

GROWNC REGIONAL PLAN

FINAL REPORT

Acknowledgements

Thank you to all the organizations and individuals who committed their time, energy and resources to this effort. GroWNC would not have been possible without the support of many throughout the five-county region.

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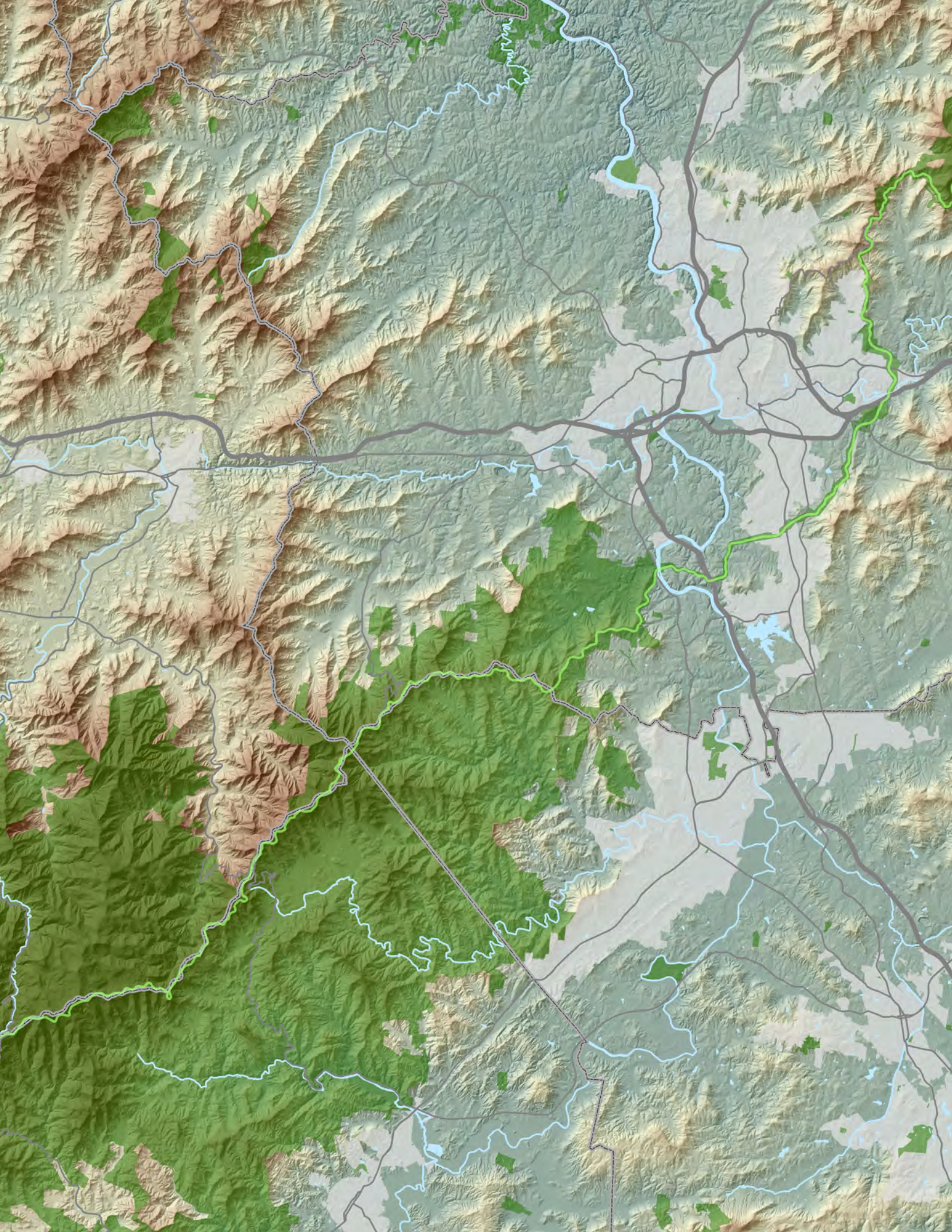
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I. Introduction









I. Introduction

**“In the cool mountain air, on an Appalachian trail,
Ohh, life is better there.” - Yonder Mountain String Band**

People have always been drawn to the mountains of Western North Carolina. First it was the Cherokee who settled in the valleys and cultivated the land. Scots-Irish pioneers soon followed seeking the isolation and opportunity afforded by mountain life. Visitors from the Low country traveled to the region to escape the heat and mosquito-borne diseases of the coastal plains. Today, the mountains of Western North Carolina are home to a growing and diversifying network of cities, small towns and rural communities.

Farmland and forestry continue to be main economic drivers in the region. Tourism, recreation-based businesses, a solid creative class and a burgeoning natural products industry (including more breweries per capita than any other place in the United States) add to the diversity of Western North Carolina’s economy.

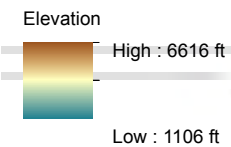
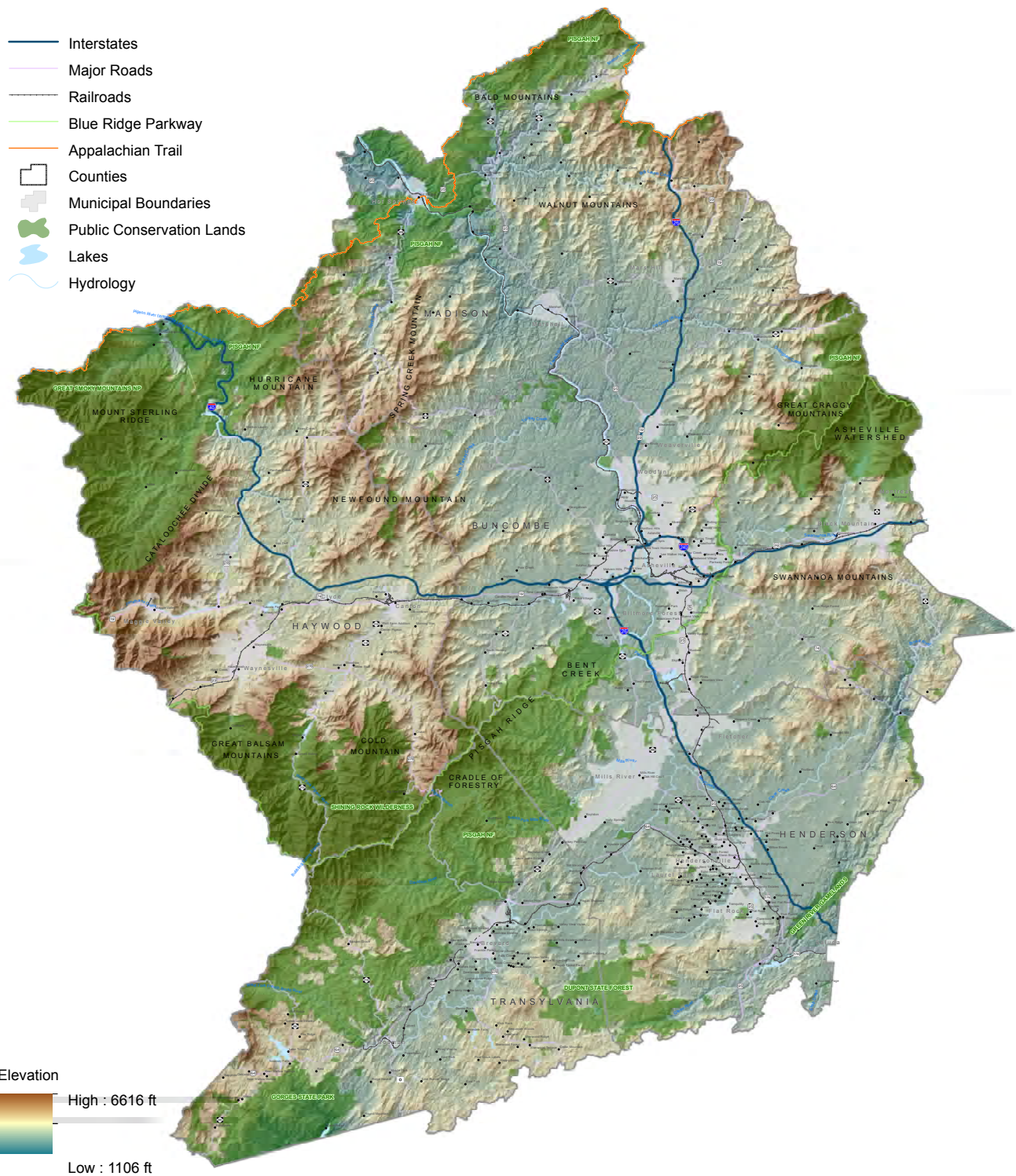
A growing and changing population, an evolving economy, loss of farmland— all of these factors shape the future of the mountain communities. Over the next 30 years, the five-county study area that includes Buncombe, Haywood, Henderson, Madison and Transylvania counties are expected to grow by 176,000 people, a 41% increase from today. This is the equivalent of adding two cities the size of Asheville to the region.

Growth presents many opportunities and challenges. Where will these people live, work and go to school? How will growth impact the region’s natural resources? Can the existing systems of infrastructure support additional people, houses, jobs and cars? These are all important questions that deserve careful thought. Through GroWNC we can seek answers to these questions.

GroWNC is funded by a grant from the Department of Housing and Urban Development (HUD) through the Partnership for Sustainable Communities.

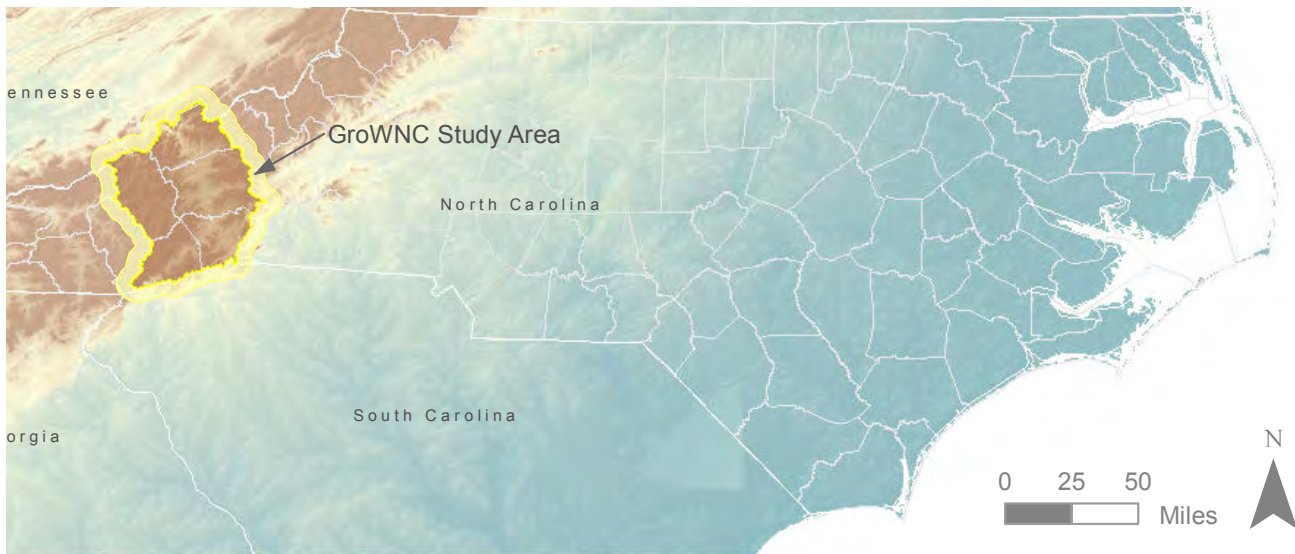
The Appalachian Trail is a 2,184 mile path that runs from Georgia to Maine. It passes through Haywood and Madison counties on the western edge of the GroWNC study area.

Map #1: Study Area



Data Source: NEMAC, Land-of-Sky Regional Council, NCONemap



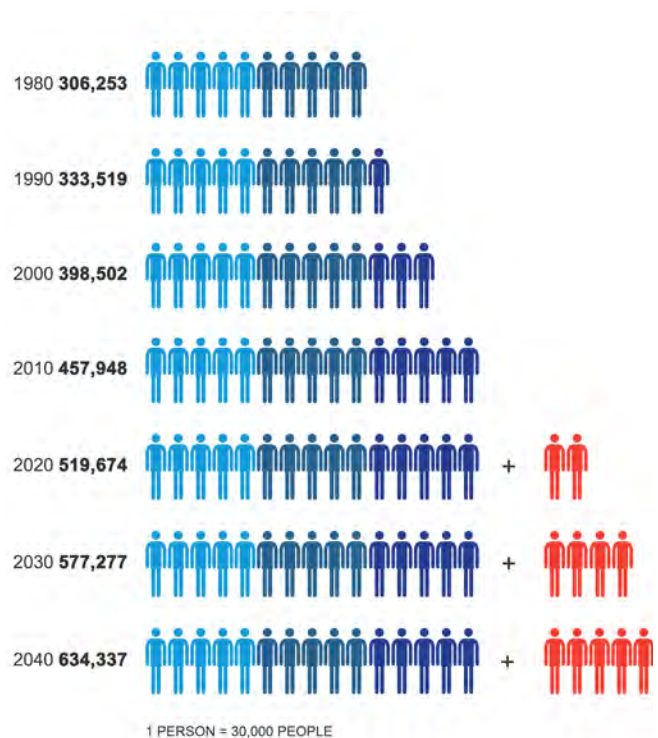


The GroWNC study area, which includes Buncombe, Haywood, Henderson, Madison and Transylvania counties, sits in the westernmost portion of North Carolina.

It is a 3-year project to develop a framework of voluntary, locally-implemented, market-based solutions and strategies to ensure that as the region continues to grow, the effects of this growth have a positive impact on the region and communities.

GroWNC allows local governments, businesses, non-profits, citizens, and others to realize unprecedented regional coordination on jobs, energy, housing, transportation, resources, and other interconnected issues. This fosters more prosperous, livable communities in the region through new quality jobs, new infrastructure investments, diverse economic development strategies, energy and financial savings, and carbon emission reductions. Through GroWNC, the region will have a clearly defined framework and set of strategies to bring about the policies and investments necessary to sustain and enhance the region's economy and quality of life.

Figure #1: Population Growth



By 2040, the population of the GroWNC region is expected to increase to more than 630,000 people.

About the Plan

The information presented in this report is intended to serve as a resource for decision-makers in the five-county region that includes Buncombe, Haywood, Henderson, Madison and Transylvania counties. GroWNC recognizes the diversity of each county and community within the region, and acknowledges and respects that decisions about future growth and development are made at the local level. This report presents a regional vision for the future and a set of voluntary recommendations and implementation strategies (developed by drawing from local and regional plans and through community participation) that work to achieve that vision.

I. Introduction

The opening sections of this plan provide a brief introduction of the project and explain the origin and purpose of GroWNC. In addition, the introduction highlights the planning and community engagement process.

II. The Region

The following section highlights key characteristics of the region from an economic, environmental and cultural perspective.

III. Goals

The next section details the goals that were developed by the workgroups and vetted through community meetings and online participation. The goals provide the guideposts for the development of the vision of the future and recommendations.

IV. Vision of the Future

GroWNC used an approach called scenario planning to help participants learn and make choices about the future of the region. This section presents the findings from the scenario planning process.

V. Ideas to Actions

The last, and arguably most important, section of the report details the recommendations and initiatives that support the vision of the future and provide the framework to move from ideas to actions.

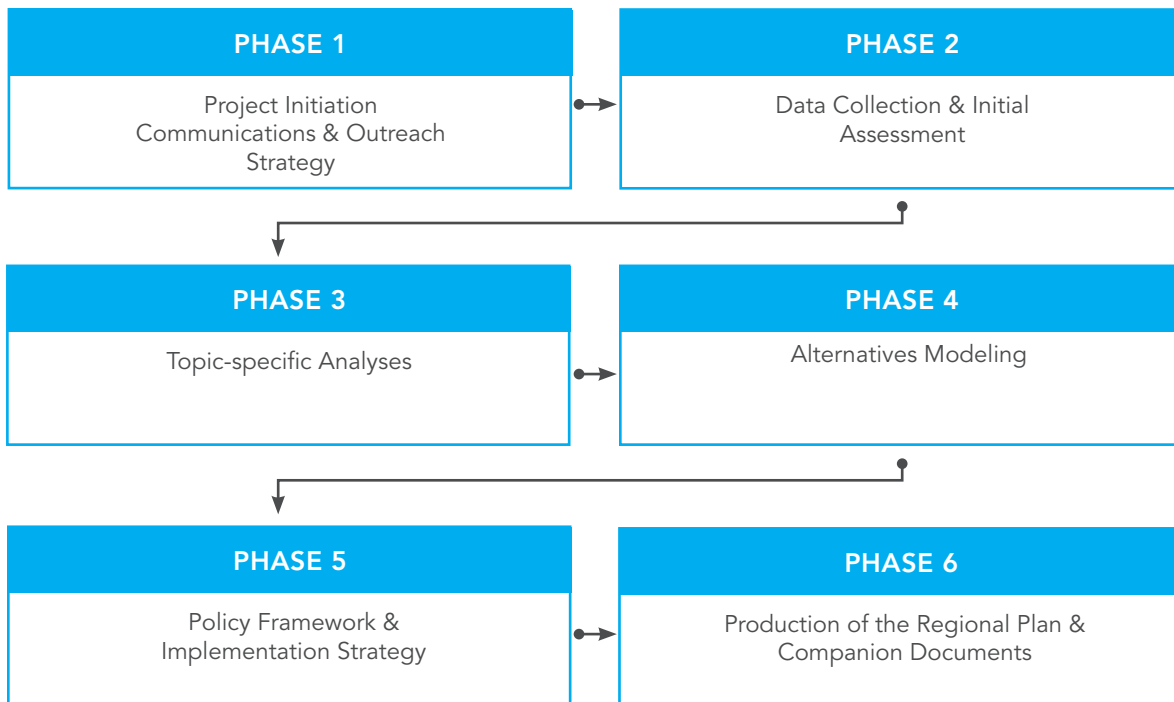
Planning Process

GroWNC launched in February 2011 after the region received a \$1.6 million grant from the Department of Housing and Urban Development. The Land-of-Sky Regional Council serves as the grant administrator and coordinating agency for this planning effort.

The planning process had six phases. The First Phase resulted in a communication and outreach strategy to guide the public engagement process. Phase Two focused on project initiation tasks such as data collection, review of existing plans and studies and development of the land use model. In the Third Phase, project team partners, in collaboration with the Workgroups, Steering Committee and Land-of-Sky staff conducted topic-specific analyses to provide an understanding of existing conditions in

the region. Phase Four involved developing and testing regional growth scenarios and comparing these scenarios with the business as usual trendline to gauge potential trade-offs. In the Fifth Phase, a set of recommendations and strategies were developed that support the region's vision of the future. The final Phase Six of the process consisted of merging all plan components into a single comprehensive document. This report is the deliverable of the final phase of work.

Figure #2: Planning Process



Sustainable Communities Planning Grant

The Sustainable Communities Regional Planning Grant Program supports metropolitan and multijurisdictional planning efforts that integrate housing, land use, economic and workforce development, transportation, and infrastructure investments.

The program places a priority on investing in partnerships, including nontraditional partnerships (e.g., arts and culture, recreation, public health, food systems, regional planning agencies and public education entities) that translate the Federal Livability Principles into strategies that direct long-term development and reinvestment, demonstrate a commitment to addressing issues of regional significance, use data to set and monitor progress toward performance goals, and engage stakeholders and residents in meaningful decision-making roles.

The Sustainable Communities Planning Grant Program is a program of the Partnership for Sustainable Communities, which is a coordinated partnership between the U.S. Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT) and the U.S. Environmental Protection Agency (EPA). For more information refer to: www.sustainablecommunities.gov.

FEDERAL LIVABILITY PRINCIPLES

1. Provide more transportation choices.

Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

2. Promote equitable, affordable housing.

Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

3. Enhance economic competitiveness.

Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

4. Support existing communities.

Target federal funding toward existing communities—through such strategies as transit-oriented, mixed-use development and land recycling—to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

5. Coordinate policies and leverage investment.

Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

6. Value communities and neighborhoods.

Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.

“Livability means being able to take your kids to school, go to work, see a doctor, drop by the grocery or post office, go out to dinner and a movie, and play with your kids at the park, all without having to get into your car. Livability means building the communities that help Americans live the lives they want to live—whether those communities are urban centers, small towns, or rural areas.”

—Secretary Ray LaHood,
U.S. Department of Transportation

The Town of Marshall is the county seat of Madison County.





Over 120 workgroup members participated in the Scenario Planning workshop held at the North Carolina Arboretum.

Building a Community of Support

The GroWNC plan was developed through an inclusionary public involvement process. Understanding the distinct values of the mountain communities today ensures that this plan, implemented in accordance with the recommendations, supports and advances those priorities over the long term. GroWNC brings together a diverse Consortium of local governments, non-profit organizations, and businesses working together with the project team to plan for the future of the region.

Consortium

GroWNC is guided by a Consortium representing residents and organizations in Buncombe, Haywood, Henderson, Transylvania, and Madison Counties. The Consortium includes members from public and private housing, planning, transportation, economic development, research, educational and philanthropic organizations, and others. The purpose

of the Consortium is to oversee the development of a regional plan that weaves together existing plans and strategies throughout the region to foster economic prosperity through a regional vision that identifies implementable projects and actions. A list of Consortium members can be found in the acknowledgements section of this report.

Workgroups

Consortium members were able to self-select into one of several workgroups, organized around the topic areas. Workgroup participants were welcome to participate in as many workgroups as they wanted to. In addition, workgroups were brought together in larger, cross-cutting meetings where they collaborated across topic areas to reach consensus on a variety of issues. Workgroup participants also participated in the project by assisting with public involvement efforts including outreach and meeting facilitation.

Steering Committee

The 13-member GroWNC Steering Committee is comprised of members appointed by County Commissioners, the City of Asheville, each workgroup, and federal and state partners. This group met regularly to set goals, provide feedback, prioritize work activities, approve public involvement approaches and make critical recommendations to guide the project and staff. A list of the GroWNC Steering Committee members can be found in the acknowledgements section of this report.

Website & Media

Complementing the public outreach is the GroWNC website www.gro-wnc.org. The website was created so residents and stakeholders in the region could participate in the process without having to be physically present at events. The website provided a variety of resources and tools including online surveys, virtual meeting materials, project background information, contact information and other resources. In addition to the website, GroWNC used Facebook, YouTube and Twitter as a means to communicate and receive information from regional stakeholders.



During the first round of community meetings, participants were asked to help develop goal statements to guide the process.



The second round of community meetings focused on developing the Preferred Scenario through community input.

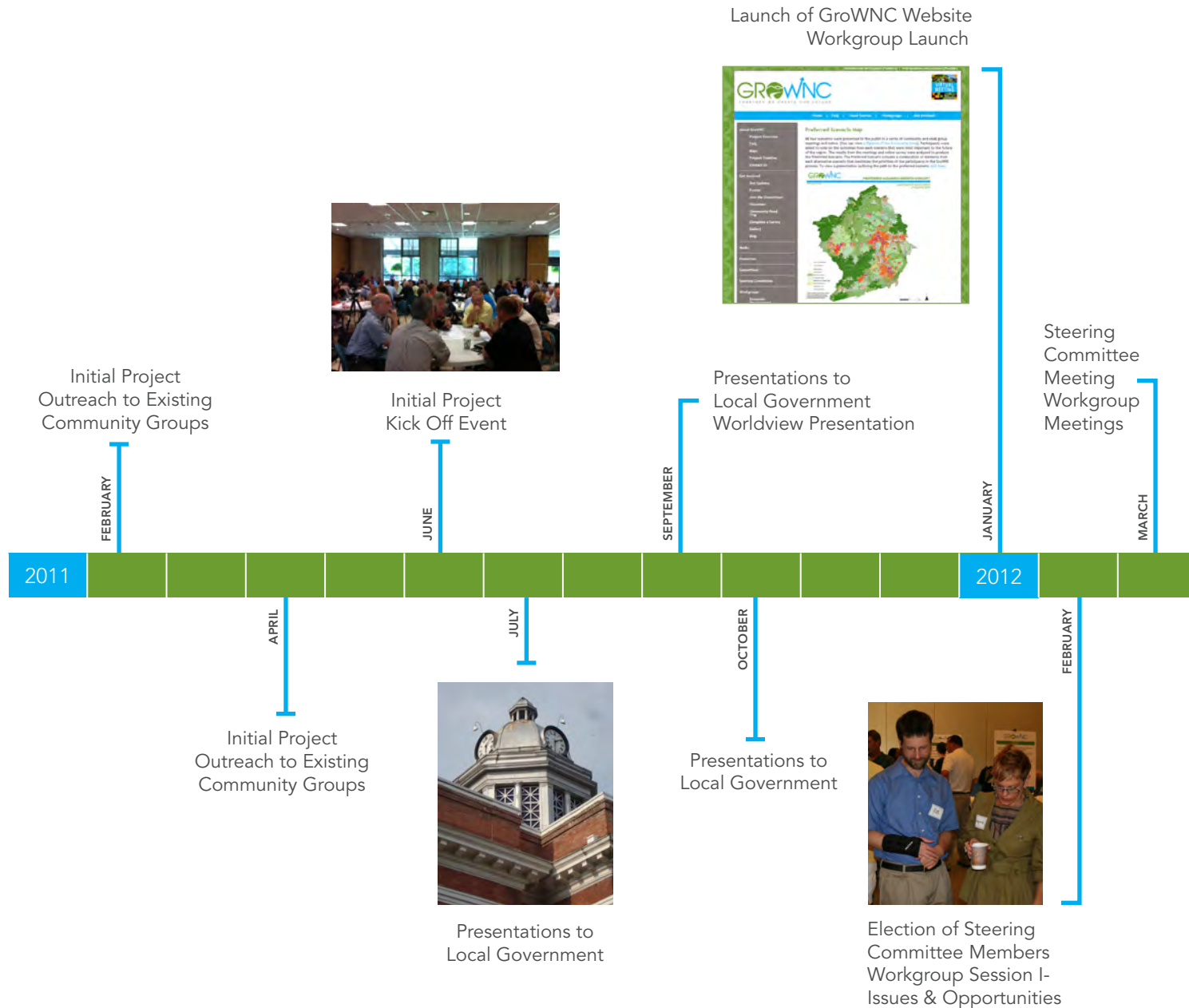
GROWNC WORKGROUP TOPIC AREAS

	Economic Development		Energy
	Housing		Health & Wellness
	Transportation		Natural Resources
	Land Use		Cultural Resources

Timeline

Over the course of the project, numerous outreach events occurred. These varied from small group meetings facilitated by Land-of-Sky staff and sponsored project partners to large community-wide public events. Nearly 5,000 people participated in a variety of events over the course of the project.

Figure #3: Timeline



First Round of Community Meetings- Community Road Trip



Workgroup Session II – Scenario Planning Workshop, Small Group Outreach MiniGrant Meetings



Steering Committee Meeting



Steering Committee Meeting

Small Group Outreach MiniGrant Meetings

Second Round of Community Meetings- Choose Your Future

Theme Meetings– Ideas to Actions

MAY

JULY

SEPTEMBER

DECEMBER

FEBRUARY

APRIL

JUNE

2013

APRIL

JUNE

AUGUST

NOVEMBER

JANUARY

MARCH

MAY

Launch of Community Road Trip, Portable Meeting



Workgroup Meetings



Steering Committee Meeting, Small Group Outreach MiniGrant Meetings

Second Round of Community Meetings- Choose Your Future

Small Group Outreach MiniGrants

Workgroup Session III- Ideas to Actions



Theme Meetings – Ideas to Actions

II. The Region









II. The Region

The GroWNC region is one of the most diverse and beautiful areas in the country. The clear waters and rich landscapes are part of a critical system of unparalleled natural resources. These assets, from an economic, environmental and cultural perspective, are the competitive advantage that attracts businesses, visitors and residents to the area.

People and businesses are drawn to the region because of the abundance and quality of the natural resources. From the high quality waterways to the productive farms and forests, the natural assets fuel the economy and inspire the region's culture. Protecting and enhancing these resources is critical to ensuring that the mountain economy and community thrives.

The following section provides information on the environmental, economic, and cultural assets in the region and some of the associated issues and opportunities. Additional detailed information can be found in Existing Conditions Executive Summary located in the Appendix of this document.

Max Patch Bald, Madison County.





The Environment

The GroWNC region sits in the heart of the Southern Appalachians. This ancient mountain system hosts the forests and rivers that sustain the region's economy and culture. The landscape varies from wide river valleys to some of the tallest peaks on the east coast. For example, Haywood County has a higher average elevation than any county located east of the Mississippi River.

Forests of dogwood, birch, hemlock, poplar, maple, oak and pine lead to higher elevation stands of balsam firs and red and black spruce. In the valleys, rich soils support a variety of agricultural crops. In total there are 186,079 acres of prime farmland in the study area.

The region is home to the headwaters of many major river systems. There are over 7,688 miles of streams in the region including 98 square miles of Outstanding Resource Waters, 192 square miles of High Quality Waters, and 246 square miles of Water Supply Watersheds. Additionally, the backbone of the region, the French Broad River, is the third oldest river in the world.

Climate in the region is as varied as the topography. In general the area is cooler than the North Carolina piedmont to the east. Depending on elevation, average July temperatures are 5-15 degrees Fahrenheit cooler than lower elevations just 25 miles to the east. Portions of the study area receive enough rainfall to be classified as a temperate rainforest.

Unique natural features, diverse topography and soil types and varied micro-climates result in ecosystems that are exceptionally biodiverse. The varieties of habitats support a wide range of plant and animal life including many species on the federal endangered species list. Eighty percent of all North American plants can live in the region.

However, the vast canebrakes that once covered the river bottoms were degraded by grazing livestock and have been replaced with non-native grasses and row crops. The American chestnut, once a signature tree of the Southern Appalachian landscape, was ravaged by blight and has disappeared from the forest. Intensive timber harvesting during the

[Henderson County is the largest apple-producing county in North Carolina.](#)

early 20th century led to widespread environmental destruction. Small remnants of old growth forests remain, but the majority of all forests in the region were logged at some point. Habitat fragmentation, hunting and water pollution have led to the disappearance of many species, including bison, elk, eastern cougar, native fishes and many types of mussels.

In addition, changes in the climate pose real threats to the region. According to the 2008 study, "The Reality of Global Warming (Climate Change) and its Potential Impact on North Carolina," by UNC Asheville on the potential impacts of climate change on North Carolina the primary effects are¹:

- Extreme weather – precipitation will be less frequent, but more intense when it arrives. In other words, the recent reality of drought punctuated by severe hurricane damage in North Carolina will continue.
- Hotter days and nights, extending into longer heat waves, will continue to increase.
- This combination of drought and heat will lead to a greater chance of wildfires. This fact, coupled with more people living at the "forest/urban" interface will put more people's lives and property at risk.
- All of these facts will mean a much greater impact on state energy issues, water resources, land use, transportation and emergency response. These are all "big ticket" economic issues that our state and its citizens must be prepared to deal with.

For the mountain region the impact of climate change could potentially affect the economy by threatening the productivity of farms and forests. Topsoil erosion caused by flooding is just one example of how stronger, more frequent storms could negatively impact soil quality². In addition, like many other places around the country, drought is a real concern both for farmers and foresters. The fluctuations in temperature and rainfall could mean changes in the crops or crop varieties that will grow well in the region. Dry conditions could lead to a greater chance of wildfires which would affect both the natural products industry and the safety of residents.

Strong storms and flooding could also result in damage to the road and highway infrastructure systems. Routes through the mountains are already limited due to topography. One washed out bridge or rock slide can severely limit the flow of goods and people through the region. For example, recent landslides shut down portions of Interstate 40 that resulted in truck and passenger traffic being rerouted over 30 miles. In addition, climate change compounds energy issues. Warmer summers and cooler winters require more energy to cool and heat homes and businesses. Severe storms and hot summers could also lead to in-migration of people from coastal communities.

While all the impacts of climate change are still not fully understood, the region must consider how to mitigate these impacts and sustain its natural assets to ensure the mountain communities remain great places to live, work and recreate.

There are over 7,688 miles of "blue-line" streams in the region including 98 square miles of Outstanding Resource Waters, 192 square miles of High Quality Waters, and 246 square miles of Water Supply Watersheds.





Appalachian
DESIGNS



The Economy

The historic development of the region's economy is closely tied to the land. For generations, the mountains, rivers and farms of Western North Carolina provided jobs for its people. The fertile soils of the river valleys were home to Mississippian and then Cherokee Indians. The fur industry led European traders and trappers to Appalachia. Scots-Irish ranchers, then farmers followed. Railroads completed in the late 19th century began an era of industrial logging. Mills and factories followed, sprouting up along the region's waterways. Over time this continually evolving economy developed an extremely industrious and self-sufficient workforce.

In addition to the working lands, tourism has always been a mainstay of the region's economy. Places like Flat Rock, Lake Junaleska, Brevard and Black Mountain were early destinations for those seeking relief from the summer heat. Visitors were drawn up the peaks of the Appalachians and to the banks of the French Broad River.

Today, the region continues to depend on the natural areas to serve as the backbone of the agriculture, manufacturing and tourism industries. Farmers, specialty manufacturers, and creative economy entrepreneurs continually seek inspiration and source quality materials from the region's natural environment.

To thrive economically, the region must continue to be a place where talented people—and their businesses—want to be. This includes preserving the high quality of life in the region and providing the critical infrastructure needed by businesses to succeed.

"Well-conceived, effectively implemented environmental protection is good for economic growth.... A clean, green, healthy community is a better place to buy a home and raise a family; it's more competitive in the race to attract new businesses; and it has the foundations it needs for prosperity."

—Administrator Lisa P. Jackson,
U.S. Environmental Protection Agency

Appalachian Designs is just one of many businesses dependent on the region's natural resources.

Supporting the economy is a system of infrastructure that provides the critical services necessary for the well being of residents, the success of businesses and the safety of communities. Ensuring this system is operational and responsive to the needs remains a top priority as the region grows.

In addition, the region is unique in that it is working to establish a system of infrastructure that supports alternative energy production. Growth in the alternative energy sector in the region outpaces the nation. From 2005 to 2009, there was positive employment growth in renewable energy while employment growth across all industries declined. This growth represents an opportunity for more jobs, lower energy costs and less dependence on outside resources.

The ability to build and maintain these systems is costly and resource intensive. Many of the region's communities do not have basic water or sewer service. Broadband internet access is also limited to the more urban areas. In addition, the topography, geology, and hydrology of the mountains combine to dramatically increase the cost of building and maintaining infrastructure in our region. For example, NCDOT planning level estimates that construction costs in the mountains are 100%-150% greater than other areas in North Carolina.

As the region continues to grow, jurisdictions must work together to develop a well-balanced system of infrastructure that serves residents, supports communities, and attracts new businesses to ensure both economic vitality and environmental resiliency.

The recreation-based industry is growing in Western North Carolina partly due to the operational efficiencies of being able to source and test products locally.







The Culture

When asked about what makes the region special, many people point to the mountain peaks, trout streams and historic sites. While the region's natural assets are unparalleled, it is the cultural traditions that set the region apart. For generations the mountains isolated the population from other communities. However, from this isolation grew a resilient and self-sufficient spirit and a unique and thriving culture. It began on the family farm, which not only provided the food necessary for survival but also the setting for the development of an independent and industrious culture.

The diversity and traditions of the region's ancestors, including the Cherokee and the Scots-Irish, infuse daily routines with unique crafts, skills, pastimes and nuances. The region's long history of clogging, bluegrass, pottery and crafting has developed into an industry that today generates over \$206 million in annual economic impact in Western North Carolina (Center for Craft, Creativity & Design). The area is also home to Hand-Made in America whose mission is to grow economies through craft and creative placemaking.

These traditions continue to draw the creative class, entrepreneurs and artists to the mountains. In addition to new residents, cultural tourism, travel to experience the arts, heritage and special character of place, has seen great growth in the past years. According to Preservation NC, "tourism is now the second largest industry in North Carolina with employment of 161,000 people and \$2.5 billion in annual payroll."

Unchecked growth threatens some of the most valued traditions. For example, the family farm is slowly disappearing. In 1950 about 50% of the land in the region was being farmed. As of 2007, only 16% is actively used for agriculture. In addition, the average age of farmers in the five-county region is 58. An aging workforce and the development of critical agricultural lands threaten both the culture and economy of the region.

Preservation of lands, teaching of customs and championing of arts will help ensure the culture continues to grow and thrive and that the mountain region continues to be a place valued for both its natural and cultural assets.

Local musicians provided music during the first round of community meetings.

III. Goals

A scenic view of a river flowing through a lush green forest. The river is surrounded by large rocks and dense foliage, creating a sense of a natural, untamed environment. The water is clear and flows over the rocks, creating white rapids. The trees are vibrant green, and the overall atmosphere is peaceful and serene.





FRENCH
BROAD
RIVER
GREENWAY



III. Goals

GroWNC Workgroup participants worked together to develop a set of goals to guide development of the plan. In many cases the goals were directly related to goal statements found in existing and adopted community plans. These goals were vetted at community meetings and in small group outreach sessions and provide the guideposts for the development of the GroWNC Plan.

In addition to guiding the planning process, the goals were used to develop indicators to measure the effectiveness of the alternative scenarios developed during the land use modeling process described later in this report.

The goals are organized into larger groups by theme. Many of the goals fall under one or more theme. For example, greenway connections provide transportation options, promote healthier living, serve as wildlife corridors and spur redevelopment. By acknowledging the goal statements are interrelated we can develop a holistic plan to guide decision-making in the region.

The following table lists all of the goals developed by the workgroups. The themes are listed across the top, while the goals are listed on the left. Goals that relate to themes are shown with “●” in the table.

The French Broad River Greenway links three of Asheville's parks: Hominy Creek, Carrier and French Broad River.



Economic Development

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Promote adaptive economic development that encourages entrepreneurship, supports existing businesses, and attracts new employers	●							
Support an economic development approach that enables a diversified economy built on the region's priorities, competitive advantages, and local initiatives	●							
Create a region where every individual has the opportunity to improve their employment status through affordable access to timely and relevant skills training and job placement assistance	●		●	●	●			●
Support opportunities and jobs that attract and keep our young people in the region	●	●			●			
Create and maintain appropriate physical infrastructure needed for economic development opportunities in each county		●	●	●		●		



Energy

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Support the advancement of the region's clean energy economy to drive innovation and entrepreneurship, create high-wage jobs, and foster business activity	●			●		●		
Increase the deployment of price-competitive, clean, and locally produced renewable energy to give consumers more energy choices while strengthening the energy, economic, and environmental landscape of Western North Carolina	●	●				●		
Improve residential, commercial, and industrial sector energy performance through the promotion of sustainable design, energy efficiency, conservation, and advanced energy analytic	●	●		●		●	●	
Strengthen transportation sector energy performance and reduce petroleum dependency through the promotion of alternative fuels, clean vehicles, and demand reduction programs	●	●	●	●		●		
Strengthen regional energy literacy through public education and outreach to create energy conscious communities in Western North Carolina						●		●



Land Use

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Preserve agricultural lands for farming and forest products	●	●		●	●			
Integrate/coordinate local and regional planning for economic development, land use and infrastructure	●	●		●				
Preserve scenic quality	●	●		●				
Land use planning in the region should accommodate a diverse set of businesses, employers, and citizens	●			●				
Promote development of land that integrates and optimizes its natural suitability and function		●		●				●
Improve transportation connections and options within and between communities			●	●				
Build mixed-use neighborhoods, towns and urban areas that cultivate and engender a "sense of place"				●				
Create an environment that promotes many housing types, costs and choices				●			●	
Promote understanding of the importance of building and community design and form				●				●



Natural Resources

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
The region actively supports sustainable farming and forestry practices and invests in the necessary infrastructure to ensure a strong, vital farm community that provides at least 10% of foods locally	●	●						
The region has significantly decreased the rate in which it is losing high quality farm/ forestlands and prime soils	●	●		●				
The region invests in eco-tourism as a key economic driver, supporting collaborations, land and water conservation, stewardship, promotion, and educational or support infrastructure	●	●		●				
The region's decision-makers, community leaders, and landowners recognize that sustaining high quality natural habitats enhance and sustain the region's economy and overall quality of life for its residents, and maintain or improve water resources, air quality, biodiversity and scenic viewsheds		●		●				●
Residents recognize the health and restorative benefits associated with outdoor recreation and regularly take advantage of opportunities throughout the region		●			●			●
The region recognizes the importance of connectivity between protected lands by managing wildlife and recreation corridors for biodiversity and protecting unfragmented forest blocks		●	●	●				●



Cultural Resources

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Preserve, restore, and cultivate our natural and cultural landscapes and resources		●						●
Compile existing and new metrics to quantify the economic and social impacts of cultural resources and track trends over time	●							
Create a unified voice for the cultural resource community in WNC to facilitate communication with consumers, while supporting artists, cultural assets, and heritage sites				●				●
Improve advocacy for cultural resources to ensure that community leaders and decision-makers value and support cultural resources as a key industry cluster	●	●						●
Ensure that residents (including students), know more about the arts, culture, and history of the region and have an appreciation for the unique assets of this region	●	●						●



Housing

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Encourage the development of affordable/ workforce housing within proximity to employment, transportation, services, goods and recreation	•		•	•			•	
Increase the supply of new and existing housing stock that is safe, energy-efficient and accessible to the elderly and persons with disabilities		•		•	•	•	•	
Promote the development of a variety of housing options that are appropriately priced for persons of all income levels	•				•	•	•	
Recognize the unique needs and differences of rural and urban communities and tailor housing planning accordingly	•						•	•
Promote legislation at the Federal, State and Local levels that support other identified housing goals	•			•		•	•	•



Transportation

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Provide for non-motorized transportation options			●					
Provide for efficient and safe freight movement	●		●	●				
Increase transportation choices	●		●	●	●	●		
Promote transit			●	●				
Optimize infrastructure management			●	●				
Integrate transportation with land use			●	●				
Diversify energy portfolio, increase energy efficiency		●	●	●		●		



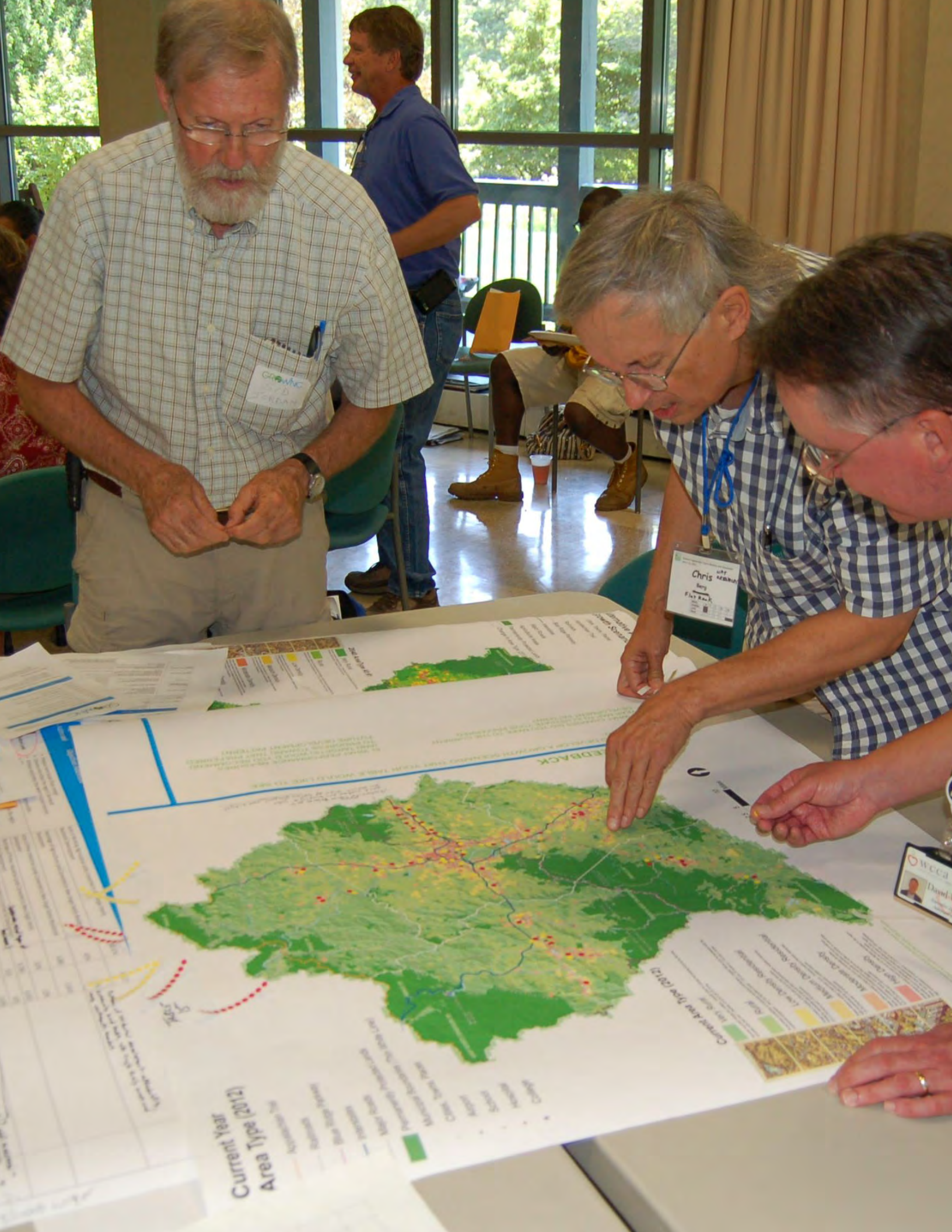
Health & Wellness

	BUSINESS SUPPORT & ENTREPRENEURSHIP	RESOURCE CONSERVATION	ACCESSIBILITY & CONNECTIVITY	LAND USE POLICIES	HEALTHY COMMUNITIES	ENERGY INNOVATION	HOUSING CHOICES	EDUCATION & AWARENESS
Advocate for a sustainable built environment that supports health promotion in the planning, assessment and intervention processes			●	●	●			
Advocate for improved access to community, holistic and medical health care options for all regardless of ethnicity, age, state of disease or financial resources			●		●			
Maintain a unified focus on and investment in prevention that improves quality of life and reduces health care expenses	●				●			●
Increase individual and community resilience through the integration of community, holistic and medical resources	●				●			●

IV. Vision for the Future







IV. Vision for the Future

To create a regional vision for the future, a method called scenario planning was used in the process. Scenario planning is a way to learn about the potential impacts and trade-offs of future growth and development by asking “What if?” questions. While scenario planning is not a crystal ball, it allows us to explore questions like: What if we maintain the current course and operate business as usual? What will development look like 30 years from now? How much farmland will we lose? Where will people live? How will they get to and from work?

