

Comprehensive Plan

Greene County, Virginia

Adopted May 23, 2023



ACKNOWLEDGMENTS

Greene County Board of Supervisors

Dale R. Herring, Chair
Marie C. Durrer, Vice-Chair
Davis Lamb
Abbey Heflin
Steve Bowman

Brenda G. Garton, Interim County Administrator

Greene County Planning Commission

Ron Williams, Chairman
Michael Traber, Vice Chairman
John McCloskey
Angela Hawkins
Mark Kelpé

Staff Support

James F. Frydl, Planning Director and Zoning Administrator
Stephanie Golon, Deputy Planning Director
Cristy Snead, Planning & Zoning Permit Technician
Terry Beigie, Grant Writer

Comprehensive Plan Vision Statement	1
Code of Virginia Requirements	2
Greene County: From Past to Present	3
AGRICULTURE AND FORESTRY	7
Introduction.....	7
Existing Conditions	8
Agriculture	8
Promoting Farmland Retention	9
Local Food.....	10
Forestry.....	10
Goals and Implementation Strategies.....	11
BROADBAND INITIATIVE.....	13
Introduction.....	13
Background.....	13
Goals and Implementation Strategies.....	14
ECONOMIC DEVELOPMENT.....	16
Introduction.....	16
EXISTING CONDITIONS.....	16
EMPLOYMENT.....	16
RETAIL AND SERVICES.....	17
INDUSTRY.....	18
DEFENSE PRODUCTION ZONE.....	18
PROMOTING ECONOMIC DEVELOPMENT	19
WORKFORCE PREPAREDNESS.....	19
GOALS AND IMPLEMENTATION STRATEGIES	21
EDUCATION.....	23
Introduction.....	23
Goals and Implementation Strategies.....	25

FUTURE LAND USE.....	28
Introduction.....	28
Existing Conditions	29
Growth Trends.....	29
Land Use Patterns.....	31
Implications of Land Use.....	32
Future Land Use Framework.....	33
Future Land Use Maps	36
Development Guidelines	40
Guidelines for Urban Development Areas.....	41
Guidelines for Rural Areas	55
Fundamental land use Planning Tools	58
Goals and Implementation Strategies: Future Land Use	60
 HOUSING AND COMMUNITY SERVICES	 61
Introduction.....	61
Existing Conditions.....	61
 Goals and Implementation Strategies:.....	 68
 LAW ENFORCEMENT AND EMERGENCY SERVICES	 71
Introduction.....	71
Existing Conditions	71
Law Enforcement.....	71
Fire and Emergency Medical services.....	71
Emergency Communications	72
Emergency Management.....	73
 Goals and Implementation Strategies.....	 74
 NATURAL RESOURCES AND THE ENVIRONMENT	 76
Introduction.....	76
Existing Conditions.....	76
Goals and Implementation Strategies	86
 PARKS AND RECREATION	 88
Introduction.....	88
Existing Conditions.....	88
Goals and Implementation Strategies: Parks and Recreation	92

SOLID WASTE	93
Introduction.....	93
Existing Conditions.....	93
Goals and Implementation Strategies: Solid Waste	95
TOURISM	97
HISTORIC RESOURCES.....	98
NATURAL RESOURCES AND AGRITOURISM	99
TOURISM PROMOTION.....	100
MAJOR PUBLIC EVENTS	100
Goals and implementation Strategies	100
TRANSPORTATION.....	103
Introduction.....	103
Existing Conditions.....	103
Needs and Recommendations.....	115
Goals and Implementation Strategies	122
WATER SUPPLY AND WASTEWATER.....	124
Introduction.....	124
Existing Conditions.....	124
Goals and Implementation Strategies.....	130

INTRODUCTION

The Greene County Comprehensive Plan is the guiding document for the County, intended to integrate a wide range of subjects into a coherent vision that may best manage traffic, accommodate forecasted household and job growth, provide open space and recreational opportunities, and other vital services in the County. Following the Code of Virginia, the Comprehensive Plan is reviewed every five years by the Planning Commission and adopted by the Board of Supervisors to take current conditions and citizen input into account.

COMPREHENSIVE PLAN VISION STATEMENT

A visioning process was the first step in determining the wishes of county residents. During the 2010 Comprehensive Plan update, this vision guided the development of this Comprehensive Plan. The citizens of Greene County focused on a vision statement that follows:

Greene County will enhance the quality of life enjoyed by its residents by preserving the County's rural character and natural beauty and by guiding growth and development. Greene County will achieve this vision by:

- **Conserving farmland**
- **Planning for diverse housing needs**
- **Planning for various modes of travel**
- **Supporting existing businesses**
- **Attracting low impact, environmentally friendly industry**
- **Encouraging tourism**
- **Creating employment opportunities for its citizens**
- **Providing quality schools and recreational areas, and**
- **Conserving the County's natural resources and cultural and historical heritage.**

CODE OF VIRGINIA REQUIREMENTS

The *Code of Virginia* establishes the broad parameters for preparing and adopting a comprehensive plan. The *Code* states, in part:

§ 15.2-2223. Comprehensive plan to be prepared and adopted; scope and purpose.

The local planning commission shall prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction, and every governing body shall adopt a comprehensive plan for the territory under its jurisdiction.

In the preparation of a comprehensive plan, the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth and the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made to guide and accomplish a coordinated, adjusted, and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants, including the elderly and persons with disabilities.

The comprehensive plan shall be general in nature in that it shall designate the general or approximate location, character, and extent of each feature, including any road improvement and any transportation improvement, shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.

The citizens of Greene developed this Comprehensive Plan to meet the Code of Virginia requirements for a comprehensive plan. First and foremost, however, this comprehensive plan has been developed by the Greene County Planning Commission, the Board of Supervisors, and the residents of the County.

GREENE COUNTY: FROM PAST TO PRESENT

Greene County is a relatively small county in the piedmont region of central Virginia, nestled into the eastern slopes of the Blue Ridge Mountains. These mountains, once the size of the Rockies, have slowly eroded into their present form and are one of the oldest mountain ranges in the world. The unique characteristics of this geology have led to an incredibly diverse ecosystem of plant and animal life, extending from the exposed ridges of the highest mountains to the gently sloping forests and plains along the Rapidan and other rivers. All the water that falls on Greene County flows into the James or the



Figure 1: Simms Road

Rappahannock rivers and ends up in the Chesapeake Bay. The Blue Ridge Mountains and the surrounding lands have greatly influenced the county's history and remain a valued natural resource and scenic backdrop.

Native American tribes likely foraged through Greene County in search of game, and the Monacan tribe eventually settled in the flood plains to raise corn, squash, and other crops. John Lederer, a German colonist, became the first known European to explore the land during a 1669 expedition. He returned a year later to scale the Blue Ridge Mountains with the

help of Indian guides, disproving rumors that North America could be traversed in eight days of travel on horseback. For years after this discovery, Greene County would remain relatively unknown to European settlers.

By the early 18th century, Lieutenant Governor Alexander Spotswood was drawn to the area to mine iron from the hematite rocks in the region, enticing groups of German settlers to join him. He led a group of horsemen on the famous “Knights of the Golden Horseshoe” expedition, likely through what is now Swift Run Gap into the Shenandoah Valley. Not long after this, most of the fertile land in the County, a total of about sixty thousand acres, had been offered as grants under the English King George I. The original landowners had to prove themselves as productive entrepreneurs, or they would have to forfeit their land. The Octonia Stone near Stanardsville marks the corner of an original parcel from 1722 with an eight-figure below a cross to indicate the eight landowners given the grant. All eight grantees did not meet the legal conditions and lost their property. The best-known of the original grantees was William Monroe, who became very prosperous while living on his land. Although he never learned to read or write, he established a trust to fund the education of poor children in the community.

