight gain; and much more. Just 30 minutes of moderate walking per day five days a week can help ensure a longer, healthier and happier life. And some studies show that just one hour of walking may increase your life expectancy by two hours.

Biking is another low-impact and easy way to improve physical health that can be enjoyed by people of all ages. It gives your heart, blood vessels and lungs a good workout. It has even been shown to be lower-impact and more beneficial than walking. The physical health benefits of regular bicycling include: increased cardiovascular fitness; increased strength and flexibility; improved joint mobility; improved posture and coordination; and decreased body fat. It is also one of the best ways to reduce the risk of health problems such as stroke, heart disease, some cancers, diabetes and arthritis.

Social Health

A growing number of researchers agree that people who are regularly socially engaged with others and actively involved in their communities tend to live



longer and be healthier both physically and mentally. Research also shows that regular physical activity, including walking and biking, can have positive effects on the social health of individuals and their communities as a whole.

Walking and biking are sociable activities that can help create a feeling of shared sense of community among residents. By getting people out of their cars and private homes and into public spaces, both activities make it very easy to stop and chat or simply say 'hello' to fellow pedestrians and bicyclists, resulting in an overall friendlier community. There is even a classic American study that found that people who live in walkable areas with less traffic statistically have more friends than those who live in areas with heavy traffic.

Areas with high walkability, and therefore a stronger communal sense of ownership, also have less crime since there are more "eyes on the street" to deter criminals. Pedestrian and bike-friendly areas are also safer for children to live and play in.

Walking and biking also close social gaps in communities. Since both activities are affordable, low-impact, easy to do and easily accessible, very few members of any community are excluded from their benefits. Walking and biking provide mobility to members of the community who may otherwise not have access to a private vehicle, including those who are unemployed, low income earners, seniors or too young to have a drivers license.

Economic Health

Walking and biking can have positive effects on a persons' occupational health, their personal economic health and a community's economic health.

Along with the popularization of active transportation methods comes the development of pedestrian and bike-friendly neighborhoods. These neighborhoods are gaining popularity, largely due to retiring baby boomers and the flourishing "back to the city" movement of today's young adults, and therefore are becoming more valuable and stimulating economies all over the world through increased property values, job creation, local spending, and tourist spending. Since these neighborhoods are also generally safer, communities can also save money that they would normally spend on crime preven-



Social Health & Wellness

The ability to relate to and connect with other people in our world. Our ability to establish and maintain positive relationships with family, friends and co-workers contributes to our Social Wellness.



Economic Health & Wellness

The ability to get personal fulfillment from our jobs or our chosen career fields while still maintaining balance in our lives. Our desire to contribute in our careers to make a positive impact on the organizations we work in and to society as a whole.





Environmental Health & Wellness

The ability to recognize our own responsibility for the quality of the air, the water and the land that surrounds us. The ability to make a positive impact on the quality of our environment, be it our homes, our communities or our planet.



tion and public safety.

With more people improving their health by walking and biking more often, communities can save incredible amounts of money on healthcare costs alone. According to the American Public Health Administration, physical inactivity costs an estimated \$177 billion a year in healthcare costs.

Individuals can also financially benefit from walking and biking instead of driving. Physically active people save an average of five hundred dollars per year on healthcare costs. Plus, they can save considerably on transportation costs when they don't have to fuel up or maintain their car as often.

In the workplace, a person's desire to contribute in their career, impacts the organizations they work in and society as a whole. Regular physical activity, such as walking and biking, can improve an employee's attitude and work ethic and increase their motivation and productivity. People who walk or bike regularly are overall mentally and physically healthier, and therefore enjoy their jobs more and work more efficiently, contributing to an overall increase in occupational health.

Environmental Health

By opting for active transportation methods rather than driving in private automobiles we can improve our environmental health. Walking and biking are both pollution-free modes of transportation. The reduced use of cars means a reduction in air pollution (through the reduction of carbon emissions), noise pollution and water pollution. Not to mention a reduction in the use of fossil fuels. Walking is also an efficient use of space. Over 20 times as many people can travel in the same space when walking as in a car. Regularly choosing to walk or bike instead of driving can significantly reduce an individuals' ecological footprint, preserving some of our earth's precious resources.

Because walking and biking must be done outdoors, pedestrians and cyclists often acquire a greater appreciation for being in contact with nature than people who may not get outside as often. This also makes them more likely to recognize and accept their personal effects on the quality of the environment. Therefore, they and communities who embrace active transportation will work

harder to make sure that the natural environment and its' resources are protected and preserved.

Spiritual Health

The act of walking or biking can help improve the spiritual health of individuals – mainly through allowing them to take some time to reconnect with nature and with themselves. The spiritual benefits of being outdoors are well documented.

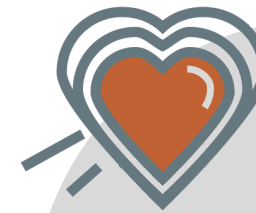
Relaxing recreational activities, such as taking a quiet and serene walk in nature, have been linked to spiritual wellness. For many people, natural environments have a great spiritual meaning and represent a strong sense of place, typically associated with memories of special times spent outdoors. Recreation, including walking and biking, can strengthen a person's identity and help them define who they are by allowing them to be themselves and express their personality – a very important aspect of spiritual health.

Walking and/or biking provides an opportunity to clear one's mind and gain new perspective. Even in not so natural environments, like a busy bike trail or sidewalk through a city center, bicyclists and pedestrians can improve their spiritual health by strengthening their awareness of their surroundings and their innermost feelings. And because walking and biking are not connected to any one belief system, they embrace everyone's notions of spirituality.

Emotional Health

Physical activity has also been proven to benefit the emotional and mental well-being of individuals. In the simplest explanation, healthier people are just plain happier. People who exercise regularly experience many benefits that may not ordinarily be associated with physical activity.

Research shows that exercising regularly can reduce the symptoms of stress, anxiety and even depression. These benefits may be directly related to the fact that exercise results in higher self-esteem, increased energy levels and improved sleeping habits – all of which result in improvements in mood and overall happiness.



Spiritual Health & Wellness

The ability to establish peace and harmony in our lives. The ability to develop congruency between values and actions and to realize a common purpose that binds creation together.



Emotional Health & Wellness

The ability to understand ourselves and cope with the challenges life can bring. The ability to acknowledge and share feelings of anger, fear, sadness or stress; hope, love, joy and happiness in a productive manner.





Intellectual Health & Wellness

The ability to open our minds to new ideas and experiences that can be applied to personal decisions, group interaction and community betterment. The desire to learn new concepts, improve skills and seek challenges in pursuit of lifelong learning)



A national telephone survey of 1,300 households showed that Americans identify “relaxation and peace” (stress reduction) as the 2nd most prevalent benefit they experience from physical exercise (second to physical health).

Through another study, the National Institute of Mental Health deemed that exercise was emotionally beneficial for people of all ages. Through routine exercise the study participants increased their physical fitness, which improved their overall self-esteem. They felt better about themselves and developed a more optimistic and energetic frame of mind.

Exercise is proven to improve cognitive performance in mental processes such as thinking, understanding and remembering. Walking specifically has been shown to reduce the decline of cognitive performance among the elderly.

Walking and biking have also been shown to help promote a good night's sleep – an essential element of maintaining good emotional health – more effectively than many other popular physical activities including tennis, basketball, skiing, pickle ball and golf.

Intellectual Health

Walking and biking have been associated with better cognitive performance by children at school. The activities have also been linked to improving the cognitive functions of adults, and decreasing the rate of cognitive decline among the elderly. This is all partly related to some microbiological effects of exercise on the brain, as many researchers believe. But perhaps it may also have something to do with the simple fact that regularly getting outside to take a walk or ride a bike helps people open their minds. It gives people a chance to slow down and step away from their stress, their to-do lists, and their TV's and clear their mind so they can think about things they don't normally get an opportunity to. By clearing their minds, people become more open to new ideas and opportunities, and may be more likely to choose to embrace them, leading to a lifetime of pursued learning.

For some, the physical act of regular walking or biking may improve their intellectual health simply through the challenge of making it a part of their regular daily activity. For example, if an older adult wants to start walking one mile eve-

ry day in order to ensure a healthier and longer life for him/herself it will take discipline, focus, and strength to achieve that goal – all qualities that are necessary for strong intellectual health.