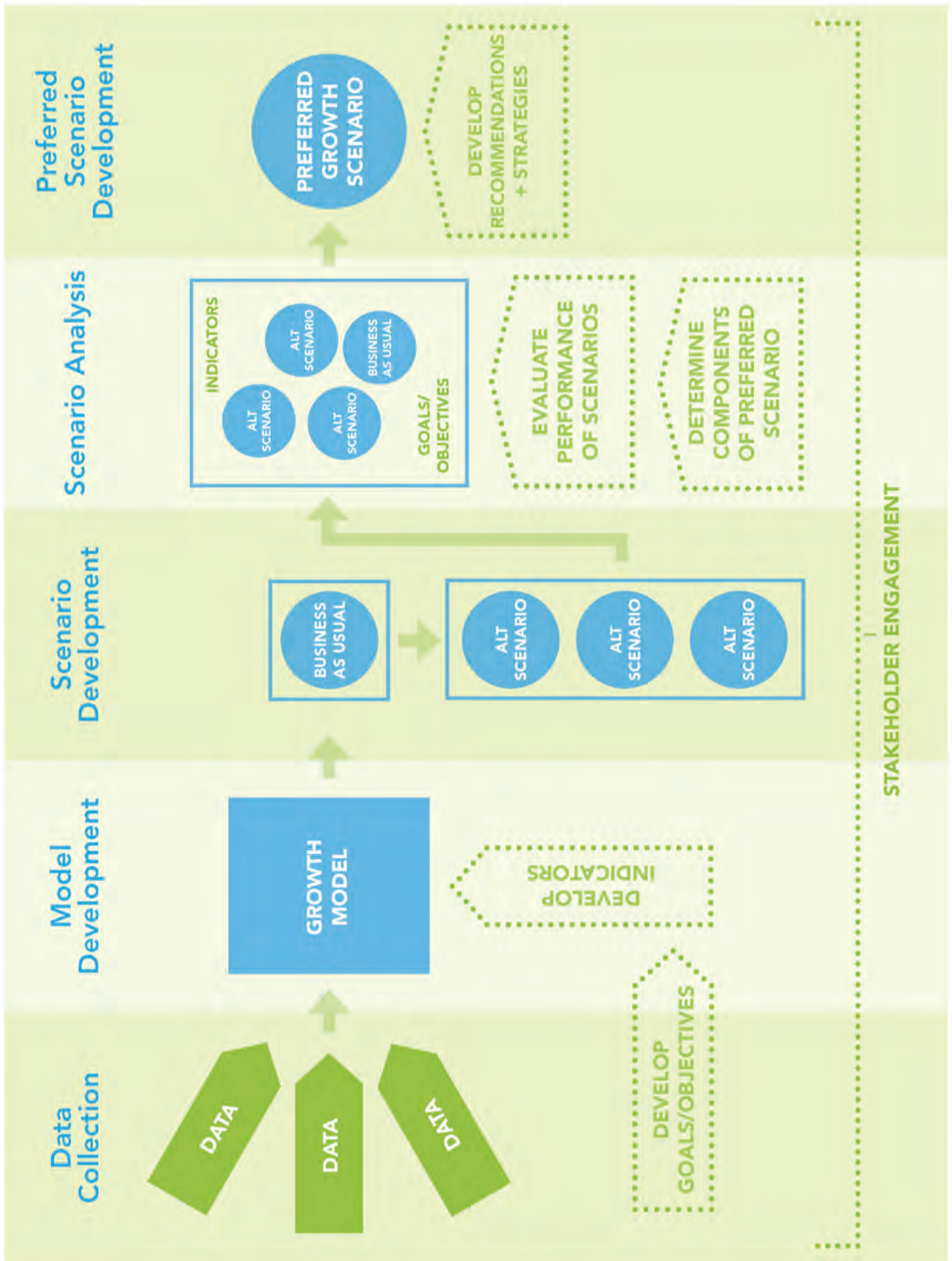
During a scenario planning process, participants can start to think about alternatives to the current course of growth by asking comparative questions. What if we want to preserve more of our farms and forests? What if we want to direct growth to places with existing infrastructure? How will development respond accordingly? These alternative growth scenarios are compared back to the “business as usual scenario” to understand and evaluate the potential trade-offs of doing things differently.

To help evaluate the trade-offs, the project team developed indicators that measured the impacts of growth on a variety of areas such as jobs, housing, transportation, natural resources and energy. These indicators use data to reinforce an understanding of the trade-offs. For example, one indicator used in the GroWNC process is a measure of the amount of prime farmland impacted by future development. This indicator allows us to roughly quantify the amount of farmland the region could potentially lose to development. With an understanding of the role agriculture plays in the local and regional economy now and in the future, we can ask ourselves, “How many acres of farmland do we want to preserve for existing and future generations?”

Through scenario planning, participants in GroWNC evaluated alternative paths forward from which a regional vision for the future developed.

During community meetings, participants were able to provide critical information to project team members that supported the development of the scenarios.

Figure #4: GroWNC Scenario Planning Process

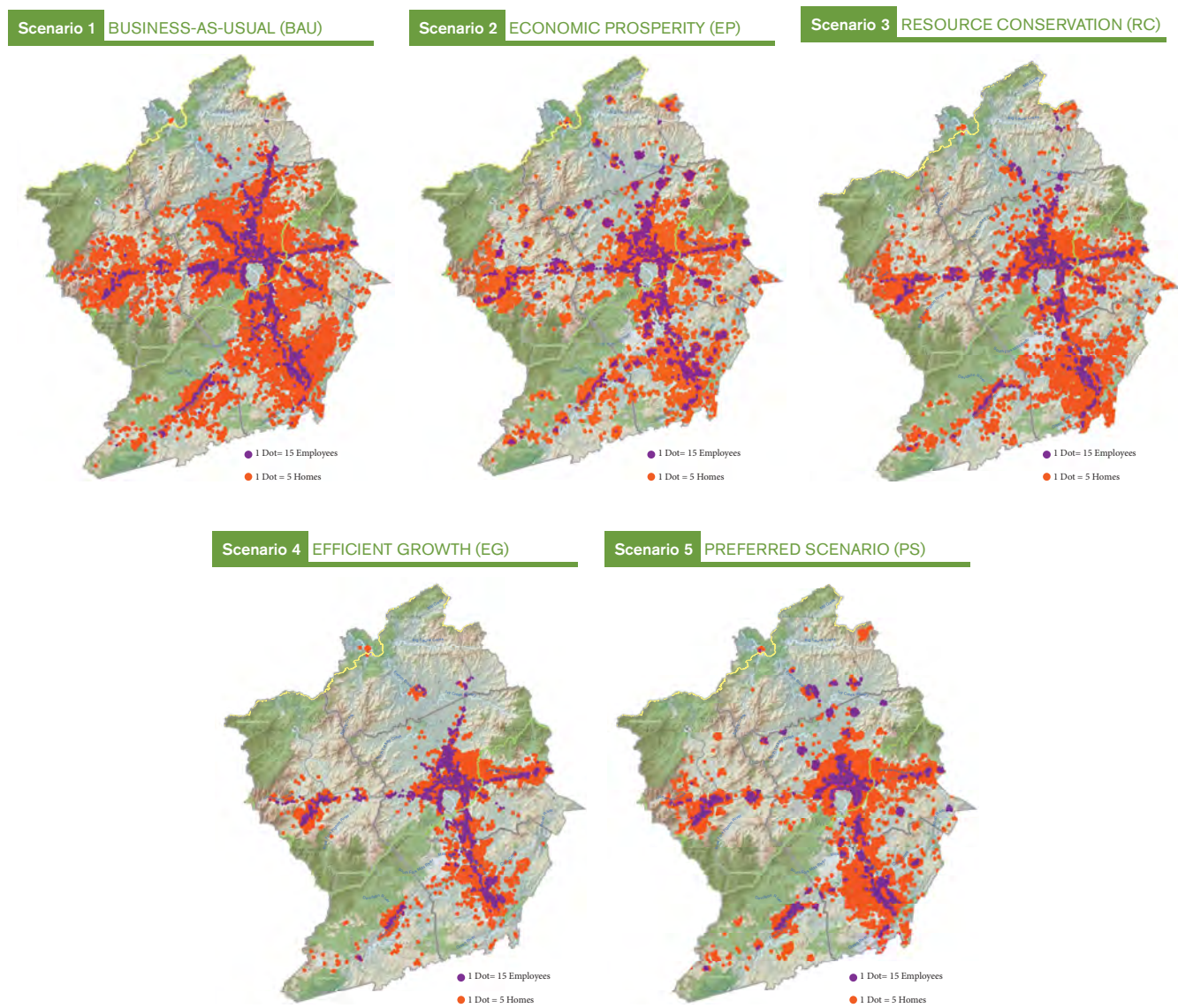


Scenario Development

Most scenario planning processes start with the development of a baseline “business as usual” (BAU) scenario because it reflects a future condition if current policies and practices continue. In land use planning, the BAU represents a probable future if current land use policies and regulations remained unchanged and development patterns continue in a similar way to present patterns. Additional scenarios were created based on the goals identified earlier in the process. The alternative scenarios presented, as well as their underlying assumptions, are outlined below.

Land Use/Development Scenarios

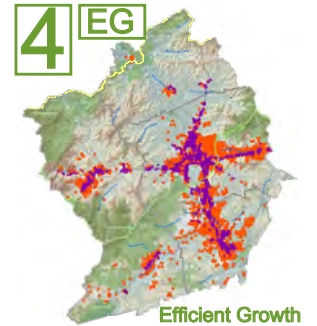
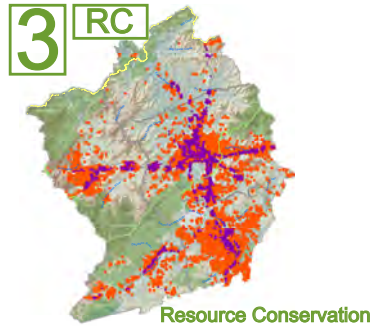
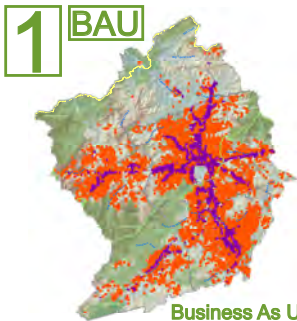
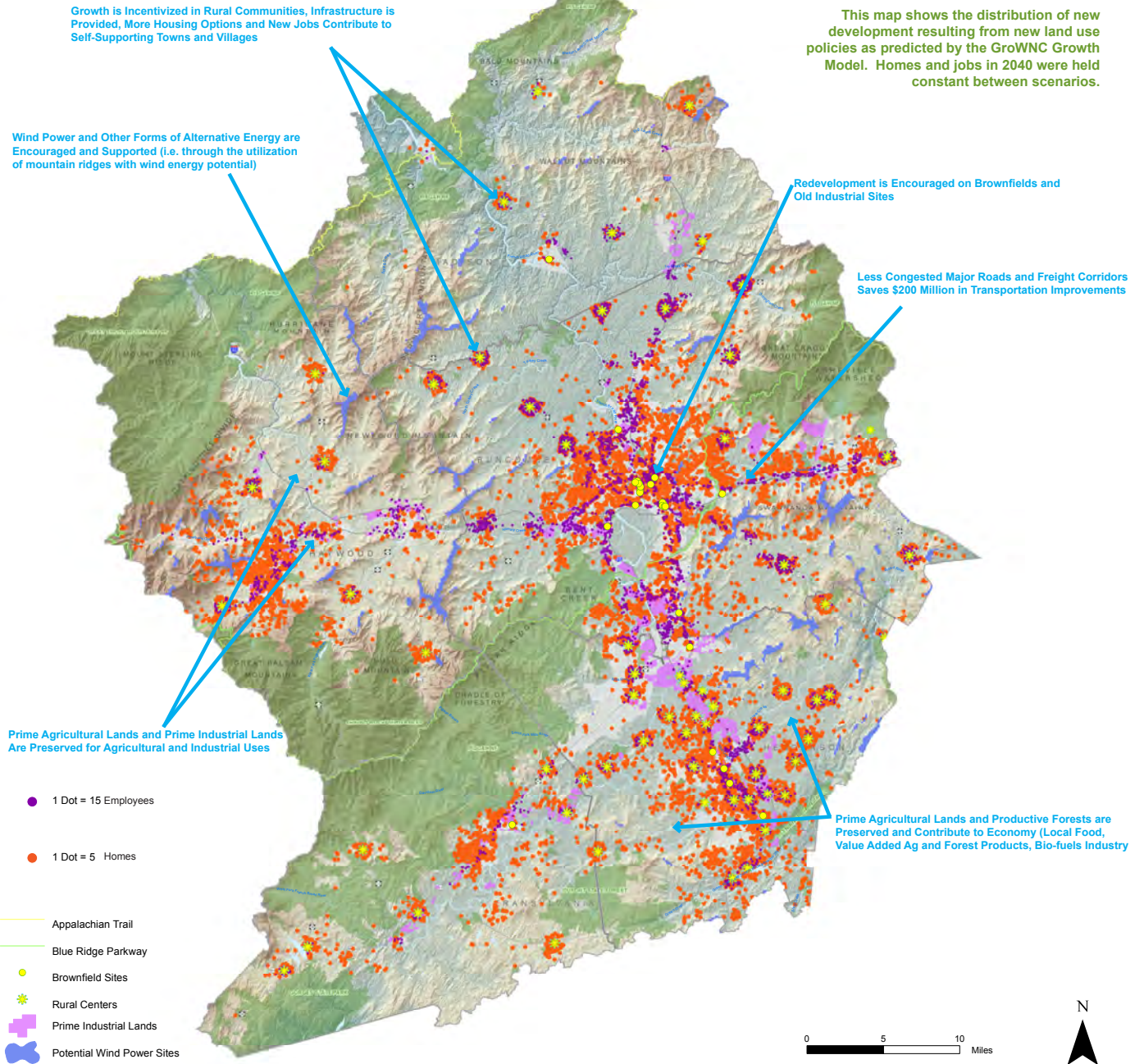
These maps show the distribution of new development resulting from land use policies as predicted by the GroWNC Growth Model. The number of projected homes and jobs in 2040 were held constant between scenarios. For an in-depth technical explanation of the GroWNC Growth Model please refer to the Appendix of this report.



Map #2: Economic Prosperity Scenario

LOCATIONS OF EMPLOYEES & HOMES 2040

This map shows the distribution of new development resulting from new land use policies as predicted by the GroWNC Growth Model. Homes and jobs in 2040 were held constant between scenarios.



Economic Prosperity Scenario

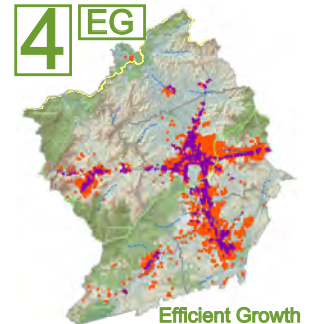
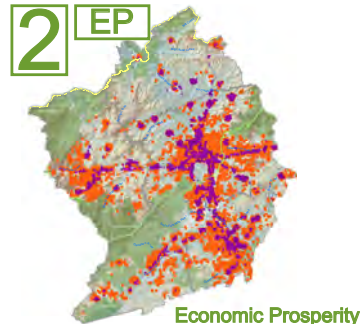
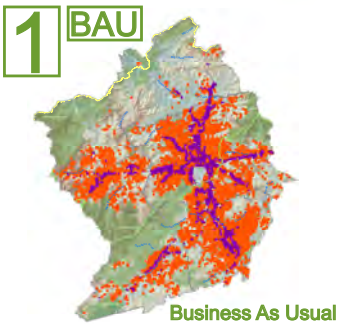
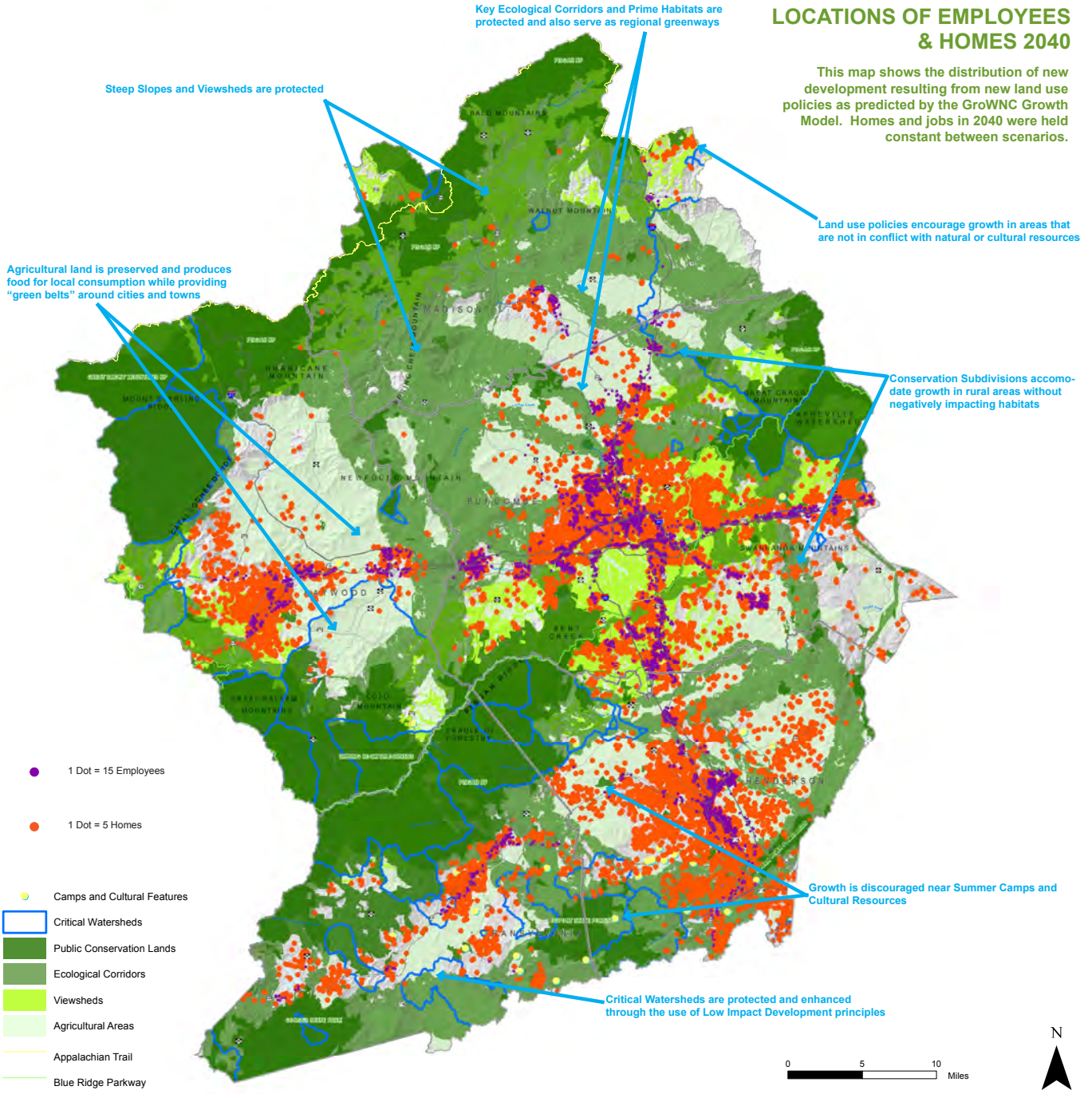
The Economic Prosperity Scenario (EP) envisions a future where talented people—and their businesses—locate. It reflects future policy changes that preserve economic development sites including prime industrial and agricultural lands. The EP scenario was modeled using the following assumptions:

- Land use policies are adopted that limit development of prime industrial lands to industrial and supporting employment uses.
- Growth is encouraged on brownfield sites to ensure redevelopment and reuse of well-located sites.
- Land use policies are adopted that limit development of prime agricultural land.
- Through investment in infrastructure, lands near traditional rural centers are more attractive for development, allowing more jobs to be created.
- In support of the green/clean tech industries, lands suited for alternative energy production are set aside through acquisition and other tools.
- Pending further study and regulatory changes, mountain ridges with wind energy potential (rated marginal and above), not located in protected areas, are encouraged to be used for energy generation (windmills and windfarms).

Map #3: Resource Conservation Scenario

LOCATIONS OF EMPLOYEES & HOMES 2040

This map shows the distribution of new development resulting from new land use policies as predicted by the GroWNC Growth Model. Homes and jobs in 2040 were held constant between scenarios.

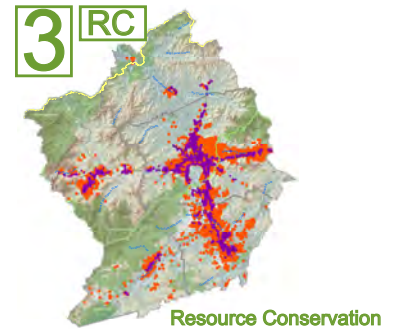
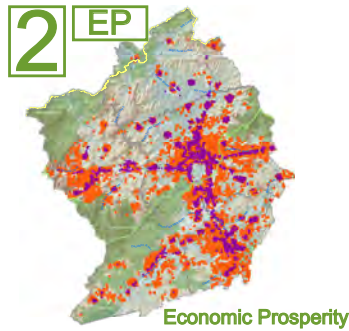
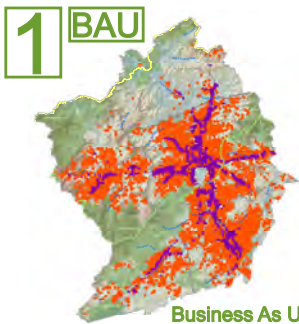
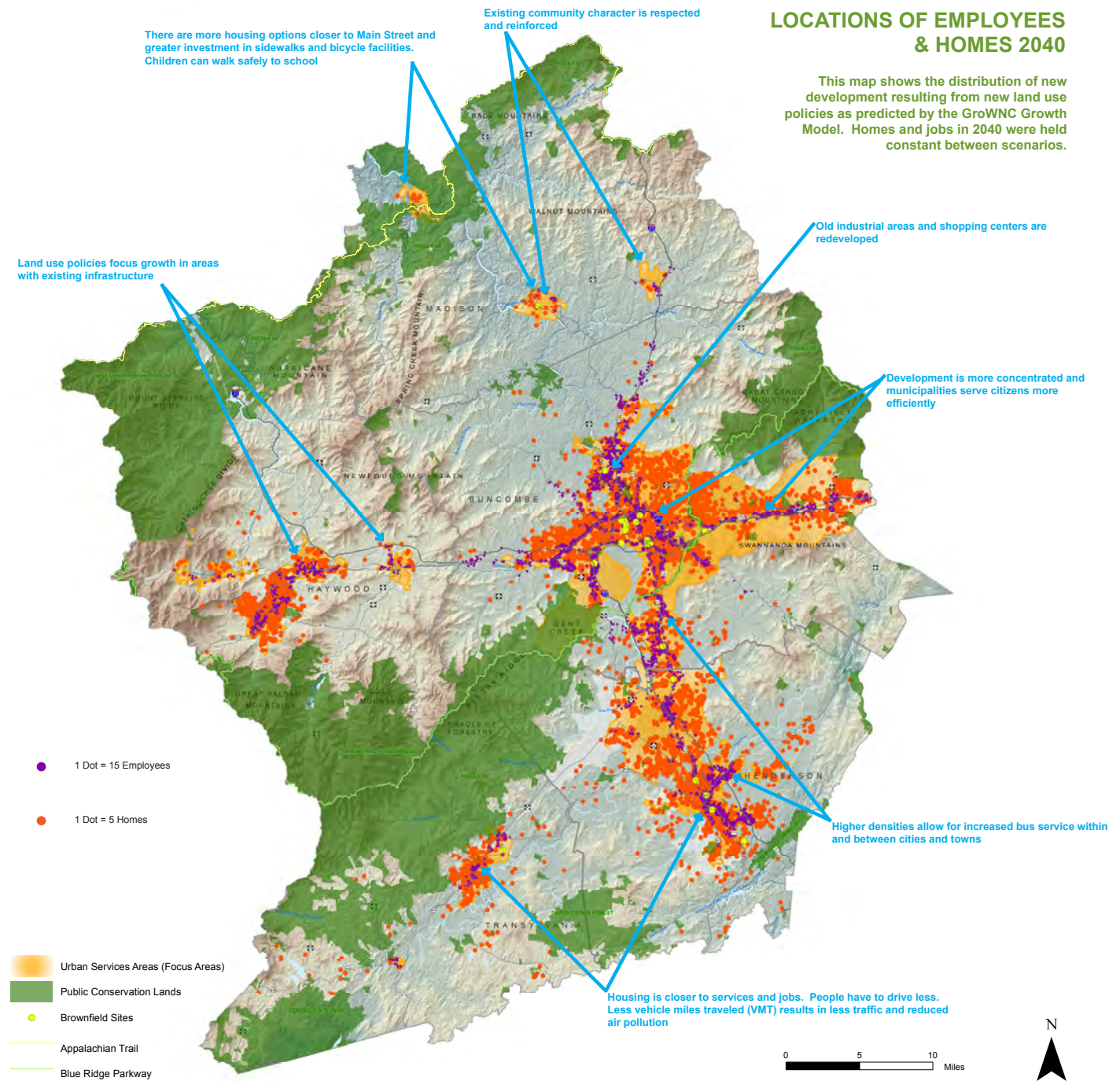


Resource Conservation Scenario

The Resource Conservation (RC) Scenario envisions a future where natural and cultural amenities are preserved and protected. This scenario was developed to emphasize resource conservation and land use policies that limit or discourage intense development in areas valued for their natural or cultural resources. The following assets were factored into this scenario:

- Prime agricultural lands
- Key ecological corridors as identified by the Linking Lands and Communities study
- Prime habitat as identified by the Linking Lands and Communities study
- Steep slopes
- Viewsheds of the Appalachian Trail and the Blue Ridge Parkway
- Critical watersheds, identified based on the Linking Lands and Communities Water Quality Assessment
- Lands with environmental constraints, such as wetlands, floodplains, hydrology buffers.
- Lands in the vicinity of outdoor camps and retreats
- Areas adjacent to significant cultural resources (a region-wide list of cultural resources were identified during community meetings)
- Policies are implemented that incentivize growth in areas that do not have cultural or natural resources that could be negatively affected by future development.

Map #4: Efficient Growth Scenario



Efficient Growth Scenario

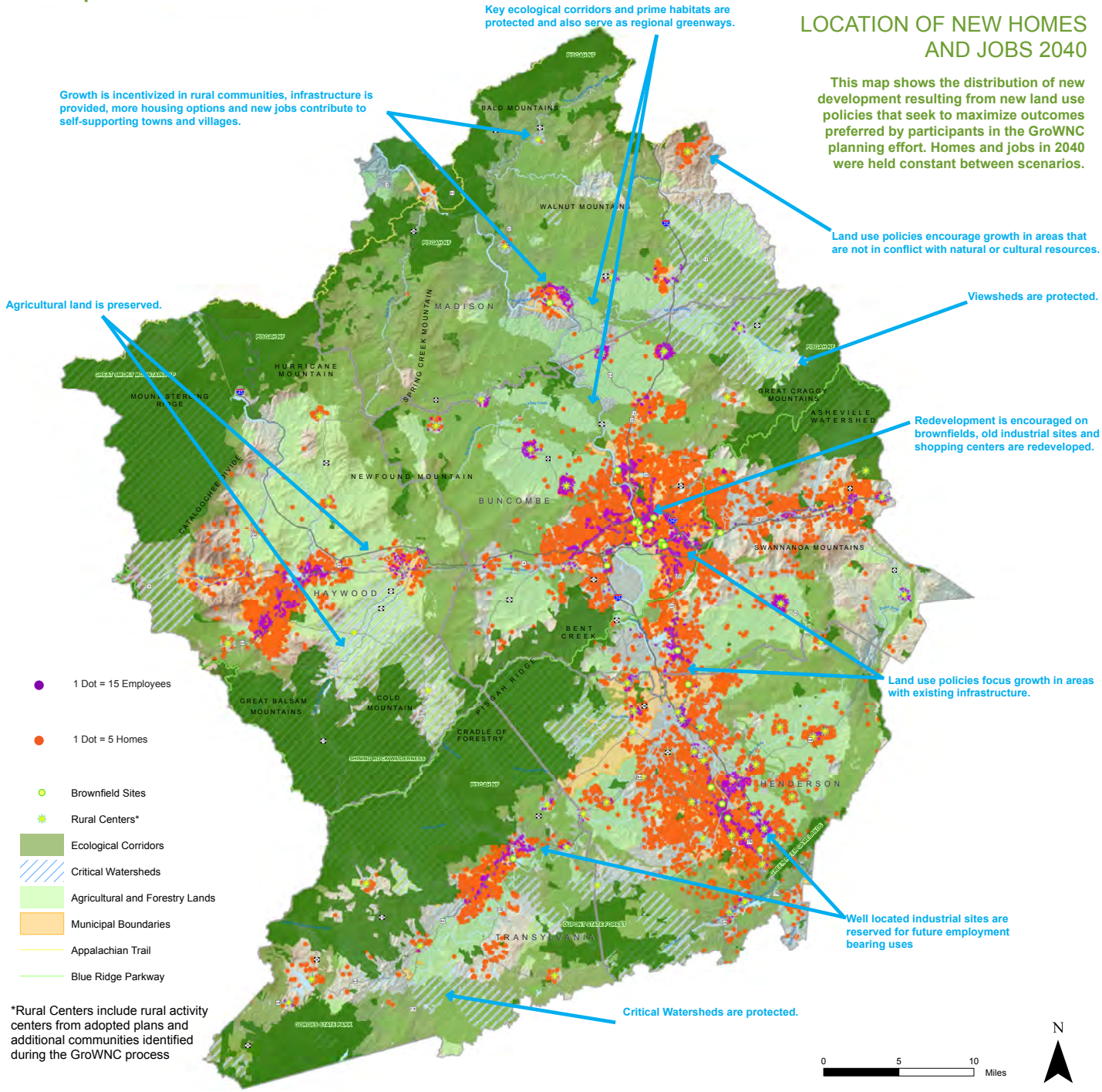
The recent economic downturn and associated reduction in revenues has resulted in all levels of government having limited amounts of capital to expand and extend municipal services including water, sewer, EMS and fire protection, transit, trash pickup and other services. Accordingly, a scenario was developed that sought to concentrate growth in areas where infrastructure and services already exist. The Efficient Growth (EG) scenario was developed based on the following assumptions:

- Land use policies focus growth in areas within existing urban service areas. For the purpose of this model existing urban service areas include land within city limits, land currently served by existing sewer service and areas identified in current comprehensive plans as future service areas.
- Through investment in existing infrastructure (upgrades to existing facilities and limiting new extensions), sites within urban service areas can support more intense development.
- Increases in maximum allowable densities (+25 percent for residential and non-residential) in urban service areas will lead to more housing options and jobs closer to housing.
- Brownfields redevelopment programs, combined with rezonings that increase the allowable residential and non-residential densities in the vicinity of brownfields, will lead to adaptive reuse of existing buildings to accommodate demand for residential units and non-residential space for jobs.

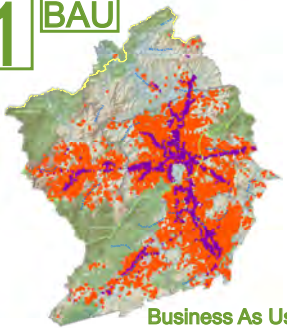
Map #5: The Preferred Scenario

LOCATION OF NEW HOMES AND JOBS 2040

This map shows the distribution of new development resulting from new land use policies that seek to maximize outcomes preferred by participants in the GroWNC planning effort. Homes and jobs in 2040 were held constant between scenarios.

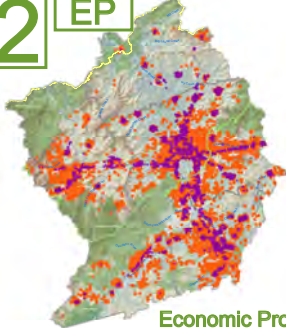


1 BAU



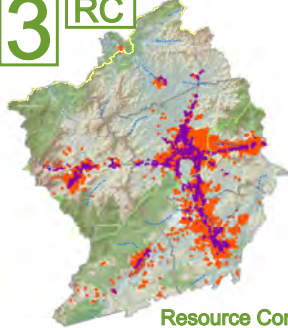
Business As Usual

2 EP



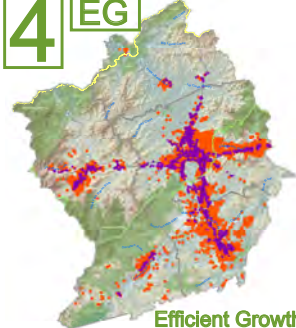
Economic Prosperity

3 RC



Resource Conservation

4 EG



Efficient Growth

The Preferred Scenario

All of the scenarios were presented to the public in a series of community and small group meetings and online. Participants were asked to vote on the components from each scenario that were most important to the future of the region. The results from the meetings and online survey were analyzed to produce the Preferred Scenario. The Preferred Scenario includes elements from each alternative scenario to maximize GroWNC goals and community priorities.

In general the outcome-based voting results conveyed that there are certain “Consensus Growth Areas”—locations in the region where participants believe that certain types of growth are appropriate and economic development is needed. There are also areas that, due to the presence of significant natural or cultural resources, certain types of medium or high intensity land uses may be inappropriate. Consensus Growth Areas included areas where transportation and utility infrastructure exists. These areas were identified based on a number of GIS datasets including sewer service areas, city limits, urban service areas from existing comprehensive plans and an analysis of areas with high levels of street connectivity. Participants also supported having more jobs located in rural areas and the targeted redevelopment of brownfields and vacant/underutilized properties. There was also a strong preference for preserving industrial lands for future employment sites.

Goals developed earlier in the process, along with voting responses, help to define areas where proactive steps should be taken to conserve or preserve key resources that contribute to the health of the regional economy and the natural systems. These areas included farms and forests that contribute jobs and raw materials while supporting traditions, watersheds critical to drinking water and recreation, areas of ecological significance that provide habitats for endangered, endemic and game species, and view-sheds enjoyed by residents and visitors. All land use related outcomes were tied to model assumptions. The assumptions were weighted according to the percentage of respondents that voted for the outcomes. The changes in land use patterns are representative of outcomes that further goals and can be achieved through a number of different policies or programs. In this way the Preferred Scenario is not prescriptive but suggestive of steps regional stakeholders can take to achieve a common end.

The Preferred Scenario

The following list presents major policies and outcomes supported by the Preferred Scenario. Refer to Section 5 for more detailed information regarding strategies supportive of these and other components of the Preferred Scenario.

POLICY #1:

Support watershed protection efforts that preserve the integrity of the region's critical watersheds.

Goal Supported:

- Water is clean and plentiful.

POLICY #2:

Discourage development of prime agricultural land and forestry land.

Goal(s) Supported:

- More food is produced locally.
- Farming and forestry remain key elements of the economy.
- More products are produced locally from locally-sourced materials.

POLICY #3:

Limit development of prime industrial lands to industrial and supporting employment uses.

Goal(s) Supported:

- There are more quality, high-wage jobs.

POLICY #4:

Allow for a greater distribution of jobs throughout the region.

Goal(s) Supported:

- There are more job choices in rural areas.

POLICY #5:

Encourage redevelopment of brownfield sites.

Goal Supported:

- Abandoned industrial sites and shopping centers are redeveloped.

POLICY #6:

Preserve the viewsheds of the Appalachian Trail, the Blue Ridge Parkway and other viewsheds of regional significance.

Goal(s) Supported:

- Scenic beauty is maintained as the region develops.
- Tourism remains a key element of the economy.

POLICY #7:

Direct growth to areas where transportation infrastructure exists.

Goal(s) Supported:

- We use energy more efficiently.

POLICY #8:

Limit the fragmentation of prime habitat and ecological corridors.

Goal(s) Supported:

- Plant and animal habitats are connected and healthy.
- Low impact development techniques reduce impacts of growth on the environment.

Performance Measures

Indicators developed through the process measure the effectiveness of the policies reflected in each scenario in achieving GroWNC goals. Comparison of the indicators reveal the trade-offs between each scenario. The table below is a summary of the indicator results for each scenario.

Figure #5: Performance Measures

GOALS ADDRESSED	PERFORMANCE MEASURES	1 - BAU	2 - EP	3 - RC	4 - EG	5 - PS
Preserve Agriculture Lands	Acres of Working Agricultural Lands Converted to New Single Family Residential Development	○	●	●	●	●
	Acres of Prime Agricultural Lands Converted to New Single Family Residential Development	○	●	●	●	●
Preserve Industrial Lands for Job Creation	Acres of Prime Industrial Lands Converted to New Residential Development	○	●	●	○	●
Enhance the Region's Water Quality	Acres of New Impervious Surface in Critical Watersheds	○	●	●	●	●
	Acres of New Impervious Surface within 1-mile of Designated Trout Waters	○	●	●	●	●
	Acres of New Impervious Surface within 1-mile of Impaired Waters	○	●	●	●	●
Protect Sensitive Lands	Acres of Prime Habitat (Currently Not Protected) Converted to New Single Family Residential Development ** (Habitat Fragmentation)	○	●	●	●	●
	Acres of Ecological Corridors (Currently Not Protected) Impacted by New Development	○	●	●	●	●
	Number of new homes in viewsheds of the Appalachian Trail and Parkway	○	●	●	●	●
	Acres of Forest Potentially Impacted by New Development	○	●	●	●	●
Energy & Air Quality	Vehicle Miles Traveled	○	●	●	●	●
	CO Pollutant Emissions*	○	●	●	●	●
Grow where Infrastructure Exists	Jobs inside Urban Service Areas***	○	●	●	●	●
	Dwelling units inside Urban Service Areas	○	●	●	●	●
	Number of new jobs located on/near Brownfields sites	○	●	●	●	●
Improve Access to Jobs, Services, and Community Facilities	Number of Jobs Near Rural Communities	○	●	●	●	●
	Number of new homes located within 1/2-mile of amenities	○	●	●	●	●
	Number of new homes within 5 min drive of a health care facility	○	●	●	●	●
	Number of new homes located within a 10-minute walk of an existing school	○	●	●	●	●
Transportation	Miles of roadways near or above capacity (congestion) during peak PM hours	○	●	●	●	●
	Percent of VMT on roads that are near or above capacity (congestion) during peak PM hours	○	●	●	●	●
	Transit Propensity Index	○	○	●	●	●
	New Homes Adjacent to Existing and Future Transit	○	●	●	●	●

* Emissions measures are based on VMT, except for PS where they were estimated

** Prime Habitat Areas defined by Linking Lands and Communities

***Urban Service Areas based on a combination of GIS layers including existing sewer service areas, city limits and comprehensive plans, the result is used as proxy for water, sewer and other municipal services).

- KEY:
- Worse than BAU
 - Same as BAU
 - Better than BAU
 - Much Better than BAU

V. Ideas to Actions



take ant
\$2.50
pint

TURNIPS

\$3lb
eggplant

LOCAL FOOD
Thousands of miles from



radishes
\$2
bunch

broccoli
\$2.50
LB

arugula
\$3 bag







V. Ideas to Actions

The Preferred Scenario represents the regionally supported vision for the future of the region. Achieving that vision requires the involvement and commitment of a variety of public, private and non-profit entities. Numerous organizations and individuals are currently working to enhance, preserve and promote the communities in the region. (Examples of this work are highlighted in the case studies accompanying each set of recommendations.)