The earliest roads in Greene County followed the paths Native Americans had left behind, mainly along riverbanks and through mountain passes. Farmers growing tobacco, the predominant crop in the early

years, needed river access with enough width to transport products. Otherwise, paths for riding horseback would suffice. The essential high-traffic roadways to emerge were connections to Fredericksburg, now State Route 609, and Charlottesville, along Celt Road and Advance Mills Road. The Virginia colony approved a road across the pass at Swift Run Gap in 1764, which is present-day US 33, and eventually extended to become an important route across the County. Although railroads were a critical transportation mode in the 19th century, no tracks were planned through Greene County. US 29 was not aligned in its current form and paved until 1932, when an automobile route was deemed necessary to connect Charlottesville with towns in northern Virginia.

The Town of Stanardsville was established in 1794 by William Stanard, a grandson of one of the original grantees. He subdivided 45 acres of his land into half acres lots and platted them along an even street grid. Within a year, a tavern was built to meet the needs of travelers on their way from Richmond over the mountains. Two original houses remain on the east side of Stanardsville Run. By the early 19th century, the town had grown into a thriving community with numerous services. The federal-style Lafayette Hotel was built in 1840. Originally a hotel and restaurant, the property has changed hands multiple times and served many different functions before being restored to its original intent in recent years. Ruckersville started as a collection



Figure 2: Lafayette Inn



of farmers, and it had developed into a small business district by the early 20th century, most of which was removed with the building of US 29. The road, however, would facilitate new businesses in Ruckersville, and Corner Store to the south, during the latter years of the 20th century. Other historic hamlets in Greene County were Burtonsville, Quinque, Celt, and Amicus. Early communities in the mountainous western portion of the state generally gathered around individually placed churches and stores, which served as everything from post offices to medical clinics.

Greene County was officially declared independent in 1838, named after Revolutionary War hero Nathanael Greene. The land had originally been part of Orange County, but travel to the Town of Orange was too burdensome for residents in the

mountainous regions of the western portion. Thomas Davis, a Virginia state senator, presented a petition to separate the “upper district” from the rest of Orange County and the General Assembly accepted it. Stanardsville was selected as the new county seat. It was, and still is, the only officially recognized town in Greene County. The first Board of Supervisors meeting was held in 1871.

During the Civil War, Greene County held support troops for Stonewall Jackson’s Shenandoah Valley Campaigns and served as access to and from the Shenandoah Valley. A brief skirmish between residents and General Custer’s Union troops centered on a Union effort to capture Confederate cannon near Charlottesville. The aftermath of the war, combined with the depletion of the soil from tobacco farming, contributed to an economic depression throughout the whole state and Greene County in particular. However, within a few years, conditions gradually began to improve. The countryside became dotted with the County’s characteristic wood-sided farmhouses, roofed in standing-seam metal, and picturesque rural churches. Homes with Queen Anne, Victorian, Italianate, and Federalist architectural features began to fill in the Town of Stanardsville.

Construction of William Monroe School in Stanardsville was completed in 1925, becoming the first primary school, and the first bus route to Ruckersville began a year later. Before the consolidation of the school district, education was conducted in homes, small private academies, or one-room public schoolhouses. Because of transportation difficulties, mission schools were also established in the



Figure 3: Blue Ridge School

mountainous areas to meet the needs of children with less accessibility. The contemporary Blue Ridge School occupies the building of one of ten missions established by Rev. Frederick Neve in Greene County. William Monroe School remained segregated until 1956, when it was required to integrate through federal legislation. By the 1960s, three elementary schools were built in Stanardsville, Ruckersville, and Dyke, and William Monroe was rebuilt and reconstituted as a high school. Rapid population growth in the later years of the 20th century required the construction of several other schools or additions.

The Shenandoah National Park was admitted into the National Park System in 1935 after a decade of fundraising and advocacy from private foundations and the State of Virginia. Virginia men from Franklin Roosevelt’s Civilian Conservation Corp crafted the fine stonework of the Skyline Drive, running along the ridge of the park. About six hundred families, 64 of which were within Greene County, were asked to leave the land on the grounds of “condemnation” of what was presumed to be substandard living conditions before the federal government would assume ownership of the park. Many resisted, resulting in several legal battles, which were eventually lost. The sites chosen by the federal government for the relocated residents were mostly in the Haneytown area. The relocation effort was generally a failure for several reasons, and most of the houses were vacated and sold off. The park has become one

of the most popular scenic destinations in the country. The Blue Ridge Heritage Project honors those displaced families by erecting memorials in each of the eight counties bordering the park. The Greene County memorial is located at 40 Celt Road, Stanardsville beside the County Administration Building.

Greene County hit its population growth spurt rather suddenly in the 1970s. The County had only grown by 12% in the 130 years before 1970. Then between 1970 and 2015, the County grew by 265%. This growth has brought economic opportunities to residents in Greene County, but it has also introduced significant changes to the community's landscape and way of life. Road improvements, including a Route 33 bypass around Stanardsville, have enhanced the flow of automobile traffic throughout the County. Most of the new development has been residential, with over five thousand single-family homes constructed during this period. Agriculture, once the primary economic engine of the County, has been in steady decline for several years because of the conversion of land for more intensive uses, agricultural economics, and an aging population of traditional farmers.

Greene County is very much a community in transition, a reality that underscores the importance of ensuring that whatever the County evolves into reflects the wishes and aspirations of those who live here.

AGRICULTURE AND FORESTRY

INTRODUCTION



Figure 4: Farm In Greene County

Greene County has a tradition of farming and forestry that goes back to its earliest days, and residents have repeatedly confirmed their strong desire to see this heritage continue into the future. Not only does agriculture contribute to the aesthetic values and sense of place Greene County possesses, but it is also an important industry and source of employment in its own right. The goals presented in the Comprehensive Plan outline the County’s vision for the future of agriculture and forestry.

Like many other growing communities in Virginia, Greene County is facing the prospect of gradually losing farmland and forests. Each year a portion

of land in the County is converted from growing food or harvesting timber to other uses, such as residential or commercial development. At the same time, some individual farmers are finding it more difficult to sustain a viable business or recruit the next generation to carry on their role of providing food. Preserving farmland and forestland lies at the crossroads of many aspects of the Comprehensive Plan, from caring for the County’s natural resources and heritage to ensuring continued economic development through production and tourism. Efforts to focus new residential, commercial, and industrial growth in the County’s Designated Growth Areas also play a crucial role in preserving our rural areas.

Having a safe, nutritious, and fresh food supply is essential for the quality of life in Greene County, and the growing demand for locally grown foods in the region presents a renewed opportunity for Greene County farmers. Forests also benefit the community and environment far above their commercial use. Each of these elements of the agricultural and forestal system is a part of the comprehensive vision for the future of Greene County.



Figure 5: Poultry House near Mission Home

EXISTING CONDITIONS

AGRICULTURE

Agriculture in Greene County has been undergoing a transition for many years. Over the last several decades, variables such as residential and commercial development and the economy have put pressure on agricultural land. Between 2002 and 2017, the population increased by 33% in Greene County. However, within the same timeframe, the total number of acres dedicated to farming in the County decreased by 12%.