Research Used for this Chapter

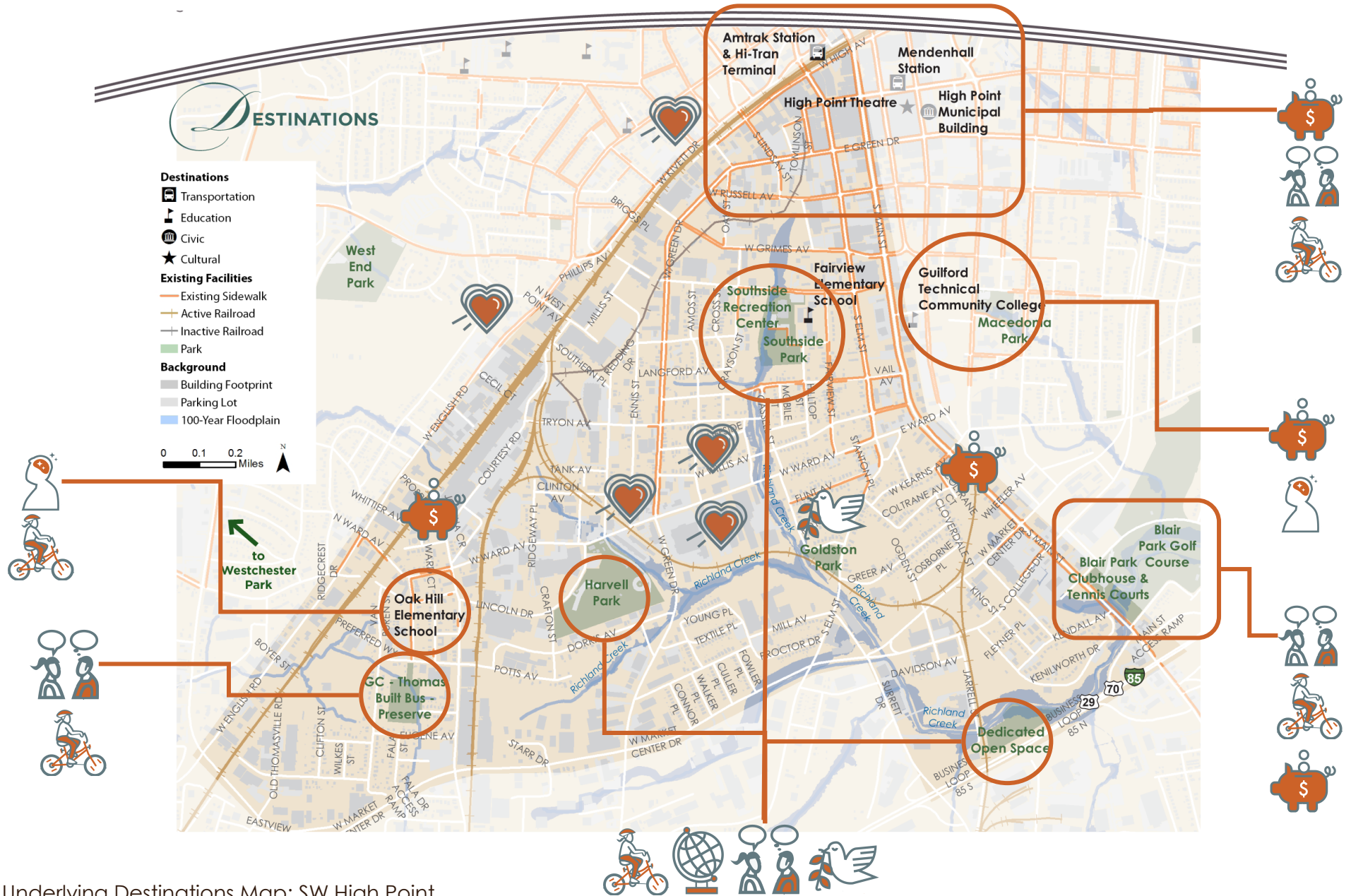
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Southwest High Point Greenway: Health Impact Assessment

Exhibit 2-1: The 7 Dimensions and Destinations in the Southwest High Point Greenway Area

Destinations in the Southwest Area that Embody the 7 Dimensions of Health & Wellness



Underlying Destinations Map: SW High Point Greenway Feasibility Study, Alta Planning + Design

3. Area Demographics & Health Indicators

The Guilford County 2012-2013 Community Health Assessment (CHA) acknowledges the “leading causes of mortality and years of potential life lost in Guilford County are chronic diseases, especially cancer and heart disease.” Chronic diseases, as noted by the Guilford County Health Department “are not typically amenable to straightforward medical ‘cures’ and are thus considered ‘chronic.’” About two-thirds of all deaths in Guilford County are due to chronic diseases.

Our planning-related policies and infrastructures investments have yet to catch up to this reality. Our policy and investment paradigms are based largely on health conditions that were prevalent more than 100 years ago, mainly communicable diseases. Communicable disease outbreaks led to better sanitation and construction policies. Those policies proved to be life-saving.

Now we are faced with the challenge in addressing chronic diseases. Greenways are one powerful way to do that. And they save lives!

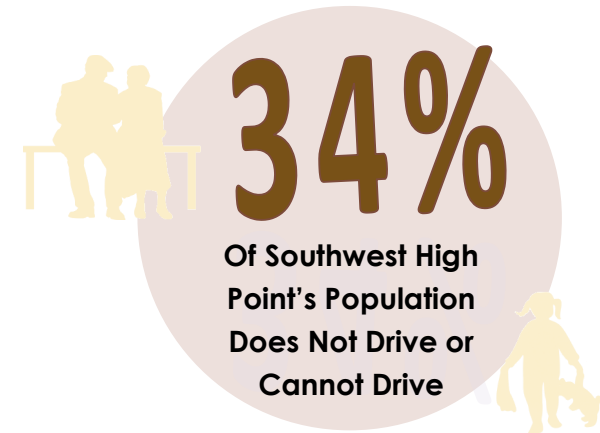
The factors highlighted in this chapter are some of the prevailing local conditions with regard to community health and are those factors identified as a high priority. They also indicate those conditions that could be influenced in a positive way by the Southwest High Point Greenway.

The factors listed here are from the CHA or the associated Community Health Needs Assessment conducted by High Point Regional Health in conjunction with the Guilford County Health Department.

Demographics

It is important to examine a community's demographics as part of evaluating walking, bicycling and health because demographic information provides valuable clues about travel behavior, preferences and can identify potential health-related concerns as they relate to the socioeconomic conditions in which someone is raised and/or lives.

Characteristics such as age, income, vehicle ownership, and commute time can suggest a population's potential for walking as a mode of transportation.

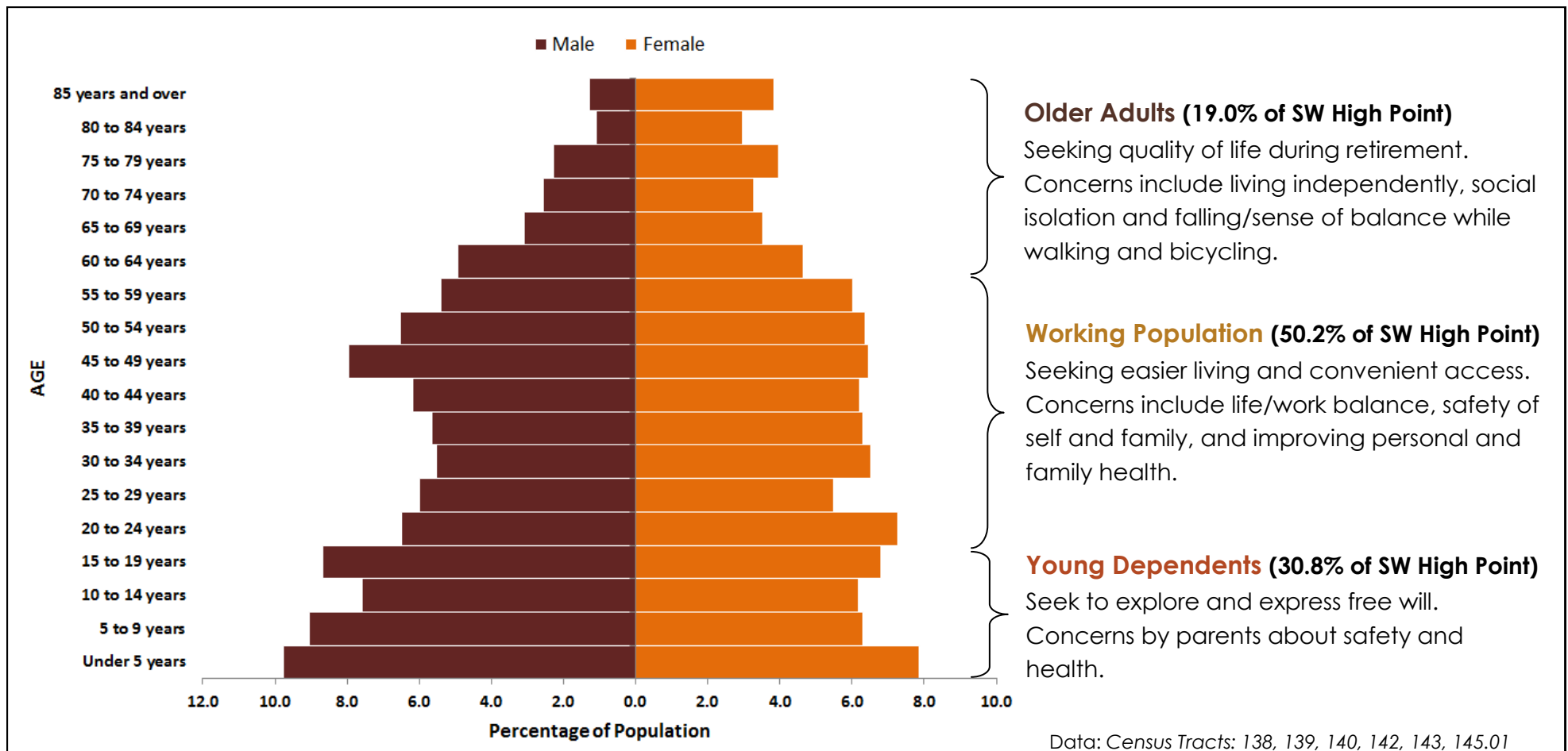


Southwest High Point Greenway: Health Impact Assessment

This section provides a summary of the demographic analysis for High Point and explains the implications of the analysis for the recommendations made in this HIA. The Census data summarized in this section relates to age groups and commute mode share.

According to 2010 U.S. Census data, the age characteristics of High Point, based on age groups of Older Adults, Working Population and Youth, indicate a high population of youth and younger adults (Exhibit 3-1). The Older Adults population cohort comprises roughly 19% of Southwest High Point's overall population compared to 18.4% of the state's population and 17% of

Exhibit 3-1: Population Pyramid for High Point & Age Cohort Characteristics Related to Walking & Bicycling



High Point's in this age group.