However, this is the first time one group has synthesized information at the five-county level to develop a set of sound, implementable recommendations and strategies that connect the region's vision with the policies, programs, projects, and plans needed at local and state levels to achieve that future.

The following sections provide the detail to move from vision to reality. The proposed recommendations and strategies, organized by theme, provide a framework to turn ideas generated through this process into actions. Each theme section is introduced by a set of recommendations that tie directly back to the goal statements developed by workgroup members earlier in the process. The recommendations are further supported by a set of diverse strategies that reflect the understanding that it is not a one size fits all approach for the region. Just as each community is unique, the approach to achieving the regional vision may differ from place to place.

Western North Carolina has the highest concentration of clean energy businesses in the state.

Together we create our future

Develop a supply of highly-marketable, development-ready sites to attract companies that bring quality, living wage jobs to the region.

Support economic innovation.

Promote the region's arts-based economy.

Ensure the region remains a premier destination for recreation and tourism.

Develop skilled workers to help businesses compete.

Promote a business-friendly environment.

Business Support & Entrepreneurship

The GroWNC economy is evolving. For generations, the mountains, rivers and farms of Western North Carolina provided jobs for its people. Over time the evolving economy developed an extremely industrious and self-sufficient workforce. Today, the region has a strong employment base of over 220,000 people. Relative to the rest of North Carolina and the U.S., the region has had a lower unemployment rate generally staying one-tenth of a point below the US average and one-to-two points below that of the State.

Critical to continued economic prosperity in the region is a diverse set of industry sectors that provide living wage jobs. From arts-based entrepreneurs to agribusiness operations and specialty manufacturers,

the region's economic strength lies in the ability to attract and support business of any size and sector. Craft brewers, clean energy companies, electric component producers and natural product manufacturers all are examples of the types of employers locating in the region.

The key to unlocking economic prosperity in the region is matching industries that have the most potential for growth (local specialization, adding jobs, and gaining market share) with what makes most sense given local preferences and community values. By focusing on the region's best opportunities for growth, we can maximize local opportunities within each of the following target industry sectors:

THE PREFERRED SCENARIO

The Preferred Scenario directly addresses many of the factors that support the region's economic prosperity. It envisions a future where lands most suitable for industry are set aside for employment-generating uses. It supports infrastructure investments in smaller rural communities to ensure that job opportunities are available throughout the region and not just in urbanized areas. The Preferred Scenario limits the amount of development on prime agricultural lands and works to protect the natural resources (i.e., views, waterways) that drive the tourism industry. In addition, it promotes redevelopment of Brownfield sites and abandoned shopping centers.

Target Industry Sectors

Specialty Manufacturing

The manufacturing industry continues to evolve and diversify. Metal products and machinery operations have a long history of success in the mountains and continue to locate here because of the high quality workforce and efficient transportation system. New entrants, such as recreational products, energy component and nutraceutical manufacturers, find operational efficiencies by being able to grow and test products locally.

Target Industries:

- Medical devices
- Recreational sporting goods
- Electronic components
- Energy components
- Metal products
- Wood products
- Plastic products
- Natural products
- Aerospace
- Biotechnology
- Automotive components
- Digital media

Agribusiness Operations

Agriculture is a top industry in the region. Fueled by demand for natural products and the local food movement, operations such as craft brewers and bio-fuel growers continue to find markets both locally and for export. In addition, innovative partnerships such as Blue Ridge Food Ventures support specialty producers in niche markets.

Target Industries:

- Crop production
- Forestry and logging
- Specialty producers
- Agriculture support services
- Natural products
- Commercial gourmet foods

Tourism & Outdoor Recreation

For generations, tourism has fueled the region's economy. People will continue to visit the region, spend money in local shops and restaurants and experience the numerous natural and cultural assets. Recreation-based businesses such as mountain biking operations and sleep-away camps also draw visitors from across the country. Recently, large scale movie productions such as *Hunger Games* have added a new dimension to the industry with local entrepreneurs offering tours of production location sites.

Target Industries:

- Motion pictures
- Arts
- Lodging and hospitality
- Entertainment and recreation
- Museums, parks and historic sites
- Heritage tourism

Health Care

The region continues to be a destination for retirees and second home owners. As this population ages more health care facilities are needed to meet the growing demand.

Target Industries:

- Nursing
- Residential care facilities
- Ambulatory health care services

Figure #6: Change in Total Employment Percent: 1990 - 2010

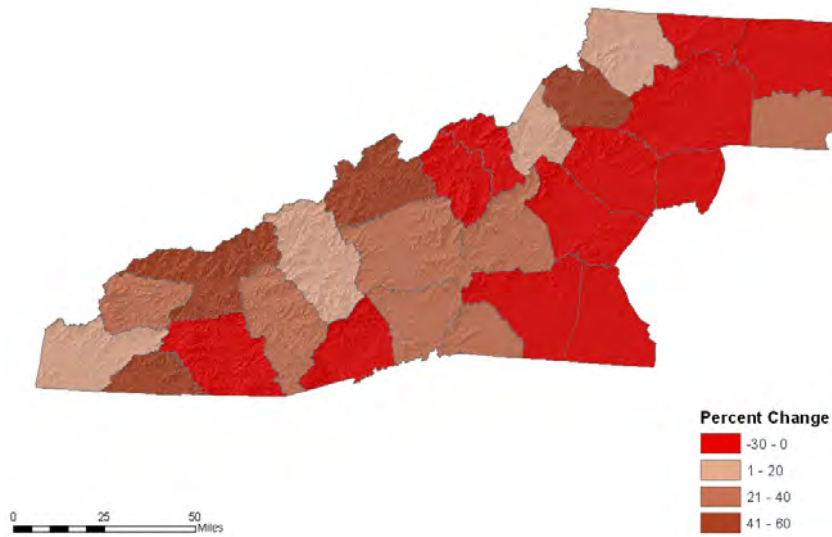
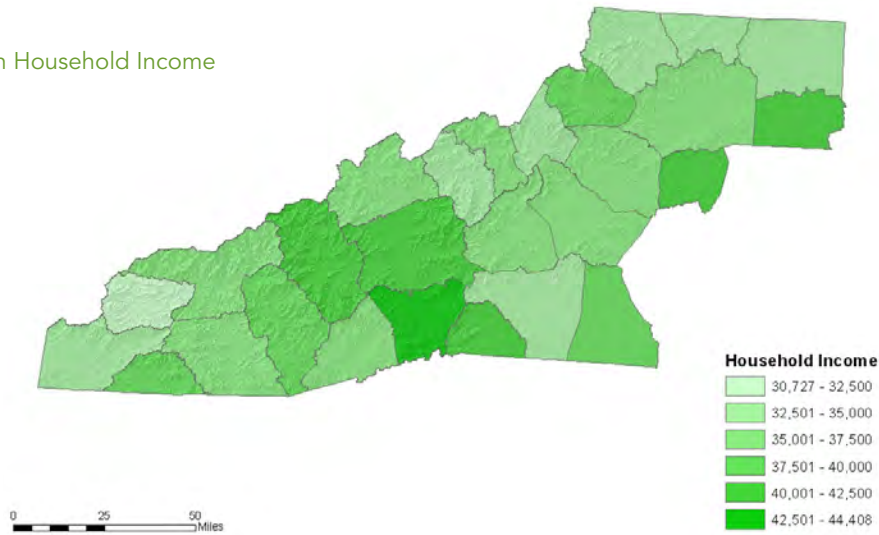


Figure #7: Median Household Income



In order to attract and retain businesses within these target industries we need to address the factors that influence business location decisions. Businesses, like people, have a wide range of choices in terms of where to locate. The availability of infrastructure, cost of energy, quality of workforce, general business environment, availability of resources and quality of life all factor into business location decisions.

Many of the systems that support businesses and economic development cross jurisdictional boundaries. Economic prosperity and advantage relies on the ability to create linkages within the regional system of resources to expand and strengthen our economic competitiveness.

Recommendations & Strategies

The set of tools to support existing businesses and promote entrepreneurship includes the following recommendations and supporting initiatives.

RECOMMENDATION BE.1

Develop a supply of highly-marketable, development-ready sites to attract companies that bring quality, living wage jobs to the region.

Key to attracting new jobs to the region is ensuring there is a supply of available sites with access to the main transportation corridors, water and sewer service, educated labor pools, and internet infrastructure. Through local land use policies, targeted infrastructure investments, site certification and Brownfield redevelopment the region can provide a supply of prepared sites available to expanding and relocating businesses.

STRATEGY BE1.1

Preserve industrial lands for employment-generating uses.

One of the scarcest resources in the mountain region is flat, developable land. The market for flat land is extremely competitive. Flat sites with water and sewer service and good access to major thoroughfares are sought after by both residential and commercial developers. For the economy to grow, the region's leaders must take the steps necessary to ensure a supply of land available for business relocation and expansion. Economic developers should partner with local planners to investigate the use of local land use policies such as industrial preservation districts and/or restrict rezoning of prime industrial sites to other uses to preserve existing industrial sites.

STRATEGY BE1.2

Identify areas throughout the region for targeted infrastructure investments.

In addition to preserving sites with infrastructure, steps should be taken to prepare new sites especially in rural centers. Identify priority investment areas in all counties to target investments to ensure an equitable distribution of job growth throughout the region. One step to facilitate an understanding of regional infrastructure needs is to establish a regional infrastructure coordination committee. The role of this committee would be to disseminate information regarding planned infrastructure improvements to participating members. The information-sharing could reveal partnership opportunities that would result in cost savings for participating jurisdictions.

STRATEGY BE1.3

Facilitate the redevelopment and reinvestment in vacant, underutilized and Brownfield properties.

The Environmental Protection Agency defines Brownfields as, "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."³ The redevelopment of Brownfields represents one of the greater opportunities to secure and prepare land for new development. Since many Brownfields are former industrial sites they are typically well-

CASE STUDY (SUPPORTS BE1.3)

Regional Brownfields Initiative (RBI)

In 2002, Land-of-Sky Regional Council began a long-term program to address the assessment, cleanup and redevelopment of the region’s Brownfields. Under the guidance of economic development professionals, environmental consultants, financial institutions and community leaders, the Regional Brownfields Initiative promotes the “utilization of existing industrial sites” as a primary strategy in the region’s Comprehensive Economic Development Strategy (CEDS).

Since 2003, the Regional Brownfields Initiative has provided funding to over 30 sites for Phase I, Phase II and cleanup assistance. These sites are located throughout Region B which includes Buncombe, Madison, Henderson and Transylvania Counties. The RBI currently serves four out of the five GroWNC counties.

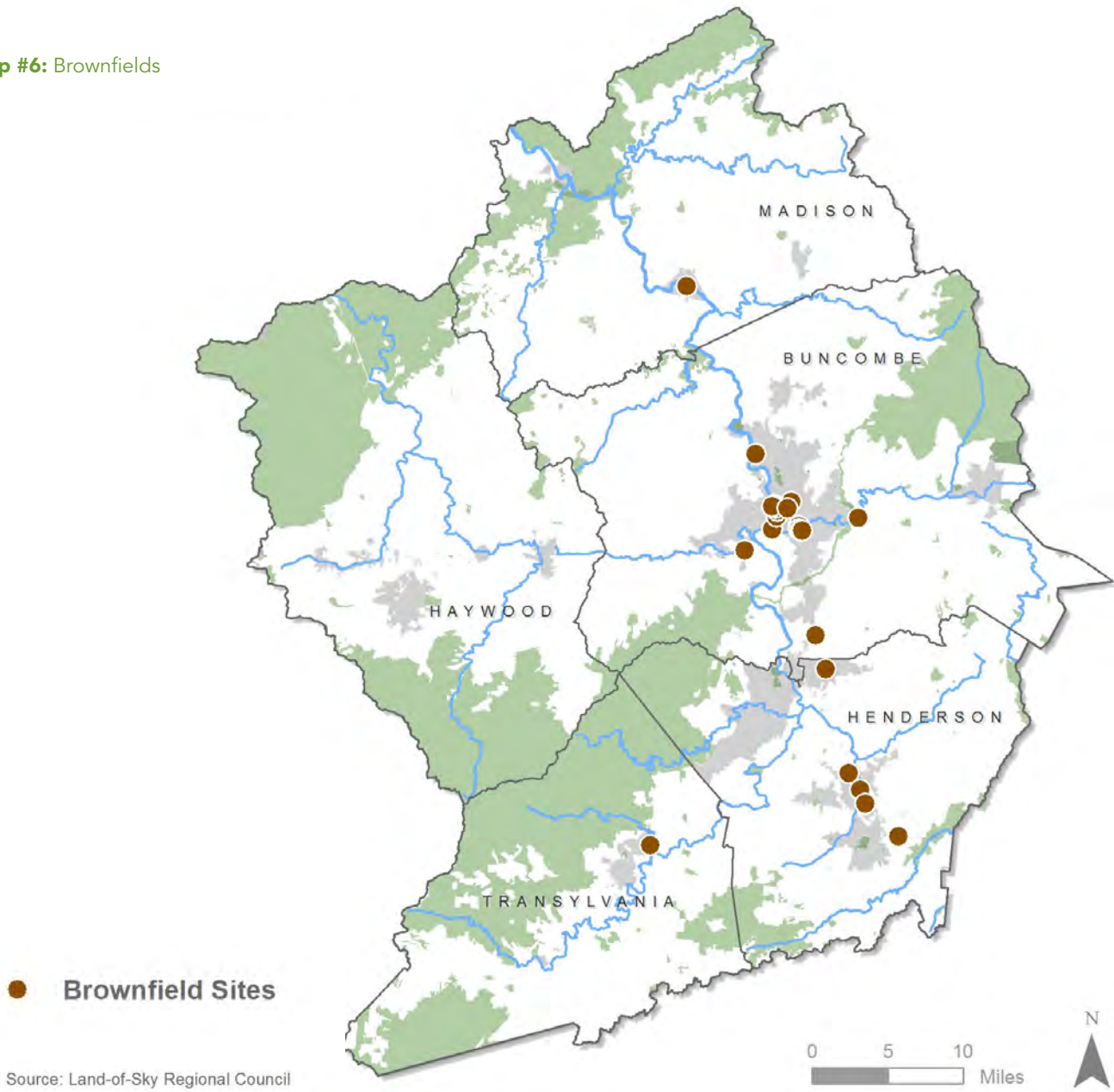
The RBI operates a Brownfields Cleanup Revolving Loan Fund Program to assist eligible owners of Brownfields sites in the cleanup of their properties. The Program provides attractive rate loans and subgrants to facilitate the cleanup of abandoned or underused properties in order to revitalize these properties, and to protect the environment and public health.

For more information: <http://www.landofsky.org/brownfields.html>



The Ecusta Paper Mill near Brevard is just one of many sites remediated through the Brownfields program.

Map #6: Brownfields



Source: Land-of-Sky Regional Council

located with access to water and sewer infrastructure. In addition, many Brownfield sites are located in low-income communities which could provide an opportunity for redevelopment and job opportunities for those residents. Strategies to facilitate the redevelopment of Brownfield sites include initiating a study to understand the economic value of Brownfield redevelopment in the GroWNC region, providing low or no cost technical assistance to inexperienced developers interested in redeveloping Brownfield sites and establishing a low interest loan program to fund Brownfield clean-up in targeted areas. Many funding sources are available for Brownfield remediation and redevelopment including the Brownfields Cleanup Revolving Loan Fund managed by Land-of-Sky.

For more information on local Brownfield efforts visit: <http://www.landofsky.org/brownfields.html>.

STRATEGY BE1.4

Develop a regional certified sites program.

A certified sites program prequalifies property so that development professionals, site selection consultants and business prospects can evaluate and compare potential locations for new or expanding businesses against a standard set of criteria. Advantage West, in partnership with the North Carolina Department of Commerce, currently maintains a database of certified sites⁴. A regional certified sites program would provide local economic development staff a tool to identify and market sites that may not qualify for state-level certification but fit local criteria within a specific geography and for a specific target industry.

STRATEGY BE1.5

Market the region as a location of choice for companies' headquarters in target industries.

RECOMMENDATION BE2

Support economic innovation.

In advanced economies, growth results from innovation and ideas. For the region to remain economically competitive it must support entrepreneurs and organizations that transform ideas into new goods and services. In addition, it must encourage existing businesses to innovate so that they remain relevant in the changing economic environment.

STRATEGY BE2.1

Improve access to capital for all types of businesses.

One of the greatest barriers to business start-up and expansion is adequate and timely financing. This is particularly difficult for entrepreneurs, small business owners and farmers. Capital comes in many forms, from 100% debt financing such as credit cards or home equity loans, to equity from angel investors and venture capitalists. However, there are many opportunities to link businesses to capital sources. Local non-profits, traditional lenders (i.e., banks) and business incubators can link entrepreneurs and businesses to capital sources by hosting regular funding workshops.

In addition, crowdfunding is a relatively new strategy that many entrepreneurs are successfully using to fund their business start-ups. Crowdfunding is a type of fund-raising that solicits small amounts of money from a large number of people, typically through the Internet. Local agencies should identify individuals and organizations in the region that have successfully used crowdfunding to secure start-up capital. Those individuals and organizations could then host a discussion on the lessons learned from that experience to educate entrepreneurs on successful crowdfunding strategies.

CASE STUDY (SUPPORTS BE2.1)

Appalachian Community Capital Initiative (ACC)⁵

The Appalachian Regional Commission (ARC) announced the creation of Appalachian Community Capital (ACC), a new central bank for development lenders that will increase the availability of capital to small businesses in the 13-state Appalachian Region.

For growing businesses in Appalachia, finding capital is difficult, as a number of systemic factors have limited the sources of available capital. According to recent studies, Appalachian small businesses receive only 82 percent of the loans of their comparable counterparts nationally, while businesses in Appalachia's economically distressed counties receive less than 60 percent of the loans of their national counterparts.

To address this gap, ARC, along with participating community loan fund partners in the Region, has committed to establishing a new source of funding for development lenders and is helping to capitalize it with \$42 million over the next 24 months. This new central bank is expected to leverage \$233 million of private bank capital and help create 2,200 jobs.

Appalachian Community Capital will raise grant capital and leveraged debt from funding sources not available to or underused by individual funds, such as regional and national banks, utilities, and national foundations. Because this new central bank will pool the capital needs of all its members, it can attract investors that are seeking to place larger amounts of money.

For more information:

http://www.arc.gov/news/article.asp?ARTICLE_ID=402

STRATEGY BE2.2

Identify ways to help traditional manufacturers repurpose assets and adopt advanced technologies.

For generations we have relied on traditional manufacturing (e.g., textiles and furniture) to sustain the economy. The reality is that those industries are disappearing. From 2000 to 2011 North Carolina lost almost 42 percent of its manufacturing employment base⁶. The ability to support those employees and businesses working in traditional manufacturing, by providing opportunities for training and retooling operations, will ensure the region's economic competitiveness for generations to come.

STRATEGY BE2.3

Establish business incubators focused on green technologies, creative culture and other targeted industries.

Business incubators, like the Small Business Center at A-B Tech and Blue Ridge Food Ventures, are valuable resources for emerging and existing entrepreneurs and small business owners. The counseling, training, grant funding, networking and resources they offer are critical to ensuring the success of new start-ups. Local economic developers should work with existing business incubator operators to facilitate programs that support target industry development.



The North Carolina Advanced Manufacturing Alliance offers specialized training to people to prepare them for employment in the advanced manufacturing sector.

CASE STUDY (SUPPORTS BE2.1)

N.C. Community Development Initiative⁷

The N.C. Community Development Initiative leads North Carolina's collaborative community economic development effort, driving innovation, investment and action to create prosperous, sustainable communities.

The Initiative makes strategic financial investments – grants and loans – in high-impact community organizations across North Carolina and equity investments in early-stage businesses that promote economic growth in the state's poorest and most distressed communities:

- Grant programs – funding for core operating support and projects that help organizations build capacity, become self-sustaining and test innovative approaches to community economic development.
- Loan programs – gap funding, permanent financing and flexible credit to catalyze or complete financing for housing and commercial development.
- Equity investments – equity investments in early-stage businesses that will create jobs and economic growth in underserved communities, made in collaboration with members of the North Carolina chapter of the Investors' Circle.

The Initiative promotes sector innovation to find new and sustainable strategies for promoting economic growth in North Carolina's poorest communities and strengthening the organizations that serve them.

- Strategic financial investments focus resources on projects and organizations that develop and use the most effective strategies for strengthening low-resource communities.



- Technical assistance helps organizations develop and find the technical, administrative, management and organizational skills and expertise necessary to develop and implement innovative projects.
- Public policy and advocacy work helps ensure the state's policy, regulatory and funding priorities support innovative community economic development.

The Initiative connects community economic development leaders with the resources, networks and training they need to serve their communities, and is helping create the next generation of sector leaders.

- Conferences and training workshops provide opportunities for developers, partners and community leaders to network, collaborate, share best practices and envision new approaches to community challenges and opportunities.
- The Initiative's Summer Youth Leadership Program places high school seniors in summer internships in community organizations around the state. It exposes students to the challenges and solutions for helping the state's poorest communities grow economically and give them valuable work experience and life skills.

For more information:
www.ncinitiative.org

CASE STUDY (SUPPORTS BE 2.2)

North Carolina Advanced Manufacturing Alliance⁸

The North Carolina Advanced Manufacturing Alliance comprises 10 community colleges which provide specialized training to people to prepare them for employment in the advanced manufacturing sector. An \$18 million grant from the U.S. Department of Labor provides the consortium of colleges with funding for equipment equivalent to what is used by advanced manufacturing companies in North Carolina. The alliance created a new learning model to accelerate the training of people who have become unemployed and dislocated as a result of offshoring and to give them the skills and credentials North Carolina employers need for well-paid jobs.

- **Advanced technology for hands on training-** Students gain hands-on skills on state-of-the-art equipment that is similar or identical to the equipment found in industry.
- **New coursework-** New coursework tailored specifically to the equipment is being taught to students to enable them to qualify with industry-acceptable certificates and credentials.

- **Online and offline-** Partnering with Apple, students are equipped with iPads so that they are able to access multimedia coursework on iTunes U, complete projects offline, and expand their learning horizons on the world wide web in their own time to better manage home, work and education schedules.
- **Success managers-** Success managers help students tailor coursework to meet their needs to more quickly obtain the credentials required to work in advanced manufacturing. Success managers also provide personalized support to sustain students' momentum to completion.
- **The 'Catch 22' hurdle of experience-** Without experience, you can't get a job; but without a job, you can't gain experience. By partnering closely with industry, the Alliance is able to place students with the appropriate qualifications in internships where they can obtain the experience they need to turn that internship into a full-time job.

For more information: www.advancedmanufacturingalliance.org

RECOMMENDATION BE3

Promote the region's arts-based economy.

Generations of artists have called Western North Carolina home. Today, there are more than 130 galleries across the region. A report from the UNC Center for Craft, Creativity and Design states that the total annual economic impact of the craft industry on the economy is over \$200 million⁹. For the region to fully capitalize on its arts-based assets it is important to protect, encourage, appreciate and support an arts-based creative economy. Organizations such as HandMade in America are key partners in promoting and growing the region's arts-based economy.

STRATEGY BE3.1

Integrate arts and culture as a strategic advantage for the WNC region and essential to community, economic, and business development, encouraging arts-based development and enterprises.

STRATEGY BE3.2

Develop a brand for the region's arts, cultural and heritage resources.

Brand recognition develops awareness about a product or service. Many places across the United States have been successful in developing a brand for products

produced within a specific geographic location. For example, the marketplace places a premium on wine from Napa, cheese from Wisconsin and oranges from Florida. Just as these places have developed a brand, the GroWNC region has the opportunity to develop an identity that establishes a connection between the arts-based products produced in the five-county GroWNC region and potential customers.

STRATEGY BE3.3

Develop a regional online directory for artists, crafters, musicians and other creative entrepreneurs in addition to the resources provided by HandMade in America.

STRATEGY BE3.4

Continue to develop the WNC Cultural Alliance to create a unified voice for the cultural resources community in WNC through activities including: (1) marketing arts and culture; (2) providing incentives for collaborations/partnerships; and (3) building a cultural resources database.

Out of the GroWNC Workgroup, the WNC Cultural Alliance formed. The mission of the WNC Cultural Alliance is to work to advance the cultural resources community in WNC through collaboration, advocacy, preservation, engagement, and education focused on cultural resources.

STRATEGY BE3.5

Assess the economic impact of cultural resources and track over time.

For most industries, sales are tracked at both state and federal levels. Currently this is not happening with the arts, craft or heritage tourism industry. In order for the region to assess the impact of cultural resources, and use that data to assist policy makers in decision-making, more reliable data needs to be collected. The WNC Cultural

CASE STUDY (SUPPORTS BE3.2)

Blue Ridge Naturally¹⁰

The Blue Ridge Naturally™ seal is designed to bring international and national attention to Western North Carolina's emerging natural products industry. The seal emphasizes Western North Carolina's superior quality in locally grown ingredients and finished natural products.

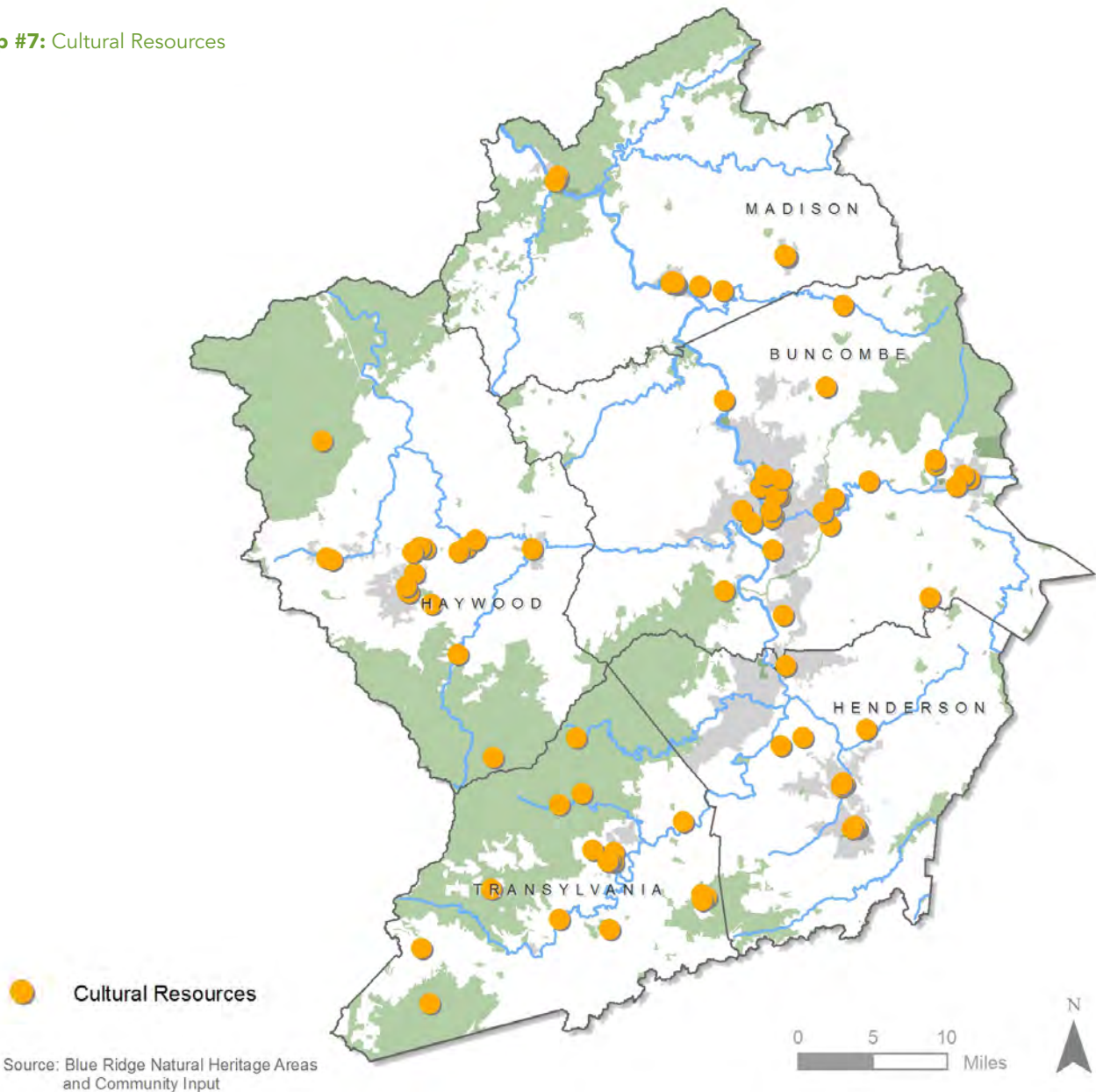
If you grow or produce natural products in Western North Carolina, carrying the seal on your products tells your customers they can trust that your products are traceable and sourced in Western North Carolina, a region of distinction in the natural products industry.

The BRN™ Seal is a collaborative effort of Bent Creek Institute, BioNetwork Laboratory, Blue Ridge Food Ventures, North Carolina State University Mountain Horticultural Crops Research and Extension Center and the North Carolina Natural Products Association. It is sponsored by Advantage West and the Golden Leaf Foundation. All BRN™ seal companies will be encouraged to use the services of these qualified entities to improve their growing and manufacturing processes to further support WNC as a region of distinction for natural products.

For more information:
www.blueridgenaturally.org



Map #7: Cultural Resources



Alliance should work with the arts-sector to establish a process for gathering data. This information should be collected and managed at a regional level. Potential partners to assist in this effort include local universities, chambers of commerce, county-arts organizations, etc.

STRATEGY BE3.6

Track attendance at outdoor cultural events and incorporate into metrics such as the Creative Vitality Index.

Cultural events, the arts, the economy and natural resources are inextricably linked. Raw materials for crafters are garnered from the farms and forestlands throughout the region. Inspiration is drawn from the majesty of the mountain environs. Revelers are drawn to outdoor festivals by the music and the bucolic surroundings. It is essential to gain a better understanding of the economic benefit of cultural events in the region. Similar to the previous recommendation, the WNC Cultural Alliance could work with existing organizations such as the Blue Ridge Natural Heritage Area and Mountain Resource Commission to build on the existing efforts to track attendance at regional outdoor cultural events.

STRATEGY BE3.7

Improve advocacy for cultural resources to ensure that community leaders and decision-makers value and support cultural resources as a key industry cluster.

RECOMMENDATION BE4

Ensure the region remains a premier destination for recreation and tourism.

For generations visitors have traveled to the mountains of Western North Carolina to hike in the state parks and national forests, raft and fish down the waterways and visit the historic and cultural sites. From the Biltmore Estate to the Flat Rock Playhouse, the GroWNC region offers a rich variety of distinct outdoor experiences for visitors to enjoy.

Tourism is one of the GroWNC region’s largest industries. According to the North Carolina Department of Commerce, domestic visitors traveling to the five-county region spent a record \$1.2 billion in 2011, supporting more than 13,000 jobs. The tourism industry has been a key contributor to economic recovery in the GroWNC region. The following chart breaks down the direct economic contribution of the travel and tourism industry in each of the five counties.

The Biltmore Estate alone drew over 1,101,413 visitors in 2011, making it the most visited tourist attraction in the state¹¹. In addition to tourism and travel, the GroWNC region continues to attract recreation-based businesses such as sporting goods manufacturers. This segment of the economy will continue to grow as more businesses look to relocate and expand in a place that reinforces the brand and lifestyle image of their products. Promoting and supporting the tourism and recreation industries in the region is critical to overall economic health.

Figure #6: Economic Impact of Travel and Tourism Industry in 2011

LOCATION	REVENUE (MILLIONS)	CHANGE FROM 2010	NUMBER OF JOBS DIRECTLY ATTRIBUTABLE TO TRAVEL & TOURISM	TAX REVENUE (MILLIONS)
BUNCOMBE	\$783.01	7.41%	9,070	\$65.50
HAYWOOD	\$120.40	3.51%	1,280	\$11.35
HENDERSON	\$209.39	3.10%	1,930	\$19.10
MADISON	\$30.60	7.19%	300	\$3.03
TRANSYLVANIA	\$77.32	7.76%	710	\$6.72

Sources: NC Department of Commerce Division of Tourism, Film and Sports Development, Travel Economic Impact Model 2011

CASE STUDY (SUPPORTS BE4.2)

The Economic Impact of Wine and Wine Grapes on the State of North Carolina¹²

The North Carolina wine industry has experienced increased growth in the number of wineries and increased demand of North Carolina wine that is outpacing available wine grapes from within North Carolina. The number of wineries in the state of North Carolina has grown from 55 in 2005 to 89 in 2009 including many in the GroWNC region. The industry continues to expand at an assertive pace with almost all of the growth coming from the addition of small wineries – wineries producing fewer than 5,000 gallons per year. Wine production in North Carolina has grown by approximately 13 percent since 2005. With 529,000 gallons bottled in 2009, North Carolina ranks ninth in the nation’s wine production.

The wine and grape industry in North Carolina has contributed greatly to the economic strength of the state. North Carolina’s wine, grape and related industries have increased the total economic value to the state from approximately \$813 million in 2005 to \$1.28 billion in 2009, or an increase of 58.0 percent. As the number of North Carolina wineries increase, so does the number of tourists visiting them (from 800,000 tourists in 2005 to 1.3 million tourists in 2009). Wine, grapes and related industries account for nearly 7,575 jobs in North Carolina, with an associated payroll in excess of \$237 million.



STRATEGY BE4.1

Create an alliance of recreation-based businesses.

Strong working relationships of local industry peer groups are necessary to sustain an industry’s success. Local chambers could work together to host regional networking events for recreation-based businesses.

STRATEGY BE4.2

Track and quantify the economic impacts of recreational activities through a regional study to establish the economic impact of the industry in the region.

Many studies exist quantifying the overall impact of the travel and tourism industry in North Carolina. However, to fully understand and therefore support a robust recreation-based economy, a study is needed to quantify the direct and indirect impacts of the cluster on the regional economy. This information should be distributed to elected officials and citizens to build awareness of the impact of the tourism industry on the economy. In addition, steps should be taken to integrate this information into local government training curricula.

STRATEGY BE4.3

Create a regional activity passport to increase coordination among and attendance to existing tourist destinations.

Many places across the United States have developed activity passports that offer prepaid admission to a variety of top attractions in a city or region. These passes not only provide the visitor with conveniences such as admission discounts but provide the venues with increased visitorship and joint-marketing benefits. Ultimately, a successful passport program extends the amount of time and money spent by visitors in a region.

STRATEGY BE4.4

Collect visitorship data from all regional tourist destinations. Share information with elected officials.

Visitorship data is needed to justify investments to support the tourism industry in the region. While the Department of Commerce tracks a number of tourism-supportive metrics, the region should invest in a system to track regional visitation data including spending, tax, lodging and demographic facts.

STRATEGY BE4.5

Develop programs and incentives for dedicating a portion of the funds generated through eco-tourism for conservation and sustainable management of the area's natural resources.

RECOMMENDATION BE5

Develop skilled workers to help businesses compete.

A healthy and prosperous economy depends upon a skilled workforce. A resilient economy's workforce is diverse and includes highly educated employees, technical service-providers, and middle-skill workers. One of the keys to a productive and skilled workforce is a good system of educational opportunities including post-high school workforce development options. The GroWNC region has significant education assets including a variety of post-secondary colleges and universities. The ability to match educational offerings provided at these institutions with the local jobs available will not only keep young talent in the area but will provide retraining and upskilling opportunities for displaced workers.

STRATEGY BE5.1

Support and strengthen workforce development training for ethnic minorities and women.

STRATEGY BE5.2

Host job fairs in low income areas.

Local nonprofits such as Job Link should work with area businesses and chambers to host job fairs in low income areas to provide an opportunity for residents to interact with employers.

STRATEGY BE5.3

Create demand-driven and targeted workforce development strategies that enable employers to articulate needs more precisely to existing workforce development providers.

Job advancement opportunities should exist for workers at every education and skill level. Workforce development providers should partner with existing and potential employers to understand their existing and future business needs and to develop job training curricula accordingly. A regional alignment taskforce should work together to ensure communication and collaboration among stakeholders and to identify and replicate best practices from other areas. In addition, the taskforce should convene partners to reduce in-region competition and to increase collaboration on grants and other initiatives involving economic development, education training and workforce development. Through innovations such as these and work-based learning opportunities, customized certificate or degree programs and ongoing career counseling, workforce development providers can ensure that both GroWNC workers and businesses succeed.

STRATEGY BE5.4

Create more short-term workforce development classes (less than six months) that meet immediate workforce demand, such as Certified Logistics Associate, Certified Logistics Technician, CNC Machinist and Fundamentals of Automated Machining.

Minorities and women often face significant barriers to successful employment. Workforce development providers should identify programs and systems with proven results that could be replicated or expanded in the region and seek opportunities to overcome these barriers through innovative solutions such as online training and prior learning assessment strategies. For example, organizations should provide more outreach to women and minorities to increase enrollment in traditionally male-dominated training courses, such as those in supply chain operations.

STRATEGY BE5.5

Design policies that enable neighborhoods and communities to leverage their unique economic assets and support strengthening small businesses, minority- and women-owned businesses, and enterprises owned by people with disabilities.

CASE STUDY (SUPPORTS BE4.3)

CityPass¹³

CityPass, founded by Mike Gallagher and Mike Morey, bundles prepaid admission to each city's top attractions – based on annual attendance – into one easy-to-use ticket booklet whose cost is up to half off what it would cost to purchase those same admissions separately. For example, CityPass Atlanta provides admission to some of the city's most visited destinations including the Georgia Aquarium, World of Coca-Cola, CNN Studio Tour, Zoo, Atlanta History Center, Fernbank Museum of Natural History and High Museum of Art. The CityPass saves the visitor time (no waiting in long ticket lines) and money (discounted admission) through a convenient one-time pass purchase.

CityPASS is now available in 11 North American destinations: Atlanta, Boston, Chicago, Hollywood, Houston, New York City, Philadelphia, San Francisco, Seattle, Southern California and Toronto.

Reserve procurements or parts of procurements for small business, minority- and women- owned businesses. This does not guarantee the work to any specific group but it does mean that only small businesses and/or minority and/or women owned businesses can compete.

RECOMMENDATION BE6

Promote a business-friendly environment.

The mountain region of Western North Carolina is a great place to do business. In today's globally competitive economy where businesses have flexibility in their location decisions, the region must be as welcoming as possible to businesses of all sizes. All firms, and particularly smaller ones with fewer resources, need to be able to focus their energies on serving their customers rather than interacting with government. A business-friendly environment results in good quality jobs for the region's residents.



STRATEGY BE6.1

Identify ways to increase coordination and collaboration across the five counties in their efforts to attract and retain businesses, including expanding the network of resources available for new and relocating businesses.

Economic developers throughout the region should partner together to develop a one-stop shop for businesses interested in moving or expanding to the GroWNC region. By providing information and resources at a regional level, individual jurisdictions can work together to attract and retain employers. An one-stop shop reduces the number of points of contact a company has to make and facilitates the decision making process. Existing resources such as the Resource Toolbox and Community Connections provided by the Asheville-Buncombe County Economic Development Coalition should be expanded to all five counties.

For more information:

<http://www.ashevillechamber.org/economic-development/small-business-and-entrepreneurship>.

STRATEGY BE6.2

Facilitate a more open and accessible business environment by regularly engaging firms in the planning process.

Local planners should regularly meet with business owners to understand their needs, opportunities and challenges. A proactive approach that involves business owners in the planning process will result

in the ability of local governments to prepare for changes in the economic environment and ultimately help businesses thrive.

STRATEGY BE6.3

Develop case studies of incentives to promote and encourage living-wage jobs.

Not all jobs are created equal. Good jobs provide wages that sustain a decent quality of life. Too many jobs throughout the GroWNC region offer poverty-level wages with little or no benefits. These are not the kind of jobs that will help the region's economy grow and prosper. Incentives are one tool economic developers can use to attract employers that offer living wage jobs. At a minimum, living wages provide the income necessary to meet basic needs. A regional study is needed to not only understand what types of incentives attract higher wage companies but, more broadly, how higher wage standards affect economic development and employment.

STRATEGY BE6.4

Develop a value/supply chain study (from raw material to end product) that will create local production, distribution and retail opportunities for existing and emerging industries.

Similar to the renewable energy supply chain analysis completed by AdvantageWest, a study is needed that inventories existing businesses in the region and identifies gaps in the target industry's supply chain.

Together we create our future

Sustain and enhance water quality.

Preserve agriculture and forestry lands.

Support the Appalachian Sustainable Agriculture Project (ASAP) in its mission to help local farms thrive, link farmers to markets and supporters, and build healthy communities through connections to local food.

Preserve the region's scenic beauty.

Recognize the importance of connectivity between protected lands by managing wildlife and recreation corridors for biodiversity and protecting unfragmented forest blocks.

Promote the region's cultural assets.

Improve monitoring and data collection to build awareness of the region's natural assets.

Raise awareness of the region's system of natural assets.

Resource Conservation

The GroWNC region is resource rich. From the headwaters of the French Broad River in Transylvania County to Blannahasset Island in Madison County, the region is host to an inspiring diversity of natural and cultural assets. Imposing mountain ranges, high elevation balds, crystal clear waters, historic homes, cultural sites and large tracts of state parks and national forests, provide a backdrop to life in the region. These assets serve as the foundation of the agriculture, timber and tourism industries; provide numerous eco-system services such as clean air and water; provide a globally-recognized habitat for game, fish, and birds; offer opportunities for wilderness experiences; are the source of inspiration to many creative entrepreneurs.

Heritage events, the arts, the economy and natural resources are inextricably linked. Raw materials for crafters are garnered from the farm and forestlands throughout the region. Inspiration is drawn, literally

and figuratively, from the majesty of the Blue Ridge Mountains. Visitors are drawn to outdoor festivals by the music and the bucolic surroundings.

Growth and development impact the region's natural resources, but the natural environment is incredibly resilient and the region still benefits from rare habitats, unparalleled recreational opportunities, magnificent vistas, and a blend of microclimates that contribute to high levels of biodiversity. In addition, the region has established a reputation as a leader for craft production and education throughout the country.