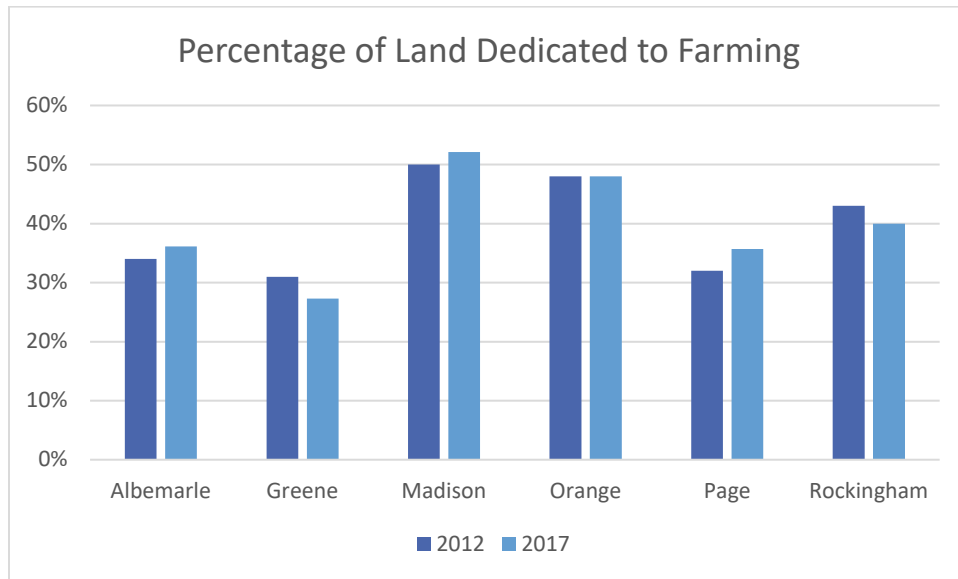


Table 1: 2012 and 2017 USDA Census

According to the USDA Census, most of the operators of farms in Greene County have other sources of income to supplement the farming operation. Of all operators of farms in 2012, 50% indicated running the farm as their primary occupation, up from 2007 when 38% of all farmers were considered “full-time.” Part-time farming could be due to either economic hardships requiring farmers to take alternative jobs to maintain their standard of living or small-scale farming conducted by households in addition to preexisting employment in another sector. The average age of farmers in the County is 61.5, compared to the national average of 57 years. This is not unusual for the occupation throughout the country. Still, it does raise the issue of whether workforce supply will be able to meet the demand for agricultural production in the future.

Virginia Cooperative Extension is the local connection to Virginia's land-grant universities, Virginia Tech and Virginia State University. The Extension offers educational programs in agriculture in its Greene County Extension office. The Agriculture and Natural Resources (ANR) programs help sustain the profitability of agricultural and forestry production and enhance and protect the quality of our land and water resources.

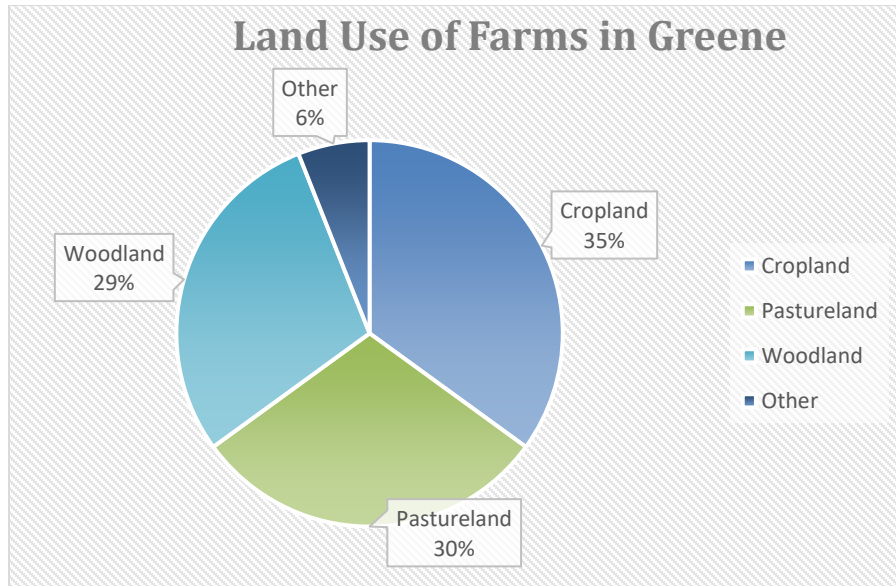


Table 2: 2017 USDA Census

PROMOTING FARMLAND RETENTION

Greene County has recognized the value of maintaining a vital agricultural industry and has employed various measures to meet this goal. The Land Use Taxation system, used by 63 other counties in Virginia, assesses the taxes of qualified parcels according to the productive potential of the land rather than the market real estate value. This often relieves farmers of some tax burden, particularly for properties with higher potential for development, and helps make the use of this land for farming financially feasible. There are approximately 978 parcels in the County receiving this tax benefit. Reducing the tax rate for farmers and landowners of open space helps align these land uses with the costs of county-provided services they typically incur.

The County has also used Agricultural and Forestal Districts as a support measure. These are voluntary agreements between landowners and the local government to decline development in exchange for eligibility for land use taxation and limitations of eminent domain. When the program began in 1982, 23,315 acres were enrolled, and the number of acres in the program fell to 3,466 in 2019.

Conservation easements, and legal agreements to keep land open for agricultural use in perpetuity, are other available tools. Greene County does not directly purchase conservation easements at this time, but several parcels in the County have been explicitly preserved for farming through the Virginia Outdoors Foundation. A total of 10,648 acres in Greene County are under a conservation easement. (Source: <https://www.pecva.org/resources/press/local-land-conservation-total-in-2020/>)

Greene County also encourages the development of niche farming, specialty crops, agriculture-based tourism opportunities, event venues, and transient lodging facilities to add to revenue options for local farms.

LOCAL FOOD

The market growth in local foods over the last several years has benefited farmers in Greene County. For ten years, the Greene County Farmers Market was held June through October at the Greene County Technical Center on Route 33 before it ended due to space availability.

The Economic Development & Tourism department revitalized the Greene County Farmers Market in 2017 at a temporary location, naming it Greene Farmers Market. Greene Farmers Market moved to its permanent location in 2019 to the new Pavilion at Greene Commons in the Town of Stanardsville. The market operates year-round on Saturday mornings and holds a special Holiday Market in late fall. Farmers, artists, and other producers from Greene and the surrounding counties can sell their products directly to customers. Greene Farmers Market participates in the Supplemental Nutrition Assistance Program (SNAP), providing additional access to fresh, healthy local foods which benefit both farmers and consumers.

The Piedmont Environmental Council runs a “Buy Fresh, Buy Local” campaign to encourage residents to purchase food from regional farmers. Greene Farmers Market and several Greene County producers participate in this program. A growing number of grocers and restaurants also provide food from farmers in the region in support of “Buy Fresh, Buy Local.”

For more information regarding the Greene Commons Pavilion, see the Tourism Segment of the Comprehensive Plan.