The working population of SW High Point is 50.2%, lower than High Point's 54.2% and North Carolina's proportion at 54.8%. Based on the distribution of the population by age, approximately 34% of Southwest High Point's population does not drive or cannot drive.

The youth percentage for High Point is 28.7%. rating slightly higher for this age group when compared to 26.8% of North Carolina's population that is aged 19 years and younger.

Commute mode share data for High Point indicate that approximately 1.7% of the population takes transit, walks or bikes to and from work. Nearly 10% of High Point households have no vehicle available for use; 38.9% of households have one vehicle.

The Census does not collect non-work trip data, which is where most walking and bicycling trips are taken. Further, Census data indicates only 66% of High Point residents of working age (16 and older) are in the work force, which means even fewer walking and bike trips are accounted for in the data.

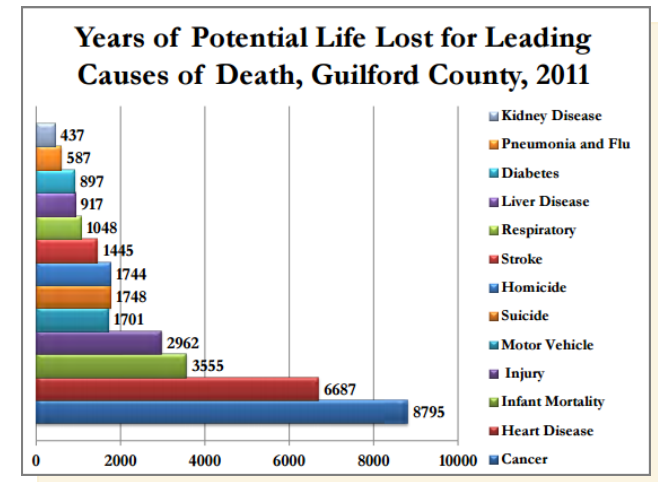
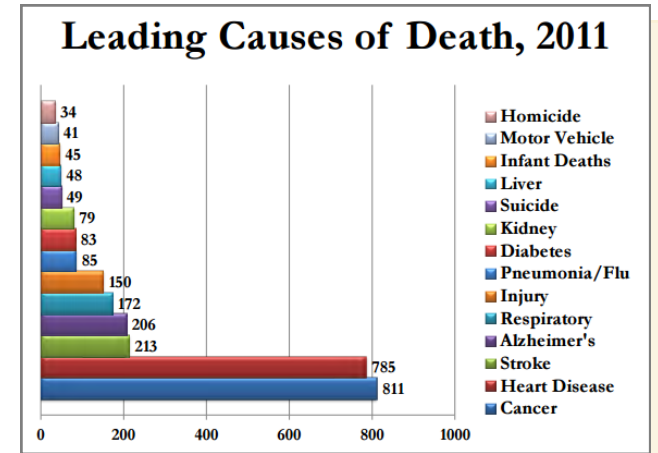
Leading Causes of Death

The leading causes of death in Guilford County as identified in the Community Health Assessment are cancer, heart disease, and stroke (Exhibit 3-2) With a strong relationship between cardiovascular conditions and these leading causes of death, there is an opportunity to limit or even prevent such conditions through improved diet and exercise that can be associated with walking or riding a bicycle. The estimated years of potential loss of life for leading causes of death annually in Guilford County are 8,795 years for cancer and 6,687 years for heart disease.

Overweight and Obesity

Overweight and obesity are important risk factors for chronic disease. The Community Health Assessment notes that "being overweight or obese increases the risk for coronary heart disease, type 2 diabetes, cancer, hyper-

Exhibit 3-2: Leading Causes of Death, Guilford Co.



Source: Guilford County 2012-2013 Community Health Assessment



Southwest High Point Greenway: Health Impact Assessment

tension, stroke, and liver disease, as well as other conditions such as sleep apnea, respiratory problems, and osteoarthritis." Within Guilford County there are several disparities in physical activity, with those 45 and older more likely than younger people not to engage in leisure-time physical activity. Those with a high school education or less and those with less than a \$50,000 household income are also more likely to get less exercise. Exhibits 3-3 and 3-4 illustrate how the Southwest Area Heart Disease and Diabetes Mortality Rates compare to other High Point Census Tracts. The Southwest Area is Census Tract number 143.00 and outlined in blue.

The CHA notes focus group participants highlighted a lack of safe places to work or exercise within or near their communities. Other transportation barriers were also identified as a contributing factor to people doing less exercise outside of their neighborhoods.

Exhibit 3-3: Area Heart Disease Mortality Rates (SW Area outlined)

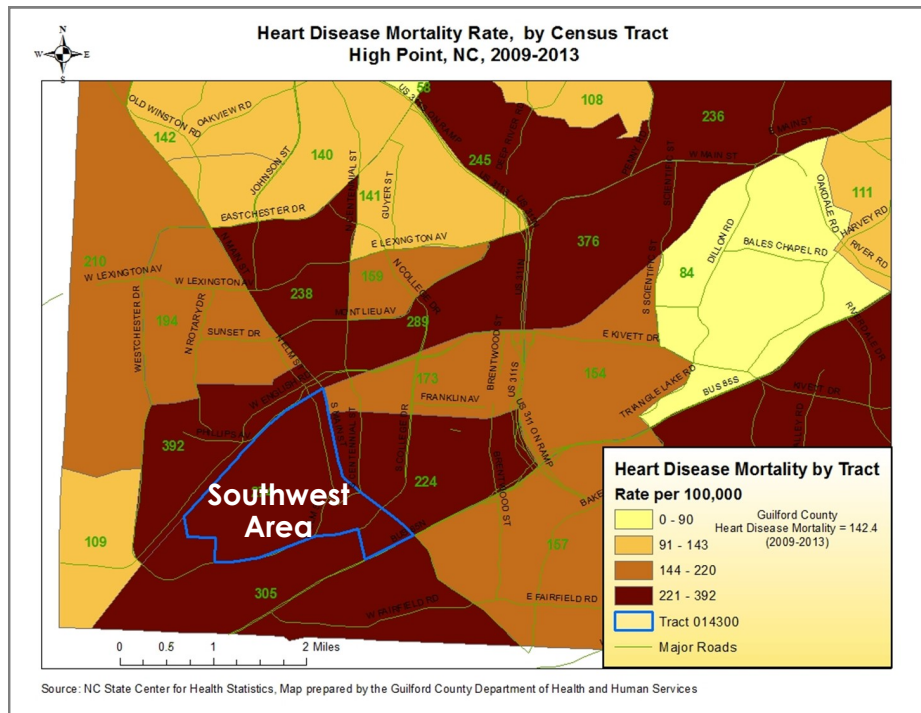
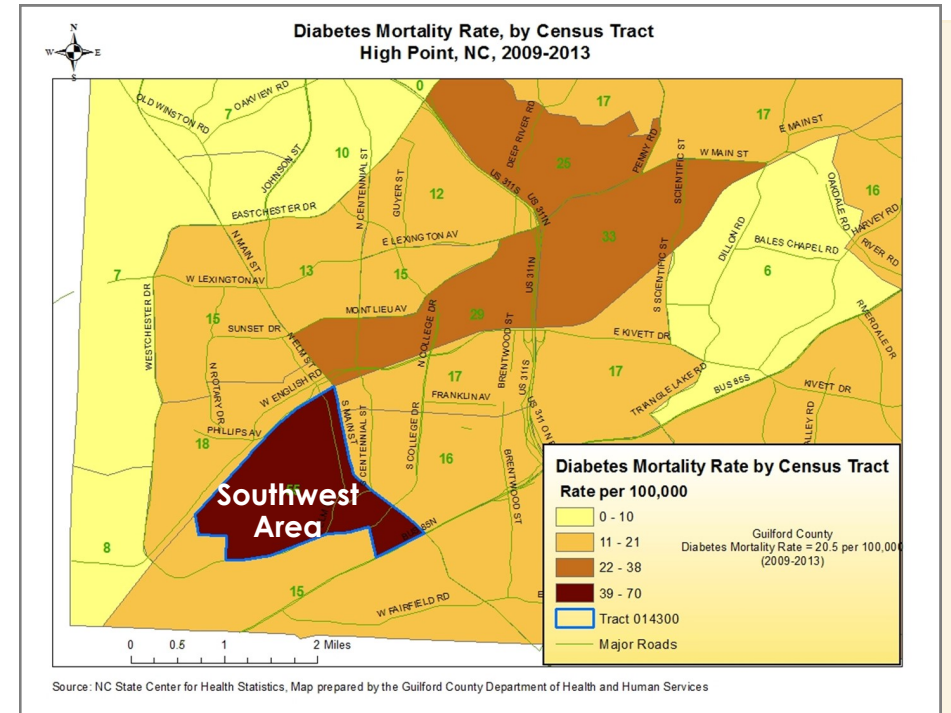


Exhibit 3-4: Area Diabetes Mortality Rates



Motor Vehicle Deaths

Motor vehicle deaths are estimated to result in 1,701 years of potential loss of life each year in Guilford County. This is the fifth highest cause of potential loss of life yet is one of the lowest causes of death in the county. This indicates that motor vehicle-related deaths disproportionately affect youth and young adults—a factor that can be addressed, in part, with safer streets and improved facilities for walking and bicycling. High Point averaged 18 motor vehicle crash deaths per year from 2011 through 2014, with 23 fatalities occurring in 2014 out of 8,761 total crashes. More than 32% of those crashes (2,859) resulted in some type of injury.

