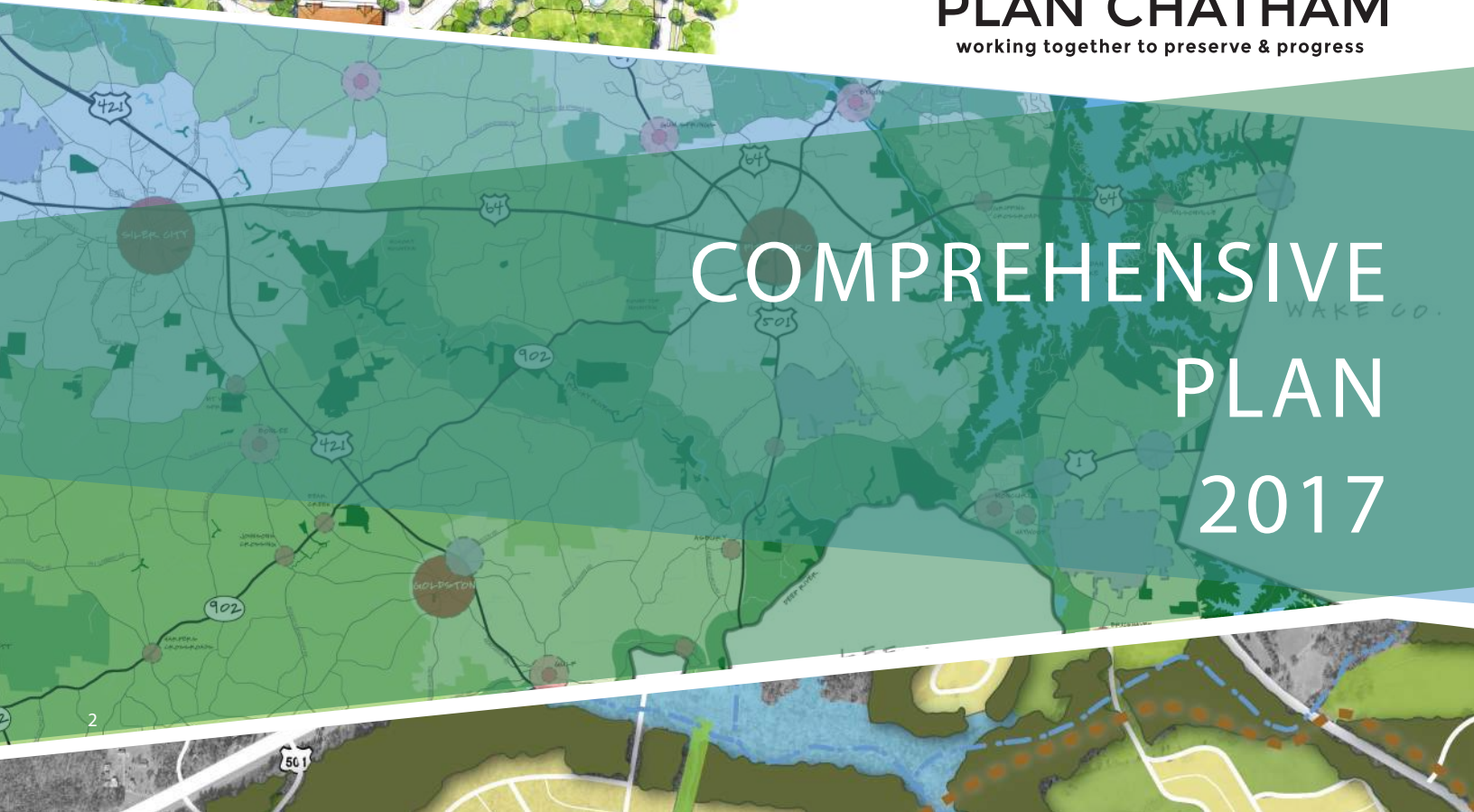




PLAN CHATHAM
working together to preserve & progress



COMPREHENSIVE PLAN 2017

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Plan best viewed in Adobe Acrobat as in two page view mode.
Navigate to View / Page Display / Two Page View.



Acknowledgements

Thank you to all of the individuals and organizations who committed their time and energy to this effort.

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About the Plan

Chatham County is at a critical point in its history. It has experienced exceptional growth in recent years, and is in the path of additional growth, particularly in the northeast portion of the County. The more rural parts of the County are also undergoing changes that threaten agriculture and quality of life.

Plan Chatham is a Comprehensive Plan that provides a strategic guide for future decisions in order to address the most pressing needs of the County and improve the quality of life enjoyed by current and future residents.











The Plan outlines policies, strategies, short term and long-term priorities for addressing key goals.

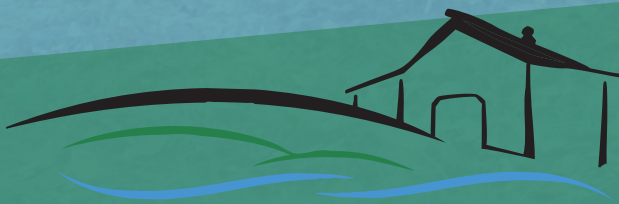
The Plan is divided into four sections.

- Section I describes the planning process and highlights the purpose of the plan, previous efforts and public involvement.
- Section II describes issues and opportunities that need to be addressed in the coming years.

- Section III includes the goals and objectives, Future Land Use and Conservation Plan and recommendations by topic area (see key below).
- Section IV is the Action Plan and includes concrete steps needed to implement the recommendations in this Plan.
- Section V includes the appendices that can be accessed digitally at www.chathamnc.org.

PLAN ELEMENTS

-  Economic Development
-  Land Use
-  Housing
-  Health
-  Agriculture
-  Natural Resources
-  Resiliency
-  Parks and Recreation
-  Transportation
-  Utilities and Public Services



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The Planning Process



THE PLANNING PROCESS

1.1 PURPOSE

A Comprehensive Plan can be best described as a guide to the County’s future. It represents a culmination of a community-wide conversation about what is working, outstanding needs, opportunities and how efforts by the County, local businesses and citizens can help make progress toward goals.

The planning process was initiated in January of 2016 and consisted of two phases. The first phase was conducted over a four-month period which included meetings with key stakeholders and three meetings with the Steering Committee. Phase I also included an initial assessment of the existing conditions in the County and its context. This assessment involved the compilation and synthesis of information gathered through stakeholder interviews, a review of adopted plans, and a look at relevant data provided by the County and acquired from various sources. From this, a preliminary set of issues and opportunities were identified. For more information on this phase see

the Phase I Report in the Appendices. Phase II began in the summer of 2016 with a set of public meetings where initial findings were presented and feedback on goals and pressing issues was received. Initial land use concepts and policy ideas were developed with input from feedback received at the public meetings, Steering Committee meetings, and from the public survey. A second round of public meetings was held in February of 2017. Feedback was used to refine the concept plans and policy framework and to create detailed strategies and action items in the Plan Elements portion of this document.



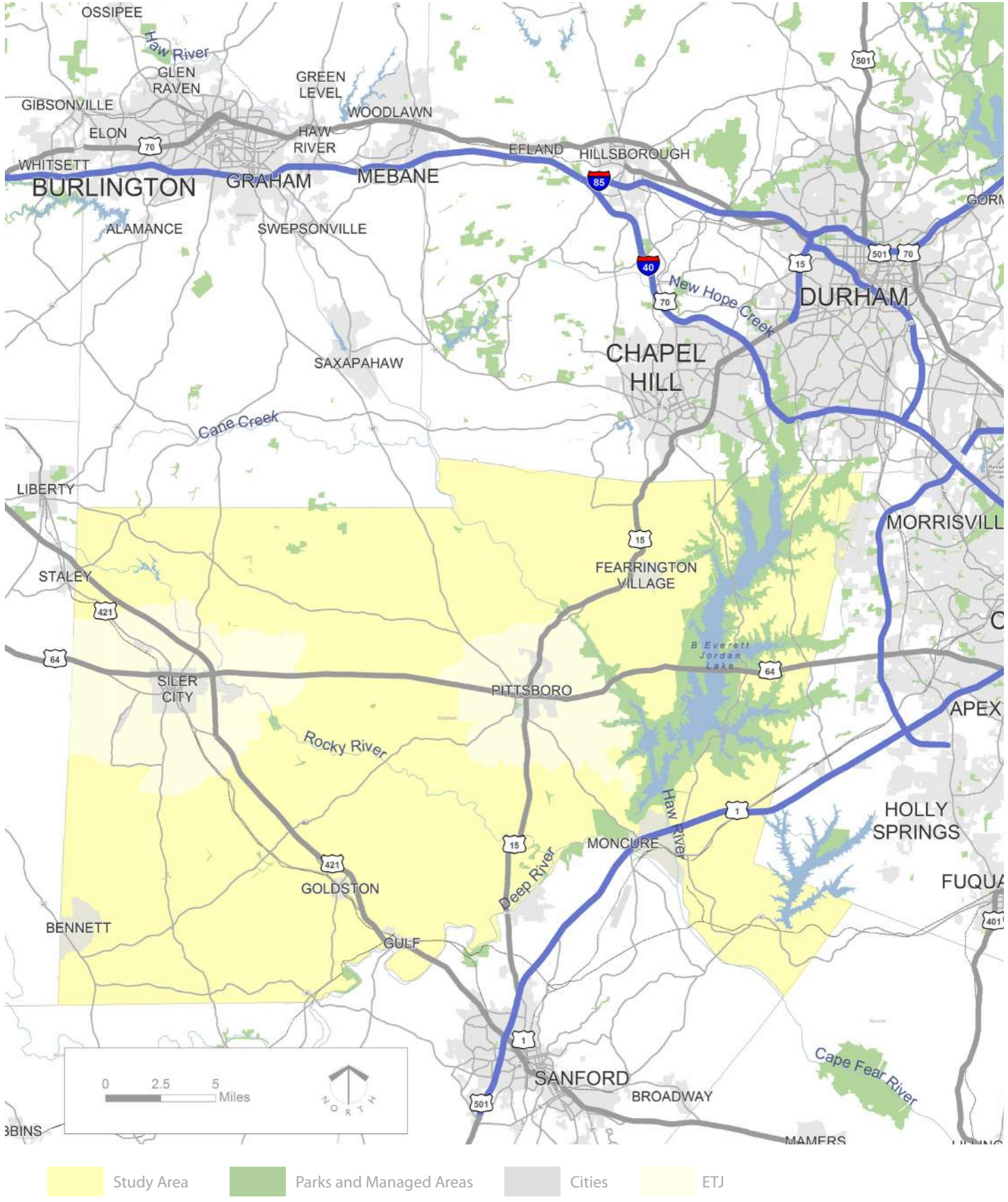


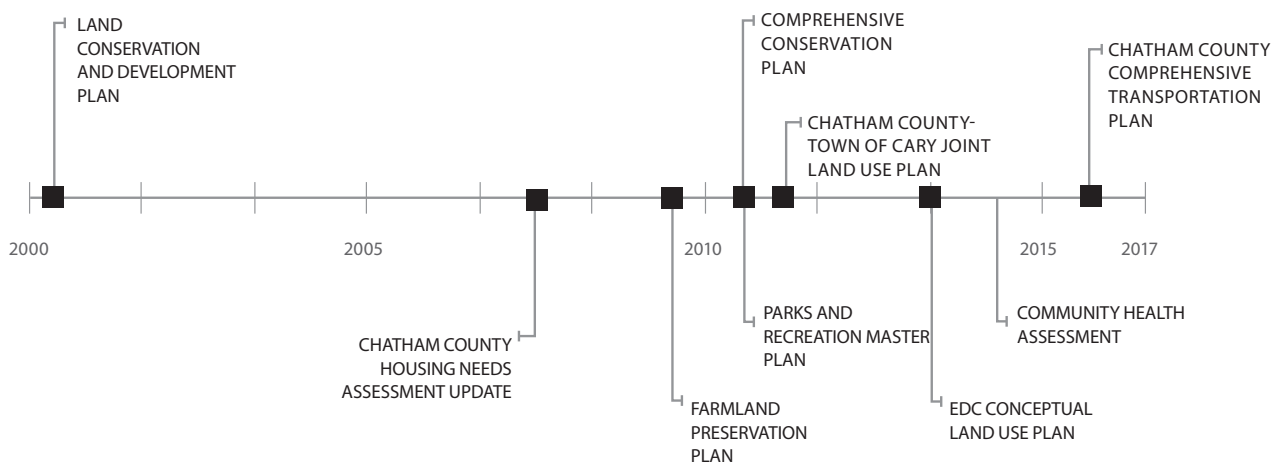
FIGURE 1: STUDY AREA MAP

1.2 RELATIONSHIP TO PREVIOUS PLANS

Plan Chatham is meant to serve as an update to the Chatham County Land Conservation and Development Plan.

The Land Conservation and Development Plan (LCDP) is over 15 years old and has served the County well in guiding growth and development. Many of the policies and principles included in the LCDP were carried over into Plan Chatham. This landmark document provided a vision of the intended physical form of the County, supported a balanced growth pattern and emphasized resource protection and conservation. Plan Chatham builds on this and factors in recent changes in development patterns and responds to emerging environmental threats and economic development opportunities. Plan Chatham also

includes a Future Land Use and Conservation Map that is meant to add clarity to future land use and public and private investment decisions. Since the adoption of the Land Conservation and Development Plan a number of other plans have been developed and/or adopted. These plans included the Farmland Preservation Plan, Parks and Recreation Master Plan, Comprehensive Conservation Plan, Chatham County-Town of Cary Joint Land Use Plan, Chatham Economic Development Corporation (EDC) Conceptual Land Use Plan, and the Community Health Assessment. Each of these plans included policies and strategies that guided staffing, land use, and programming. A review of these plans was essential to develop and update the County's Comprehensive Plan. A review of existing plans is included in the Phase I Report in the Appendix.



CHATHAM COUNTY PLANS 2000-2017

(Refer to the Phase 1 Report in the Appendix for a review of plans, key recommendations and relevance to the Comprehensive Plan.)

1.3 PUBLIC INVOLVEMENT

Guiding the development of Plan Chatham was an extensive public involvement process. Understanding the values of Chatham’s citizens and addressing shared priorities was an integral part of this effort. Meetings with stakeholders and advisory groups, traditional public meetings, attendance of community events and steering committee meetings were augmented with a robust online engagement process which included a county website devoted to the Comprehensive Plan and an online web forum. An Agricultural Focus Group was convened in the fall of 2016 to discuss concerns and needs of farmers and those involved in different facets of agricultural industry. Consultation with the Chatham Health Alliance, town boards and other groups including the Home Builders Association and the Chatham Conservation Partnership ensured a broad base of input.



Traditional public meetings were held in different areas of the County and over 70 other outreach events and meetings were held during the development of Plan Chatham.



Online Participation

The Plan Chatham My Sidewalk web forum received more than **23,500 views** during the course of the planning process. Other key statistics included:

- 1900+ responses to the public surveys
- 132 responses to the Agricultural Focus

Group Survey

“I’m sure there will be growth, but hope to see managed, sensible growth with infrastructure and attention to roads, green space, etc.”

- Response to survey question: “What is your Vision for the County?”

“When will most or all of Chatham County join the 21st century in terms of internet access?”

- Plan Chatham MySidewalk participant

“I informally polled my AP government students and 0/29 said that they could see themselves living in Chatham County in 10 years!!”

- Skip Thibault, Teacher at Northwood High School

(Refer to the public comments document in the Appendix for further reading.)

The Big Picture: Issues and Opportunities



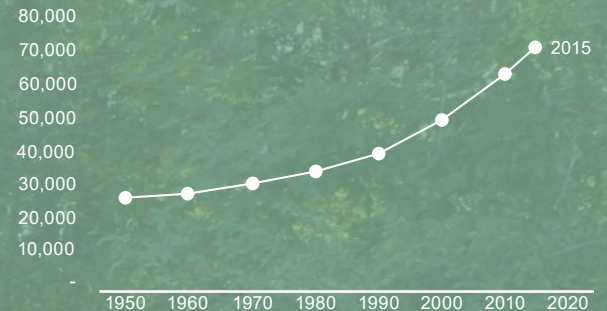
THE BIG PICTURE

ISSUES + OPPORTUNITIES

The Plan Chatham process started with meeting citizens and stakeholders to document the issues that need to be addressed by governmental and non-governmental actions and decisions in the coming years. This section of the Plan highlights topics discussed during these meetings and additional research and analysis conducted as part of the planning process.

A more detailed report on issues by topic area is included in the Appendix in the Phase I Report. Refer to the Community Profile in the Appendix for additional demographic information.

Historic Population Growth



The estimated 2015 population of Chatham County was 70,928 people (US Census Bureau). This is an increase of 32,169 people since 1990 (an increase of 84% in 25 years). The NC Office of State Budget and Management estimates that the County grew by 13.1% between April of 2010 and July of 2015 (an increase of 8,324 people), making it the 2nd fastest growing county in the state during that period (based on percent growth).



Photo Source: betterphotography.in

ECONOMICS AND GROWTH

Chatham County is the 2nd fastest growing county in the state of North Carolina. That growth is expected to continue. Balancing residential growth with jobs and business development will be key to the long term financial health of the County.

There were 29,322 housing units in Chatham County as of 2014. The number of housing units grew by 7,395 between 2000 and 2014 (an increase of 37%). Residential building permits hit a peak of over 600 per year between 2003 and 2007. Residential growth slowed significantly during the recession, but has rebounded in the past few years.

Population projection alternatives were produced during the development of the Plan. If the County continues to experience the rate of growth seen from 2000 to 2014 (2.4% AGR) the population could grow by 58,000 people. County growth rates could be higher or lower, depending on the growth rate of Chatham Park (see inset on p. 23).

Projected Population Growth



2015 | 70,928



2040 | 128,327



= 10,000 PEOPLE

SOURCES: US CENSUS BUREAU (1990-2015),
LANDESIGN

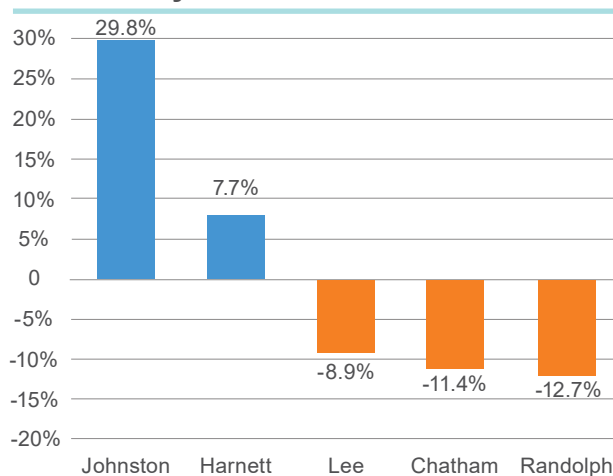
Employment and Income

Chatham enjoys one of the lowest unemployment rates in North Carolina and in the region, most recently at 4.2% (NC Dept of Commerce (July 2016 unadjusted rates)).

The unemployment rate for North Carolina is 4.9% and rates in adjacent counties include 4.5% (Durham County), 4.8% (Moore County) and 5.7% (Harnett County). But job growth has been slower than many nearby counties.

The median income for the County is 45% higher than the rest of NC, but income and poverty rates vary significantly throughout the County. For instance, some census tracts in the northeast have median incomes over \$100,000, but others in the west and southwest have incomes under \$30,000. A lack of good paying jobs is a contributing factor to income disparities.

County Job Growth: 2000-2016



SOURCE: NC COMMERCE.COM, OCTOBER 2017

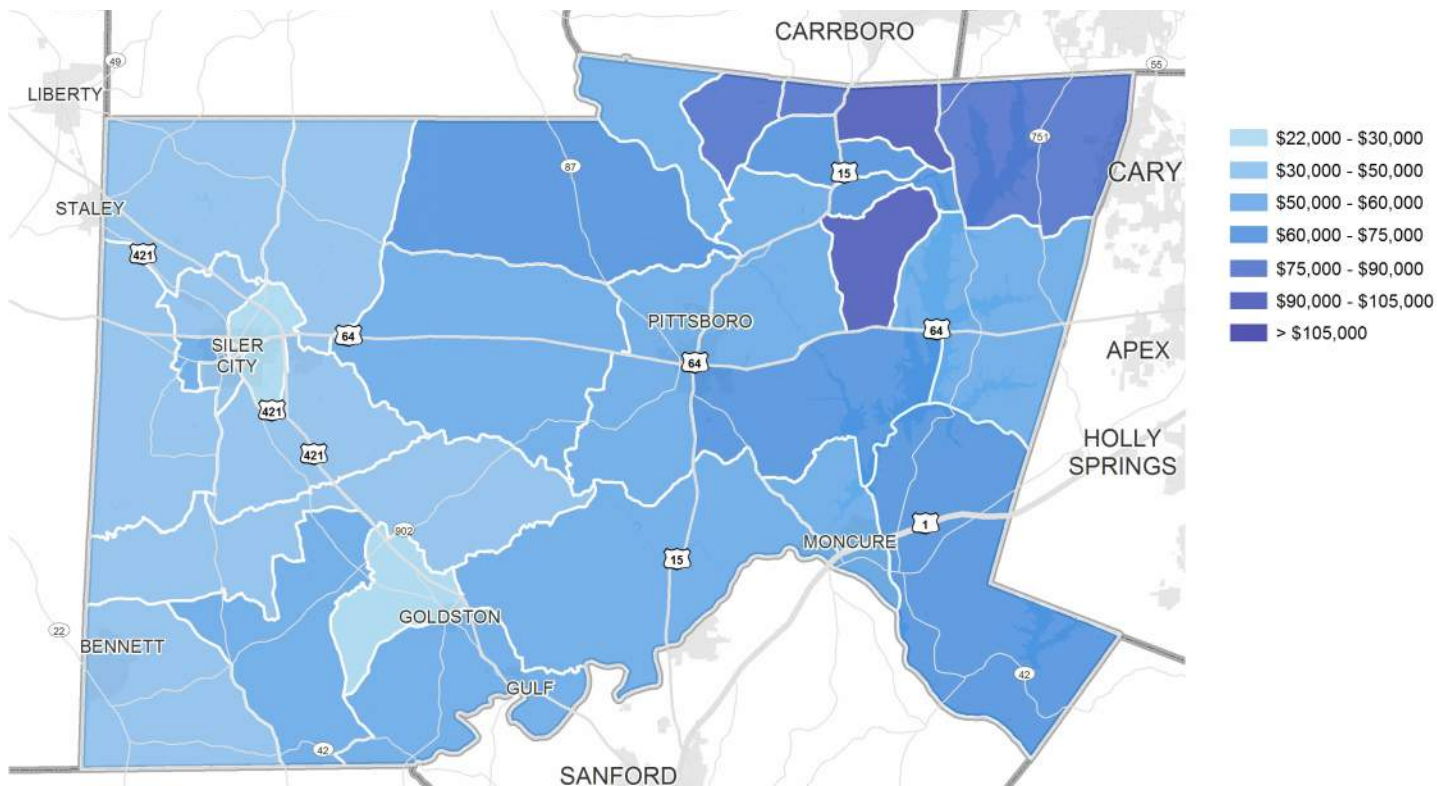


FIGURE 2: MEDIAN INCOME MAP (SOURCE: CENSUS 2014 ACS DATA)

There are only about 14,000 jobs in the County with an adult labor force of approximately 32,000. Fifty-seven percent of Chatham workers commute for work outside the County (2015 American Community Survey). This creates a situation where Chatham County residents are dependent on the success of surrounding metro counties for their economic well-being. This high level of out-commuting lowers the daytime population in the County thereby lowering the demand for retail and restaurants.

Retail Sales

Retail sales “leakage” compares the potential total value of sales within the County (based on population and income) to actual sales volume. An estimated 58% of potential sales in Chatham “leak” out to other communities, resulting in the County missing out on an estimated \$207 million in retail sales (ESRI 2014

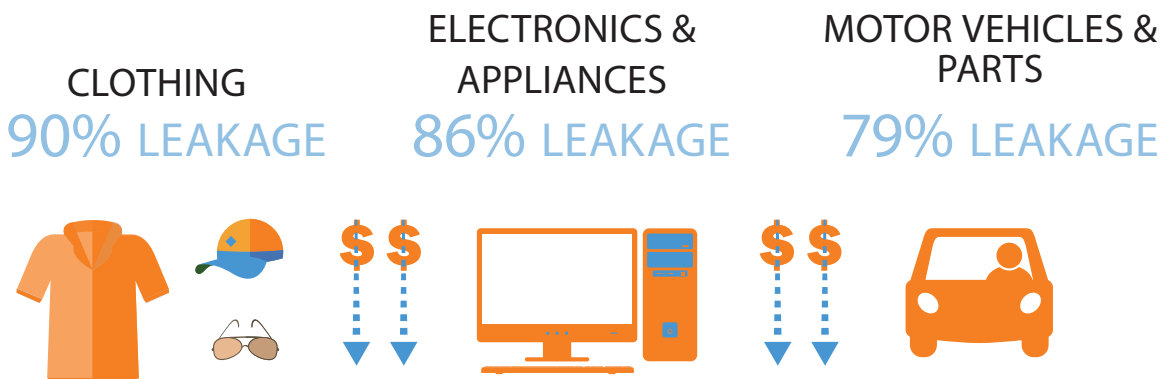
data). Chatham has a generally dispersed, low-density population. Its two biggest towns, Siler City and Pittsboro, each have less than 10,000 residents, meaning they lack the critical mass needed to attract many retailers. The 15-501 corridor in northeast Chatham County has good retail potential—in fact it is home to almost 20,000 residents which is more than Pittsboro and Siler City combined, but it too currently lacks the population density to appeal to most national retail and restaurant operators. Later, in the recommendations section, this Plan will discuss opportunities for capturing more retail dollars.

Education and Opportunity

Access to quality education and non-traditional postgraduate training opportunities is key to creating an educated work force with relevant skills that attract employers. During the development of the Plan, it was

RETAIL SALES LEAKAGE

58% OF ALL POTENTIAL RETAIL SALES IN CHATHAM “LEAK” OUT TO OTHER COUNTIES. THIS REPRESENTS ABOUT **\$207 MILLION** LOST RETAIL ANNUALLY



SOURCE: ESRI 2014 DATA

noted that in some parts of the County it was difficult to recruit skilled workers. In addition, providing access to educational opportunity is critical to ensuring equity. There is a significant disparity between educational attainment for different ethnicities. For instance, only 7% of Hispanic residents and only 14% of African American residents in the County have a bachelor degree or higher, whereas White and Asian residents have much higher level of educational attainment with 43% and 71% achieving a bachelor degree or higher respectively. This educational disparity correlates with differences in income as well. For instance, Hispanic and African American residents have lower median incomes than White residents (Census 2015 ACS Data).

Agriculture and Forestry

Agriculture and forestry are valuable to the local economy. Seventy-five percent of the land area in the County is used for agricultural or forestry purposes (Tax parcel data, 2016). Forty-eight percent of the land is enrolled in the Present Use Value (PUV) Program, which grants tax breaks to working farms and timberlands. Chatham is #2 in the state of North Carolina in cattle sales. The poultry sector is also strong, consistently ranked in the top 15 in the state. Small farms and timber operations are also significant contributors to the economy.

75% OF LAND AGRICULTURE AND FORESTRY

TAX PARCEL DATA, 2016

48% OF LAND IN PUV PROGRAM

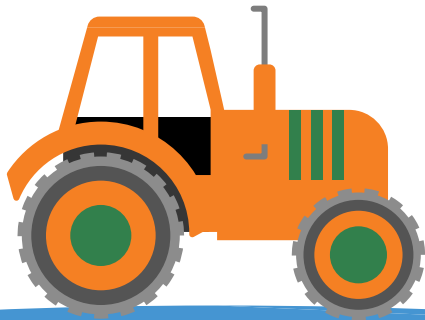
PRESENT USE VALUE DATA, 2016

\$154,908,000

LIVESTOCK SALES, 2012 CENSUS OF AGRICULTURE

\$238,600,000

FORESTRY INDUSTRY ECONOMIC IMPACT 2012, NCSU EXTENSION



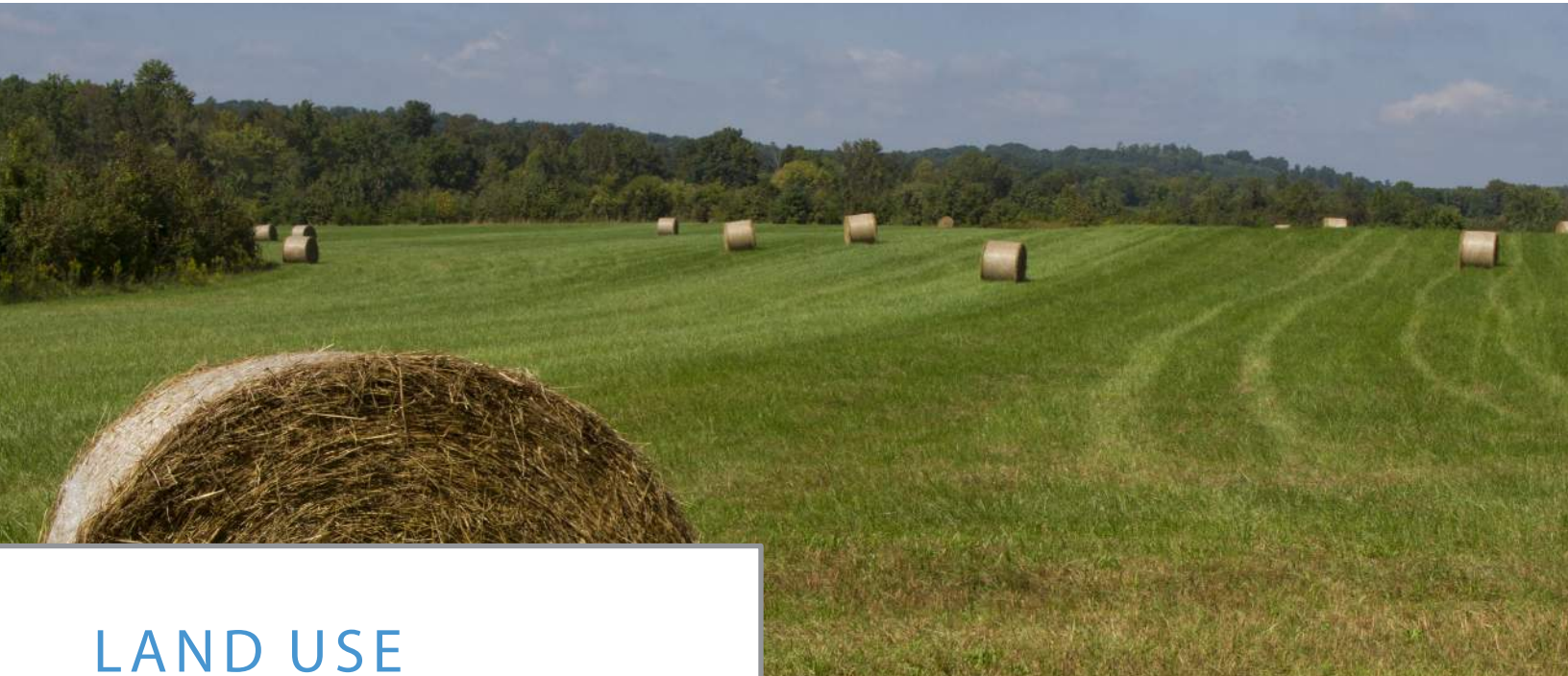


Photo Source: Debbie Roos, Chatham County Cooperative Extension

LAND USE

The location, intensity and design of development is important to maintain the character of Chatham County.

Settlement Patterns and Features

Farms have been, and still are, the dominant form of land use. Historic landscapes in the County are anchored by farm houses and barns. They were constructed with natural materials, such as wood and brick, until prefabricated materials were introduced in the twentieth century. Social activities around gristmills, inns, taverns, ferries and fords have shifted to downtowns and clusters of commerce. Churches, however, remain central gathering places in towns and rural townships in the County. There is a history of practical reuse of structures. Old homes became outbuildings, or were incorporated into new structures. Farms underwent organic expansion, with larger complexes resembling “small villages with various dwellings and working units (Osborn and Selden-Sturgill, “Architectural Heritage of Chatham Co.,” 1991).”

Rural Character

Preserving rural character was identified as the most important goal during the planning process. Rural character means different things to different people. For some, it is clean water, forests, and wildlife. For others, it is scenic beauty or a lifestyle that includes privacy, peace and quiet. For many, it is simply the ability to farm. The previous comprehensive plan, the Land Conservation and Development Plan, defined Rural Character as:

“The combination of natural and built features that portray the traditional form and preserve the traditional function of the rural landscape. In Chatham County, rural character is manifested in a backdrop of forests and fields, dotted with natural features such as creeks and hills and structures such as barns, silos, churches,

poultry houses, general stores, and craft studios. These physical features support traditional rural activities such as farming, lumbering, craft making, and outdoor recreation that have been practiced for generations in the County. Homes in rural areas are either scattered at low densities or clustered together in small communities.”

This description of rural character includes features and activities that should be preserved, while also offering insights on how new development can be integrated. Concurrently, it shows how some degree of flexibility is needed to encourage the unique tapestry of uses that compose the rural landscape.

“It will be a tremendous challenge to Chatham County to maintain its tranquil rural landscape, historic farm complexes, and agrarian lifeways into the twenty first century.”

The Architectural Heritage of Chatham County, NC. Osborn and Selden-Sturgill. 1991

CHATHAM COUNTY HISTORY

The Piedmont region of North Carolina was settled around 1750. Quaker English, Scotch-Irish and Germans migrated from the North. The Highland Scots migrated from the South, specifically up the Deep River. Chatham County was officially created when it separated from Orange County in 1771. This split was due to unrest between the yeoman farmers and the English government. The resulting County government was seated in “Pittsborough” where the Chatham Courthouse is still located today.

The cultural heritage of Chatham County is a result of the rich United States history and is still represented today through its people, places and events. North Carolina was one of the original thirteen states, and thus, took part in the colonial fight for independence. Family farms, churches and schools served as hubs for community

social life in the early years. The County experienced the trauma associated with the Civil War and took part in Reconstruction. This community also faced the hardships of The Great Depression. The memories of the two World Wars still linger. Today, the County has successfully transitioned into the Digital Age and continues to move forward into the future with the rest of the nation.

The dense and timeless history associated with the County continues to remain alive in several ways. Family stories, school classes and anniversary celebrations, such as the County bicentennial of 1971, continue to serve as conduits that pass down this history today.



BYNUM COTTON MILL, SOURCE: CHATHAM COUNTY HISTORICAL SOCIETY

Land Use Trends

The majority of land in the County is currently being utilized for agriculture, which includes timber operations. Agricultural uses account for approximately 75% of the land area in the County. Protected open space is the next largest land use. Much of the 41,000 acres of open space is part of the Jordan Lake State Recreation Area, although there are also large tracts of land in conservation easements held by land trusts. There is a large disparity between existing land use trends in different areas of the County. For instance, developed areas, which include residential homes (without an associated agricultural use), commercial and industrial areas, account for approximately 10% of the land area based on county tax parcel data. In contrast, developed areas account for over 31% of the land area in the 15-501 area.

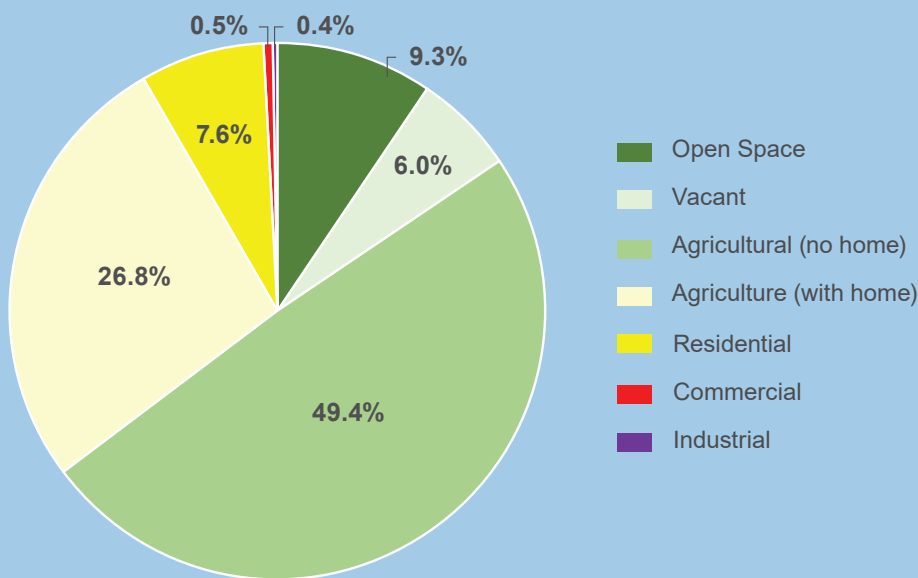
Residential growth has historically been concentrated in the northeast part of the County, although, since 2010,

there has been significant residential development west of the Haw River as part of the Chapel Ridge development and other smaller subdivisions. There have been 628 new homes within a 1/4 mile of Voluntary Agricultural Districts since 2000. These growth trends are likely to continue and could potentially lead to conflict between agriculture operations and residential growth.