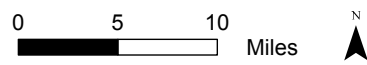
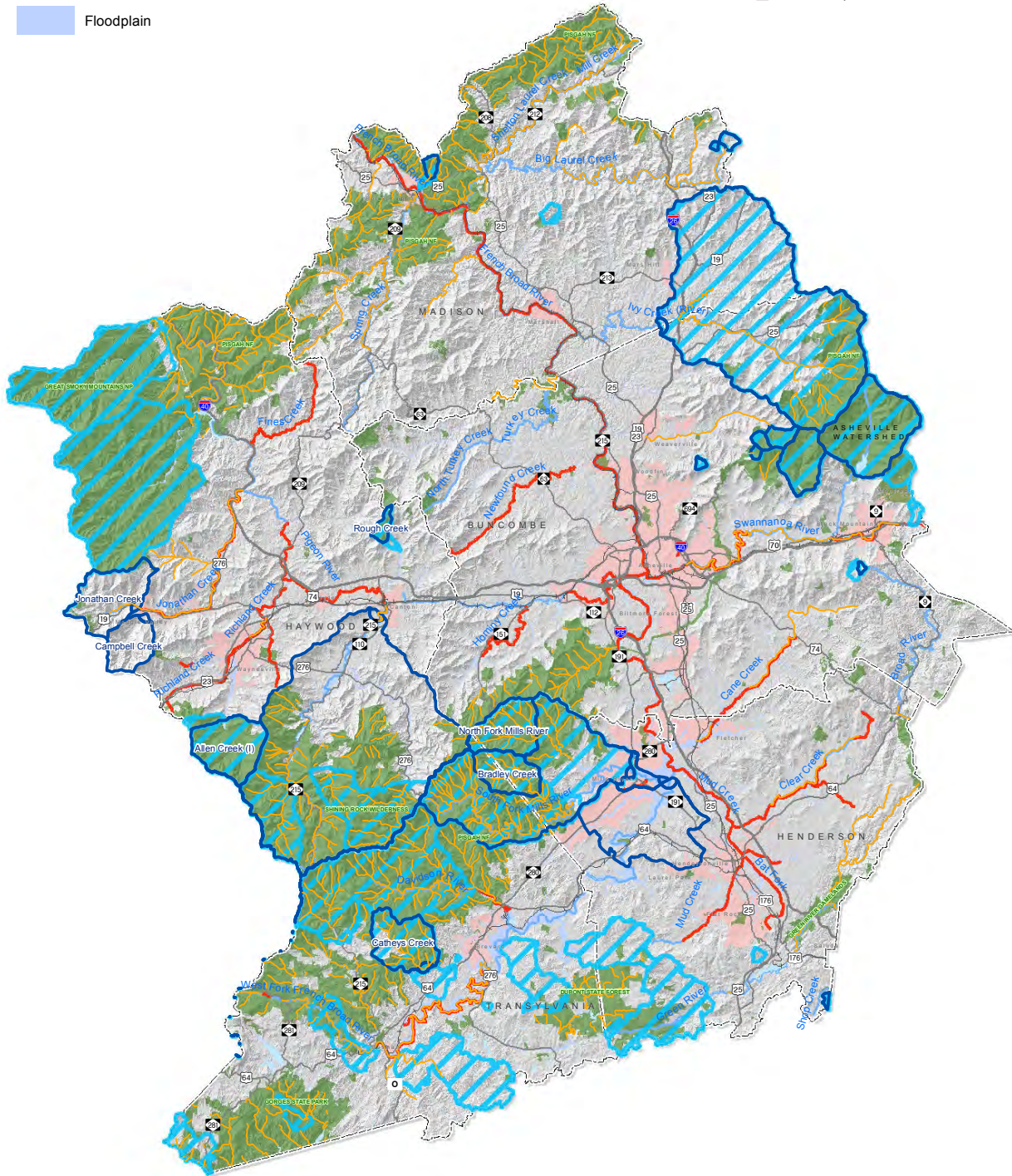
The creative spirit and natural assets of the area will continue to attract people and businesses. As the region grows, it is critical that these resources be protected and enhanced to ensure the region sustains the economy and the unique quality of life valued in the five counties.

THE PREFERRED SCENARIO

The Preferred Scenario improves water quality by limiting the amount of development in critical watersheds. It promotes an economy and culture rooted in farming and forestry by discouraging new development on prime agricultural and forestry land. The region's viewsheds, such as the Appalachian Trail and Blue Ridge Parkway, are preserved to maintain the scenic beauty in the region. The Preferred Scenario also protects key ecological corridors and prime habitats that contribute to the region's system of green infrastructure and serve as regional greenways and recreation corridors.

Map #8: Water Resources

-  Water Supply Watersheds
-  High Quality / Outstanding Resource Waters
-  Designated Trout Waters
-  Impaired Waters (NCDENR)
-  Major Streams
-  Floodplain
-  Major Roads
-  Railroads
-  Counties
-  Permanently Protected Lands
-  Municipal Boundaries



Data Source: NEMAC, NC Fish & Wildlife, NCDENR, NCOonemap

Recommendations & Strategies

The set of tools that support resource conservation includes the following recommendations and supporting strategies.

RECOMMENDATION RC1

Sustain and enhance water quality.

Water quality was the highest priority for participants in the GroWNC process. Almost half of all the participants voted that ensuring clean and plentiful water should be a priority for the region.

The GroWNC study area serve as headwaters to many river systems. Over 7,000 miles of streams have been mapped by the U.S. Geological Survey in the region. Portions of the study area receive enough rainfall to be classified as a temperate rainforest. This rain feeds headwater streams, which gain flow from seeps and springs in high mountain valleys. Some of these cold water streams offer some of the best water quality in the state due to the limited development in their upper reaches. Throughout the process it became evident that preserving the quality of this resource is paramount to ensuring a healthy and prosperous region.

Water quality protection efforts have also proven to be cost effective. Watershed protection efforts have been shown to significantly reduce water treatment costs. Downstream anglers, paddlers, residents and businesses benefit from water quality. Recreational interests bring millions of dollars in eco-tourism revenue to the region annually. A thriving outdoor recreation manufacturing industry provides high



The French Broad River supplies water to more than one million people in the GroWNC region

quality jobs to the area. Over the last few years water quality has proved essential to bringing major employers to the region. For example, many of the brewers that located in the region suggest that the region's high quality of water is one of the factors that make the region so attractive for the industry.

STRATEGY RC1.1

Protect land in the region's headwaters.

Targeted land acquisition is the most effective method to enhance water quality. Land protection should be directed toward properties that produce multiple benefits. Areas that protect water quality, provide recreational opportunities, preserve viewsheds and provide habitat for endangered or endemic species should be highest priority acquisition lands. In addition, permanently protecting lands in critical watersheds have financial benefits to local governments downstream such as reducing the cost of treating drinking water.

STRATEGY RC1.2

Reduce the amount of land disturbed in critical watersheds through targeted development regulations.

Stream buffers are one tool used to protect critical watersheds from development impacts. Local watershed protection ordinances limit land disturbances in critical watersheds. Local policies should also encourage impervious surface maximums and innovative stormwater management techniques such as green roofs, rain gardens, pervious pavements, depressed curbs, etc.

STRATEGY RC1.3

Limit stream crossings in headwaters.

Stream crossings increase sedimentation and impede the upstream migration of fish, including native brook trout. In areas where existing populations of endemic or endangered aquatic species exist, attempts should be made to design subdivisions and other types of development in ways that limit the number of stream crossings.

In order to limit the number of stream crossings in headwaters, it is recommended that local agencies and non-profit organizations work with state agencies to investigate the feasibility of creating a cost-share

program for bridges and culverts to limit impact of private stream crossings on water quality. Where stream crossings are necessary, they should be designed to minimize the impact to local hydrology. In most cases this will result in increased costs.

There is a need for public and/or non-governmental agencies to study when and how to partner with private interests to ensure that, where appropriate, spanning structures are built. In addition, retrofitting existing stream crossings and reconnecting sections of headwater streams will sustain native brook trout and increase genetic diversity and resiliency.

STRATEGY RC1.4

Establish, restore, and promote streamside protection areas.

Techniques to protect streamside areas differ from place to place. Therefore any strategy should involve multiple partners including landowners and local government. Local governments can promote streamside protection and reduce development impacts by specifying maximum impervious surface area, built upon area limits, and additional riparian buffer requirements. In addition, governments can encourage conservation subdivisions and the preservation of unregulated hydrologic and riparian features to help reduce the impact of development. A couple of resources for local governments to reference are the N.C. Green Growth Toolbox and the Mountain Ridge and Steep Slope Advisory Committee standards.

The N.C. Green Growth Toolbox suggests the following standards:

- In sub-watersheds without federally listed fish and mussels, the NC Wildlife Resource Commission recommends 100 foot native, forested buffers on perennial streams and 50 foot buffers on intermittent streams.
- In sub-watersheds that contain federally listed fish and mussels 200 foot buffers on perennial streams and 100 foot buffers on intermittent streams are suggested.
- Buffers on ephemeral streams, vernal pools, springs and seeps are also needed.

The Mountain Ridge and Steep Slope Advisory Committee outline the following options for streamside protection in areas with steep slopes:

- Option 1: Base width of 100 feet plus 2 feet per 1 percent of slope on each side of the water body, up to a maximum of 150 feet on each side.
- Option 2: Base width of 50 feet plus 2 feet per 1 percent of slope on each side of the water body, up to a maximum of 150 feet on each side.

For more information:

<http://www.landofsky.org/mrss.html>

STRATEGY RC1.5

Promote the use and maintenance of incentives, ordinances, and site design criteria that encourage the use of innovative stormwater management techniques. Encourage the use of green infrastructure to augment traditional stormwater management systems.

Innovative stormwater management techniques prevent stormwater pollution, which saves money, and provide community amenities. Local governments should encourage the use of features such as rain gardens, green roofs, pervious pavement, stormwater tree trenches, rain barrels, and cisterns in new development to assist in reducing non-point source pollution. The Pigeon River Fund awarded a \$28,500 grant to Land-of-Sky to convene the French Broad Stormwater Committee to develop regional stormwater management strategies, educate citizens about stormwater issues, and train stormwater management professionals in the French Broad River and Pigeon River sub-basins. Activities are scheduled to last from June 2013 to June 2014.

CASE STUDY (SUPPORTS RC1.5)

Philadelphia's Green Stormwater Infrastructure Program¹⁴

Philadelphia's Green Stormwater Infrastructure Program offers a precedent for transitioning from traditional detention techniques to a broader view that embraces low impact development techniques commonly referred to as LID. For more than a century, the City of Philadelphia has been working to protect water resources through environmental planning and natural area set-asides. Philadelphia is focusing on three main efforts:

- Implementing regulations through a performance-based stormwater ordinance to create incentives for best management practice (BMP) use
- Building Best Management Practices for research and education
- Initiating a rate reallocation study to migrate to an impervious-area-based formula for the stormwater utility, which has been in place since 1968

The City has had enormous success over the past decade, and it continues to revise and improve its procedures. For example, new stream restoration projects will be applied to larger segments to improve cost efficiency, and the process for designing and installing stormwater treatment wetlands will be modified to improve the bid process and facilitate start-up and improve operation and maintenance. The development community has embraced the new stormwater regulations and has started to take the initiative in implementing green solutions.

By restoring in-stream habitat, implementing land-based source controls, and maintaining infrastructure, Philadelphia has embraced a multi-faceted approach to stormwater management and watershed protection. The approach is a well-thought-out combination of engineering and green practices. Collaborative partnerships ensure that program efforts are complementary and well-informed. For more information:

<http://www.landofsky.org/>

CASE STUDY (SUPPORTS RC1.6)

Trout-Friendly Lawn Program¹⁵

As part of its mission, Wood River Land Trust works cooperatively with private landowners and local communities to protect and restore the Big Wood River in Idaho. Because lawn care practices can impact the health of the Big Wood River, they launched the Trout Friendly Lawn Program in partnership with local businesses, nonprofit organizations, and others.

The Program promotes simple steps residents can take in yards and parks throughout the Wood River Valley to conserve water and protect water quality and local fisheries. A certified Trout Friendly Lawn is: 1) water-wise, 2) reduces or eliminates the use of synthetic fertilizers and herbicides, and 3) uses native and drought-tolerant plants. There are three levels of certification: basic, silver and gold. Lawns designated trout friendly receive a trout friendly lawn sign and are added to a publicized list of supporters.

For more information on the Trout Friendly Lawn Program refer to: <http://www.troutfriendly.org/>



STRATEGY RC1.6

Investigate the potential for a regional designation of “trout-friendly” developments

Trout fishing has been especially beneficial to the regional economy. A study in 2009 by the North Carolina Wildlife Resources Commission estimated that trout fishing had an annual total economic impact of \$174 million in Western North Carolina. Supporting continued enforcement of existing Trout Buffer regulations is essential to sustaining the health of mountain trout fisheries. Additional strategy that encourages trout-friendly development practices includes voluntary designation for developments, or private land owners, that exceed minimum requirements and demonstrate a commitment to protecting trout habitat on or downstream from their property. Potential partners include private developers, the North Carolina Wildlife Resources Commission (NCWRC), local land trusts, Trout Unlimited, and local Trout Unlimited chapters.

STRATEGY RC1.7

Incorporate the Eastern Brook Trout Joint Venture datasets into development review and comprehensive planning.

The GroWNC region contains some of the last remaining watersheds with wild, healthy, reproducing populations of North Carolina’s only native trout, *Salvelinus fontinalis*, also known as the eastern brook trout, or locally as the speckled trout. Eastern Brook trout are indicator species and can signify the health of an ecosystem in which it lives. Its also one of the most widely spread temperature-sensitive aquatic species in the East. This makes them good indicators for understanding the effects of climate change.

The Eastern Brook Trout Joint Venture, a partnership between federal and state wildlife agencies, the private sector and conservation organizations, has identified the historic extent of brook trout as well

as watersheds and sub-watersheds where surviving populations exist. The project has also identified areas where viable populations can weather potential increases in temperature due to climate change. The Joint Venture data should be used to educate elected officials, private interests and citizens about sub-watersheds that are most likely to support native brook trout currently and in the future. Additional regulations or incentives could be used to encourage site design criteria that mitigate the impact of new development on these streams. The data should be incorporated into the Linking Lands Water Quality Assessment.

STRATEGY RC1.8

Develop programs or demonstration projects that encourage green roofs and solar canopies.

Green roofs, also called vegetated roofs, have proven to reduce stormwater runoff, pollutant loads, and reduce peak flow related to storm events. Less runoff means less land is necessary for traditional retention methods, which reduces costs of conventional

stormwater infrastructure for a site and for a town or city. Green roofs can also serve as an amenity, reduce heating bills and provide wildlife habitat. Pairing green roofs with solar canopies can improve solar panel efficiency while reducing stormwater and reducing green house gases. Solar canopies can also provide shade for plants, allowing for a greater amount of plant diversity on green roofs. One way to encourage green roofs and solar canopies would be to allow for partial reduction in property taxes.

STRATEGY RC1.9

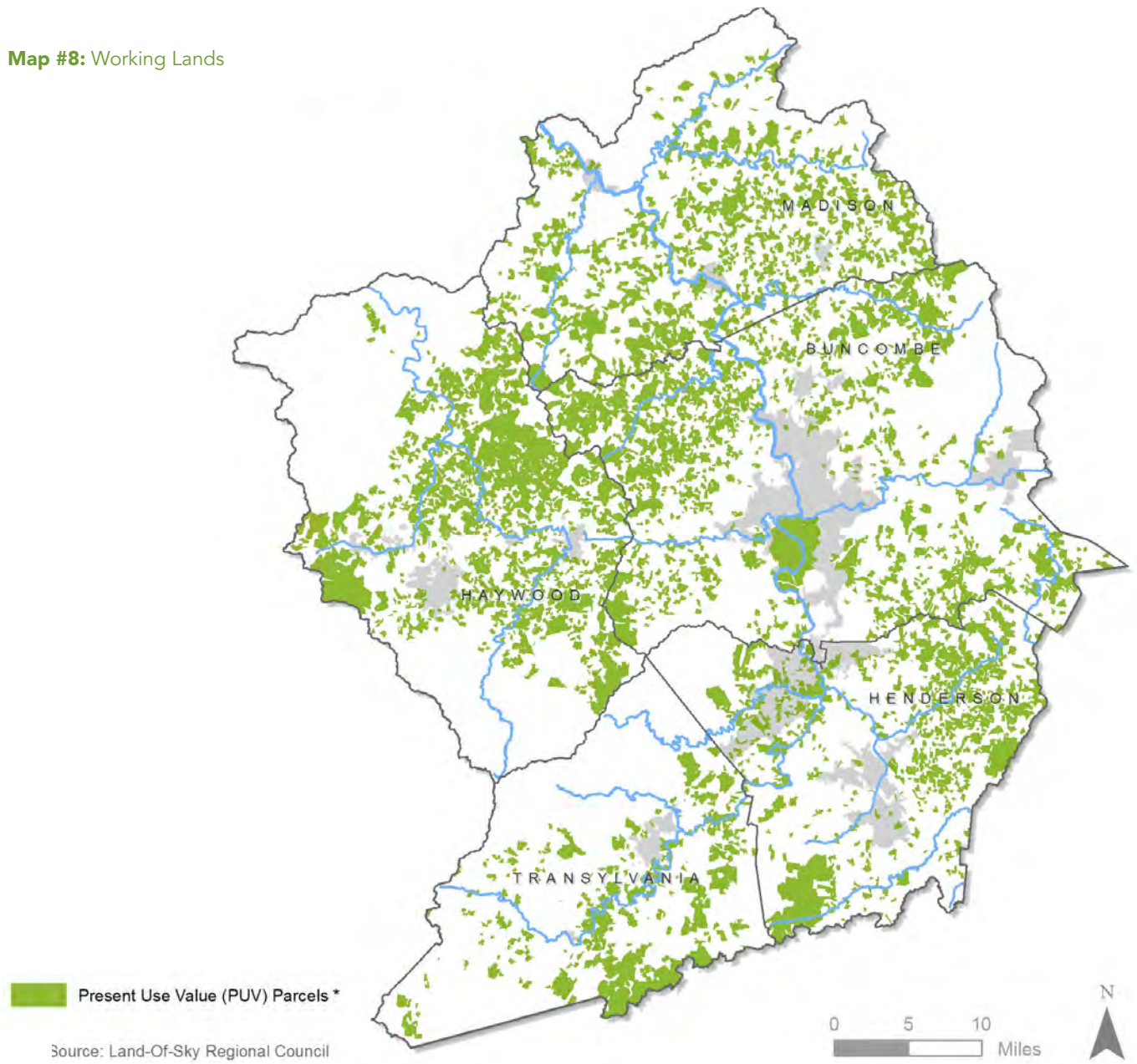
Encourage access to cold water fisheries through co-locating greenways on trout waters.

Greenways located adjacent to trout waters provide recreational opportunities to multiple users, provide transportation options and can be a catalyst for increased tourism. Greenway improvements should be paired with in-stream habitat improvements.



The green roof at the Dr. Wesley Grant Sr. Southside Community Center in Asheville.

Map #8: Working Lands



RECOMMENDATION RC2

Preserve agriculture and forestry lands.

Agriculture and timber are embedded in the history of the GroWNC region and are critical to the cultural identity and the economic health of the region in the future. There are currently over 300,000 acres of working farm and forestry lands in the study area. Many of the fertile valleys have been providing sustenance to local residents for hundreds of years. These lands contribute to the scenic views of the region and provide valuable plant and animal habitat. Farms of all sizes fuel a growing local food movement, and timber operations contribute raw materials to the craft and building industries.

Given recent trends in growth and development, it is increasingly imperative that the region finds ways to preserve traditions and build on market opportunities to ensure that farming and forestry continue to play an integral part in the economy and culture.

STRATEGY RC2.1

Research the costs and benefits of reducing acreage requirements for Voluntary Agricultural District and/or Present Use Value designation.

Research has shown that minimum acreage requirements are essential for agricultural tax abatement programs to be successful. Due to the unique mountain environment these requirements should be studied to understand the costs and benefits to land owners, local governments and others of reducing acreage requirements.

STRATEGY RC2.2

Allow extended year permitting for small forest landowners.

Extended year permitting (up to 15 years) allows landowners to have more flexibility in forest management plans.

CASE STUDY (SUPPORTS RC2.7)

WNC Forest Products Cooperative Marketing Project¹⁶

In 2009, the USDA Forest Service – Southern Research Station was awarded nearly \$2 million of federal stimulus funds to support forest product businesses in western NC.

Land-of-Sky Regional Council was awarded this funding through a competitive process to implement the Western North Carolina Forest Products Cooperative Marketing Project. As a result of the project, 14 Western North Carolina businesses received grants through a competitive process to expand into new product lines, improve marketing, and provide workforce training. The goal is to ultimately provide an estimated total of 141 jobs. Funding these businesses directly contributes to job growth in WNC, but also to the overall supply chain of forest products. Each of these businesses currently purchases timber and non-timber forest products directly from landowners, handcrafters, local sawyers, artisans, and gleaners. Through this project, the amount and variety of

For more information: <http://wncforestproducts.org/>

products and services being produced throughout WNC will increase as businesses expand and diversify. Guiding Principles for the Project:

- Provide short-term jobs to the forest industry in a way that generates lasting benefits to the industry.
- Use a “bottom-up” planning and economic development approach guided by forest producers and by forest product consumers.
- Look first to forest producers as staff to carry out this project.
- Use organizations within WNC to manage this project both to capitalize on their knowledge of local forest and market issues and also to strengthen long-term relationships between forest producers and their support organizations.
- Build the capacity of forest producers to sustainably pursue a variety of forest enterprises in a way that brings benefit to rural communities.

STRATEGY RC2.3

Encourage and support municipalities interested in developing a funding stream generated from a local sales tax (SPLOST) to fund farmland protection.

The University of North Carolina- Asheville Farmland Values Project study found that residents would be willing to pay an average of \$185/year for farmland protection in their county; visitors were willing to pay an average of \$195/year.

STRATEGY RC2.4

Identify eligible farms and assist with Century Farm designation through the North Carolina Department of Agriculture and Consumer Services.

The long history of farming in the region is embraced and celebrated through the Century Farms program. To be eligible, a farm must have had continuous ownership by a family for 100 years or more. There are already 38 designated Century Farms in the GroWNC region: seven in Buncombe, 19 in Haywood, six in Henderson, three in Madison, and three in Transylvania. County Cooperative Extension, in association with many local partners, is working to identify additional farms that could qualify for Century Farm designation. For more information refer to: <http://www.ncagr.gov/paffairs/century/faqs.htm>

STRATEGY RC2.5

Research appropriate strategies to educate landowners about ways to access funding for carbon registries.

Local nonprofits should work with interested landowners to help them understand the costs and benefits of carbon registries as both a mechanism that preserves forests and provides an income from their land.

STRATEGY RC2.6

Establish utility service agreements between jurisdictions to limit the extension of public water and sewer infrastructure into priority agriculture areas.

Many of the region's prime agricultural areas are located in river valleys adjacent to expanding cities and towns. The extension of water and sewer to these areas can lead to more intense land uses that are not compatible with agricultural operations. In order to ensure the continuation of lower density land uses, utilities should not be extended to areas where there are concentrations of working farms and prime agricultural soils.

STRATEGY RC2.7

Identify opportunities for non-timber income generation from forests including medicinal plants, forest foods, wild harvesting, agroforestry, nursery stock, and hand-crafted artisanal products.

Native plants like American ginseng, black cohosh, goldenseal, black elder, American skullcap, passionflower, slippery elm, muscadine, hawthorn berry, elderberry, and blueberry, among others, are just some of the medicinal plant assets that our region can supply in abundance. One way to support non-timber income generation from forests is to further cultivate these opportunities. One approach would be to develop a regional network of medicinal plant cultivation, value-added storage, manufacturing and co-packing sites in WNC. These sites could be supported by community college workforce development training, while furthering collaboration between credentialed wildharvesters and participating private landholders. These activities are part of a proposed WNC Medicinal Plants Manufacturing Alliance, for which funds are currently being sought.

STRATEGY RC2.8

Promote opportunities for non-conventional timber harvesting. Alternative timber methods include horse logging and selective harvesting.

Non-timber income generators, as well as unconventional timber harvesting, can result in diversified income for landowners and creation of small forest-based business opportunities. A partnership with local universities could result in a demonstration farm such as Appalachian State's Sustainable Development Teaching and Research Farm.

STRATEGY RC2.9

Identify candidates | in the region to apply for the United States Forest Service (USFS) Community Forests Program, where financial assistance is provided to communities to sustainably manage forests for multiple public benefits.

The US Forest Service offers grants to local governments, tribal governments and qualified nonprofit entities for up to 50 percent of project costs of conserving forests for the benefit of the public. Recreational uses are encouraged. Properties must be at least 75 percent forested. Members of the public must participate in the development of a community forestry plan. The Community Forests Program has a requirement that all projects must be part of a broader strategy.



The Eastern Band of Cherokee Indians received a Community Forest Grant from the US Forestry Service.

CASE STUDY (SUPPORTS RC2.9)

Local Community Forest, Hall Mountain, NC

The Eastern Band of the Cherokee Indians received a \$300,000 grant from the U.S. Forest Service to conserve the highly significant 108-acre Hall Mountain tract, approximately six miles north of Franklin. The tribe plans to incorporate a scenic hiking trail system that will exhibit uses of natural resources traditionally used by the Cherokee. These exhibits will serve as educational learning centers.

The Community Forest and Open Space Conservation Program provides financial assistance grants to local governments, tribes and qualified nonprofit organizations working to establish community forests with a focus on economic and environmental benefits, education, forest stewardship and recreation opportunities.

For more information:

<http://www.fs.usda.gov/detail/nfsnc>

CASE STUDY (SUPPORTS RC3)

Growing Minds: Farm to School¹⁷

Growing Minds is a program of Appalachian Sustainable Agriculture Project (ASAP). Like Farm to School programs nationally, ASAP's Growing Minds Farm to School Program has expanded. What began as a school garden program in 2002 is now a holistic Farm to School program that includes school gardens, local food cooking classes and demonstrations, farm field trips and local food in school cafeterias.

In addition, the program provides resources and training to teachers, schools, Child Nutrition Directors, cafeteria staff, parents, extension agents, farmers, and other community stakeholders to encourage and sustain Farm to School efforts.

For more information:
<http://growing-minds.org/>



ASAP's Growing Minds Farm to School Program engages youth in the local food movement.

STRATEGY RC2.10

Develop quantifiable goals for forestry Best Management Practices (BMPs) that measure the impacts/benefits of forestry practice, including erosion, sedimentation, presence of stream management zones.

RECOMMENDATION RC3

Support the Appalachian Sustainable Agriculture Project (ASAP) in its mission to help local farms thrive, link farmers to markets and supporters, and build healthy communities through connections to local food.

STRATEGY RC3.1

Develop a regional agriculture infrastructure assessment.

Understanding regional trends in the size and number of farms can help the region devise strategies to best protect agricultural contributions to the economy. As the size and shape of farming continues to evolve, so do infrastructure needs. The Center for Environmental and Farming Systems has been awarded a five-year, \$3.9 million grant to build and evaluate supply chains for local farmers and fishers to supply large-scale markets in North Carolina. The grant was awarded by the Agriculture and Food Research Initiative, which is part of the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA).

For more information:
<http://www.cefs.ncsu.edu/>

STRATEGY RC3.2

Support research that will assist the region's food production, value-added products, marketing, and branding.

Develop incentives that encourage farmers to sell in lower-income venues and food kitchens. For example, offer per-pound price for leftover produce for food pantries.

STRATEGY RC3.3

Preserve productive farmland and soils and support farmers by providing incentives to keep farmland in use.

There are 186,079 acres of prime farmland in the study area. Farmland preservation activities and

funding should be focused on protecting those lands with prime agricultural soils and the best chance of sustaining economically viable operations. There are a number of existing programs that incentivize the protection of working lands such as conservation tax incentives and innovation grants. These efforts should be supported and expanded. The Linking Lands and Communities assessments and tools is one resource for land trusts to use to identify land for protection.

STRATEGY RC3.4

Establish a goal and identify strategies for percentage of food sourced locally for school lunches.

The NC Farm to School program offers an opportunity for local schools to coordinate with local farmers and get fresh produce to students. Participation in the program for schools in the region varies:

CASE STUDY (SUPPORTS RC3.3)

Southern Appalachian Highland Conservancy Farmland Access Service¹⁸

The mission of SAHC's Farmland Access Service is to provide farmers with opportunities to purchase or lease affordable farmland so they can initiate or expand agricultural businesses. Supporting local communities, local food production, and the long-term productive use of farmland are all goals of this initiative. Objectives include:

- Accelerate existing farm operations – Providing capital to farmers with the purchase of development rights on their land (agricultural conservation easements).
- Create farm ownership opportunities – Providing farm lands owned by the Conservancy for sale at agricultural value to farmers interested in purchasing land.
- Create farm leasing opportunities – Connecting farmers interested in leasing land with



The SAHC Farmland Access Service provides capital to farmers for agricultural conservation easements.

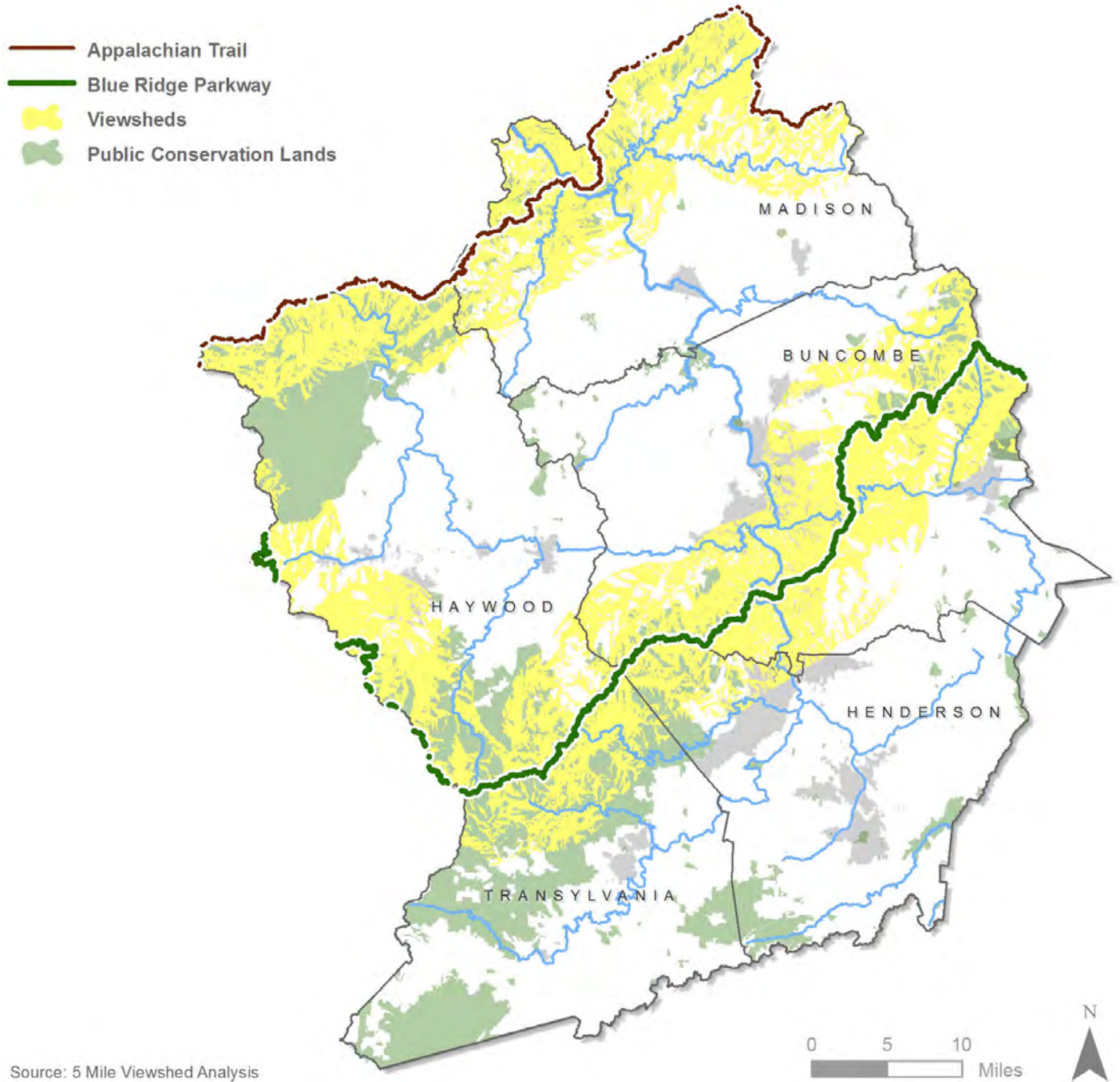
Conservancy landowners that may have land available for lease.

- Provide incubator program for beginning farmers – Supplying access to land and equipment, as well as support, training, and implementation tools for beginning farmers through an incubator program on SAHC's 103-acre farm in Alexander, NC.

For more information:

http://www.appalachian.org/protected/farmland_access.html

Map #10: Viewsheds



- Asheville City Schools participated in 2007, 2008, and 2012, but did not participate in 2013
- Buncombe County has participated the last three years
- Henderson, Haywood and Madison counties have participated nearly every year

The first step would be to identify barriers to participation and level of participation. Next, develop strategies for increasing participation.

RECOMMENDATION RC4

Preserve the region's scenic beauty.

This region is known for its majestic mountain views and beautiful pastoral scenes. The clean air and landscapes that contribute to these scenes are, however, in jeopardy. Air pollution from increased traffic has led to reduced visibility in some parts of the Appalachians. Forests and farms are threatened by urbanization pressures.

STRATEGY RC4.1

Pass local night sky ordinances tailored to each community's preferences and needs.

Pass local ordinances that require illumination cone maximums, automatic timing devices and/or spotlight limitations. Several local jurisdictions including Asheville, Waynesville and Buncombe County already have ordinances in place to minimize light pollution.

Additional resources include:

- International Dark-Sky Association – Information on preserving the nighttime environment through quality outdoor lighting
<http://www.darksky.org>
- Outdoor Lighting Code Handbook – Discusses issues relative to outdoor lighting codes, their effectiveness, implementation, and enforcement. "Pattern code" included, to be modified for each community's needs.

<http://data.nextrionet.com/site/idsa/Lighting%20Code%20Handbook.pdf>

- Simple Guidelines for Lighting Regulations – For small communities, urban neighborhoods, and subdivisions.
<http://docs.darksky.org/Codes/SimpleGuidelines.pdf>.
- Light Levels SmartCode Module –Supplements the Center for Applied Transect Studies SmartCode.
<http://transect.org/docs/LightLevels.pdf>

STRATEGY RC4.2

Maintain rural character by preserving contiguous landscapes.

We should strive to maintain the rural character and scenic beauty of the region through a multi-faceted, interdisciplinary approach. Mechanisms to preserve farmland include voluntary agriculture easements, local conservation ordinances, conservation subdivisions, considerate design and conservation easements.

STRATEGY RC4.3

Raise awareness about nighttime light pollution related to wildlife, safety and stargazing.

STRATEGY RC4.4

Utilize existing viewshed studies to determine and mitigate potential impacts on views and viewsheds of national significance, such as the Blue Ridge Parkway and Appalachian Trail.

Publish viewshed study results in a regional clearing house. Provide guidelines on how these study datasets can be incorporated in ongoing planning efforts.



The Carolina Flying Squirrel is one endangered species that lives in the GroWNC region.

CASE STUDY (SUPPORTS RC5.2)

Model Ordinance: Wildlife Habitat Overlay District¹⁹

The purpose of the Wildlife Habitat Overlay district is to reduce the continuing loss of habitat for native species in rural districts, while simultaneously accommodating development in those districts. The Wildlife Habitat Overlay District includes the following:

- Wildlife Habitat Block Districts, are the rural portions of large (greater than XXX-acre) continuous blocks of naturally occurring stands dominated by woody vegetation, and;
- Wildlife Corridor Districts, are the overland connections between Wildlife Habitat Blocks and which provide naturally vegetated linkages that support daily and seasonal species movement between Wildlife Habitat Blocks

Ordinance provisions include regulating development activity, uses within the district and providing incentives such as density bonuses to encourage habitat protection.

STRATEGY RC4.5

Encourage viewshed protection through design standards and sensitive development practices. Promote the use of local and regional resources.

Local governments could adopt scenic viewshed overlay districts that require proposed developments over a certain acreage to be approved by a design review committee. Viewshed overlay districts encourage the adherence to guidelines included in the Blue Ridge Parkway Foundation publication "A Neighbor's Guide to the Blue Ridge Parkway".

STRATEGY RC4.6

Conduct additional studies to determine viewsheds of regional significance (for example, views from scenic byways, overlooks and high volume land and water-based recreational trails).

Partner with universities, local, state and federal governments to determine viewsheds of regional significance.

RECOMMENDATION RC5

Recognize the importance of connectivity between protected lands by managing wildlife and recreation corridors for biodiversity and protecting unfragmented forest blocks.

The varying topography and micro-climates of the region combined with large swaths of protected land result in high levels of biodiversity. There are 255 significant

natural heritage areas in the region, and a total of 33 of these are of national significance. It would be difficult to find another five counties in the southern Appalachians that offer such a diverse array of habitats and species. The health of wildlife, both game species and non-game species, depends on landscape level habitat connections and corridors.

Typically, urbanization leads to the fragmentation of habitats, which results in the isolation and decimation of populations of species. This progression can be halted with intervention. Local land use policies can encourage development where it does not conflict with critical habitats. Ecological corridors can be protected on a landscape scale through targeted land acquisition and the use of conservation subdivisions. Habitats and connections on the site level can be preserved through the use of low impact development principles.

Unique natural features, including riparian corridors, wetlands, rock outcroppings and vernal pools can be preserved so they serve as amenities to new development. Habitat fragmentation and degradation can even be reversed. Reconnection of habitat linkages can be made through carefully designed infrastructure investments such as wildlife overpasses or underpasses. Stream and wetland restoration projects funded by non-profits or through mitigation efforts can restore valuable ecological services.

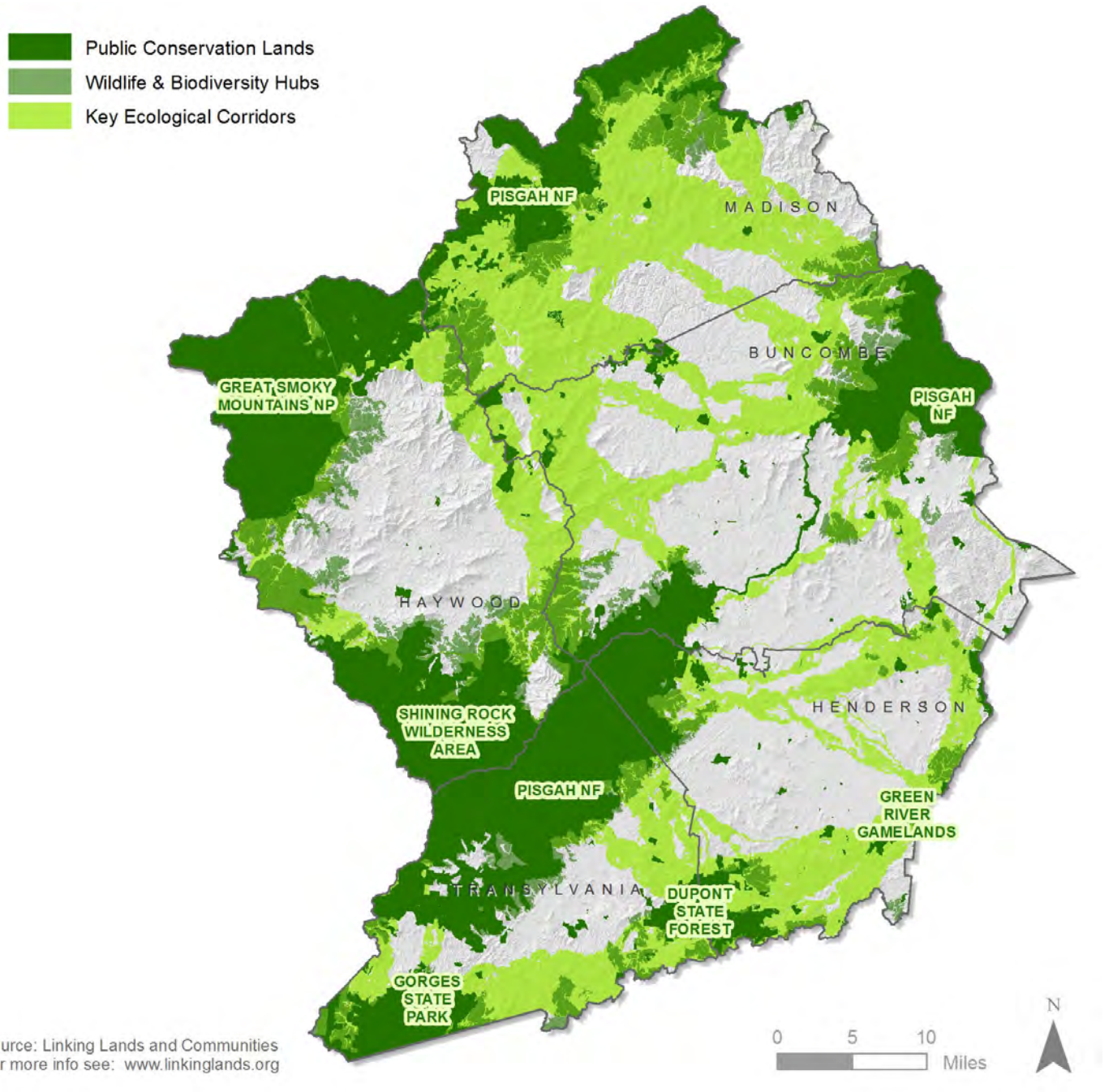
The Linking Lands and Communities Project is a five-county effort to gather information about the region's natural resources and identify opportunities to link these important natural systems via a Regional Green Infrastructure Network.

For more information on the region's system of green infrastructure, see the Linking Lands and Communities Project: www.linkinglands.org.



The first underpass wildlife crossings in North Carolina were built on a section of Interstate 26 in Madison County. The two 8 x 8 feet concrete boxes are primarily intended for use by North American black bears.

Map #11: Wildlife Habitat and Ecological Corridors



STRATEGY RC5.1

Coordinate with non-profits, land trusts, NCDENR, US Forest Service and NC Wildlife to identify priorities for wetlands and stream restoration as well as wildlife underpasses or overpasses²⁰.

Wildlife overpasses and underpasses are among the most effective structures for allowing wildlife of many types to move relatively unimpeded across the road or railway. An important consideration in the selection of a wildlife crossing is the topographic relief of an area and the landscape features near the road. Wildlife typically prefer to approach a road crossing while following a natural feature such as a ridgeline, low lying riparian area, or a corridor of vegetation where they feel safe. Paying special attention to where these features occur near a potential mitigation site will not only assist in selecting what mitigation type is best suited for the area, but also help to ensure the successful movement of animals through the landscape to the crossing.

STRATEGY RC5.2

Consider Wildlife Habitat Overlay District ordinances in order to protect prime habitat and key ecological corridors

Adopt habitat protection ordinances to protect prime habitats and key ecological corridors.

STRATEGY RC5.3

Identify and develop more regional and local sources for conservation funding.

Encourage public-private partnerships and more targeted involvement of the private sector in land conservation efforts/strategies. For example, develop a "conservation buyer" program to match interested buyers with properties that have been prioritized for protection.

STRATEGY RC5.4

Use Linking Lands and Communities (LLC) assessments and other available resources to prioritize areas for directing funds for conservation easements and other conservation activities.

Incorporate LLC assessments into ongoing development review processes. The LLC assessments along with data from the GroWNC Model, NC Conservation Planning Tool and WNC Vitality Index can be used to identify where resources are most threatened by development pressures.

STRATEGY RC5.5

Work with local governments, NCDENR, and other partners to protect critical habitats and key ecological corridors through the use of tools such as the Linking Lands and Communities (LLC) assessments and the NC Conservation Planning Tool.