Pedestrian & Bicyclist Crashes. Greenways provide a facility where people who walk and bike can be separated from vehicular traffic for much of their journey (except where greenways cross streets and highways). Fewer conflicts leads to less likelihood of being in a crash or being killed by a motorist. From 1997 through 2012 High Point had a total of 606 pedestrian crashes and 245 bicyclist crashes. There were 22 pedestrian fatalities and two bicyclist fatalities during that timeframe. Exhibit 3-4 summarizes key findings from the crash data compiled by NCDOT.

Of notable concern is the percentage of African Americans who are victims of pedestrian and bicyclist crashes. High Point's population is 33.0% African American while nearly 50% of pedestrian crash victims and more than 62% of bicyclist crash victims are African American. This discrepancy in proportionality should be of concern to local officials and neighborhood representatives.

Youth less than 15 years of age are disproportionately represented in bicyclist crashes, comprising 35.5% of bicyclist crash victims compared to youth being 19.7% of High Point's population.

Access to Healthy Food

Guilford County has over 45,000 residents who live more than one mile from a supermarket and live in a census tract with more than 20% living below the

Exhibit 3-4: Pedestrian & Bicyclist Crashes in High Point

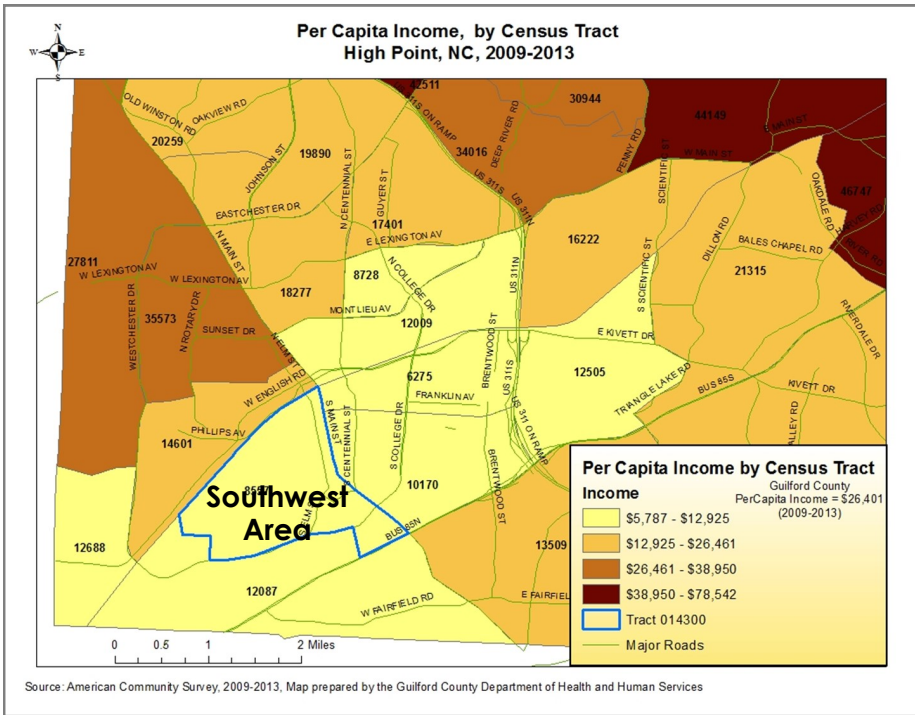
Data	Pedestrians	Bicyclists	Total
Crashes	606	245	851
Fatalities	22	2	24
% Crashes Age 0-15	18.4%	34.5%	23.3%
% Crashes Age 61+	11.3%	4.4%	9.4%
% Crash Victims African-American	49.8%	62.4%	53.4%
% Crash Victims Hispanic	1.8%	0.8%	1.5%

Source: NCDOT Bicycle & Pedestrian Crash Data Tool (Years 1997 through 2012)



poverty level. The 24 food desert census tracts are concentrated in high minority areas of central High Point. The CHA noted there is a lot of interest among low income, minority and immigrant/refugee residents in planting gardens. There is a need for more community gardens for immigrants and refugees.

Exhibit 3-5: Area Per Capita Income



Mental Health

The Community Health Needs Assessment identified the need for a better support system for mental health patients post-hospitalization. Greenways can provide a space for respite as well as a place for mental health agencies and services to work with clients to improve their mental health.

Poverty Status

Based on information from the U.S. Census Bureau's 2005-2009 American Community Survey (ACS), 2000 census tract 143.00 shown on the map at left had 1,776 people, or 51.6% of the total population, with income below the poverty level. The census tract is the lowest level for which poverty status information is available and 143.00 is the one that most closely matches the project area.

While current data from the ACS is only available by 2000 census tract, data being released this fall will be available by 2010 census tract. Because ACS data is based on a sample, the number of people living below the poverty level is subject to a margin of error of +/- 355. This equates to a percentage of between 41.3% and 61.9%.



4. Health Impacts of the SW High Point Greenway

Through scoping of the HIA it was determined that the best way to assess the health impacts of the Southwest High Point Greenway would be to combine existing research on greenway impacts with a facilitated workshop attended by High Point area stakeholders. This method allowed for health impacts to be determined given the resources the rapid HIA allows through balancing what we know from research with what local stakeholder claim or desire with regard to long-term health outcomes.

Specific health impact claims were vetted using academic or medical research and are contained within this section. Claims were assessed for the probability of impact, the breadth of the impact and the documented impacts from similar proposals. Additionally, a logic model, common when attempting to connect a proposed policy, program, or plan to the actual health impacts of affected residents was created.

The logic framework was crafted first hand at the stakeholder meeting so that participants could better understand how a greenway would eventually link to human health impacts.

This is not intended to be a comprehensive or exhaustive listing of health impacts given the time and resource constraints of a rapid HIA. It is intended to reflect the major health impacts. More specific impacts may be determined once the greenway is constructed and use of the greenway is known.

Feasibility Study Goals

The Feasibility Study identified several goals and objectives to guide the greenway and align study findings with the vision statement. Exhibit 4-1 illustrates these goals and objectives and contains identifiers based on the likelihood each has for improving health. It also illustrates how goals other than those that specifically reference health can have an impact on health.

The purpose of identifying and reviewing these goals is to determine how the greenway recommendations and outcomes can help advance the mission of the greenway along with other overarching community goals.



Health Impact: Stakeholder Input + Research

The assessment phase of the HIA is the most meaningful element of the process and combines input and claims about likely health impacts from stakeholders with evidence-based research on the health impacts of greenways.



Southwest High Point Greenway: Health Impact Assessment

Exhibit 4-1: Feasibility Study Goals and Likely Impacts on Health if Achieved

Feasibility Study Goals	Evidence of Improving Health	Primary Dimensions of Health	Potential Health Impacts
<p>Goal #1: Preserve and Enhance Green Space</p> <ul style="list-style-type: none"> • Use the trail corridor alignment to link the several parks, open space preserves, and stream corridors in the Southwest. • Beautify the areas along and near the trail corridor to enhance the natural environment of the Southwest area. 	Strong	<p>Physical Environmental Social Emotional Spiritual</p>	<p>Linking the greenway to green space increases opportunities of use, which promotes behavioral change. People are connected at a personal level with their community, neighbors and the environment.</p>
<p>Goal #2: Promote Economic Development and Revitalization</p> <ul style="list-style-type: none"> • Leverage the greenway as an asset to attract and retain businesses and a young, talented workforce. • Advertise the greenway to the 160,000+ visitors per year to encourage more and longer visits to High Point. • Build a critical mass of support for the greenway with the participation of local businesses and community members. • Encourage urban infill development near the trail and throughout the Southwest 	Moderate	<p>Physical Economic Intellectual</p>	<p>Using the greenway as an economic development tool can bring jobs and healthcare services to the area. It can provide for upward social mobility for area residents and improve educational opportunities.</p>
<p>Goal #3: Provide Opportunities for Better Health and Quality of Life</p> <ul style="list-style-type: none"> • Improve the walkability of the Southwest to offer opportunities to exercise, socialize, recreate, and enjoy the outdoors. • Support the needs of the local community with connections to neighborhoods, local amenities, and employment opportunities. 	Strong	<p>Physical Social Emotional</p>	<p>Increased physical activity will result from the greenway, as will engagement by community members with one another, their neighborhood and their city. The more comfortable people become walking and bicycling, the more likely they will be to make it a part of their daily lives.</p>

Exhibit 4-1, continued: Feasibility Study Goals and Likely Impacts on Health if Achieved

Feasibility Study Goals	Evidence of Improving Health	Primary Dimensions of Health	Potential Health Impacts
<p>Goal #4: Offer Safe Places to Walk and Bike for Transportation and Recreation</p> <ul style="list-style-type: none"> • Develop the trail with connections to existing and planned greenways, sidewalks, and on-road bicycle facilities within High Point. • Take advantage of abandoned and under-utilized transportation infrastructure, including railroad beds, roadways, and sidewalks, to complete the trail and provide access to surrounding areas. 	<p>Strong</p>	<p>Physical Environmental Emotional Economic</p>	<p>Addressing safety or the perception of unsafe conditions creates more eyes on the trail. Everyone, but particularly youth and seniors, are more likely to use the greenway if it is safe and perceived to be safe.</p>
<p>Goal #5: Brand the Southwest’s Rich Natural and Cultural Heritage</p> <ul style="list-style-type: none"> • Promote historic preservation and interpretive areas along the greenway. • Develop unique branding along the trail and within the Southwest area to highlight historic properties, points of interest, local history, and events. • Offer trail events and opportunities to observe and appreciate furniture making, local art, and other cultural attractions. 	<p>Limited</p>	<p>Social Economic Intellectual</p>	<p>Creating an identity for the trail and telling a story along the trail promotes community cohesion that improves social interaction and promote history, culture and awareness of place.</p>
<p>Goal #6: Link Neighborhoods and Key Destinations</p> <ul style="list-style-type: none"> • Provide trail connections to the Southwest’s 5 neighborhoods: West High Street, Southside, Highland Mill Village, Oak Hill, and Cloverdale. • Provide connections to the Southwest’s key destinations, including parks, open space preserves, schools, community centers, transit centers, streams and creeks, shopping areas, and employment centers. 	<p>Strong</p>	<p>Physical Environmental Social Emotional Intellectual Spiritual</p>	<p>Linking the greenway to other destinations increases opportunities of use, which promotes behavioral change. People are connected at a personal level with their community, neighbors and institutions.</p>

- Healthy Food Access
- Commercial and Healthcare Uses
- Housing
- Community and Public Uses/Spaces

In each station, participants identified existing resources that are associated with each theme. Then, they identified potential opportunities, as a result of the greenway, related to those themes.