Tax Base

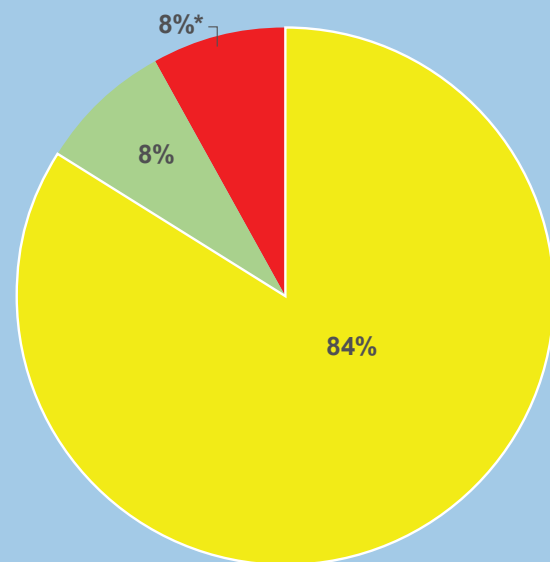
Chatham County’s total tax base, by dollar value, is approximately 84% residential, 8% agricultural and forestry land; and 8% commercial or industrial (Chatham Co. Tax Office 2016). By comparison, adjacent counties Lee, Durham, and Wake have commercial and industrial segments of the tax base in the range of 20% to 40%. The relatively low level of non-residential tax base means that the County is more reliant on residential property owners to raise revenue for needed county services. For example, if the County decides to spend more on teachers

Existing Land Use



SOURCE: CHATHAM COUNTY TAX PARCEL DATA

Tax Base



SOURCE: CHATHAM COUNTY TAX OFFICE

or law enforcement, or to expand services by providing a new fire station or school, the burden of funding those improvements in Chatham will largely fall on residents rather than the business community.

In addition, research studies across the nation have generally shown that while residential properties cost more for governments to serve than the tax revenue those properties generate, commercial and industrial properties tend to bring in more tax revenue than the government's cost to provide services (such as law enforcement and fire protection) to those properties. According to a 2007 study by NC State, it was estimated that commercial and industrial land uses contribute \$3.01 in revenues for each dollar of public services they receive. This "net tax benefit" is also typically found with agricultural and forest land. The same study found that agricultural land uses contribute \$1.72 in revenues for each dollar of services received. In contrast, residential development contributes only \$0.87 for every dollar of services received.

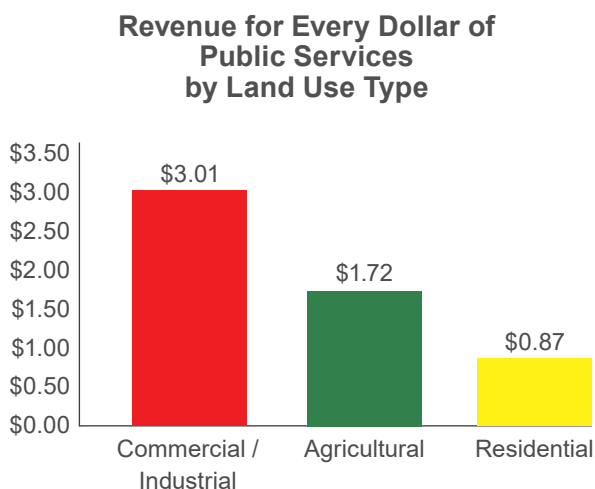
Geographic Diversity

Chatham County is large and diverse. The County is 708 square miles in area. It takes an hour to drive from the southwest corner to the northeast corner. Parts of western Chatham are more closely integrated with the Triad economy than the Triangle. Poultry farms are more plentiful than subdivisions in parts of the County. Land use policies must be tailored to this diversity.

Land Use Suitability

A suitability analysis was conducted using geographic information systems (GIS) software to identify lands economically and environmentally suitable for different land use types. Suitability maps were produced for residential, industrial and commercial land use types.

The industrial and commercial suitability analyses were utilized to identify areas where non-residential, employment bearing uses would be most viable. Factors included proximity to existing compatible uses, access to adequate transportation infrastructure, proximity to utilities and environmental constraints.



SOURCE: 2007 COST OF SERVICES STUDY BY NC STATE

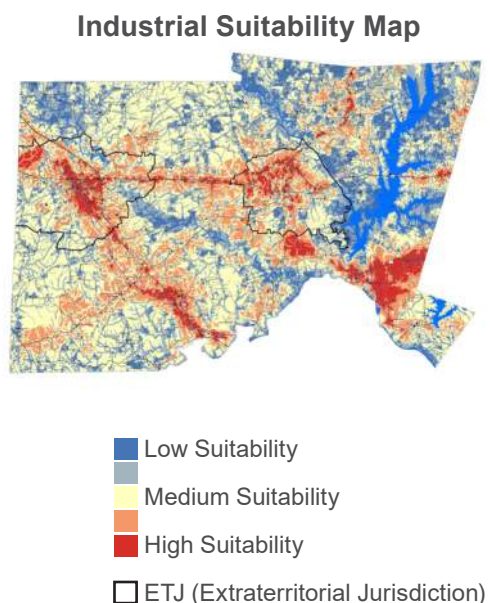


FIGURE 3: INDUSTRIAL SUITABILITY MAP

Residential suitability was mapped to identify potential growth areas that have access to infrastructure and limited environmental conflicts.

In addition to these suitability analyses, Agricultural Suitability and Conservation Suitability was mapped. Feedback from the Agriculture Focus Group and the Agricultural Survey was used to determine Agricultural Suitability. The Conservation Suitability Analysis was utilized to identify key landscape level concentrations in natural assets. Inputs included the biodiversity and habitat suitability mapping that resulted from the Chatham County Conservation Plan.

Land Use Preference

The results of the suitability analysis was paired with input from the public via an interactive mapping exercise at the first round of public meetings and online. This exercise allowed participants to provide input on where retail, jobs and housing should be located, where transportation problems exist and where sensitive natural features should be targeted for protection. Together these two inputs were used to inform the Future Land Use and Conservation Plan Map. See the Appendix for maps of the suitability analysis and the land use preference activity.

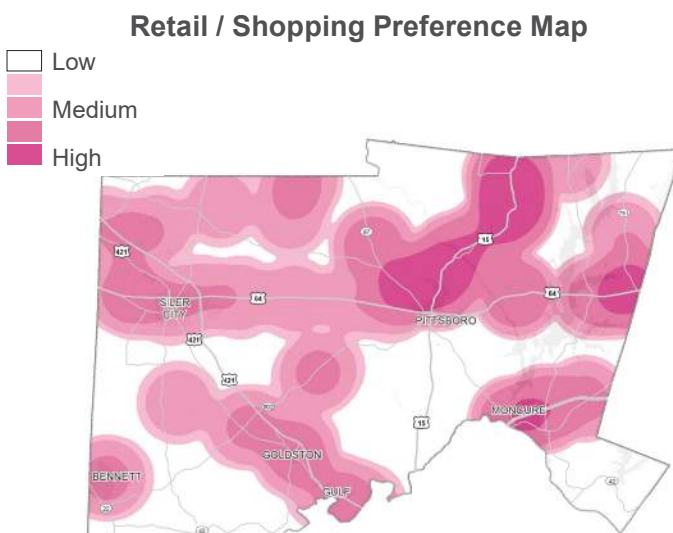


FIGURE 4: RETAIL/SHOPPING PREFERENCE MAP

US 15-501

The area along US 15-501 between Bynum and the Orange County boundary was studied in detail as part of this Plan. This part of the County is more urbanized than the remainder of the County, but still includes large and medium sized tracts of undeveloped land and farms. Two of the largest planned developments in the County, Fearrington Village and Briar Chapel are located in this

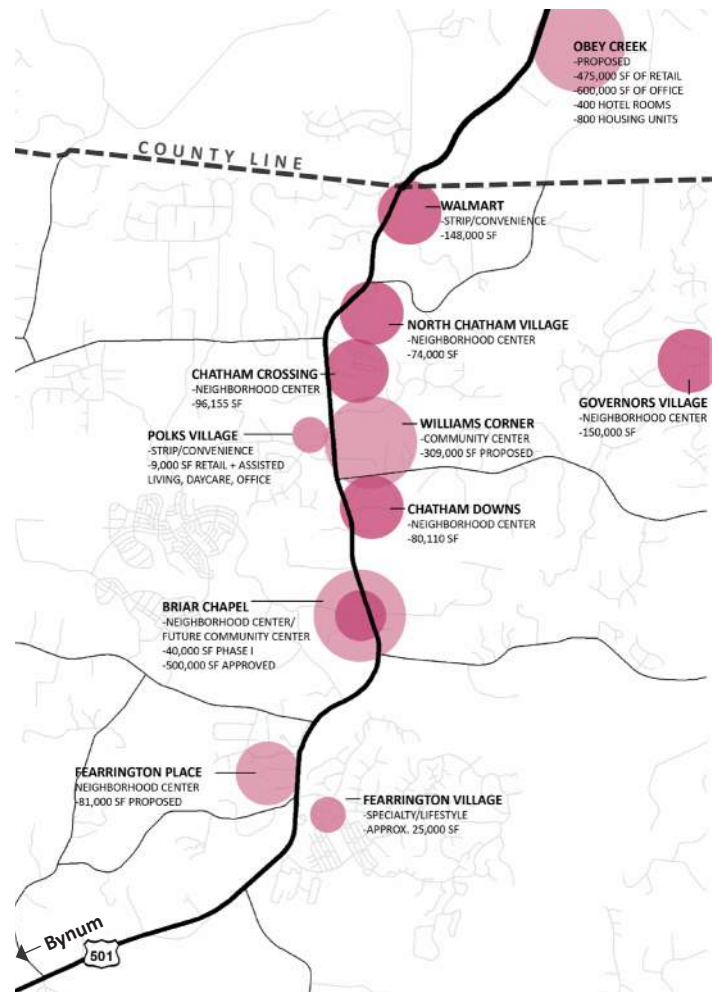


FIGURE 5: EXISTING AND APPROVED COMMERCIAL CENTERS ON 15/501

(Refer to the 15-501 Market Analysis document in the Appendix for further reading.)

area. Ferrington Village, which includes residential areas and a commercial village center, was designed to resemble a traditional English village. It includes renovated farm structures and new buildings that house an inn and event venue, shops and restaurants. The frontage along 15-501 was preserved as pasture and common open space. Briar Chapel is a newer mixed use development that is located west of US 15-501 and north of Andrews Store Road. It was developed as a “Compact Community” under the Compact Communities Ordinance. Parts of the residential areas in Briar Chapel are under construction and only a portion of the non-residential part of the development is built. Both of these developments could be considered rural traditional neighborhood developments (TND) as they have a mix of housing styles, a relatively compact, walkable form, open space and amenities and some shopping and dining options that were designed as part of the development. The importance of these traditional design elements cannot be overstated.

Approved Development

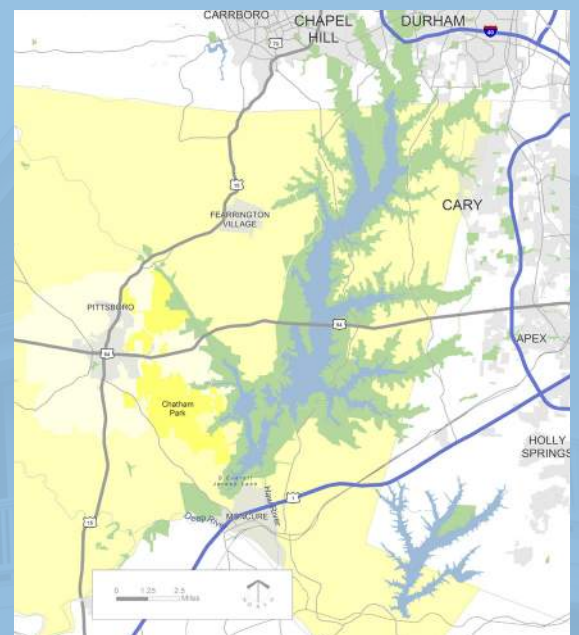
An inventory of approved development was created as part of this planning effort. In total, there is a total of 3,000 remaining dwelling units in subdivisions that have been approved in the County. The majority of these are in the Northeast. This does not include Chatham Park. In total, there is 636,000 square feet of existing non-residential uses in commercial centers along the 15-501 corridor and an additional 987,200 square feet approved and unbuilt (not including Chatham Park).

COMPACT COMMUNITIES
 See the Land Use Recommendations Section for strategies to update the Compact Communities Ordinance

CHATHAM PARK

Chatham Park is the most ambitious master-planned, mixed-use development in the County’s history. It is proposed to unfold over the next 40 years on 7,100 acres immediately northeast and southeast of the Town of Pittsboro. Even though the development is located within the Town of Pittsboro’s jurisdiction it will have impacts that transcend political boundaries. The approval of the development included entitlements to 22,000 new residential units and up to 22 million square feet of non-residential space. The latest details regarding phasing and the master planning effort can be found at <http://pittsboronc.gov>.

(Refer to page 134 for transportation impacts)



Chatham Park

FIGURE 6: CHATHAM PARK MAP

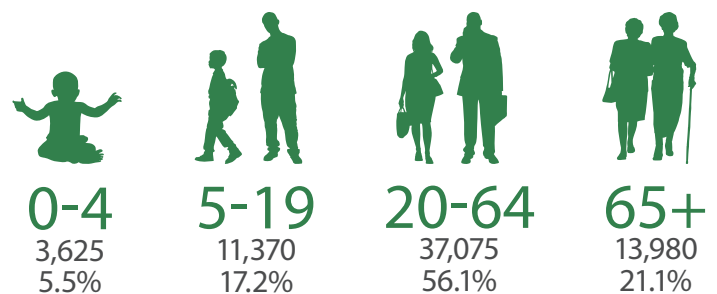


New homes in Briar Chapel

HOUSING AND DEMOGRAPHIC TRENDS

Demographic changes present both challenges and opportunities for Chatham County.

Chatham’s population is on average older, more educated, and more affluent than its neighbors and the state as a whole. The median age of residents is 45.5 compared to 37.8 for North Carolina. Over 21% of residents are over 65 years of age. 36% of residents are over 55 years of age. Over half of residents are over 45 years of age. Pittsboro is currently a certified retirement community (Retire NC) but this is set to expire. Many planned developments in the County jurisdiction are attractive to retirees. The UNC Gillings School of Global Public Health has proposed a Capstone project: a “Comprehensive Plan for Aging in Chatham.” Results of this work are intended to supplement the information and strategies presented in Plan Chatham.



SOURCE: US CENSUS BUREAU ACS DATA

There are significant demographic differences across the County. The average age of the population in the census tracts around Siler City is under 40, while the average age of many census tracts in the northeast part of the County is over 56.

Preferences

The senior population is likely to increase in the coming years, due to the youngest of the baby boomers reaching their older years. Research has shown that Millennials and Boomers have a stronger preference for lower maintenance yards and smaller housing types than other age groups. Making accommodations for the housing preferences of these two age groups by providing opportunities for well-located housing products, such as cottage, patio homes, townhomes and condos, may help Chatham appeal to a broader demographic.

Housing Mix

There were 29,322 housing units in Chatham County as of 2014. The number of housing units grew by 7,395 between 2000 and 2014 (an increase of 37%).

The majority of housing is single family detached product (75%). Mobile homes are the second most prevalent

housing type (14%) and serve as the primary type of affordable housing in many parts of the County. As land prices rise, especially in the Northeast part of the County, many mobile home parks may be redeveloped, which will further exacerbate the affordable housing issue in that part of the County.

Affordability

Traditional measures of housing affordability ignore transportation costs. Typically a household's second-largest expenditure, transportation costs are largely a function of the characteristics of the household's neighborhood. Factoring in both housing and transportation costs provides a more comprehensive way of thinking about the cost of housing and true affordability. Chatham residents spend 28% of their income on transportation compared to 22% for residents of Durham.

The median home sale price for Chatham County over the past 12 months was \$260,500, which is a 7.7% increase over the past year (ESRI, Zillow). An income of >\$62,600 is necessary for a mortgage of the average new home to be considered affordable (<30% of monthly income). Police officers, teachers, social workers and other professionals have incomes significantly below this threshold and need access to more affordable for-sale and rental housing.



SOURCE: US CENSUS BUREAU ACS DATA



AGRICULTURE

Annual agricultural and forestry sales in Chatham County exceed \$246 million (Chatham County Agricultural Economic Development Plan, 2009).

Approximately 63,500 acres of farmland has been lost in the Triangle Region since 1997 (CTNC Farms for Food Report). Agriculture in Chatham County has fared better than some counties in the Triangle, buoyed by a strong commodity production sector and a steady growth in small and specialty farms. The number of farms in the County has actually increased slightly every agricultural census since 1992 (in 2007, there were 1,089 farms and in 2012, there were 1,138 farms). Acreage in farms has remained more or less steady since 1987 (112,674 acres in 1987 and 111,778 acres in 2012).

Farm near Silk Hope in Western Chatham County

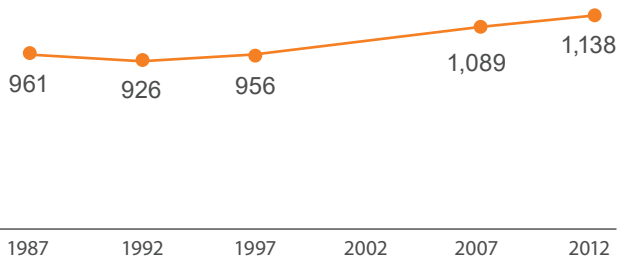
Support for Agriculture

The County has a long history of supporting Agriculture.

Significant recent achievements include:

- The 2009 Farmland Preservation Plan
- Successful farmers' markets
- Expanding Community Supported Agricultural (CSA) operations
- Voluntary Agricultural Districts (26,000+ acres)
- Agricultural Extension programs and staff
 - Agricultural Extension classes draw participants from across the state
 - County officials provided support for staffing during state funding crisis
- Chatham County Agricultural & Conference Center
 - Funded in 2012, open in 2017

Number of Farms



SOURCE: USDA CENSUS OF AGRICULTURE

Assets

Chatham County is one of the few counties in the state with increasing agricultural land (USDA Census of Agriculture, 2012). The majority of land in the County is considered “prime farmland” or “farmland of statewide importance” by the Natural Resource Conservation Service (NRCS). Approximately 68% of the County is covered in forests (USDA Cropland Data, 2015). Farm

and timber product sales place Chatham 29th highest and 16th highest, respectively, of North Carolina’s 100 counties. Leading farm products are livestock, hay, dairy, and poultry.

In addition to traditional agriculture, small-scale specialty, niche and organic farms are increasingly important. Forty-seven percent of Chatham farms contain less than 50 acres. Demand for local food is increasing within the County and the region. There are four farmers markets in the County [Chatham Mills [Pittsboro], Pittsboro Farmers Market [Main Street Station in Pittsboro], Fearington Farmers Market, and Siler City Farmers Market]. There is an occasional farmers market in Goldston, although, it does not occur every year. There are also two winter markets that are held periodically. In addition, many Chatham farmers travel to farmers markets in adjacent counties.



FIGURE 7: CHATHAM COUNTY AGRICULTURAL & CONFERENCE CENTER EXHIBIT HALL

The creation of value-added timber and agricultural products, including food processing, holds promise in Chatham. In addition to existing sawmills, Mountaire Farms’ reopening of a poultry processing facility in Siler City is an example of this on a larger scale. On a smaller scale, the region is experiencing greater demand for locally-derived products made from organic vegetables, meat, and honey. The trend of increasing population in Chatham and surrounding counties will likely provide additional opportunities for selling Chatham-made products locally.

Despite encouraging signs of growth in the agricultural economy, and an abundance of assets, there is cause for concern. Many farm owners must work outside of the farm to generate additional income. Fifty-five percent of Chatham farm operators list another occupation as their primary job (National Agricultural Statistics Service, NC Cooperative Extension). There is concern over the longevity of farming in the County. The average age of principal operators for farms in the County is 58.6 (2012 Census of Agriculture). Land fragmentation from dispersed, low-density residential growth has led to increased property values, traffic and concerns over groundwater availability.

In the fall of 2016, an Agricultural Survey was conducted that solicited feedback from farmers and representatives from the agricultural industry, which was used to inform the development of Plan Chatham. Key findings from the survey include:

- Residential growth and associated impacts ranked as #1 threat to agriculture
- Limited surrounding residential development ranked as the #1 factor contributing to the long-term viability of farms
- Many types of non-farm businesses were identified as being compatible with and/or supportive of farming

directly or indirectly. These businesses include:

- Agritourism (including event venues, B&Bs)
- Food industry/Grocery/Restaurants
- Processing facilities (food and forestry)
- Farm and feed suppliers
- Stockyards
- Welding, Machining, Engine Repair
- Opinions vary on what the County should be doing to support agriculture, but the four ideas with the most support are:
 - Consider impact on agriculture and forestry of new ordinances
 - More education and outreach to farmers—and to non-farmers (about benefits of farms (ecological and economic)
 - Designate areas of important agricultural lands and/or concentrations of working farms on a future land use map and direct development away from these areas
 - Zoning modifications, including an agricultural zoning district to reduce residential growth and/or more flexibility in current zoning for non-residential uses that indirectly support agriculture.

Chatham farmers and other residents frequently mention a desire to protect farmland and timberland from incompatible uses nearby. They also mention the desire to maintain the ability of farmers and rural residents to have farm-related small businesses and home occupations, to provide additional income.

Understanding how to preserve the form, function and lifestyle of the County is a central goal of the Plan. Recommendations on how to protect the viability of agricultural and forestry operations, while addressing needs and accommodating future development, are included in the Land Use and Agricultural elements of the Plan.

FARMERS' CONCERNS

The Plan Chatham Agricultural Survey asked farmers about their concerns. Specifically the question was asked, "What is it about your farming future that keeps you up at night?" Here is what we heard:

- Residential Growth & Conflicts

"Developments that encroach near farms that drive land prices up and take away from land that can be used to further expand farms. It is hard to compete with a developer when you are trying to buy land to farm and they have investors that want to build houses. Biggest fear to me is that I will be limited to space and my surroundings are developments. This can be seen if you go just into Wake County..."

- Land Costs and Infrastructure

"The rising costs of land and the availability of agricultural land for prospective farmers. The lack of infrastructure for mid-scale production on farms including small dairies and other livestock operations that the county is well suited for."

- Support for and Understanding of Local Agriculture

"We live in a society that has little to zero respect for farmers. People believe that food magically appears in the grocery store."

- Strict Regulations and Sustainability

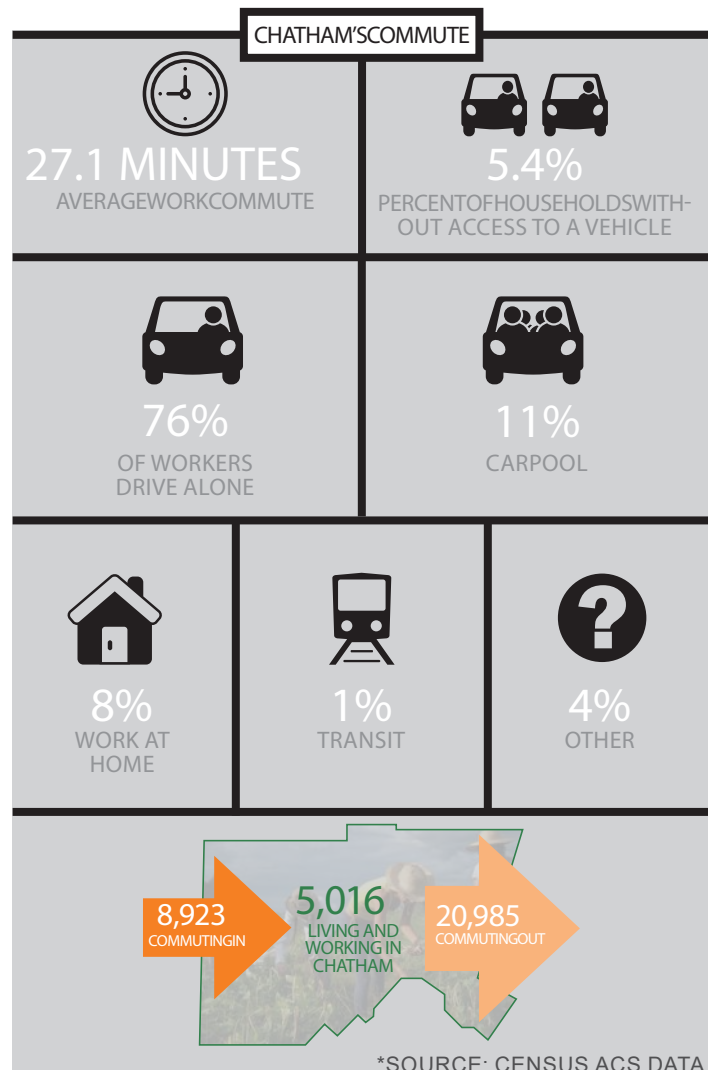
"With continuing regulations and restrictions that small farmers will be forced to sell out due to the financial burdens created. Some say this regulations are required to prevent damage to the surrounding environment but farming is 100% dependent on the environment. So by not taking care of your environment to promote your positive farming operation you are destroying the very thing you worked so hard to build."



INFRASTRUCTURE

Chatham County is a primarily rural county that is increasingly feeling growth pressures. Growth is expected to continue, as are increasing demands on infrastructure.

Chatham County is one of the fastest growing counties in North Carolina, growing 28% between 2000 and 2010. Development pressure is primarily being felt in the eastern part of the county, where growth in the Triangle is leading to new housing and commercial development. The growth pressures in the northeastern portion of the County and commute patterns were a precipitating factor in the US 15-501 Corridor Study. This study examined future traffic conditions along US 15-501 between Pittsboro and Chapel Hill, as well as past utility infrastructure planning efforts, such as the Triangle Regional Water Supply Plan, which identified potential future allocations of drinking water for local governments surrounding Jordan Lake.



*SOURCE: CENSUS ACS DATA

The portions of the County that are further from the more urbanized Wake, Durham, and Orange Counties remain more rural. These parts of the County have active agricultural operations and some significant industrial uses. Chatham County's infrastructure network must meet the different needs and demands of different parts of the County. The western portion of the County is typically more focused on maintaining high quality principal roadways and good vehicular levels of service. Parts of the eastern part of the County, and particularly areas around Pittsboro and along US 15-501, are riper for more urban amenities, such as sidewalks and various types of bike facilities. The differences in residents' needs and preferences in the rural, suburban, and urban parts of the County are and will continue to be important drivers of transportation infrastructure and policy in Chatham County.

As part of the development of Plan Chatham, a Transportation Existing Conditions Report was produced that detailed recent plans as well as pressing roadway, safety, transit, freight, rail, and bicycle and pedestrian issues. This document can be viewed in the Appendix. The key challenges for Chatham County in the future will be:

- Balancing the different needs in the rural, suburban, and urban parts of the County
- Preserving vehicular, freight, and farm equipment capacity and mobility as growth occurs
- Providing context-appropriate pedestrian and bicycle accommodations
- Maintaining roads and modernizing roadway designs on some outdated rural cross sections
- Strategizing for future transit growth in urbanized areas and areas of high demand
- Balancing mobility needs and environmental concerns
- Providing safe and affordable transit for an aging population.

Transportation Priorities

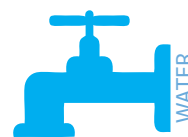
Based on feedback received during the planning process, the priorities for residents are to include:

- Improving transit service to Chapel Hill, Durham, RTP and Raleigh
- Constructing sidewalks and greenways near Centers
- Providing on-road bike lanes or wide shoulders for bicyclists
- Spotting safety improvements on rural roads

Utility Needs

The primary water source for the County is Jordan Lake, although interconnects with nearby cities augment the supply. Lack of access to public sewer has kept the density of new residential growth relatively low, which has helped to preserve the rural character of the County. Limited access to sewer has also been a barrier for industry. Allowance for private wastewater systems have allowed the creation of compact communities along the 15-501 corridor. It is likely that distributed private and public systems will be needed to meet environmental and economic goals. Access to reliable, high-speed internet throughout the County is another important utility need.

Water and Sewer Usage and Capacity



3 MGD

CURRENT WATER TREATMENT CAPACITY
CHATHAM COUNTY WATER PLANT FOR
NORTH WATER DISTRICT

PURCHASE WATER

FROM SANFORD AND SILER CITY FOR
ASBURY AND SOUTHWEST SYSTEMS
AGREEMENT WITH CITY OF DURHAM FOR
UP TO 4 MGD

6 MGD

COUNTY ALLOCATION FROM JORDAN LAKE
REQUESTED EXPANSION OF THIS TO 12
MGD AND 18 MGD - AWAITING APPROVAL



BYNUM

WASTEWATER TREATMENT
PLANT ONLY COUNTY
OWNED FACILITY

4 MGD

CURRENT CAPACITY OF
SILER CITY WWTP

1.25 MGD

PERMITTED CAPACITY AT
PITTSBORO WWTP
ADDITIONAL DISCHARGE
PERMIT FOR 1.6 MGD ON
HAW RIVER



Rock garden on the Haw River south of US 64

ENVIRONMENT

Chatham County is part of the “green heart” of NC, a stretch of forest and farmlands that stretch from Raleigh to Charlotte.

Pockets of development are growing, but the County is mostly rural and still has many high quality, intact natural resources. Sixty-eight percent of the County is covered in forests. The County is home to Jordan Lake State Recreation Area and three rivers (the Haw, Deep and Rocky) that provide recreational and tourism opportunities, aquatic habitat for rare and non-rare fauna, and clean water for county residents and communities downstream.

Water Quality

Over half a million people rely on Jordan Lake and the Cape Fear River for drinking water downstream. Many county residents also rely on municipal and county water drawn from the Rocky River, Haw River or Jordan Lake.

Natural Resource Stats



55,000
ACRES

ACRES OF PUBLIC
LAND AND
CONSERVATION AREAS



48 SPECIES

RARE, THREATENED AND
ENDANGERED SPECIES
CALL CHATHAM HOME



52 ACRES

DESIGNATED NATURAL
HERITAGE NATURAL AREAS
IN THE COUNTY



14.6 MILES

MILES OF SCENIC
PADDLING ON THE HAW
RIVER

Protecting water quality was identified as a shared goal and driving force behind land use, natural resources and agricultural recommendations.

The health of the County’s waterways has long been threatened. Municipal and industrial wastewater polluted many of Chatham County’s waterways until the Federal Clean Water Act of 1972 began to improve water quality. Non-point source pollution from stormwater runoff and sedimentation from construction activities is a relatively new threat. The County has a Watershed Protection Ordinance in place that limits impervious surface coverage and requires riparian buffers in all watersheds within the County’s jurisdiction. Currently there are 13 water bodies considered impaired in Chatham County (2014 303(d) List). There is also a growing concern over groundwater availability in agricultural areas and the potential impact of coal ash storage and potential hydraulic fracturing on water quality.

Unique Assets

Chatham County’s forests and streams are home to at least 49 rare, threatened or endangered species. The Rocky River drainage is the last stronghold for the endangered Cape Fear Shiner. 52 designated Natural Heritage Natural Areas (NHNA) are located in the County. The majority of these are located on private land. Growth pressure and associated land conversion are a primary threat to these sensitive natural areas.

Tourism

Recreational tourism is growing in the County. Rural character, scenic beauty, protected areas with hiking and wildlife viewing opportunities are a draw. Quaint bed and breakfasts as well as popular event venues bring visitors to the County. More than 1.6 million people visited Jordan Lake State Recreation Area in 2015. The Haw River corridor is growing in popularity as a canoeing and kayaking destination. Protecting the resources that draw people

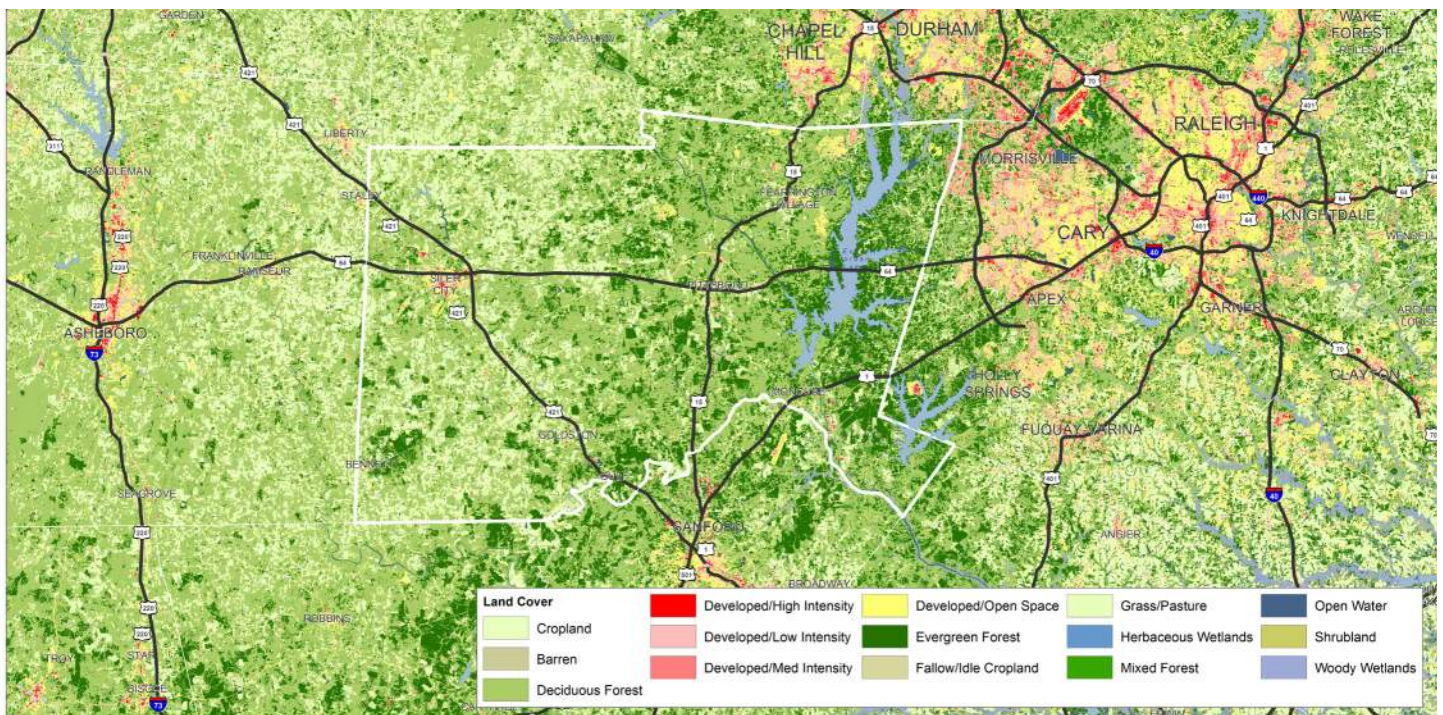


FIGURE 8: EXISTING LAND COVER (2015 USDA CROPSCAPE DATA)

to the County, as well as providing accommodations and building capacity to market, are essential to capitalize on the potential economic impact of tourism.

Emerging Issues

Emerging environmental issues include the challenges, many of which are man-made, that threaten the preservation of our ecosystems, health, economy, and quality of life. Minimizing, mitigating and adapting to impacts of climate change are a part of creating a more resilient community. Limiting emissions from the transportation sector, through promotion of a compact urban form and the provision of transportation options, was identified as an important issue early in the planning

“Converting 10 percent of the watershed from forest cover to developed area increases chemical treatment costs by 8.7 percent, which would be an annual increase of over \$65,000 for the typical treatment plant.”

-AWWA’s Source Water Protection Committee

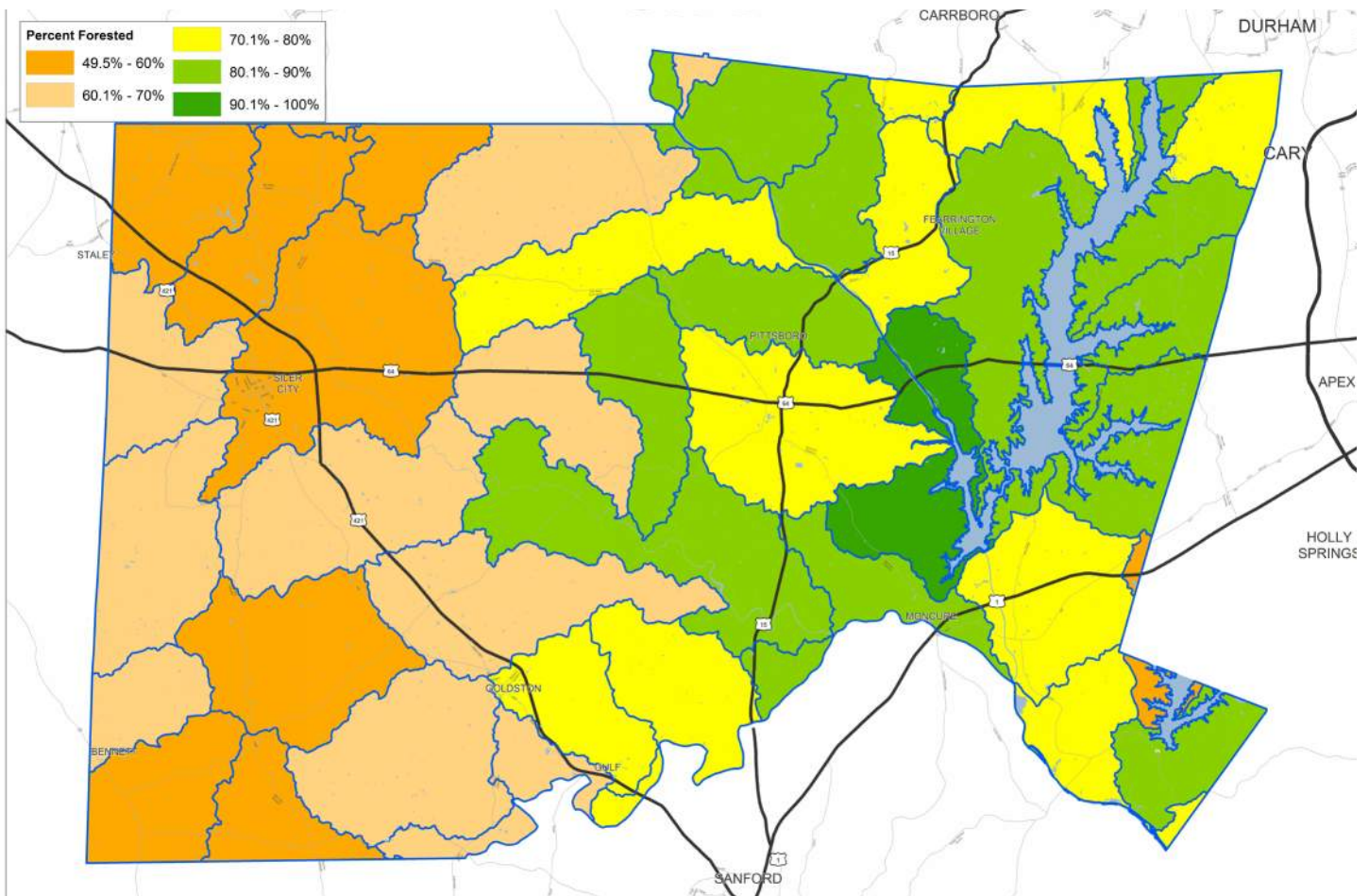


FIGURE 9: PERCENT FORESTED BY WATERSHED (2015 USDA CROPSCAPE DATA)

process. Identifying ways to encourage energy and water efficiency, carbon sequestration and the mitigation of impacts from a warmer, wetter future were also identified as emerging issues.