Require mitigation (preservation or restoration of habitats) or impact fees to offset impact of development projects in sensitive areas. Encourage site design that locates built areas as far away from most sensitive habitats as possible. Encourage/require the connection of open spaces between developments.

STRATEGY RC5.6

Update local ordinances with best practices from NC Wildlife's Green Growth Toolbox.

The Green Growth Toolbox presents a number of ordinances that could enhance resource protection and conservation including the following:

- Local watershed protection ordinances
- Tree protection ordinances
- Steep slope protection ordinances

- Minimize the impact of impoundments
- Encourage wildlife friendly landscaping
- Buffer adjacent public lands

For more information:
<http://www.ncwildlife.org/>

STRATEGY RC5.7

Coordinate with NCDOT and FBRMPO to improve pre-NEPA environmental screening of transportation projects.

STRATEGY RC5.8

Develop partnerships to identify target areas and remove invasive species and restore native species.

Invasive species include any non-native plant, animal or other organism whose introduction causes or is likely to cause economic or environmental harm or harm to human health²¹. Invasive species are harmful to the ecosystem in that they reduce the ability of streams to make water deliveries, displace native communities, compete for food sources, cause the extinction of native species, increase soil erosion and fire hazards, decrease the quality of habitats, degrade waterways and decrease the quality and range for wildlife. In addition, invasive species can negatively affect the economy by threatening natural resource-based businesses and impact human health. Constant vigilance is required as invasive species spread through natural and developed areas.

As detailed in the following toolkit, early detection and rapid response by groups such as the Southern Appalachians Weed Management Partnership is necessary to successfully eradicate invasive species. In addition, citizens and local organizations should take a proactive role in early identification of invasive species and report sightings through the Early Detection & Distribution (EDD) mapping system.

For more information:
 Toolkit: <http://www.invasivespecies.gov>

STRATEGY RC5.9

Update local ordinances with best practices from NC Wildlife’s Green Growth Toolbox.

The Green Growth Toolbox presents a number of ordinances that could enhance resource protection and conservation including the following:

- Local watershed protection ordinances
- Tree protection ordinances
- Steep slope protection ordinances
- Minimize the impact of impoundments
- Encourage wildlife-friendly landscaping
- Buffer adjacent public lands

For more information:
<http://www.ncwildlife.org>

STRATEGY RC5.10

Develop Advisory Boards related to land conservation for the five counties in the vision.



The Quilt Trails of Western North Carolina have the highest concentration of quilt blocks anywhere in the United States.

RECOMMENDATION RC6

Promote the region's cultural assets.

The region has established a reputation as a leader for craft production and education throughout the country. There are more than 130 craft galleries scattered across the counties in Western North Carolina.

In addition, most all of the institutions of higher learning in the region offer some type of craft/arts curriculum including Haywood Community College Professional Craft Program, Blue Ridge Community College, Warren Wilson College, UNC Asheville, and the UNC Center for Craft, Creativity and Design. Moreover, the Penland School of Crafts and John C. Campbell School bring in more than \$10 million in economic impact to the Western North Carolina region.

There are many non-profit organizations within the area that contribute to the craft industry and the

region's economy. The total annual economic impact of these non-profit organizations has been totaled by the UNC Center for Craft, Creativity and Design at over \$4 million.

It is also interesting to note that the craft industry follows a sustainable model of producing and buying locally. Seventy percent of craft retail galleries' inventory is produced locally. Sixty-five percent of craft artists have their work marketed within NC (Source: The Center for Craft, Creativity and Design).

In addition to artists and crafters, the GroWNC region has a strong tradition of music and festivals. The area hosts numerous festivals: Lake Eden Arts Festival, Brevard Music Festival, Folkmoot USA, to name a few. Festivals have a huge impact in Western North Carolina's economy. The City of Asheville estimates Bele Chere generated \$12.4 million to \$20 million in direct and indirect spending in and around the city in 2012.

Map #12: Conservation Land



Source: NEMAC

All of these factors contribute to the growth of the cultural tourism industry in the five-county region. Many of the state's most visited sites are within the GroWNC region including the Biltmore Estate, Blue Ridge Parkway and Pisgah National Forest. According to Preservation North Carolina, "Tourism is now the second largest industry in North Carolina with employment of 161,000 people and \$2.5 billion in annual payroll."

This all translates into more jobs and opportunities for the region's artists and stewards of cultural resources. A study of the Asheville-area Metropolitan Statistical Area showed a 17 percent job growth in the arts, entertainment and recreation industry from 2005-2011, a period when most other industries were in severe decline. Top Occupations include: Musicians and Singers, Writers and Authors, Multi-media Artists and Animators.

The five-county region's cultural resources can, and are, creating jobs, a higher quality of life, and telling the story of this unique place. Protecting historical landmarks, landscape elements and ways of life add to the richness of how we experience a place, whether as a tourist or resident.

The creative resources and natural beauty of the area will continue to attract people and businesses, bringing more creativity and opportunities for the community and residents. How the region continues to invest in its cultural resources through funding, policy, promotion, education and conservation will be an important decision for the future of the creative economy.

CASE STUDY (SUPPORTS RC6.4)

Blue Ridge Music Trails²²

The Blue Ridge Music Trails makes it easy for the traveler to find authentic regional folk music, to meet musicians who have grown up with that music, to visit settings in which Blue Ridge folk music thrives, to see traditional dancing, and in many cases, to take part in the festivities.

The Blue Ridge Music Trails project grew out of the Blue Ridge Heritage Initiative, a multi-state partnership of organizations, communities, and individuals committed to promoting the cultural heritage of the region. The Heritage Initiative was founded on the idea that heritage—the cultural traditions, natural resources, and historical events that together create a distinctive identity for the region—is integral to the well-being of communities and that the Southern Appalachians should preserve the heritage that is significant to the region and the nation.

Along with the Blue Ridge Music Trails, the Blue Ridge Heritage Initiative has worked toward the creation of other trails: The Cherokee Heritage Trail (www.cherokeeheritagetrails.org) and The Gardens and Countryside Trails of the Blue Ridge (www.wnccrafts.org/gardentrails).

For more information:
<http://www.blueridgemusic.org>

STRATEGY RC6.1

Develop and support more field trips for students to visit historical and cultural resources.

STRATEGY RC6.2

Create a state Regional History Museum in WNC.

A regional history museum in the region would promote the regional identity by educating residents and visitors alike about the historical development of the area. A phased approach that begins as a web portal and/or mobile museum could generate interest and funding partners with the long-term goal of creating a permanent museum.

STRATEGY RC6.3

Develop programs and materials about the arts, cultural and natural

resources and history of the region to gain an appreciation of its unique assets.

STRATEGY RC6.4

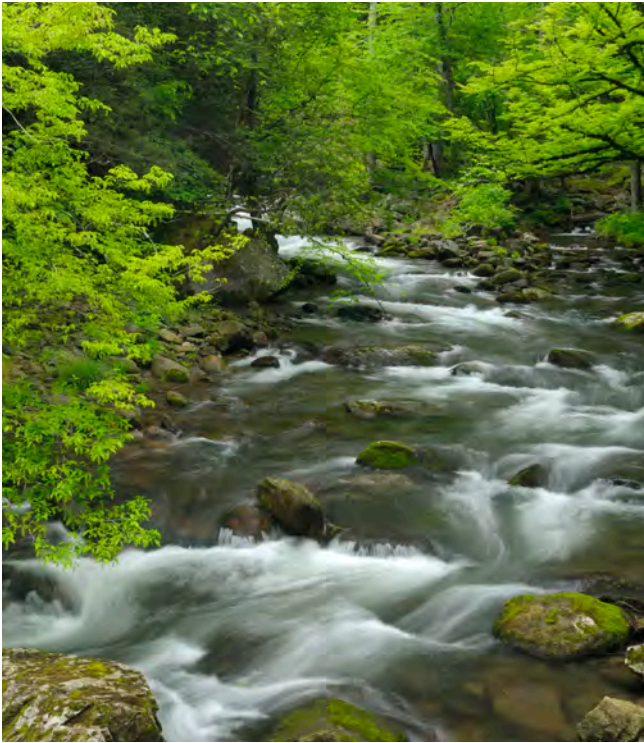
Develop a regional wayfinding system to the region's cultural and historic assets.

Given that many of the region's valued historic and cultural assets are off the beaten path, a directional wayfinding system would guide visitors to their destinations. These routes could be mapped and created into a regional guide.

Note: Many of the strategies supporting the promotion of the region's cultural assets are located in the Business Support & Entrepreneurship section of this report.



ArtSpace offers programs to educate the next generation in the crafting ways of Western North Carolina's generations past.



The waterways of the region are one of its most precious resources.

RECOMMENDATION RC7

Improve monitoring and data collection to build awareness of the region's natural assets.

STRATEGY RC7.1

Develop a "citizen scientist" program to collect local natural resource data²³.

There are over 7,000 miles of mapped streams in the GroWNC region. State and federal water resource monitoring and species survey efforts provide valuable information about the health of aquatic ecosystems. Limited funding, however, results in local knowledge gaps. Citizen scientist monitoring programs provide a way to engage residents and fill gaps in existing programs. There is an on-going program in the study area that could be expanded. Currently two dozen sites in Haywood, Buncombe, Madison, Yancey and Mitchell counties are monitored by volunteers.

STRATEGY RC7.2

Expand or adapt the Neighborhood Water Watch project for other communities in the region.

The project is currently being administered by Land-of-Sky Regional Council and aims to build stewardship within an urban neighborhood through education, hands-on activities, identification of water quality concerns, and the development of a watershed action plan.

STRATEGY RC7.3

Develop a regional Intelligent Rivers program to monitor and analyze the management of water resources in the region.

By partnering with local colleges and non-profits (i.e. American Whitewater) regional governments can facilitate the integration of existing efforts with new technology in order to develop a comprehensive monitoring system.

STRATEGY RC7.4

Augment existing natural resource inventories with local inventories by qualified biologists with expertise in ecology.

Coordinate with non-profits or local universities to conduct local natural resource inventories to accomplish the following:

- Guide the development of conservation strategies for comprehensive plans
- Update outdated inventories
- Refine priorities for land acquisition
- Identify important sites for restoration projects
- Identify priorities for habitat management on parks, open space, trails and greenways

STRATEGY RC7.5

Track US Census of Agriculture data for number of farms and farm size in the region and maintain over time.

STRATEGY RC7.6

Maintain Linking Lands and Communities data and tools.

The Linking Land and Communities Agricultural Assessment should be updated to include a forestry-specific assessment, and all the assessments should be updated periodically to include new data.

STRATEGY RC7.7

Develop a refined forestry assessment to augment the LLC Agricultural Assessment.

STRATEGY RC7.8

Maintain updated county-level Natural Heritage Inventories.

STRATEGY RC7.9

Develop examples and illustrations of the socio-economic impacts of a loss or degradation of a natural asset that can be used by a variety of organizations in their education and advocacy efforts.

RECOMMENDATION RC8

Raise awareness of the region's system of natural assets.

STRATEGY RC8.1

Initiate a voluntary education program for increasing awareness among landowners to maintain healthy water quality on their land.²⁴

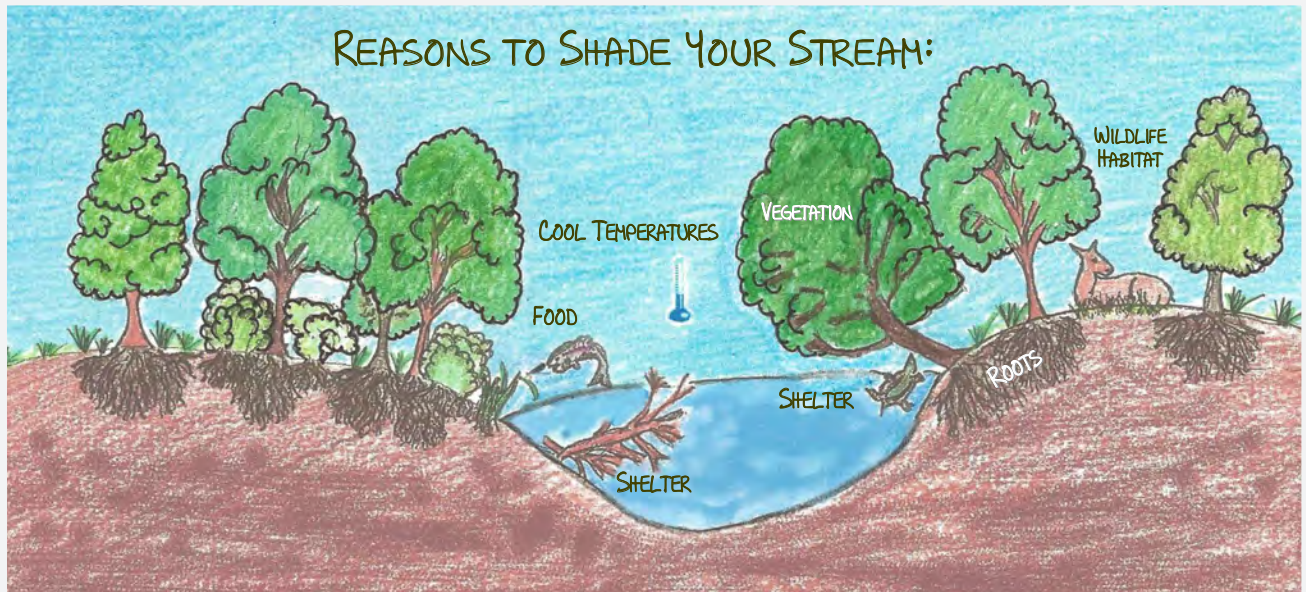
Educational programs, such as the Shade Your Stream Strategy by the Land Trust for the Little Tennessee, can be effective ways to encourage the voluntary improvement of riparian vegetation on private lands. Shade Your Stream programs educate landowners on the benefits of strategies to enhance water quality through a variety of easy-to-implement techniques. Techniques include protecting or planting native trees, shrubs and other plants to help prevent bank erosion; trapping sediment and filter pollutants; avoiding mowing on or near the stream bank; fencing livestock away from stream banks.

Implementing a Forestry Riparian Easement Program may provide another option for providing landowners incentives for protecting key riparian areas. A Forestry Riparian Easement Program compensates eligible small forest landowners in exchange for a 50-year easement on "qualifying timber." This is the timber the landowner is required to leave unharvested as a result of forest practices rules protecting forests and fish. Landowners cannot cut or remove the qualifying timber during the easement period. The landowner still owns the property and retains full access, but has "leased" the trees and their associated riparian function to the state.²⁵

Figure #7: Shading

SHADE YOUR STREAM:

Lands adjacent to streams should ideally be covered by native trees, shrubs, and other plants



WHY IS SHADING IMPORTANT?



Water Quality:

Vegetation along stream banks keeps soil, pesticides, and fertilizers from getting into the stream.



Roots:

Roots anchor the soil, reduce flood damage, and take up excess fertilizers.



Food & Shelter:

Leaves and branches provide food and shelter for insects, fish, and other aquatic life.



Water Flow:

A healthy shaded stream slows down water, which helps to maintain stable stream banks and protects downstream property.



Cool Temperatures:

Shade keeps the water cool, allowing fish and aquatic life to thrive.



Wildlife Habitat:

Shaded streams provide valuable habitat for wildlife.

Protect the land you paid for, don't let it wash away!

For more information: www.ltl.org

STRATEGY RC8.2

Promote and expand existing water quality and conservation education campaigns.

Continued support for existing water quality and water conservation education programs is necessary. Reducing point and non-point source pollution is critical to maintaining a high quality of life. Reducing per-capita water usage will become more important as well. Example programs include:

- Initiate a Trout in the Classroom program.²⁶
- Establish an annual French Broad Stewardship Award.
- Build on the Friends of the River Award that recognizes developments that incorporate exemplary low impact development practices that protect or improve water quality in the French Broad river basin.

STRATEGY RC8.3

Develop programs with local school districts to educate youth on the value of natural resources to the region. Tie into North Carolina K-12 State curriculum. Create a Sustainability Educator position.

Initiate partnerships between schools/school systems and natural areas, including local, county, state, federal parks, trails and the like, to provide opportunities for stewardship and help kids develop relationships with natural places. Work collaboratively to expand/replicate existing programs or develop new stewardship programs that offer hands-on learning opportunities.

STRATEGY RC8.4

Educate citizens about the benefits of planting native species in place of non-native ornamentals in residential landscaping.

There are many existing resources to educate citizens about the impacts of invasive species. The Western North Carolina Alliance "Do Not Buy" Guide is one such resource.

For more information:

<http://wnca.org/wp-content/uploads/2011/10/pocket-guideweb2.pdf>

STRATEGY RC8.5

Explore the carrying capacity of the region as it relates to limited resources such as water, and identify minimum thresholds, benchmarks of parameters and other tools.

A carrying capacity analysis details the amount of activity that a system can handle before it begins to deteriorate. A regional carrying capacity analysis is an effective method for identifying areas of the community that are limited in terms of development potential and to understand the balance between the natural and built environment.

STRATEGY RC8.6

Develop a regional education strategy that reaches across sectors and incorporates some or all of the following components: outreach campaign, public service announcements (PSAs) and media articles to connect people with local environmental issues.

- Educate landowners, nurseries, landscape architects, and others about the role of sustainable forestry in maintaining a system's resiliency, and the negative impacts of poor forestry practices.
- Develop educational materials and programs to educate decision-makers, community leaders, and landowners about the role of natural systems in protecting the region's communities from natural disturbances and climate change.

CASE STUDY

Buncombe County Land Conservation Advisory Board²⁷

The Buncombe County Land Conservation Advisory Board was created by the County Commissioners in 2004 to promote the use of voluntary land conservation easements to preserve the beauty and ecology of Buncombe County.

Conservation easements are voluntary deed restrictions placed on an owner's property that prohibit or limit future development on the property. These restrictions are perpetual and may be enforced in court. Since the easements are voluntary, there is considerable flexibility afforded an owner in tailoring the easement to the owner's needs. Conservation easements do not require a landowner to allow public access to their property.

Buncombe County has selected ten high priority focus areas of importance for preservation using conservation easements. Eight focus areas are the beautiful and largely unspoiled mountain ranges throughout the County. One is along the French Broad

and Swannanoa Rivers. The final focus area is lands adjacent to the Blue Ridge Parkway.

In 2004, the Conservation Advisory Board conducted a survey of all lands that were protected in Buncombe County. There are 420,269 total acres in Buncombe County. In 2004, 57,023 acres were already protected by national forests, State parks, conservation easements and protected water sheds. By the end of 2012, the total number of protected acres in Buncombe County was 72,079 acres. The support of the Buncombe County Commissioners and their focus on preserving lands in Buncombe County has been very successful. This leadership has generated over \$30 million in grants and gifts from landowners and private donors to make these easements possible.

For more information:

<http://www.buncombecounty.org/governing/depts/Planning/lcab.aspx>

- Develop graphics, simplified flow charts and other visual materials that communicate the interdependence of natural resource systems and economic prosperity and that can be used in outreach efforts across the region.
- Educate landowners, nurseries, landscape architects, and others about the region's most resilient natural systems/species, and the role that biodiversity plays in this resiliency.

STRATEGY RC8.7

Develop local sustainability plans.

STRATEGY RC8.8

Use available landslide hazard mapping, or fund additional mapping, to identify areas where landslides may occur currently or occur during land development to reduce the chances of increased sedimentation into the areas waterways and the likelihood of the slope failing.

Together we create our future

Improve pedestrian and bicycle connectivity between neighborhoods and community destinations.

Promote transit options in the region.

Provide for the efficient movement of freight through the region.

Improve the safety and reliability of the region's road network.

Integrate transportation and land use planning.

Promote innovations in transportation.

Supply the region with access to internet.

Accessibility & Connectivity

The transportation system serving the GroWNC study area has been, and will continue to be, greatly influenced by the region's geographic features/topography, especially the mountainous terrain. Historically, settlements developed along rivers and in the relatively flat valleys they created. Travel routes also located in these corridors, both to serve individual settlements, and to connect distant destinations.

While the population grew over time, the amount of relatively flat land did not. Farmland, homes, and business establishments, as well as roads and rail lines, often competed for the same limited supply of relatively flat land in the larger river valleys. Scattered development farther up in the mountains was served by steep, narrow, winding roads that climbed out of the valleys, sometimes threading their way over a pass to the next valley, but more often returning to the same valley, or simply ending somewhere on the mountainside. This pattern continued over time, and is evident today.

Topography, geology, and hydrology combine to dramatically increase the cost of building and maintaining transportation infrastructure in Western North Carolina, relative to costs for similar facilities in

eastern regions. For example, NCDOT planning level estimates assume construction costs in the Piedmont are 15 percent higher than in the Coastal Region; equivalent costs in the Mountains are 100 percent to 150 percent higher.

Given the relatively high costs of building and maintaining additional roadway capacity in Western North Carolina, strategies to actively manage congestion and reduce the demand for car and truck travel appear to be more economically attractive and sustainable here than in other metropolitan areas with fewer topographic constraints. The combination of rising costs and diminishing benefits are making major highway construction programs more difficult to justify. Basically, all the easiest roads have been built; further expansion of the roadway network will become more expensive and disruptive. There are usually good reasons why a "needed" road hasn't been built at a particular location.

Transportation in the mountains is not limited to a discussion of the road network. The complete network includes transit, rail, pedestrian, bicycle and air facilities.

THE PREFERRED SCENARIO

The Preferred Scenario promotes accessibility and connectivity by focusing development in areas with existing infrastructure and transit options. A more compact development provides opportunities for investment in transit. The Preferred Scenario also preserves key ecological corridors that could accommodate greenways, which serve as recreational and transportation corridors.

Transit

Currently there are only two fixed route transit systems in the GroWNC region. Asheville Transit provides service to the greater Asheville area and to the Asheville Regional Airport. Apple Country Transit operates fixed-route service in the Hendersonville area with one route which connects to the Asheville Regional Airport. In addition, each of the five counties in the GroWNC region has their own county-wide transit agency, which provides demand-responsive services throughout the individual county, and some out-of-county trips for medical purposes.

Rail

Currently train transportation in the GroWNC study area is limited to freight service on four Norfolk Southern rail lines that converge in Asheville. The principal commodity carried is coal. However, NCDOT has adopted an incremental approach for ultimately extending rail service from Salisbury to Asheville and Western North Carolina. This plan includes the construction or renovation of train stations incorporating other uses that serve the community, as well as safety and track improvements that would ultimately be needed to provide passenger service to Western North Carolina. Figure 8 illustrates the existing rail network in Western North Carolina.

Pedestrian

Pedestrian facilities are generally present in most of the municipalities in the GroWNC study area, particularly in the downtowns of the cities and towns in the region. The presence of sidewalks is less likely in areas further from downtowns, and rural areas often lack any pedestrian facilities. Even in areas with pedestrian infrastructure, gaps in the network, connectivity and access issues, substandard design, and poor maintenance is often a problem. Many of the counties and jurisdictions within the region have plans in place to address pedestrian needs. In addition to sidewalk facilities, many communities throughout the region have made significant investment in greenway and trail infrastructure. For example, the City of Asheville currently has 4.3 miles of greenways with plans to develop a 15 mile network.

Bicycling

Bicycle infrastructure, such as bike lanes and wide shoulder areas, are not as prevalent as pedestrian infrastructure in the GroWNC region. Bicyclists can coexist with other modes on the road, and additional facilities are not always necessary or appropriate. However, adding facilities can improve safety and increase bicycle use throughout the region. There is concerted effort in many of the jurisdictions to improve on- and off-road bicycling facilities. For example, the Asheville Comprehensive Bicycle Plan proposes a 181-mile network of bicycle facilities. Transylvania County also recognizes the value of a complete bicycle network and has developed an entire economic development strategy around bike facilities in the county.

Air

Most aviation in the region centers on the Asheville Regional Airport (AVL). It is the primary airport for not only the greater Asheville region but much of Western North Carolina. Nearly all of the study area is within an hour's drive of the airport. In addition to the Asheville Regional Airport, there are several privately owned and operated airports and airfields serving the region. With the exception of the Hendersonville Airport, they are all private use. While some have paved runways, many are turf. Most are unattended and have limited or no navigational aids. Availability of fuel and other services is typically limited. There are no airports or airfields in Haywood County.

Nevertheless, the most travel in this region occurs in private vehicles on an extensive and varied network of roads. Given the extent and nature of existing development, and of the economy it supports and is supported by, this will continue to be the case for the foreseeable future. Cars are the dominant mode by a significant margin, and reasonable accommodation of safe and efficient car and truck travel will be vital for the region's continued prosperity and growth. Cost-effective investment to preserve and improve this infrastructure and to enhance its operations will be required to provide a function that is critical to the region's economy and its people. At the same time, great care must be taken to minimize environmental impacts, recognizing the potentially disruptive impacts of road construction and traffic on the built and natural environments, and to maintain a balanced range of options for all travelers.

[Black Mountain recently completed a corridor study analyzing its downtown road network.](#)



BOOKS

THE TOWN OF...

Liquor

OPEN

Recommendations & Strategies

The following set of recommendations support accessibility and connectivity.

RECOMMENDATION AC1

Improve pedestrian and bicycle connectivity between neighborhoods and community destinations.

The top transportation priority identified through the GroWNC process was also the second most important outcome overall: improving pedestrian and bicycle connectivity between neighborhoods and community destinations. While there are variations across communities and counties, the broad appeal of this goal can be attributed to its wide-ranging benefits. Enhanced connectivity for pedestrians and bicycles is not merely an end in itself, but is also an ingredient critical to achieving a number of other desired outcomes, including many not directly associated with transportation.

Improved pedestrian and bicycle connections obviously provide better opportunities for travel by those modes, expanding the range of choices available to travelers. Safe and convenient pedestrian and bicycle connectivity is also critical to the success of transit and other alternatives to automobile travel. A more walkable environment, in particular, tends to enhance the viability of other modes by eliminating a significant barrier to their competitiveness with the automobile. If travelers can readily walk to a variety of activities at a given destination, they then have more freedom in selecting their mode of arrival. The density of opportunities available within a reasonable walk time becomes more relevant than traditional transportation performance measures such as travel speed or traffic level of service.

Although the magnitude of these impacts may be small—at least initially—reducing automobile

travel should ultimately result in less demand for additional roadway capacity, whether through widening or new construction on new alignment. This, in turn, allows for increased focus on the preservation of existing infrastructure, the active and efficient management of traffic operations, and the integration of advanced technology. Given the likelihood of persistent funding shortages, strategies to reduce construction costs for capacity expansion seem prudent. Avoiding additional construction also minimizes environmental impacts and preserves valuable land resources.

This shift in transportation planning—away from an emphasis on increasing capacity by expanding infrastructure systems, and towards active management of demand and optimization of operational efficiency—is also consistent with observed decreases in vehicle-miles of travel, driver registration, automobile ownership, and average daily traffic. There is a growing body of evidence suggesting that long-term demographic, social, technological, and economic shifts are dampening or even reversing historic growth trends for travel by automobile.

Communities that recognize these changes and provide desirable travel options should have an advantage in attracting and retaining a growing market of potential residents and employees. Furthermore, expanding the coverage and reliability of alternative travel modes can make it more feasible for households to own fewer automobiles, thereby reducing their transportation expenditures. Access to education, healthcare, and employment can be improved for those unable to own a car or drive, a consideration that is particularly important given our aging population. Similarly, employers can gain access to a wider pool of workers than would otherwise be available.



One of the top community goals identified through the process was to improve pedestrian and bicycle connectivity between neighborhoods and community destinations.

A comprehensive pedestrian and bicycle network can generate other benefits beyond those directly associated with transportation needs. Decreases in travel by automobile can yield potentially significant reductions in energy consumption and tailpipe emissions. There is also growing awareness of the health benefits of environments that help promote the integration of walking and bicycling into daily activities. These include maintaining weight, reducing high blood pressure, and driving down the risk for Type 2 diabetes, among many others. Greenways have also been shown to yield economic benefits as tourist/recreation destinations, and as public amenities that can increase property values. Safe,

convenient, and attractive pedestrian and bicycle connections are valuable community assets.

In developing effective recommendations for achieving better pedestrian and bicycle connectivity, it is essential to recognize the range of different needs and solutions involved. There is no single "one size fits all" approach. In fact, individual variations and design details matter more to success in pedestrian and bicycle planning than they do for other modes. Urban, suburban, and rural areas have different pedestrian and bicycle needs, typically requiring different types of facilities.



The Blue Ridge Bike Plan will outline a comprehensive bicycle plan for seven counties in Western North Carolina.

CASE STUDY (SUPPORTS AC1.2)

The Blue Ridge Bike Plan²⁸

Land-of-Sky Regional Council, in cooperation with the Southwestern Rural Planning Organization, has initiated a two-year Regional Bicycle Plan study that started in August 2011 and is expected to conclude in December 2013. The study is funded by a grant from the Division of Bicycle and Pedestrian Transportation of North Carolina Department of Transportation.

The ultimate goal is to develop a regional bicycle plan for the seven counties of Buncombe, Haywood, Henderson, Jackson, Madison, Swain and Transylvania which would help guide future local and regional transportation planning and investment.

As a result of the study, the Regional Bike Plan will provide the vision and goals for regional bicycle infrastructure, analysis of current conditions, a map of prioritized regional corridors for bicycle improvements in the future, and a list of policy recommendations. As federal, state and local transportation funding becomes available, prioritized corridors can be improved to facilitate easier travel by bicycle between important destinations. Transportation planning is a slow process. After the study is completed in 2013, it can take five to ten years before any new improvements are programmed and constructed.

For more information:

http://www.fbrmpo.org/bike_and_ped/regional_bike_plan_2011-2013

STRATEGY AC1.1

Use the MPO/RPO process to advance pedestrian and bike priorities and increase funding levels for pedestrian and bike projects in the TIP.

A Transportation Improvement Program (TIP) is a detailed list of transportation projects that have federal and state funding. The TIP must be developed in coordination with the State and any affected public transportation operator, approved by the Governor, and incorporated into the Statewide Transportation Improvement Program (STIP). The TIP includes funding information and the anticipated schedule for highway, public transit, rail, bicycle, and pedestrian projects. The TIP must be updated at least every four years per federal regulations and must match the STIP in order for projects to receive funding. The TIP is the vehicle through which the majority of transportation improvements are funded. Pedestrian and bicycle priorities should be advanced through the TIP process.

Although NCDOT historically has dedicated minimal funding to pedestrian and bicycle projects, there are federal transportation funds available for certain improvements. While many details of the new MAP-21 legislation are still being finalized, it does contain funding for pedestrian and bicycle projects under several categories, including the new Transportation Alternatives Program (TAP). This program consolidates previous SAFETEA-LU programs, with funds awarded through competitive grants administered by NCDOT and Metropolitan Planning Organizations (MPOs) such as the French Broad River MPO (FBRMPO). These funds are intended for local and regional agencies and organizations; however, if no grant applications are received, NCDOT can either use the funds for TAP projects, or opt out of the program. MPOs with urbanized area population over 200,000, such as FBRMPO, also hold a call for

projects for Surface Transportation Program-Direct Attributable funds (STP-DA), which can be used for a variety of transportation projects including bicycle and pedestrian projects. STP-DA funds as well as TA funds require a 20 percent local match.

STRATEGY AC1.2

Expand pedestrian and bicycle data collection. Assess current gaps, barriers, safety hazards and usage.

Collecting sound data is the first step to building a business case for improvements to, and expansion of, existing bicycle and pedestrian facilities. Pedestrian and bicycle data should be collected at a local level to assess current gaps, barriers, safety hazards and usage. In addition to quantitative data, a user-survey to understand the perceived barriers to a safe, well-connected system of bicycle and pedestrian infrastructure should be conducted. In addition, case studies and examples of how other local governments fund bicycle and pedestrian facilities should be compiled and disseminated to regional partners. A regional entity like UNC-Asheville's NEMAC could host the data so that a variety of partners and jurisdictions could easily access the information.

STRATEGY AC1.3

Retrofit existing neighborhoods and commercial centers to include safe pedestrian facilities. Include these facilities in new developments as well.

Jurisdictions that are committed to becoming more walkable should consider sidewalk retrofit policies to provide pedestrian facilities in existing neighborhoods. Where appropriate, pedestrian infrastructure should also be provided in new developments and should connect to existing facilities.

STRATEGY AC1.4

Preserve & improve existing pedestrian and bicycle facilities to

create safe routes to transit centers, bus stops, schools and other key community destinations. Identify and eliminate gaps, barriers, and safety hazards.

A list of improvements should be identified from the analysis of existing system of pedestrian and bicycle facilities. Connections that provide access to key destinations such as schools, employment centers and community services and those that serve as both transportation and recreation corridors should be prioritized.

STRATEGY AC1.5

Enhance coordination of ongoing greenway planning & implementation. Consider updating and expanding the 2008 regional greenway system study.

A well-connected system of greenways provides a variety of benefits that improve the economic, environmental and social health of a region. Greenways generate economic activity and increase the property value of adjacent properties. They serve as both transportation and recreation corridors. Greenways improve individual and community health by providing a network of facilities for active living. In addition, greenways serve as wildlife corridors and enhance water and air quality. Land conservancies, local jurisdictions, private businesses and other agencies should work together to identify and prioritize a regional system of greenways. This information should be communicated to local governments for implementation at the jurisdictional level.

STRATEGY AC1.6

Organize and hold a regional greenways conference to build capacity and increase coordination among those developing greenways in the region.

Building on the success of the regional greenway conference held in 2005, regional entities should partner together to organize and hold a regional

CASE STUDY (SUPPORTS AC1.11)

Greenville B-Cycle²⁹

Greenville B-Cycle is a partnership between Upstate Forever and the Greenville Health System. With six stations and 28 bikes, the system provides community members and visitors an active way to get around town.

The program launched this past spring (2013) and provides residents and visitors alike an affordable, safe and reliable way to get to major destinations throughout downtown Greenville.



The Greenville bike share program launched this past spring.

greenways conference to build capacity and increase coordination among those developing greenways in the region. Other strategies to build capacity and increase coordination for greenway advocates include a series of talks, presentations and site visits that highlight successful projects and partnerships.

STRATEGY AC1.7

Improve communications between NCDOT and local communities on greenway and bicycle plans as well as planned road improvements.

STRATEGY AC1.8

Identify local funding sources to support bicycle and pedestrian needs.³⁰

In addition to funding available at the federal and state level, local funding sources are needed to support bicycle and pedestrian needs. Local funding takes a variety of shapes and forms and varies from local agency funds to private sources of capital. Cities and counties can use general funds or sell bonds to pay for bikeways and pedestrian facilities, as well as any amenities related to these facilities. Bicycle and pedestrian improvements can be included

as part of larger efforts of business improvement and retail district beautification. Similar to benefit assessments, Business Improvement Districts (BIDs) collect levies on businesses in order to fund area-wide improvements that benefit businesses and improve access for customers. These districts may include provisions for bicycle improvements such as bicycle parking or shower and clothing locker amenities, sidewalk improvements and pedestrian crossing enhancements. In addition, cities can fund various improvements through parking meter revenues. The ordinance that governs the use of the revenues would specify eligible uses. Cities have the option to pass ordinances that specify bicycle or pedestrian facilities as eligible expenditures.

STRATEGY AC1.9

Work with NCDOT on better pedestrian/bicycle integration through implementation of state and local complete streets policies.

NCDOT's Highway Safety Programs and Projects and TAP budgets are among the Department's least-committed over the coming decade. Given the clearly-defined formulas used to allocate these funds, it seems obvious that any community desiring project funding should make a concerted effort to understand

the implications of Prioritization 3.0.³¹ With this knowledge in hand, the region can then proceed to strategically identify, document, and support competitive projects.

STRATEGY AC1.10

Increase the amount of secure bicycle parking in commercial centers.

Strategies to increase the amount of secure bicycle parking in commercial centers include conducting a survey to include cycle counts, availability and occupancy rates of existing on and off-street bike parking facilities; require a standard number of bike parking spaces in new developments; providing incentives, such as tax breaks, to landowners that provide ample bike facilities.

STRATEGY AC1.11

Develop partnerships to create Bike Share Programs.³²

Modern bike sharing programs—large fleets of bicycles designed for low-cost, short-term use and made available at closely-spaced rental stations—have the potential to transform cities. Bike sharing is good for cities in many ways. It delivers all the benefits of bicycling: by replacing car trips, it helps the environment, road congestion, the economy, parking, mobility, and traffic safety. In addition, bike sharing has unique advantages. It is more convenient and affordable than bike ownership for many residents; it helps overcome barriers to using a bike in a city, such as theft and storage; it generates revenue for municipalities and private companies; it creates new jobs; it motivates cities to improve bike infrastructure; it connects to, and relieves pressure on, transit; it provides branding for a city; and it introduces new audiences to bicycling. Bike advocates in the region should work together and conduct a study to understand the feasibility of a bike share program.



The Carolina Thread Trail is a regional network of greenways and trails in 15 counties in the Piedmont of North Carolina.

CASE STUDY (SUPPORTS AC1.5)

Carolina Thread Trail³³

The Carolina Thread Trail (The Thread) is a regional network of greenways and trails that reaches 15 counties and 2.3 million people. There are 117 miles of The Thread open to the public – linking people, places, cities, towns and attractions. The Thread preserves natural areas and is a place for exploration of nature, culture, science and history. It is a landmark project that provides public and community benefits for everyone, in every community.

Communities who have elected to participate in The Thread throughout the project's 15 county footprint are leading the trail building effort, with support from The Thread's staff and leadership. Catawba Lands Conservancy is the lead agency for the Carolina Thread Trail, with Foundation For The Carolinas providing support as a philanthropic partner.

The Thread Trail is financed with both private donations and public funding. The project's funding model was developed following two years of planning and study of regional greenway projects in the US. The funding model starts with a pool of private dollars that will be given as catalytic grants to local communities. These dollars provide the incentive for planning, design, land acquisition, and construction of greenways that will eventually link all 15 counties in the region to each other and to other greenway systems outside the region.

STRATEGY AC1.12

Assess impacts of parking policies on traffic congestion, walkability, land use, economy, and transit. Investigate using parking revenues to fund pedestrian enhancements.

STRATEGY AC1.13

Incorporate bicycle and pedestrian safety elements into Driver's Education to ensure drivers know the rules, rights, and responsibilities of drivers, cyclists, and pedestrians.

This recommendation includes educating pedestrians and cyclists about their rights and responsibilities.

RECOMMENDATION AC2

Promote transit options in the region.

The second-most frequently desired transportation outcomes involve improved transit service. As with the walking and bicycling goal, a wide range of needs and solutions have been identified, and the distinction between rural and urban needs and solutions is critical. Recognizing the practical limitations to dramatic increases in transit use in the short term (due to funding constraints and wide variations in land use intensity and mixture), it is critical for transit plans to focus on incremental and sustainable success on both the local and regional scale. Two promising areas include park-and-ride service and incorporation of new technology to improve operational efficiency and communication with patrons.

STRATEGY AC2.1

Work with MPO, RPO, transit operators, and NCDOT to implement a regional mobility/call center. This center could improve coordination

of route and system effectiveness while reaching more people.

There are a variety of collaboration strategies available for local transit providers. One of those strategies could be a regional mobility/call center, which would not replace any of the local transit operators, as a central point for schedule information, coordination and transit provider referral for use by the general public. Another option could be the creation of a regional umbrella transit agency, that would also not replace existing transit providers, that would provide express bus service to and from major employment centers and downtowns in coordination with local transit routes.

STRATEGY AC2.2

Expand downtown Asheville Transit Center as a regional hub.

This is a longer-term goal identified in the 2009 Asheville Transit Plan. A downtown transfer center helps support a more robust transit system by bringing all routes into a centralized location with high demand. This makes transfers easier and opens up access to more parts of the service area. This also supports regional shuttle and park-and-ride services by providing a central location in the heart of a high-demand area for all trip ends and origins. A centralized transfer center also supports service and frequency improvements. This item supports the goal of better bus service, but also helps create better access to jobs, support efficient land use, lower air and water pollution, and reduce congestion.

STRATEGY AC2.3

Implement service improvement recommendations from the Asheville Transit Plan.

The 2009 Asheville Transit Plan included recommendations to improve service frequency and hours for key routes in the Asheville Transit service



The Asheville Transit system, ART, provides bus service throughout the City of Asheville and to the Town of Black Mountain.

area. These improvements are vital to creating a robust transit system in the region and should be pursued. Having higher frequency and longer service days/hours will remove one of the key barriers to transit adoption, which is that service is often inconvenient compared to private automobile use. As noted elsewhere, any eventual transit success requires good access to bus stops and to a range of desirable destinations. Stop amenities like bus shelters and access to real-time bus arrival time information can also make transit a more enjoyable, and thus more frequently utilized, option. The service improvements also can be undertaken incrementally to provide sustainable growth and evolution in service as funding and demand dictate.

STRATEGY AC2.4

Formalize informal park and ride lots by implementing agreements with businesses, houses of worship, and other organizations.

The GroWNC region shares commuting patterns. Based on 2010 data from the Census Longitudinal Employer-Household Dataset (LEHD) program, 75 percent of workers who reside in the five GroWNC counties also work within the five counties, meaning there is not that much out-commuting. Further, almost half of GroWNC residents work in Buncombe County, and about 15 percent work in Henderson County. Commuting is further concentrated around the major employment areas of Asheville, Hendersonville and the Airport, but there are major employment clusters in most cities in the region.

Park and ride service (P &R) would connect existing and new park and ride lots with new bus service including express bus routes to downtowns and major medical and education areas. Park and ride service allows residents of the GroWNC region access to key employment centers and maximizes the impact of limited funding. This service would be more economical than full fixed-route transit service by only

operating at peak hours and by minimizing stops to provide express service to key employment hot spots. P&R service also means that some valuable land in downtowns that may have been previously needed to provide parking can be put to more efficient use by reducing parking demand in central cities. Regional park-and-ride service improves access to jobs, supports more efficient use of existing infrastructure, promotes alternatives to driving, helps reduce air and water pollution and supports efficient land use. P&R service should focus, at least initially, around Asheville because so much employment in the region is concentrated there. A downtown Asheville transfer center makes this service more viable by providing a centralized location for P&R buses that connects riders to all locations served by Asheville Transit, as well as brings P&R shuttle riders into the heart of the city. Land-of-Sky Regional Council identified existing P&R lots. Steps should be taken to ensure that both formal and informal facilities are represented on system maps and that gaps in the system are addressed. Additional

public outreach and amenities, such as lighting, shelters and emergency phones, might be needed to inform the public and to attract potential users to the existing and new P&R lot locations.

STRATEGY AC2.5

Expand rural public transit systems and services to include more underserved areas.

Currently there are only a few fixed-route transit systems in the GroWNC region. Asheville Transit provides service to the greater Asheville area and to the Asheville Regional Airport. Apple Country Transit operates fixed-route service in the Hendersonville area with one route that connects to the Asheville Regional Airport. Mountain Mobility has three fixed routes that run in Black Mountain, Weaverville and the Enka/Candler areas.



Rural transit providers such as Mountain Mobility offer the only transit options for residents outside of Asheville and Hendersonville.