Healthy Food Access

Eating a healthy diet reduces the risk of chronic diseases, such as heart disease, obesity, and diabetes. However, the environment can influence the ability to engage in healthy behaviors. Without accessible, convenient places, it may be difficult to eat healthy regularly. Greenways provide opportunities to connect users to places where healthy food choices are available.

The proposed High Point Greenway provides potential access to community gardens and cooperatives, such as those at Fairview Elementary and Oak Hill Elementary schools. In addition, there is the grocery store, Food Lion on Westchester Drive that is within a mile of the proposed greenway.

Participants shared other strategies for bringing healthy food opportunities along the greenway. These strategies can improve food access, especially in areas located in food deserts.

Edible Landscapes. The aesthetics of a greenway may not be limited to just shrubs, flowers and trees. Participants suggested to have low-maintenance edible landscapes as an opportunity to bring fresh foods to users of the greenway. Not only does it provide the beautiful aesthetics for the greenway, but also easy-to-pick to fresh foods.

Transforming Vacant Lots to Community Gardens. Participants recommended transforming the existing abandoned and vacant properties into community gardens. This strategy has been done in many communities throughout the country. Not only does it increase the availability of fresh foods in the communi-

Elementary school garden in Guilford County



Example of an Edible Landscape



Examples of low/moderate income and specialty housing and along the Atlanta Beltline.



ty, but it provides an opportunity for social connectedness. Neighbors residing along the greenway can form groups to maintain gardens.

Markets on the Greenway. With local visitors using the greenway, participants suggested having fresh markets available, such as a farmers' market. This can include market stands opened weekly or a cooperative market, bringing together multiple producers. Markets along greenways attract both residents and visitors.

Housing

Greenways built along and connected to residential neighborhoods increases the utilization of the greenways, especially if the greenway is linked to other uses. Greenways that path along and connect diverse housing helps improve equity by users of all income level, ability and age to utilize the greenway to get to goods and services as well as for recreation. In addition, property values are known to increase when located along greenways.

Senior Housing. Physical activity is recommended for all ages, including an aging population. Greenways located along senior housing provides opportunities for physical activity for all users, including those with mobility impairments, such as wheelchair users.

Participants suggested that when a greenway connects to residential neighborhoods, residents are likely to use it, especially when connected to other uses (schools, food retail and commercial). Participants identified potential housing opportunities that could be located along the greenway. To improve health and social equity, the greenway can be accessible for users of all-income levels when located through and along mixed-income residential neighborhoods

Healthcare and Commercial Uses

Participants explained that healthcare facilities and clinics are limited and not currently available along the proposed greenway. Access to healthcare is recognized as a priority health issue in the area. As a type of employer, healthcare practices and other commercial uses are attracted to locate in areas that are walkable, including greenways.



Healthcare Access. Participants expressed the need for more healthcare and dental clinics in the area and felt the opportunity exists for future healthcare providers to locate along the proposed greenway.

Commercial Uses. Participants recognized the economic development potential with the proposed greenway. There are currently large manufacturers in and around High Point. Participants suggested the greenway would be an attractor to businesses, including food outlets or grocers and corporations.

Community/Public Uses and Spaces

Greenways have the opportunity to bring a sense of community and promote social connectedness. Greenways that connect to schools encourage students to walk or bike. Greenways provide a venue for art and culture. This opportunity of social cohesion improves the perception of safety and mental wellbeing.

Open Space and Parks. Participants identified parks and open space opportunities connected by the proposed greenway. The spaces can be used for public events, such as cultural/heritage festivals. Parks also provide an opportunity for active recreation and socialization.

Art Center. Participants suggested that the greenway can showcase visual arts. Sculptures and graffiti art exposes visitors to art styles that attracts users and improves aesthetics of the greenway.

Safe Routes to School. Earlier, participants mentioned opportunities for the proposed greenway connecting to school gardens. While this was a way to increase access healthy food access, greenways connecting to schools provide a safe route for students to walk or bike to school.

Physical & Perceived Barriers

The greenway will assuredly address many existing barriers to active transportation and community navigation within Southwest High Point. Background research indicates there are several factors related to barrier effect—both real and perceived—that the greenway can help overcome beyond the basic connectivity it will provide.



Rappahannock Canal Walk linking to Mary Washington Hospital in Virginia





Who Let the Dogs Out?

Loose dogs are a common occurrence on greenways and are oftentimes cited as a deterrent to walking and bicycling.

Exhibit 4-2 represents an evaluation of a variety of built environment factors in the general vicinity of the greenway that can influence health outcomes of the greenway based on the proximity and magnitude of these factors. Understanding these influences helps address real and perceived barriers to greenway use.

Safety: The concerns with safety have to do with traffic and roadway safety such as vehicle conflicts, narrow roadways and a lack of driver awareness for pedestrian and bicyclists as well as safe riding and walking skills.

- **Greenway Impacts:** Separate walking and bicycling activities from streets and provide lighting, signage, education reinforcement for greenway users and motorists. Street crossings or street access points to the greenway are locations where conflict occurs with motorists.

Convenience: Another common barrier is facility convenience, including proximity of facilities to residential, park and school areas as well as convenience of riding or walking on those roads viewed as being most ripe for increased greenway usage.

- **Greenway Impacts:** Build connecting sidewalks and bikeways to places that provide maximum exposure to the population clusters; place bike racks and other features near high use areas.

Dog Control: Concerns over loose or intimidating dogs can be a barrier to increased and safe walking and bicycling as well as an overall deterrent, especially to the youth and seniors in the community.

- **Greenway Impacts:** Education and awareness campaigns, enforcement of city code.

Communication: Due to occasional air quality degradation events, communication with the public ensuring that walking and bicycling is done in a safer manner could be a possible barrier and detract from the health goals of local agencies.

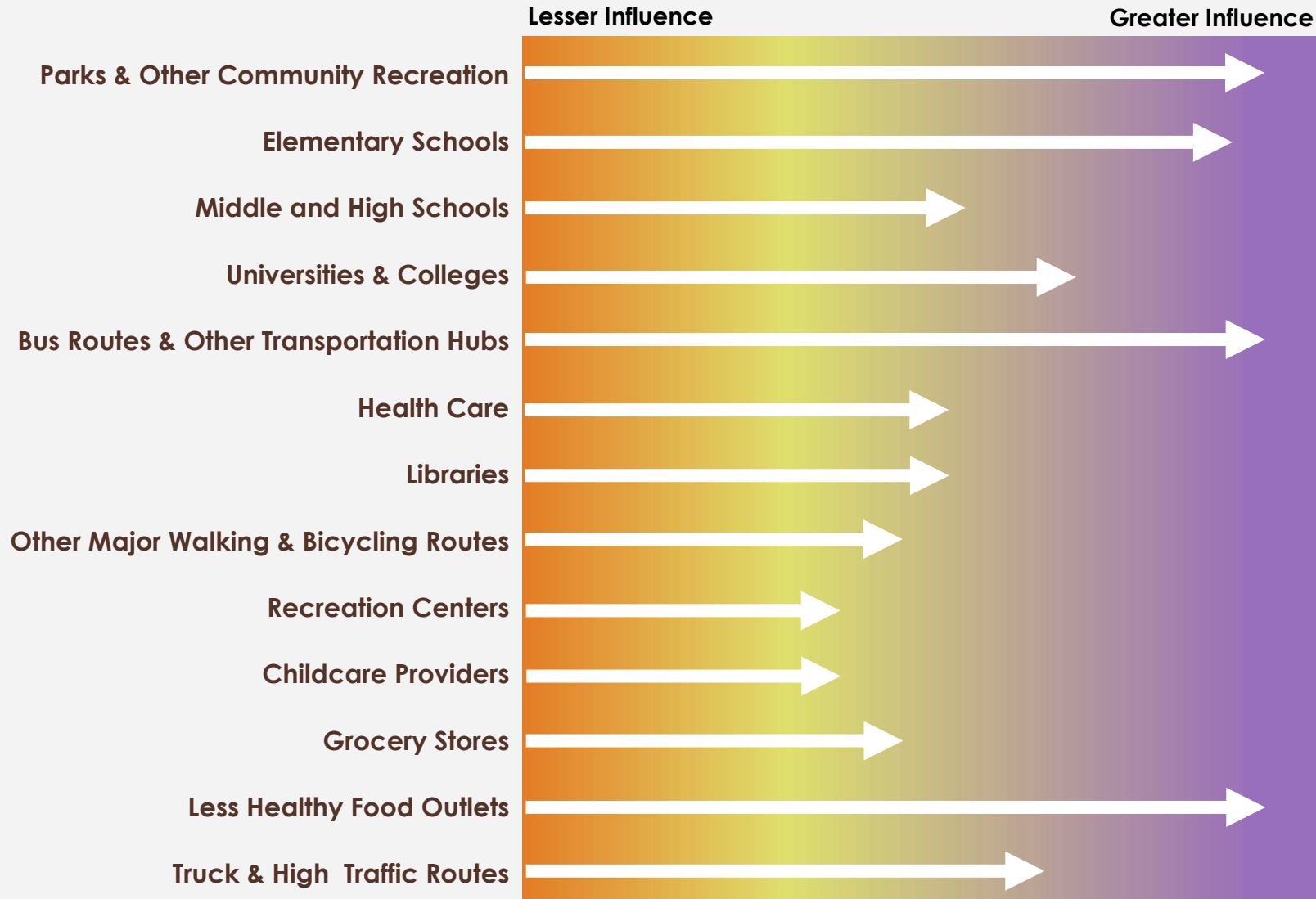
- **Greenway Impacts:** Signage, add-on to general bicycling education, additional social media and website communication.