There is a growing recognition of the financial, ecological and health benefits natural systems provide. Land conservation organizations, state agencies, and the Chatham County Parks and Recreation Department have preserved thousands of acres in the County as parks or as part of conservation easements. Moving forward, it is important to continue conservation efforts. Also, it is increasingly evident that the County and its partners need to work with private parties to ensure that new development is designed in a way to preserve the highest quality natural assets on sites, and employ Low Impact Development (LID) and Green Stormwater Infrastructure (GSI) techniques, in order to mitigate impacts of growth. Natural gas exploration and extraction via hydraulic fracturing is also an emerging issue. Although the extent of the geologic formations where natural gas is likely is limited in the County, potential environmental impacts

have led the County to place a temporary moratorium on oil and gas development activities. This is to remain the case until a study is completed to assess potential impacts and determine if modifications to local regulations are needed. Refer to the Natural Gas Impacts Study, a parallel effort currently underway.

Open Space

Open space is part of Chatham County’s brand. The farms and forests that line rural roads contribute to the lifestyle that residents value. Managing some natural resources, such as soil and timber, for sustainable use, while continuing to conserve irreplaceable natural communities and scenic assets, will be an essential part of preserving the character of Chatham County. A proactive approach is needed to protect a connected system of open space for future generations.

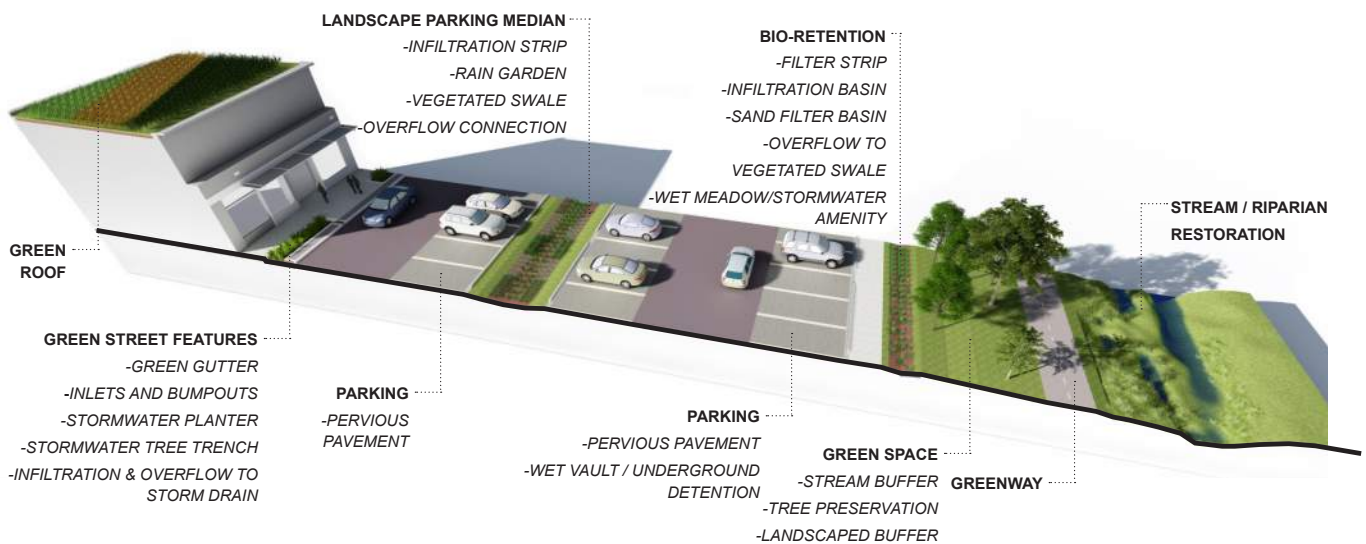


FIGURE 10: LOW IMPACT DEVELOPMENT TECHNIQUES



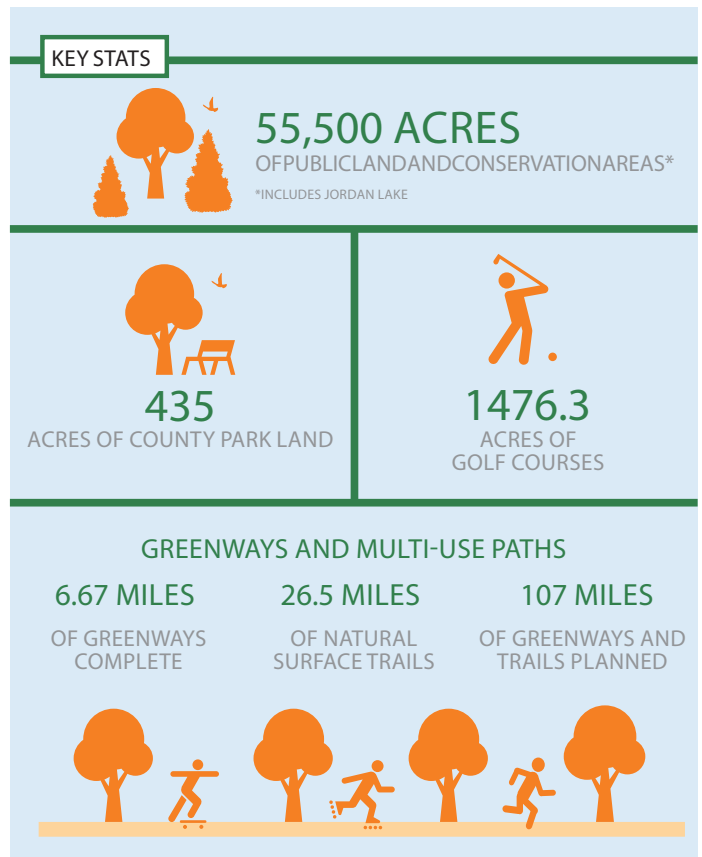
Cape Fear River Trail, Fayetteville, NC (Source: Wikimedia Commons)

PARKS AND HEALTH

Access to parks, healthy food, and healthcare are key determinants of quality of life and wellness.

Parks

Chatham County has a large amount of public land due to the presence of the Jordan Lake State Recreation Area. Significant progress has been made to acquire and develop land for district parks since the 2009 Parks and Recreation Master Plan. However, access to parks and recreation opportunities remains an issue. Only 17% of residences are located within a half mile of a trail or park. There is a need to create a better connection between neighborhoods and recreational destinations. This is needed to satisfy the demand for greenways and a variety of park types, such as smaller parks, playgrounds and nature preserves. An improved system of parks can lead to improved health outcomes and can be an asset to economic development efforts.



SOURCE: CHATHAM COUNTY / US CENSUS BUREAU

Access to Healthy Food

According to a study conducted during the Plan, a surprising 29% of Chatham households do not have access to healthy food. This statistic is derived from analyzing areas farther than two miles from a store with a food vendor score of 2, 4 or 5. The following is a list of food vendors scores shown in the map below.

- 0 No MyPlate*, No fresh fruits/vegetables
- 1 No MyPlate*, < 5 fresh fruits/vegetables
- 2 No MyPlate*, ≥ 5 fresh fruits/vegetables
- 3 MyPlate*, No fresh fruits/vegetables
- 4 MyPlate*, < 5 fresh fruits/vegetables
- 5 MyPlate*, ≥ 5 fresh fruits/vegetables

*Stores that meet the MyPlate criteria have one food item from all four food groups available (fruits/veggies, grains, lean protein and dairy).

“26% of adults in Chatham County are obese”

-2014 Community Health Assessment, Chatham County, NC

Healthcare

Obesity, access to mental health services and access to healthcare are priorities identified in the 2014 Community Health Assessment. Promoting a healthy environment, physical activity, and improved access to health services are part of a Health in All Policies (HiAP) approach, which is advocated in this plan.

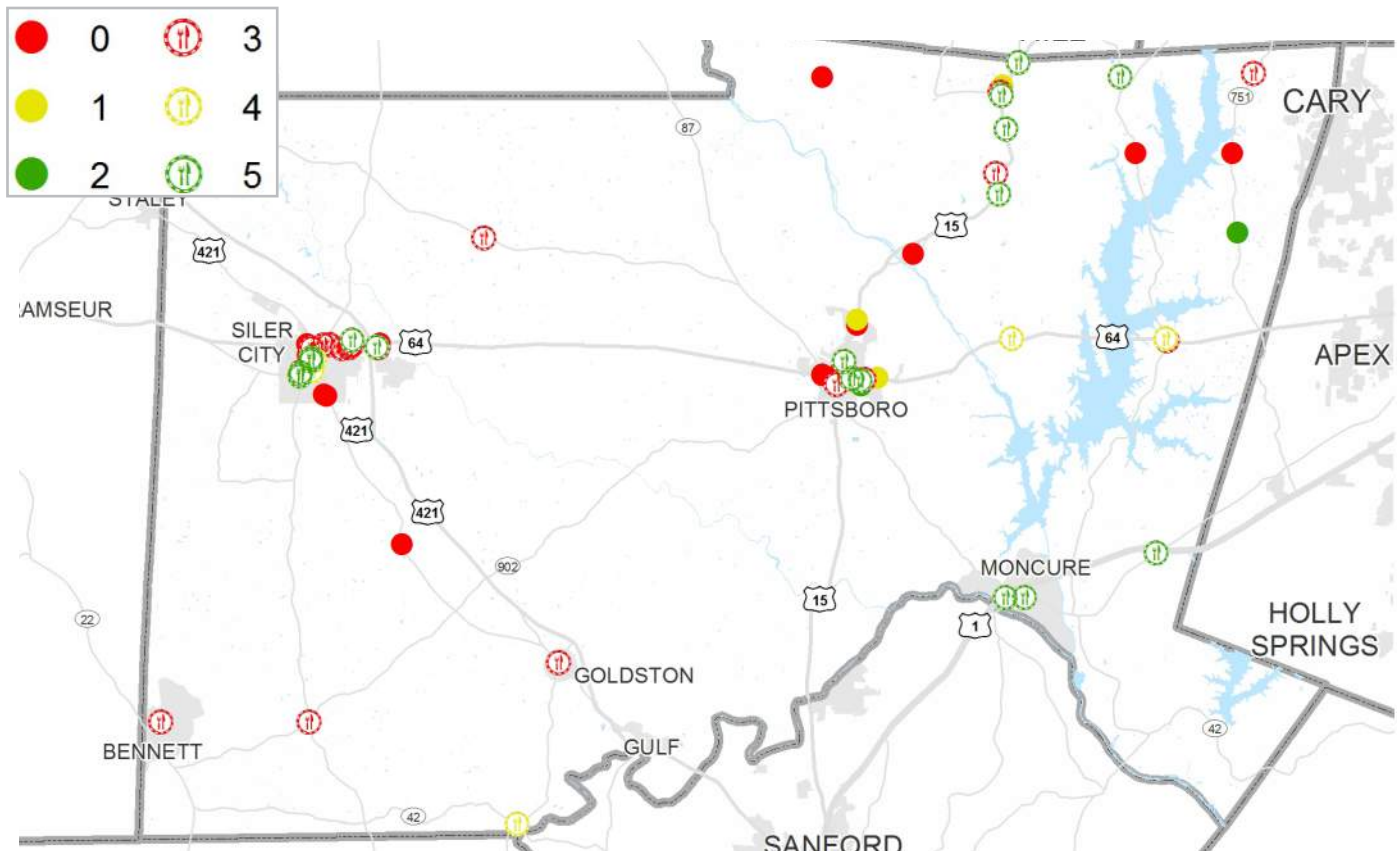


FIGURE 11: 2016 FOOD VENDOR SURVEY RESULTS.

Plan Chatham



PLAN CHATHAM VISION



Plan Chatham envisions a future where a network of agricultural fields, pasture, timberlands, rural homesteads, and natural areas still dominate the County. The Haw, Rocky, and Deep rivers and their tributaries provide good water quality and aquatic habitat. Vibrant towns, walkable centers and clean industries provide jobs for residents. Shopping and dining options exceed expectations. Agriculture is thriving. The form and function of rural character is preserved. Tourism contributes significantly to the economy and is buoyed by a connected network of trails, conservation lands and open spaces--many publicly owned and accessible, others are privately owned and are sensitively integrated into new development through innovative design that achieves environmental goals while protecting private property rights. Education and housing options fulfill the needs of an evolving county, and infrastructure and services are scaled to meet demands while reinforcing land use and economic goals.

The following section outlines goals for the Plan, objectives meant to keep track of progress and a framework of policies and strategies that will help achieve this vision.



Above: The Haw River running low and clear on an Autumn day
Image Source for previous page: Debbie Roos, Chatham County Cooperative Extension

GOALS

The vision is supported by a set of interrelated goals that served as guideposts in the development of the plan. Going forward, the goals provide direction for County leaders as they make decisions about future development, conservation, and related investments over the next two decades. The matrix below shows the relationship of the goals to the 10 plan elements, indicating that achievement of a goal ensures progress on two or more plan elements.

GOAL	ECONOMIC DEVELOPMENT	LAND USE	HOUSING	HEALTH	AGRICULTURE	NATURAL RESOURCES	RESILIENCY	PARKS AND RECREATION	TRANSPORTATION	UTILITIES
1. Preserve the rural character and lifestyle of Chatham County.		●	●		●	●		●		●
2. Preserve, protect, and enable agriculture and forestry.	●	●		●	●	●				●
3. Promote a compact growth pattern by developing in and near existing towns, communities, and in designated, well planned, walkable, mixed use centers.	●	●	●	●	●	●	●		●	●
4. Diversify the tax base and generate more quality, in-county jobs to reduce dependence on residential property taxes, create economic opportunity and reduce out-commuting.	●	●		●	●		●		●	
5. Conserve natural resources.				●	●	●	●	●		●
6. Provide recreational opportunities and access to open space.	●	●		●		●		●	●	
7. Provide infrastructure to support desired development and support economic and environmental objectives.	●	●			●	●			●	●
8. Become more resilient by mitigating, responding and adapting to emerging threats.		●		●		●	●	●	●	●
9. Provide equitable access to high-quality education, housing and community options for all.	●		●	●	●					
10. Foster a healthy community.	●	●	●	●	●	●	●	●	●	●

OBJECTIVES

The development of the Plan goals was followed by an activity to identify key objectives for each goal. These objectives were used to produce the policy recommendations in the following sections. Metrics are listed for each goal in order to guide future efforts to track progress related to the goals.

1. Preserve the rural character and lifestyle of Chatham County.

- Preserve and restore cultural and historic resources that contribute to the identity of the County.
- Preserve farms and “lifestyle” in the western part of the County as well as forests and open space in the eastern part of the County.
- Leverage assets to promote entrepreneurship, arts, culture and tourism.
- Potential Metrics:
 - Acreage in farms and forestry.
 - Number of farms and forestry.
 - Number of small businesses.
 - Number of telecommuters.
 - Economic impact of tourism.
 - Number of historic structures lost or saved.
 - Acreage and Conservation.

2. Preserve, protect, and enable agriculture and forestry.

- Maintain the number and diversity of farms and forestry operations.
- Support existing and expanded agriculture, forestry, and horticultural operations, including value-added production.
- Reduce encroachment on or development pressure on agriculture, including forestry.
- Avoid conflicts between agriculture and residential development over water availability.
- Potential Metrics:
 - Acreage in farms and forestry.
 - Number of farms and forestry.
 - Agricultural production (crops, livestock, forestry and horticulture).
 - Average age of farmers.
 - Local food sales.

3. Promote a compact growth pattern by developing in and near existing towns, communities, and in designated, well planned, walkable, mixed use centers.

- Reduce impacts to natural resources and systems.
- Lessen infrastructure burden and long-term cost of providing services.
- Reinforce towns as residential and commercial centers of the County.
- Strive to locate 70% of new development within ETJs or designated County centers.
- Potential metric: Percentage of new development within ETJs or designated County centers.

4. Diversify the tax base and generate more high-quality, in-county jobs to reduce dependence on residential property taxes, create economic opportunity and reduce out-commuting.

- Increase non-residential share of the tax base.
- Increase high-quality, in-county jobs.
- Strengthen support for existing businesses, including small and medium-sized firms.
- Improve workforce development system by strengthening connections between the business community, Chatham EDC, Chatham County Schools, Triangle South Workforce Development Board and Central Carolina Community College.
- Potential Metrics:
 - Non-residential tax base (as percentage of total).
 - Number of new living wage jobs.
 - Number of work experiences (internships, apprenticeships, job shadowing) undertaken

OBJECTIVES

by students in Chatham County Schools.

- Number of small businesses.
- Percentage of out-commuting residents.

5. Conserve natural resources.

- Maintain and restore the quality and quantity of groundwater and surface water resources.
- Preserve and protect the ecosystem services provided by green infrastructure.
- Avoid or minimize landscape fragmentation.
- Preserve night skies by minimizing light pollution.
- Potential Metrics:
 - Acres of protected land (public and private).
 - Number of acres of conservation land or forested land cover along rivers and streams.
 - Stream miles considered impaired.
 - Water quality in rivers and Jordan Lake.
 - Percent tree canopy in the county or in threatened watersheds.

6. Provide recreational opportunities and access to open space.

- Provide expanded recreation opportunities and improve access to parks, community facilities, trails and open space.
- Potential Metrics:
 - Percentage of population with access to parks and trails.
 - Recreational opportunities (# of facilities, programs) and participation (usage).
 - Park acreage.

7. Provide infrastructure to support desired development and support economic and environmental objectives.

- Focus the development of utilities and urban services to foster compact development and support economic development in defined areas.
- Create a multi-modal transportation system that is well-maintained, age-friendly, and context-appropriate.
- High-speed internet/broadband should be available to all to and enable education and entrepreneurship.
- Potential Metrics:
 - Number of new residential wells vs. public water system customers.
 - Groundwater usage statistics from residential development.
 - Number and location of failing wells and septic tanks.
 - Number of new septic tanks, private wastewater systems and public sewer customers.
 - Transit ridership.
 - Transportation mode for work and non-work based trips.
 - Percentage of homes and businesses with internet available.

OBJECTIVES

8. Become more resilient by mitigating, responding and adapting to emerging threats.

- Improve emergency response and limit risk associated with natural and man-made disasters (drought, floods, energy costs and availability, etc.).
- Become/remain a carbon negative county.
- Encourage resource efficient building standards.
- Increase awareness through outreach and provision of information.
- Improve and increase food waste and recycling systems.
- Potential Metrics:
 - Structures at risk for flooding and/or wildfire.
 - Carbon emissions vs. carbon sequestration (carbon balance).
 - Vehicle miles traveled.
 - Number of electric vehicles (or charging stations).
 - Acreage of forest and woodlands.
 - Alternative energy produced.

9. Provide equitable access to high-quality education, housing and community options for all.

- Increase high school graduation rate (current rate is 87.3 (2015 NC BOE)).
- Increase number of post secondary degrees (career and technical school, university, etc.).
- Provide a diversity of educational options (public, private, STEM, magnet) and support services.
- Provide housing and community options (types, locations and prices) for all ages and incomes.
- Potential Metrics:
 - Graduation rates.
 - Income level.
 - Number of affordable housing units by type.

- Competitive salaries for teachers.
- High school participation in Central Carolina works program.

10. Foster a healthy community.

- Assure access to health care for all county residents
- Improve access to healthy food
- Support active lifestyles (walking and biking as transportation options)
- Potential Metrics:
 - Obesity rates.
 - Death rates from chronic diseases.
 - Longevity.
 - Access to healthy food.
 - Biking and walking trends.
 - Other health metrics, as appropriate.



New Elam Christian Church

FUTURE LAND USE AND CONSERVATION PLAN

The Land Use and Conservation Plan is a map, graphically depicting the community's vision for the future of Chatham County. It is aspirational, and it reflects the community's goals and objectives stated earlier in this plan. The map indicates the preferred locations for future development, as well as the type and intensity of such development. More importantly, it indicates areas that

are valued for their natural and cultural assets, and should therefore be the subject of future conservation efforts. The map is meant to provide a framework for future land use, and as such, serve as a companion to written policies and provide additional guidance with respect to the provision of County services, capital investments, and land development regulations.

MAJOR RECOMMENDATIONS

Concentrate future growth in compact, walkable development, located in municipalities as well as existing and planned growth areas.

Increase employment opportunities within the County.

Support context-sensitive design that preserves rural and small town character.

Bring open space in its many forms to the forefront of development.

Preserve concentrations and connections of green infrastructure.

Promote agriculture as a key component of the local economy.

Provide flexibility for rural businesses.

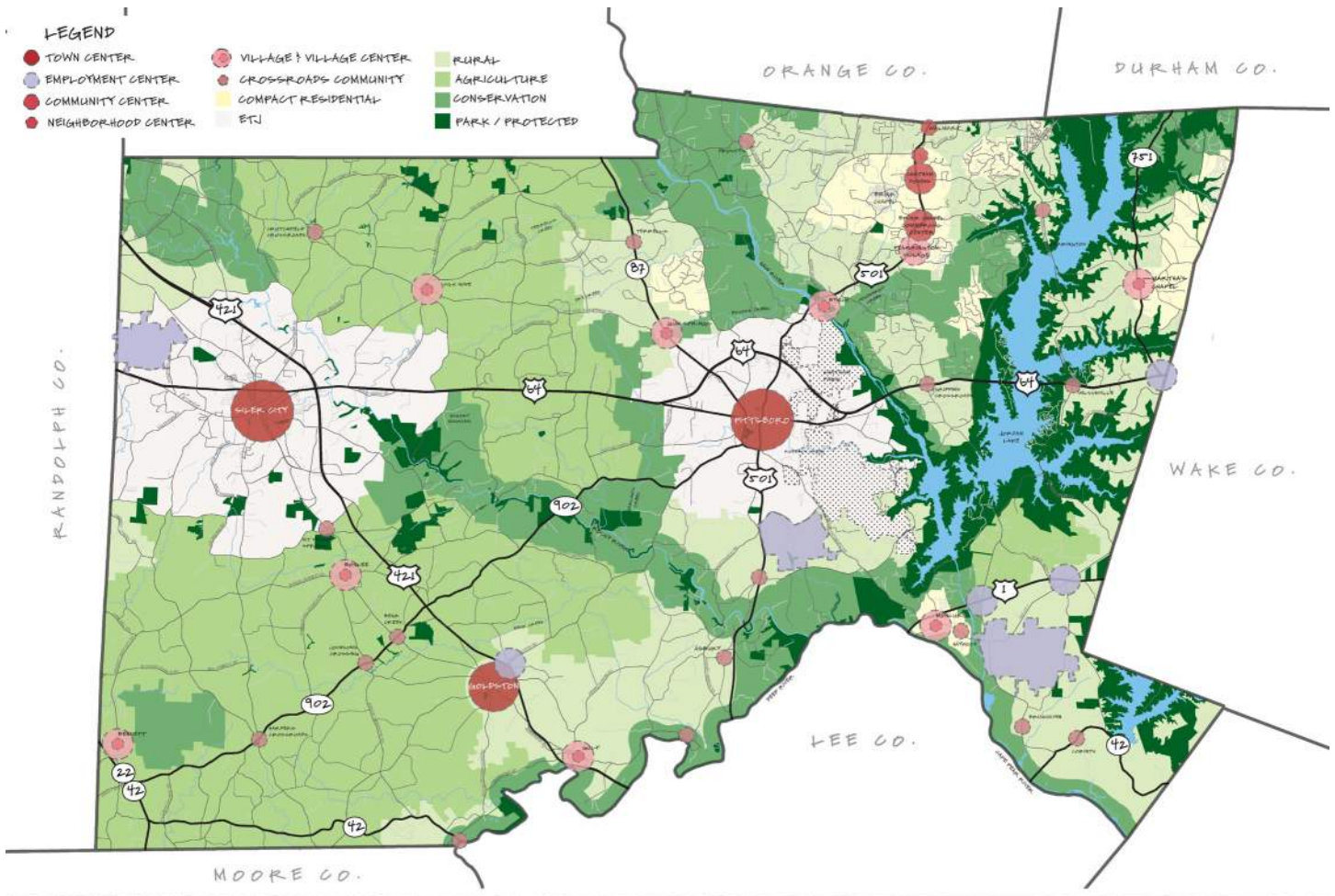


FIGURE 12: FUTURE LAND USE AND CONSERVATION PLAN MAP

Note: This map is a guide showing the intended future land use pattern using various land use areas. Land use areas (or ‘place types’) differ from zoning districts in that they generally define the community’s expectations. Each can be translated into one or more zoning districts; however, only the provisions of the zoning ordinance are enforceable. Though each land use areas is geographically delineated on the map, strict adherence to the Land Use and Conservation Plan in making land use decisions is not recommended. Instead, when making decisions about specific sites or contemplating new initiatives, decision makers are encouraged to use the map as a guide while taking into account economic, environmental, and social factors. Zoning parcels in a manner that is consistent with the Land Use and Conservation Plan is one of the most effective ways of implementing Plan Chatham and realizing the vision. See the Appendix for a large version of the Future Land Use and Conservation Map. Areas in municipalities are not fully represented. See town of Pittsboro, Town of Siler City and Town of Goldston Land Use Plans for more details.

SMALL TOWNS, RURAL CHARACTER, JOBS AND GROWTH MANAGEMENT public feedback

During the summer of 2016 an online survey was conducted that received over 1,600 responses. Respondents overwhelmingly agreed that what they liked about Chatham County included the small town feel of communities and the rural character enjoyed in different ways throughout the County.

When asked “What is your vision for Chatham County 15 years from now?” The top four responses included:

- Preserving rural character (which included mentions of farming, lifestyle, quality of life)
- Managing growth and focusing on quality growth near towns and centers
- Creating jobs and economic opportunity throughout the County
- Preservation of the natural environment and agriculture



Downtown Siler City

CHATHAM FUTURE LAND USE DESCRIPTIONS

Various land use areas are delineated on the Land Use and Conservation Plan. They are an expression of the types of places that are expected to define the County 20 years from now, and together they illustrate this vision. Each land use area (or ‘place type’) is characterized by the range of uses—existing and envisioned—as well as the scale of development, amenities incorporated, and infrastructure. A description of each place type is provided on the pages that follow. With more specific information than the map alone can offer, these descriptions enhance the utility of the map as a tool for decision making.

TOWN CENTER

- The heart of the municipalities, these are the established centers of commerce in the County.
- Mix of uses include civic and governmental, retail, restaurants, services, office, institutional, and higher density residential (4DUA+) uses
- Buildings: 2- to 4-story buildings are common
- Streets: Grid or modified grid pattern, block lengths are 600 feet or less
- Public/open space: Small formal greens, small parks, grounds of civic buildings, urban greenways
- Locations:
 - Siler City, Pittsboro and Goldston

EMPLOYMENT CENTER

- These centers are targeted for future job-generating uses in settings that meet today's workplace expectations.
- Mix of uses include industrial, office, and supporting retail, restaurant, service, recreation, and other uses.
- Streets: Arterial, collector and local streets and private drives for local and regional accessibility
- Public/open space: Parks, trails, natural areas, enhanced storm-water management.
- Locations:
 - CAM Megasite
 - Moncure Megasite Area
 - 751 Employment Center
 - 3M Property near 15-501 South
 - US 421 Interchange area near Goldston

COMMUNITY CENTER

- Retail hubs located along key roadway corridors, these centers accommodate regional retail tenants complemented by local-serving commercial development.
- Allow flexibility to provide a variation and mix of centers at quadrant intersections.
- Mix of uses include retail, restaurants, services, and office uses (+/-125-400K SF commercial).
- Residential uses can include as much as 60% of land area and can include single family homes, patio/cottage homes and attached units.
- Buildings: 2+ stories (or comparable) are common
- Streets: A network of local streets + private drives with few access points to adjacent arterials and collectors
- Public/open space: Plazas, greens, enhanced stormwater management.
- Locations:
 - Briar Chapel Commercial Area (Planned): Intersection of Andrews Store Rd and 15-501
 - Chatham Downs, Polk Center, and Williams Corner: Intersection of Lystra Rd and 15-501

NEIGHBORHOOD CENTER

- Grocery-anchored center with complementary retail and service uses, small restaurant.
- Mix of uses include grocery-anchored retail with some restaurants, services, and office uses (+/-30-125K SF commercial)
- Residential uses can include as much as 60% of land area and can include single family homes, patio/cottage homes and attached units.
- Buildings: Mostly 1- and 2-story, some 3 story
- Streets: Private drives functioning as local streets, internal connections to adjacent properties to lessen impact on local roads
- Public/open space: small usable green spaces and courtyards associated with buildings, enhanced storm-water management.
- Locations:
 - North Chatham Village / Chatham Crossing
 - Walmart on 15/501

COMPACT RESIDENTIAL

- Mix of detached and attached residential units complemented by a variety of open spaces. Mix of uses include single family detached and attached units and some multifamily units. Community centers, amenities, recreational uses, schools, and churches may be part of the fabric.
- Buildings: Mostly 1- and 2-story, some 3 story
- Streets: connected system of local and collector streets with access to surrounding development
- Public/open space: Range of types (from large natural resource areas to small pocket parks and gardens)
- Locations:
 - Current extent of Compact Communities Ordinance within 1 mile of community centers (transit potential)
 - Wastewater service (private or proposed public)
 - In close proximity to Employment Centers, but not in conflict with industrial operations
 - In areas not in conflict with high value natural resources

VILLAGES

- These historic centers and newer pedestrian scale villages accommodate small-scale, local-serving retail, office, institutional, and service uses, restaurants, and some residential.
- Mix of uses include retail, restaurants, services, and office uses clustered near a village center (typically consisting of smaller commercial footprints than other centers (>30K SF), although can be more if appropriately designed). The total non-residential footprint in a Village Center is typically < 60K SF.
- Light Industrial uses, with minimal impact on surrounding residential developments are appropriate if appropriately designed.
- Residential uses are designed in a context sensitive manner, in keeping with historic development patterns, which may include smaller lot sizes and setbacks than typically rural and suburban development. Attached product may be appropriate if designed to mimic traditional single family homes in the area.
- Buildings: Mostly 1- and 2-story, some 3 story
- Streets: Typically served by a network of local streets and private drives
- Public/open space: small formal greens, small parks, courtyards, greenways and walking paths, preserved viewsheds
- Locations:
 - Historic: Bynum, Moncure, Bennett, Bonlee, Silk Hope
 - New / Potential: Fearington Village

CROSSROAD COMMUNITY

- Smaller than villages, these communities are within rural areas and typically have a minimal amount of retail and institutional uses.
- Mix of uses include single-family residential, some agriculture support services, limited supporting retail, and institutional uses.
- Residential uses are designed in a context sensitive manner, in keeping with historic development



Historic house & store near Merry Oaks

patterns, which may include smaller lot sizes and setbacks than typically rural and suburban development.

- Buildings: 1- and 2-story, more for farm buildings
- Streets: rural two-lane (“farm-to-market”) roads
- Public/open space: informal greens at centers, regional greenway trails
- Locations:
 - Haywood, Brickhaven, Corinth, Griffins Crossroads, Wilsonville, Bear Creek, Harper’s Crossroads

RURAL

- Low density development is comprised of single family homes on large lots or in conservation subdivisions as well as some commercial buildings designed to protect function and form of rural character. Pastures, farms and forests dominate the landscape.
- Mix of uses include agriculture, large lot residential, supporting service uses, and home-based & small scale businesses
- Buildings: 1- and 2-story, more for farm buildings
- Streets: rural two-lane (“farm-to-market”) roads
- Public open space: conservation easements, protected lands, regional greenway trails, preservation sites (historic and cultural), private space in large lots (POA/HOA)
- Locations:
 - Outside of Centers and Compact Residential
 - Residential areas



CONSERVATION

- The natural features are the primary elements of these areas. Development, which is predominantly residential, is sensitively integrated into the landscape.
- Mix of uses include single family detached lots and attached units with overall very low density, some tourism related uses allowed. Conservation subdivisions are encouraged in order to protect natural resources while not disrupting agricultural practices.
- Buildings: 1 and 2 stories in height
- Streets: Limited (sufficient to connect homes within and provide access per fire code), and low impact development (LID) design
- Public/open space: Passive recreation areas, greenway trails, variety of valuable natural resource areas
- Locations:
 - Haw River Corridor, Rocky River Corridor, Big Woods Natural Heritage Natural Area

AGRICULTURE

- The location of large-scale working farms and timberlands, this area is comprised of intensive, highly productive operations.
- Mix of uses include large-scale agriculture, related processing facilities, supporting commercial and service uses, single family homes
- Buildings: 1- and 2-story, more for farm buildings

PARKS AND PROTECTED LANDS

- Permanently protected lands, these areas are composed of federal- and state-maintained recreation areas parkland, as well as privately owned land.
- Mix of uses include passive and active recreation uses, accessory uses, limited residential uses (per easement agreements)
- Buildings: 1- and 2-story, mostly homes and park buildings
- Streets: local roads, private and park drives
- Public/open space: parkland, conservation easements
- Locations:
 - Jordan Lake State Recreation Area, White Pines Nature Preserve, Lower Haw River Natural Area

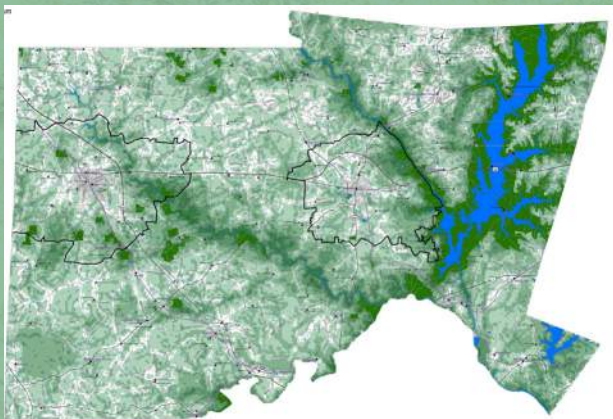


FIGURE 13: CONSERVATION SUITABILITY MAP

Conservation Suitability

- Low
- Medium
- High
- Parks and Conservation Easements

CONSERVATION AREAS

A GIS-based conservation suitability analysis was conducted to determine landscape level concentrations of natural assets. This analysis utilized data from the Chatham County Comprehensive Conservation Plan and the North Carolina Conservation Planning Tool. The results of the mapping informed the extent of the Conservation Area identified on the Future Land Use and Conservation Plan. See the Appendix for a larger version of the map and specific inputs.

Plan Elements



PLAN ELEMENTS

INTRO

This section includes policy recommendations and detailed strategies that will help the County achieve the community-supported goals.

Some strategies are a continuation of ongoing activities, others can be achieved with redirection of available resources while others will need to be addressed through cooperative efforts between the County and municipalities or through public/private partnerships.

PLAN ELEMENTS



ECONOMIC DEVELOPMENT



LAND USE



HOUSING



HEALTH



AGRICULTURE



NATURAL RESOURCES



RESILIENCY



PARKS AND RECREATION



TRANSPORTATION



UTILITIES AND PUBLIC SERVICES



Boise Cascade
Wood Products

Moncure Operations
306 Corinth Rd.



ECONOMIC DEVELOPMENT

Chatham County’s economy has long been dependent on agriculture and manufacturing. The agricultural sector is healthy and expanding, despite pressure to convert farms to residential uses. Manufacturing employment has fallen from 5,294 jobs (37.1% of all jobs) in 2002 to 2,100 jobs (15.1% of all jobs) in 2014 , reflective of national trends (Source: Census On the Map).

The County benefits from its proximity to Raleigh, Durham, Chapel Hill, Research Triangle Park, and Guilford County as well as access to major highways and rail. The median income for the County is 45% higher than the rest of NC, but income and poverty rates vary significantly throughout the County. For instance, some census tracts in the northeast have median incomes over \$100,000, but others in the west and southwest have incomes under \$30,000. Lack of jobs is a contributing factor to income disparities.

There are only 14,000 jobs in the County, but there is an adult workforce of 32,000. Many residents have to make long commutes to work each day. 55% of workers commute to jobs outside of the County. Because of this, the County’s tax base is heavily dependent on residential properties. Lack of businesses as well as the dispersed nature of residential growth in the County contributes to retail leakage. 58% of potential sales in Chatham “leak” out to other communities. This is a loss of \$207 million in annual retail sales. Creating a more balanced tax base and reducing retail leakage are key issues that are addressed with the recommendations in this section of Plan Chatham.

BIG IDEA

14,000 new jobs by 2040
(a 100% increase, up from
14,000 jobs today)

GOALS

PRIMARY GOAL

Diversify the tax base and generate more high quality, in-county jobs to reduce dependence on residential property taxes, create economic opportunity and reduce out-commuting.

SECONDARY GOAL

Provide equitable access to high-quality education, housing and community options for all.



Farm in Northwestern Chatham County

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Provide flexibility for rural businesses.

ED Policy 1

Provide flexibility for rural businesses that have limited impact on adjacent properties and preserve rural character.

► Strategy 1.1

Continue to support home-based businesses.