In addition, each of the five counties in the GroWNC region has their own county-wide transit agency that provides demand-responsive services throughout the individual county, as well as some out of county trips for medical purposes. Each of these systems should investigate the possibility of expanding to provide services in underserved areas, especially those with high poverty levels. Systems should look to connect with each other to provided service to and from the region's employment centers.

STRATEGY AC2.6

Create express bus and employment service between towns.

This is very similar to park and ride lots and can be implemented after the P&R service is running or concurrently. This service would focus on connecting the downtowns and major employment centers in the region to each other rather than terminating one end of the trip at a P&R lot. This could be done by extending further shuttles that serve P&R lots to also serve downtowns on the same trips, although some shuttles would just be direct from downtown to downtown. Whereas P&R service would be focused, initially, on bringing workers into downtown Asheville, Express Job Shuttles could connect Buncombe County residents with employment centers in Hendersonville, Canton, Waynesville and other locations.

STRATEGY AC2.7

Explore options for private strategies to help fill in the gaps of existing transit systems.

Budget shortfalls, shrinking traditional funding sources, aging and under-capacity infrastructure and other challenges are leading more transit operators to form Public Private Partnerships (PPP or P3) with the private sector to achieve sustainability and growth. Local transit providers should establish partnerships with private organizations with a vested interested in supporting areas in the region with transit.

STRATEGY AC2.8

Encourage joint-use agreements for school buses or bus-shares to serve other transportation needs during off-hours.

Currently, North Carolina General Statute 115C-524 states that "local boards of education may adopt rules and regulations under which they may enter into agreements permitting non school groups to use school and personal property, except for school buses, for other than school purposes so long as such use is consistent with the proper preservation and care of the public school property. No liability shall attach to any board of education, individually or collectively, for personal injury suffered by reason of the use of such school property pursuant to such agreements." However, transit advocates should work with legislators to amend the statute to include school buses in the scope of facilities available for joint use.

RECOMMENDATION AC3

Provide for the efficient movement of freight through the region.

It is not surprising that the general public did not rank the safe and efficient movement of goods very highly among the desired outcomes. Even though nearly every item in any household, institution, or business establishment depends on trucking for its creation and delivery, freight movement seems to be taken for granted by the consumers who rely on it. However, there are several other reasons, or misconceptions, that result in the transportation planning process rarely considering the proportion of the movement of goods to its overall importance and impact on the environment, the economy and the performance of the transportation system. These include:

- The misconception that most freight traffic is traveling through the region, rather than to, from or within it.
- The misperception that goods movement is critical only to heavy industry, and not to retail, service or information-based businesses.

- The view that shipping is a private commercial enterprise, separate from the traditional public decision-making and stakeholder involvement processes.
- An under-appreciation of the magnitude of potential impacts of the shipping industry on the region's economic vitality, environmental quality and energy consumption, or on the design, operation and maintenance of its transportation infrastructure.
- Traditionally, freight planning in Western North Carolina has focused on meeting the challenges of mountainous terrain – steep grades and river crossings. These issues remain prominent. Climbing lanes, wider lanes and shoulders, improved geometric alignments and upgraded bridges are still needed in many locations, especially along two-lane rural roads serving developing areas. While particularly critical for larger vehicles (including buses), such improvements enhance safety and mobility for all users.

Beyond these direct impacts on traffic service and transportation infrastructure, goods movement plays a potentially greater role in the region's future economic vitality. Reliable, cost-effective shipping is a critical consideration for any business looking to locate or expand its operations in Western North Carolina. Many businesses depend on just-in-time delivery and reduced inventories to lower costs. The challenge of providing such accessibility has historically been an obstacle to the region's competitiveness in commodity-based industries. And this need applies not just to businesses that depend on shipping outside the region; even locally produced and consumed products rely on convenient, dependable access to suppliers and customers. As the economic environment continues to evolve, the region must prepare and execute appropriate plans and projects in support of safe

and efficient goods movement. Failure to do so will not only stifle economic vitality, it could also trigger detrimental outcomes with respect to air quality, energy consumption, traffic congestion, safety, and overall livability.

Rapid and sometimes unpredictable changes in technology, energy costs, consumer choices, and the overall economy are significantly affecting the shipping industry, and will continue to do so into the future. Rising fuel costs have shifted some commodities from trucks to rail, especially for longer distances and bulkier goods. Given optimally designed and located modal transfer facilities, this change could translate into significant reductions in energy use, air pollution, and traffic congestion. These reductions would be far more substantial than what could be achieved by shifting passengers onto rail. Similar shifts can occur from air freight to truck or vice versa. Several recent economic and logistics studies have recognized the need for efficient intermodal facilities across North Carolina, including this region. At a minimum, the industries in the GroWNC region could benefit from an improved link to the Inland Port—intermodal freight facility scheduled to open in late 2013 in Greer, South Carolina, about an hour and a half south of Asheville.

At-grade railroad crossings are another aspect of intermodal planning that is frequently overlooked in long-term regional planning. As both road and rail traffic grow, the potential for collisions between trains and cars, trucks, and even bicycles and pedestrians, also increases. Traffic congestion will also worsen, including potentially significant delays to buses and commercial vehicles.

STRATEGY AC3.1

Ensure that freight is included in all multi-modal transportation planning initiatives.



Freight trains regularly pass through the River Arts District in Asheville.

Both the USDOT's new MAP-21 legislation and NCDOT's draft Prioritization 3.0 process recognize the importance of freight movement, and consider it in determining funding allocations and project prioritization.

For example, in determining the value of travel time savings, the NCDOT project prioritization process uses different values of time for trucks and automobiles. Points are also awarded to projects that provide or improve direct connections to intermodal terminals and to those that benefit freight corridors (defined by level of daily truck volumes).

At the Federal level, MAP-21 introduces significant new freight provisions, establishing goals for a national freight policy, and requiring USDOT to develop a National Freight Strategic Plan. Additional

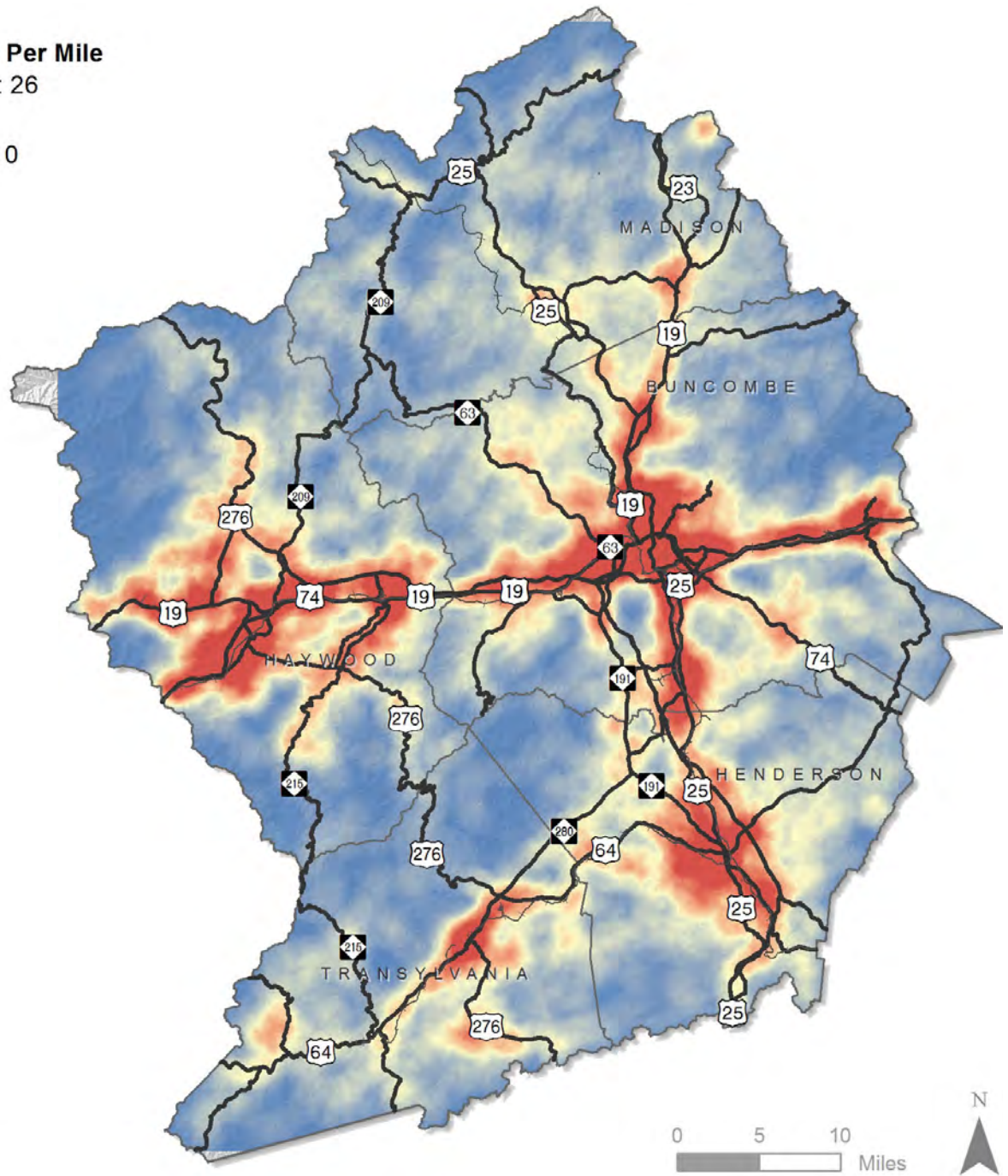
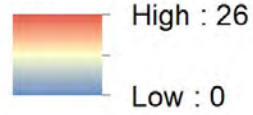
Federal funding is available for projects on the national freight network; states are encouraged to develop their own freight plans and advisory committees to be eligible. The importance of freight movement to economic vitality is explicitly recognized, and there is special emphasis on the access of rural communities to markets and economic development.

STRATEGY AC3.2

Create a more formal relationship between the WNC Transportation Alliance and the MPO/RPO to address and advance freight

Map #13: Road Density

Road Density Per Mile



Source: Esri (Roads)

priorities in TIP, separately or in conjunction with other projects.

STRATEGY AC3.3

Identify and prioritize studies for freight, intermodal centers, modal split, and rail improvements.

Improvements to the railroad infrastructure are critical to creating and maintaining a comprehensive, integrated transport system with the resilience and flexibility to reliably deal with unexpected changes. Deficiencies in the rail network place an undue strain on the road network, and vice versa, resulting in inefficient movement, delays, and added costs, as well as increasing safety hazards. In addition to general track condition and curvature, grade, and alignment, critical components include bridges, tunnels, grade-crossings, yards, and communication and control systems.

RECOMMENDATION AC4

Improve the safety and reliability of the region's road network.

Roadways and traffic, as well as other modes, are thoroughly analyzed in a number of regional plans including the Statewide Transportation Improvement Program (STIP) and the local Transportation Improvement Plan (TIP). These plans and their recommendations, however, focus almost exclusively on mobility and, therefore, do not fully reflect the principles and objectives of GroWNC. There are a number of steps from the LRTP to the TIP and not every transportation improvement will appear in either document. There is a lot that can be done within the region to focus on making smart improvements to the transportation system that fully support and reflect the other elements of GroWNC. One recommendation that frequently yields a high return on investment is to prioritize traffic operations improvements. Smaller operational changes can improve the safety and reliability of the transportation network yielding significant benefits for relatively small cost. Prioritizing maintenance

is also important to ensure the proper functioning of the transportation system and leads to positive economic benefits through reduced long-term costs as repair costs increase exponentially after delayed maintenance.

As the region considers projects for inclusion in the TIP, it is important to understand how projects are prioritized and selected by the state. NCDOT's draft Prioritization 3.0 process (SPOT 3.0) generates scores for ranking roadway improvement projects across a wide range of important criteria in support of enhanced system mobility and modernization. These include:

- Congestion (Travel Time Index and Average Annual Daily Traffic)
- Safety Score (Critical Crash Rates, Density, Severity)
- Pavement Score (Pavement Condition Rating)
- Benefit/Cost (Travel Time Savings / Project Cost)
- Economic Competitiveness (Value Added in Dollars)
- Lane Width (Existing Width vs. Standard Width)
- Shoulder Width (Existing Width vs. Standard Width)

STRATEGY AC4.1

Initiate corridor-focused studies to identify multi-modal operational and safety improvements.

Corridor studies can be an effective way to study travel in the region, especially considering how the topography naturally focuses travel into corridors. A corridor study focuses on needs within a regional travel corridor with shared travel patterns and looks more holistically at the challenges and opportunities. Rather than focusing on only one component, one road or road segment, one mode, or one municipality, these studies take a broader view of regional needs. They focus on multimodality, land use, through vs. local traffic, freight movement, topographic constraints, activity nodes, access management, greenways and active transport, transit needs and availability, traffic



Over 90 percent of WNC imports arrive from southern ports. The region’s economy relies heavily on I-26 for the movement of goods through the five counties.

operations, and implementation options for long-term viability. Major regional corridors within the GroWNC study area include:

- West: Waynesville – Candler
I-40, US 74, US 23, US 19
- East: Swannanoa – Black Mountain
I-40, US 70
- North: Woodfin – Weaverville – Mars Hill
I-26, US 23, US 19
- Northwest: Marshall, Hot Springs
US 70, US 25
- South: Asheville – Airport – Hendersonville
I-26, US 74, US 25, NC 191
- Southwest: Hendersonville – Brevard
US 64, NC 280

STRATEGY AC4.2

Periodically conduct travel-behavior surveys with a component targeted at visitors and tourists.

Just as it is important to understand traffic operations in order to prioritize small-scale investments, it is essential to understand broader regional trends and how they relate to the transportation network. A big driver of the GroWNC region’s economy is tourism. Travel studies on what sites attract tourists, particularly beyond the big names such as the Biltmore, Blue Ridge Parkway and Great Smoky Mountains, on how and when tourists move through the region and make travel decisions, and on tourist demographics can all generate helpful data. This can lead to a better understanding of what improvements could be made to the area to improve the tourist experience in the region.

STRATEGY AC4.3

Identify tourism-focused transportation improvements. Seek funding opportunities to implement.

STRATEGY AC4.4

Implement recommendations from Congestion Management Plan concerning hot-spot and bottleneck improvements.

Focusing on hot spots and bottlenecks and small changes that can ameliorate problems in these areas can have large benefits. For example, many trucks struggle with climbing quickly and descending safely in the mountainous terrain; improvements such as climbing lanes can ease backups on congested roads caused by slow trucks. While the improvement might only be needed for a short section of the corridor, it could improve operations along the entire corridor and at much lower cost than large-scale widening projects or new roadways on new alignments. Moreover, some of these projects can be done at the local or NCDOT Division level, allowing greater flexibility and often a shorter implementation timeframe.

RECOMMENDATION AC5

Integrate transportation and land use planning.³⁴

Coordinated land use and transportation planning results in strategies that preserve and even enhance valued natural and cultural resources and facilitate “healthy,” sustainable communities and neighborhoods. These approaches also tend to foster a balance of mixed uses—including housing, educational, employment, recreational, retail and service opportunities—that recognize the importance of spatial or geographic proximity, layout, and design of those uses. In addition, the consideration of long term and broader, even global, impacts of land use decisions on our natural and human-made environment, including transportation systems and facilities, is critical to these concepts.

STRATEGY AC5.1

Prioritize implementation of transportation alternatives that connect employment and housing throughout the region, including rural areas.

Land use patterns over the past 60 years have resulted in the separation of jobs, homes and community destinations. Commuting times and travel



Downtown Hendersonville is a good example in the region where the integration of land use and transportation planning has resulted in a vibrant and thriving streetscape.

distances have increased. Transportation alternatives that connect employment and housing are necessary to sustained economic prosperity. Individuals will spend less on gas, air quality will improve, and the total vehicle miles traveled in a region will decrease, which results in cost savings all around.

STRATEGY AC5.2

Increase the focus on connectivity in transportation and land use planning and in local subdivision ordinances.³⁵

A well-designed, highly-connected network helps reduce the volume of traffic and traffic delays on major streets, arterials and major collectors, it also and ultimately improves livability in communities by providing parallel routes and alternative route choices. By increasing the number of street connections or local street intersections in communities, bicycle and pedestrian travel also is enhanced. A well-planned, connected network of collector roadways allows a transit system to operate more efficiently. Subdivision ordinances can help promote connectivity by setting standards for internal and external connectivity.

CASE STUDY (SUPPORTS AC6.1)

Strive Not to Drive³⁶

Strive Not to Drive (SNTD) began 22 years ago as Bike to Work Day with the goal of encouraging bicycle commuting in Buncombe County. Over the years concerns about air quality, physical inactivity and related health concerns, and traffic congestion have grown. As a result the event has broadened to encourage any form of transportation other than driving alone in a car. Strive Not to Drive works to promote alternative transportation modes through strategies and incentives including workplace challenges, commuter stations, local awards and walk and bike to school days.

For more information: <https://sites.google.com/site/strivenottodrive/>



Bike to Work Days are increasingly popular in urbanized areas.

RECOMMENDATION AC6

Promote innovations in transportation.

STRATEGY AC6.1

Promote alternative shared-transportation models such as ride-sharing and park-and-ride services. Utilize new technologies, such as web-based tools and apps to improve carpooling.

Rising gas costs, transportation preferences, and the rise of the sharing economy have led to a carpooling renaissance. Advances in technology and social media are making it easier for individuals to connect and share the cost of driving. Local carpooling sites such as www.sharetheridenc.org connect riders with common points of arrival and departure.

STRATEGY AC6.2

Implement a variety of transportation solutions that move the region away from heavy reliance on fossil fuels, encourage energy independence, and encourage development in preferred corridors.

There is not a singular solution to solving the region's energy issues. Incremental initiatives such as the promotion of alternative fuels, electric vehicle charging stations, and compact development patterns all work towards a common goal of energy efficiency and sustainability.

STRATEGY AC6.3

Incorporate planning for all modes in traffic operation improvements and coordinate with enforcement agencies.

Plans for new alignments or improvements to existing roadways should accommodate all modes, including pedestrians and bicyclists. Improvements such as actuated signals, curb cuts, pedestrian refuges, and timed signals should be integrated into the planning process and financed through construction.

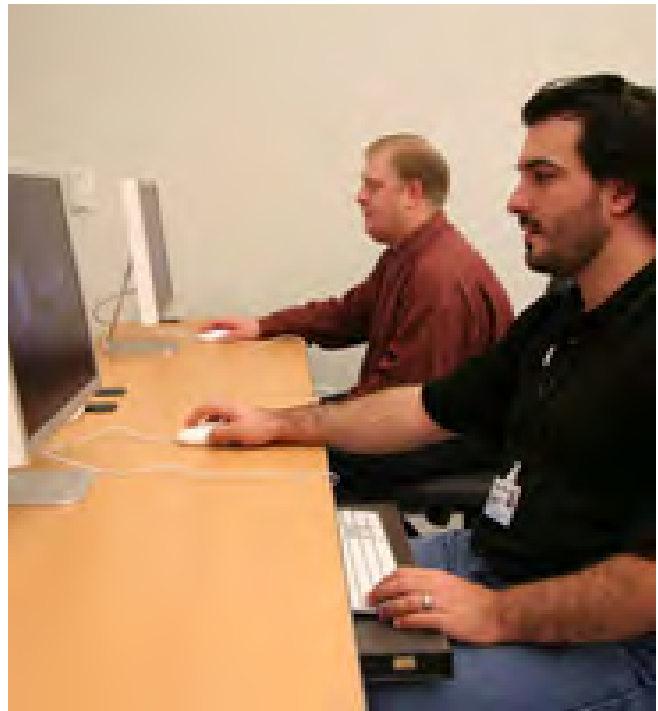
RECOMMENDATION AC7

Supply the region with Internet access.

Broadband internet access enables local communities, regions and nations to develop, attract, retain, and expand job-creating businesses and institutions. It also improves the productivity and profitability businesses and allows them to compete in local, national, and global markets. It assists government agencies in improving quality, lowering the cost and increasing transparency by making it easier for citizens to interact online.

Broadband networks enhance educational experiences by providing students and teachers with access to an array of resources including text-based materials, photos, videos, music, animations, interactive lessons, and oral history collections. It also opens the walls of classrooms, allowing students to participate in distance learning opportunities any time from any location where they can access the Internet, such as a library, school or home. It makes remote access to clinical services possible for patients and provides significantly improved, cost-effective access to quality healthcare. It also allows physicians to monitor their patients through innovative home-health devices, which avoids expensive house calls and provides patients with real-time feedback.

Broadband makes remote access to clinical services possible for patients and provides significantly improved, cost-effective access to quality healthcare. It also allows physicians to monitor their patients through innovative home-health devices, which avoids expensive house calls and provides patients with real-time feedback. It provides public safety benefits. An efficient, accessible broadband network is critical to the prosperity of the GroWNC region.



Regional access to high speed Internet is critical to economic growth in the region.

STRATEGY AC7.1

Expand high-speed internet service and access throughout all five counties, with special emphasis on underserved areas. In addition, review and update policies and codes to ensure they do not serve as barriers to internet expansion.

The NC Broadband initiative will work with broadband providers and local communities to examine their broadband needs, and availability, build demand, identify unserved areas, and determine solutions for deploying broadband and increasing adoption and use.

STRATEGY AC7.2

Increase the number of publicly-accessible community facilities throughout the region that are adequately equipped with Internet access, including computers available for public use.

Together we create our future

Implement recommendations identified in the Analysis of Impediments of Fair Housing Choice report.

Promote the development of a variety of housing options available to a diversity of income levels.

Recognize the unique needs and differences of rural and urban communities and tailor housing planning accordingly.

Ensure there are housing options available to the region's seasonal workforce.

Increase the supply of new and existing housing stock that is safe, sanitary, energy-efficient, and accessible to the elderly and persons with disabilities.

Encourage the development of affordable/workforce housing convenient to employment, transportation, services, goods, and recreation.

Promote housing development that is energy-efficient.

Housing Choices

By 2040, the GroWNC region will be home to over 630,000 people— nearly 40 percent more people than live in the area today. This translates to a need for almost 75,000 additional housing units dispersed throughout the five counties. The majority of this growth will be in Buncombe and Henderson counties with a smaller percentage of the new housing development in Haywood, Transylvania, and Madison counties.

With this growth comes a variety of challenges and opportunities. How can the region grow responsibly, in a manner that respects existing communities and the landscape, provides opportunities for a range of options while at the same time improving affordability?

In addition to growth-related challenges, housing development in the mountains faces unique hurdles. Flat land is a dwindling resource. In many cases the ideal land for housing development is the same land that is in active agriculture use. Farms and forests are highly valued in the region for their contribution to the economy, the scenic landscapes, the health and wellness

of the region's residents and the history and culture of the region. A housing solution must balance the need to sustain the region's working and natural lands with the need to house existing and future populations.

Western North Carolina also attracts a robust second home/resort community. While there are no definitive statistics provided in terms of seasonal household data, there are an estimated 16,000 vacation homes that are only used seasonally (8% of total housing supply). This market is important to the economy. However, it has pulled resources away from the development and construction of primary residences, particularly those at lower price points which are more challenging to build profitably due to the unique constraints of the mountain region.

All of these factors result in higher construction costs and home price points. The effect is two-fold. First, production builders - those companies that specialize in the mass production of housing - are less likely to develop in the mountains because of lower profit margins. This compounds the affordability issue. Without production builders there is less supply of housing

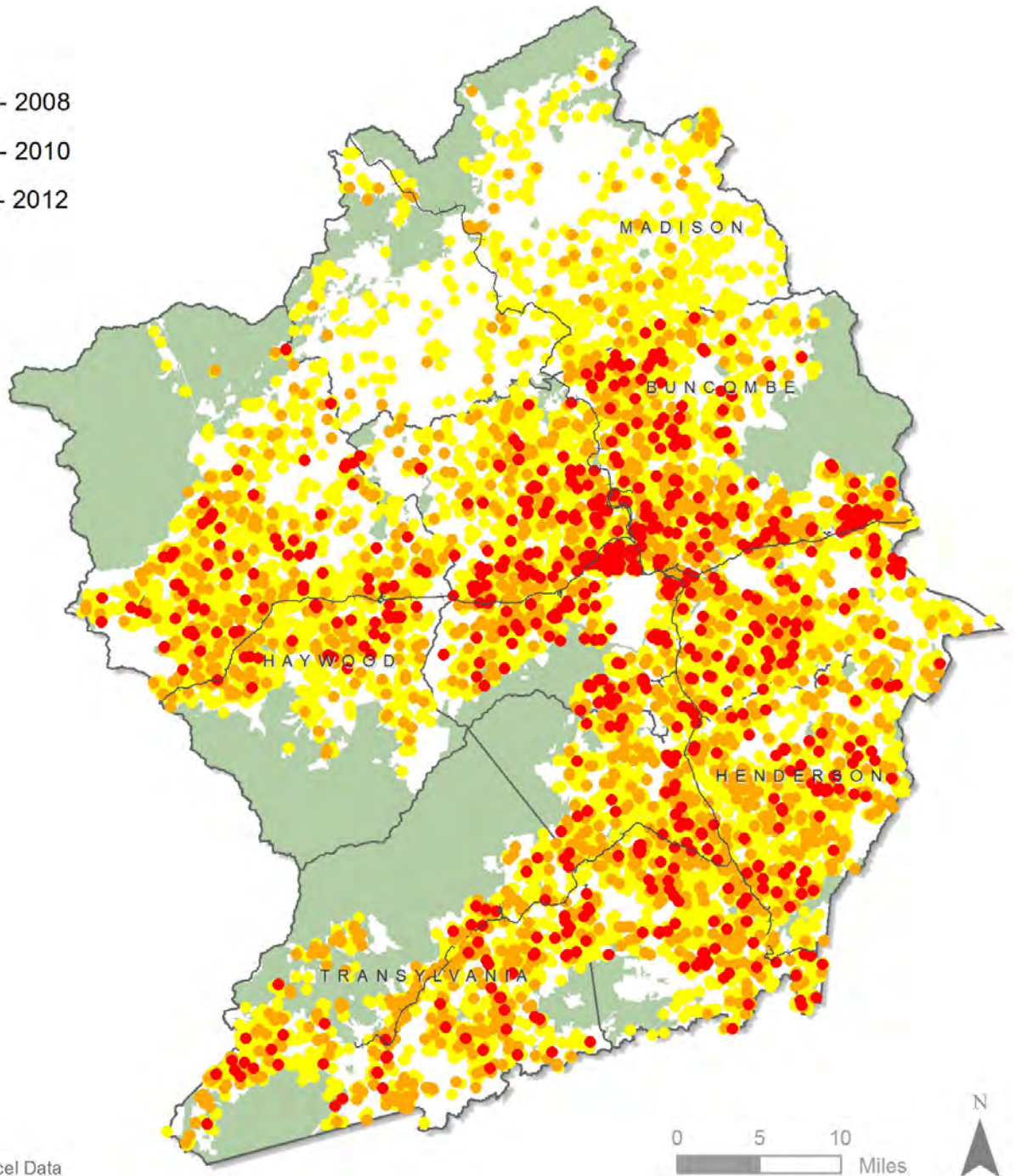
THE PREFERRED SCENARIO

The Preferred Scenario promotes housing development in areas with existing services and infrastructure. It supports infrastructure investments in our smaller rural communities to ensure that housing options are available throughout the region and not just in urbanized areas.

Map #14: Recent Development

YearBuilt

- 2005 - 2008
- 2009 - 2010
- 2011 - 2012



Source: County Tax Parcel Data



A wide variety of housing options are needed to accommodate the diverse housing needs in the five counties.

available at lower price points. The housing that is available is usually older homes that are less energy-efficient or alternatives to traditional single-family homes such as mobile homes.

For this effort we define affordability as a household being able to spend 30% or less of their income on housing. Housing includes the cost of the home and utilities. Per the 2010 Census, this region has approximately 17,000 households that are unable to find housing at less than 30% of their income—that is nearly 10% of the region's population.

The majority of the shortfalls in supply are at the lower incomes levels or those making less than \$20,000/year. There are also shortages of higher-end rental units. While these households are able to rent at a lower-priced unit, the supply shortage indicates market potential for households making around \$75,000/year. The market is increasingly catering to higher-income renters and finding a ready market for

luxury product that ultimately is more profitable for new development. Lower-rent properties are generally either subsidized or older which become increasingly expensive to maintain.

In addition to housing affordability, homelessness is an ongoing issue in the GroWNC region. The problem is most visible and addressed in Buncombe County, where in a given year, it is estimated that around 2000 people will experience homelessness at some point. The extent of homelessness in other counties is only available as estimates, with each county reporting numbers ranging from 30-100 homeless residents. The best estimate for the region would be a range of between 650 to 950 homeless citizens at any given time.

The ability for the region to accommodate the population in safe, affordable and accessible places is critical to ensuring its affordable, environmental, and social prosperity.

Recommendations & Strategies

The set of tools to support housing choices includes the following recommendations and supporting strategies.³⁸

RECOMMENDATION HC1

Implement recommendations identified in the Analysis of Impediments of Fair Housing Choice report.

As part of GroWNC, the Land-of-Sky Regional Council partnered with the City of Asheville and the Asheville Regional Housing Consortium to develop an Analysis of Impediments to Fair Housing Choice across the five counties. Recommendations from that analysis should be implemented as part of the larger regional effort to promote fair housing in the region. Recommendations address the following impediments to fair housing:

- Regional coordination and public awareness
- Discrimination in lending practices
- Accessibility to housing for persons with handicaps
- Affordability
- Lack of housing in areas with access to transit, amenities and jobs
- Absence of affordable transportation options

RECOMMENDATION HC2

Promote the development of a variety of housing options available to a diversity of income levels.

STRATEGY HC2.1

Identify local funding sources for residential or commercial projects that meet locally-set affordability or sustainability criteria. Identify ways for developers to connect to these funding sources.

Local funding for affordable and/or sustainable housing development comes from a variety of private and public-sector sources. Connecting developers to these funding streams is a key component of a region's affordable housing approach. Local funding strategies include connecting non-profits with local lenders to provide pre-development and acquisition financing, general obligation bonds issued by local governments to support locally-set standards, and creation and expansion of housing trust funds.

STRATEGY HC2.2

Establish a regional housing planning assistance team that provides technical assistance — such as project feasibility, finance, strategic planning, and environmental review — to small-scale builders.

Throughout the region there are numerous individuals and organizations dedicated to promoting the development of housing affordable to a diversity of incomes. Similar to the Waste Reduction Partners model a team of housing professionals should work together to provide "low-or no-cost" technical assistance to developers interested in building affordable product.

STRATEGY HC2.3

Identify funding sources of pre-designed architectural plans for housing to facilitate development of denser, more affordable housing including co-housing communities, "dorms," cottage-style homes and townhomes.

One funding source to assist affordable housing developers with site design and development is the Enterprise's Pre-Development Design Grant program. It provides funding for design exploration during the early stages of affordable housing development. Carrying the project from inception to the beginning of schematic design, these grants enable development teams to define project goals, identify challenges and explore multiple design solutions.

STRATEGY HC2.4

Create Housing Trust Funds in Henderson, Madison, Haywood, and Transylvania Counties. Expand Housing Trust Funds in Asheville and Buncombe County by identifying or creating a source for recurring funds.

Housing trust funds are separate funds established by states or localities to provide a stable source of revenue reserved solely for affordable homes. Because they are created at the state or local level, program activities and eligibility requirements vary from place to place in response to local needs and priorities. Certain types of dedicated funding sources for housing trust funds - notably, real estate transfer taxes, linkage fees, and document recording fees - generate more revenue for affordable housing when there is an uptick in housing market activity and when homes prices increase. For this reason, housing trust funds that rely on these or other similar funding sources can help communities to harness the power of hot housing markets to raise funds for affordable homes.

CASE STUDY (SUPPORTS HC2.4)

Buncombe County Affordable Housing Services Annual Low Interest Loan Program

The Buncombe County Board of Commissioners recognizes the area's need for affordable housing and identified it as a priority for the future development of the community. The County established the following goals for the Affordable Housing Services Program (AHSP):

- Increase the stock of affordable housing
- Preserve the existing housing stock
- Reduce substandard housing
- Support homeownership strategies, such as downpayment assistance programs

Through the AHSP, the County offers several programs to promote these goals. Three of these programs are offered year-round, including the Permit Fee Rebate Program; the Employee Housing Assistance Program; and the newly- created Development Incentive Program. In addition to the year round incentives, the County administers an annual loan program which offers low-interest loans to assist in the provision of affordable housing. Applications for this program are accepted once a year, and may be considered in conjunction with urgent repair and tenant-based rental assistance funding.

CASE STUDY (SUPPORTS HC2.6)

Biltmore Passport to Property

In 2011, Biltmore made a significant addition to its employee benefits with Biltmore Passport to Property. This program helps employees work toward financial self-sufficiency and build assets through homeownership. Qualified employees receive homebuyer education, budget/credit counseling, and a \$2 dollar match for every \$1 they save toward purchasing a home.

Currently, Biltmore Passport to Property is filled to capacity and, since its launch in July 2011, three employees have achieved homeownership. The total value of homes purchased so far is \$447,448.

STRATEGY HC2.5

Revise state policies related to low-income housing tax credits to enable greater availability and use of these tax credits.

The Low Income Housing Tax Credit (LIHTC) is one of the largest sources of federal funding for affordable housing, responsible for the creation or rehabilitation of over one million units of rental housing for low- and moderate-income families. The LIHTC is a federal program, but is administered principally through state housing finance agencies, giving states substantial discretion in setting priorities for allocating this valuable subsidy. The two types of tax credits - the 4 percent and the 9 percent - provide a range of opportunities for states and localities to increase and preserve the stock of affordable rental homes. Local advocates for housing should work with the North Carolina Housing Finance Agency to identify mechanisms that optimize use of the tax credits.

STRATEGY HC2.6

Provide information to large employers to establish employer-assisted housing or housing assistance packages.

Employers have a vested interest in making sure their workers can afford decent homes close to the workplace, which can help them attract and retain necessary employees. However, most employers are unlikely to take the initiative to invest in affordable housing strategies for their workers without some encouragement from the public or non-profit sectors. Communities can leverage employers' support for affordable housing in a variety of capacities. State and local governments can maximize the likelihood of employer involvement in housing by offering financial incentives to augment or offset private contributions, and by facilitating collaboration with non-profit organizations that work with interested employers to design and manage housing benefit programs. Communities with limited funds can encourage employers to take a leadership role in advocating for new development and policy changes that can help meet local needs.

STRATEGY HC2.7

Develop "early warning systems" with data on expiring federally subsidized properties in order to keep track of at-risk housing and allocate resources appropriately.

Given the scarcity of affordable homes in the region,

CASE STUDY (SUPPORTS HC2.6)

Westcott Ridge, Fairfax County, VA

Ten condominiums were purchased by the Fairfax County Redevelopment and Housing Authority as part of the Magnet Housing Program, which provides an affordable housing option for participants in the County's Fire and Rescue training program. Trainees are entitled to rent these units during their 6-month training period, as well as during the subsequent one-year probationary period for new firefighters upon completion of training. Rents are determined on the basis of residents' income levels, offering a lower-cost alternative to the community's first responders. In 2005, the Magnet Housing Program was expanded to include Police Cadets.

it is important to track an affordable unit's lifecycle to then be able to preserve those units in perpetuity. Data that should be included in such a clearinghouse include the nature of the housing subsidy, the terms of the government contract, ownership status, the property's contract rents in relation to the area's market rents, the population served, and neighborhood economic characteristics.

STRATEGY HC2.8

Develop educational opportunities about innovative home ownership models, including the Cooperative Ownership model and Community Land Trusts. Identify examples within the region that could serve as case studies and tour sites. Identify partners who could develop these models.

Homeownership education and counseling help prepare individuals to either purchase a home or make effective decisions about homeownership issues, such as refinancing, reverse mortgages, repairs and maintenance, and foreclosure prevention. Homeownership education and counseling can

be broadly divided into four main categories: pre-purchase, post-purchase, reverse mortgage, and foreclosure prevention (or default loan). In order to help residents succeed, non-profits in partnership with private and public sector stakeholders should expand the availability of homeownership education and counseling.

STRATEGY HC2.9

Showcase local examples and recognize provider to highlight successes and projects that maintain housing affordability over time.

Consider establishing a regional workforce housing awards program to recognize affordable housing developments and providers that meet the needs of the community, and innovative local strategies that provide ongoing support for affordable/workforce housing.

RECOMMENDATION HC3

Recognize the unique needs as well as differences of rural and urban communities and tailor housing planning accordingly.

STRATEGY HC3.1

Identify opportunities to create multi-generational and/or mixed income neighborhoods. Support the incorporation of various housing types into existing and new neighborhoods with regulations that allows accessory and attached dwelling units.

Mixed income communities provide a continuum of housing available to a diversity of incomes. In addition, multi-generational neighborhoods provide numerous social and economic benefits to a community such as the ability for more seniors to age-in-place. Cross-subsidies, land use regulations that allow accessory dwelling units and density bonuses are just a few methods to encourage the development of mixed income, multigenerational neighborhoods.

RECOMMENDATION HC4

Ensure there are housing options available to the region's seasonal workforce.

STRATEGY HC4.1

Work with camps, resorts and farms to create affordable and safe housing opportunities for year-round and temporary workers.

Many regions that attract a large number of seasonal workers have a critical need for housing to accommodate that workforce. Resort communities across the country use creative strategies such as the rehabilitation of motels, to the securing of shared-use agreements with second-homes owners to accommodate their workforce.

For migrant workers, The State of North Carolina sets standards for housing and requires farm operators to submit an application for inspection before migrant housing can be occupied. Many states throughout the country offer programs that support housing development for farm workers. For example, Ohio has a program that provides grants for infrastructure development, new construction, and upgrades of migrant housing. The Agricultural Labor Camp Improvement Program (ALCIP) provides matching grants to the owners and operators of migrant housing. Applicants receive funds on a scheduled basis, with 10 percent of the grant award available in the predevelopment stage, 70 percent during construction or rehabilitation, and 20 percent at the conclusion of construction. All funds must be returned to the state if the migrant camp is not officially licensed by the state.

RECOMMENDATION HC5

Increase the supply of new and existing housing stock that is safe, sanitary, energy-efficient, and accessible to the elderly and persons with disabilities.

CASE STUDY (SUPPORTS HC 4.1)

Sunnyside Family Housing, Sunnyside, WA

The Enterprise Pre-Development Design Grant Pilot Program funded a joint venture between the Office of Rural and Farmworker Housing and Sunnyside Housing Authority. Sunnyside Family Housing will transform a 1940s army barracks into a model for multi-family farmworker housing. This future development project will contain 60 multi-family affordable housing units. It aims to set a new percent for housing in the city of Sunnyside and provide a means to break down the social and economic barriers for farmworker families.



In order to accommodate the aging population, more handicap-accessible housing is needed so that people can age-in-place.

STRATEGY HC5.1

Streamline the permitting process for the addition of exterior and interior accessibility features and provide new funding sources/support to help private landlords pay for and install these features, such as ramps and railings/bars.

While permitting and review processes play an important role in ensuring newly-built or renovated homes and apartments meet health, safety, environmental, and other standards, a lengthy or complex approvals process also can lead to unnecessary delays and increased expenses that make it difficult to deliver affordable homes. Policies that expedite the permitting and review process reduce the time, cost, and risk of development. These policies can streamline the overall development approvals process for all homes and apartments and/or can set up special channels through which developers of affordable and acces-

sible homes receive priority consideration for permit requests and other administrative processes.

STRATEGY HC5.2

Increase educational efforts for designers, builders, and buyers to improve awareness of locally available materials.

Where possible, products of the region's forests should be used locally. There are many advantages to using locally-sourced building materials in development projects. Development projects that use locally sourced materials result in construction jobs, workforce skill development, and a greater portion of the economic value of development captured locally. In addition, local materials result in better air quality since products do not have to be shipped in and out of the region. Local builders and suppliers should work together to promote and market the value of locally available materials.



Clingman Lofts promotes offers deferred financing and units available to households earning less than the median income.

RECOMMENDATION HC6

Encourage the development of affordable/workforce housing within proximity to employment, transportation, services, goods and recreation.

STRATEGY HC6.1

Identify funding opportunities and encourage the reuse of abandoned, vacant and tax-delinquent properties, including Brownfield for affordable housing in urbanized areas and near employment centers.

The process of facilitating the reuse of disinvested properties involves identifying reinvestment

opportunities, acquiring and stabilizing disinvested properties, disposing of properties for rehabilitation or redevelopment, and coordinating reinvestment decisions to meet local affordable housing needs and other strategic goals. Both small and large changes can help communities achieve a more deliberate and streamlined system for converting blight into community assets.

Some communities use a unified database of property tax arrears, code violations, and other signs of distress to help identify properties that are abandoned or at risk of abandonment. These communities have streamlined the acquisition and stabilization of disinvested properties through reforms. These include: 1) reducing the timeline for tax foreclosures; 2) the use of voluntary conveyance, a program in which property owners can give or sell blighted properties to the municipality and be released from outstanding municipal liens; and 3) vacant property receivership, court-monitored appoint-

ment of a non-profit or mission-driven organization to stabilize or even substantially rehabilitate a disinvested property before the title is transferred.

Reforms to the tax foreclosure process that allow properties to be transferred with a clear, marketable title can facilitate the disposition of disinvested properties. Communities can also alter property disposition requirements to allow and encourage the reuse of properties for affordable housing and other community development needs.

An increasing number of communities have created a land bank to streamline the entire reinvestment process - acquisition, management, and disposition - and ensure that property disposition decisions match with local priorities and strategic goals.

STRATEGY HC6.2

Adopt incentives for housing developments with an affordable component and/or located near transit, greenways, schools, and/or employers.

Location-efficient housing is housing located within close proximity to services, employment, transportation options, parks, and green space. Incentives such as expedited permitting and review policies, development subsidies and down payment assistance could promote the development of location-efficient housing.

STRATEGY HC6.3

Make publicly-owned land, in appropriate locations, available for affordable/workforce housing development.

Since large tracts of developable land in the mountains is extremely hard to find, public land should be made available for the development of homes in close proximity to employment, transportation, services, goods and recreation.

Publicly-owned land can include both undeveloped and developed parcels, such as schools, public hospitals, parking lots, fire and police stations, and agency headquarters. Communities may also have surplus properties which are no longer needed to serve public purposes. Others may have properties that are underutilized and could accommodate higher-densities. By finding affordable housing opportunities on publicly-owned land, localities can lead by example and demonstrate their commitment to increasing the supply of affordable homes.

STRATEGY HC6.4

Consider tax abatements and exemption policies that limit real estate tax liability in targeted areas to stimulate construction and rehabilitation of housing stock.

Communities that offer tax abatements or exemptions agree to eliminate tax increases or otherwise reduce property taxes for specific properties for a designated period of time in order to stimulate a specified public benefit. In the housing sector, real estate tax abatements or exemptions are most commonly used to provide a financial incentive for the construction or rehabilitation of rental homes. Some communities also offer some form of tax abatement or exemption to developers and buyers of homes in designated revitalization zones and/or rental property owners who participate in housing subsidy programs.