Exhibit 4-2: Proximity of the SW High Point Greenway to Built Environment Influences

Proximity Factors

HIA participants and the consultant team identified a series of built environment influences on the health of the population as it relates to likely greenway users. The proximity of these features will impact the influence they have on greenway users. Some influences, such as proximity to parks are very positive, while proximity to things such as truck routes may have negative influences. The degree of influence noted below is based on both distance and number of features near the proposed greenway.



If we build it...

↳ People are healthier

A **Logic Framework** (Exhibit 4-X), or pathway diagrams is used in the public health practice to describe how environmental and social conditions as well as risk and resilience factors influence health outcomes. This approach describes effects directly related to the proposal (building a greenway) and traces them to health determinants (such as air quality) and to health outcomes (such as asthma).

These are used to support the design of public health research as well as considering potential interventions.

Health Outcomes

Two assessment methods were the focus of the final determination of likely health impacts of the Southwest High Point Greenway. Using input from the stakeholders workshop in combination with other similar HIAs on greenways, a logic model or logic framework was developed. Additionally, the consultants employed the Health Economic Assessment Tool (HEAT) to monetize the likely health impacts of the greenway based on local conditions.

Logic Framework

Based on input from workshops and analysis of research, it was determined that integrating other goals and outcomes with the greenway would be the best method to optimize opportunities for long-range health impacts resulting from construction of the Southwest High Point Greenway (Exhibit 4-3).

To further evaluate the likely impacts, the HIA process led to a Logic Framework, also known as causal models or pathway diagrams. The Logic Framework is a method to map the many pathways by which health effects may occur resulting from a proposed action (construction of the greenway and adjunct uses and connections, in this case). Pathway diagrams may be thought of as plausible scenarios for what may happen to population health if particular decisions are made.

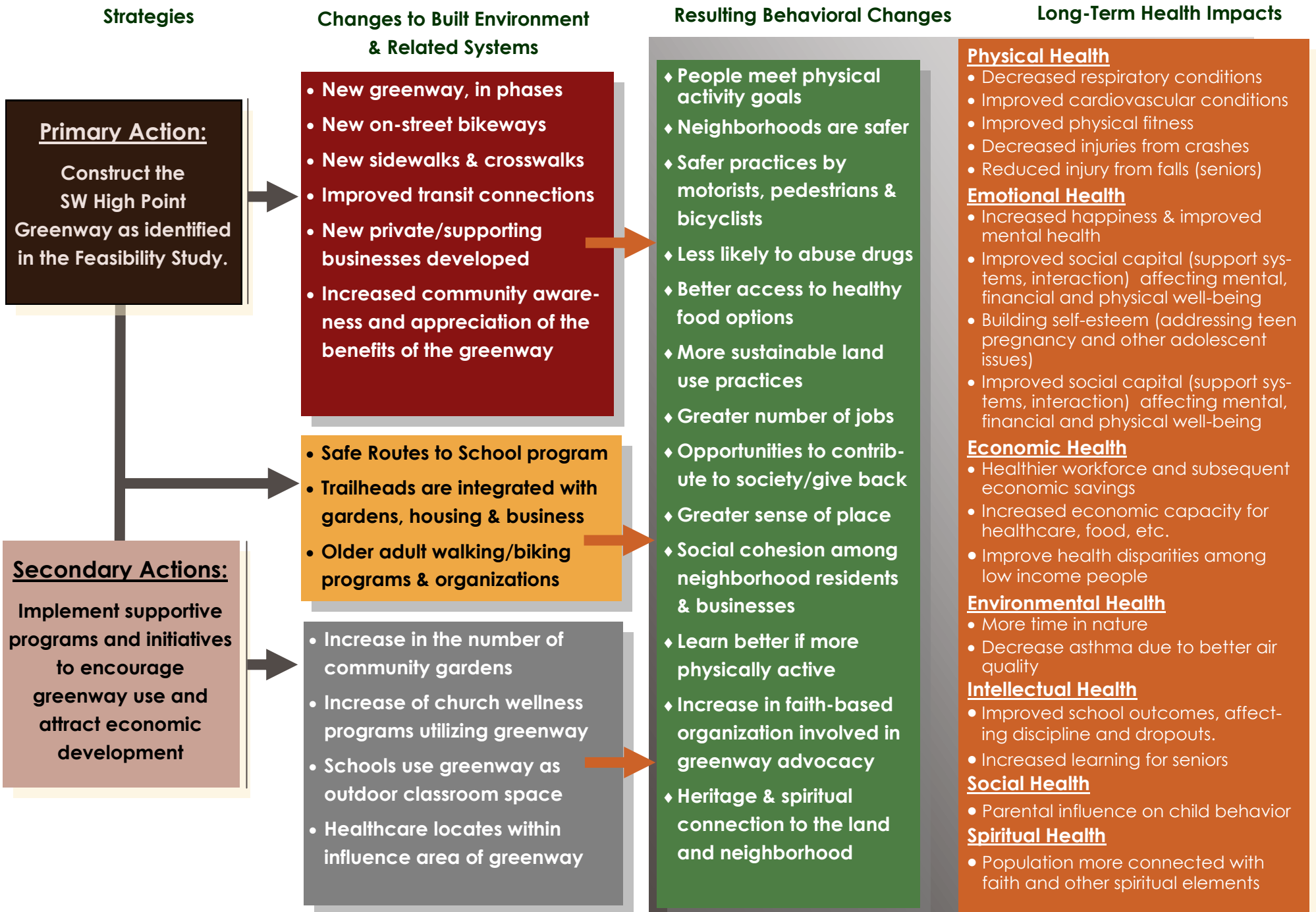
The diagram on the following page showcases how proposed actions related to the greenway can impact long-range health conditions in the community. It will also help local decision makers, advocates, non-profits, planners and other more directly illustrate how the proposed actions related to but not directly inclusive of the greenway will impact public health.

Health Economic Assessment Tool

The HIA team used the World Health Organization's *Health Economic Assessment Tool* (HEAT) for bicycling and walking to evaluate the likely health impacts of the Southwest High Point Greenway, once fully-developed. According to the World Health Organization, "HEAT is an online resource to estimate the economic savings resulting from reductions in mortality as a consequence of regular cy-



Exhibit 4-3: Logic Framework



cling and/or walking.” HEAT calculates the answer to the following question: “If x people cycle or walk y distance on most days, what is the economic value of mortality rate improvements?”

- It is estimated that the completed Southwest High Point Greenway, constructed and promoted over the next 20 years, would have a positive benefit of more than \$230 million during that timeframe and prevent nearly 10 deaths per year. (Exhibit 4-4)

Exhibit 4-4: Results of Health Economic Assessment Tool (HEAT) for SW Greenway

Metric	Walking	Bicycling	Total
Total Deaths per year prevented	6.1	3.6	9.7
Decreased mortality risk	5 %	2 %	
Average annual benefit	\$ 7,300,000	\$ 4,300,000	\$ 11,600,000
Total benefits accumulated over 20 years	\$ 147,000,000	\$ 86,000,000	\$ 233,000,000
Maximum annual benefit	\$ 18,100,000	\$ 10,600,000	\$ 28,700,000
Total health cost savings over 20 years	\$ 74,000,000	\$ 43,000,000	\$ 117,000,000
Health benefit to cost ratio <i>(based on greenway construction costs)</i>	15.8 to 1	9.32 to 1	

What does this number mean for decision makers? A healthier population resulting from investment in greenway system, will reduce overall health costs for the city or county, local health providers, and promote greater productivity for area employers. The direct financial return for High Point and Guilford County will come in the form of greater effectiveness of health-related expenditures and associated social programs.

The tool utilizes evidence-based research to define parameters of likely health outcomes of investment in facilities to promote increased walking and bicycling. Its application is intended for efforts such as the Southwest High Point Greenway Health Impact Assessment, including modeling impact of different levels of bicycling or walking, and creating a cost/benefit ratio. The tool estimates mortality benefits from investing in bicycling and walking infrastructure.

NOTE: The figures in this exhibit represent average values based on 4 iterations of HEAT analysis, using conservative figures.

For this Health Impact Assessment, inputs were modified in the model to reflect conditions in the United States, North Carolina and/or Guilford County based on the availability of data and evidence-based research.