Chatham County currently allows home-based businesses that meet a few criteria, including:

- Up to 25% of the living space can be used for the business
- The business can have up to 3 employees who do not reside at the premises
- No traffic should be generated beyond that which is normal for a residential neighborhood
- All parking shall be off-street, and not in the front yard

► Strategy 1.2

Modify zoning regulations to allow for more flexibility for rural businesses that have minimal impact on adjacent properties, traffic, and rural character. See the Land Use Element for more information.

► Strategy 1.3

Utilize a performance based approach to zoning in Agricultural and Rural areas on the Future Land Use map that allows for more flexibility in uses if criteria are met (i.e. min lot size, max building size, buffers, traffic generation, employees, etc.).

Performance Based Zoning is “An alternative to the traditional, conventional zoning method, performance standards regulate development by setting the desired goals to be achieved by regulation rather than regulating how those community goals are met. Instead of restricting specific uses on a property, performance requirements allow any use that meets the set standard. Performance standards attempt to address the same goals desired by traditional zoning ordinances, such as environmental protection, neighborhood character, traffic control, etc., but with a greater amount of flexibility.”

Source: American Planning Association
(<https://www.planning.org/divisions/planningandlaw/propertytopics.htm#Performance>)

Recommendation 02

Increase employment opportunities across the County.

ED Policy 2

Encourage growth in designated Employment Centers, towns and other appropriate locations.

► Strategy 2.1

Encourage small-scale retail development, service, office, “flex” space, and other small business development by designating Village Centers and Crossroads Communities at appropriate locations across the County.

► Strategy 2.2

Direct larger-scale retail (and complimentary uses such as professional and medical offices) to locate to existing towns and at designated Community and Neighborhood Centers as well as in Employment Centers.

► Strategy 2.3

As demand warrants, consider zoning to allow distribution and warehouse uses along major transportation corridors, particularly US 421.

Most recent average weekly wage is \$685/week for all private sector industries in Chatham County and \$864/week in the manufacturing sector.
(BLS QCEW, 3rd quarter 2016)

ED Policy 3

Continue to develop and promote the Chatham-Siler City Advanced Manufacturing (CAM) Site and the Moncure megasites to ensure future job creation in the County.

► Strategy 3.1

Target recruitment efforts for larger industrial projects towards sustainable, clean industries, paying above average wages.

► Strategy 3.2

Consider the long-term return on investment and environmental impacts when recruiting businesses and industries and approving rezonings.

► Strategy 3.3

Encourage businesses in megasites to utilize low-waste production methods, implement water conservation measures, and minimize emissions.

► Strategy 3.4

Allow a range of complimentary uses in proximity to the megasites to create attractive work environments with amenities to compete with other employment location options in the Southeastern United States.

- The mix of uses, development configuration and quality, variety of amenities, and connectivity affect the attractiveness—and competitiveness—of employment centers. Many employers in manufacturing and technology industries seek live-work-play locations that current and prospective employees and their families can enjoy.

► Strategy 3.5

Conduct small area plans and/or develop design principles and standards to give guidance to developers of sites within and at the edges of the megasites.

- Such guidance should inform decisions about relationships between buildings (orientation, placement, scale); architecture (building materials, fenestration); transportation network (vehicular, bike, pedestrian, and transit facilities – placement, capacity, materials, furnishings, etc.); streetscape; public and publicly-accessible spaces and amenities.

46% of Chatham workers are employed by businesses with less than 100 employees.

Source: U.S. Small Business Administration (2011)

ED Policy 4

Support existing businesses, including small and medium-sized firms.

► Strategy 4.1

Support Chatham EDC and the community college in carrying out an expanded business visitation program, engaging an increasing number of medium-sized and smaller businesses.

► Strategy 4.2

Review incentive policies to allow greater participation by creating new or expanding existing small and medium-sized firms (i.e. revise thresholds for new investment and/or job creation).

- Chatham's current incentive policy uses a point system that greatly favors projects with 100+ new employees and \$5+ million in new capital investment. This policy could be revised, or a separate policy could be created to focus on smaller incentives in proportion of job creation and investment. Rehab of an old building might be a much smaller investment but still important to other economic development goals, such as focusing on towns and promoting small businesses. This could be done in conjunction with the towns.

► Strategy 4.3

Increase engagement between elected officials and local businesses.

► Strategy 4.4

Permit existing commercial and industrial uses that are appropriately zoned to continue to operate, and allow for reasonable expansion, contingent upon meeting environmental and transportation requirements.

ED Policy 5

Strengthen Chatham EDC's capacity to carry out business retention, recruitment, workforce development, and data gathering and dissemination activities.

► Strategy 5.1

Support and enhance the EDC's ability to market Chatham County and recruit businesses, and determine if funding or staffing adjustments are needed.

- Target existing businesses in the Research Triangle and Piedmont Triad regions. Funding and/or dedicated staff time may be needed to increase involvement in Triangle and Triad business groups and market Chatham to existing businesses.
- Promote appropriate targeted industries and commercial uses at Megasites and Employment Centers. To increase job opportunities and tax base throughout the County, suitable industry targets should be matched with the most appropriate locations and sites. Industry targets should reflect the priorities of Chatham EDC, Research Triangle Regional Partnership, Piedmont Triad Partnership, and the Economic Development Partnership of North Carolina. These currently include:

Chatham-Siler City Advanced Manufacturing site:

Aerospace • Automotive • Food Processing and Manufacturing • Agriculture Biotechnology • Furniture

Moncure Megasite:

Defense Technologies • Pharmaceuticals • Food Processing and Manufacturing • Agriculture Biotechnology

U.S. 1 Employment Centers:

Wood Products • Distribution and Electronic Commerce • Complementary support services for Moncure Megasite

U.S. 64 Employment Center:

Advanced Medical Care and other medical offices • Business and Financial Services • Information Technology • Ecotourism

► Strategy 5.2

Develop more complete databases and distribute current information on commercial properties and land.

- There is no complete inventory or database of all commercial/industrial buildings and land in the County, and thus no reliable vacancy rates or complete listing of available properties. Because Chatham is a small and fragmented commercial real estate market, the EDC should strive to be THE source of property information. A project/partnership between the municipalities, county planning department and tax office will be needed. Once a database is completed, staff could update and publish data and space availability semi-annually.

► Strategy 5.3

Explore new communication tools to link Chatham county residents, businesses and organizations.

- Consider joint funding (with business and civic organizations) of a study to evaluate communication tools and platforms to improve dissemination of information across the County.

Recommendation 03

Support entrepreneurship, tourism, arts, and culture.

ED Policy 6

Support entrepreneurship and new businesses that diversify the local economy and capitalize on the unique assets of Chatham County.

► Strategy 6.1

Support existing service providers, including the Pittsboro-Siler City Convention & Visitors Bureau and the CCCC Small Business Center.

- Priority services for the CVB to increase and include visitor services, social media, marketing, journalist tours, and the Certified Retirement Community program.

- Priority services and initiatives for the Small Business Center include bringing on a bilingual (Spanish) business development support person; developing agricultural processing resources for smaller farm operations; and increasing availability of capital for expanding businesses (particularly a need for loans between \$50,000 and \$100,000).
- Increase awareness of small business and

Economic Impact of Tourism

Annual economic impact of tourism in Chatham County is \$32.5 million with \$2.07 million in state and local sales taxes generated by travelers in the County. Jordan Lake State Recreation Area, the Haw River, and venues such as Fearington Village attract millions of visitors each year. There is a need for additional accommodations to grow the tourism industry.

entrepreneurship resources such as the Small Business Center, UNC SBTDC, and SCORE.

► Strategy 6.2

Review land use policies to encourage development of hotels and other lodging accommodations.

- The synergy between retail, service, entertainment and lodging uses in key areas of the County could spur day-long, weekend-long, or week-long visits. Having such destinations could address economic development goals, such as increasing tourism (and related spending), reducing retail leakage to neighboring counties, and attracting employers (as well as younger members of the workforce to fill employment positions).

► Strategy 6.3

Support increased tourism and recreation opportunities and amenities, particularly promoting sustainable tourism and authentic experiences.

- Support NC GreenTravel designations
- Encourage more locally-based outdoor recreation outfitters, recreation rental shops, and Chatham-based tour guides.
- Build infrastructure for outdoor recreation, such as parking areas, restrooms, and river put-ins.
- Connect Chatham residents and entrepreneurs with initiatives such as People-First Tourism
- Agritourism – County staff from various departments should continue providing coordinated assistance to farms in meeting state and local requirements necessary to increase agritourism sites.
- Work with organizations such as the Triangle Land Conservancy to increase and advertise guided tours of conservation lands.
- Support development that leads to the co-location of compatible uses that, together, create destinations in the County.

► Strategy 6.4

Recognize and take greater advantage of Chatham County's experienced, well-educated senior population in economic development activities.

- Enlist retired business people for mentoring of small business owners and entrepreneurs.
- Consider using retired business leaders to expand the existing business visitation program.
- Publicize opportunities for seniors to volunteer in economic development efforts such as SCORE (Service Corps of Retired Executives).
- Highlight the discretionary income of Chatham's senior population in business attraction efforts.



Jordan Lake State Recreation Area is one of North Carolina's most popular attractions with 1.6 million visitors annually (NC Division of Tourism)

Recommendation 04

Provide equitable access to high-quality education and workforce training.

ED Policy 7

Strive to increase engagement between youth, employers, educators with Chatham County Schools and Central Carolina Community College, workforce professionals, and Chatham EDC.

► Strategy 7.1

Strengthen involvement by EDC Board members and other business leaders to increase student apprenticeships, internships and other workplace exposure opportunities with large and small Chatham companies.

► Strategy 7.2

Encourage the availability of work-related credentials and certifications at the community college level, particularly those aligned with the needs of Chatham-based employers.

► Strategy 7.3

Facilitate regular communication between local employers, educators and training providers to align offerings with business needs.

- Chatham EDC should continue to partner with Central Carolina Community College and also partner with the Triangle South Workforce Development Board to determine how best to focus workforce development resources.

► Strategy 7.4

Current certificate options include healthcare and construction. New offerings could include:

- The sciences, which would help prepare residents for work in existing and targeted industry clusters such as Agricultural Biotechnology, Pharmaceuticals, Food Processing, and Professional, Scientific, and Technical Services; and
- The National Career Readiness Certificate, which certifies foundational work skills for individuals across a variety of potential career paths.

Recommendation 05

Reinforce towns as residential and commercial centers of the County.

ED Policy 8

Partner with the towns to incentivize and attract investment and business development in Pittsboro, Siler City, and Goldston.

► Strategy 8.1

Consider partnerships with towns on incentive policies promoting job creation, downtown revitalization, building renovation and adaptive reuse, façade improvements, and new retail businesses in existing towns.

► Strategy 8.2

Provide technical support to towns lacking appropriate staffing (i.e. Goldston).



HAVEN
HOME APOTHECARY SIMPLE CHIC

405



LAND USE

Protecting the rural character and lifestyle of the County is the primary goal of Plan Chatham. Since the year 2000, 90% of the residential growth in Chatham County has occurred in county jurisdiction. This growth has occurred despite ample available land inside municipal limits and Extra Territorial Jurisdictions (ETJ).

Most new development in Chatham County and the Triangle Region is being built in a low-density pattern that separates different uses such as homes and shopping. This trend negatively impacts natural resources and agriculture by fragmenting rural lands and increasing traffic.

The Future Land Use and Conservation Plan establishes a new framework for growth and development in the County. In the future, more growth and development should occur within and near established and planned centers of activity. Policy recommendations seek to guide the form and intensity of development by clustering development in appropriate areas, establishing walkable centers, defining edges and keeping rural areas rural. Design oriented recommendations attempt to establish ways to integrate new development into the rural landscape in a seamless manner. Secondary goals and associated recommendations are targeted at making progress towards economic development goals and creating a compact growth pattern that includes vibrant towns and mixed use activity centers in designated areas.

Since the year 2000, 90% of the residential growth in Chatham County has occurred in county jurisdiction.

BIG IDEA

70% of new development is in municipalities and in or near county centers. Chatham is a model for growth in the agricultural industry.

GOALS

PRIMARY GOAL

Preserve the rural character and lifestyle of Chatham County.

SECONDARY GOAL

Diversify the tax base and generate more quality, in-county jobs to reduce dependence on residential property taxes, create economic opportunity and reduce out-commuting.

SECONDARY GOAL

Promote a compact growth pattern by developing in and near existing towns, communities, and in designated, well planned, walkable, mixed use centers.



Downtown Pittsboro

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Concentrate future growth in compact, walkable development located in municipalities as well as existing and planned growth areas.

Land Use Policy 1

Coordinate with towns to direct new development in the County toward municipalities where utilities and other municipal services can support such development.

Land Use Policy 2

Direct development of any intensity requiring public utilities and other urban services to planned growth areas.

► Strategy 2.1

Allow areas within and near Community and Neighborhood Centers, as shown on the Future Land Use Map, to be developed for larger scale commercial, office and mixed use developments.

Design Details

Compact Communities

► Strategy 2.2

Allow areas within and near Community and Neighborhood Centers and within Compact Residential areas to be developed for Compact Communities, conventional subdivisions, and planned unit developments.

► Strategy 2.3

Allow areas designated as Village Centers and Crossroad Communities, as shown on the Future Land Use Map, to be developed for residential, commercial and some light industrial purposes if appropriately designed to be in keeping with historic development patterns.

Land Use Policy 3

Facilitate well-designed, walkable, mixed use communities that fit the character and scale of Chatham County within areas indicated as suitable on the Future Land Use Map including within and near Community and Neighborhood Centers, Village Centers, in Crossroad Communities and within Compact Residential Areas.

► Strategy 3.1

Revise regulatory framework to require design elements in mixed use communities that respect the traditional development patterns of Chatham County and the piedmont of North Carolina, reduce the cost of infrastructure, protect farmland and open space and encourage biking, walking and transit usage (see design details call out).

► Strategy 3.2

Establish a revised set of zoning districts that accommodate mixed-use development at various scales.

- Small scale mixed use
 - Consider adding residential as a conditional use in the Neighborhood Business zoning district. This would allow for mixed use infill at a small scale near Centers and in Villages and Crossroads Communities.

The Compact Communities Ordinance allows for the creation of neotraditional neighborhoods or villages that save land and create more walkable neighborhoods. Briar Chapel is one local development that has taken advantage of this option and demonstrates a more traditional style of community design. These types of communities include a mix of uses, integrated open spaces and pedestrian oriented design. Key design details for compact communities include:

- A clustered pattern of development;
- A mix of land uses, with residential, commercial, and civic components;
- A mix of housing types;
- An interconnected street network;
- Walkable, pedestrian-friendly design;
- A defined edge that marks the transition to the surrounding rural landscape;
- Connection to transit; and
- Connection to open space and recreation.
- A mix of commercial and residential in multi-story buildings.

- Mixed Residential
 - Utilize the provisions of the existing Planned Residential Development (PRD) option with minor updates.
- Mostly residential with some supporting retail
 - Borrow applicable provisions from the Compact Communities Ordinance (CCO)
 - Allow this type of development in areas designated as Centers
 - Modify performance standards and remove redundancies
- Mostly nonresidential with some complementary residential
 - Modify the minimum area and maximum area to be devoted to nonresidential uses.
- Amend the exterior boundary setback requirement and strengthen screening requirements.
- See proposed regulatory amendments in Action Plan for details

► Strategy 3.3

Encourage infill and redevelopment near Village Centers and Crossroads Communities.

- Create small area plans that include a public design process to tailor zoning districts to meet goals of rural communities. These efforts could establish design guidelines and/or a regulating plan and associated form based zoning district for Villages and Crossroads Communities. One or more new “Village Zoning District” could be tailored to the goals of rural



FIGURE 14: MIXED USE INFILL EXAMPLE

communities and emphasize the importance of form over use with dimensional, landscaping and parking requirements that fit the character of smaller, rural communities in the County.

Land Use Policy 4

Support future transit through land use decisions.

► Strategy 4.1

Recognize opportunities for the incorporation of future transit stops and consider the minimum number of dwelling units and/or non-residential floor area required within 1/2-mile of the stops to generate transit riders, and approve development in these areas that help achieve ridership targets.

- For areas where transit stops are contemplated, prepare small area plans that conceptually depict an appropriate development pattern (types and locations of residential uses with number of dwelling units, types and locations of nonresidential uses with amount of floor area, circulation pattern, stop location, etc.)
- Establish design standards that ensure areas identified for future transit stops are developed as “transit-ready” areas. Development design should anticipate, not preclude, the integration of transit stops and associated amenities.



FIGURE 15: MONCURE VILLAGE CONCEPT

Recommendation 02

Support context-sensitive design that preserves rural and small town character.

Land Use Policy 5

New development should demonstrate design principles that preserve rural and small town character.

► Strategy 5.1

Encourage context-sensitive development design. This type of design includes elements such as architectural features that resemble historical structures and local vernacular, site design that reduces impacts on historical structures, working landscapes and viewsheds from public roadways, integrated open space, and preservation of unique natural features such as heritage trees and mature forests.

► Strategy 5.2

Encourage residential development types that fit the character of different areas of the County.

Conventional Subdivisions

These subdivisions are typically composed of residential lots and minimal amount of open space. Dimensional requirements, including minimum lot size and buffers are based on requirements of the applicable zoning district.

- These subdivisions are most appropriate as part of Major Centers (Town, Community, Neighborhood, Employment), Minor Centers (Village, Crossroads), in Compact Residential areas and in Rural Areas within 1 mile of a Major or Minor Center.
- Open spaces within conservation subdivisions should conserve most important natural resources.

Compact Communities

Compact Communities are mixed use developments anchored by a village center composed of commercial,

Context-sensitive design is meant to describe an approach to site layout, landscaping, building design, and transportation infrastructure that seeks to preserve the rural nature and small town feel that defines the character of the County.

civic and residential uses that add to Chatham County's tax base, help residents meet their daily needs and preserve Chatham County's small town atmosphere.

Residential density is 2 dwelling units per acre.

- These types of developments are most appropriate in Major Centers (Town, Community, Neighborhood, Employment), Minor Centers (Village, Crossroads), and in Compact Residential areas.

Conservation Subdivisions

These subdivisions have over 40% open space and preserve natural features as amenities in exchange for flexibility related to minimum lot sizes and housing type.

- This is a voluntary and incentivized type of subdivision encouraged in Rural and Conservation areas as well as areas with sensitive natural features in other land use areas.
- Open spaces should be reserved and designed so that they extend contiguously across property boundaries to create corridors and core areas.
- Open spaces within conservation subdivisions should conserve most important natural resources.

Agricultural Friendly Subdivisions

These subdivisions have a very low gross density, as evident on page 97, (typically one dwelling unit per 4 acres, with some clustering to the degree practical given soils and/or utilities and some larger "farmstead lots > 7 acres that could have active agricultural uses), design guidelines /performance based criteria are followed to reduce impact on working agricultural lands (i.e. open space/buffers located near working farms and forests).

- These types of developments are appropriate in Rural areas and Agricultural Areas on the future land use map.

Land Use Policy 6

Avoid “strip” commercial development along key road corridors.

Even along the most developed corridors in the County, there is a clear transition between built up commercial areas and the rural countryside that is dominated by pasture, fields, forests and rural homesites.

Managing the limits of intense commercial growth and focusing on the design of new development will be key to maintaining the scenic nature of the County. Commercial and mixed use development should be sited along major highways at key intersections and in clusters at specific, designated locations along major collectors and arterials. These sites should be designed to retain a crossroads or village character; and uses should be integrated with nearby development.

► Strategy 6.1

Limit shopping centers and highway commercial development only in areas indicated as suitable for commercial development on the Future Land Use Map: within Towns, Employment Centers, Community and Neighborhood Centers, Village Centers, and in Crossroad Communities.

► Strategy 6.2

Update design guidelines that improve the aesthetics of commercial, office, industrial and mixed use development along major corridors.

- Inside of centers encourage pedestrian scale design including buildings close to the street, transparent facades, building details, street trees, and parking located to the side or rear of buildings.
- Near the edges of and outside of centers encourage larger setbacks and preservation of existing vegetation and unique frontage features, such as foreground meadows maintained to visually replicate pasture.

► Strategy 6.3

Amend land development regulations to establish location standards for commercial development that pushes such development to nodes (i.e., intersections), and establish landscaping standards where commercial development should be discouraged.

- With a maximum distance standard, establish a radius around certain types of intersections identified as appropriate for commercial nodes. For example, commercial nodes could be encouraged at intersections of arterials and major collectors, with commercial development extending no further than 1,350 feet (a 10-minute walk distance) in any direction from the center point of any such intersection. This will encourage the clustering of development in a manner that internalizes circulation, taking trips between uses off of the major arterial and reducing the number of driveways along those arterials. This may also alleviate some congestion issues resulting from too many vehicular turning movements into driveways.
- To avoid overlapping nodes, establish a minimum distance between nodes.
- Establish landscaping requirements that create a “green break” between commercial nodes. Such landscaping, often referred to as street buffers, is not conducive to commercial development due to reduced visibility. Therefore, parcels subject to such requirements are not desirable locations for commercial uses. This will further encourage clustering of commercial development at the appropriate intersections.

► Strategy 6.4

Work with NCDOT to manage access along these road corridors to ensure the identified commercial nodes offer the best access (relatively) and therefore reinforce the attractiveness of the nodes.

- Discourage driveway permits for every parcel by incentivizing shared driveways, cross-access easements, and other mechanisms that reduce the number of direct access points onto arterials and

major collectors from adjoining parcels.

- Require new commercial subdivisions to provide access to the newly platted parcels via one or two access points (depending on size of development and amount of frontage on arterial and major collector).
- Encourage roadway design—or redesign—that includes planted medians with limited breaks and turn lanes to better control left turns.
- Recognize that nodes where several compatible commercial uses can be organized around signalized intersections and accessible by an internal network of streets and private drives are more desirable commercial locations than individual parcels with separate driveways. By promoting this development pattern, the County can also address NCDOT's concerns about turning movements that impede traffic flow (and exacerbate traffic congestion).

Land Use Policy 7

Provide flexibility for rural businesses.

► Strategy 7.1

Continue to support home-based businesses throughout the County.

► Strategy 7.2

Support rezonings for businesses uses or properties made non-conforming by the extension of zoning in 2016.

► Strategy 7.3

Support rezonings for the adaptive reuse of existing industrial sites that are not being used (i.e. feedmill and truck maintenance facility for the poultry industry).

► Strategy 7.4

Modify zoning regulations to allow for more flexibility for rural businesses that have minimal impact on adjacent properties and rural character.

The County has an existing allowance for home-based businesses. Neighborhood Home Occupations with up to four employees are allowed to utilize 25% of the heated living space in a dwelling and an accessory building up to 1,000 square feet in area. Rural home occupations are allowed on parcels over three acres and allow the use of 25% of the heated living space in a dwelling and accessory buildings up to 2,500 square feet. Buildings, material storage and operations require a minimum setback (50 ft, 100 ft for noise generating uses) and a 15ft vegetative buffer.

- Update regulations to utilize a performance-based approach to zoning in Agricultural and Rural areas on the Future Land Use map that allows for more flexibility in use if criteria is met (i.e. minimum lot size, max building size, buffers, screening, limits on hours of operation, limits on lighting, limits on % impervious area, etc.).
- See proposed regulatory amendments in Action Plan.

Land Use Policy 8

Support the viability of agricultural operations through land use policies and regulations.

- See Agriculture Element for recommendations.

Recommendation 03

Bring open space in its many forms to the forefront, making it a key/integral component of the development pattern.

Land Use Policy 9

Limit development in Conservation Areas.

► Strategy 9.1

Encourage only low density development in Conservation Areas.

► Strategy 9.2

Establish a zoning district that is appropriate for permanently protected lands (i.e. Army Corps land adjacent to Jordan Lake and conservation easements) and rezone areas accordingly.

- See proposed regulatory amendments in Action Plan

Land Use Policy 10

Encourage integrated open space in new development.

► Strategy 10.1

Update open space requirements for new development.

- Define the various types and purposes of open space in the County, now and in the future. These range from large, undeveloped nature preserves to greenways to small parks that are focal points at the center of development, designed and improved for active use and community gatherings.
- Consider updates to requirements for new subdivisions and other development types to improve the amount and quality of open space.
- Use the Chatham Conservation Partnership (CCP) Conservation Plan, maps and GIS data for land use planning and development review.

► Strategy 10.2

Incentivize conservation design.

- See Natural Resource recommendations and proposed regulatory amendments in Action Plan.

Recommendation 04

Increase cooperation with adjacent jurisdictions, landowners and the public.

Land Use Policy 11

Continue cooperative approach to growth management and economic development by working closely with other jurisdictions.

► Strategy 11.1

- Work with municipalities to:
 - Create town vibrant centers
 - Accommodate an equitable distribution of senior services and affordable housing.
 - Coordinate to create compatible plans and ordinances with towns.
 - Establish utility policies to require annexation to access municipal services.

Land Use Policy 12

Work toward an open (clear/concise) and cooperative approach to land use planning and regulation

- Updates the regulatory framework, including revisions to development regulations to implement plan.
- Provide clear standards to set expectations.
- Explore ways to streamline approval process while getting better results
 - Revamp procedures to allow for administrative approval in certain cases.
 - Focus on performance of form of development and limiting impacts.





HOUSING

The median home sale price for Chatham County over the past 12 months was \$260,500, which is a 7.7% increase since the start of 2016 (ESRI, Zillow). An income of >\$62,600 is necessary for a mortgage of the average new home to be considered affordable (<30% of monthly income). Police officers, teachers, social workers and other professionals have incomes significantly below this threshold, and need access to more affordable housing for sale and rental.

The number of seniors in the County is growing and their preferences, along with those of millennials and young families are leading to a higher demand for different housing types and lot sizes. Recommendations in this section encourage the provision of quality housing that retains the rural character of the County, and appeals to a changing demographic. The need for affordable and workforce housing is becoming a pressing issue due to equity implications, but it also has economic impacts and influences health and family stability.

A temporary committee was appointed in 2017 by the County Board of Commissioners with representatives from the County and municipalities and they developed recommendations for increasing affordable rentals in the County. It is assumed that many of the strategies in this Plan Element will be further refined and implemented with the help of a future committee.

BIG IDEA

100 new affordable or workforce housing units per year.

GOALS

PRIMARY GOAL

Provide equitable access to high-quality education, housing and community options for all.

SECONDARY GOAL

Preserve the rural character and lifestyle of Chatham County.

SECONDARY GOAL

Foster a healthy community.



Rural home in Southeastern Chatham County

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Process.

Housing Policy 1

Encourage the incorporation of affordable and workforce housing in new developments.

► Strategy 1.1

Update ordinances to include zoning provisions for affordable housing with contribution options (i.e. land donation or reservation, fee in lieu)

- Updates to Compact Communities Ordinance and other districts/development that meet certain criteria (i.e. tied to voluntary CCO/PUD, rezoning or conditional use)
- Allow flexibility for developers to match target demographic
- Locational parameters
- Pricing / rates / delivery parameters / timing

► Strategy 1.2

Study local investment options.

- Establish a Housing Trust Fund for affordable housing with housing type targets and location parameters. This could work in tandem with fee in lieu provisions. May need to be joint effort with municipalities or non-profit (i.e. Arlington, VA).

Case Study

Supports
Strategy 2.3

► Strategy 1.3

Encourage developers to partner with other developers specializing in affordable and accessible housing such as Habitat for Humanity, or other nonprofit builders.

Recommendation 02

Places.

Housing Policy 2

Accommodate and incentivize affordable and workforce housing.

► Strategy 2.1

Accommodate a mix of housing types and unit sizes where appropriate.

- Transportation access, future transit, access to utilities, grocery stores, schools and parks should be considered
- Towns (including Cary), 15-501, Moncure and other villages, Compact Residential Areas

► Strategy 2.2

Evaluate options for encouraging affordable housing in well located sites (coordination with towns needed).

- Fee reduction or continued reimbursement of fees
- Density bonus provisions
- Reduced parking requirements
- Establish a location policy that provides incentives for well-located developments

► Strategy 2.3

Build on work completed by the Chatham County Housing Committee.

- Evaluate County-owned properties to determine whether any such properties are suitable to transfer to an appropriate entity to utilize (and upfit) for affordable housing.
- Focus on locations proximal to jobs, transit, utilities, parks, schools and healthy food outlets.
- Consider an RFP process for soliciting bids for creating affordable and workforce housing.
- Evaluate sites for targeted workforce housing (i.e. teachers, police officers, veteran, etc.)

McDowell County Teacher Village (Welch, WV)

A Teacher Village will be constructed in downtown Welch, WV with 30 units to accommodate teachers in rural McDowell County. The goal of the public/private partnership is to attract and retain quality educators in a rural county with limited housing options.

Chatham County could benefit from a similar project to provide affordable, attractive housing options to qualified teachers. Currently housing prices and lack of smaller housing units are a barrier to recruiting teachers. Partnerships with local universities, could also be explored to provide an additional avenue to recruit young teachers to fill positions in the County.

This could be a model for housing for other County personnel, such as those employed in public safety.

Recommendation 03

Product.

Housing Policy 3

Encourage quality affordable housing in a context sensitive manner.

► Strategy 3.1

Support existing and new assistance programs.

- Impact fee reimbursement program
- Security Deposit Revolving Loan Assistance Pilot Program
- Weatherization and rehabilitation programs to repair substandard existing housing that acts as Naturally Occurring Affordable Housing (NOAH)

► Strategy 3.2

Improve tracking of existing assistance programs and partner with non-profits to target needs.

► Strategy 3.3

Continue to allow Accessory Dwelling Units (ADU) if properties meet reasonable criteria.

► Strategy 3.4

Increase availability of quality senior housing.

- Consider incentives for Universal Design and Visitability.
- Consider allowing pocket neighborhoods, co-housing and other forms of housing that appeal to seniors near Centers.

Universal Design and Visitability

Universal design features enable occupants to live in a dwelling regardless of their level of ability or disability. Features include stepless entrances, accessible bathroom fixtures and kitchen appliances. Visitability is a design approach for new homes guided by the principle that a non-resident in a wheelchair should be able to visit.

► Strategy 3.5

Minimum housing code amendments to clarify definitions, responsibilities, inspections and penalties. Encouraging accountability through outreach and increased enforcement can improve the quality of the County's housing stock.

► Strategy 3.6

Develop guidelines and a streamlined approval process for the following affordable housing types:

- Prototype #1: Mini-Planned Residential Development (PRD)
 - Location: Appropriate in Towns and near Centers, in Compact Residential Areas
 - Size & Product types: 30-100 units | Ideally 2 or 3 product types | Mixed income with some market rate units | Attached, Detached (cottage/patio or zero lot line), Accessory Dwelling Units (ADUs), Multifamily – In Town jurisdiction.
- Prototype #2: Rural Prototype
 - Location: Rural and Agricultural Areas, in areas without utilities
 - Size & Product types: 1-12 units | Single family homes, duets, ADUs



FIGURE 16: THE MONCURE VILLAGE CONCEPT (SEE THE LAND USE ELEMENT) SHOWS HOW A MIX OF HOUSING ON INFILLSITES COULD REINFORCE EXISTING RURAL CENTERS IN THE COUNTY.



Affordable Housing in Davidson, NC

Recommendation 04 Partnerships.

Housing Policy 4

Increase partnerships between the County, the Housing Authority, municipalities, non-profits, landlords and private entities to increase affordable and workforce housing as well as emergency/transitional and supportive housing.

► Strategy 4.1

Track expiring income-based housing and partner to preserve affordability of existing housing.

► Strategy 4.2

Plan for redevelopment of existing mobile home parks [preserve affordability of housing for future uses].

► Strategy 4.3

Promotion and education on needs, trends, and opportunities.





HEALTH

Discussions of community health are often limited to aspects of physical health (access to treatment, exercise, diet, nutrition, food access, and so on). However, the well-being of a community is linked to several dimensions of health: physical, social, emotional, behavioral, mental, occupational, intellectual, spiritual, and environmental. Each of these dimensions can be addressed to some degree through the choices we make about our natural and built environments. Community health is affected by the ways we maintain, utilize, and enhance the places in which we live, work, worship, and play. The comprehensive planning process provides an opportunity to establish policies, supported by actions, that will lead to the creation of a place that is more conducive to achieving an improved state of wellness and enhance health equity. The big idea in this element of the plan is to adopt a Health in All Policies (HiAP) approach to ensure integration of health considerations, healthcare and equity in Chatham's plans, programs, projects and policies.

Health in All Policies Approach

Health in All Policies is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts, in order to improve population health and health equity.

-May 9, 2013

http://www.who.int/healthpromotion/conferences/8gchp/130509_hiap_framework_for_country_action_draft.pdf

BIG IDEA

Assure effective integration of health, healthcare, and equity in Chatham's plans, programs, projects, and policies.

GOALS

PRIMARY GOAL

Foster a healthy community.

SECONDARY GOAL

Promote a compact growth pattern by developing in and near existing towns, communities, and in designated, well planned, walkable, mixed use centers.

SECONDARY GOAL

Provide recreational opportunities and access to open space.

Health Equity

Health equity is achieved when every person has the opportunity to "attain his or her full health potential" and no one is "disadvantaged from achieving this potential because of social position or other socially determined circumstances." Health disparities or inequities, are types of unfair health differences closely linked with social, economic or environmental disadvantages that adversely affect groups of people.

Attaining Health Equity. (2013, October 25). Retrieved November 06, 2017, from <https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/overview/healthequity.htm>



Hiking trail in White Pines Nature Preserve

RECOMMENDATIONS AND STRATEGIES

Recommendation 01
Improve community health through systems level planning.

HL Policy 1
Adopt a Health in All Policies (HiAP) Approach.

- **Strategy 1.1**
Develop and promote cross-sector relationships.
- Build capacity for HiAP by developing partnerships through cross-sector collaboration, then embed and sustain a framework for change
 - Collaborate and share resources across departments and disciplines on policies, projects and strategies to promote efficiencies and reduce redundancies, thus potentially decreasing costs and improving performance and outcomes

According to the American Public Health Association, the health “equity lens” is a tool used to “improve planning, decision-making, and resource allocation, leading to more equitable policies and programs. Essentially, the lens is a set of principles, reflective questions, and processes that focuses at the individual, institutional, and systemic levels by:

- Deconstructing factors that exacerbate health disparities;
- Reconstructing and supporting factors that promote health equity;
- Shifting the way we make decisions; and
- Healing and transforming our structures, our environments, and ourselves.”

In using this evaluation tool as Plan Chatham is implemented, questions such as the following can be raised as decisions are made.

- Could the planned program, service, initiative, or policy have a negative health impact on some populations or communities? If so, how can the impacts be mitigated?

- Support the work and progression of the Chatham Health Alliance
- Support the following Action Items: Develop school siting and design guidelines, create safe routes to schools, design outdoor play areas to minimize tick exposure, institute and support tobacco-free grounds and parks policies, and work collaboratively to address substance abuse.

► Strategy 1.2

Incorporate an equity lens into the HiAP strategies, goals, policies, and processes.

- Promote and maintain a diversity of community and stakeholder engagement.
- Prioritize communities and populations with higher risk of adverse social, economic, and health outcomes.
- Consider social determinants of health in strategies and decision making.

HL Policy 2

Review and adapt strategies based on evolving health needs.

► Strategy 2.1

Adapt programs, policies, and projects to address emerging issues.

- Utilize community assessments, such as the Community Health Assessments, to inform future initiatives.
- Coordinate funding and partnerships to improve health outcomes, impact current health needs (obesity, healthcare, and mental health which includes substance abuse and tobacco prevention and control), and future needs that may be identified.

► Strategy 2.2

Address localized data needs.

- Align various community assessments to be comprehensive and reduce redundancy.
- Explore innovative strategies for data sharing across agencies and organizations (Example, universal

Mecklenburg County, North Carolina

The County's Health Department has been mapping areas of health disparity to uncover contributing factors. In "priority areas," the department has found that proximity does not equate to access (rec facilities or food, for example). Barriers include safety (lack of safe routes) and affordability. Access audits were conducted to identify issues to be addressed, such as gaps in the pedestrian network. Shared use agreements were facilitated to broaden the range of facilities in underserved areas.

electronic health records).

- Seek out and develop new data sources that can inform decision making.
- Pursue grants and opportunities for research, data collection and local metrics related to health risks, outcomes, and equity.

► Strategy 2.3

Consider implementing requirements for Health Impact Assessments to be completed for certain types of major public projects and/or proposed developments over a certain size or threshold.

HL Policy 3

Address infrastructure gaps to promote healthier living.

► Strategy 3.1

Maintain and improve water quality and supply to improve utility systems to meet critical needs.

- See Environment and Utilities recommendations for more information.

► Strategy 3.2

Assess transportation network, including alternative multimodal transportation, to identify improvements needed to provide safe and convenient access to healthcare, healthy food vendors and parks.

- Conduct a study to determine steps to improve access for areas within Wellness Priority Areas that do not have safe access to healthy food vendors, healthcare and/or parks.
 - Identify areas of potential need for greenways or multi-use paths to achieve goals for parks and recreation and related health benefits.
- Pursue safe routes to school funding, where appropriate.

Recommendation 02

Promote a diverse range of development uses within the County.

HL Policy 4

Consider how better access to a diverse range of uses, amenities, services, and programs through distribution and integration in the development pattern can contribute to a healthier community.

► Strategy 4.1

Amend the County's land development regulations to facilitate a broader mix of uses and link housing development with employment opportunities, human/social services, and transportation.

- Housing – Our individual sense of safety is derived in part from the adequacy (as we define it) of our housing. The housing mix should include a range of product types, ensuring a minimum level of quality as well as affordability.
- Employment – The availability of jobs, which contributes to economic security of people living in the County, depends in part on the proximity and accessibility of job-generating uses, as identified in the economic development strategy customized for the County. The County can accommodate such uses in a manner that sensitively integrates them into the development pattern in locations where such uses can be successful. A corresponding reduction in work commutes equates to additional health benefits as it helps improve air quality and lower stress levels associated with driving congested conditions.