Abatements or exemptions can be structured in a variety of ways including freezing or reducing the property's taxable assessed value, reducing the rate at which a property is assessed, or reducing overall property taxes owed. Communities with budgetary constraints should properly structure any tax abatement program to leverage and maximize the desired public benefit in order to minimize the overall fiscal impact. Tax abatements can create incentive for new development to spur additional revenue-producing market rate development, there by countering any loss in tax revenues and meeting the broader revitalization goals of a community.

CASE STUDY (SUPPORTS HC7)

The N.C. Weatherization Assistance Program

The Weatherization Assistance Program helps low-income North Carolinians save energy and reduce their utility bills. The program is administered through the N.C. Energy Office in the N.C. Department of Commerce. Current program funding includes \$9.7 million annually from the U.S. Department of Energy and nearly \$132 million from the federal Recovery Act. The mission of the Weatherization Assistance Program is to improve energy efficiency, household safety, and educate the public about maintaining energy efficiency. The program's focus is on the elderly, the disabled, families with children, high energy users and the energy-burdened. The goal of the Weatherization Assistance Program is to keep North Carolina citizens warm in the winter, cool in the summer, and safe all year long.

Weatherization assistance is available for single-family homes, apartments, condominiums and mobile homes. You do not have to own your own home to be eligible. Renters must have written permission from their landlord.

For more information: <http://www.energync.net/about-us/weatherization-office>

STRATEGY HC6.5

Quantify economic impacts of housing incentives.

Advocates for affordable and workforce housing should collect and analyze quantitative and qualitative information regarding the economic benefits of housing incentives. This will help them understand ways in which incentives can be applied to yield greater production of affordable/workforce housing product.

RECOMMENDATION HC7

Promote housing development that is energy-efficient.

STRATEGY HC7.1

Improve residential energy efficiency through low-cost financing options and grants.

Successful energy-efficiency financing tools rely on a concept known as "life-cycle costing." Traditional financing methods consider only the up-front costs of new development, such as building design and construction, without factoring in the reduced energy consumption and projected savings associated with high-efficiency buildings. In contrast, a life-cycle costing approach takes a longer-term view, accounting for prospective operating and maintenance costs over the life of the building in addition to the initial first costs of the upgrades. Financing options including energy-efficient mortgages, special assessment programs and interest rate buy-down programs, offer lower borrowing costs for energy-efficient improvements.

STRATEGY HC7.2

Improve residential energy efficiency through standards and incentives.

Buildings have a significant impact on the environment. Jurisdictions throughout the

region could work to catalyze residential energy efficiency by setting standards and creating incentives. For example, energy codes establish minimum requirements and guidelines for the performance of new construction and existing homes undergoing substantial renovation. Point-of-sale efficiency upgrade and audit requirements provide a mechanism for reducing energy use in existing homes when they are put up for sale or rent. Other incentive-based programs, including density bonuses, priority field inspections, expedited permitting and rebates on the purchase and installation of energy-efficient products, reward developers and residents who take steps to reduce energy consumption.

STRATEGY HC7.3

Pursue “Green House” homes as a permissible use in single family, multi-family and mixed-use zoning districts.

Dr. Bill Thomas is the creator of the Green House project, a radically new approach to long term care where nursing homes are torn down and replaced

with small, home-like environments where people can live a full and interactive life. In 2005, the Robert Wood Johnson Foundation announced a five-year, ten million dollar grant to support the launch of Green House projects in all fifty states.

For more information:

www.thegreenhouseproject.org.

STRATEGY HC7.4

Revive the EcoRealtor course and certification.

EcoRealtor is a real estate training and communications course that offers education and tools to real estate professionals, who in turn help consumers take advantage of energy-efficient and environmentally-sensitive design in real estate properties. Through EcoBroker’s energy and environmental curriculum, real estate professionals acquire the knowledge and resources to become Certified EcoBrokers. These real estate professionals assist clients in their pursuit of properties that provide affordability, comfort and a healthier environment, which reduces carbon footprints.



Green House concepts provide home-like environments as an alternative to long term care facilities.

Together we create our future

Support the advancement of the region's clean energy economy to drive innovation and entrepreneurship, create high-wage jobs, and foster business activity.

Increase the deployment of price-competitive, clean, and locally produced renewable energy to give consumers more energy choices while strengthening the energy, economic, and environmental landscape of Western North Carolina.

Improve residential, commercial, and industrial sector energy performance through the promotion of sustainable design, energy efficiency, conservation, and advanced energy analytics.

Strengthen transportation sector energy performance and reduce petroleum dependency through the promotion of alternative fuels, clean vehicles, and demand reduction programs.

Strengthen regional energy literacy through public education and outreach to create energy conscious communities in the region.

Energy Innovation

Western North Carolina is an energy innovator. The region is, "... one of the most supportive clean energy business environments in the country. From a leading incentive and regulatory environment, to strong entrepreneur support resources, to vibrant clean energy business networks, to clean technology early-adopting communities, WNC is well positioned to be a leader in the emerging clean energy marketplace."³⁹

In 2012, FLS Energy, headquartered in Asheville, was named North Carolina's Top Company and #7 on the Top 100 Energy Companies in the United States.⁴⁰ Students at Appalachian State won the People's Choice award at the U.S. Solar Decathlon in 2011. In addition, the region has the highest concentration of clean energy companies in the state and leads the way with 931 megawatts (MW) of installed renewable energy. Western North Carolina experienced greater growth in renewable energy-related employment compared to the U.S. as a whole. In the five-county region, Buncombe and Henderson counties experienced the highest volume of growth in clean energy-related industries, and a distinct cluster of businesses that focuses on renewable energy and energy efficiency has formed.

While there is a clear shift in focus to clean and efficient energy and energy conservation nationally as well as locally, there is still much to be done. The vast majority of energy produced in the state originates from fossil fuels. In 2008, the Mountain Resources Commission 27-county region in Western North Caro-

lina had 2,435 MW of electricity generation capacity (8.3 percent of the state's total), 50 percent of which was powered by coal, about 31 percent by hydroelectric, and 17.4 percent by natural gas. By comparison, in 2009, over half (55 percent) of state-wide electricity was generated by coal-fired power plants and 34 percent from nuclear facilities. Not surprisingly, the largest fuel source consumed within North Carolina is petroleum, which equates to 40 percent of the total state-wide consumption. However, the state has no local deposits of coal, petroleum, or natural gas; therefore, the vast majority of energy resources for the state must be imported.

Energy consumption per capita in North Carolina increased from 1960 to 1995 at a greater rate than the rest of the United States, but so did the state's population. While energy consumption continues to increase in response to a growing population, energy use per capita declined slightly between 1995 and 2000 and substantially between 2000 and 2005. This progress suggests that individuals are becoming more conscious of their energy use especially during periods of peak oil prices.

The GroWNC region needs to continue to support investment and innovation in the energy sector. By doing so, the region will benefit from cleaner, more affordable and more reliable energy sources, high-wage job growth and less dependence on outside resources.

THE PREFERRED SCENARIO

The Preferred Scenario promotes energy efficiency and conservation by focusing development in areas with existing infrastructure and transit options. It limits the amount of development on prime agricultural lands that could be used to produce canola and other crops for bio-fuels. The Preferred Scenario preserves key industrial sites that could attract innovative energy companies that offer high-wage jobs.



Recommendations & Strategies

The set of tools to support energy innovation includes the following recommendations and supporting strategies.

RECOMMENDATION EI1

Support the advancement of the region's clean energy economy to drive innovation and entrepreneurship, create high-wage jobs, and foster business activity.

STRATEGY EI1.1

Establish an economic development and recruiting policy focused on expanding local energy resources, companies and entrepreneurs, resulting in diverse sources of energy production.

The GroWNC region hopes to advance its clean energy economy to drive innovation and entrepreneurship, create high-wage jobs, and foster business activity. A well-defined economic development and recruiting policy that focuses on local and diverse energy resources, local companies and entrepreneurship, and public engagement can help the region achieve this goal.

STRATEGY EI1.2

Provide incentives for local green energy production and usage, including solar panels and wind turbines.

Local jurisdictions can encourage local green energy production and usage by providing incentives such as grants, fee waivers and loan programs. The Department of Energy has created an online database that

details state and local level incentives for renewable and energy efficiency.

For more information on this database refer to: <http://www.dsireusa.org/incentives/>

STRATEGY EI1.3

Support policies to allow third-party sales of renewable energy.

At least 22 states authorize purchase power agreements, which allow third-party sales of solar PV, photovoltaic technologies, which convert energy from sunlight directly into electricity, using large arrays of solar panels. Currently, North Carolina only allows regulated utilities to sell power. Policies that allow third-party sales of renewable energy allow the consumer to receive stable — and sometimes lower-cost — electricity, while the solar services provider or another party acquires valuable financial benefits such as tax credits and income generated from the sale of electricity to the host customer.

STRATEGY EI1.4

Identify barriers to, and successful examples of, community-level solar power generation. Package this information to share with interested communities.

Advancements in technology, the rising cost of energy and energy security concerns are leading communities to consider the option of generating and producing energy on-site. However, there are many barriers, perceived and real, to this model. A regional study is

CASE STUDY (SUPPORTS EI1.1)

Colorado Blueprint⁴¹

The state of Colorado developed the “Colorado Blueprint” as a bottom-up approach to help existing businesses grow in key industry sectors and attract new strategic and innovative businesses to the state. The Blueprint is the statewide work plan to spur Colorado’s economy, help businesses grow and attract new jobs to the state. It gives Colorado a framework to build a comprehensive economic development plan that aligns existing efforts and identifies opportunities for growth and focused investments.

Strategies to attract new company prospects include the following:

- Develop greater communication between state, regional and local communities
- Conduct post-process interviews with prospects who decide not to locate to learn from mistakes and understand Colorado’s shortfalls
- Create and use a statewide ‘code of ethics’ for prospecting companies
- Outline the role of each agency in company prospecting and retention.

For more information:
www.advancecolorado.com

needed to understand these barriers and the potential impacts and opportunities associated with community-level solar power programs.

STRATEGY EI1.5

Promote renewable energy production in rural areas, such as regionally grown and processed biofuels.

The GroWNC region has a wealth of agricultural and rural areas. In addition to the goal of increasing the deployment of price-competitive, clean, and locally produced renewable energy, the region also desires to advance its clean energy economy to drive innovation and entrepreneurship, create high-wage jobs, and foster business activity. In rural and agricultural locations, these goals can be met by advancing renewable energy and energy efficiency projects and focusing on the production of regional biofuels. These regional goals can help the state meet its ambitious goal of having 10 percent of the liquid fuels sold in North Carolina come from biofuels grown and produced within the state by 2017.

Funding is available through the U.S. Department of Agriculture’s Rural Energy for America Program (REAP), which provides assistance in the form of loan guarantees and grants to agricultural producers and rural small businesses to complete a variety of projects. Other incentives to promote regional biofuels production include offering specific tax credits. For example, New Mexico offers a tax credit for up to 30 percent of the cost of purchasing or installing equipment used to produce biodiesel blends containing at least 2 percent biodiesel. The state also allows tax deductions for the cost of purchasing qualified biomass feedstocks to be processed into biofuels, as well as associated equipment.

STRATEGY EI1.6

Review and update local codes and policies to remove barriers and streamline permitting for commercial and community renewable energy projects.



Blue Ridge BioFuels produces and distributes biodiesel in Western North Carolina.

Work with homeowners' associations, design review boards and similar groups that have regulations that prohibit or restrict renewable energy projects. Regulations such as height restrictions, lot coverage, and setback can have adverse effects on renewable energy projects.

STRATEGY EI1.7

Develop policies to encourage installation of on-site, locally-sourced renewable energy systems for local government facilities and schools for energy, education, conservation, cost savings, and efficiency.

To meet the GroWNC region's goal to increase the deployment of price-competitive, clean, and locally produced renewable energy, the barriers to implementation must be addressed. Ordinances that

encourage the development of small-scale renewable energy installations are an important step to promoting the use of these energy sources. Madison County adopted a new land use ordinance in May 2010, which includes provisions for permitting wind turbines within the county. The ordinance establishes permitting classifications for small, medium, and large wind projects, set-back requirements, and restrictions to reduce noise and shadow flicker produced by large facilities. Requirements for the installation, design, and decommissioning of systems are also addressed in the ordinance.

RECOMMENDATION EI2

Improve residential, commercial, and industrial sector energy performance through the promotion of sustainable design, energy efficiency, conservation, and advanced energy analytics.

STRATEGY EI2.1

Expand local efforts to increase the use of energy-efficient building materials, maintenance practices and fixtures.

The first step to increase the use of energy-efficient building materials in the GroWNC region is to educate consumers on the value of energy efficiency. Local initiatives, such as Buncombe Green, should work with local utilities to offer energy use feedback on consumer bills. In order to motivate builders and residents to use energy-efficient building materials, local jurisdictions could discount or delay permit fees for appropriate projects, offer priority code processing and provide recognition to projects that exemplify desired outcomes.

STRATEGY EI2.2

Provide incentives for affordable housing projects that incorporate renewable energy and other sustainability measures.

Examples include providing expedited permitting, tax incentives, and fee waivers for new developments. Also, consider creating a priority point system for green design practices. This program should provide

a clear way to incorporate desired green techniques into new developments and reward those who incorporate many sustainable elements with an easy-to-understand reward system.

STRATEGY EI2.3

Reduce heating and cooling costs in mobile homes and other energy-inefficient homes by working with existing energy assistance organizations.

Organizations like Energy.gov provide information to residents on the importance of installing energy-efficient windows and doors, adding insulation to the walls and roof, and other energy-efficient projects. Also information about tax credits, rebates, and savings on energy-efficient products should be posted in public gathering places.

STRATEGY EI2.4

Improve residential energy efficiency through low-cost financing options and grants.

Successful energy-efficiency financing tools rely on a concept known as “life-cycle costing.” Traditional financing methods consider only the up-front costs of

CASE STUDY (SUPPORTS EI2.3)

Waste Reduction Partners⁴²

Waste Reduction Partners, a team of highly experienced volunteer and retired engineers and scientists, provides North Carolina businesses, industries, and institutions with waste, water and energy reduction assessments and technical assistance.

The WRP team conducts on-site assessments and provides consulting services to businesses and public facilities throughout North Carolina. The program focuses on pollution prevention, operating efficiency improvements and cost effectiveness. WRP services are grant-sponsored or supported through technical service

contracts to provide assistance to its clients at no-cost. All services are non-regulatory and confidential.

Since 2000, Waste Reduction Partners’ team of retired professionals has provided more than 158,000 hours of “pro bono” technical expertise to businesses, manufacturers, and institutions. This unique team is dedicated to achieving a better quality of life for all North Carolinians.

For more information:
<http://wastereductionpartners.org/>

new development, such as building design and construction, without factoring in the reduced energy consumption and projected savings associated with high-efficiency buildings. In contrast, a life-cycle costing approach takes a longer-term view, accounting for prospective operating and maintenance costs over the life of the building in addition to the initial first costs of the upgrades. Financing options, including energy-efficient mortgages and programs for special assessment and interest rate buy-down, offer lower borrowing costs for energy-efficient improvements.

STRATEGY EI2.5

Conduct energy efficiency assessments of city- and county-owned facilities.

In order to understand how energy is used and therefore identify solutions to improve energy efficiency, energy assessments of city- and county-owned facilities are necessary. Energy assessments detail baseline data from which to measure progress toward efficiency goals. The assessments are helpful tools for communicating the value of energy conservation in terms of reducing costs to the taxpayer for city- and county-maintained facilities.

STRATEGY EI2.6

Work with energy utility companies and cooperatives to promote residential energy audits using free on-line tools, such as ENERGY STAR and Progress Energy, or a professional energy auditor.

Residential energy audits help homeowners link energy costs to specific energy uses within their households. Audits can recommend appropriate energy conservation, operations and maintenance procedures and estimate labor and mate-

CASE STUDY (SUPPORTS EI2)

City of Austin, Energy Conservation Audit and Disclosure Ordinance⁴³

The Austin City Council approved a series of amendments to a city ordinance designed to provide efficiency information to home buyers, apartment renters and building owners to reinforce the market value of energy efficiency. The Energy Conservation Audit & Disclosure (ECAD) ordinance, initially approved by Council in 2008, was developed in a cooperative effort among city staff, the real estate industry, commercial property managers and the Austin apartment community.

The ordinance requires that sellers of single-family homes 10 years old or older disclose the results of a required energy audit to potential homebuyers. In addition, it gives commercial properties time to calculate an energy rating on their facilities. Building owners have free online rating tools such as Portfolio Manager by Energy Star through which to calculate the energy rating for their facilities. Calculation of an energy rating allows owners and managers of commercial properties to better track their energy use and receive recommendations through the tools on cost-effective, energy-efficiency improvements.

The Council also requires that multifamily properties with an energy usage per square foot exceeding 150 percent must reduce energy use by 20 percent. The property also must disclose to prospective tenants that the property has been designated a higher-than-average energy use property and that the tenant's electric bills will be higher than if they lived at a more energy-efficient comparable property.

For more information:
www.austinenergy.com

rial costs for energy retrofits. Audits not only build awareness on energy consumption at the household level but provide strategic steps to reduce costs for homeowners.

STRATEGY EI2.7

Identify tools and strategies to assist businesses and governments in identifying easily-achievable tasks to save electricity and reduce environmental impacts.

Energy efficiency assessments are one tool businesses and governments can use to gain valuable insight into the condition of their facilities and provide a framework for improvements to lower energy use and cost. Several non-profit organizations around the United States provide no-cost energy assessments to existing commercial institution and industrial buildings. For example, Clean Energy Coalition is a Regional Technical Assistance provider for Rebuild Michigan. This statewide initiative promotes energy efficiency for Michigan's commercial and public buildings. Clean Energy Coalition performs Introductory Energy Evaluations for commercial buildings located within southeast Michigan no cost for a set number of buildings each year. Trained commercial energy auditing teams can examine a building's energy needs and outline the best strategy to lower energy costs and harness renewable resources. In addition to assessments, jurisdictions should offer incentives that encourage energy conservation and low impact development techniques such as solar panels on parking garages.

STRATEGY EI2.8

Seek improvements to state building codes to increase energy efficiency standards.

Building energy codes establish energy efficiency standards for residential and commercial buildings, thereby setting a minimum level of energy efficiency and locking in the energy savings at the time of new construction or renovation. Codes typically

specify requirements for "thermal resistance" in the building shell and windows, minimum air leakage, and minimum heating and cooling equipment efficiencies. Improvements to state codes can lead to greater energy efficiency and lower energy costs for home and business owners.

STRATEGY EI2.9

Develop policies to encourage LEED or comparable certification standards for all new city- and county-owned buildings and major renovations.

Jurisdictions can set the example for energy-efficient, low impact development techniques by committing to meeting green building standards such as LEED for all new publically-funded projects. Many cities and counties across the United States have determined that energy-efficient, high performing buildings lead to cost savings for tax payers and healthier work environments for public-sector employees.

STRATEGY EI2.10

Provide no-cost energy efficiency assessments to existing commercial, institutional and industrial buildings

RECOMMENDATION EI3

Strengthen transportation sector energy performance and reduce petroleum dependency through the promotion of alternative fuels, clean vehicles and programs to reduce demand.

STRATEGY EI3.1

Promote incentives for purchasing low energy and energy-efficient vehicles.

In addition to lowering gas bills, energy-efficient products eligible for the federal tax credits actually

lower the amount of federal income taxes that an individual must pay. These tax incentives have been very effective in building consumer interest in energy-efficient vehicles. Highway-capable battery-powered plug-in vehicles purchased or leased new, may be available for a credit of up to \$7,500, based on their battery capacity, under section 30D of the tax code. Local non-profits should work to promote awareness of the incentives to encourage consumer interest in energy-efficient vehicles.

For more information:

<http://www.afdc.energy.gov/laws/law/US/409>

STRATEGY EI3.2

Continue to install electric vehicle charging stations throughout the region.

Electric vehicle charging stations provide many benefits both for the owner of the car and parking area. Charging stations attract tenants who are willing to pay a premium for sustainable features. In addition, the stations could provide a new fee-based revenue model for non-tenant users. Electric vehicle charging stations also build social capital in the community and ultimately help the environment. According to the Plug-In Electric Vehicle Handbook⁴⁴, "charging station ownership models vary. Some charging station hosts may purchase, install, and operate stations themselves. This model gives the host or owner control of the station and allows them to keep all revenues. Other organizations will contract with a third party who pays the station equipment, installation, and maintenance costs and manages the logistics in return for lease payments or a share of the station's revenue. This model minimizes the host's upfront costs and administrative responsibilities."

STRATEGY EI3.3

Reduce total vehicle fleet emissions where possible by retiring older, less-efficient vehicles.

There are many grant programs available to reduce transportation-related emissions by retiring or



The Clean Vehicle Coalition is working to install electric vehicle charging stations throughout the region.

retrofitting less-efficient vehicles. The Clean Fuel Advanced Technology (CFAT) project focuses on reducing transportation-related emissions in non-attainment and maintenance counties for National Ambient Air Quality Standards. A project that is adjacent to these areas may also be eligible if the project will reduce emissions in eligible counties. The North Carolina Department of Transportation funds the CFAT project, which covers three broad areas: education and outreach; project funding; and recognition of exemplary activities. Beginning January 2013, funding will be available for the 2013-2016 funding cycles. Financial support is anticipated to be available for AFVs, fueling infrastructure, idle reduction technologies, heavy-duty HEVs, heavy-duty buses, and diesel retrofits.



In 2013, the Clean Vehicle Coalition published the Greater Asheville Readiness Plan to advance the use of plug-in electric vehicles.

STRATEGY EI3.4

Offer preferred parking spaces and/or discounted parking rates for low emission and energy-efficient vehicles at public and private parking lots and garages.

STRATEGY EI3.5

Identify tools and strategies to assist businesses and governments in identifying easily-achievable tasks to save fuel and reduce environmental impacts. These include, among others, idle reduction, the use of biofuels, and low-emission and energy-efficient vehicle purchasing tools.

The North Carolina State Energy Office administers the Energy Policy Act (EPAAct) Credit Banking and Selling Program, which enables the state to generate

funds from the sale of EPAAct 1992 credits. The funds that EPAAct credit sales generate are deposited into the Alternative Fuel Revolving Fund (Fund) for state agencies to offset the incremental costs of purchasing biodiesel blends of at least 20 percent (B20) or ethanol blends of at least 85 percent (E85), developing alternative fueling infrastructure, and purchasing AFVs and hybrid electric vehicles. Funds are distributed to state departments, institutions, and agencies in proportion to the number of EPAAct credits generated by each. For the purposes of this program, alternative fuels include 100% biodiesel (B100), biodiesel blends of at least B20, ethanol blends of at least E85, compressed natural gas, propane, and electricity. The Fund also covers additional projects approved by the Energy Policy Council.

STRATEGY EI3.6

Install parking and way-finding signage for Electric Vehicles (EV) on highway exits and city roads to help EV drivers navigate to these stations on local and state roads.

STRATEGY EI3.7

Implement an Electric Vehicle (EV) course at local community colleges for auto technicians and others to familiarize workforce with servicing plug-in EVs.

Expand the National Alternative Fuels Training Consortium (NAFTC) program at Blue Ridge Community College, Flat Rock campus to other local community colleges. NAFTC is a pioneer and national leader in developing, managing, and promoting programs and activities that desire lead to energy independence and encourage the greater use of cleaner transportation. NAFTC is the only nationwide alternative fuel vehicle and advanced technology vehicle training organization in the United States. It is NAFTC's mission to provide the training infrastructure for implementing widespread use of alternative fuels, alternative fuel vehicles (AFVs), and advanced technology vehicles, in an effort to increase our nation's energy security and improve our air quality by reducing greenhouse gas emissions from the transportation system.

For more information:

http://naftc.wvu.edu/curricula_training/training/brcc

STRATEGY EI3.8

Educate consumers, fleet managers, and the public about the benefits of Electric Vehicles (EV) through test drive events, EV Booths at local events, one-page flyers and other means.

STRATEGY EI3.9

Implement recommendations, as appropriate, in the Greater Asheville Plug-in Electric Vehicle Readiness Plan.

In 2012 the Land-of-Sky Clean Vehicles Coalition (CVC) organized a broad group of public and private stakeholders in the Asheville region to identify barriers to PEV adoption and develop strategies to resolve those barriers. The purpose of the Asheville Area PEV Plan is to provide local stakeholders with a roadmap of strategies to prepare the Asheville region for plug-in electric vehicles, and to serve as a resource for individuals and organizations interested in using electric vehicles.

For more information:

<http://www.advancedenergy.org>

STRATEGY EI3.10

Facilitate Electric Vehicle (EV) adoption by fleets, rental agencies, and individuals through fleet assessments, EV workshops, and meetings with fleet managers.

RECOMMENDATION EI4


Strengthen regional energy literacy through public education and outreach to create energy-conscious communities in the region.

STRATEGY EI4.1

Update or create Strategic Energy Plans.

A strategic energy plan is a roadmap to achieving community energy goals in both the near and long term. The goals are determined by stakeholder input, so the plans are inherently local and have stakeholder buy-in, leading to a greater likelihood of the plan's success over time. A strategic energy plan can be part of a greenhouse gas emission plan, a sustainability plan, or a community master plan.

Map #16: Wind Power Potential

 Fair or Better Generation Potential



Source: NCOneMap & The NC Energy Office

STRATEGY EI4.2

Using local examples well-suited to the region, develop educational materials, host energy expos, seminars, workshops and online educational campaigns on the benefits of renewable energy, energy conservation, funding and incentive programs as well as energy efficiency.

Building awareness is key to ensuring long-term change. Communication strategies should increase energy awareness, connect individual actions to long-term impacts and demonstrate the benefits of energy conservation and alternative energy production. The NC Sustainable Energy Association has a number of energy factsheets that could be tailored for the GroWNC region. In addition, the Biofuels Center of North Carolina awards funds to academic institutions, economic development organizations, nonprofit corporations, and other entities through an annual competitive awards process. Grants and contracts are designed to identify and bridge gaps in knowledge and information, speed up the development of technology, and create a seamless continuum between agriculture and transportation fuels.

STRATEGY EI4.3

Disseminate research findings on the feasibility and environmental impacts of small and large scale wind power in the Western North Carolina region.

The GroWNC region desires to increase the deployment of price-competitive, clean, and locally produced renewable energy to give consumers more energy choices while strengthening the energy, economic, and environmental landscape of Western North Carolina. The region also has a moderate wind resource, particularly for utility-scale wind turbines installed at greater heights (80 - 100 meters).

Furthermore, the cost of wind energy production has fallen nearly 80 percent in the past two decades, making this renewable resource competitive with conventional sources of energy.

Small-scale wind power may be used in rural areas and communities to offset a portion of the demand for conventional electricity. Large-scale wind power — while having larger land requirements than conventional electricity generation stations of comparable generating capacity, such as coal- or gas-fired power plants, — has a relatively small area of impact specific to the footprint of each turbine; is compatible with other types of land use, such as agricultural; is a zero emission energy source and does not require the importation of fossil fuels. There are potential concerns about wind power, such as intermittency of electricity generation, noise, and wildlife impacts — bird and bat fatalities — that should be studied prior to implementation.

STRATEGY EI4.4

Develop a formal school curriculum around energy consumption and conservation that includes examining environmental and economic impacts. Encourage state education officials to incorporate into the NC Essential Standards curriculum.

NEED, the National Energy Education Development Project, promotes an energy conscious and educated society by creating effective networks of students, educators, business, government and community leaders to design and deliver objective, multi-sided energy education programs. NEED works with energy companies, agencies and organizations to bring balanced energy programs to the nation's schools with a focus on strong teacher development, timely and balanced curriculum materials, signature program capabilities and turn-key program management. Teachers can access NEED curriculum online. NEED also provides information on how to integrate the energy component into a state's curriculum.

CASE STUDY (SUPPORTS EI4.5)

NEED in NC: Forestville Rd Elementary School's USS STARKids Campaign⁴⁶

Forestville Road Elementary School in Knightdale, North Carolina initiated the USS STARKids Campaign to educate students on energy issues. Program description included:

STAR COMMAND: STAR fleet command has issued the USS STARS to help earth, especially Forestville Road Elementary. The Captain selected students who would help promote energy education, help students, teachers, families, and community members learn to save energy.

STAR LOG: At the Fall Festival, S.T.A.R. kids had NEED activities, recycling fortune tellers, and made recyclable tic-tac-toe boards to sell as a fundraiser. At the Christmas parade, the group teamed up with the Student Council and promoted energy tips with large posters and passed out energy tip bookmarks. At the Health Fair, the program displayed their "Why Save Energy" display board to set up along with our 10 fact NEED resource posters. The S.T.A.R. kids collected recyclable materials every Thursday afternoons from the classrooms, had morning announcements that educated the teachers and students on energy information, and made goals on how to recycle more and get more students and staff involved in making our school green. S.T.A.R. kids visited other classrooms to promote energy education with plays and activities to teach the younger students about the earth's resources and how to conserve them.

CAPTAIN'S LOG: Mission accomplished - USS STAR kids have worked hard this year educating Forestville Road Elementary and the community in conserving our resources by recycling, reusing, reducing, and staying green.

STRATEGY EI4.5

Continue to expand education programs about energy consumption from fossil fuels and related impacts (including visual/interactive tools).

Throughout the GroWNC region there are numerous examples of how schools are the change agents committed to creating a cleaner and greener existence for present and future generations. Fundamental to the success of these programs have been the collaborative partnerships among local, State and Federal governments, individual schools, the local utility company and non-profit agencies. Continued project success hinges on this network of funders and technical assistance providers.

STRATEGY EI4.6

Assist local governments with evaluating opportunities for Energy Saving Performance Contracts.

Energy-Saving Performance Contracting is a method of financing capital projects that upgrade the energy efficiency of building structures and systems. A single procurement contract covers the engineering, construction, installation, start-up, operational measurement and verification of improvement that will yield significant energy savings over time. In an Energy-Saving Performance Contract, the selected contractor (termed Energy Service Company, or ESCO) guarantees the local government system a minimum level of energy cost savings. These guaranteed cost savings support both the yearly fees and the debt obligation of the local government system to finance the project.

For additional information:

- Fact Sheet for Local Governments: <http://wastereductionpartners.org/phocadownload/PerformanceContracting/PCFactLocalGov.pdf>
- Performance Contracting tool kit for K-12, local governments, and community colleges: <http://wastereductionpartners.org/phocadownload/PerformanceContracting/PCManual.pdf>
- Other state resources on performance contracting: <http://www.energync.net/utility-savings-initiative/performance-contracting>



Organizations like the Evolve Energy Partnership support green energy initiatives throughout the region. This event took place at a Madison County elementary school.

Together we create our future

Promote active aging options for the region's older adults.

Preserve the ability for people to remain in their home or neighborhood as long as possible.

Improve access to healthy foods in all communities throughout the region.

Strengthen regional health literacy through public education, outreach and planning to create healthy communities.

Promote jobs and employees that are dedicated to worksite wellness.

Improve access to community, holistic and medical health care options for all regardless of ethnicity, age, state of disease or financial resources.

Advocate for a safe, sustainable built environment that supports a healthy community and provides opportunities for civic engagement.

Ensure the healthy development of the region's youth.

Healthy Communities

The health of the GroWNC population, if measured only in terms of the frequency of illness or disease (morbidity) and the number of deaths (mortality), is relatively consistent with the health of US and NC populations with a few exceptions.

Based on data collected yearly in every county in the Community Health Assessment, there are four chronic illnesses named consistently as the leading cause of death. They are heart disease, cancer, chronic lower respiratory disease (CLRD) and cerebrovascular disease (stroke). Based on the data presented in the NC Health Data Book 2012, all five counties now have a fifth leading cause of death in common: Alzheimer's disease.

In addition, obesity, especially among children, has become a major issue in all five counties. Haywood County saw an increase in obesity between 2002 and 2008 from 16 percent to 21 percent. In Buncombe County, more than half of all adults were either overweight or obese in 2010.

Healthcare providers are also increasingly aware of mental health issues, including depression that plagues western NC. Most counties have reported a lack of facilities and providers to serve those struggling with mental health issues. In Buncombe County, one in three survey respondents reported depression in the past year. In Madison County, 27 percent of survey respondents report they have been told they have depression.

THE PREFERRED SCENARIO

The Preferred Scenario promotes healthy communities by focusing development in areas with existing infrastructure and transit options. Compact development in areas with access to affordable transportation options, social services and amenities allows older adults to age-in-place and allows children to walk to and from school. In addition it provides opportunities for multigenerational social interaction beyond what is available in dispersed communities. This scenario also limits the amount of development on prime agricultural lands that could be used to produce local foods. The Preferred Scenario also preserves key ecological corridors thus ensuring protection of the region's natural assets. This results in cleaner air and water as well as parks and open space for recreational activities.

Closely linked to the prevalence of mental health issues is substance abuse. Substance abuse in the region includes the abuse of alcohol, prescription medications and illegal drugs. For example, alcohol is Haywood County's primary substance abuse issue. Chronic liver disease/cirrhosis has been identified as a leading cause of death in Haywood County, which indicates a high use of alcohol by the population. Methamphetamine — the leading illegal drug of choice for residents of Western North Carolina — and the illegal use of prescription medications are the leading substances associated with addiction and abuse in Henderson County.

Access to health care is also identified as a key problem in every county, though how each county defines "access" differs. It refers to a wide range of issues that each county is facing including a lack of providers, lack of facilities, lack of transportation to facilities, affordability and barriers related to insurance and language. Many residents have to drive significant distances to reach their nearest facility.

In recent years, health care professionals and interested stakeholders have expanded the way they think about health to consider prevention and health promotion as components of a well-rounded approach to health and wellness. If social, environmental and economic conditions along with behaviors (a wide array of health determinants) can be controlled or modified, then the risk for some injuries, diseases, or death can be lessened or prevented.

More importantly, we can increase opportunities for achieving optimal health, improving upon—not simply accepting and maintaining—our current state. Recognizing the identified linkages, health initiatives must be developed with the intent of preventing, not just treating, health problems and promoting overall health and well being. The following is a summary of some of the trends and opportunities related to the health factors noted above that are already being observed in the GroWNC region.

HEALTH FACTOR TRENDS AND OPPORTUNITIES

- **Community Design:** Utilization of the built environment to positively affect health outcomes. For example, the transportation system, designed primarily for automobiles, makes biking or walking from one place to the next challenging, if not impossible. The lack of safe bike and pedestrian facilities perpetuates the issues of physical inactivity.
- **Exercise and Diet:** Along with exercise, healthy eating is another behavior to modify for positive health benefits. The lower cost and convenience of processed foods, however, facilitate poor diet habits. In the last decade in the US, and to a greater degree in the region, healthy eating has become easier with access to local foods.
- **Green Infrastructure:** Tree ordinances, park and recreation standards and storm water management regulations are three of several such tools employed by local governments to ensure the "green infrastructure" is well planned and serves a wide variety of purposes, including improving public health.
- **Active Aging:** Recognizing the benefits of communities where people can grow old in their communities and maintain social interaction with people of all ages, the EPA is also promoting "age-friendly" neighborhoods designed to have a variety of housing options and services that address seniors' needs.

Recommendations & Strategies

The set of tools to support healthy communities includes the following recommendations and supporting strategies.

RECOMMENDATION HCO1

Promote active aging options for the region's older adults.⁴⁷

Scientific evidence indicates that regular physical activity can bring dramatic health benefits to people of all ages and abilities, and that these benefits extend over their entire lives. Physical activity offers one of the greatest opportunities to extend years of active, independent life, reduce disability, and improve the quality of life of older adults. Regular physical activity reduces the risk of dying prematurely and developing diabetes, high blood pressure and colon cancer. It also reduces feelings of depression and anxiety, helps control weight, helps maintain healthy bones and muscles and promotes psychological well-being. Despite these health advantages, one-third of adults age 50+ live sedentary lives.

Physical activity should be an integral part of daily life. It is recommended that people of all ages participate in moderate physical activity, such as walking, for a minimum of 30 minutes a day, five times per week. To meet this recommendation, physical activity can be accumulated during the day, such as walking for 10 minutes three times daily.

STRATEGY HCO1.1

Conduct a community assessment of rates of older adult participation in community-based physical activity programs or opportunities.

In order to increase physical activity among older adults, it is necessary to know where the community is starting. An assessment helps to identify the status of physical activity involvement among the older adult



The GroWNC region attracts a number of retirees to the area. As the population continues to age, more services are needed to accommodate this cohort.

population and to lay the foundation for developing strategies for reaching these goals. This assessment will also be useful when evaluating the success of diverse efforts. There are various surveys and measures which can be utilized to document this information:

- Community health status indicators, such as morbidity, mortality and other health status data, such as rates of obesity or falling
- The percentages of older adults who are sedentary and engaging in no leisure time activity as well as those engaging in some type of physical activity
- Program participation rates of community and worksite physical activity programs
- Inventory and participation rates of older adults in fitness centers and clubs
- Resource inventories: human, organizational, institutional, material
- Inventory of outdoor resources: parks, recreation centers, walking/biking trails, etc.
- Environmental surveys outlining pedestrian walkability

STRATEGY HCO1.2

Develop a regional plan to address barriers to, and enhancements for, increasing older adults' participation in physical activity programs or opportunities.

A strategic plan outlines the objectives, goals, and strategies that the community team will use to promote active aging/physical activity for older adults. A broad-based community health plan will describe in detail the plan's feasibility, the cost to execute, its envisioned impact, time-frame for completing the set goals, and the people who will lead the various action items.

STRATEGY HCO1.3

Initiate a regional campaign to educate older adults about the different ways they can achieve recommended levels of physical activity.

Many communities publish physical activity guides that list recreation areas, fitness and health centers, faith-based exercise programs, walking paths and clubs, and other locations where older adults can join in and get active. Other promotion ideas include special-purpose walking campaigns, new program announcements at the local YMCA or senior center, and special promotions and incentives for older adults at area fitness clubs.

RECOMMENDATION HCO2

Preserve the ability for people to remain in their home or neighborhood as long as possible.⁴⁸

Seniors prefer to remain in their communities. Rather than move to a new community, even one that might be more physically suited to their needs, the vast majority of older adults prefer to stay right where they are. However, changing health care needs, loss of mobility, financial concerns, home maintenance and increasing property taxes present significant impediments to this simple and primary desire.

Aging in Place is a diverse range of programs that address these impediments, seeking to retain senior citizens as integral and productive members of their communities. By providing appropriate neighborhood-based health and housing alternatives, Aging in Place strategies increase the personal dignity and functional independence of older adults.

CASE STUDY (SUPPORTS HCO2)

PACE: Program for All-Inclusive Care for the Elderly⁴⁹

PACE is an innovative program for low-income seniors who prefer not to move into a nursing home, but whose health makes it impossible to stay at home without the help of caregivers. It includes all medical care, an adult day health center, home care services and transportation, so older adults can continue living in their homes.

When the PACE center building opens in 2014, the staff will be able to serve approximately 150 people from Buncombe and Henderson Counties at a time.

STRATEGY HCO2.1

Identify and develop more local and regional sources of funding and ways to provide home-health services to older adults, including meal services and public transportation/transit.

Work with local health departments and home health providers to identify funding strategies to provide home-health services to older adults. Seek partnerships with area community organizations such as faith communities and foundations to raise awareness and funding for service provision. National organizations such as Meals on Wheels also provide grants and funding such as the 2013 Subaru Outback Loan, which offers a free six-month loan of a Subaru Outback to Meals on Wheels programs.

For more information refer to:
http://www.mowaa.org/grant_opps.

STRATEGY HCO2.2

Collect information and raise awareness of affordable home health options that allow residents to remain in their homes.

After personal safety, affordability is the single most difficult housing issue for many older adults. Retired

older adults living on fixed incomes often struggle to pay rising rents and property taxes. Strategies including tax deferrals, tax postponement, property tax caps, homestead exemptions, deferred loan programs and others can reduce the housing burden on older adults. There are numerous programs throughout the region that provide home health care options for aging adults. Mobile care clinics, naturally occurring retirement communities (NORCS) and other similar programs provide critical services to aging adults and allow them to remain in their homes.

STRATEGY HCO2.3

Support efforts to expand care options across the region to provide residents who can no longer live independently with an alternative to managed care facilities.

Alternatives to managed care facilities such as medical foster home programs, offer safe, long-term care in a home-like setting. Medical Foster Homes are private homes in which a trained caregiver provides services to a few individuals.

STRATEGY HCO2.4

Coordinate healthcare and supportive services with housing.⁵⁰

CASE STUDY (SUPPORTS HCO3.2)

Pisgah View Community Peace Garden⁵¹

The Pisgah View Community Peace Garden is an organic community garden located in a low-income, public housing complex that struggles with high crime rates. Founded in 2007, there are currently 37 active plots, a tool shed, greenhouse and playhouse. The garden not only provides residents with fruits and vegetables but serves as an economic development tool by marketing and distributing produce and herbs. In addition, the organization makes this food available to elderly, disabled and homeless populations through its social programs. Furthermore, PVCPG has established educational programs to help schools, faith communities and youth groups learn about the importance of local sustainable agriculture.



The Pisgah View Community Peace Garden.

Through partnerships with Heifer International and the Center for Participatory Change, the Peace Garden continues to grow and thrive. The Housing Authority of the City of Asheville is also a key partner.

The most successful Aging in Place strategies recognize the interrelationship between health and housing services and reflect this relationship in the design of housing. Coordinating these systems is not easy because the funding streams for health programs and housing programs remain separate from the federal level to the local level. Programmatically, there are many different ways to integrate housing and health-care services. For example, home repair and modification can be evaluated and completed in coordination with case management. Hospital discharge plans can address the living environment to which an individual is returning. Senior apartment or condominium buildings can hire part-time service coordinators to help individuals connect with existing services. Programs must be both physically accessible and financially affordable to older adults.

RECOMMENDATION HCO3

Improve access to healthy foods in all communities throughout the region.

Healthy eating is a relatively easy behavior to modify for positive health benefits. The lower cost

and convenience of processed foods, however, facilitate poor diet habits. In the last decade in the US, healthy eating has become easier with access to local foods. Fueled by the local foods movement that encourages local production and consumption of food, there has been an increase in the awareness of and access to in-season, fresh produce as well as minimally processed meat, dairy, and other products. Community gardens and farms, especially those participating in farmers' markets and community-supported agriculture (CSA) programs, have increased the local supplies. In addition to improving physical health, local food production and distribution is playing a key role in improving the health of our local economies. Embraced by individuals, grocery stores and restaurants, agricultural operations of all types are popping up in our urbanized areas, responding to the demand for local food.

STRATEGY HCO3.1

Review and revise local ordinances to allow farmers' markets, produce stands and other outlets for fresh, local foods in convenient locations throughout the region.



Mobile farmers' markets are one strategy to promote access to healthy, local foods in lower income and rural areas.

STRATEGY HCO3.2

Promote access to healthy foods in lower-income and rural areas.