FORESTRY

Seventy-One Percent of all land in Greene County is forest cover, as identified by the U.S. Forest Service Forest Inventory and Analysis’s most recent data in 2018. Seventy percent of Greene County’s forest cover is in private ownership, with the remaining forestland being publicly owned, mostly the Shenandoah National Park. Most of the forests in Greene County are comprised of hardwoods, with oak-hickory especially prevalent.

Forests provide an essential economic function to residents of Greene County. Between 2015 and 2020, timber harvests generated a total average value of \$476,325 for Greene’s forest landowners. The 2015-2020 total harvest value is well above the annual average from 2004-2019, which was \$277,524. Historical harvests are shown in the table below.

Table 3: Timber Harvests

Year	Number of Harvest	Total Harvested Acres
2015	16	443.5
2016	13	285
2017	5	40
2018	5	252
2019	9	45
2020	5	201

In addition, every \$1 in rights to harvest timber paid to the landowner yields \$41.82 in value added to Virginia's economy. When all of the economic activity generated from the forestry sector in Greene County is taken into account, more than 13 million dollars annually is added to the Virginia economy from this sector. The forest-related industry in Greene County represents 35 directly, and 43 jobs total (the Economic Impact of Virginia's Agriculture and Forest Industries, Weldon Cooper Center for Public Service, May 2017).

From an economic perspective, forestland is important to Greene County but provides numerous other benefits. The forests of Greene County protect watersheds and provide long-term carbon sequestration through forest management, which contributes to clean air. Finally, forests provide important social benefits, including attractive sites for homes, scenic beauty, and wildlife habitat, contributing to the county's rural character and a draw for visitors and potential new residents.

GOALS AND IMPLEMENTATION STRATEGIES

- Greene County will investigate measures to encourage and retain farming and land use operations by the following actions:
 - Establish a stakeholder group to develop recommendations for land use tools that will promote and support rural opportunities.
 - Maintain land use taxation and promote awareness of tax incentives for farmers.
 - Partner with other organizations to encourage conservation easements for agriculture and forestry.
 - Concentrate future development into growth areas following the land use section of the comprehensive plan.
 - Partner with the Greene County office of Virginia Cooperative Extension to help recruit young farmers and reduce the barriers to entry inherent to farming in the area.
 - Encourage the protection of forest resources in parallel with protecting agricultural resources.
 - Encourage and promote specialty and niche farming such as equestrian, vineyard, nursery, and greenhouse crop activities.
- Greene County will encourage farming techniques that help protect farmland and water quality by the following actions:
 - Encourage organic and hydroponic farming.
 - Promote riparian or vegetated buffers to a minimum width of 35 feet on either side of streams to protect fish and help keep the water clean.
 - Encourage Best Management Practices (BMPs) such as no-till, contour plowing, cover crops that conserve soil integrity and health, rainwater filtration, and the reduction of the overland flow of water to area streams.

- Greene County will achieve recognition of farming and farmers as a vital part of the County's future and make them part of the tourism by the following actions:
 - Encourage events such as the Greene Farm and Livestock Show, the various farmer's markets hosted in Greene County, and the Strawberry Festival.
 - Promote agritourism businesses targeted toward the Richmond and D.C. metro areas
- Greene County will actively celebrate the farming heritage by the following action:
 - Collect stories from generational farmers to produce a pamphlet or documentary about the area's farming heritage.
- Greene County will support local agriculture through the Buy Fresh, Buy Local campaign and promote the year-round farmer's market in Stanardsville.

BROADBAND INITIATIVE

INTRODUCTION

The mission of the Greene County Broadband Initiative is to study, recommend, and support broadband development initiatives to bring broadband access to all residents, students, businesses, and visitors in Greene County in the most cost-effective, equitable, minimum-risk, high-quality, and practical manner possible.

BACKGROUND

Beginning in March of 2017, the Greene County Board of Supervisors identified the expansion of quality broadband access and service throughout the County as a high priority in the County's overall strategic plan. In response, the County Administrator instituted the County Administrator's Broadband Initiative Advisory Committee to serve as an advisory body to the County Administrator on broadband development initiatives. The Broadband Initiative Advisory Committee has explored existing infrastructure and continues to study options and solutions on behalf of Greene County citizens for internet accessibility and services in the most cost-effective manner. The Broadband Initiative Advisory Committee developed and provided the Recommendations of the Committee for authorization by the Greene County Board of Supervisors on January 8, 2019.

Greene County is aware that the need for broadband access crosses many different paths in Greene County. Whether it be education, public safety, medical services, agriculture, business, tourism, or local government, to name a few, all of these sectors of our community must rely on a seamless, robust communications network to provide their valuable services. Expanded broadband service offers significant opportunities for county residents. Students need broadband to access the internet to do homework and apply to colleges. Working families need it to apply for jobs, work from home and access various government services, and seniors increasingly rely on broadband access to connect to the growing world of telehealth.

Additionally, there has been significant growth in the number of home-based businesses. Broadband connections mean instant access to online information, email, instant messaging, and other communications services available over the Internet. For businesses, it means communicating more quickly and reliably with customers and suppliers. For all citizens, it means that information can move into and out of our homes and businesses more efficiently than today. Reliable broadband has become one of the most sought-after features for home purchasers. Providing every home with equal access promotes equity and opportunity for all citizens and businesses.

A study done in 2016 by the U.S. Department of Housing and Urban Development finds a strong correlation between household income and in-home connectivity. This pattern persists across both rural and economically depressed urban communities. The study finds that while two-thirds of U.S. adults aged 18 and older had access to broadband internet in their homes, just 41 percent of adults with household incomes less than \$20,000 had it. In comparison, 90 percent of adults with household

incomes above \$100,000 had access. In Greene County, the unserved areas have median incomes that are as much as 50% lower than the County average median income.

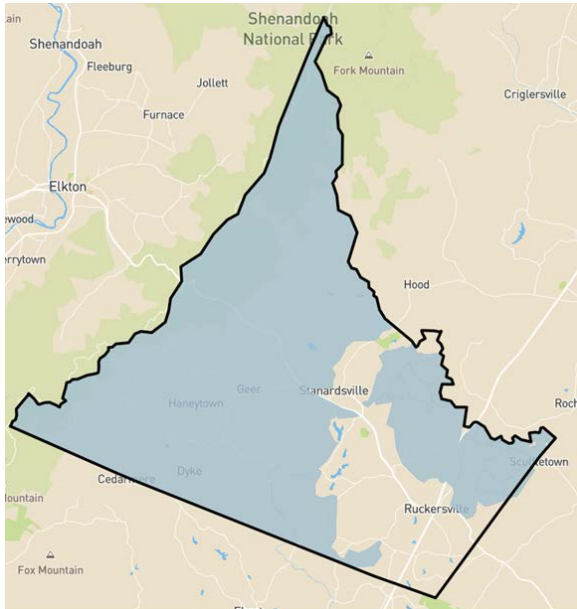


Figure 6: RISE Grant Coverage

The map in figure 6 shows the areas (in blue) that will receive high-speed broadband over the next three years as part of the Rural Innovation Stronger Economy (RISE) grant. The Greene County Board of supervisors has committed 2.6 million dollars to support broadband expansion into the unserved areas. The Rise grant is a collaboration between Greene County, Central Virginia Electrical Cooperative, Firefly, Dominion Power, and Rappahannock Electric Cooperative to provide high-speed broadband to 2687 unserved units and over 471 new miles of fiber. This covers all of the areas in Greene County currently unserved by a provider. In total, the RISE grant comprises a 27-million-dollar project.