- Education – Access to education at all levels, including workforce training that is appropriate with the needs of existing and targeted employers, also contributes to economic security of people living in the County. Quality education needs to be available in locations close to concentrations of population as well as through broadband access to online resources
- Healthcare – The distribution of hospitals, urgent cares, clinics, and other healthcare facilities relative to the population has an impact on access to healthcare.
- Shopping and services – Proximity of shopping and services that meeting daily needs of County residents should be considered in determining the appropriate mix of uses throughout the County.
- Agriculture – Agriculture at all scales, including community gardens and small-scale specialty agriculture, can be integrated into the development pattern in a manner that supports increasing access to nutritious food, job generation, and a healthier ecosystem.
- Recreation and Open Space – Parks, walking paths, and natural areas can be part of and complement existing and future development in the County. Having safe and affordable access to place(s) to walk, bike, socialize, and play is important to maintaining and improving physical, emotional, and mental health. In addition, visual and physical access to nature can improve overall health and well-being of County residents. Conserving environmentally valuable areas in the creation of the open space system can also lead to a healthier ecosystem with better air and water quality.

Recommendation 03

Increase access to healthy foods and better nutrition.

HL Policy 5

Build community support for better access.

► Strategy 5.1

Support the Chatham Community Food Council and the

Chatham County Food Council

The Chatham Community Food Council (CCFC) is made of key people involved in and interested in local food economies. Their goal is to improve community and regional food systems. A food system refers to all aspects of buying, selling, and eating food, which includes production, processing, distribution, consumption, and waste.

The council's work serves as a bridge across various organizations, agencies, and groups whose work supports vibrant farms and food producers, healthy people, strong communities, thriving local economies, and resilient ecosystems through a common aim: strengthening Chatham County's local food system.

construct and maintain community gardens. Classes, especially those offered on site, can facilitate community gardening through hands-on education. Schedules for classes in the region as well as resource materials available on the NC Cooperative Extension web site can extend that reach to interested individuals and groups.

- Bring training to people of all ages. Partnerships with local schools can expose children to healthy nutritional habits, while mobile solutions could include bringing basic training courses in gardening and cooking to existing institutions (e.g., schools, senior centers, community centers).

Chatham Health Alliance in their work to understand food insecurity and improve access to healthy food.

► Strategy 5.2

Inform community leaders about obstacles that local government agencies are positioned to address.

- Conduct a survey to identify the most common obstacles
- Ask leaders to support initiatives to remove such obstacles in order to promote access to healthy food options

HL Policy 6

Broaden interest and skills in small-scale production and local consumption of fresh fruits and vegetables.

► Strategy 6.1

Raise awareness of and encourage the use of existing educational resources.

- Take advantage of the North Carolina Cooperative Extension / Chatham County Center offerings. NC Cooperative Extension is one organization that can support some amount of training to help groups



REAL School Gardens implementation

REAL School Gardens

The REAL School Gardens program unites teachers, parents, businesses and the students themselves to design a learning garden tailored to each school's unique needs. Volunteers from the community come together to build the garden. The learning garden is paired with a multi-year training program and teaching resources. Students spend more time outside, are taught about nutrition and learn valuable STEM skills.

Public Health Priority Areas

During the development of Plan Chatham an analysis was conducted to map factors that contribute to overall wellness. Demographic and health data were analyzed to determine areas of poverty, households without access to cars, areas of ethnic diversity and areas of high death rates from heart disease. This data was combined with information on access to parks and trails and healthy food vendors. These variables represent risk factors that correlate with health outcomes. The areas with Moderate or High designations are areas where at least four risk factors exist. Exact factors used include:

- Percent Poverty: Over 15% of Households below the Federal Poverty line
- Zero Vehicle Households: Over 10% of Households without a car
- Percent Minority Population: Over 25% of population is minority
- Access to Healthy Food: Healthy food vendors are greater than 2 miles away
- Access to Parks and Trails: Parks and Trails are more than 1/2 mile away
- Death Rates: Death rates from heart disease are more than 1 standard deviation above the mean

See the Appendix for maps of inputs used to identify Public Health Priority Areas.

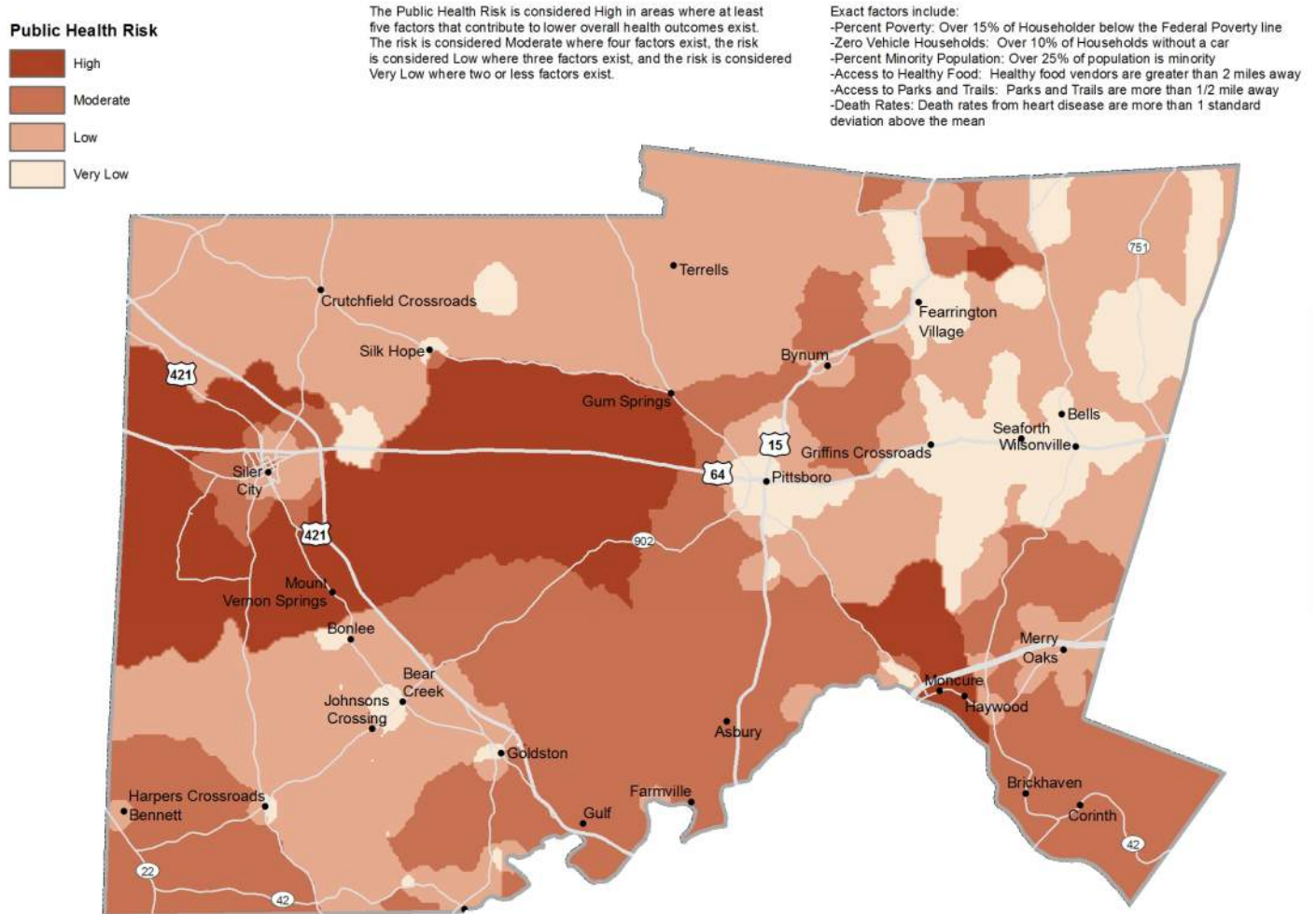


FIGURE 17: MAP OF PUBLIC HEALTH PRIORITY AREAS

► Strategy 6.2

Consider allocation of land within public parks and other county-owned lands for community gardens and/or edible landscapes. Such gardens can be created through use agreements with groups demonstrating a commitment to the operations, maintenance, and associated costs.

► Strategy 6.3

Remove regulatory hurdles. Municipal permitting of healthy food outlets may be difficult, as regulations may be prohibitive. However, Siler City recently passed a new ordinance to remove barriers and promote access to fresh fruits and vegetables. The Town of Siler City expanded their permitting process to allow for the sale of fresh fruits and vegetables throughout certain areas of the town.

► Strategy 6.4

Encourage new vendors and mobile solutions to improve access to healthy foods.

- Promote new healthy food vendors in established communities (i.e. Johnsons Crossing, Asbury, Corinth, Bynum, Silk Hope) and Public Health Priority Areas.

► Strategy 6.5

Implement a healthy corner store initiative.

- This program could include marketing, educational outreach and/or providing grants to upgrade

Healthy Food Vendor Inventory

The healthy food vendor inventory enabled the mapping of food outlets and deserts (See the map in the Issues and Opportunities section for more information). One key takeaway was that some communities, like Silk Hope, Goldston, Bennett, Bonlee and Harper's Crossroads, have food vendors that do not currently offer a variety of food options. Initiating a program that offers incentives to provide more options could improve access to healthy food in these communities.

equipment in exchange for the provision of additional healthy food options at existing vendors.

- Note: The goal of this program would be to increase number of healthy food vendors. Incentives could be used to get existing vendors to carry more fresh vegetables or other key food groups.

► Strategy 6.6

Support the establishment of CSAs, food stands, and farmers markets, especially in Wellness Priority Areas. See high public health risks in figure 17.

► Strategy 6.7

Encourage healthy food outlets to accept SNAP, WIC and other nutrition benefits.

Recommendation 04

Build a comprehensive and integrated healthcare system that ensures adequate access for all residents.

HL Policy 7

Facilitate the integration of various types of healthcare facilities into developed and developing areas.

► Strategy 7.1

Allow healthcare facilities in mixed-use development and near residential areas provided site/building design and operations ensure compatibility.

- Depending on the types of facilities, the distribution of a range of healthcare facilities can contribute to a higher percentage of residents living within a reasonable distance of care and a reduction in emergency response times.
- There could be a performance based approach to zoning and need to accommodate healthcare facilities as long as there is minimal impact on adjacent properties (i.e. through design).

► Strategy 7.2

Create new linkages and strengthen existing links across human services to improve access to healthcare, data availability, and services. (Role for the Chatham Health Alliance).

- Promote in-county referrals across providers.
- Develop a no-wrong-door approach. This approach ensures that any person contacting any component of the healthcare system (including medical and community resources) for a specific need is not turned away but, instead, connected to the broader system's resources to address both specific and comprehensive needs.

HL Policy 8

Expand preventative and rehabilitative mental health services.

Strategy 8.1

Raise awareness of mental health resources in Chatham County..

Access to Healthcare

Access to healthcare influences health outcomes. The map below shows areas in the County that are within a ten minute drive of hospitals and urgent care centers. Note that the urgent care center which recently opened in Briar Chapel filled a key gap in service along 15-501. Many other areas of the County are underserved based on this ten minute drive time analysis. More information is needed to determine access to primary care physicians, specialists and dentists.

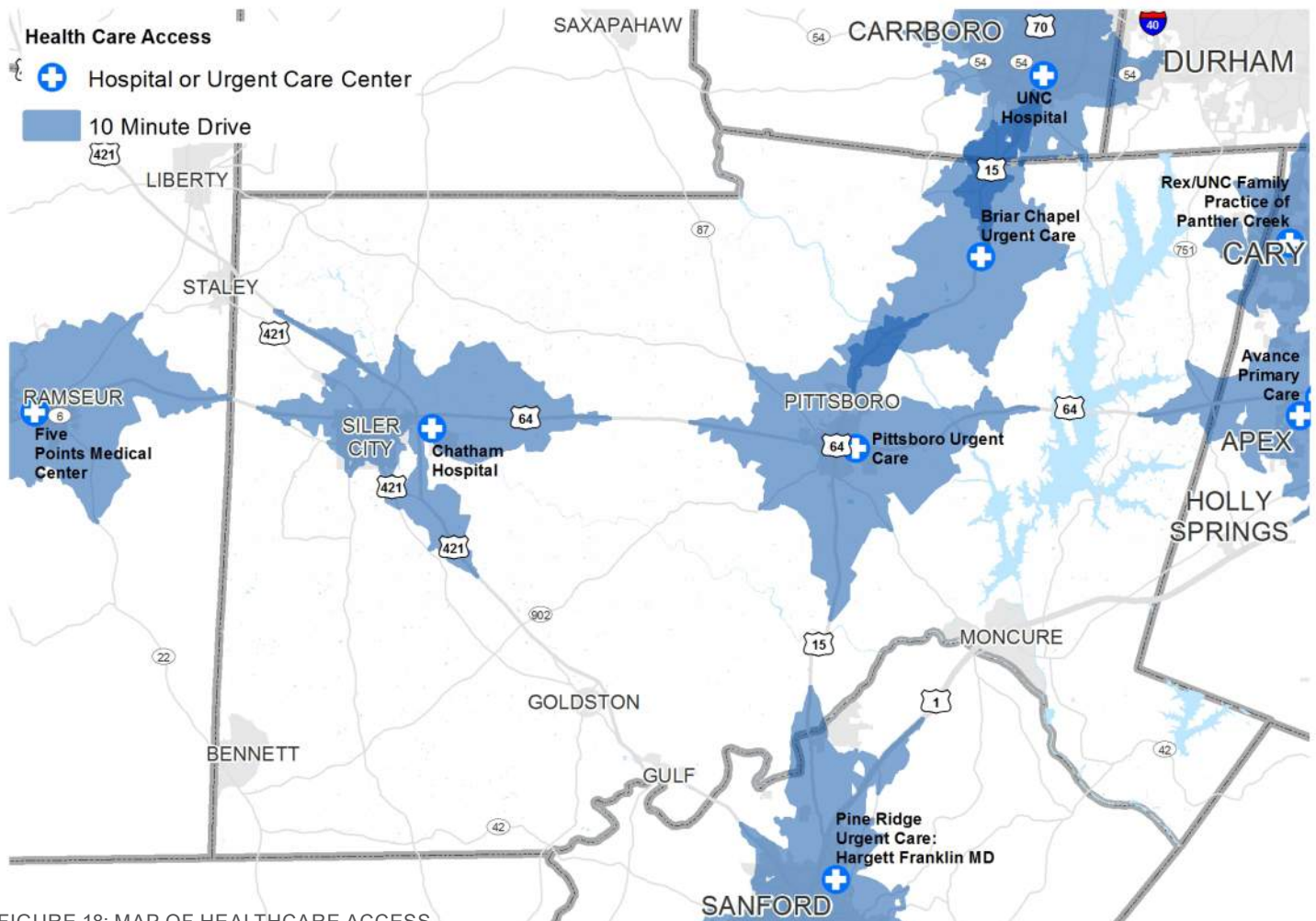


FIGURE 18: MAP OF HEALTHCARE ACCESS

- Improve communication across County departments, agencies, and organizations to better utilize resources for effective outreach.
- Together, provide easy access to information about who, how and when to call and where to go. Families and friends of individuals suffering from mental health issues need to be able to recognize possible symptoms and be able to call that appropriate provider. Consider that such assistance could range from emotional support (NAMI Family-to-Family Education Program) to requesting help from a Mobile Crisis Team (available 24 hours a day).
- Celebrate the successes of The Farm at Penny Lane and similar groups that are showing leadership in addressing mental health issues at the local level.

► Strategy 8.2

Identify gaps in services for those with issues related to mental health, developmental disabilities, and substance abuse.

- Investigate areas of substance abuse to determine underlying mental health issues that may be undiagnosed and untreated.
- Define common developmental disabilities to identify the programs needed and the appropriate locations for delivering the programs.

► Strategy 8.3

Help create and promote a sustainable “safety-net” provider that serves all ages effectively.

► Strategy 8.4

Improve efforts to integrate services, facilities, and amenities into our developing areas to enhance efforts to improve mental health.

- Stress the importance of and encourage community members to actively promote planning for better mental health.
- Build an advocacy group and equip advocates with information about planning and development issues (planning processes, meetings, public hearings) so they can effectively participate

FaithHealth NC – McDowell County

FaithHealth is a free program (and ministry) focused on healing. The goal is to reduce hospital readmissions. Volunteers are coordinated to help people with transportation to doctors’ appointments, taking medications, and getting food, clothing and other necessities. The organization is guided by 4 principles that ensure those in need get care in a timely manner, go to the right provider, are prepared for their appointments, and have support they need to reduce feelings of isolation and anxiety. Typically, hospitals and physicians make the referrals.

The Farm at Penny Lane – Northeast Chatham County, NC

The Farm at Penny Lane helps community members with severe mental illness live longer, healthier, inclusive, and more self-sufficient lives. Through horticulture therapy, farm work days, and other programs, participants exercise, socialize, and learn about health and nutrition while developing marketable skills.

Wellness on Wheels (WOW) – Chatham County, NC

According to the Farm at Penny Lane, the organization behind this mobile service, “WOW’s mission is to expand access to comprehensive, integrated care for people with serious mental illness by providing community-centered treatment and support services via our mobile health clinic.”



in planning processes and give input into development decisions.

HL Policy 9

Support the development of a comprehensive set of transportation (or mobile) solutions.

► Strategy 9.1

In addition to creating a multimodal network that enhances access to healthcare by supporting alternative means of travel, consider transportation service provision through County-supported programs that include the participation of various types of organizations:

- Chatham Transit and other local and regional transit and paratransit providers.
- Volunteer organizations (typically through churches and hospitals) willing to offer assistance with transportation, such as taking people to appointments, pharmacies, grocery stores, etc.

► Strategy 9.2

Encourage expansion of mobile healthcare services.

► Strategy 9.3

Designate locations for mobile unit stops. Mobile units that circulate on a regular basis and with scheduled stops at specified locations can help bring healthcare to rural and older residents with limited transportation options. The County may need to participate in the steps to designate and maintain such stop locations. Land acquisition and formal use agreements may be among those steps.

HL Policy 10

Support efforts to provide and extend broadband service.

► Strategy 10.1

Healthcare providers are reaching more people through online services and resources, emphasizing prevention through education and training. With access to broadband, County residents can improve personal health with information as well as connections to healthcare professionals (i.e., virtual doctor visits).

Recommendation 05

Increase opportunities for education and economic security.

Individual economic security is derived in part from a sense of ample employment opportunities and affordable education and training.

HL Policy 11

Promote education, training, and job growth.

► Strategy 11.1

Recruit new employers, and support expansion of existing businesses.

► Strategy 11.2

Increase workforce training program offerings.

► Strategy 11.3

Expand access to broadband (for virtual workplaces, which expand opportunity)

- See Economic Development recommendations for more information about employment and related workforce development.

Recommendation 06

Promote “healthy community” design.

HL Policy 12

Establish a framework for guiding public and private investments so the end results are environments that are conducive to healthier living.

► Strategy 12.1

Adopt regulatory standards and/or guidelines that contribute to the creation of a healthier community. As part of the process of amending the regulations and related plan review processes, consider developing a “Healthy Community Checklist.” Focus on the elements of healthy communities:

- Connected neighborhoods and centers, with a mix of uses within walkable distances
- Active living, physical activity
- Multigenerational neighborhoods
- Safe access to schools and public facilities
- School siting and school design
- Housing diversity
- Integration of open space (nature) into development using landscape design that minimizes appeal to deer and ticks
- Gathering places to create spaces conducive to social interaction, from conversational space for two or more people to large lawns for community gatherings.
- Appearance and maintenance. [“Broken windows theory” suggested that “crime emanated from disorder and that if disorder were eliminated, then serious crimes would not occur. One type of disorder is physical disorder, typified by vacant buildings, broken windows, abandoned vehicles, and vacant lots filled with trash.”]
- Safety, adhering to Crime Prevention Through Environmental Design (CPTED) principles
- Stormwater management techniques (i.e., pervious area and infiltration) to protect water quality
- Managed landscapes, especially public spaces, to prevent tick-borne illnesses
- Support “senior centers without walls” concept

Recommendation 07

Improve park, recreation, and open space system for better health.

HL Policy 13

Update County plans to ensure access to a range of passive and active recreational facilities.

Landscape Design and Management Guidelines - Loudon County, VA

In 2012, Loudon County created the Lyme Disease Commission to raise awareness of and combat Lyme disease. A key effort of the commission is to reduce tick bites through reduced exposure. The commission published landscape management guidelines to be used by public and private entities.

<https://www.loudoun.gov/DocumentCenter/View/102688>



CREATE A TICK-SAFE ZONE THROUGH LANDSCAPING TECHNIQUES and DEER RESISTANT PLANTS
 Courtesy of the Loudoun Lyme Disease Commission

LANDSCAPING TECHNIQUES TO HELP REDUCE TICK POPULATIONS

Blacklegged ticks are most abundant in the woods where hosts for the tick flourish and ticks also find high humidity levels necessary for survival.

- Remove leaf litter.
- Clear tall grasses and brush around homes and at the edge of lawns.
- Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas to restrict tick migration into recreational areas.
- Mow the lawn frequently.
- Stack wood neatly and in a dry area (discourages rodents that ticks feed on).
- Keep playground equipment, decks, and patios away from yard edges and trees.
- Discourage unwelcome animals (such as deer, raccoons, and stray dogs) from entering your yard by constructing fences.
- Remove old furniture, mattresses, or trash from the yard that may give ticks a place to hide.
- Clean up stonewalls near the home that provide shelter for rodents.
- Landscape to increase sunlight (ticks like humidity).
- A single springtime application of an acaricide (tick pesticide) can greatly reduce the number of ticks in your yard.

DISCOURAGE DEER

- Remove plants that attract deer and construct physical barriers to discourage deer from entering your yard and bringing ticks with them.
- Use the most deer resistant plants along the edge of the property to reduce the likelihood of deer entering your yard.

USE DEER RESISTANT PLANTS

A list of plants that deer generally do not eat is listed on the other side of this flyer. Additional information can be found at:

- www.anr.ext.wvu.edu/lawn_garden/plants/deer_resistant_oramentals
- www.virginia.edu/biandy/blandy_web/arborum/deer_resistant_annuals_perennials.pdf

Plant images: wikipedia.org

Butterfly Weed
 Butterfly Bush
 Lavender
 Bottlebrush Buckeye

Loudoun Lyme Disease Commission
www.loudoun.gov/lymecommission

April 2014

► Strategy 13.1

Study system gaps in active recreation to improve obesity issues and other health issues.

- Examine the types of facilities, equipment, and programs needed to combat obesity in Health Priority Areas.
- Examine and address equitable access to quality and affordable places to walk, bike, play and utilize recreational services.

► Strategy 13.2

Utilize open and shared spaces to foster community connectedness and social cohesion.

Sensory Garden – Seattle, Washington

The Seattle Sensory Garden is a place for people of all ages to experience nature through the five senses. It incorporates sensory elements, such as fragrant plants, cool water, music, and a variety of colors, textures, and patterns. The garden was designed for people who enjoy it to be enlivened and renewed physically, mentally, or spiritually.

<https://www.seattle.gov/Documents/Departments/ParksAndRecreation/Projects/WoodlandParkSensoryGardne/SensoryGardenSitePlan.pdf>



- Create opportunities to link communities by prioritizing areas between new and existing developments

► Strategy 13.3

Consider system gaps in passive recreation to effectively improve mental and emotional well-being.

- Recognize that “improved” park space can include gardens that appeal to the senses.

► Strategy 13.4

Integrate privately-maintained, publicly accessible recreation areas into the system.

- Allow spaces created through private development that are publicly accessible to count toward “improved open space” requirements in new development.

► Strategy 13.5

Promote access to public and publicly-accessible spaces through safe connections, including vehicular, bike, pedestrian routes (sidewalks and greenway trails).

- Assess connections to existing and planned facilities to determine need for improvements, and prioritize.

Recommendation 08

Support efforts to conserve natural areas and the natural resources within.

HL Policy 14

Encourage conservation for environmental health.

► Strategy 14.1

Develop an open space framework plan (or plans) to inform decisions that accomplish the following:

- Connect wildlife areas/corridors,
- Improve water quality,
- Improve air quality
- Balance ecosystems

► Strategy 14.2

Increase environmental education and awareness. A greater appreciation for the environment and related health benefits will broaden efforts to conserve valued natural resources. Supportive grassroots organizations can bolster the efforts of government agencies.

► Strategy 14.3

Encourage integration of “wild” and “everyday” nature for human health benefits. “Restorative eco-therapy,” “stress reduction theory,” and “attention restoration theory” all refer to the positive impact of nature on an individual’s well-being. Studies are showing that access to nature, even visual access, can have a calming effect and, at the same time, improve our abilities to think creatively. Consider:

- Conservation design – Development that is integrated

into the natural landscape allows open space to be a featured element and amenity for those living adjacent to or near such natural areas. Too often, open space within a planned neighborhood is merely the remnant pieces of land not well suited for development. Homes and other structures are typically oriented away from such spaces, and they often become inaccessible and are poorly maintained. The County should encourage developers to choose conservation design option through which open space is delineated first and then becomes a featured element in the design—and an amenity in the neighborhood—rather than an afterthought.

- Therapeutic, healing gardens – Gardens that are deliberately designed to appeal to the senses can also have positive health impacts. In addition to communing with nature, users might also be able to socialize and participate in light exercise within such spaces. The County and municipalities should consider

such gardens as enhancements to existing parks and public facilities as well as components of future parks and public facilities. According to a 2001 study conducted by the City of Seattle’s Park and Recreation Department, spaces can be as



FIGURE 19: CONSERVATION SUBDIVISION DESIGN (SOURCE: RANDALL ARENDT)



Bynum Front Porch music and storytelling events are cultural events that create a sense of place and encourage interaction.

small as a quarter of an acre to be effective.

- Passive recreation facilities – In addition to parks with ballfields and other active recreation facilities, the parks and recreation system should include components that provide direct access to open space and the natural features and wildlife within. Activities ranging from bird watching to spending time in wooded areas should be supported by designated passive recreation areas.

Recommendation 09
 Promote the cultural aspects of the community.

HL Policy 15
 Promote the County’s history, traditions, and cultural assets.

“Place attachment” goes beyond the person-to-place bond that emerges from experiences in nature, as promoted by Green Cities: Good Health. A sense of belonging can arise out of connections with cultural experiences, especially those associated with the history and heritage of the place.

► **Strategy 15.1**

Align County initiatives with those of local organizations that seek to build cultural program offerings and preserve historic assets. Such efforts could be focused on the following:

- Celebrating heritage through events, art (performing and visual), and programs. This presents a learning opportunity for participants while helping them connect with other people and the place in which they live.
- Strengthening identity and community image through art and design that reinforces the history and heritage. Recognizable features that recall the past in a positive

way builds community pride as well as a sense of ownership of and belonging to the community.

- Creating or promoting opportunities for art (performing arts, visual arts, etc.). Artistic expression is a powerful catalyst for community gatherings and the development of local networks.

Recommendation 10

Enhance the lives of seniors in the County.

HL Policy 16

Support efforts to broaden the range of housing options that are suitable for older residents.

► Strategy 16.1

Allow a variety of housing products that meet the preferences of people 55 years old and above.

► Strategy 16.2

Encourage neighborhood design and location that support active living for seniors.

- Allow mixed-residential development that includes products aimed at seniors (patio homes, cohousing, etc.) within walking distance of (and connected to) neighborhood retail centers. Independence is enhanced by being able to walk safely to grocery stores, drug stores, restaurants, senior centers, hair salons, etc.
- Require design of neighborhoods to include walkable streets for safe pedestrian access to destinations within and adjacent to the neighborhood, and amenities that support active lifestyles.

► Strategy 16.3

Update building standards to encourage “universal design.”

- See Housing recommendations for more information.

► Strategy 16.4

Continue/implement programs to address sub-standard housing.

► Strategy 16.5

Assess the programs and facilities that are part of the County’s parks and recreation system to determine gaps, and update the Parks and Recreation Master Plan accordingly.

- See Parks, Recreation, and Open Space recommendations for more information.

HL Policy 17

Help seniors remain involved in the community.

- Being connected to their community can have positive effects on the mental and emotional well-being of seniors. Interaction between the different generations strengthens social networks, helps foster a sense of belonging, and reduces the instances of isolation so many seniors face.

► Strategy 17.1

Facilitate partnerships that engage seniors in mentoring students and young adults who can benefit from the wisdom and experience shared by those seniors.

► Strategy 17.2

Encourage mixed-use and mixed-residential development that leads to the creation of multi-generational neighborhoods, promotes safe independent living, and facilitates healthy, active lifestyles among seniors.

► Strategy 17.3

Promote and facilitate lifelong learning through programs offered by CCCC and other partners.





AGRICULTURE

Agriculture, including forestry activities, is a cornerstone of the livelihoods and lifestyles for many in Chatham County. Some flexibility is needed when it comes to allowing non-residential activities that support farming directly and indirectly. Land use policies are needed that discourage intense residential growth and associated increases in property values and traffic. Key themes include increasing education and outreach, protecting existing operations and long-term access to water, supporting the growth of the agricultural industry, encouraging voluntary land conservation efforts, and minimizing conflict between new residential and existing agricultural operations while protecting property rights of rural land owners.

Recommendations in this Plan are meant to augment those found in the Chatham County Farmland Preservation Plan and highlight priority strategies that are related to other Plan Elements. Key recommendations in this Plan that reinforce those in the Farmland Preservation include:

- Increase capacity of the Chatham County Cooperative Extension and added support for education and outreach
- Encourage participation in the Voluntary Agricultural District (VAD) program and consider enhancements such as real estate notification in VAD areas
- Update utility policies to protect agricultural water access
- Implement a county-led farmland protection program
- Land use policies tailored to areas identified as strategic farmland
- Updates to regulations to better meet the needs of the agricultural community by encouraging “agricultural friendly design” that includes greater setbacks from working lands and clustering to protect prime farmland

BIG IDEA

Agricultural areas designated on future land use map and policies that discourage higher density residential while allowing more flexibility for non-residential uses.

GOALS

PRIMARY GOAL

Preserve, protect, and enable agriculture and forestry.

SECONDARY GOAL

Diversify the tax base and generate more quality, in-county jobs to reduce dependence on residential property taxes, create economic opportunity and reduce out-commuting.

SECONDARY GOAL

Preserve the rural character and lifestyle of Chatham County.

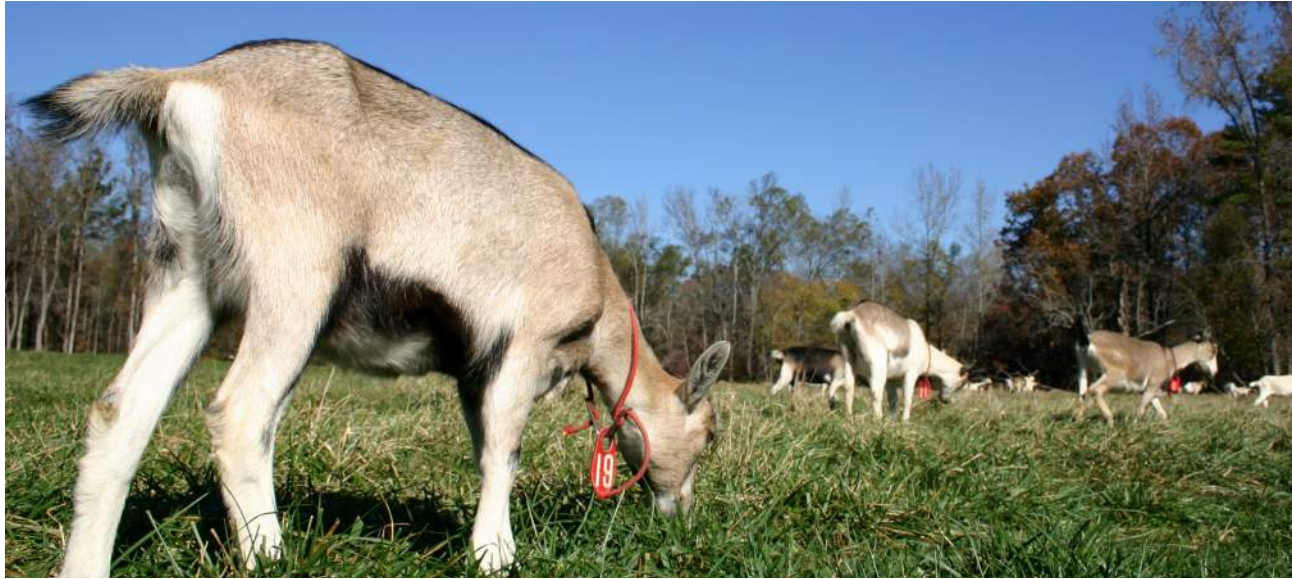
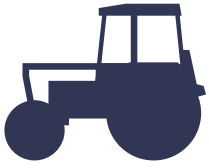


Image Source: Debbie Roos, Chatham County Cooperative Extension

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Increase education, outreach and training.

AGR Policy 1

Support agriculture through increased education, outreach and training.

► Strategy 1.1

Assist operators of existing farms that are contributing to the economy to remain in operation even when faced with pressures to develop the land for other uses.

- Encourage participation in Voluntary Agricultural District (VAD) program.
- Raise awareness of the benefits of participating in VADs.
- Partner with land trusts to provide technical assistance to those who demonstrate interest in establishing agricultural conservation easements.

► Strategy 1.2

Require the disclosure of the presence of VADs and/or other working lands to potential homebuyers and other investors.

Education and outreach was voted as the #1 thing the County should be doing, based on the Agricultural Survey.

► Strategy 1.3

Through educational programs (and partnering with Cooperative Extension), continue to raise awareness of and appreciation for agriculture in the County, especially: (1) the value to the community (economy, environment, health with access to fresh nutritious foods, etc.) and (2) the diversity and compatibility of many types with various types of development, including residential neighborhoods.

- Agri-tourism
- Health and nutrition programs
- Local food access programs
- Expanded course offerings
- Support volunteer opportunities related to community gardens and agriculture
- Partner with Chatham County Schools to create schoolyard gardens.
- Continue / increase support for agricultural related training programs in high schools
- Facilitate partnerships between the agricultural community and Central Carolina Community College to offer a degree and/or certification programs.

► Strategy 1.4

Increase capacity of the Chatham County Cooperative Extension Office.

► Strategy 1.5

Initiate a program to connect farmers to available lands for lease.

Recommendation 02

Promote agriculture as a key feature of the County and component of the local economy and discourage conversion of areas with viable agricultural operations, for development.

AGR Policy 2

Support the viability of agricultural operations through land use policies and regulations.

► Strategy 2.1

Allow temporary uses in conjunction with the programs, events and activities.

► Strategy 2.2

Support the continuation and/or integration of supporting uses that are vital to the long-term viability of major agricultural operations, including but not limited to:

- Suppliers of agriculture goods and services; processing facilities; food outlets (such as produce stands and small grocery stores); home-based businesses (such as tax services); small engine repair, furniture refinishing; restaurants; barber shops; bed-and-breakfasts and small inns; small-scale food and beverage production and retail; event venues.

► Strategy 2.3

Create an agricultural district that allows agricultural uses; discourages residential subdivisions over a specified scale or density (establish caps for project acreage, total lots, and/or dwelling units per acre); and allows a wide range of complementary uses, including businesses that can supplement income, provided (1) performance standards are met to avoid or mitigate impacts (see rural business recommendation in the Land Use section above), and (2) adequate utility service is or will be available.

- Evaluate modifications to zoning regulations to allow for supporting non-residential uses in Agricultural Areas. These could include the addition of flexibility via performance-based standards.
- Determine the need for an agricultural zoning district that codifies the recommendations above, and if such district is warranted, consider performance standards that emphasize compatibility over specific land use restrictions.

► Strategy 2.4

Update and adopt the Farmland Preservation Plan which includes additional land use recommendations to preserve agricultural operations in the county.

Case Study

Supports
Strategy 3.1

Agricultural Supply Chain Infrastructure

Agricultural Supply Chain Infrastructure includes farmers markets and Community Supported Agriculture (CSA) operations, which can expand outlets for small-scale agricultural operations; and storage, transfer and processing facilities, which can enable the access to additional markets and increase opportunities for value-added production.

Blue Ridge Food Ventures in Asheville, NC and Piedmont Food & Agriculture Processing Center in Hillsborough, NC are two examples of how local governments have supported new facilities that assist in the agricultural supply chain.

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

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

AGR Policy 3

Support the long term economic viability of agricultural operations.

► Strategy 3.1

Support the expansion of agricultural supply chain infrastructure.

- Participate in partnerships to identify local and regional needs.
- Work to remove regulatory barriers for retail, storage, transfer and processing facilities provided impact to adjacent properties and the environment is minimized.

► Strategy 3.2

- Promote and encourage sustainable agricultural practices including preserving soil fertility and minimizing soil loss (e.g., using cover crops, rotational grazing, and no-till farming techniques); reuse of nutrients to minimize the net import of nutrients into local watersheds; the production of agricultural goods that can be consumed or used in the County (e.g., food crops); and farmscale BMPs that protect water quality.

AGR Policy 4

Ensure that agriculture has long term access to water supplies.

► Strategy 4.1

Improve understanding of groundwater usage and availability in Agricultural Areas.

► Strategy 4.2

Consider impacts of new development on ground and surface water resources during development approval process by encouraging residential development in areas served by utilities.

► Strategy 4.3

Establish utility policies that reduce potential conflicts over groundwater.

- Discourage community wells in strategic agricultural areas.
- Establish policies for extending utilities into strategic agricultural areas.