5. Recommendations & Monitoring

Stakeholders who attended the workshop generated several mitigation steps intended to ensure the greenway addresses collateral concerns regarding adjacent access, user types and abilities, and typical functions part of everyday greenway operations. Those steps were organized into several overarching categories addressed in this section and many are supported in the Feasibility Study

Connect to Nearby Areas

A greenway system that connects to desirable destinations will ensure citizens are afforded access for recreational or utilitarian purposes, provide tourists ample opportunities to utilize the network and contribute to their activity and the local economy, and attract targeted users/customers to available adjunct features.

- Consider connections with other modes such as transit, carpools, or vanpools.
- Use nearby sidewalks, streets, or other trails to connect from neighborhood areas with greenways, functionally increasing the number of users living or working within a walking or biking distance of the greenway.
- Connect the SW Greenway to existing and proposed greenways (as identified in the future High Point Comprehensive Pedestrian Plan)
- Connect the greenway to river access points and provide adequate safe space to avoid conflicts between greenway users and waterway users.
- Consider connections to local economic hubs for customers and employees thereby promoting travel demand management strategies.

Collect Data

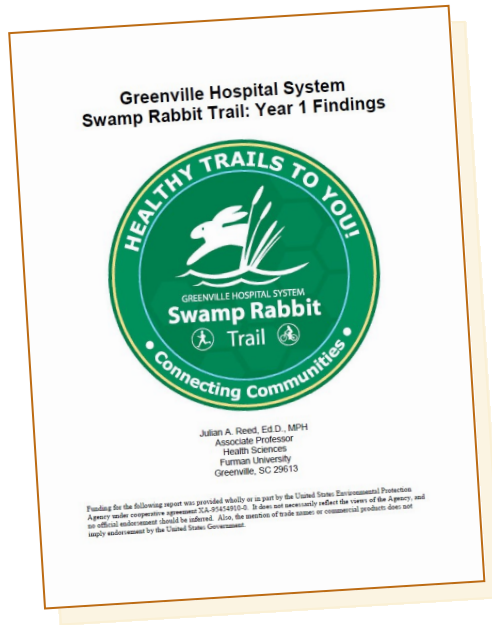
The actual health impacts of the greenway are only known once it is built and used over a long period of time. Working with healthcare organizations and other stakeholders to collect data on greenway users help bolster the findings of this HIA and make the case for future investments.



Connecting the Dots

A critical component in optimizing health impacts of the greenway is linking it to other transportation and physical activity hubs within a walking or biking distance. This includes the transit hub and Amtrak.





Continue to Assess Impacts

The health assessments being conducted post-construction for Greenville's Swamp Rabbit Trail provide an exemplary example of how to model post-intervention evaluation for the SW High Point Greenway.

- Conduct an initial neighborhood walking, bicycling and health survey to better understand current conditions in the area pre-construction.
- Recruit volunteers through the city's pedestrian plan process to count existing use of Southwest High Point area streets in close proximity to the greenway.
- Once built, begin collecting health-specific data on greenway users and do this on an annual basis.
- Count greenway users on a regular basis once it is constructed and consider installation of permanent counters at key access points.

Keep the Conversation Going

The HIA workshop revealed there is a diverse group of stakeholders—many of which had never been in the room together prior to the workshop—who are interested in seeing the Southwest High Point Greenway through to completion. These groups have social, economic, cultural and health interests in helping ensure it succeeds.

- Convene an annual forum on the greenway to monitor progress and understand other emerging initiatives in the area.
- Identify the various partnership roles each group stands to play in implementation of the greenway, including what each group stands to give versus gain through being a partner.
- Determine which of the recommendations is best suited for each group given it will take many of them to achieve the desired health outcomes.

Environmental Stewardship

Environmental stewardship is an important value amongst area residents and a clean, natural setting has documented positive impacts on human health. It also enhances the experience of the greenway user.

- Minimize space requirements for roadways and building setbacks.
- Provide or preserve green space between roadways and greenways, where possible.



- Develop sites along the greenway that capitalize on natural settings for users to sit, reflect, and enjoy a peaceful escape from the built environment.
- Work with local schools, organizations such as the Boys and Girls Club, and others to institute greenway ecological education programs.

Promote Social Cohesion

Recognizing the intrinsic value greenways can have with respect to social interaction and health was also viewed as important for HIA participants. Social health includes promoting interaction among people, ensuring greenways contribute to quality of life, and providing a calming effect by giving users a sense of familiarity and ownership over greenways.

- Promote an "Adopt the Greenway" program for local citizens, social groups, or businesses to participate in to further promote a sense of local community.
- Utilize sections of the greenway as part of local organized walks/runs.
- Let local organizations, churches and youth groups know that using the greenways for social interaction purposes is encouraged.

Develop a Greenway Culture

To ensure that users of the greenways utilize the space safely, an understanding and education of common greenway situations and occurrences is needed through the promotion of a greenway culture:

- Establish greenway concepts such as language or terminology, basic communication protocols and etiquette.
- Account for unique needs of the community along the greenway, such as icon-based signage for non-English speaking users.
- Develop reminders, tips and rules of the greenways in the form of signage, web sites and presentations at various community events.
- Include greenway topics during outreach campaigns such as bicycle rodeos in area schools.



Adopt the Trail

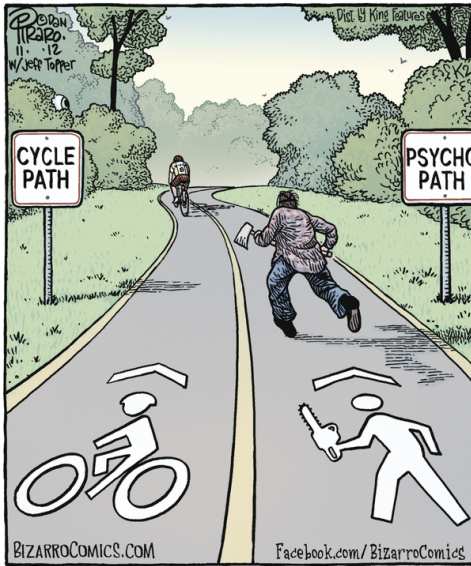
"Adopt a Greenway" or "Adopt a Trail" programs promote community interaction and help articulate messages related to valuing the greenway.



Account for Maintenance Needs

Maintaining a greenway system is critical to protect personal safety and minimize hazards that may otherwise dissuade potential users.

- Ensure the greenway is clear, free of hazardous debris, and tripping hazards are eliminated soon after they appear.
- Users must know who to contact for maintenance concerns.
- There is an expectation that maintenance is continuous and consistent.
- Investigate and plant non-invasive, colorful or edible vegetation adding to greenway aesthetics that is proven not to uproot pavement and, requires little maintenance.
- Establish maintenance patrols, most likely using volunteers, to pick up litter, report significant issues to authorities, and document evolving or developing conditions which may be hazardous to users.
- Develop both maintenance standards and formal agreements for the long term health of the greenways. Standards should contain technical specifications on mowing, weed abatement, pruning schedules, materials to be used in planting areas, and resurfacing standards.
- Maintenance agreements should formalize who is responsible for maintaining pathway surfaces and adjacent common areas, as well as trees and shrubs.



Think Safety

Safety considerations are paramount along greenways. If a trail is perceived as being unsafe, users will likely stay away. Increased use of the trail along with patrols that add “eyes” to the trail can allay many safety fears.

Comic from BizarroComics.com

Ensure Safety for All Users

Safety is a prerequisite for users of greenways and a topic that resonates in multiple arenas. Safety should include keeping people safe from a criminal element, reducing hazardous conditions, ensuring there is not a fear about other greenway users, and designing and signing traffic/street interfaces that promote visibility and safe practices by users and motorists.

- Law enforcement should develop a bicycle patrol specific to the greenways and nearby adjacent streets with the intention of monitoring users, traffic activity, and providing a general presence.



- Enforcement and signage discouraging "speeding" by bicyclists and other wheeled users should be a focus.
- Launch a public safety campaign aimed at fundamentals of greenway use such as discouraging head phones, reminding dog owners of leash laws, encouraging mobile phone users to report problems, and other similar messages.
- Construct connecting micro-paths from adjacent roadways for access by emergency vehicles and patrols.
- Minimize remoteness of a greenway alignment to keep users within a relative safe distance of adjacent areas or streets to prevent pockets of hidden zones, both visually and aurally.
- In heavy use or remote areas, install bicycle and stroller repair stations.

Minimize Vehicular Interactions

Minimizing exposure to vehicular traffic is essential to a healthy, safe, and vibrant greenway system. This has to be balanced with access considerations and an understanding that many users will first access the greenway by driving to and parking their motor vehicle. Users have been found to utilize a greenway system much more regularly and for longer periods when they do not have to compete regularly with vehicles for space or time crossing intersections.

- When developing future roadway network plans, minimize planning heavily used corridors near existing or future greenway sections.
- Re-evaluate future design plans involving adjacent greenway corridor roadways for traffic calming measures to slow and steady traffic movements, particularly where greenways and roads intersect.
- Inform motorists and greenway users with clear signage and signals of approaching intersections, specifically atypical traffic patterns, or other potential conflicts with motorists.