GOALS AND IMPLEMENTATION STRATEGIES

- Greene County will develop a broadband implementation plan with specific attention to the County’s anchor institutions, such as schools, medical facilities, judicial and law enforcement agencies, and all government buildings.
- In collaboration with Emergency Services Communication upgrades, Greene County will utilize new and existing towers and fiber infrastructure to make improvements as appropriate.
- Greene County will encourage Internet Service Providers (ISP) to invest in providing all residents/businesses with at least 100 megabits of reliable, high-speed broadband access.
 - Continue meetings with ISP to discuss planned improvements and discuss potential public/private collaboration opportunities
 - Support the implementation and installation of the RISE grant.
- Greene County will review and update as needed the tower regulations in the Greene County Zoning Ordinance to allow a more streamlined process for situating towers while protecting the aesthetic view sheds.
 - Examine other localities’ ordinances.
 - Consult with Tourism Council to ensure no negative impact on tourism.
- Greene County will explore and assist developers with plans to provide broadband infrastructure in all new residential and business developments.
 - Formally add to site plan review: a review of broadband considerations.
 - Formally add to pre-app meeting agenda: discuss broadband considerations.
- Greene County will explore Broadband Funding Opportunities:

- Pursue grant and partnership opportunities to support broadband development initiatives.
 - Seek grants and partnership initiatives to encourage affordable access to broadband for all citizens.
 - Seek grants through the Community Development Block Grant Planning Grant.
 - Continually monitor the Virginia Telecommunication Initiative.
 - Review opportunities through the Vibrant Community Initiative (VCI).
 - Discover opportunities through the e-Rate Funding for Schools & Libraries.
 - Research USDA Community Connect Grant Programs.
- Before grant applications, Greene County will consider a fiscal agent structure:
 - Broadband Authority: BOS, Regional, stand-alone, EDA.
 - Other: TJPDC, collaboration with other localities.

ECONOMIC DEVELOPMENT

INTRODUCTION

A strong economy will support and facilitate many of the goals Greene County set, making economic development a continually important endeavor. Prosperous households, thriving businesses, and a government with a good and diverse tax base will be better equipped to meet the challenges Greene County faces and improve the quality of life for all citizens.

As Greene County sees more growth and development, the employment base must continue to expand, at least in proportion to population growth. Providing jobs closer to home reduces strain on transportation infrastructure, builds a solid tax base for the County, and attracts new investment in the community. Greene is a business-friendly community, and each element of the comprehensive plan should consider how it will create better conditions for a healthy economic climate.

Greene County’s commercial land use is concentrated along U.S. Routes 29 and 33 corridors. The County intends to continue encouraging growth, specifically in the growth areas defined in the Future Land Use Chapter of this Comprehensive Plan. Focusing development into designated growth areas offers the most efficient use of infrastructure, opens up prime transportation corridors, and protects rural areas from more intensive uses.

EXISTING CONDITIONS

EMPLOYMENT

According to the Virginia Employment Commission’s November 2020 report, Greene County has 3,025 jobs, which is a 12% increase since 2010. With a total population of 21,197, there are 7.0 persons per job within the County, which indicates that out-commuting exceeds in-commuting substantially. For every one Greene County resident that remains in the County, 5.5 leave the County for work, categorizing Greene County as a “bedroom community.”

Across the last several decades, most Greene County workers have commuted to either Albemarle County (2,412 commuters) or the City of Charlottesville (1,409 commuters). Increasing the number of employment opportunities would not only increase the tax base and improve the quality of life for residents, but it may also reduce commutes for Greene County residents.

Greene County’s unemployment rate has been consistently below the rate for Virginia by around 0.5% and below the national rate by approximately 2.5%. The unemployment rate in Greene County was 2.0% at the end of 2019 (pre-COVID-19). However, during the pandemic, Greene County reached a high unemployment rate of 9.4%; yet Greene County was impacted less than the State (1.2% below) and National (5.5% below) unemployment rates.

The U.S. Census indicates that the median income of workers in Greene County is \$67,398, which is above the national median income. According to the Virginia Employment Commission’s Community

Table 4: Commuting Patterns

Commuting Patterns	
People who live and work in the area	1,203
In-Commuters	1,822
Out-Commuters	6,666
Net In-Commuters (In-Commuters minus Out-Commuters)	-4,844

Profile (updated 11/21/2020), wages in the County range from \$1,563 per week for a Technical Service Provider to \$296 per week for an Arts/Entertainment Provider.

Most of the employers in Greene County are small-scale operations. Out of 500 establishments located in Greene County, 374 employ less than five workers. The largest employers in the County are the Greene County Public School system, Greene County local government, and large retail establishments.

Although jobs are distributed throughout the County, there is a discernable spatial pattern of concentration. Smaller firms tend to be more widely distributed, while larger employers tend to be more concentrated along essential corridors. The following figure was produced by the U.S. Census Bureau's OntheMap (2022) program.

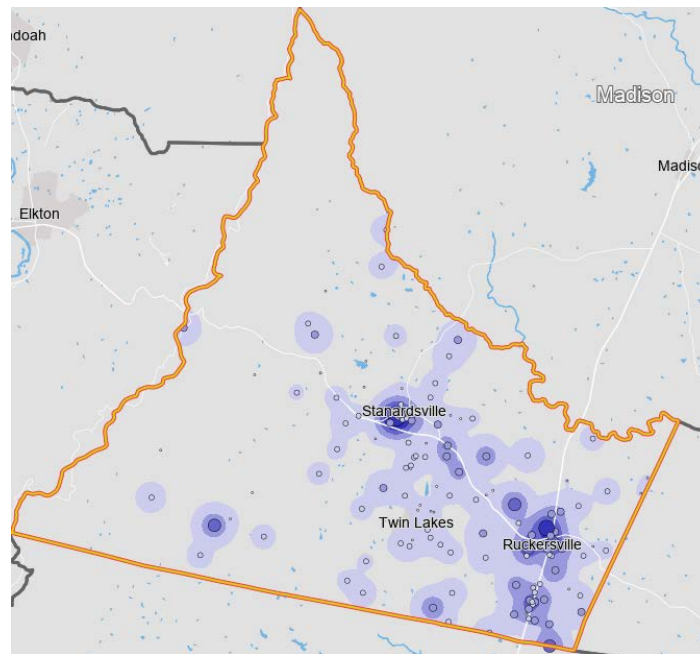


Figure 7: Employment Distribution in Greene

Employment in the County can be spatially categorized into four distinct Employment Centers containing 66% of all work. The Stanardsville area has the highest concentration of jobs which can be explained by the predominance of public-sector employment. A set of industrial and business parks southeast of Stanardsville along U.S. Route 33 constitutes 9% of all employment. Finally, a large portion of commercial and transportation-related jobs is located in Ruckersville or near the Corner Store area by the border with Albemarle County.

RETAIL AND SERVICES

Retail and food services are the largest private-sector industries in Greene County, with 23% of all new hires in the first quarter of 2021 in the retail or food service industry, indicating that this is the fastest-growing sector in the County.

Ruckersville's location along Route U.S. Route 29 is situated to benefit from traffic along this vital corridor. Approximately 28,000 vehicles a day pass through the segment of Route 29 between the Albemarle County line and the intersection with U.S. 33 and 16,000 vehicles per day pass through the

busiest portion of Route 33, directly to the west of the U.S. 29 intersections. This general area includes the Gateway Center, located north of the intersection of Routes 29 and 33, which consists of a Walmart Superstore in addition to a Lowes Home Center and other nationally known businesses.