Low-income communities of color and low-income rural areas are most affected by limited access to healthy food. Studies have consistently shown that there are fewer supermarkets and other retail outlets selling affordable, nutritious food in low-income communities than in wealthier ones, and in predominantly African-American and Latino neighborhoods than in predominantly white ones. There are numerous barriers to accessing healthy foods in lower-income and rural areas, including lack of convenient hours of operations and transportation options, prices, language and others. Strategies to address some of the barriers include the following:⁵²

- Create a Welcoming Atmosphere by addressing language and cultural barriers
- Offer an appropriate product mix that includes basic products
- Build awareness through informative signage and clear pricing

- Stage markets in areas easily accessible by public transportation
- Extend market hours to accommodate alternative shift workers
- Initiate a mobile market

STRATEGY HCO3.3

Continue to expand marketing materials for local farmers' markets.⁵³ as noted in ASAP's Farmer's Markets for all.

Key components to increase the accessibility of local farmers' markets include building a welcoming and inclusive market that includes programming to increase the spending power of low-income clientele. In addition, a comprehensive and far-reaching marketing, outreach, and education campaign is critical for success. Developing a strategic campaign targeted at the unique needs of the local community and implemented in collaboration with community partners will build awareness and enhance participation. Successful techniques to reach target audiences include: grassroots outreach campaigns, advertisement in alternative language newspapers and radio and partnerships with existing community groups.

STRATEGY HCO3.4

Promote and expand the use of EBT, Electronic Benefit Transfer, outside of Buncombe County to purchase food at Farmers' Markets.⁵⁴

Perhaps the most important factor related to the accessibility of farmers' markets for low-income consumers is the capacity to accept federal nutrition benefits as payment. Currently, nearly three-quarters of farmers' markets do not accept SNAP, FMNP, and/or SFMNP, a primary financial source of the household budget for many members of low-income communities. Strategies to develop the infrastructure to accept federal nutrition benefits include: a central point-of-sale system and customized incentive programs that match federal benefits, among others.

STRATEGY HCO3.5

Replicate and expand Green Opportunities (GO) programs around culinary skills, gardening/food production and business opportunities to train youth.

Training programs, similar to the GO Kitchen-Ready initiative, provide opportunities to provide jobs through the local food movement.

CASE STUDY (SUPPORTS HCO3.5)

Green Opportunities: GO Kitchen-Ready⁵⁶

GO Kitchen-Ready is a culinary training program that prepares graduates for employment in food service. It began as a pilot project funded by Asheville Independent Restaurant Association (AIR) and has since joined Green Opportunities core training programs. It is a free training program for low-income adults who face barriers to employment.

Classes cover basic food service and technical skills including culinary, baking, food safety and sanitation, food vocabulary and kitchen math. A portion of the class is devoted to life skill training, covering nutrition, resume writing, interviewing, job search,

RECOMMENDATION HCO4

Strengthen regional health literacy through public education, outreach and planning to create healthy communities in the region.⁵⁵

Every day, people confront situations that involve life-changing decisions about their health. These decisions are made in places such as grocery and drug stores, workplaces, playgrounds, doctors' offices, clinics and hospitals, and around the kitchen table. Obtaining, communicating, processing, and understanding health information and services are essential steps in making appropriate health decisions.

STRATEGY HCO4.1

Offer and promote the many assets and programs in the region that are supportive of the healthy lifestyle the region's citizens actively enjoy.

Highlight local initiatives, resources, and successes in local media to encourage healthier lifestyles. Programs like Eat Smart, Move More North Carolina; Strive not to Drive; Healthy Buncombe and Healthy Haywood all promote programs that contribute to a healthy lifestyle.

job retention skills and managing personal finances. The use of local food products is a key component of the training.

Graduation provides students with "kitchen-ready" skills, including SERV-SAFE certification and a mentoring program supported by Asheville area restaurants. The program offers placement support along with partners AIR, Goodwill Industries, and the Asheville City Schools Foundation.

For more information:

<http://www.greenopportunities.org>

STRATEGY HCO4.2

Create local-scale health data, criteria, and case studies.

There is currently a need to develop more local data. Data below the county level is difficult to acquire. This information is needed to establish a baseline from which to compare progress towards healthy outcomes, guide decision-making and build awareness of local health issues and opportunities.

STRATEGY HCO4.3

Partner with local academic institutions to improve internship opportunities and ensure more effective research projects with outcomes that benefit the community.

STRATEGY HCO4.4

Conduct Health Impact Assessments for publicly-funded projects to evaluate their potential community health outcomes⁵⁷.

Conditions in the places where we live, work and play have a tremendous impact on health. It is much easier to stay healthy when people can easily and safely walk, run or bike; when the air is clean, and people have access to healthy food and affordable housing; and when communities are safe from things like violent crime, fires and lead poisoning. Every day, policy makers in many sectors have opportunities to make choices that—if they took health into account—could help stem the growth of pressing health problems like obesity, injury, asthma and diabetes that have such a huge impact on our nation's health care costs as well as on people's quality of life.



Healthy Haywood's mission is to improve the health of Haywood County citizens.

CASE STUDY (SUPPORTS HCO4)

Healthy Haywood⁵⁸

The mission of Healthy Haywood is to improve the health of Haywood County citizens. The coalition is not a project, but rather a process, to bring together community members to focus on health. Healthy Haywood is based on the concept that community members are the most qualified to effectively prioritize the health concerns in their community and to plan and execute creative solutions to these problems. It is a program of the Haywood County Health Department and a certified Healthy Carolinians partnership since 1999.

Healthy Haywood consists of various Health Action Teams and a Steering Committee. Action Team members are the "worker bees". They volunteer at various events, programs and/or attend monthly meetings where each member plays a very important role in helping address the determined health concerns. Steering Committee members oversee the organization as a whole and assist in making administrative decisions.

Based on data collected from Haywood County citizens and current health statistics, Health Action Teams are determined by the community every four years. Various health topics emerge as the coalition grows. These teams create action plans that include programs and activities as well as support for policies addressing health concerns in the county.

For more information:

<http://www.healthhaywood.org>

CASE STUDY (SUPPORTS HCO4.4)

Haywood County Bicycle Plan Health Impact Assessment⁵⁹

A Health Impact Assessment (HIA) was conducted as part of the Haywood County Comprehensive Bicycle Plan. The HIA was the first ever conducted in North Carolina for a non-motorized transportation plan and was used to bring a new perspective to the planning process and gather input from non-traditional stakeholders.

Bicycle Haywood NC, a local bicycle advocacy group, and the Haywood County Recreation and Parks Department conducted the HIA to determine the impacts of the Haywood County Comprehensive Bike Plan. The HIA focused on key health outcomes that are strongly linked to bicycle activity, including decreasing deaths related to leading causes of death from heart, cancer and ischemic heart issues; heart diseases; obesity (and subsequent complications such as cancer, hypertension, type II diabetes, various heart issues, and stroke); and asthma and air quality. Recommendations offered by the HIA included a series of feedback loops to inform bicycle route investment for placement in relation to areas with pockets of poor health, and a list of health-specific priorities for the community to pursue. The HIA informed the outcomes of the plan by identifying a set of health-based priorities that were incorporated into the overall plan findings and used to guide health-specific strategies and funding pursuits.

The HIA examined the Haywood County Comprehensive Bicycle Plan through evidence-based analysis of the “5E” elements of the plan: Engineering, Encouragement, Education, Evaluation, and Enforcement. The HIA considered bicycling for all of Haywood County, including four towns ranging in population from 1,000 to 10,000 (county population: 57,000), and evaluated the health impacts of the project’s goals and objectives, identified health-based priorities for facilities investments, and outlined programs and



The first Health Impact Assessment in the state was conducted as part of the Haywood County Bicycle Plan.

other strategies to help the implementers of the plan address needs from a health perspective.

Specific outcomes resulting from the HIA’s recommendations included: a new bicycle purchase grant for Haywood County Schools; discussions with the Community College to locate a “park-n-pedal” lot in a nearby park to encourage healthy commutes to the campus; and the pursuit of implementation measures for the number one health priority identified in the plan.

To read the plan in its entirety:

http://bicyclehaywoodnc.org/Files/HaywoodBicyclePlan_FINAL_Web.pdf

Health impact Assessment (HIA) is a fast-growing field that helps policy makers take advantage of these opportunities by bringing together scientific data, health expertise and public input to identify the potential—and often overlooked—health effects of proposed new laws, regulations, projects and programs. It offers practical recommendations for ways to minimize risks and capitalize on opportunities to improve health. HIA gives decision-makers the information they need to advance smarter policies today to help build safe, thriving communities tomorrow.

STRATEGY HCO4.5

Include a public health component in local comprehensive, land use and transportation plans.

This component would look at how a community is supporting health and wellness, such as a built environment that supports active living, access to healthy food, and access to education.

STRATEGY HCO4.6

Provide ongoing support to maintain the WNC Vitality Index.

STRATEGY HCO4.7

Identify and cultivate relationships with “anchors” in communities during research, planning, and/or implementation projects that can provide access to people in the community and also share results and benefits with community members.

RECOMMENDATION HCO5

Promote jobs and employers that are dedicated to worksite wellness.

STRATEGY HCO5.1

Recruit and recognize businesses that provide health insurance to their employees.

Benefits, such as health insurance, are an important component of employee compensation. Economic developers should target and recruit firms that offer benefits to their workforce.

STRATEGY HCO5.2

Form partnerships with employers to encourage and reward physical activity and promote worksite wellness.⁶⁰

A positive wellness culture in the workplace contributes to the physical, mental, and emotional well-being of workers. The workplace becomes more productive and constructive when employers integrate breaks for rejuvenation. It also helps to establish clear and reasonable roles and responsibilities and respect the time and talents of individuals and their non-work demands. These steps provide the organization with more opportunity to reduce the number of sick days and health-associated costs.

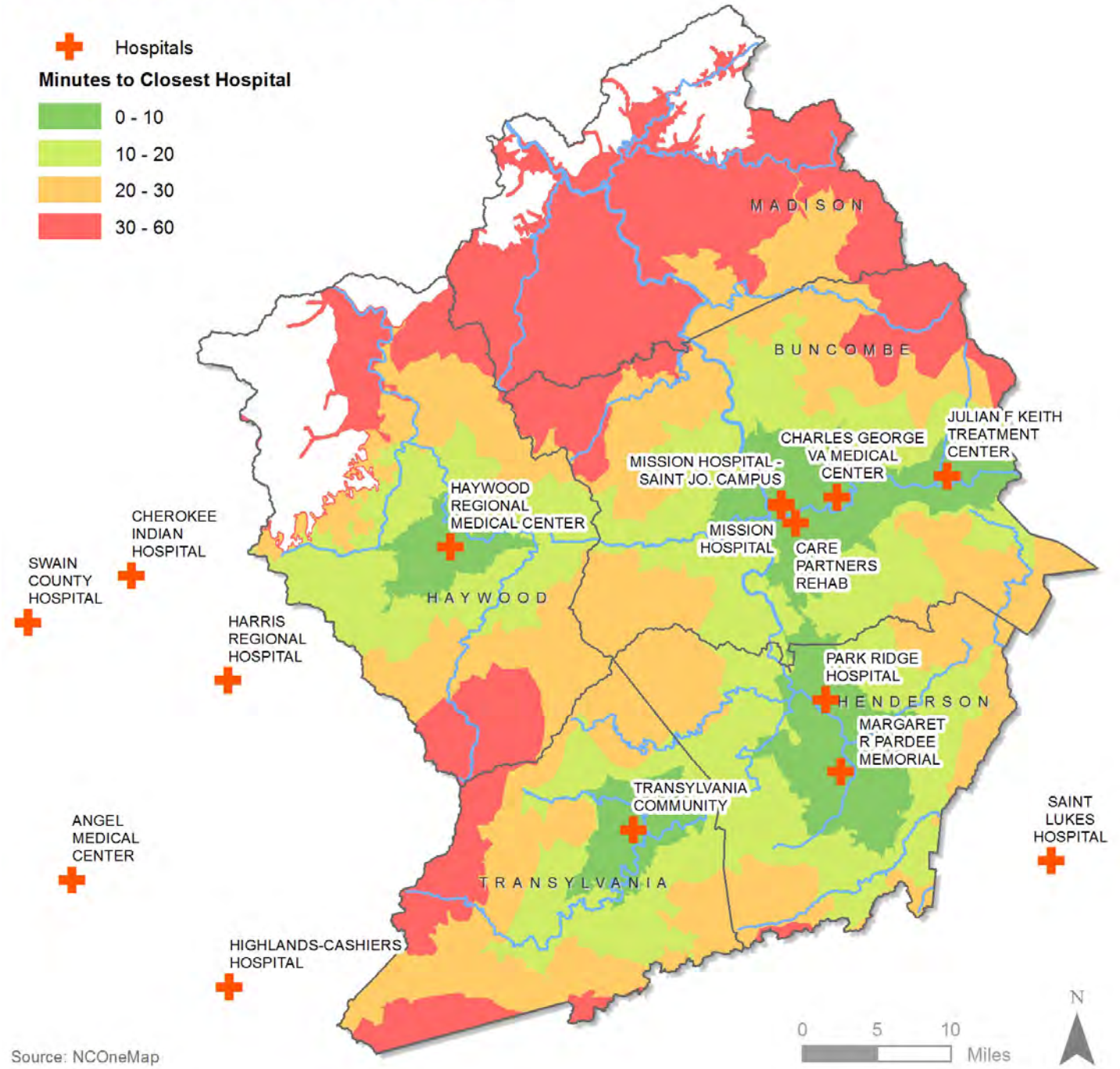
Local health departments should partner with employers to develop a workplace health program that is integrated, comprehensive, engaging and measurable.

STRATEGY HCO5.3

Promote effective community and workplace wellness programs, and work with insurance companies to develop incentives for active participation in such programs.

Many health insurance providers offer discounts on insurance premiums if employers institute, and employees participate in, wellness programs. Such incentives benefit both the employer and employee in terms of real health care costs.

ACCESS TO HEALTHCARE



RECOMMENDATION HCO6

Improve access to community, holistic and medical health care options for all, regardless of ethnicity, age, state of disease or financial resources.

Access is identified as a key problem in every county, though how each county defines “access” differs. Access refers to a wide range of issues that each county is facing, including capacity — both in terms of the number of providers and number and location of facilities — transportation availability, affordability, the lack of sufficient insurance coverage and communication barriers for non-English speakers. Addressing these issues will promote a healthier and more resilient GroWNC region.

STRATEGY HCO6.1

Build upon existing data regarding the geographic distribution of medical facilities to determine the location of gaps relative to population centers.

Local health agencies should work together to identify the location and service offerings of all health facilities (traditional and holistic) in the region and analyze gaps in the system. From the analysis, a list of prioritized facility needs could inform future infrastructure and facility investments. Agencies should share information across sectors to develop a holistic, comprehensive understanding of the availability of services and the barriers to accessing such services. GIS-analysis is one tool that could be used to conduct this analysis.

CASE STUDY (SUPPORTS HCO5)

Civic Success: The City of Holland, Michigan Integrates Wellness into the Way it Does Business and Saves Money in the Process⁶¹

The City of Holland Michigan employs about 434 full time staff and is represented by five unions. Recognizing that the City’s employees will directly benefit from an integrated wellness program, the City of Holland began its employee wellness program in 1992. With the inception of the employee wellness program, management anticipated that meaningful lifestyle change for employees and the resulting benefits of healthful lifestyles would take time to materialize.

Over the past 11 years, the City of Holland’s employee wellness program has grown in scope and in employee participation. As the program has

improved in sophistication, employees now realize that their health and personal well-being can make a difference in the overall health care costs that the City provides. In addition, employees can save on health insurance plan contributions through active participation in the wellness program. The City of Holland’s wellness program has been recognized for excellence by the State of Michigan through the Governor’s Council Healthy Workplace award from 1998-2002.

For more information:
<http://www.welcoa.org>

STRATEGY HCO6.2

Create satellite health care facilities focused on linking people to services and socialization.

From the data analysis, regional partners should identify the location and program offerings of additional health care facilities that are needed throughout the five-county region.

STRATEGY HCO6.3

Work with transportation providers to increase access to healthcare, especially in rural areas.

One of the main issues to healthcare access is a lack of transportation to and from facilities and services. Unable to drive themselves, patients must rely on family members, friends, neighbors, and public transportation. This is particularly challenging for people living in rural areas. Mountain Mobility is an effective rural public transportation service in Buncombe County, serving almost 8,500 customers in 2011. Forty-three percent of the trips were for medical purposes. Other counties, however, do not have the resources to provide a comparable transportation option. While the Mountain Projects program in Haywood County provides a transportation service (\$3 per ride within the county), it is most effective in Waynesville and the county's other population centers. Many of the region's elderly residents who need the service are living in isolated areas that are more difficult to serve, creating a need for additional resources.

STRATEGY HCO6.4

Target recruitment and training efforts on medical positions and specialties that are lacking in the region.

Shortages of all healthcare professionals exist outside of Buncombe and Henderson Counties. Specific needs include psychiatrists (both adult and child), dentists, and primary care physicians.

The region needs to attract a number of general and specialty service providers to meet the health care needs of residents. Health care employers should work with local economic developers to include information about the region's quality of life in recruitment materials and identify appropriate incentives to attract doctors and other professionals.

RECOMMENDATION HCO7

Advocate for a safe, sustainable built environment that supports a healthy community and provides opportunities for civic engagement.

In the 19th and early 20th centuries, public health was a primary focus of urban design and planning in the US. The prevention of infectious diseases through better infrastructure systems, the promotion of physical and mental health through the creation of public green spaces, and minimizing exposure to hazardous industrial operations through land use regulations were three public health objectives that shaped our cities at the time.

While the policies and design principles of that time created development patterns that alleviated many of the public health issues, the housing policies, mortgage programs and interstate highway construction in the decades that followed facilitated the suburbanization of this country. As UCLA professor Dr. Richard Jackson — the host of the PBS series *Designing Healthy Communities* (February 2012) and the author of several publications on healthy community planning — points out, the resulting urban sprawl has created or exacerbated public health conditions. For example, the transportation system, designed primarily for automobiles, makes biking or walking from one place to the next challenging if not impossible. The lack of safe bike and pedestrian facilities perpetuates the issues of physical inactivity. Furthermore, this network that facilitates auto use supports high volumes of vehicular traffic that, due to high levels of auto emissions, negatively affects air quality and worsens conditions for those suffering from asthma and other respiratory issues.

CASE STUDY (SUPPORTS HCO7)

Hands on Asheville- Buncombe⁶²

Hands On Asheville-Buncombe is a nonprofit volunteer service organization that promotes volunteerism and direct community service to meet community's most critical needs. Their mission is to strengthen the community and enrich lives by mobilizing a diverse corps of citizens in direct, volunteer service.

During 2012, Hands On Asheville-Buncombe helped connect nearly

3,000 individuals to more than 726 volunteer opportunities with 160 Asheville/Buncombe County nonprofits. These volunteers contributed over 16,000 hours over the course of 2012. Although the value of their time and talents cannot be truly quantified, the estimated savings to local nonprofits was over \$350,000.

For more information:
<http://www.handsonbuncombe.org>



To address these problems that affect public health, urban design principles, promoted by planners, landscape architects, architects and engineers are being put into practice to reshape our cities, towns, and urbanizing areas. The following are some of the features that are being incorporated into our development patterns:

- Mixed-use buildings that accommodate retail, office and/or residential uses.
- Complete streets, with facilities for vehicles, bikes, pedestrians and transit.
- A variety of passive and active recreational spaces, including greenways that also serve a transportation purpose.
- Civic spaces for large and small community gatherings.
- Community gardens.

In addition to the urban design principles mentioned, communities can act on a variety of other strategies

to promote a healthy community including the following strategies.

STRATEGY HCO7.1

Promote Neighborhood Watch programs to increase safety and build community.⁶³

Neighborhood Watch is a community crime prevention program that promotes education and watchfulness in communities. It teaches citizens how to help themselves by identifying and reporting suspicious activity in their neighborhoods. In addition, it provides citizens with the opportunity to make their neighborhoods safer and improve the quality of life. Neighborhood Watch groups typically focus on observation and awareness as a means of preventing crime and employ strategies that range from simply promoting social interaction and “watching out for each other” to active patrols by groups of citizens. Communities should partner with local law enforcement agencies to establish Neighborhood Watch programs throughout the region.

STRATEGY HCO7.2

Organize, support or sponsor events that bring together interest groups or the wider community.

Communities should work with local governments to establish or work with existing neighborhood associations to organize, support and sponsor community events.

STRATEGY HCO7.3

Expand the existing United Way volunteer database to promote opportunities for participating in civic activities.

Key to healthy and productive communities is the opportunity for civic involvement. The GroWNC region has a long history of active and engaged individuals and organizations. Non-profits, city governments, private organizations and individuals should work together to establish a volunteer database that announces, tracks and highlights volunteer opportunities throughout the region.

RECOMMENDATION HCO8

Ensure the healthy development of the region's youth.

STRATEGY HCO8.1

Improve the way families receive childcare vouchers so more children have safe places to learn and grow.

North Carolina's Division of Child Development uses a combination of state and federal funds to provide subsidized child care services to eligible families through a locally-administered, state-supervised voucher system. Annually each county receives a combination of state and federal funding from the

Division of Child Development for subsidized child care services. The amount of funding allocated to each county is determined by legislation. Childcare advocates should lobby local legislators to ensure that the region is getting its fair share of vouchers.

STRATEGY HCO8.2

Create a regional resource listing of physical activity programs and opportunities for all age groups and abilities.

A list could be organized by location as well as type of program/facility. Include in the list all opportunities, including parks, trails, golf courses, tennis facilities, running tracks, and physical activity groups.

STRATEGY HCO8.3

Continue to support and expand programs such as Youth-Empowered Solutions (YES!) throughout the region.

YES! is a nonprofit organization that empowers youth, in partnership with adults, to create community change. They equip high school-aged youth and their adult allies with the tools necessary to take a stand in their communities and create change that will positively impact adolescent health. YES! provides training and support so that partners gain a heightened awareness about their issue of interest, and learn how to identify and take advantage of opportunities to engage in local, national, and international advocacy work. Youth become competent community advocates by receiving training in such areas as public speaking, media literacy, community assessment, gathering community support, working with policymakers, and evaluation. Steps should be taken to expand the role of Yes! in GroWNC counties.

STRATEGY HCO8. 4

***Work with Children First/
Communities in Schools (CIS)
to develop a more sustainable
funding system, to help the
organization maintain and grow
its successful programs.***

Children First/CIS of Buncombe County is a not-for-profit organization that offers direct services to economically disadvantaged children, youth and their families. These services include:

- Family Resource Center at Emma that helps over 700 English and Latino families (approximately 520 adults and 532 children) in crisis with a food pantry, clothing closet, emergency financial assistance, parenting classes and a community garden;
- Learning Centers that provide a safe haven after school for 60 at-risk elementary school aged youth

youth, who live in two public housing complexes and a Section 8 apartment complex. The children receive homework help, a healthy snack, and enrichment activities; a parental involvement component is also included;

- Latino Outreach that offers a Motherread parent/child literacy program, Love & Logic parenting classes and numerous resources;
- Project POWER/AmeriCorps program that provides mentoring and enrichment activities to youth living in Buncombe County.

In addition to direct services, Children First/CIS also provides advocacy and community education to raise awareness of, and develop sustainable solutions to, issues affecting children and families and breaking down barriers of poverty. Children First staff should work with other counties in the GroWNC region to establish similar programs in all five counties.



Building health awareness in the younger generations promotes healthier lifestyles in later years.

Together we create our future

Utilize existing infrastructure and reinforce existing community centers.

Promote compatible uses and intensities in accordance with the preferred scenario.

Promote flexible standards that promote quality redevelopment.

Increase public education and awareness around land-use planning and regulations, form-based codes, and related policies and incentives.

Land Use Policies

Where do we grow? What areas do we preserve? Through the GroWNC process, participants identified places where growth should be encouraged in “Consensus Growth Areas.” These areas include parts of towns and cities that have a critical amount of existing infrastructure and services. Brownfields and vacant/underutilized properties were also areas where participants wanted to see growth or were more amenable to higher intensity uses.

It became evident that there are many places in the rural areas of the GroWNC region that will continue to serve a vital role in the local communities. Sandy Mush, Dana, Spring Creek, and other rural centers have served as traditional places of activity. Participants supported reinforcing these areas, and would like to see additional jobs and non-residential uses locating there. Local governments can respond to these desires


by conducting small areas studies, determining the feasibility of augmenting existing infrastructure and allowing flexibility in uses where appropriate.

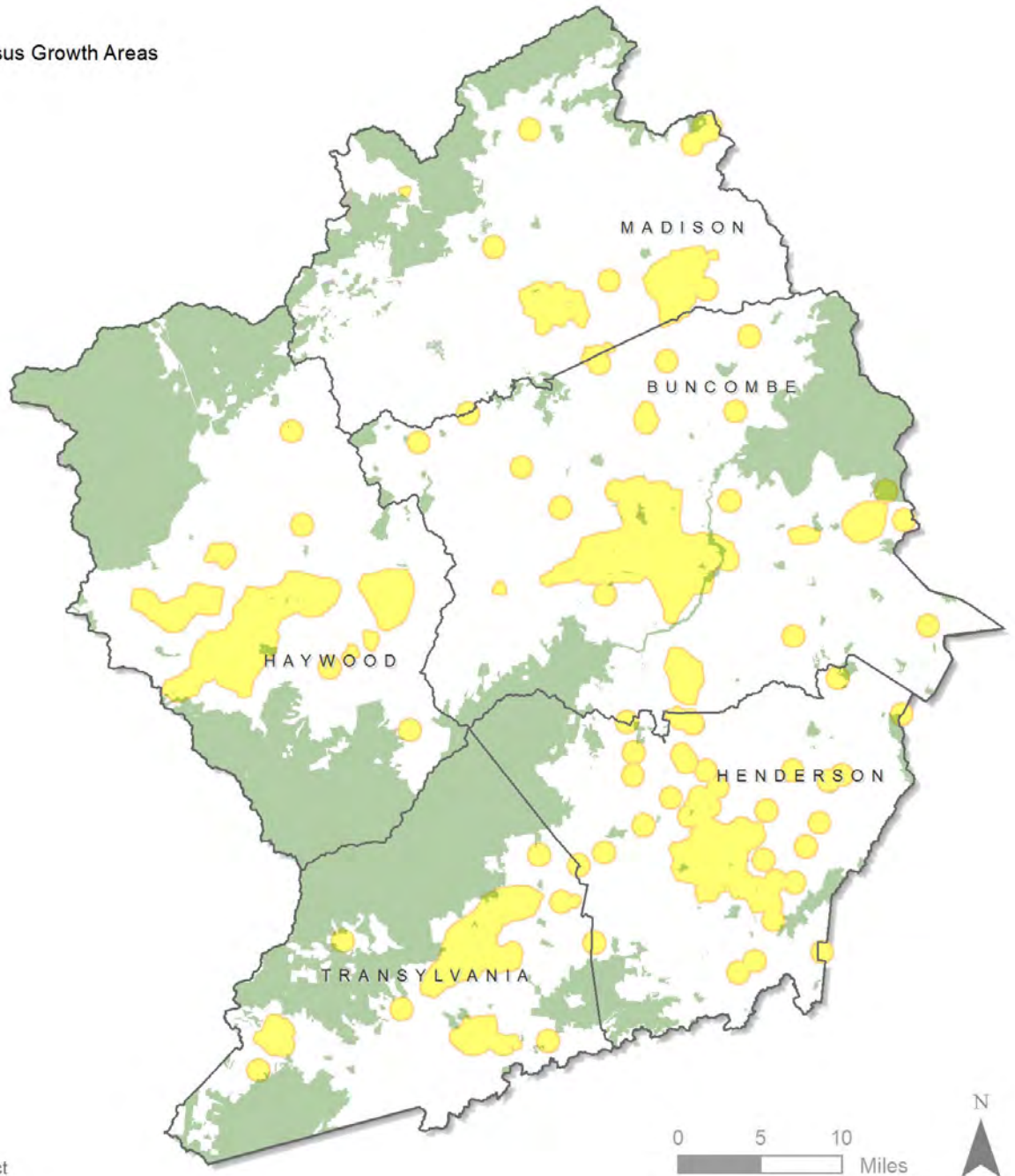
Participants were very adamant about the need to grow in ways that protected the natural resources that make this region unique. Public involvement efforts consistently showed that residents from throughout the region, from a variety of socio-economic and ethnic backgrounds, place a high value on the region’s scenic views and natural resources. Policies should be implemented that protect landscape-level features from over-development. Critical watersheds, ecological corridors and prime habitats, and agricultural areas are landscape-level features that were most important to participants. At the site level, land use decisions and design considerations will also be key to the region’s future.

THE PREFERRED SCENARIO

The Preferred Scenario promotes land use policies that focus development in areas with existing infrastructure and transit options. It discourages high intensity uses in critical watersheds, namely water supply watersheds (WSW), high quality watersheds (HQW), and Outstanding Resource Waters (ORW). The Preferred Scenario protects working lands by limiting development of prime agricultural land and forestry land. It promotes industrial, and supporting employment, uses on prime industrial lands. The Preferred Scenario also preserves key ecological corridors and limits fragmentation of prime habitats by encouraging conservation subdivisions and other low impact development techniques in these areas.

Map #18: Consensus Growth Areas

 Consensus Growth Areas



Source: GroWNC Project

Recommendations & Strategies

The set of tools to support land use policies includes the following recommendations and supporting strategies.

RECOMMENDATION LU1

Utilize existing infrastructure and reinforce existing community centers.

STRATEGY LU1.1

Focus growth in areas where infrastructure exists for transportation, water, and sewer, with particular emphasis on existing communities.

Encourage growth where adequate transportation and water/sewer infrastructure exists. Encourage reuse/redevelopment of brownfields and underutilized properties.

The following is a basic set of initial steps for local governments to identify focus growth areas that have the following characteristics:

- The area has underutilized infrastructure
- The location is pedestrian-friendly
- The area is close to transit corridors

STRATEGY LU1.2

Adopt flexible regulations that allow higher density development and a greater number of uses where infrastructure is in place to support it, consistent with the Regional Preferred Scenario.

Allow for mixed-use development and density bonuses in areas where infrastructure exists to support it and where it is consistent with local design criteria.

STRATEGY LU1.3

Develop incentives that support stronger links between housing and economic development and that stimulate compact growth.

There are a variety of tools local jurisdictions can employ to support compact growth and incentivize stronger links between housing and economic development. By funding infrastructure improvements and providing grants that support development in targeted growth areas, jurisdictions can promote projects that support local growth objectives. In addition, jurisdictions can waive fees, expedite processing and provide density bonuses for projects that meet locally-set criteria.

The following link provides case studies on how jurisdictions around the United States are encouraging developments that link housing and employment as well as stimulate compact growth:
<http://www.cdtcmpo.org/rtp2030/e-growth.pdf>.

STRATEGY LU1.4

Conduct small area studies to determine land use policies that will encourage growth in rural centers and, where appropriate, allow for non-residential and medium-density residential growth where appropriate.

CASE STUDY (SUPPORTS LU2.1)

Dana Community Plan⁶⁴

The Henderson County 2020 Comprehensive Plan was adopted on July 6, 2004 and amended on April 7, 2008. The County Comprehensive Plan identified the need to plan for individual communities within the county. The community planning areas were prioritized based on anticipated growth and relationship to the Growth Management Strategy, as established by the Comprehensive Plan. The Dana Community Plan is a community-specific comprehensive plan outlining goals related to:

- Natural and Cultural Resources,
- Agriculture,
- Housing,
- Community Facilities and Public Services,
- Transportation,
- Economic Development,
- Land Use and Development, and
- Community Character and Design.



Local community plans can help identify small projects that reach community goals.

STRATEGY LU1.5

Conduct cost/benefit analyses of infrastructure investments in small towns and rural centers.

RECOMMENDATION LU2

Promote compatible uses and intensities in accordance with the preferred scenario.

STRATEGY LU2.1

Encourage the alignment of local land use plans with the Preferred Scenario.

The Preferred Scenario outlines the following land use assumptions that should be referenced during local land use plan updates to promote the regional vision of the future:

- Protect prime agricultural land and forestry land by discouraging or prohibiting residential and non-residential development, except in areas designated as prime industrial land or within rural centers.
- Provide for industrial and supporting employment uses by preserving prime industrial sites.
- Encouraging conservation subdivisions and other low impact development techniques to limit the fragmentation of prime habitat and ecological corridors.
- Discourage high intensity uses in critical watersheds, namely water supply watersheds (WSW), high quality watersheds (HQW), and Outstanding Resource Waters (ORW). Investigate effectiveness of land use regulations and design criteria that reduce disturbance and impervious surface in critical watersheds.

CASE STUDY (SUPPORTS LU2.2)

Westwood Cohousing⁶⁵

Westwood CoHousing Community is a planned unit development with 24 town homes and a community building on 4.5 acres in Asheville, NC. The 3,800 square foot community building includes a shared commercial kitchen, large dining and gathering area, play room, lounge, two guest rooms, laundry facilities, library, mailbox area, workshop space, and central mechanical room. The town homes are clustered around green space with parking at the perimeter to create a pedestrian- and child-friendly environment. The town homes are owner occupied. The community building and common areas are owned by the Common Property Trust.

For more information: www.westwoodcohousing.org



Land use regulations that allow cohousing support a community's goals to offer a wide variety of housing options.

STRATEGY LU2.2

Establish, review or revise land use plans and regulations to support a wide variety of housing and community options where appropriate.

Nontraditional housing options such as cluster or cottage-style homes, cohousing and shared housing models provide innovative solutions to meet housing needs. Flexible land use policies that accommodate these types of housing provide communities with housing stock options.

For more information:
www.cohousing.org
<http://www.pocket-neighborhoods.net>

STRATEGY LU2.3

Through economic development strategies, promote lands that have been identified as suitable for target industries.

Identified industrial lands should be set aside for future industrial and related development, particularly targeted industries, to ensure there is "product" available. Development other than industrial and related employment uses will be discouraged on these sites.

RECOMMENDATION LU3

Promote flexible standards that promote quality redevelopment.

STRATEGY LU3.1

Adopt policies and/or regulations and provide incentives to include bicycle and pedestrian facilities, including sidewalks, bike lanes, parks, greenways, as well as other recreational facilities in new and existing neighborhoods and commercial centers.

Require right-of-way reservation, construction or fee-in-lieu contributions to planned bicycle and pedestrian

facilities. Complete Street policies should be adopted, but due to the topographical issues in the mountain environment non-motorized connections should be more important than cross-sections.

STRATEGY LU3.2

Implement flexible land development policies and codes to promote redevelopment.

Adopt overlay districts that provide flexibility in the types and intensity of uses allowed in areas prime for redevelopment. Other strategies include:

- Allow shared parking, and reduce minimum parking requirements
- Allow larger buildings (maximum floor-to-area ratios)
- Seek to eliminate municipal subsidies for vacant land development. Ensure that growth pays its own way.

STRATEGY LU3.3

Encourage denser development through infill and adaptive reuse of vacant and underutilized properties.

Vacant and underutilized properties in urban areas offer the best opportunities to increase tax revenue while requiring a limited amount of new infrastructure or services. Strategies to encourage the redevelopment and reuse of vacant and underutilized properties include the following:

- Develop a tiered fee system where fees are lower for infill development, which acknowledges the lower impact of such development.
- Identify areas in local comprehensive plans where infill development should occur.
- Identify areas with excess water and sewer infrastructure capacity.
- Create an “Existing Lot of Record Amnesty Ordinance,” allowing development to occur on existing lots that do not meet the current zoning

requirements. Use the standard, “Could this lot be developed in a reasonable manner given current standards?” If the answer is no, grant the lot amnesty.

- Alter regulations to enable development on otherwise non-conforming properties. For example, minimum required yard setbacks may preclude infill development. Adjusting these yard requirements proportionally to the size of the lot may enable development.
- In commercial areas, consider reducing parking requirements. Reduce parking requirements; this will typically increase development intensities more than increasing height limits.
- Establish an “overlay” or “floating zone” in the zoning ordinance that modifies physical requirements, such as minimum lot size or required minimum setbacks, to enable more infill development.
- Expedite the review of infill projects by allowing administrative approval, which would speed the process.
- Use city investments in infrastructure improvements to create more opportunities for development of infill lots. A special service district is one technique to fund improvements to jump-start development activity.

STRATEGY LU3.4

Review and update policies and codes to allow for agricultural practices in rural and urban areas, as appropriate.

Codes may need to be updated to allow farm stands, community gardens, homesteading activities, small scale chicken coops, and the like, as appropriate.

STRATEGY LU3.5

Improve development with design standards that adhere to the principles of Crime Prevention through Environmental Design (CPTED).

Community Crime Prevention through Environmental Design, or CPTED, is a multidisciplinary and collaborative design approach among planners, law enforcement, engineers, designers, code enforcement, and community stakeholders, intended to foster positive social interactions and deter criminal behavior within communities.

Proponents of CPTED argue that proper design, use, and management of the built environment leads to a reduction in the incidence and fear of crime, while improving community vitality and overall quality of life.

For more information:

<http://www.planning.org/pas/quicknotes/open/pdf/QN42.pdf>

RECOMMENDATION LU4

Increase public education and awareness around land-use planning and regulations, form-based codes, and related policies and incentives to emphasize their purposes and benefits.

STRATEGY LU4.1

Utilize existing education programs for youth on community planning .

Developing the next generation of community leaders starts at an early age. Through outreach efforts including workshops and planning in the classroom events, local planners and community advocates can increase awareness of land use planning and related subjects.

For more information:

<http://www.planning.org/education/youth/>
<http://www.planning.org/kidsandcommunity/>

STRATEGY LU4.2

Raise awareness of the benefits of alternative land protection instruments such as conservation easements, deed restrictions, 'less than fee simple' transactions and life estates to promote land stewardship and private land preservation.



Local planners educate engage students in activities to educate youth on community planning issues.

CASE STUDY (SUPPORTS LU4.1)

Planning in the Classroom⁶⁶

Planning in the Classroom is an easy-to-organize activity that provides an opportunity for local planners to engage youth in planning and decision-making. Planners guide students (typically 4th or 5th graders) through a series of activities that starts with a history of place, moves to an interactive 'Plan your own Town' activity, and concludes with presentations by students about their process and resulting ideas and plans.

Sample Agenda:

9:00am: Arrive at School

9:00am-10:00am: History of Community

10:00am-12:00pm: Planning in the Classroom Activity

12:00pm-1:00pm: Get Out into the Community

For more information:

www.nc-apa.org

Together we create our future

Promote and build support for the implementation of GroWNC strategies.

Measure progress against identified initiatives to track progress towards the regional vision of the future.

Promote intergovernmental coordination and cooperation.

Consider new techniques for building engagement and awareness in the community.

Education & Awareness

Throughout each set of recommendations there are strategies dedicated to raising awareness and promoting change. The following recommendations more broadly address initiatives to measure progress in the region, promote intergovernmental coordination and raise awareness through a variety of techniques.

Recommendations & Strategies

The following set of recommendations support building education and awareness in the GroWNC region.

RECOMMENDATION EA1

Promote and build support for the implementation of GroWNC strategies.

STRATEGY EA1.1

Form a committee of committed stakeholders to oversee

implementation of GroWNC recommendations and strategies.

RECOMMENDATION EA1.2

Create an on-line tool that provides recommendations and strategies developed through the GroWNC process to a broad audience.

CASE STUDY (SUPPORTS EA1.2)

Western North Carolina Vitality Index⁶⁷

The Western North Carolina Vitality Index is an online tool that reports on the vitality of 27 counties in Western North Carolina through the perspectives of their natural, social, built, and economic environments. The Index is an initiative funded by the Mountain Resources Commission in partnership with the Blue Ridge National Heritage Area and the USDA Forest Service.

The Index is designed to assist local governments, interest groups and the public in furtherance of the Mountain Resources Commission's overall mission to "take care of our natural resources to enhance and sustain quality of life and ensure the long term health of our region and our people." This resource provides the information necessary to:

- Preserve the heritage and culture that defines our communities while strengthening public health,
- Improve the region's local economic activity and expand its influence,
- Promote development that accommodates healthy growth,
- Protect our region's abundant and unique natural resources, and
- Compare the western region's status to the rest of North Carolina and the nation at large

For more information refer to:
www.wncvitalityindex.org

STRATEGY EA1.3

Create informational materials that utilize personal testimonials to increase awareness of local and regional issues including housing, health safety, environment, and transportation.

RECOMMENDATION EA2

Measure progress against identified initiatives to track progress towards the regional vision of the future.

STRATEGY EA2.1

Identify strategies in the GroWNC online tool that have measurable outcomes. Establish baselines and a schedule for measuring progress. Periodically update workbook with case studies that include local examples.

RECOMMENDATION EA3

Promote intergovernmental coordination and cooperation.

STRATEGY EA3.1

Establish a regular innovation forum for local governments to share ideas, network and learn from each other.

Each forum would focus on a particular subject area, such as: water sustainability; energy efficiency/conservation; sourcing locally and value-chains, bicycling paths and walking paths; arts, culture and history; and land conservation. Forum locations and sponsors could rotate amongst participating jurisdictions.

CASE STUDY (SUPPORTS EA3)

GovLoop⁶⁸

GovLoop's mission is simple: connect government to improve government. GovLoop aims to inspire public sector professionals to better service by acting as the knowledge network for government.

GovLoop serves more than 60,000 members by helping them to foster collaboration, learn from each other, and solve problems and advance in their government careers. The GovLoop community has been widely recognized across the public sector — federal, state local, industry and academia — as a leading site for addressing public sector issues.

GovLoop is the largest government niche network of its kind and boasts an extremely engaged membership that creates or comment on nearly 1,000 blog posts and discussion forums every month.

GovLoop works with top industry partners, including Google, HP, Microsoft and IBM to provide resources and tools, such as guides, infographics, online training and educational events, for public sector professionals. GovLoop also promotes public service success stories in popular news sources like the Washington Post, Huffington Post, Government Technology, and other industry publications.

For more information:
<http://www.govloop.com>

STRATEGY EA3.2

Create a mentor program among local government officials around the region to encourage cooperation and interregional coordination.

In order to help attract and prepare the next generation of local government professionals, and to promote regionalism and interjurisdictional cooperation, establish a mentor program.

RECOMMENDATION EA4

Consider new techniques for building engagement and awareness in the community.

STRATEGY EA4.1

Use Child Watch Tour model to raise awareness about various issues.

The Child Watch Tour model includes using corporate and other sponsors to fund a tour in the region

to understand a specific issue or opportunity, reaching out to local leaders to participate in the tour, and highlighting local programs and individuals that have benefitted from the programs.

STRATEGY EA4.2

Provide workshops and training opportunities to economic and community developers, neighborhood associations and local government staff, regarding the Asset-Based Approach to community development.

Asset-based community development approaches focus on individual and community, skills, talents and assets rather than issues and needs. It is a grass-roots, ground up approach to catalyzing change to benefit a community. There are many resources dedicated to structuring an asset-based approach to community development. The Asset-Based Community Development Institute (www.abcdinstitute.org) provides a number of case studies, tool kits and materials to assist in the development of an asset-based strategy.

A topographic map showing terrain elevation with brown and tan colors for higher elevations and green for lower elevations. A network of blue lines represents rivers and streams, and a network of dark brown lines represents roads or infrastructure. A prominent green line highlights a specific path or boundary across the map. The word "Appendix" is overlaid in large white font in the upper-left quadrant.

Appendix

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