Policies could include:

- Allow utility extensions (water and sewer) for
 - Serving Villages and Crossroads communities, denoted on the Future Land Use Map

Case Study

Supports Strategy 4.1

Anne Arundel County Agricultural & Woodland Preservation Program

Landowners interested in preserving their land from development may qualify for this program offered through Anne Arundel County in partnership with the Maryland Department of Agriculture and Department of Natural Resources. Buying development rights from willing landowners provides a market-driven and compensatory approach to preserving agricultural lands. Typically landowners receive a portion of the lands value and an easement restricts the future use of the land to farming or forestry. Exceptions can be made for an additional home or two as long as the long term agricultural potential is not jeopardized. Proceeds can be used however landowners choose, including to purchase additional acreage, upgrading equipment or investing for retirement. In total 6,118 acres have been permanently protected as of December 1, 2015 through this program in Anne Arundel County. See <http://www.aacounty.org/departments/recreation-parks/agricultural/> for more information.

- Providing water for agricultural operations and possibly certain types of storage, transfer or processing facilities
- Providing water to encourage decentralized wastewater systems for Agriculture Friendly Developments with an overall lower density than those allowed on wells via by-right zoning
- Do not allow utility extensions for serving major, conventional subdivisions over a certain size.

AGR Policy 5

Support permanent, voluntary protection of agricultural lands.

► Strategy 5.1

Implement a county-led farmland protection program.

- This could be a Purchase of Development Rights (PDR) program that purchases development rights for agricultural lands from willing sellers.

► Strategy 5.2

Allow for density transfer.

- Agriculture and Conservation Areas to Compact Residential and Centers.

AGR Policy 6

Encourage Agricultural Friendly Design.

► Strategy 6.1

Encourage "Agricultural Friendly Design" in new residential developments that reduce groundwater usage and protect adjacent working lands.

- Encourage only low density development in Agricultural Areas
- Encourage site design that reduces potential for conflicts through the preservation or establishment of vegetative buffers between residential uses and agricultural operations, and the location of open space and natural areas to provide separation between residential and agricultural operations



► Strategy 6.2

Amend land development regulations to create more compatible edge conditions where new development adjoins parcels in agricultural use.

► Strategy 6.3

Modify the subdivision process to encourage Agricultural Friendly Developments.

- Re-evaluate the allowances for and definitions of major and minor subdivisions in the Agricultural Area.
- For instance:
 - Consider allowing administrative approval of minor subdivisions up to 15 lots in rural and agricultural

areas as long as design criteria is met.

- Require all major subdivisions, or just those receiving county water to be designed as Agricultural Friendly Developments.
- Include specific recommendation for conservation subdivisions and agricultural subdivisions—relaxation of roadway standards could be an incentive.

► Strategy 6.4

Study sliding scale zoning as a way to balance preservation of property rights with reduced conflicts over traffic, groundwater, etc.

Agricultural Friendly Development Illustration: Existing “R1” zoning encourages large lot subdivisions in agricultural areas. This could lead to higher land prices and conflicts over groundwater use. Agricultural friendly development could be encouraged that allows land owners to develop their land for residential use, but encourages lower density and/or design that protects rural character and reduces conflicts between agriculture and new development.

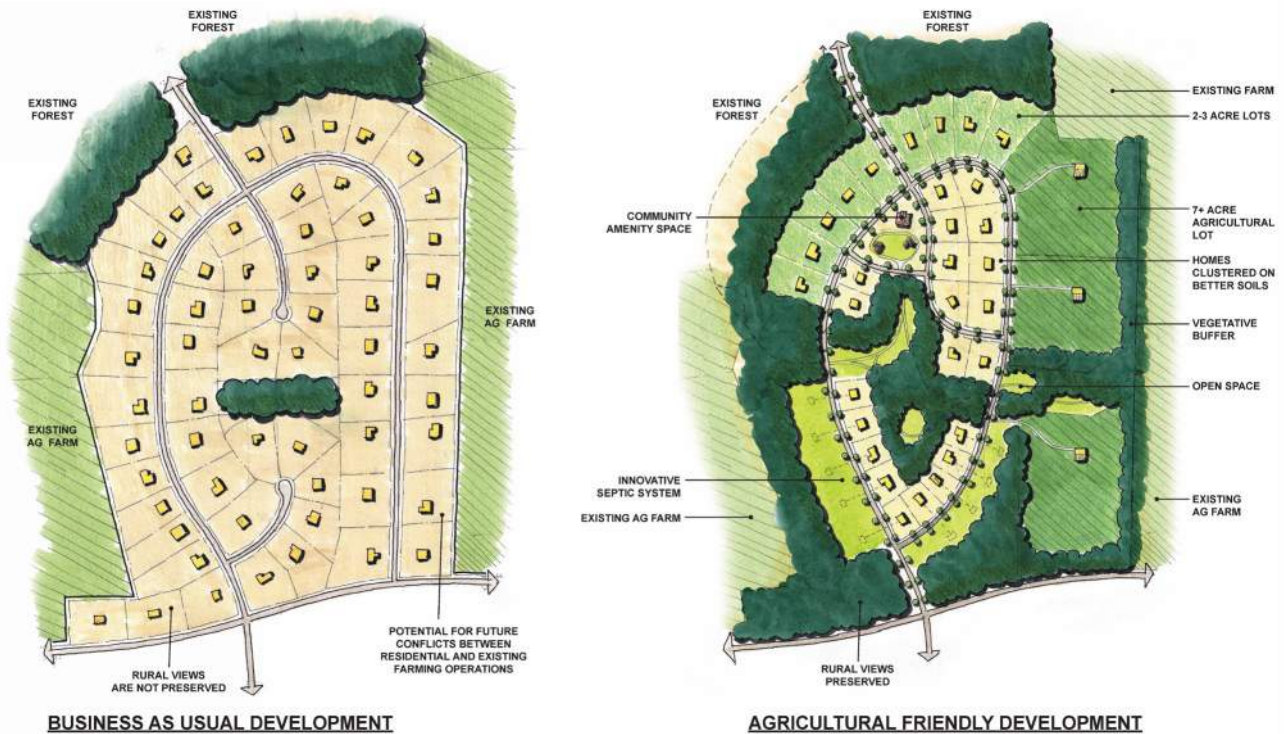


FIGURE 20: ILLUSTRATIVE COMPARISON BETWEEN CONVENTIONAL DEVELOPMENT AND AGRICULTURAL FRIENDLY DEVELOPMENT. THE DEVELOPMENT ON THE LEFT HAS 60 LOTS ON ROUGHLY 120 ACRES AND HAS LOTS LOCATED ADJACENT TO WORKING FARMLAND. THE DEVELOPMENT ON THE RIGHT HAS LESS LOTS AND DESIGN THAT BUFFERS EXISTING FARMS FROM NEW RESIDENTIAL DEVELOPMENT. THE ALTERNATIVE ALSO INCLUDES INNOVATIVE SEPTIC SYSTEM THAT ALLOWS FOR SOME CLUSTERING WITHOUT A SEWER SYSTEM AND A FEW LARGE “FARMSTEAD” LOTS THAT WOULD ALLOW AGRICULTURAL USES.

Case Study

Supports Strategy 5.3

Sliding Scale Zoning

Many communities utilize a method of zoning called sliding scale zoning to reduce conflicts between residential development and agricultural operations. In this method of zoning the number of residential lots permitted for a given property is based on the size of the property. As parcels size increases, so does the number of residential units allowed. However, the development yield decreases as the size of the property increases. This results in a lower overall density if land is built out, but preserves the ability for land owners to sell smaller properties for conventional development. This method, in combination with design criteria for minimizing impacts to adjacent properties and viewsheds can result in well-designed residential “hamlets” that coexist with existing agricultural operations and rural communities.

The table illustrates a potential sliding scale zoning example that could be implemented to preserve the ability of rural land owners to sell or develop land for residential purposes, while reducing the overall density of development and potential for conflicts over groundwater and traffic that large scale subdivisions bring to agricultural communities. Adjustments could be made to result in lower densities based on community preference.



Area of Lot of Record	Example Area (Acres)	Dwelling Units Allowed	Density (DU/Acre)	Avg Lot Size	Notes
1-30 Acres	30	15	0.50	2	1 dwelling unit per 2 acres--same avg. density as R1 Zoning due to soils, min. lot size dependent on utilities and/or soils.
30-50 Acres	50	22	0.43	2.3	1 dwelling unit per 2 acres for first 30 acres, then 1 dwelling unit per 3 acres for additional acreage. Gross density /min. lot size dependent on utilities/soils.
50-100 Acres	100	36	0.36	2.8	1 dwelling unit per 2 acres for first 30 acre, then 1 dwelling unit per 5 acres for additional acreage. Gross density /min. lot size dependent on utilities/soils.
>100 Acres	200	60	0.30	3.3	1 dwelling unit per 2 acres for first 30 acre, then 1 dwelling unit per 7 acres for additional acreage. Gross density /in lot size dependent on utilities/soils.

Case Study

Supports
Strategy 5.4

Willowsford Farms

Willowsford is a master planned community located in Loudon County, Virginia, 35 miles west of Washington D.C. The community is designed around a working farm, forests and meadows. The community is a series of villages that are nestled around open space that accounts for 50% of the land area. Elements of the community preserve the agricultural heritage of the land including horse fencing, low stone walls, wooden signs, a farm and the Willowsford Farm market stand where residents can pick up fresh eggs, chickens, honey and other items produced on-site.

For more information see: <https://casestudies.uli.org/willowsford/>

► Strategy 6.5

Encourage integration of small-scale agriculture into urbanizing areas where such operations are compatible with adjacent urban uses.

- Allow operations of 50 acres or less within residential and commercial development, provided such operations meet the following criteria:
 - All land (one or multiple parcels) devoted to the operation, including areas with accessory uses, do not exceed 50 acres.
 - Sustainable farming practices are employed (limited pesticide use).
 - Associated (wholesale and retail) sales of products are conducted in buildings and structures with the required permits to ensure the storage of materials is not visible from public roads or adjoining development.
 - Such operations adhere to all applicable restrictions pertaining to noise and light.
 - Buffers, walls, and/or fences are installed as needed to increase compatibility with surroundings.
- Continue providing a density bonus for working farms in Conservation Subdivisions.



Willowsford Farms

Strategic Agricultural Areas

The 2009 Farmland Protection Plan recommended mapping strategic agricultural lands in the County and establishing land use policies to protect them. The map below shows result of the GIS-based suitability analysis utilized to identify Agricultural Areas on the Future Land Use and Conservation Plan. The factors that were considered include:

- Present Use Value Program Enrollment
- Proximity to Voluntary Agricultural Districts
- Soil quality (prime farmland of state significance based on Natural Resource Conservation Service (NRCS) data)
- Proximity to conserved farms
- Size of properties

Weights for each input were assigned based on input from the Agricultural Survey conducted in the fall of 2016.

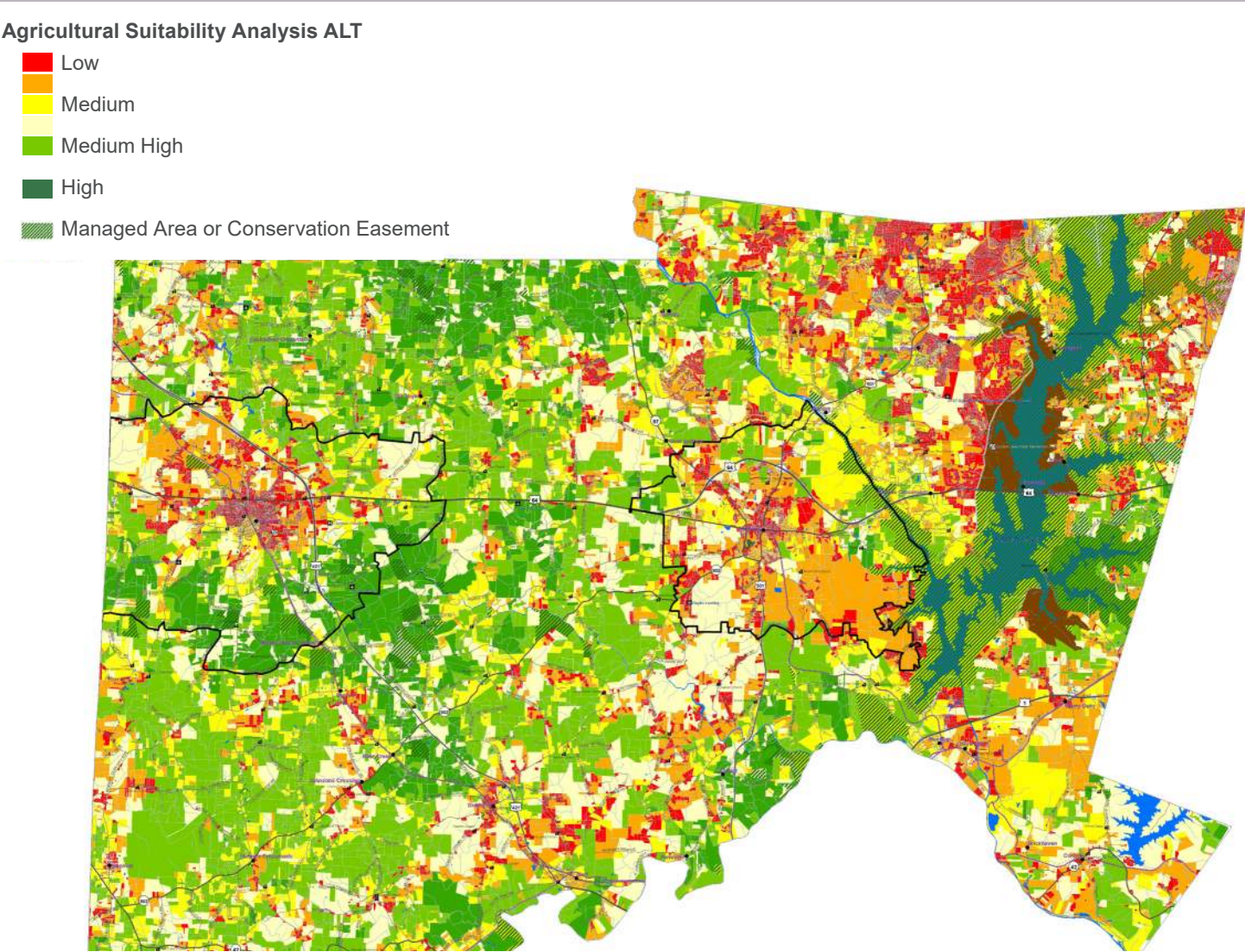


FIGURE 21: AGRICULTURAL SUITABILITY ANALYSIS





NATURAL RESOURCES

Chatham County has significant natural assets including large tracts of intact upland forests, rare aquatic habitats, many conserved lands and productive agricultural and forestry areas. These resources provide invaluable ecosystem services including clean water and air. They also help to sustain the local economy by providing local food, raw materials and attracting eco-tourism.

Maintaining and improving water quality is a primary concern of citizens. Sedimentation and non-point source pollution from new development is a major threat to water quality. Land fragmentation and habitat loss are also concerns in that they are one of the leading reasons for decline in wildlife species. Promoting conservation design and maintaining a regulatory framework incentivizes low impact development that can help mitigate impacts. Emerging threats, including the potential impacts of natural gas extraction and climate change, will need to be addressed in the coming years through public and private actions.

The big idea for natural resources is to actively work to create a connected system of public and privately owned lands that maintain key ecosystem services and are sensitively integrated into well-designed development. This land protection effort will require local and regional partners and could target lands that contribute to maintaining water quality in Jordan Lake, serve as key habitat areas, and/or consist of strategic farmland.

Recommendations in this Plan are meant to augment those found in the Chatham County Comprehensive Conservation Plan and highlight priority strategies that are related to other Plan Elements.

BIG IDEA

Permanently protect 20,000 acres of additional land by 2040.

GOALS

PRIMARY GOAL

Conserve natural resources.

SECONDARY GOAL

Preserve the rural character and lifestyle of Chatham County.

SECONDARY GOAL

Provide recreational opportunities and access to open space.

SECONDARY GOAL

Preserve, protect, and enable agriculture and forestry.



Rock outcrops and upland habitat adjacent to the Haw River

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Maintain and improve water quality.

NR Policy 1

Ensure the long-term quality of water resources.

► Strategy 1.1

Maintain riparian buffers in Watershed Protection Ordinance and minimize stream crossings in new developments.

► Strategy 1.2

Continue policies that discourage mass grading.

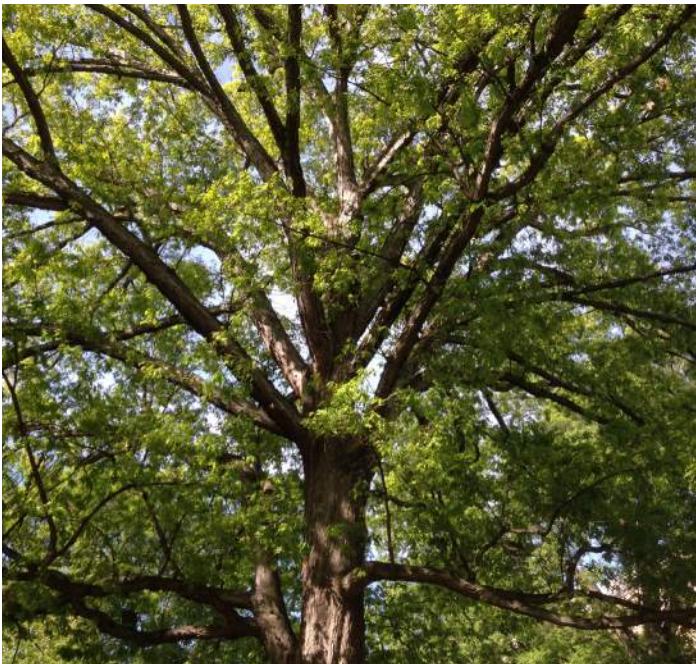
► Strategy 1.3

Increase capacity of the Land and Water Resources staff to ensure adequate enforcement of sedimentation and erosion control standards.

► Strategy 1.4

Encourage tree plantings and restoration activities in watersheds with low or diminishing tree cover.





A mature tree canopy provides a variety of ecosystem services including the capture of stormwater, provision of food and habitat for wildlife, air quality and protection of water quality.



FIGURE 22: GREEN INFRASTRUCTURE TOOLS (SOURCE: PHILADELPHIA WATER DEPARTMENT)

► Strategy 1.5

Provide incentives for preservation of headwater streams, reforestation of riparian areas, and stream restoration.

► Strategy 1.6

Participate in sub-watershed level studies to determine the causes of impaired streams, establish a funding mechanism for restoration of impaired streams, and conduct riparian and stream restoration projects with public, non-governmental and private partners in threatened sub-watersheds.

► Strategy 1.7

Encourage Best Management Practices (BMPs) in agricultural and timber operations.

- Encourage replanting after harvesting forest cover.



FIGURE 23: MATURE TREES ARE LOCATED ALONG RURAL ROADS AND SERVE AS DRAMATIC VERTICAL ELEMENTS THAT PROVIDE TEXTURE TO VIEWS. WHERE FEASIBLE, THESE TREES SHOULD BE INCORPORATED INTO THE DESIGN OF AMENITY SPACES IN NEW DEVELOPMENT.

► Strategy 1.8

Update policies and regulations to limit impacts of natural gas exploration and extraction.

- Complete the Natural Gas Impacts Study, a parallel effort to identify the potential impacts and appropriate strategies to minimize, mitigate, or avoid such impacts.
- Coordinate with regional partners, such as Lee County, to establish regulations for site planning, development, and restoration based on best practices.

Recommendation 02

Preserve site and landscape level concentrations and connections of green infrastructure.

NR Policy 2

Protect and improve site level green infrastructure.

► Strategy 2.1

Encourage development design that preserves unique natural features on sites. Examples include wildlife hubs and corridors, mature forest, hedgerows, rare habitats, riparian areas, drainage-ways (above USGS defined “blue-line” Streams).

► Strategy 2.2

Encourage development design to preserve forest cover and additional uplands.

► Strategy 2.3

Encourage eradication of invasive species plants.

► Strategy 2.4

Require/incentivize Low Impact Development (LID) techniques and Green Stormwater Infrastructure (GSI) in and near Centers and in Compact Residential Areas. LID/GSI techniques can improve the quality of stormwater run-off and reduce velocity and quantity. Techniques such as green roofs, pervious pavement, stormwater planters, bio-retention areas, filter strips, cisterns and rain gardens should be deployed to mitigate the impacts of additional impervious surface.



FIGURE 24: DENSITY TRANSFER ILLUSTRATION

Density Transfer
 Voluntary density transfer should be encouraged as a way to preserve Rural, Agricultural and Conservation Areas as greenbelts surrounding Towns and planned activity centers. Allowable residential density (dwelling units) and/or non-residential built upon area can legally be transferred between two properties based on an administrative approval.

Guidelines should be established that include eligible sending and receiving areas, caps on density and built upon area for receiving areas. This process would require an approved plat for both properties or a conservation easement on the sending property. It will also require staff time and a tracking mechanism.

- ▶ **Strategy 2.5**
 Consider recommendations provided by the NC WLRC to minimize impacts to important natural resources.
- ▶ **Strategy 2.6**
 Encourage eradication of invasive species plants.
- NR Policy 3**
 Ensure the long-term viability of natural systems by acknowledging valuable natural resources and employing techniques to preserve the functionality of the systems of which they are a part.
- ▶ **Strategy 3.1**
 Protect Natural Heritage Natural Areas (NHNAs), habitat hubs and wildlife corridors through voluntary reservation, acquisition and partnerships with non-profits and private entities. Study the establishment of a county-led land acquisition program to assist in local land protection efforts.
- ▶ **Strategy 3.2**
 Limit overall density of development in Conservation Areas.

► Strategy 3.3

Allow density transfers to protect landscape level green infrastructure (i.e. greenbelts around towns and planned activity centers).

Recommendation 03

Encourage conservation design in and near Conservation and Protected Lands and in Rural Areas.

NR Policy 4

Provide options that make conservation design the easy choice in new residential development design.

► Strategy 4.1

Continue to allow administrative approval for conservation subdivisions up to 15 lots and consider allowing administrative approval for conservation subdivisions up to a certain size provided that design criteria are established.

► Strategy 4.2

Continue to allow private roads that are appropriately designed and sized as an incentive for small-scale conservation subdivisions and agricultural friendly subdivisions.

► Strategy 4.3

Allow off-site septic for conservation subdivisions, but discourage for conventional subdivisions

► Strategy 4.4

Modified submittal requirements for conventional and conservation subdivision design (CSD). Specific amendments to the existing regulations could include the following:

- Modify procedures to simplify the review and approval steps. The process for designing and permitting a residential subdivision that adheres to conservation design standards should be no more arduous or expensive than the process for designing and permitting a conventional residential subdivision.

- Clarify requirements to eliminate vague language and increase predictability.
 - Clearly define specific design criteria to be met.
 - Ensure standards are measurable.
 - Consider allowing administrative approvals.
- Offer incentives to make CSD a more attractive option than conventional subdivision, especially for smaller properties (i.e. <50 acres). Consider the following:
 - Density bonus adjustments (sliding scale based on parcel size),
 - Modifications to street requirements, and/or
 - Off-site septic allowances (contingent on soil survey results).
- Further clarify primary and secondary conservation areas, and make datasets available to applicants to use as a starting point for identifying primary and secondary conservation areas to be set aside.
- Require conditional use permits for conventional subdivisions in Conservation Areas.

Refer to the Big Woods Conservation Design Guide in the Appendix for more information on a proposed conservation design process and types of resources to consider in expanding the definitions of primary and secondary conservation areas as open space standards in the County's ordinance are amended.

Recommendation 04

Improve education and awareness of natural assets.

NR Policy 5

Improve outreach and access to environmental data.

► Strategy 5.1

Website updates and creation of county GIS datasets.

- Inventory of public and private green space (this dataset is referenced on website, and in regulations but is not available)
- Percent Slope data derived from high resolution elevation data

- Wildlife corridors and hubs
- Stands of mature, native trees

► Strategy 5.2

Education and outreach activities.

- Technical assistance to assist with conservation design and backyard habitat improvements (i.e. pollinator gardens)
- Environmental education at public parks (i.e. signage or a Bio-Blitz event)

► Strategy 5.3

Update biodiversity and wildlife habitat assessment created during the CCP Conservation Plan and Natural Heritage Survey, augment with updated / additional data.

Nature Preserves – Mecklenburg County, NC
In addition to active recreational facilities, the Mecklenburg County Parks and Recreation department has worked with local land trusts to acquire and manage 7,000 acres of nature preserves. Nature preserves have been shown to create a 440% return on investment due to direct revenue, tax value benefits, tourism and ecosystem services (Source: Mecklenburg County Division Director of Nature Preserves & Natural Resources). The department is fulfilling goals from the Mecklenburg County Vision 2015 plan by protecting native plant and animal species and natural community types that are unique to the County. Active management and restoration activities have helped restore Piedmont Prairie ecosystems at a number of parks. Many of the preserves offer passive recreational opportunities such as hiking, biking and guided tours. For more information visit: <http://charmec.org/mecklenburg-county/ParkandRec/StewardshipServices/NaturalResources/Pages/default.aspx>

Recommendation 05

Improve access to natural areas and support outdoor recreation based tourism.

NR Policy 6

Consider impacts of new development on unique resources and improve public access to protected lands.

► Strategy 6.1

Consider impacts to viewsheds and recreational access needs during the development review process.

- Many planned regional trails and blueways depend on linkages through the County. These offer tourism opportunities if resources are protected.

► Strategy 6.2

Continue to limit light pollution, especially in Rural and Conservation Areas.

- Regularly evaluate and update the Chatham County Lighting Ordinance to minimize offsite impacts of lighting.

► Strategy 6.3

Partner with state and local governments and non-profit organizations to increase access to protected lands and unique natural features.





RESILIENCY

Resiliency can be defined in many ways. Financial resiliency includes fostering a diverse economy and tax base in order to remain solvent through the ebb and flow of growth and recession. A resilient natural environment performs valuable, irreplaceable ecological services. Infrastructure, in the form of roads and utility systems, which are capable of withstanding peak demands and have built in redundancy, can be considered a key piece of resiliency. The recommendations in the Resiliency Element build on financial, natural and infrastructure related resiliency recommendations addressed in the Land Use, Economic Development, Infrastructure and Transportation elements of this plan. This section focuses on avoiding, mitigating and adapting to impacts of acute natural events and man-made emergencies, as well as potential long-term impacts of anthropogenic change. The reason for the “Big Idea” to “become a Carbon Negative County” is to reduce the County’s greenhouse gas emissions and the environmental risks that will result from global warming. This section focuses on avoiding, mitigating and adapting to anthropogenic climate change and the associated impacts of acute natural events and emergencies. Chatham County has an opportunity to take leadership as a local government in reducing carbon emissions, while also promoting green and sustainable jobs. Resiliency can be defined in many ways. Financial resiliency includes fostering a diverse economy and tax base in order to remain solvent through the ebb and flow of growth and recession. A resilient natural environment performs valuable, irreplaceable ecological services. Infrastructure, in the form of roads and utility systems, which are capable of withstanding peak demands and have built in redundancy, can be considered a key piece of resiliency. The recommendations in the Resiliency Element build

on financial, natural and infrastructure related resiliency recommendations addressed in the Land Use, Economic Development, Infrastructure and Transportation elements of this plan.

BIG IDEA

Become a carbon negative county.

GOALS

GOAL 01

Become more resilient by mitigating, responding and adapting to emerging threats.

OBJECTIVE 01

Improve emergency response and limit risk associated with natural and man-made disasters (drought, floods, energy costs and availability, etc.)

OBJECTIVE 02

Encourage resource efficient building standards.



Photo source: Debbie Roos

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Prepare for and respond to acute natural events and man-made emergencies.

Resiliency Policy 1

Prepare for impacts of drought, fire, flooding and pests.

► Strategy 1.1

Update landscape planting guidelines to emphasize native species, diversity, drought tolerant plants, xeriscaping and other sustainable landscaping practices.

► Strategy 1.2

Discourage the use of invasive species and encourage removal of invasive species.

► Strategy 1.3

Discourage alterations of floodplain.

► Strategy 1.4

Encourage “Firewise” development design in rural areas.

► Strategy 1.5

Encourage the design of parks that reduce the transmission of tick borne illnesses.

Resiliency Policy 2

Improve emergency response.

► Strategy 2.1

Coordination between the Planning Department, Watershed Protection Department, Erosion Control Department, Fire Marshal Office and the Fire Departments in areas of proposed development.

► Strategy 2.2

Require static water points in new residential developments in areas without adequate fire protection service.

► Strategy 2.3

Encourage CERT (Community Emergency Response Teams) organizations at the County and community levels.

Recommendation 02

Minimize, mitigate and adapt to present and future risks.

Resiliency Policy 3

Increase energy and water efficiency of buildings.

► Strategy 3.1

Encourage infill and reuse of buildings and sites.

► Strategy 3.2

Implement and build on the policy that future county owned buildings be LEED certified or equivalent by encouraging energy and water efficiency in all county buildings.

- Foster EMT training opportunities

► Strategy 3.3

Develop a LEED or LID or equivalent recognition program, such as a program that encourages new commercial and industrial buildings to meet LEED standards and encourages new neighborhoods to achieve “LEED-ND” certification.

► Strategy 3.4

Encourage LID storm water practices including the use of cisterns, rain barrels and other rainwater collection.

► Strategy 3.5

Encourage or require communities over a certain size to include water reuse systems.



Green Roof on central carolina community college's Sustainable technologies center

LEED by Example

Central Carolina Community College's Sustainable Technologies Center is a LEED certified Gold level building that has a vegetative roof with drought-resistant plantings, water recycling technology and solar power.

► Strategy 3.6

Provide training for staff to increase capacity to review and permit Green Certified buildings, alternative energy systems, water reuse systems, green stormwater infrastructure (GSI) and other innovative building methods.

Resiliency Policy 4

Encourage alternative energy in order to lessen dependency on the utility grid.

► Strategy 4.1

Evaluate barriers to renewable energy installations and consider permitting on-site small-scale renewable energy generation as a principal or accessory use in appropriate zoning districts.

► Strategy 4.2

Allow by-right small-scale solar and wind systems; consider relaxed setbacks for these systems.

► Strategy 4.3

Orient blocks and buildings to maximize active and passive solar access.

► Strategy 4.4

Discourage home ownership association rules that prohibit outdoor clothes lines.

► Strategy 4.5

Consider sites within or near Employment Areas (including proposed megasites) for renewable energy facilities such as solar farms as a complimentary use.

Resiliency Policy 5

Reduce per capita emissions.

► Strategy 5.1

Recruit jobs and increase access to broadband in order to reduce the rate of out-commuting.

► Strategy 5.2

Concentrate higher density mixed use development in designated areas to encourage walking and biking trips and support successful transit service.

- See Land Use Element for specific recommendations

► Strategy 5.3

Partner with academic institutions, regional partners and other organizations to monitor emissions and carbon sequestration, as well as develop strategies to reduce emissions and encourage carbon sequestration.

► Strategy 5.4

Encourage electric vehicles by (1) studying ways to leverage public assets and private development to create a county-wide network of Electric Vehicle (EV) charging stations, and (2) incorporating electric powered vehicles in government owned vehicle fleets (i.e. Chatham County, Chatham Transit, and Chatham County Public Schools).

► Strategy 5.5

Encourage “Complete Street” elements and transit service expansions to provide residents with transportation options in order to reduce vehicle miles traveled.

- See Transportation Element for specific recommendations

Resiliency Policy 6

Improve waste and recycling services to meet the needs of the County.

► Strategy 6.1

Improve facilities and expand programs as needed.

- Increase the number of recycling centers
- Improve collection centers to extend service life and incorporate landscaping and stormwater improvements
- Evaluate fee structure
- Expand programs to accommodate increased population

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PARKS AND RECREATION

The Parks, Recreation and Open Space element includes a Concept Plan Map. Policies and strategies in this element are meant to lay the groundwork for a connected system of parks, recreation facilities and open space. It reinforces previous recommendations that were supported by public input during the comprehensive planning process and introduces new concepts that will require further study and cooperation with governmental and non-governmental partners to bring to fruition.

The Concept Plan illustrates key future recreation and cultural destinations and, combined with the recommendations, provides a strategic blueprint for future parks, recreation facilities, programs, open space linkages, amenities, trail connections, priority greenways and paddle trails.

BIG IDEA

Double the amount of natural surface trails and paved greenways by 2030.

Note: Currently there are 26 miles of natural surface trails in the County, with the majority of them being in the Jordan Lake State Recreation Area. Currently there are 6.7 miles of greenways, with the majority being the 4.9 miles of the American Tobacco Trail.

GOALS

PRIMARY GOAL

Provide recreational opportunities and access to open space.

SECONDARY GOAL

Foster a healthy community.

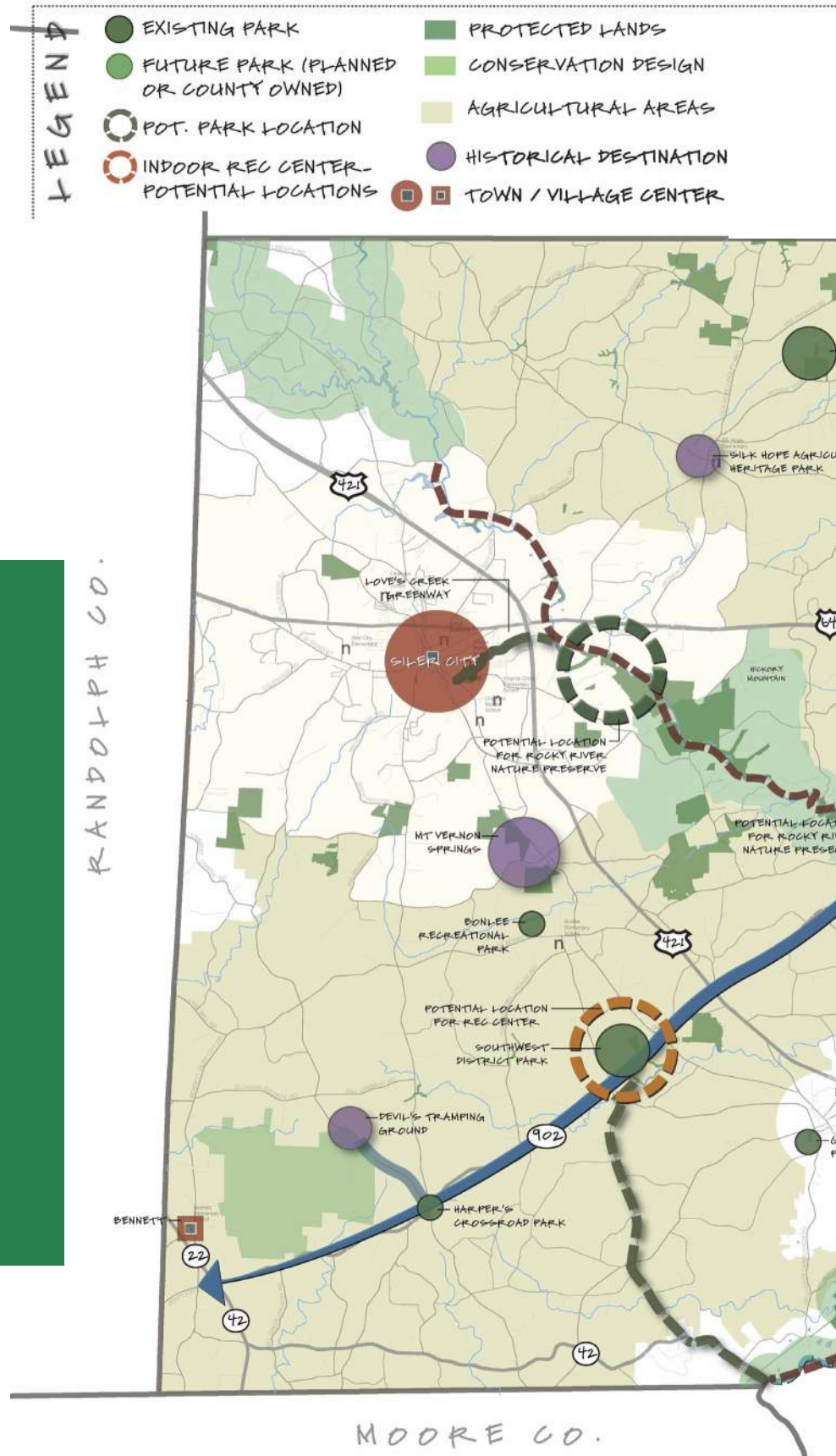
SECONDARY GOAL

Conserve natural resources.