Tierney Plaza contains several smaller retail establishments anchored by the Holiday Inn Express and located near the Albemarle County line. Most of the existing services along this corridor are for larger volume retail, chain outlets, gas stations, and services catering to residents and visitors passing through. In addition to commercial vitality, the Ruckersville area has the potential for the expansion of offices and professional employment. Another prime location for retail and service expansion is downtown Stanardsville. Although there has been little growth here for the last several decades, there have been renewed economic development efforts in recent years. The Stanardsville area has lost a significant portion of its former commercial base due to fire, abandonment, and conversion to housing. This commercial base must be restored if the Town is to have a critical mass of businesses to attract visitors/customers from other parts of Greene and beyond.

The Board of Supervisors approved a planned unit development, located in Ruckersville and identified as The Villages at Terrace Greene. The development is planned to deliver 282 townhomes, 100,000 ft² of retail and office space, as well as 150,000 ft² of light industrial facilities. This development will provide mixed-use opportunities that may create a live-work experience.

Because of its size and location, the Stanardsville area will not be attractive to national retail chains, nor do town residents want it to be. Therefore, it must develop an ambiance and market positioning built around its historic designation, small-town atmosphere, and special services. Thriving commerce will be focused on a range of eating and tourist experiences, specialty stores and services, professional firms attracting employees who want to work in a relaxed rural environment, and services for county government and town residents. Stanardsville would not compete with the Ruckersville corridor but serve a complementary function.

INDUSTRY

Although manufacturing and warehousing do not comprise a large share of the total Greene County economy, they nevertheless serve an important function for economic development and job creation. Greene County has seen a significant increase in prospects looking for distribution facilities.

Most industry is concentrated along U.S. 33 southeast of Stanardsville. The Spotswood Business Park on U.S. 33, one mile east of Stanardsville, is a prime location for business offices, distribution/warehousing, and light manufacturing. An older industrial park on U.S. 33 west, the Greene Industrial Park, is also a location for business offices, distribution/warehousing, and light manufacturing. A 70-acre tract of land on U.S. 33 west, next door to the Greene Industrial Park, is currently zoned for industrial use and is available for future expansion.

As mentioned above, The Villages of Terrace Greene planned unit development would offer the opportunity of 150,000 ft² of light industrial facilities, as well.

DEFENSE PRODUCTION ZONE

In 2020, the Board of Supervisors designated the entire County as a Defense Production Zone. The defense industry remains one of Greene County's primary target industries. Our proximity to Rivanna

Station and other unique qualities makes the defense industry one of our key opportunities to recruit businesses. Defense production businesses that focus on design and development associated with Rivanna Station have a minimal impact on the community and surrounding properties. In addition, these businesses create high-paying jobs that attract citizens who will contribute positively to our community. This is an opportunity for Greene County to play an indirect role in the mission of these businesses that are critical to the security of our country.

PROMOTING ECONOMIC DEVELOPMENT

Greene County has invested in future economic development with the establishment of the Economic Development and Tourism (ED&T) Department. The department is charged with emphasizing Greene County's competitive features to attract new industrial, retail, commercial, and tourist businesses while helping existing businesses grow. The County's full-time director coordinates these efforts.

The ED&T department performs several services, including helping prospective businesses with site selection, offering a variety of financing options to local enterprises, acting as a liaison between the business community and local government, collecting data, and creating promotional material. The Greene County website contains comprehensive information for customers, travelers, potential business startups or transplants, and existing businesses to meet their particular needs.

The Greene County Economic Development Authority (EDA) is a separate local government agency with authority to issue bonds to carry out the economic development in the community, manage the affairs of the Greene County Industrial Park, establish and manage a revolving loan fund for the expansion of existing businesses and prospective new businesses, and support the Economic Development Director's initiatives.

The Greene County Chamber of Commerce is "dedicated to advancing the economic vitality and quality of life in the Greene County area so that the entire community shall prosper." The Chamber of Commerce facilitates interactions between local businesses and advocates for their concerns at a broader level. It hosts a Greene County Chamber website.

There are regional economic development organizations that support Greene County as well. The Central Virginia Partnership for Economic Development (CVPED) serves the greater Charlottesville area. In July 2008, the Piedmont Workforce Network joined CVPED to consolidate its workforce enhancement efforts with economic development. The CVPED Board of Directors comprises private and public sector leaders from around the region. In addition, the Central Virginia Small Business Development Center is instrumental in supporting small businesses in the area. They provide free counseling on several small business needs. They often partner with other services, including SCORE, Charlottesville Investment Corp, and the Virginia Small Business Financing Authority.

WORKFORCE PREPAREDNESS

Workers in Greene County are employed in various sectors, each requiring different training and experience. According to Virginia Employment Commission data, the primary employment sectors are relatively evenly split between professional and service sector jobs in retail and food services. A more minor but not insignificant portion of jobs is in the construction and manufacturing industries.

Piedmont Virginia Community College (PVCC) offers several college credits at the Eugene Giuseppe Center located in Stanardsville. In collaboration with William Monroe High School, high school students can graduate with a high school diploma and an Associate's Degree. In addition, PVCC offers customized training programs for individual businesses to offer their employees.

PVCC's main campus is in Charlottesville and offers a full range of Associate Degree programs, workforce certificates, and continuing education credits. In the fall of 2016, PVCC began offering an advanced manufacturing program at the main campus. In addition to PVCC, there are many regional opportunities for workers to gain training and accreditation. The University of Virginia in Charlottesville is the largest institution in the region, with the most comprehensive offering of professional degrees, including business, medicine, and law. James Madison University is 30 miles from Stanardsville and is a highly regarded four-year institution. In conjunction with William Monroe High School, the Greene County Technical Education Center offers courses for training in a technical field for high school students. The Tech Center works closely with local trade companies offering paid internships and apprenticeships for graduating high school seniors in lucrative industries such as HVAC, electrical, plumbing, and construction.

Greene County offers a well-educated workforce and several opportunities to further meet the training needs of the local industry.

GOALS AND IMPLEMENTATION STRATEGIES

- To inspire existing businesses to expand and remain in the County, Greene County will:
 - Continue the Small Business Investment Grant Program.
 - Build a strong relationship with the regional Chamber of Commerce.
 - Create and support entrepreneurial development Initiatives.
 - Continue to build relationships with real estate brokers to keep available Greene properties high on the priority list.
 - Develop and promote a Buy Local Campaign.
 - Promote and encourage opportunities for business-friendly policies.
- To attract and encourage business growth, Greene County, in coordination with EDA, will:
 - Maintain a revolving loan program for small businesses.
 - Create a dynamic database of all ED&T business contacts to better manage business and contact information.
 - Maintain continual contact with current companies to assess needs and trends.
 - Actively promote potential locations and benefits of locating a business in the County.
 - Actively recruit lucrative manufacturing sectors such as advanced Manufacturing Defense and Security and Medical/Bio-science.
- To increase available locations for business development, Greene County will:
 - Explore available land to negotiate with potential buyers.
 - Research potential properties, particularly in the Ruckersville area.
 - Investigate public/private partnership opportunities.
 - Research critical utilities to identify industrial growth areas (gas, fiber, water, sewer).
- To inspire small businesses to locate, expand, and remain in the Town of Stanardsville, Greene County, in partnership with the Town, will:
 - Promote first-floor retail with apartments on upper levels.
 - Seek solutions to aged water and sewer system.
 - Leverage the potential of community venues in Town (Farmers Market, music, and artisan shelter).
- To capitalize on art tourism and grow new opportunities for new arts-based economic development, Greene County, in coordination with the Art Guild of Greene County, will:
 - Build on the success of the Virginia Clay Festival by seeking new events to promote the County's creative assets.
 - Promote new artisans moving into the area to increase the draw to a larger artisan community.
 - Establish an art apprenticeship program to support start-up artists.
 - Create an Artist Trail with supporting signage.
- To grow and foster commercial vitality in the Town of Stanardsville, Greene County, in partnership with Stanardsville, will:
 - Establish the Stanardsville Merchants Alliance.
 - Establish a Stanardsville Buy Local campaign.
 - Install directional signage for retail in Town and on bypasses.
 - Increase pedestrian-friendly street crossings.