See It, Fix It

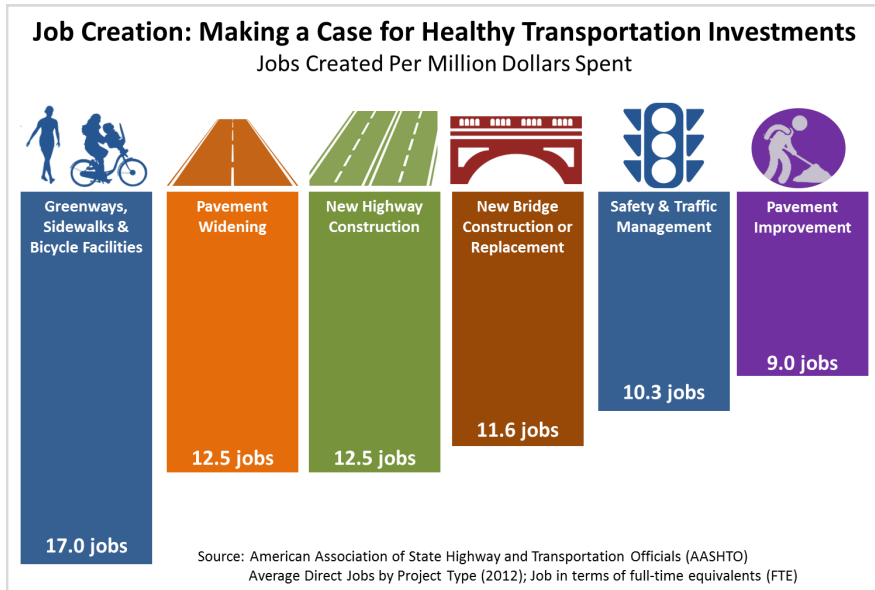
Fix-it stations help bicyclists and others make small repairs and pump up tires, giving greater peace of mind for greenway users.



Integrate Economic Considerations

Workshop participants recognized the connection between greenways and economic health. Economic health can come in the form of equal access to daily needs such as food and employment, reduction of transportation costs, an increase in economic activity through public and private investment, and attracting visitors to the area.

- Promote the greenway system to attract visitors, which provides an economic impact to nearby businesses and communities.
- Include transportation costs and household savings in public service announcements for the area greenways.
- Consider methods to promote nearby economic opportunities without degrading the quality of the greenway experience. This can be achieved through low impact advertisements or community bulletin boards.
- Include the greenway system as a promotional feature for recruiting new businesses to the area.
- Align policies to allow for "Trail-Oriented Development" in the form of mixed uses along the greenway.



Data Driven Approach

A study by the national organization that represents state DOTs found that greenways create more jobs per million dollars spent than traditional highway and transportation investments.

Update Policies

Several policy changes or needs were identified by workshop participants to help bolster the greenway. The HIA effort did not delve into the nuances of these given resource constraints. They can be explored by the City of High Point and its partners as ordinances and Comprehensive Plans are updated. They include:

- Zoning ordinances being written
- Strategies to forgive outstanding tax bills on vacant/abandoned properties
- Shared use opportunities with schools
- Reclaiming pavement assets
- Prioritize transportation planning toward active transportation



- Urban ag/urban farm-related policies to allow people to produce foods
- Strategies to retain residents/prevent gentrification through policies protecting affordable and public housing

Funding Approaches

There are several strategies that can fund greenway infrastructure. In addition to construction, funds may support, gardens, wayfinding signage, benches, playgrounds, and promotion. More detailed funding sources are summarized in the SW High Point Feasibility Study document.

- **Health:** Greenways support healthy living through behavior change. Funding can come from health foundations or insurance plans (i.e. Blue Cross Blue Shield)
- **Economic Development/Tourism:** Greenways support economic development for the local commerce and greenways attract visitors from outside the area. Funding can come from local and regional economic development programs (i.e. Community Development Block Grant)
- **Recreation:** Greenways support active and passive recreation. Funding can come from sources that aim to support active and passive recreation (i.e. the state and federal recreation, trails and parks programs or the National Recreation and Park Association)
- **Transportation:** Greenways provide an alternative approach to transportation. Funding can come from state and federal programs that support active transportation (i.e. Transportation Enhancement Program and Safe Routes to School)
- **Environmental Protection:** Greenways provide an opportunity to preserve nature and connect users to nature. Funding can come from programs aimed at protecting the environment (i.e. Environmental Stewardship Grants).



Combined Funding Pursuits

Through HIA we have linked access to greenways and access to community gardens. This type of linkage helps broaden the funding options that can be pursued for the greenway and adjunct uses.



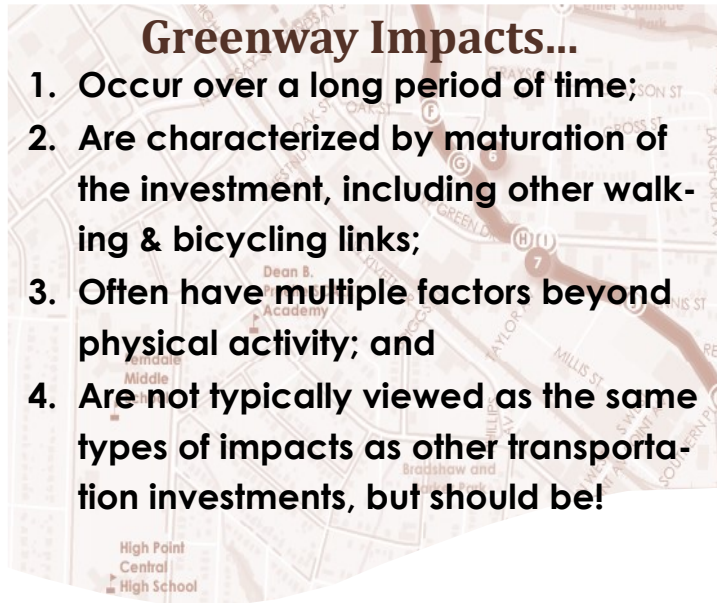
Evaluation

Within the HIA practice, there are numerous methods to evaluate the final product, the process that was used or the final outcomes. For the High Point HIA, which is of the Rapid variety and thus limited in the process used and final product when compared to a Comprehensive HIA, an outcome evaluation would be the most suitable. In order for this to be done however, time will be necessary to let projects and suggested strategies unfold and results to be measured.

An outcome evaluation is one that should objectively review how the results of the final effort are met by the residents of a community and what impacts those results are having. Figures like those derived from the HEAT tool are estimates based on common parameters of greenway use in the United States.

The evaluation process can be conducted in parallel with the monitoring step. When the various groups reconvene to discuss how improvements are going to occur, they should also determine what impacts are being made and how they relate back to the findings and claims made in the HIA. As the Greenway is constructed, support elements placed or suggested programs and policies enacted, the resulting changes and how they compare to the document, is the subject of the evaluation.

Once it is determined how the HIA findings compare with the results of suggested improvements, projects and policies, the High Point coalition can best determine the utility and value of the HIA process. This final step may become obvious when people begin using the Greenway and high rates of participation are evident, however a technical approach is still useful to prove the merits of the HIA effort and to determine if such a similar undertaking is necessary for other projects, policies, or plans in the future.



SW High Point Greenway—October 5, 2015 Workshop Attendees

Organizers

- Dr. Mark Smith, Guilford County Dept. of Public Health & Human Services
- Don Kostelec, Kostelec Planning, Asheville, NC
- Michelle Eichinger, Designing4Health, LLC, Atlanta, GA
- Bill Bruce, CRJA Consulting, Knoxville, TN
- Dorothy Darr, PhD, Executive Director, Southwest Renewal Foundation
- Dot Kearns, Board Chair, Southwest Renewal Foundation

Health Care Professionals

- Carin Hiott, Rn, MHA, High Point UNC Regional Hospital, Chronic Disease Action Planning
- Amy Hall, Foundation for a Healthy High Point

City of High Point

- Randy Hemann, Assistant City Manager and Greg Demko, HP City Manager
- Greg Venable, High Point Department of Transportation, High Point MPO
- John Hanes, Transportation Planner, High Point Department of Transportation
- Angela Wynes, Director, Transit Manager, City of High Point
- Andy Piper, Chair, Urban Forestry Committee, Senior Planner, HP Planning and Dev.
- Lauren Atwell-Bass, Neighborhood Coordinator, HP Community Development & Housing
- Tracey Pegram, Assistant Director, City of High Point Parks and Recreation Department

Guilford County Schools

- Sandra Culmer, Western Regional Superintendent
- Weaver Waldon, Principal, Oak Hill Elementary School
- Angela Dawson, Principal, Fairview Elementary School

Bicycle Advocacy

- Steve Hollingsworth, Green Door Wheel Works, plus Ross Lackey

Regional Professionals

- Stephen J. Sills, PhD, Director, Center for Housing and Community Studies, UNC-G
- Daniel Amstutz, Bicycle Safety, City of Greensboro
- Dabney Saunders, Director, Downtown Greenway
- Cy Stober, Water Resource Manager, PTRC
- Mark Kirstner, Director of Planning, PART & Piedmont Together
- Judi Wallace, Wallace Consulting, Winston-Salem SRTS

Community Development Foundations

- Patrick Harman, Executive Director, Hayden-Harman Foundation
- Revon Johnson, Vice Chair, Environmental Stewardship, Southwest Renewal Foundation
- Charles Simmons, Sec.-Treasurer., SW Property Owner, Southwest Renewal Foundation
- Pat Plaxico, Designer, Opportunity High Point, Southwest Renewal Foundation
- Gloria Halstead, Attorney, Southwest Renewal Foundation
- Monica Peters, High Point—Design Starts Here, Southwest Renewal Foundation
- Paul Sicheloff, High Point Human Relations Committee, Southwest Renewal Foundation

High Point Community Foundation

- Paul Lessard, Director, and Martha Yarbrough, Past Board Chair,

Greater High Point Food Alliance [GHPFA]

- Carl Vierling, Director, GHPFA