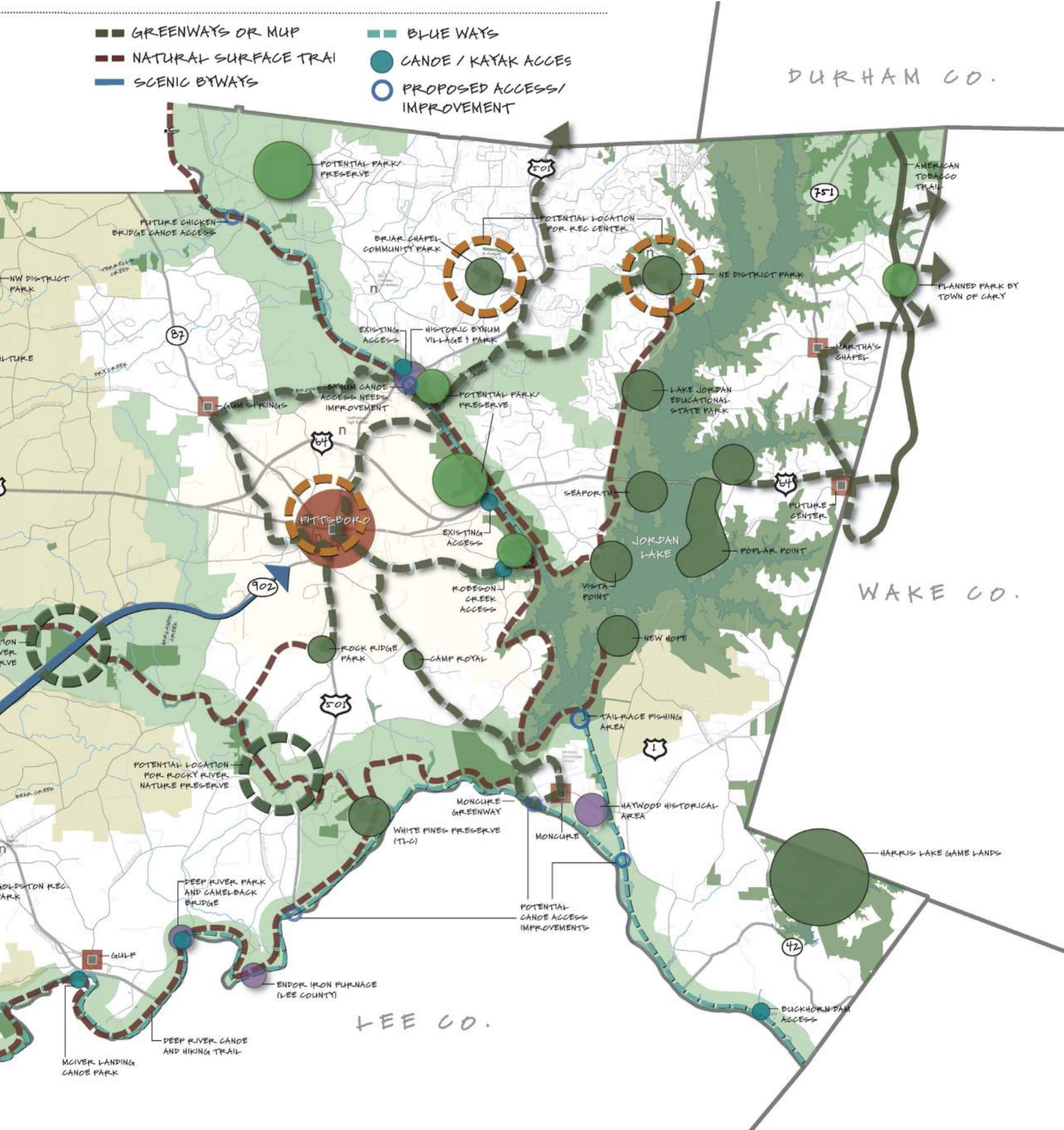
PARKS, RECREATION, AND OPEN SPACE CONCEPT

Highlights from the map and recommendations include:

- Regional trails and greenways and improved river access
- Greenway connections to Pittsboro, Siler City, Moncure, Cary and Apex
- New indoor recreation facilities
- New nature preserves
- Areas of strategic open space
- Protection of historic assets
- Policies that encourage parks, open space and amenities in new development



- GREENWAYS OR MUP
- BLUE WAYS
- NATURAL SURFACE TRAIL
- CANOE / KAYAK ACCES
- PROPOSED ACCESS/IMPROVEMENT
- SCENIC BYWAYS





RECOMMENDATIONS AND STRATEGIES

Conservation of natural areas, greenways and hiking trails are the highest priority recreational facilities in the County.

(Source: Plan Chatham Public Survey, June 2016)

Recommendation 01

Maintain and improve existing parks.

PR Policy 1

Maintain and improve existing parks to meet evolving facility and programming needs.

► Strategy 1.1

Fund the design and construction of facility improvements at district parks.

- Briar Chapel Community Park:
 - Phase II improvements including a playground, shelter, walking trail, paved parking area and lighting improvements
- Northeast District Park:
 - Outdoor multiuse courts (including basketball), recreation center, disc golf course, additional walking trails or mountain bike trails, and lighting improvements (note park includes a 14 acre conservation easement which may allow for some recreation facilities i.e. disc golf)
- Northwest District Park:
 - Equestrian trail, athletic field(s), observation deck, new site plan
- Southwest District Park:
 - Indoor recreation center, multipurpose field

► Strategy 1.2

Improve parking at all parks. Parking lot improvements could include paving or use of alternative surface materials (i.e. pervious pavement or gravel) for sensitive areas and/or overflow parking.

► Strategy 1.3

Upgrade playgrounds and equipment at all parks as needed.

► Strategy 1.4

Improve accommodations for senior and disabled populations at existing parks.

- Chatham County is currently meeting requirements in the Americans with Disabilities Act (ADA), however additional or new benches, restrooms, clear signage, water fountains, and/or specialty play and fitness equipment in existing parks would enhance use by a more diverse group.

► Strategy 1.5

Support inclusive and ecologically responsible facility design and programming.

► Strategy 1.6

Incorporate environmental and cultural education and programming into existing and future parks and greenways.

► Strategy 1.7

Improve access to and condition of existing trails. For example, many hiking trails exist in the Lower Haw River Natural Area, but improved signage and more regular maintenance, especially after storms and floods, is needed.

► Strategy 1.8

Encourage park safety for all citizens by adhering to CPTED principles.

Recommendation 02

Plan for and create a complete and connected system of parks and open space.

PR Policy 2

Address recreational and open space priorities through planning efforts.

► Strategy 2.1

Update the Parks and Recreation Comprehensive Master Plan (2009). The update should consider the following:

- Supplementing private park space with public parks in planned Centers.
- Facilities and programming to address health issues, i.e. obesity.
- Role of county related to acceptance of donated land, historic sites, community gardens and other gathering spaces.
- Mechanisms to facilitate maintenance of trails, greenways and smaller parks in unincorporated communities.

► Strategy 2.2

Create a Greenway and Blueway Master Plan as a standalone document or as a component of a parks and recreation plan update.

- Work to have this document adopted by the Board of Commissioners. Note: The existing Parks and Recreation Plan from 2009 was never adopted. Formal adoption is beneficial as PART-F grant applications receive higher ranking if the plan has been accepted.

► Strategy 2.3

Develop Open Space Framework Plans for areas with high value natural assets. These plans would acknowledge the areas identified as valuable natural resources, and describe the integration with public and private development while maintaining the integrity of the resources. Mapped

A Framework for Open Space

The Parks, Recreation and Open Space Concept Plan acknowledges agricultural and conservation areas shown on the Future Land Use and Conservation Plan. Though these areas are largely privately owned, and likely to remain that way, the type and form of land uses in these areas will contribute to a county-wide open space network. A key piece of the future system of open space in the County will be open space set-asides that will be included in private development. It is recommended that in areas with high value natural assets, conservation subdivisions should be promoted and incentivized. Area plans that illustrate an ideal arrangement between developed areas and a connected system of open space should be useful to guide future development.

See the Conservation Design Guide in the Appendix for an example of a small area planning effort that outlines priority open space.



FIGURE 26: BIG WOODS CONCEPT PLAN

using GIS, this data could inform decisions about open space preservation in conservation design (See Natural Resources Element. Also see the Big Woods Concept Plan, included as an appendix). Areas that would be candidate locations include:

- Haw River Corridor
- Rocky River Corridor
- Southeast Jordan Lake
- Other areas surrounding Natural Heritage Natural Areas

PR Policy 3

Increase the number and mileage of trails and greenways.

► Strategy 3.1

Coordinate with municipalities and private entities to acquire land for, and build priority trail segments.

- Support the completion of the Haw River Trail and Deep River Trail through Chatham County
- Support the completion of other trails and greenways shown on the Parks, Recreation and Open Space Concept Map

► Strategy 3.2

Update policies and regulations to require the reservation of easements and encourage the construction of trails and greenways that are shown on adopted plans.

► Strategy 3.3

Create a trail coordinator position within the Parks and Recreation department that can focus on planning for trails and greenways, coordinating with local governments, non-profit organizations and private entities, and applying for, and administering grants.

► Strategy 3.4

Work with transportation counterparts to obtain easements for multi-use paths along roadways

- Specifically work to determine feasibility of multi-use paths along:
 - US 15-501 from Pittsboro to Rock Ridge Park
 - The proposed backage roads east of 15-501
 - Pittsboro-Moncure Road
 - US 64 from Jordan Lake east to the County Line
 - NC 751 between US 64 and Martha's Chapel
 - Other roads as outlined on the Parks and Recreation Concept Map

PR Policy 4

Partner with municipalities and private developers to improve access to recreation facilities.

► Strategy 4.1

Provide more outdoor recreational opportunities and open space.

- Level of Service (LOS) gaps that should be addressed include:
 - Northwest Chatham
 - Central Chatham (Rocky River Corridor)
 - Northern Haw River Area (i.e. Frosty's and Terrell's Chapel)
 - Martha's Chapel Area
 - Southeast Chatham (including Moncure)

► Strategy 4.2

Provide more access to indoor recreational facilities, programming and outdoor facilities.

- Construct a multi-purpose indoor recreation center at the Northeast District Park property and/or as a co-located shared facility at a new elementary school in the vicinity of Briar Chapel Park (Parker-Herndon Road).
- Collaborate with municipalities to determine a location for a district park that serves the Town, areas in the ETJ and county residents.
- Collaborate with the Town of Pittsboro to determine a location for an indoor recreation center / aquatic center to serve the Town, areas in the ETJ and county residents.

- Coordinate with the Town of Pittsboro and Chatham Park to determine opportunities for parks and recreational facilities within or near the proposed development.
- Partner with Chatham County schools to develop a model joint-use agreement that allows for access to outdoor facilities at appropriate times.
 - An agreement currently exists for leagues, but an "open gate" policy could help address access to parks in many areas.

► Strategy 4.3

Encourage the activation of Village Centers with public space.

- Develop small area plans for Villages and Village Centers to determine opportunities and priorities for open space.
- Work with private developers to locate and integrate plazas, pocket parks and greenways within new developments.
- Partner with community organizations to pursue grant funding for land acquisition and park development.

PR Policy 5

Leverage natural, cultural and historic resources to enhance authentic community character; improve access to recreation and support tourism.

► Strategy 5.1

Improve river access (Haw, Deep, Rocky and Cape Fear) in locations shown on the Concept Map.

- Formalize the Chicken Bridge Road Haw River access.
- Locate additional canoe/kayak access points along the Deep and Cape Fear River.

► Strategy 5.2

Study the feasibility of establishing a nature preserve on the County owned land along Terrell's Creek adjacent to Crawford Dairy Road.





TRANSPORTATION

Although the Comprehensive Plan is not a transportation plan, transportation is one of its integral elements. The transportation system influences, or is affected by, nearly all aspects of the Plan, either directly or indirectly. Travel itself is a direct response to the geographic distribution of jobs, housing, shopping, and other land uses. It is a “derived demand” that can be influenced to varying degrees by land use and urban design decisions.

In the case of Chatham County, a substantial share of traffic on major US routes like US 64 and US 421 consists of through-trips outside the influence of Chatham County’s planning efforts. Many more trips, especially for commuting, begin or end outside the County, and are also subject to conditions at their external origin/destination. However, within the County, thoughtful planning of both land use and transportation infrastructure can reduce the number, length, and geographic distribution of automobile trips, as well as promote alternative modes of travel. Providing options to walk, bike and take transit can help create a healthier community, reduce time wasted in traffic and reduce pollution.

The transportation component of the Comprehensive Plan focuses on identifying and integrating policies and priorities that support the overall vision of the Plan. Recommendations in this Plan element are meant to inform future transportation planning activities, such as regional long range transportation plans and the Comprehensive Transportation Plan (CTP). The Transportation Concept Map (Figure 28) highlights key transportation infrastructure and service needs identified when developing the Comprehensive Plan, and recommends strategies for addressing these needs.

BIG IDEA

County residents of all ages and abilities can travel safely and easily through the County using a range of appropriate travel modes.

GOALS

PRIMARY GOAL

Provide infrastructure to support desired development as well as economic and environmental objectives.

SECONDARY GOAL

Foster a healthy community.

SECONDARY GOAL

Provide recreational opportunities and access to open space.



Source: chathamtransit.org

RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Big Recommendation: Expand transit.

During the plan development process, attendees at the second round of public meetings were asked to allocate a hypothetical amount of funds to transportation projects in a way that would be beneficial to the County. The results of the survey indicated that improving transit service was their number one priority. However, it soon became apparent that not everyone meant the same thing when they said “transit.” Some were focused primarily on fixed-route service, especially for commuting and trips to major regional destinations. Their goal was to reduce automobile travel and associated impacts, as well as providing options to automobile travel. Others were more concerned with providing access to important services and activities for those who are unable to drive due to financial or physical limitations. While both goals are valid, they have very different solutions.

Trans Policy 1

Attract more ridership by improving the service quality of the current fixed-route transit system, while optimizing system efficiency (Commuter/Regional).

► Strategy 1.1

Short-term – Evaluate the benefits of increased frequency and extended service hours, implementing as feasible.

► Strategy 1.2

Short-term – Upgrade and maintain amenities at existing stops, and encourage improvements to pedestrian connections.

► Strategy 1.3

Medium-term – Evaluate modifications to routes and stop locations to increase efficiency and ridership. Explore express, local, and skip-stop options, as well as route-deviations. Examples include:

- Pittsboro Circulator
- US 64 Express service

► Strategy 1.4

Long-term – Build ridership by extending or adding routes to expand service area where justifiable.

Examples include:

- Service to Megasites, Moncure and Goldston

Trans Policy 2

Ensure development is appropriately supportive of existing or future transit service. (Commuter/Regional)

► Strategy 2.1

Short-term – Update subdivision and site plan regulations to provide “transit-supportive” development and amenities where appropriate.

► Strategy 2.2

Medium-term - Encourage the inclusion of transit accommodations within new development at planned Community and Neighborhood Centers. Accommodations could include transit stops, shelters, and/or park-and-ride lots.

► Strategy 2.3

Medium-term - Evaluate intergovernmental agreements for future transit service.

Transit-supportive development

Recognizes that in the proper locations, walkable mixed-use development of the appropriate size and density can effectively support quality transit service, regardless of mode. This enhanced transit service, in turn, can attract additional compatible development. Transit-supportive development can yield other benefits, as well, including reduced sprawl, increased pedestrian and bicycle activity, economic development potential, and reduced environmental impacts.

Trans Policy 3

Improve and expand demand-response service.

► Strategy 3.1

Short-term - Identify, monitor, and regularly publicize the benefits of services provided to rural areas and the transportation disadvantaged, as well as unmet needs and their associated costs.

► Strategy 3.2

Short-term - Encourage the Village-to-Village Network concept as a low-risk way to identify and grow potential markets and series.

► Strategy 3.3

Medium-term - Investigate the potential for any emerging private or public transportation services technologies for all modes of travel (i.e. Uber, Uber Elevate) to supplement demand-responsive service and fulfill first-mile/last-mile needs.

► Strategy 3.4

Short/Medium-term - Consider acquiring additional vans for demand responsive service.

Recommendation 02

Promote active transportation.

Trans Policy 4

Work with public and private partners to build a connected network of greenways and trails as shown on the Parks, Recreation and Open Space Concept Map.

► Strategy 4.1

Partner with Siler City, Pittsboro, Goldston, non-governmental organizations and private land owners to acquire easements for and/or construct greenways and trails.

Trans Policy 5

Where appropriate, encourage developers to provide adequate pedestrian and bicycle facilities, based on anticipated demand for pedestrians and bicyclists, and the ability of such facilities to effectively mitigate speeds and/or traffic volumes that could contribute to unsafe or uncomfortable conditions.

► Strategy 5.1

Short-term – Update regulations, as appropriate, to require the inclusion of sidewalks in new development in areas near existing or planned Centers, as well as other potential pedestrian generators (i.e. schools, parks, senior centers, retail)

► Strategy 5.2

Short/medium-term – To meet current design standards and/or better accommodate bicyclists and motor vehicles, include paved shoulders, wide outside lanes, and bike lanes on key routes as roads are improved. See map for proposed projects.

► Strategy 5.3

Short-term – Establish standards for collector streets that include on-road bicycle facilities where appropriate, to be constructed as part of private developments.

► Strategy 5.4

Short-term – Encourage installation of bike racks and other amenities at strategic locations.

► Strategy 5.5

Short-term – Expand educational and informational outreach identifying dedicated pedestrian/bicycle facility and preferred shared roadways, through maps, wayfinding signage, smartphone apps, and online resources.

Recommendation 03

Use transportation infrastructure to reinforce character.

The divide between rural and suburban/urban land use in Chatham County is a challenge to providing a safe and efficient transportation system. Travel needs and characteristics vary significantly between these area types, requiring different types of roadways and pedestrian/bicycle accommodations. Transitions between these areas are particularly challenging, especially since conditions can change over time due to urbanization. It is critical that design standards avoid prescribing roadways that become obsolete, inappropriate, or ineffective before the end of their effective lifespan.

Trans Policy 6

Incorporate more Urban/Suburban transportation design in and near Centers and Compact Residential Areas identified on the Future Land Use and Conservation Map.

► Strategy 6.1

Short-term – Establish and enforce clear and consistent design guidelines or standards for new street construction related to cross-section elements:

- Travelway
 - Curb-and-gutter designs
 - Travel lane widths
 - Median treatments and dimensions

- Turn lane warrants and dimensions
- On-street parking locations and dimensions
- Crosswalk location, signage, marking, and signalization
- On-road bicycle facilities (separate/shared lanes)
- Bus stops/pullouts
- Streetscape
 - Sidewalk and planting area/buffer widths
 - Bus shelters and street furnishings
 - Street lighting (pedestrian and roadway)
 - Street trees/vegetation/landscaping
 - Curb bumpouts

► Strategy 6.2

Short/Medium-term – Establish and enforce clear and consistent design guidelines or standards for new street construction related to intersection types:

- Yield-controlled
- Stop-controlled
- Signalized
- Roundabouts and intersection components:
 - Turn lanes
 - Curve radii
 - Crosswalks
 - Bicycle treatments

► Strategy 6.3

Medium-term – Establish a process for identifying and retrofitting existing roads that are candidates for upgrading, or removing travel lanes from a roadway and utilizing the space for other uses and travel modes.

What modifications to current standards are needed?

- Street / sidewalk standards
- The Compact Communities Ordinance should be modified to include additional on-street and off-street parking if residential density exceeds a certain density threshold, as on-street parking is not sufficient to accommodate residents' cars. On-street slows traffic and creates a safer condition for pedestrians along residential collectors.

A Road Diet refers to the conversion an existing roadway segment into a narrower segment with fewer travel lanes, offering the following benefits:

- Safety improvements – the narrower road reduces the crossing distance for pedestrians thereby reducing exposure to conflicts with vehicular traffic, and reduces vehicular travel speeds thereby reducing crash severity.
- Usable space – the space gained on each side of the narrower road can be allocated to other purposes, including bicycle lanes, on-street parking, transit stops, and wider sidewalks for pedestrians, sidewalk café seating, retail displays, street trees, planters, seating, and other street furnishings.

Trans Policy 7

Preserve rural character through appropriately designed transportation infrastructure in areas designated as Rural, Agriculture and Conservation on the Future Land Use and Conservation Map.

► Strategy 7.1

Short-term – In most of Chatham County, encourage rural cross section road design.

- Ditch and swale for drainage
- Paved shoulder (where possible)
- Off-road bicycle facilities
- Limited sections with sidewalks, street lighting, bike lanes

► Strategy 7.2

Short-term – Work with NCDOT to investigate innovative options for rural cross-section road design (such as yield streets; wide, advisory shoulders; on-street pedestrian/ bicycle lanes; and wide, contrasting-pavement shoulders), and incorporate in current policies and standards for new subdivisions.

► Strategy 7.3

Medium-term – Consider pilot or temporary demonstration projects for rural road design and/or pedestrian or bicycle enhancements. Seek out Federal Highway Administration (FHWA) or non-profit grants.

► Strategy 7.4

Include specific recommendation for conservation subdivisions and agricultural subdivisions—relaxation of roadway standards could be incentive.

► Strategy 7.5

Short-term – Allow flexibility in designs near Village Centers and Crossroads Communities to incorporate urban elements and rural street elements.

► Strategy 7.6

Medium-term – Prepare multimodal Small-Area Network Plans to identify and address traffic and connectivity deficiencies. Initial candidates include Goldston and Gulf.

Rural Networks

Based on extensive input received throughout this planning process, many residents of rural Chatham County do not feel the current transportation network adequately serves their needs. A wide range of deficiencies were identified, accompanied by sometimes conflicting goals and suggestions. A major challenge (and objective) of this plan is to effectively address these needs, along with future needs, in a dynamic and uncertain environment.

Some of the frustrations voiced are rooted in the rapid pace of change, and the perception that planning and investment are focused on urban areas, without proper consideration of rural needs and conditions. While rural areas vary considerably, even within Chatham County, they typically share several important transportation-related characteristics that distinguish them from more urbanized areas:

- Longer trip lengths

- Higher crash rates
- Lower household incomes
- Higher rates of physical inactivity

Rural and small town residents, particularly those without access to a private automobile, face common transportation challenges. Examples include:

- Low densities and long distances encourage a system of automobile-oriented roadways that favor traffic speed and capacity over other concerns. Travel options are limited, and safety is sometimes compromised, especially for walking and biking.
- Public lands attract visitors unfamiliar with the area, and can increase the volume of vehicular, trailer, bicycle, and pedestrian traffic during non-typical times.
- Agricultural uses generate trips by large, slow-moving equipment.
- State highways often follow routes that include segments of small-town main streets. Such routes give priority to through traffic and truck traffic, creating conflicts with local vehicular access, pedestrian activity, and on-street parking are often routed along small-town Main Streets, conflicting with local access needs and presenting challenges to pedestrian activity, on-street parking, and aesthetics.
- Environmental constraints, such as dynamic topography, limit options for locating or improving facilities. This, as a result, increases construction costs, creating significant hurdles for cost-effective bicycle and pedestrian facilities.
- Limited resources, low traffic volumes, older infrastructure, and large coverage areas often lead to inadequate or substandard maintenance.

Like all North Carolina counties, Chatham County does not build or maintain roads, and is severely limited in funding roadway projects. Historically, NCDOT's centralized administration created and operated an extensive and consistent statewide network. However, this massive bureaucracy is not well-suited to flexibility or responsiveness, especially given

today’s changing expectations and priorities. This is exacerbated by funding shortfalls. Fortunately, NCDOT’s more recent decentralization may provide an opportunity for individual NCDOT Divisions to be more sensitive to local context. There may be an opportunity to, at least, test some innovative approaches (such as yield streets, advisory shoulders, and wide, contrasting-pavement shoulders), especially if they are more cost-effective, or yield safety benefits. Such benefits are critical considerations when designing and packaging projects that maximize competitiveness under NCDOT’s current SPOT/STI prioritization.

Since many local roads constructed in new subdivisions are privately built and maintained (at least initially), these provide an opportunity for greater design innovation and flexibility. However, concerns about emergency and sanitation vehicle access must be carefully addressed, along with the possibility that NCDOT may ultimately have to take over maintenance of these streets.

Pedestrian and bicycle connectivity is usually the critical missing piece in rural transportation networks. Network connectivity is essential for safe and convenient non-motorized travel, which can yield additional benefits by improving transit access and efficiency; enhancing active health opportunities; increasing mobility options for non-drivers; and reducing traffic, emissions, and fuel consumption. Although it may require creative thinking, the creation of better network connectivity in rural setting, such as Crossroad Communities, Villages, Agricultural Districts, and public lands, is definitely possible, although it may require creative thinking. It would also require a focus on the network as an integrated system, rather than a collection of individual facilities and improvements.

The figures below suggest ways of combining facility treatments to create cohesive rural/small town networks:

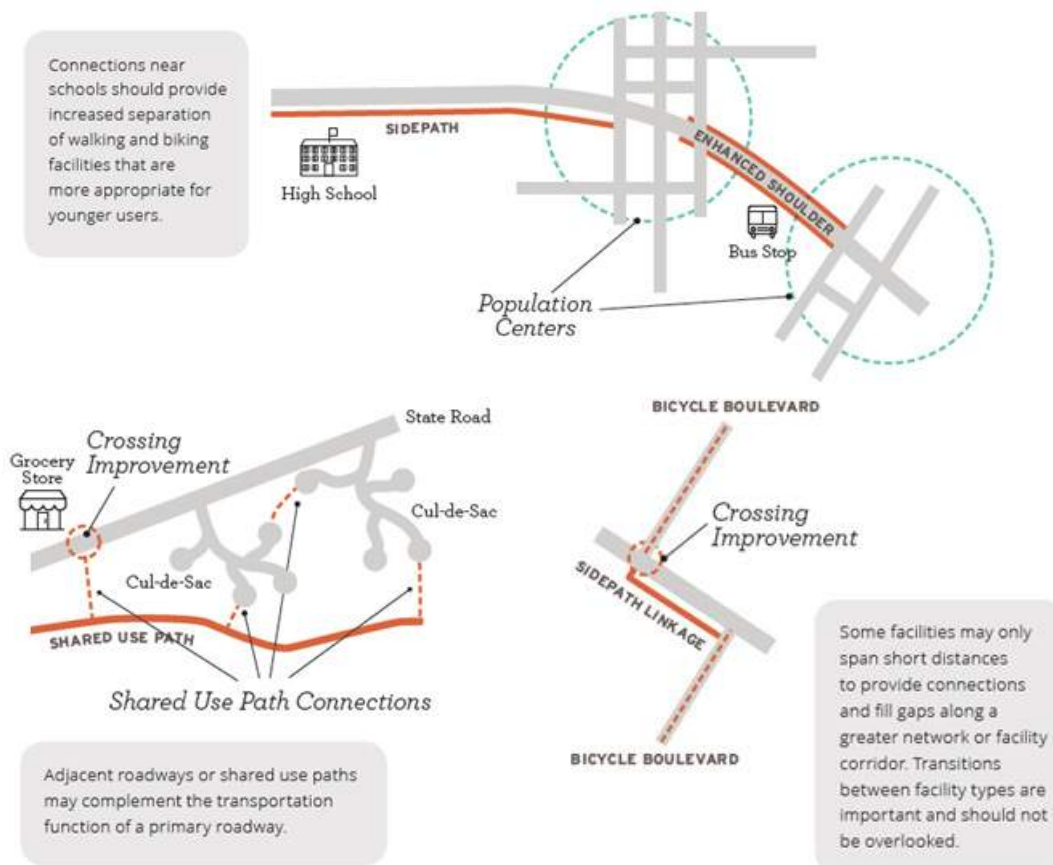


FIGURE 27: FROM SMALL TOWN AND RURAL MULTIMODAL NETWORKS

TRANSPORTATION CONCEPT MAP

Highlights and recommendations from this map include:

- New “backage” roads parallel to 15-501 in sections
- Small-area studies (i.e. for Andrews Store Road)
- Widening of NC 751
- Safety improvements
- Minor upgrades to improve functionality of rural roads
- Regional trails and greenways

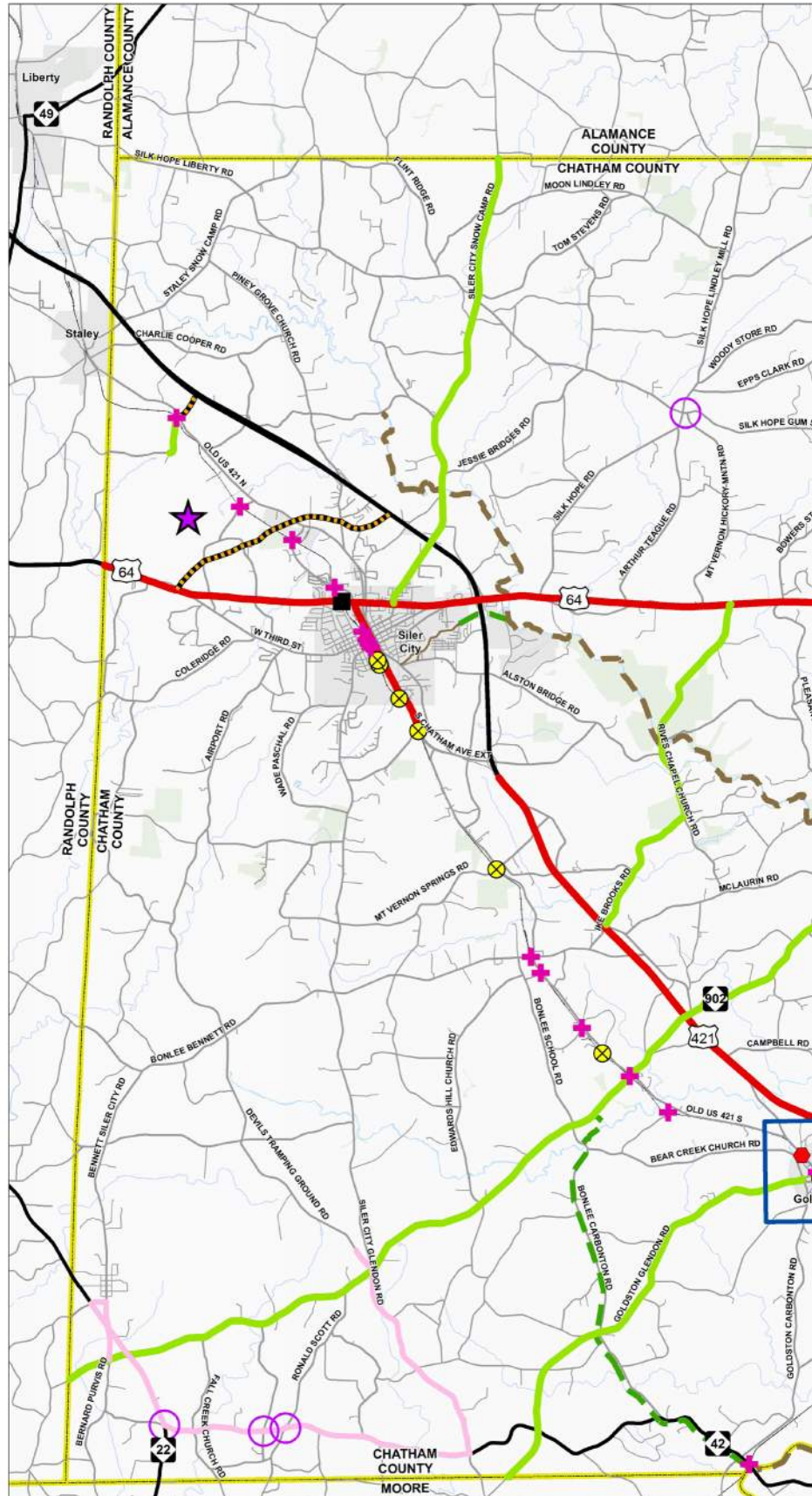
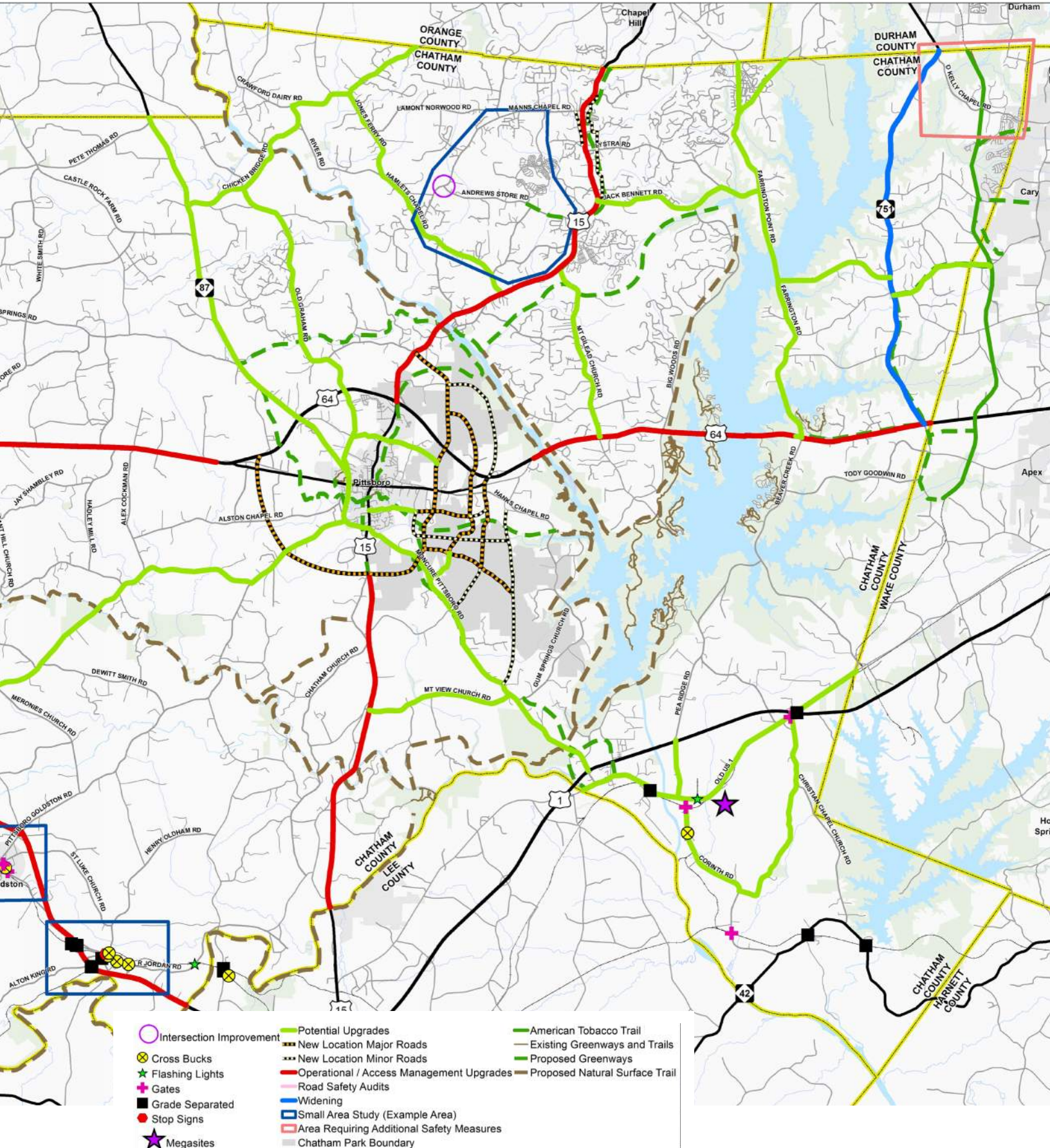


FIGURE 28: TRANSPORTATION CONCEPT MAP
BASE RECOMMENDATIONS CAME FROM NCDOT CTP



Impacts of Chatham Park

Summary of Modeling Process

The pending development of Chatham Park presents a dramatic challenge to transportation services and infrastructure in eastern Chatham County. It also provides opportunities to create a transportation infrastructure that balances modes.

To assess the potential traffic impacts of Chatham Park, modifications were made to the Triangle Regional Travel Demand Model (TRM). The latest available version of the model (v5) covers only the eastern portion of Chatham County, and does not represent the latest plans for Chatham Park with respect to either land use or roadway network. The following modifications were made to the TRM to more accurately reflect conditions anticipated in 2040:

- 6,818 households and 2,925 jobs were added to traffic analysis zones (TAZs) associated with Chatham Park (TAZs 2140, 2143, 2144, 2149, 2191, and 2193).
- Household and employment growth, in some TAZs, was reduced to compensate for the concentration of growth in Chatham Park. However, this was not a 1-for-1 reduction.
- New roads and existing roadway improvements identified as part of Chatham Park were added to the transportation network, along with corresponding revisions to the centroid connectors used to load trips onto the network from TAZs. Other links added to the model network in anticipation of Chatham Park include:
 - Charlie Brooks Road
 - Mt. View Church Road

All other aspects of the TRM appear consistent with the 2040 DCHC MTP in terms of socio-economic growth and transportation system improvements.

It is important to stress that these findings are intended to test the potential build-out impacts of Chatham Park in support of the Comprehensive Plan, and do not constitute official or adopted model results or traffic forecasts. The pending official update to the TRM (v6) will provide additional information through 2045, but is based on a different set of inputs and assumptions. While the traffic forecasts yielded by the new TRM will differ from those prepared for this project, the overall impacts are expected to be relatively similar.

Summary of Findings

The revised TRM was run to generate, distribute, and assign trips to the network, and these results were reviewed. Based on this analysis, the following findings are deemed significant.

- Most of the traffic generated by Chatham Park is oriented northward towards Chapel Hill via US 15/501 north. See the Action Plan for recommendations for 15/501 north.
- While the next most significant share of Chatham Park traffic is oriented eastward, this traffic is split between US 1 and NC 64.
- Interestingly, US 1 carries more of the east-oriented traffic than US 64. This is especially true with regards to longer trips. Also, Mountain View Church Road and Moncure-Pittsboro Road are critical access routes for these US 1 trips. Without fluid mobility along those routes, a significant number of trips would shift northward to access US 64 in Pittsboro, with many of them using US 501 south.
- The major roads proposed for Chatham Park are critical to providing an efficient network at both local and regional scales. In addition to serving Chatham Park trips, they divert some traffic from US 64 and US 501 in Pittsboro, and provide minimal relief to Hanks Chapel Road and Mt. Gilead Church Road (although Mt. Gilead Church still experiences some congestion during peak periods).
- Model results tend to support the need to widen NC 751, especially north of US 64. Congestion on Farrington/Farrington Point Road is also indicated, particularly north of Lystra Road.
- Other roads predicted to experience significant traffic growth include Chicken Bridge Road and portions of Crawford Dairy and Jones Ferry Roads, and to a lesser degree, Morrisville Parkway/Lewter Shop Road and Martha's Chapel Road.

Potential for Transit:

Because of its size, location, and composition, Chatham Park provides a rare opportunity to create a transit-supportive community in a previously rural setting, even if it is not a true "Transit-Oriented Development." Walkability, combined with appropriate densities and mixtures of uses in a well-designed setting, is critical to the success of any transit service, regardless of mode. A "park once" community that balances automobility with other modes and values can offer a range of economic and health benefits beyond merely supporting transit use. Given the uncertainty currently surrounding funding and the rapidly-evolving nature of transportation and transit, the most prudent approach is to create a walkable community. The design, placement, and sizing of roads and parking facilities should be determined by balancing the need to accommodate motor vehicles with the comfort of pedestrians and other modes of travel, as well as land use, environmental, and urban design considerations.