- To grow and foster commercial vitality in Ruckersville, Greene County, in coordination with the Ruckersville Advisory Committee, will:
 - Implement ordinances that build a sense of "place" (landscaping, signage, etc.), are enticing to new quality businesses, are endorsed by current companies, and take steps toward a strategic vision.
 - Create a Ruckersville Business Alliance.
 - Promote the establishment of ordinances that address public safety, aesthetic value (blight and basic architectural standards), and community connectivity (bike paths, walking paths, connector roads).
 - Continually assesses communities' needs and desires (i.e., minor engine repair, coffee shop/meeting place) through an online survey.
 - Attract one national restaurant chain.

- To ensure Greene County's unique economic development and tourism opportunities are communicated most effectively, Greene County will:
 - Update and implement an annual marketing strategic plan.
 - Maintain a robust information campaign focused on attracting guests from the Massanutten and Shenandoah Crossings Resorts.
 - Explore opportunities with the Virginia Tourism Board Commission.
 - Create website landing pages for each group's unique cohort.
 - Consider collaborative marketing opportunities that cross cohorts.

EDUCATION

INTRODUCTION

An excellent school system can prove to be one of the most critical elements for a community. School systems with a proven culture of excellence foster growth and economic development and attract families looking for a new community. Greene County Public Schools offers a variety of programs and services designed to provide all students with educational opportunities and experiences that will prepare them to excel in a rigorous and globally competitive world. Our school division consists of six schools: Nathanael Greene Primary School (grades Pre-K through 2), Ruckersville Elementary School (grades K through 5), Nathanael Greene Elementary School (grades 3 through 5), William Monroe Middle School (grades 6 through 8), Greene County Technical Education Center, and William Monroe High School (grades 9 through 12). The Nathanael Greene and William Monroe schools are located on one campus in Stanardsville, and Ruckersville Elementary is located one mile west of the intersection between US 29 and 33. The Greene County Technical Education Center is located on route 33. School administration offices are also in Stanardsville in the County Administration Building.

The Greene County School system provides many benefits for families and the local economy through a rich history of academic success and strong community partnerships. The school division offers a variety of programs and services designed to prepare students for learning in the 21st century. The school system also offers a comprehensive experience for students in Career and Technical Education fields that include traditional and innovative course offerings, many of which are offered at the Greene County Technical Education Center. These course offerings and experiential learning opportunities ensure that the school system graduates are prepared to excel in both college and the workforce. Here are *some* of the highlights of Greene County Public Schools:

- Student-to-teacher ratio (Elementary 11:1, Secondary 13:1)
- \$10,594 per-pupil spending in 2020-2021
- Exceptional intervention staff that can identify support services needs
- During the global pandemic, GCPS was one of only four school divisions in Virginia to remain fully operational for students in grades PK – 5 without closing. All students in PK – 12 grades had the opportunity to participate in either whole in-person learning, hybrid learning, or completely virtual learning for the entire 20 – 21 and 21 – 22 school years
- Instructional coaches in each building who work directly with teachers to enhance practices in teaching and learning
- Success coaches assist students and families in need of additional support, mentoring, and family assistance
- Comprehensive Social-Emotional support teams for students and families to include school psychologists, counselors, and behavior specialists
- Graduation rate consistently above the state average (95% for the class of 2022)

- Almost \$1.47 million in scholarships were awarded to the class of 2022, approximately \$465,000 of which were from community organizations
- 16% of students in the class of 2022 graduating from William Monroe High School concurrently earned their Associate's Degree.
- One-to-one technology initiatives in use with all grade levels
- High School students are provided the opportunity to participate in Blue Ridge Virtual Governor's School
- Enrichment opportunities include National History Day, Destination Imagination, Robotics
- Pre-K program available to those who qualify
- Elementary STEM classes for all students
- Course offerings through Virtual Virginia (VVA) for students interested in Advanced Placement (AP®)
- An ongoing partnership with PVCC's Giuseppe Center ensures students have full access to their resources close to GCPS
- Continuing to expand fine arts (music, drama, visual arts), highlighted with the Annual Arts Festival
- Career and Technical Education provides students opportunity to explore career paths as well as life skills, including agriculture, automotive technology, HVAC, architecture, building trades, cosmetology, culinary arts, business, manufacturing and engineering, career connections, and creative media
- Over 59% of the Class of 2022 planned to continue formal education after high school
- All schools within the division have been fully accredited since 2016.

In 2020, Greene County Schools was recognized at the state level for its renovation project at William Monroe High School and William Monroe Middle School. Out of 6 entries, the project received the top architecture honor from The Virginia School Boards Association (VSBA), the Platinum Design Award. The most notable aspects of the project include renovations and additions to William Monroe High School and Middle School. Road reconfiguration, new parking, and landscaping at the Stanardsville and Ruckersville campuses were also part of the overall project. The schools opened to students in August 2019 and featured expanded cafeterias and media centers, flex classroom space, and safety improvements. The project exemplifies the Greene County community's commitment to our school system.



In 2020, Greene County Public Schools earned one of the Virginia Board of Education’s Innovative Practice Awards. This was the first year the board issued the award, recognizing innovative practices implemented over two academic years to improve student outcomes. VBOE cited GCPS’s “division-wide innovative practices to retain high-quality teachers” as a primary criterion for earning the honor. Additional division-wide efforts that contributed to this recognition include an overall redesigned professional learning model, an addition of a Teacher Support and Mentorship Coordinator position, and an overall shift in our culture of teaching and learning through project-based learning and performance assessments.

William Monroe High School earned the 2020 Board of Education Continuous Improvement Award. Schools that were recognized in this category earned accreditation and met at least one of the following criteria:

- A 10-point increase in the combined rate in reading and math, and in the pass rate in science;
- A 10-point increase in the combined rate in reading and math for two or more student groups across three years;
- A decrease in the chronic absenteeism rate for three years; or
- For schools with a graduating class, an increase in the Graduation and Completion Index and a decrease in the dropout rate for three years.