UTILITIES AND PUBLIC SERVICES

Well planned utilities and public services are critical to accomplishing economic development, land use, and environmental goals. Key objectives guiding the policies and strategies in this Plan Element include:

- Focus the development of utilities and urban services to foster compact development and support economic development in defined areas.
- High-speed internet/broadband should be available to all and enable education and entrepreneurship.

BIG IDEA

Define urban service areas & update policies to accomplish economic development and environmental goals.

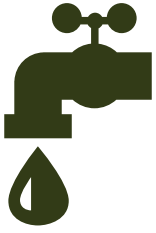
GOALS

PRIMARY GOAL

Provide infrastructure to support desired development and support economic and environmental objectives.

SECONDARY GOAL

Preserve the rural character and lifestyle of Chatham County.



RECOMMENDATIONS AND STRATEGIES

Recommendation 01

Support the desired development pattern with utility policies and public services.

Utility Policy 1

Ensure adequate utilities and public services to support the desired development pattern.

► Strategy 1.1

Support well-designed, decentralized wastewater systems in order to support land use goals and objectives, particularly:

- Growth in designated, well-planned, walkable, mixed use centers
- Conservation subdivisions that conserve sensitive natural resources while protecting property rights

► Strategy 1.2

Develop utilities policies, systems and services that facilitate compact development and support economic development in defined areas.

- Adopt an Urban Service Area (USA) and update utility and public service policies to reinforce the USA.
- Locate new public services, such as governmental offices and schools, in growth areas identified on the Future Land Use and Conservation Plan.

Case Study

Supports Strategy 1.2

Defining Urban Service Areas (USAs) are one way a local government can set expectations related to utility provision and guide growth and development. USAs could include towns and other areas where public sewer service is feasible or preferable in order to achieve defined land use and environmental goals. For more information see the Action Plan.

► Strategy 1.3

Expand public services (including police, fire, health and other county services) concurrent with demands.

Recommendation 02

Support environmental, economic and other objectives with utility policies and public services.

Utility Policy 2

Consider long-term impacts of new development on water supply and public systems.

► Strategy 2.1

In evaluating a development proposal, and prior to approval, consider the potential demands relative to existing and planned water and sewer capacity, the relationship to existing and future service areas and commitments for current and future allocations.

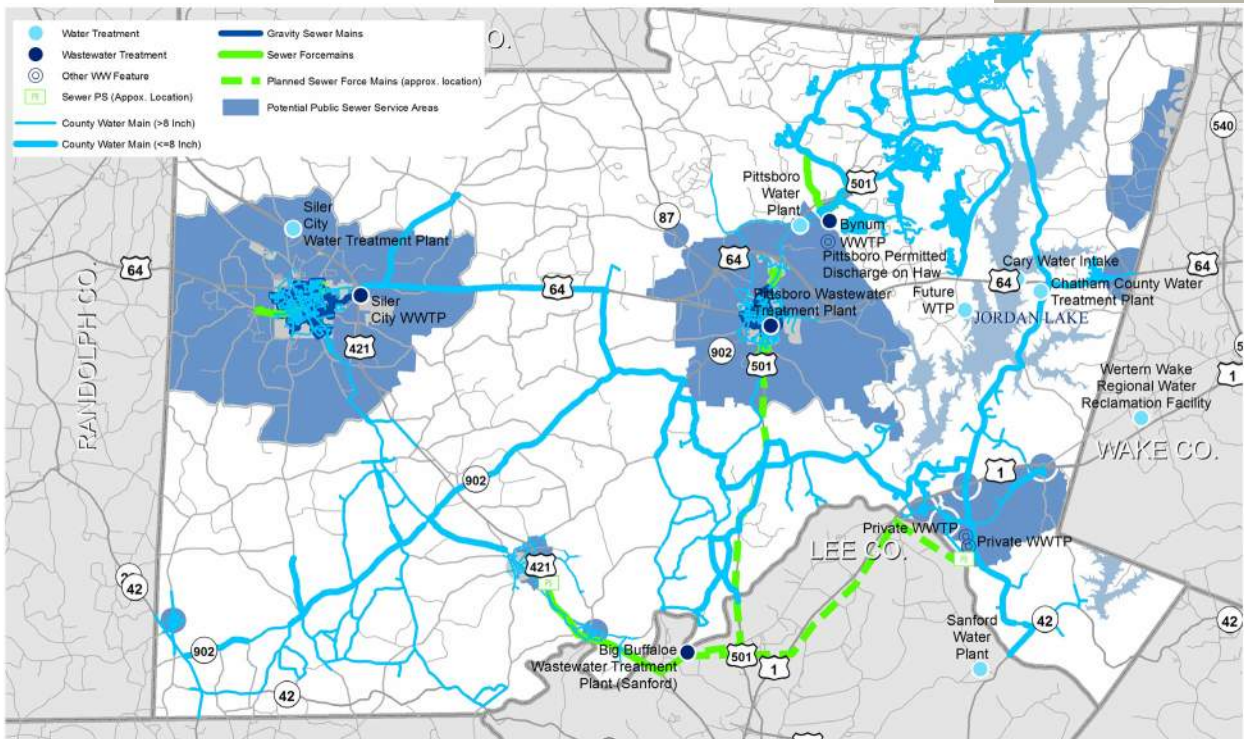


FIGURE 29: MAP IDENTIFIES POTENTIAL FUTURE PUBLIC UTILITY/URBAN SERVICE AREAS.

Case Study

Supports Strategy 4.2

Rural Broadband Expansion

Mid-Atlantic Broadband (a non-profit), Microsoft and the Virginia Tobacco Commission are partnering to expand broadband in rural Halifax and Charlotte counties in Virginia.

For More Information:

http://www.sovanow.com/index.php?/news/article/warner_brought_up_to_speed_on_broadband_rollout/

<http://www.mbc-va.com/news/b2xonline-inc-partners-with-abc-to-expand-broadband-services/>

► Strategy 2.2

Require new development to demonstrate the ability to provide an adequate water supply and wastewater treatment indefinitely for all uses in the proposed project.

► Strategy 2.3

Require private water and wastewater systems to be built according to county standards that include monitoring of potential environmental impacts.

Utility Policy 3

Require water efficiency in public and private developments.

► Strategy 3.1

Require new developments over a certain size to include water reuse systems and remove county regulatory barriers for site-scale systems.

► Strategy 3.2

Require the design process of new county buildings over a certain size threshold to study the utilization of innovative water reuse / recycle systems.

Utility Policy 4

Support economic development and other goals with public utility planning and investment.

► Strategy 4.1

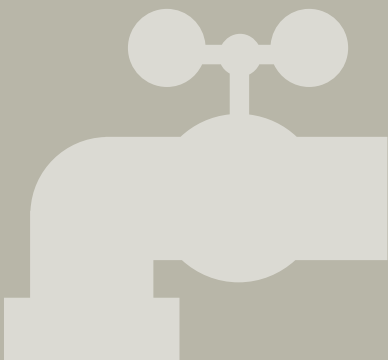
Promote county-wide planning and coordination with municipalities regarding water, sewer, solid waste, and broadband internet.

► Strategy 4.2

Building on previous broadband coverage research, explore grant funds (such as through the Golden LEAF Foundation) and partnerships to expand broadband internet service to high-priority portions of the County.

► Strategy 4.3

Partner with Siler City to serve the Chatham-Siler City Advanced Manufacturing (CAM) Site with water and wastewater service.



Case Study

Supports
Strategy 4.5

Town of Knightdale Water Allocation Policy

Knightdale's Water Allocation Policy is an example of an innovative approach to encouraging quality development. A proposed development must obtain a certain number of points to receive an additional water allocation if the proposal is over a minimum density. Points can be awarded for non-residential uses, roadway improvements, gateway improvements, transit facilities, and amenities (including greenways). See Knightdale's Ordinance for more details.

For More Information: www.knightdalenc.gov/index.aspx?page=460

► Strategy 4.4

Partner with Sanford to serve the Moncure Megasite with water and wastewater service.

► Strategy 4.5

As part of extending service to the Moncure Megasite, allow a certain percentage (i.e. up to 30%) of sewer capacity to be utilized for residential, commercial or mixed use developments in the vicinity of the community of Moncure.

- A water and/or sewer capacity allocation policy could be used to:
 - Encourage diversification of land uses (i.e. more non-residential tax base)
 - Allow for a portion of the designated capacity to be utilized by properties that have failing septic tanks.
 - Encourage new residential development to include affordable and/or workforce housing units.
 - Incentivize reservation of land for publicly accessible open space (i.e. parks).
 - Incentivize the construction of publicly accessible greenways.

► Strategy 4.6

Encourage regular maintenance of septic systems.

Utility Policy 5

Support agricultural operations with utility policies.

► Strategy 5.1

Limit utility extensions or upgrades in key agricultural areas (Agricultural Areas on the Future Land Use Plan and concentrations of agricultural areas shown on the strategic farmland map).

► Strategy 5.2

Discourage community well systems in Agricultural Areas (SUP requirement).

► Strategy 5.3

Improve understanding of groundwater usage and availability in Agricultural Areas.

- Create an accurate, spatial inventory of permitted wells
- Improve permitting process



Chatham County Action Items



ACTION PLAN

IMPLEMENTATION STEPS

The Action Plan includes specific plans, policies and programs that, if implemented, will help to accomplish goals of Plan Chatham. Implementing the recommendations in this Plan will involve elected officials, county staff, citizens, community leaders, non-profits, landowners and businesses.

The Action Plan is organized by topic area and includes short and medium term steps that should be taken in the next 1 to 5 years. Many of these steps should drive direction of departmental work plans moving forward. Staff capacity, whether existing or added over time, will be an important consideration in the development of such work plans.



About Implementation

The following pages contains a short list of plans, programs and projects that are meant to be undertaken within the next 1-5 years in order to implement the community's vision for Chatham County. The Implementation Guide, which can be used to monitor progress, complements the Action Plan by naming responsible parties, appropriate timeframes, and defining metrics to measure success.

Economic Development Action Items

Priority Projects, Plans, Programs

Action Item 01

Targeted recruitment of existing businesses in the Triangle and Triad regions and promotion of appropriate targeted industries and commercial uses at Megasites and Employment Centers.

Action Item 02

After the occupancy of the first major tenant within the Moncure megasite, prepare a small area plan for the Moncure Area. The type and scale of the tenant will help define the housing, commercial, and service needs as well as the demand for infrastructure capacity.

Action Item 03

Coordinate with Chatham EDC and municipalities to draft a new incentive policy geared for small to medium-sized businesses (less than 100 employees), to encourage new investment, job creation, and local business expansion by small and medium-sized companies in the towns.

Action Item 04

Consider increased funding and staffing for the Pittsboro-Siler City Convention & Visitors Bureau and the CCCC Small Business Center to expand services.

Action Item 05

Use relationships between the EDC, the business community, Triangle South Workforce Development Board, and educators with Chatham County Schools and Central Carolina Community College to expand participation in existing work readiness opportunities (such as Central Carolina Works), and develop new work-experience opportunities for Chatham high school students, including work experience with small and medium-sized local companies

Action Item 06

Review existing incentive and loan programs in the towns for possible participation or extension by Chatham County. Current programs include the Pittsboro Façade Grant Program, Siler City Economic Development Incentive Policy, and Siler City Revolving Loan Fund. These initiatives could have a greater impact if enhanced with County funds and/or extended to areas in the ETJs or defined activity centers in the County jurisdiction.



Land Use Action Items

Priority Projects, Plans, Programs

Overall Action Item

Revise the regulatory framework through an update of the County ordinances and regulations. Create a Unified Development Ordinance by making amendments concurrently to ensure such changes work in concert and administration of the updated ordinances is streamlined.

Action Item 01

Facilitate well-designed mixed-use development in appropriate locations.

1.1 Allow more residential uses in some of the non-residential districts. Single-family attached dwellings are permitted in O&I. Multi-family dwellings (apartments and condominiums) would be appropriate in this district, as well as in NB and B-1 under certain circumstances. This would effectively enable mixed-use development on small sites (less than 50 acres), particularly sites targeted for infill development in areas designated as Centers.

- Add Multi-family Dwelling as a use in the Zoning Table of Permitted Uses.
- Consider allowing Multi-family Dwelling as a conditional use (CU) in O&I, NB, and B-1.
- Define the specific criteria for granting a conditional use permit for multi-family dwellings in the non-residential districts identified as appropriate.
- Establish a maximum percentage of area (gross land area in the project and/or total non-residential floor area) to be devoted to residential units.

1.2. Create a set of mixed-use zoning districts.

Circumstances differ across the County, and while a mix of uses may be appropriate in various locations, the specific conditions and range of uses may be different for each. Adopted regulations include the CD-MU and the Planned Residential District (PRD) in the Zoning Ordinance and the Compact Communities Ordinance (CCO). Each provide a starting point for the creation of three new districts to be incorporated into the Zoning Ordinance as a way of more effectively facilitate mixed-use development as is appropriate for Chatham County now and in the future.

- MU-1 – For residential mixed-use development, utilize the provisions of the existing PRD.
- MU-2 – For mixed-use development that is predominantly residential with some supporting neighborhood retail, borrow applicable provisions from the CCO. Modifications and additions may include but not be limited to the following:
 - Allow this type of development in areas designated as Centers rather than sites “currently zoned for RA-40 Residential-Agricultural,” including sites that are in locations other than those defined in 6.1.D of the CCO.
 - Modify buffer and setback requirements to ensure such requirements accomplish intended mitigation of potential impacts while not impeding connectivity to adjacent compatible development.
 - Reduce open space requirement to a minimum of 25% and refer (or repeat) standards in the Conservation Design section of the Subdivision Regulations for determining open space to meet this requirement.
- Alter performance standards;



Land Use Action Items

Priority Projects, Plans, Programs

- to ensure maximum flexibility to be responsive to market conditions, particularly with respect to commercial development (i.e., provisions pertaining to Town Center and Commercial Component).
- to be clear about expectations (revisit “performance” for Transit, Narrow Streets, and Botanical Preservation and Diversity).
- to remove redundancies. For example, remove the maximum built-upon provision, provided the Watershed Protection Ordinance addresses this requirement.
- Specific amendments could include the following:
 - Expand extent of Compact Communities Ordinance so that it can be applied to appropriate areas and sites within the County.
 - Clarify locational requirements for non-residential areas within a Compact Community.
 - Clarify # of dwelling units allowed
 - Revise parking / street standards
- MU-3 – For mixed-use development that is predominantly non-residential and includes some amount of complementary residential, utilize the provisions of the CD-MU with modifications to accommodate contemporary development practices, and consider the following modifications:
 - Modify the minimum area and maximum area to be devoted to non-residential uses.
 - Amend the exterior boundary setback requirement and strengthen screening requirements. Consider the following:
 - A setback of one hundred (100) feet shall apply to residential and non-residential buildings along property lines that adjoin existing residential development. Within the setback, a minimum of 50 feet shall be preserved/planted as a vegetative perimeter buffer in accordance with the existing Ordinance.
 - A setback of one hundred (100) feet shall apply to all residential and non-residential buildings along existing street rights-of-way in designated corridors. (Note: Such corridors should be identified elsewhere in the Ordinance.)
 - A lesser setback (TBD) shall apply to structures (i.e., surface parking lots) along the exterior boundary of the mixed-use development, including any existing street right-of-way.

Action Item 02

Develop a mechanism for facilitating home-based and rural business activity in areas designated for Agriculture and Rural.

- Consider a performance-based approach to zoning in these areas, where different performance standards could apply based on different types of uses and/or existing adjacent development. For instance, less intense uses could be required to meet requirements slightly higher than smaller rural home-based businesses. More intense uses could be subject to additional requirements.

Land Use Action Items

Priority Projects, Plans, Programs

Hypothetical Example of Performance Based Zoning Standards for Rural and Agricultural Areas

Business Type	Description	Performance Standards
Farm Uses	Produce stand	Exempt
Home Bases Business (Currently Allowed)	See Current Ordinance	See Current Ordinance
Tourism Uses	Venues, Bed and Breakfast, Restaurants, etc.	Bed and Breakfasts are covered in existing regs. Venues and restaurants need to be addressed in order to clarify difference between agritourism and event venues.
Small Business / Low Intensity	Farm machinery and small engine repair, professional office, accounting, small daycare, contractor or trade shop	2,500-5,000 square foot building: <ul style="list-style-type: none"> • Minimum setback and lot size requirement comparable to rural home-based businesses • Outdoor storage requirements (i.e. storage must be a minimum distance away from residential properties, be located at rear of property and/or have a max size of storage (i.e. 20,000 sqft)) • Buffers and landscaping requirement (i.e. vegetative buffers of buildings and storage areas of 25ft, landscaping extent based on building frontage visible from public road) • Parking standards (access, paving standards, size limits or design criteria)
Medium - High Intensity	Larger businesses (>5,000 square feet), more intense uses such as retail store, restaurants, automobile repair, self-storage, gas station, restaurant with drive through, manufacturing uses	>5,000 square foot building: <ul style="list-style-type: none"> • Max building size based on lot size (i.e. up to 2% of lot area, not to exceed 20,000 square feet), scalable setbacks, buffer and landscaping requirements dependent on building size and/or height, lighting standards, impervious surface limits, hours or ITE trip generation limits • Additional locational requirements (i.e. at intersections or along certain classes of roadway) • Additional parking, setback, buffer and/or landscaping requirements • Certain high intensity uses and >20,000 square foot buildings – need to go through a rezoning or a conditional use process and preferably be located in a Town, Community or Neighborhood Center, Village, Crossroads or Employment Center.

Land Use Action Items

Priority Projects, Plans, Programs

Action Item 03

With the intent of preserving the rural character and supporting “agricultural friendly” development to minimize encroachment on existing agricultural operations, modify the subdivision process to encourage Agricultural Friendly Developments.

- Re-evaluate the allowances for and definitions of major and minor subdivisions in the Agricultural Area. For instance:
 - Consider allowing administrative approval of minor subdivisions up to 15 lots in rural and agricultural areas as long as design criteria are met.
 - Require all major subdivisions, or just those receiving county water to be designed as Agricultural Friendly Developments.
- Study sliding scale zoning as a way to balance preservation of property rights with reduced conflicts over traffic, groundwater, etc.

Action Item 04

Revise the Subdivision Regulations to make conservation design an easy choice. In other words, the process for designing and permitting a residential subdivision that adheres to conservation design standards should be no more arduous than the process for designing and permitting a conventional residential subdivision. Specific amendments to the existing regulations could include those stated in the Natural Resource Plan Element.

Action Item 05

Assess the Zoning Ordinance and Subdivision Regulations to identify ways to make the rezoning, site plan review, and subdivision plan review processes more predictable for property owners, investors, and other stakeholders.

- Modify language of the Zoning Ordinance and Subdivision Regulations.
- Eliminate vague language to ensure interpretation of the provisions of the Zoning Ordinance and Subdivision Regulations is as intended and to avoid unintended results.
- Improve standards to ensure evaluations of rezoning petitions and development plans are less subjective.
 - Example of language in need to modifications in the CCO: “Narrow streets. Streets shall be relatively narrow, with trees. Pedestrian walkways may be required on both sides of the street.”
- Consider administrative approvals of some applications.

Action Item 06

Update design guidelines that improve the aesthetics of commercial, office, industrial and mixed-use development along major corridors.

Action Item 07

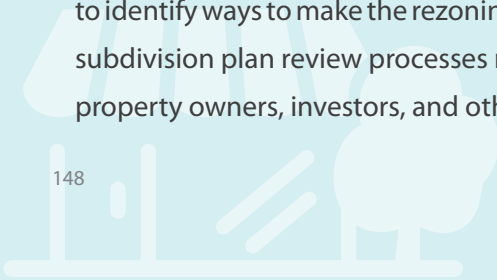
Coordinate with the Chatham Conservation Partnership to host and update conservation data on County website for land use planning and development review.

Action Item 08

Continue updates of the Chatham Cary Joint Land Use Plan and Facilitate Joint land use plans with municipalities contingent on their annexation into Chatham.

Action Item 09

Establish a zoning district that is appropriate for permanently protected lands and rezone areas accordingly.



Housing Action Items

Priority Projects, Plans, Programs

Action Item 01

Update ordinances to include zoning provisions for affordable housing with contribution options (i.e. land donation or reservation, fee in lieu)

Action Item 02

Establish a Housing Trust Fund for affordable housing with housing type targets and location parameters.

Action Item 03

Evaluate options for encouraging affordable housing in well located sites.

Action Item 04

Build on work completed by a housing committee and evaluate potential use of county owned properties for affordable housing.

Action Item 05

Improve tracking of existing assistance programs and expiring income-based housing.

Action Item 06

Continue to partner with Rebuilding Together to address housing conditions.



Health Action Items

Priority Projects, Plans, Programs

Action Item 01

Assure the effective integration of health, healthcare, and equity in Chatham’s plans, programs, projects, and policies by collaborating cross-sector and developing a Health in All Policies approach.

Action Item 02

Support the work and progression of the Chatham Health Alliance and collaborate on cross-sector issues to improve health outcomes.

Action Item 03

Address localized data needs and gaps.

Action Item 04

Consider implementing requirements for Health Impact Assessments to be completed for certain types of major public projects and/or proposed developments over a certain size or threshold.

Action Item 05

Conduct studies to determine steps to improve access for areas within Public Health Priority Areas that do not have safe access to healthy food vendors, healthcare and/or parks.

Action Item 06

Support the development of solutions that expand access to healthcare and mental health services.

Action Item 07

Acknowledge recommendations of the upcoming Capstone project, “Comprehensive Plan for Aging in Chatham,” proposed by the UNC Gillings School for Global Public Health, which will augment the recommendations of this plan by addressing facilities (i.e., a senior education retreat, senior care for Alzheimer’s disease, and senior centers), senior-friendly fitness, isolation, nutrition, estate planning, and safety (particularly with regards to fraud and independent living).



Agriculture Action Items

Priority Projects, Plans, Programs

Action Item 01

Consider funding an additional agricultural extension position that would allow for additional outreach and to assist in farmland protection.

Action Item 02

Consider participating in an Agricultural Infrastructure Study with surrounding counties.

Action Item 03

Coordinate with the Agricultural Advisory Board to establish or update utility extension policies for Agricultural Areas.

Action Item 04

Evaluate development approval processes, conditional use and rezoning requirements in Agricultural Areas to include consideration of impacts on ground and surface water resources.

Action Item 05

Update land use regulations to support rural businesses and protect existing agricultural operations. See Land Use Action Items for more information.

Action Item 06

Evaluate and update real estate notification procedures to include a Real Estate Transfer Disclosure Statement in areas near established Voluntary Agricultural Districts (VADs), in Agricultural Areas identified on the Future Land Use and Conservation Map and/or near other designated working lands.

Action Item 07

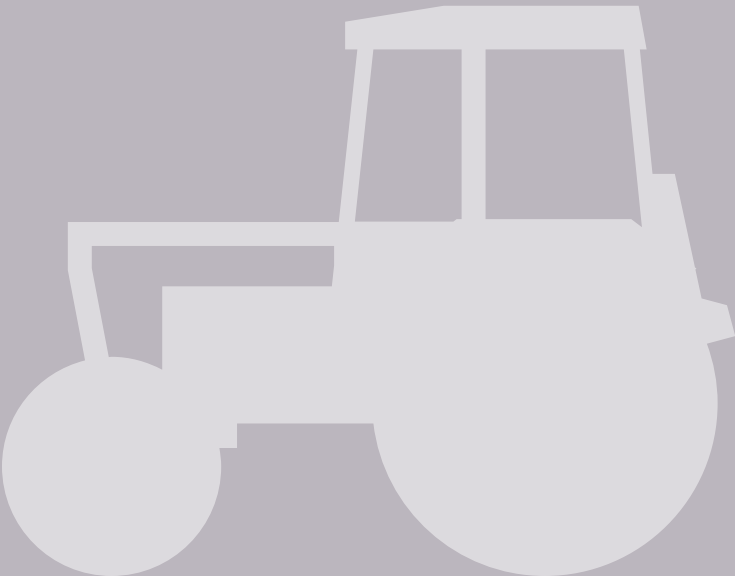
Update and adopt the Farmland Preservation Plan by 2019.

Action Item 08

Develop policies and ordinances for fostering Ag friendly subdivisions

Action Item 09

Determine need or desirability of an Ag Zoning District.



Natural Resources and Resiliency Action Items

Priority Projects, Plans, Programs

Action Item 01

Increase capacity of the Land and Water Resources staff to ensure adequate enforcement of sedimentation and erosion control standards.

Action Item 02

Protect Natural Heritage Natural Areas (NHNAs), habitat hubs and wildlife corridors through voluntary reservation, acquisition and partnerships with non-profits and private entities. Using GIS, study the establishment of a county-led land acquisition program to assist in local land protection efforts.

- Explore regional partnerships to protect water quality
- Coordinate with municipalities to develop a network of nature preserves and the capacity to acquire and maintain properties
- Coordinate with other entities to protect working lands
- Consider a recognition program for participants

Action Item 03

Modify submittal requirements for conventional and conservation subdivision design and update the conservation design guidelines for clarity as specified in the Natural Resources Plan Element.

Action Item 04

Encourage CERT (Community Emergency Response Teams) organizations at the County and community levels.

Action Item 05

Evaluate barriers to renewable energy facilities in the County.

Action Item 06

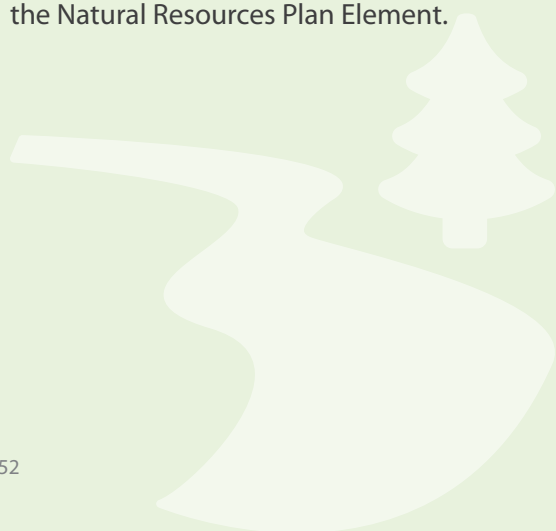
Create an Electric Vehicle Infrastructure Plan.

Action Item 07

Provide training for staff to increase capacity to review and permit green certified buildings, alternative energy systems, water reuse systems, green stormwater infrastructure (GSI) and other innovative building methods.

Action Item 08

Improve facilities and expand programs as needed.



Parks and Recreation Action Items

Priority Projects, Plans, Programs

Action Item 01

Prioritize and fund the design and construction of facility improvements at district parks.

Action Item 02

Update the Parks and Recreation Comprehensive Master Plan (2009).

Action Item 03

Create a Greenway and Blueway Master Plan as a standalone document or as a component of a parks and recreation plan update.

Action Item 04

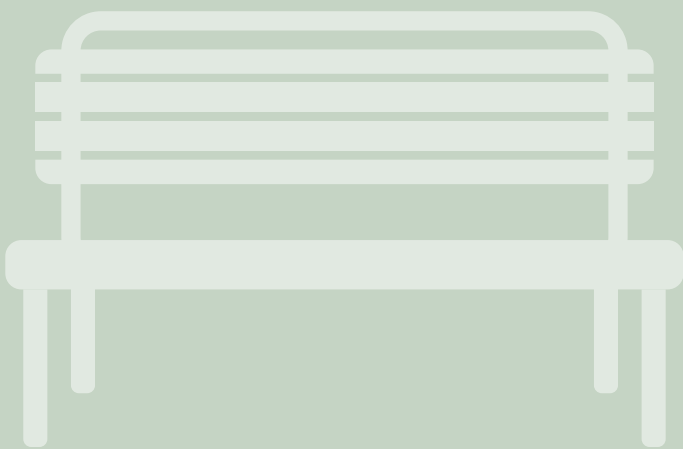
Update policies and regulations to require the reservation of easements and encourage the construction of trails and greenways that are shown on adopted plans.

Action Item 05

Assess staffing at all levels. At a minimum, create a trail coordinator position within the Parks and Recreation department that will specialize in planning trails and greenways, taking into account ways to minimize tick exposure and coordinating with local governments, non-profit organizations and private entities, and applying for and administering grants.

Action Item 06

Reinstate contributions to the park capital reserve for park improvements.



Transportation Action Items

Priority Projects, Plans, Programs

Action Item 01

Transit

- Consider adding park-and-ride locations at Briar Chapel and US 64 in the US 15/501 Corridor
- Identify a future location for park-and-ride lot at planned Employment Center at US 64 and NC 751
- Identify a future park-and-ride lot location near the US 64/US 421 interchange in Siler City
- Expand and upgrade Chatham Transit's vehicle fleet
 - Include additions of alternative fuel vehicles as appropriate
- Given the large share of potential transit trips that cross the Chatham County line, the benefits of interagency cooperation, coordination, or even consolidation could be significant, and should be evaluated. Specific steps worth investigating could include joint purchasing; consolidated funding and grant administration; shared Mobility Manager/Coordinator; and a Transportation Management Coordination Center (TMCC).

Action Item 02

Active Transportation

- Update policies and regulations to require the reservation of easements and encourage the construction of trails and greenways that are shown on adopted plans.
- Establish and enforce clear and consistent design guidelines or standards for new street construction and address when sidewalks and/or on-road bicycle facilities are required.

Action Item 03

Roadway and Freight

- Vision Zero /Safety Audits
 - Embrace Vision Zero commitment to eliminate crash fatalities and injuries. As part of an annual crash monitoring program, conduct regular Safety Audits at priority locations.
 - Conduct geometric examination of roadway to identify deficiencies, and develop safety-targeted upgrades, such as
 - Adding/widening shoulders
 - Improving horizontal/ vertical alignments
 - Lane-width adjustments

Vision Zero policies are efforts by state and local agencies specifically aimed to eliminate traffic fatalities and severe injuries using data-driven prevention strategies, including education, enforcement, engineering, emergency response. These policies may apply to pedestrians, cyclists, and motor vehicles individually, but should address all modes together, and are intended to improve safety, health, and equitable mobility for all.

- Median treatments, turn lanes, or traffic calming
- Kick off this program with a Safety Audit in southwestern Chatham County, studying an apparent crash cluster involving:
 - NC 22 between Bennett and NC 42, including adjoining segments of Chatham and Washington Streets
 - NC 42 from NC 22 to Siler City Glendon Road
 - Siler City Glendon Road from NC 42 to just north of NC 902/Harpers Crossroads

Megasite and Rail

- Coordinate with Megasite planning to identify potential truck routes and volumes for consideration in updating transportation and land use plans, not only to develop improvement projects, but also to minimize and mitigate safety, congestion, and nuisance impacts of increased truck traffic.
- Convenient and reliable access to the CSX and Norfolk Southern rail lines is critical to the attractiveness and long-term viability of the two Megasites, and to the County's economy overall. While maintaining and improving these rail lines is not a County responsibility, it is important that local land use and transportation plans do not conflict with future rail operations or infrastructure improvements. At the same time, while volumes are currently low, growth in both rail and road traffic will increase conflicts and potential for crashes at 82 at-grade rail crossings. Considering this knowledge, future planning efforts should address the following:
 - Identify low-volume and redundant at-grade crossings that are likely candidates for closure or consolidation. Minimize investments in roadway capacity expansion at these locations, and discourage development that would be dependent on such crossings for access, or that would significantly increase crossing traffic.
 - Monitor rail crossing conditions, and request upgrades to crossing control devices as warranted. Consider bicycle and pedestrian crossing volumes as well as motorized traffic.
 - Coordinate with Megasite planning to identify potential railroad grade-separations, such as

Corinth Road in Moncure, or the proposed US 64 Bypass in Siler City. Consider these projects and their impacts in updating transportation and land use plans.

Access Management

- Access management reduces traffic conflicts by selectively eliminating/consolidating driveways, restricting turn movements, and maintaining adequate spacing between major intersections. This strategy preserves roadway capacity without requiring additional through lanes, and typically lowers crash rates. Access management reduces vehicle delay and stops, thereby increasing average travel speeds. It is most appropriate for major arterials serving high volumes of through traffic.
- Access management presents trade-offs for bicyclists and pedestrians, typically reducing side street and driveway conflicts; however, crossings of the main road must be carefully located and designed.
- Frontage or backage roads are often required to provide connectivity and access as part of a major access management project, channeling traffic onto major cross streets, and allowing shorter trips to avoid travelling on the main road, thereby reducing turn conflicts. These roads can also provide better pedestrian and bicycle routes.
- Access management is recommended along all major US routes.
- Current plans for US 15-501 north of Pittsboro incorporate an incremental application of access management techniques, culminating in the conversion of this segment of US 15-501 to a "superstreet" concept in which most left turns are heavily restricted. Instead, special signal timings and U-turns reduce delay and maximize traffic

throughout. A limited network of backage roads is also recommended, to be implemented primarily through the development process.

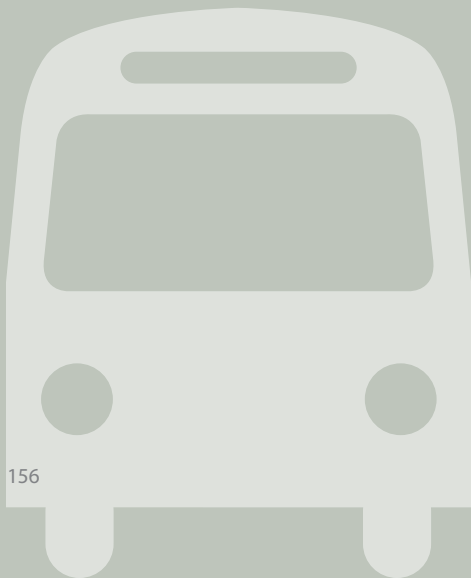
- Roadway Improvements

- A number of roadway improvements or upgrades are supported, many of which are already identified in draft or final plans such as the Chatham County Comprehensive Transportation Plan and the DCHC MPO Metropolitan Transportation Plan. Highlights include:
 - Widening NC 751 to a 4-lane divided facility accommodating bicycles and pedestrians.
 - Preserve the option for an eventual interchange with US 64. Roadway design must be sensitive to critical environmental constraints, and should respect, preserve, and even enhance the corridor's rural character.
 - New roads associated with Chatham Park will create an efficient network serving Chatham Park trips, as well as diverting traffic from US 64 and US 501 in Pittsboro. Other local routes will experience relief due to better connectivity and more direct routing.
 - Consider incremental upgrades of key secondary roads (collectors) to current design standards or better (wider lanes and shoulders, improved vertical and horizontal alignments, etc). Other

than some turn lanes and intersection improvements, no additional widening (i.e., through lanes) would be involved. Some improvements are currently warranted; others may be triggered by growth and development. Further study is needed for some roadways.

Candidates include:

- NC 87
- NC 902
- Andrews Store Road
- Moncure-Pittsboro Road
- Siler City-Snow Camp Road
- Farrington/Farrington Point Road
- Old Graham Road
- Jones Ferry/Hamlet Chapel Roads
- Mt. Gilead Church Road
- Several intersections would benefit from turn lane and alignment improvements to improve safety and reduce delay. Over time, traffic growth will increase the number and severity of intersection deficiencies. Current candidates include:
 - Manns Chapel Road & Andrews Store Road
 - NC 22 and NC 42
 - NC 42 and Ronald Scott Road
 - Silk Hope Road and Silk Hope Gum Spring Road



Utilities and Public Services Action Items

Priority Projects, Plans, Programs

Action Item 01

Adopt an Urban Service Area (USA) and update utility and public service policies. Potential USAs include:

- Future Cary per joint land use plan
- Employment center at NC 751 and US 64 (service from Apex is a possibility, but their policy requires non-residential uses)
- Moncure area (megasite and the Moncure community)
- Goldston and US 421 interchange area

The structure of the USAs and supporting policies could include reimbursement policies and guidance on when public water or sewer should be extended for new development. The approach could define tiered zones that provide a prioritization of utility extension such as:

- Tier I = close to capacity and near centers, extension is ok, but may require private investment
- Tier II = extension is discouraged except for agricultural use
- Tier III = no service

Action Item 02

Expand public services (including police, fire, health and other county services) concurrent with demands.

Action Item 03

Modify regulations to encourage or require new development of a certain type or size to include water reuse systems.

Action Item 04

Explore grant funds and partnerships to expand broadband internet coverage.

Action Item 05

Partner with municipalities to serve economic development priorities with water and wastewater.

Action Item 06

Establish a water and/or sewer allocation policy to accomplish economic development, housing, and other goals.

Action Item 07

County-wide water / sewer master plan to identify key infrastructure upgrades, regional connections, and water supply solutions. This plan could also establish county standards for decentralized wastewater systems.



DIGITAL APPENDICES

CLICK ON [LINKS](#) TO ACCESS DOCUMENTS

- MAPS
 - [FUTURE LAND USE AND CONSERVATION PLAN MAP](#)
 - [PARKS, RECREATION AND OPEN SPACE CONCEPT PLAN MAP](#)
 - [HEALTH PRIORITY AREAS INPUT MAPS](#)
 - LAND USE SUITABILITY ANALYSIS
 - [INDUSTRIAL, COMMERCIAL, RESIDENTIAL, AND CONSERVATION SUITABILITY](#)
 - [AGRICULTURAL SUITABILITY](#)
 - [LAND USE PREFERENCE ACTIVITY RESULTS](#)
- RELATED DOCUMENTS
 - [PHASE I REPORT](#)
 - [COMMUNITY PROFILE](#)
 - [15-501 MARKET ANALYSIS](#)
 - [ECONOMIC DEVELOPMENT STRATEGIES MEMO](#)
 - [PUBLIC COMMENTS / SURVEY RESULTS](#)
 - [BIG WOODS CONSERVATION DESIGN GUIDE](#)
 - [FISCAL IMPACT GUIDANCE](#)
 - [CHATHAM TRANSPORTATION EXISTING CONDITIONS REPORT](#)
 - [IMPLEMENTATION GUIDE](#)



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