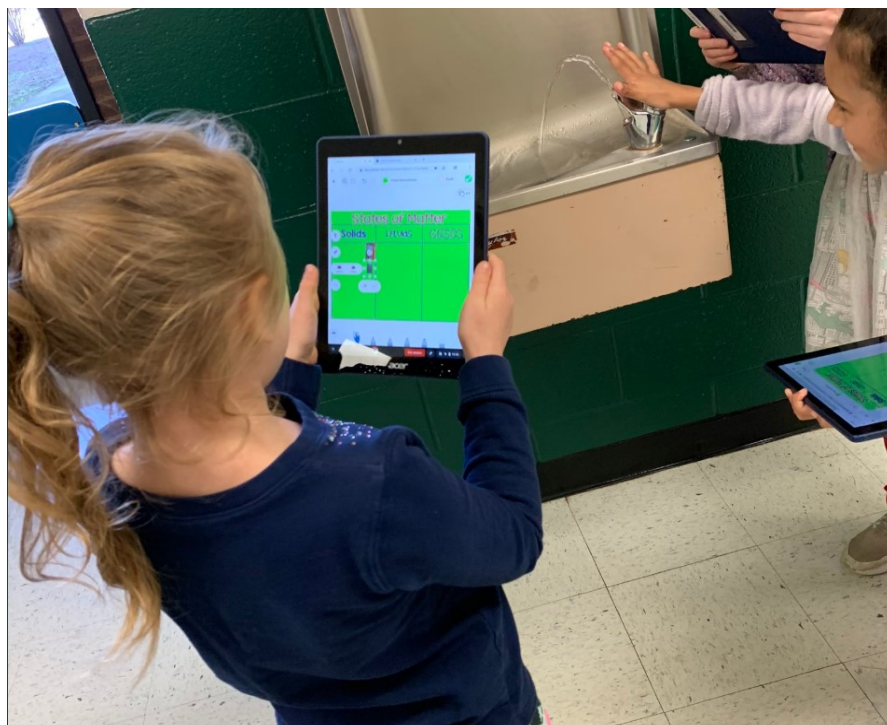
GOALS AND IMPLEMENTATION STRATEGIES

In 2022, the Greene County School Board adopted its Strategic Plan “Impact 2027” for 2022-2027. The foundation of Impact 2027 is the vision of “Empowering our community’s children for life-long success.” To establish a framework for implementing this plan, the school division set five core values that guide division leaders, teachers, and staff in transforming the educational landscape to meet the needs of 21st-century learners. Each core value establishes a concentrated focus on the skills, knowledge, and abilities that Greene County graduates will need to excel in their post-secondary lives. Each of these areas is continuously being explored, refined, and developed by school-division staff who are learning the best possible ways to make the necessary shifts in our instructional practice.

Efforts to meet the needs of 21st-century learners continue to be a top priority within the division's continuous improvement model. Teachers, instructional coaches, and division leaders are focusing on our five core values through a series of coaching cycles, reflection activities, artifact gathering, and vertical teaming.

The following components of the five core values continue to form the framework for teaching and learning in our school division:

Culture of Excellence to hold ourselves to the highest standards for all students and adults. We ensure that our students have educational opportunities and experiences that will prepare them to excel in a rigorous and globally competitive world. To ensure this, we embrace innovation, creativity, and collaboration to foster the highest quality of teaching and learning.



Safe, Supporting, and Caring Schools

that value the social, emotional, and mental health needs of all students. Every school provides a safe learning environment for students those honors and support individual needs and differences and cares for the whole child.

Resource Stewardship to ensure that we are responsible for the efficient utilization of our fiscal and capital resources. Our federal, state, and local funds are managed through accountability, transparency, and integrity.

Connections and Partnerships with our Community leverage the benefits of strong partnerships with our community to provide our students with relevant, rigorous, and high-quality learning experiences both in and out of the classroom. We work collaboratively with students, families, staff, and community partners to provide opportunities for all students to develop their necessary future-ready skills.

Exceptional Workforce that focuses on recruiting, hiring, and retaining the highest quality leaders, educators, and support staff to support and sustain a culture of excellence for our community.

Future Priorities to Support Impact 2027

The following areas of focus by the Greene County School Board are aimed at supporting these five core values and the implementation of Impact 2027. This list is not all-inclusive but provides a brief snapshot of several upcoming projects, improvements, and initiatives:

- The Construction of a new elementary school to support projected increases in enrollment and economic growth in Greene County. This is not only to support the forecasted enrollment

increases but also as part of the comprehensive facility study completed in 2016 that led to the Stanardsville campus, WMMS, WMHS, and RES campus improvements.

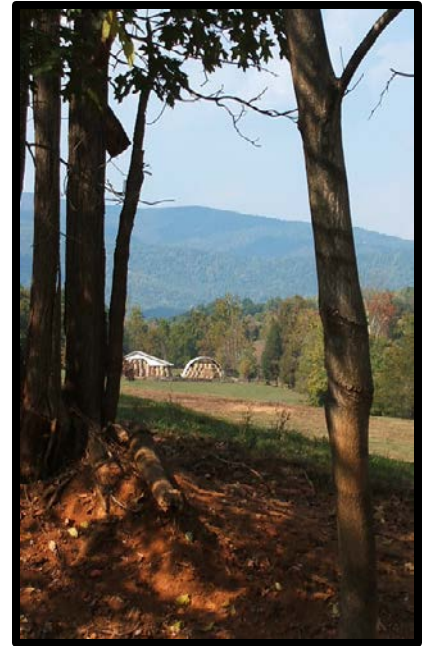
- Continued focus on providing personalized academic experiences for students, including dual enrollment opportunities in collaboration with Piedmont Virginia Community College. This includes hiring additional dual-enrollment teachers to provide courses for students within the school system. This focus aims to support the 16% of students currently engaged in obtaining their Associate's Degree and their high school diploma while also increasing that percentage over the next five years
- The ongoing expansion of our Career and Technical Education facilities and programming to meet the needs of our students and adequately respond to the dynamic changes in post-secondary workforce needs
- Commitment to remaining competitive in the local region for teacher and staff salaries to ensure we are recruiting and retaining the most highly qualified employees
- Expansion and improvement of our alternative education models and facilities to ensure we are meeting the needs of all learners in our community

FUTURE LAND USE

INTRODUCTION

Future land-use decisions have a far-reaching impact on the county. This chapter is an essential guide to planning for future residential, commercial, and industrial growth in Greene County and the ancillary services and amenities needed to support it. Economic growth and protection of the quality of life, so crucial to county residents, hinges on a sound future land use strategy.

Many factors are at play in achieving a sound future land use strategy: growth areas that have adequate water and sewer capacity and availability; future traffic patterns and the ability to exist and planned roads to handle new development; the availability of alternative modes of transportation; the ability of county resources (schools, library, parks, law enforcement, and emergency services) to accommodate new growth; decent and affordable housing for all residents; positive economic expansion; and stewardship of the land. The other chapters of this comprehensive plan are intended to provide this information and set the stage for an informed approach to land use.



This chapter begins by evaluating the existing land use conditions and future trends. State population and job growth projections are used to estimate the potential land-use needs for development over a twenty-year time horizon. A few general implications of land use are given to tie these findings into other comprehensive plan elements. The following section defines the future land use growth area and place types designated to receive a majority of new growth. Maps show precisely where the growth area and place types are located.

The third section provides broad design guidelines for growth areas tailored to each place type. If the future land use growth area answers the question of where development shall be located, the design guidelines suggest how the development can be designed to match its neighborhood. Design guidelines are to be flexible rather than strictly prescriptive. Additionally, the place types are related to the State code requirements for Urban Development Areas. The next section describes guidelines for any growth that may occur in the rural areas, as well as a set of preservation and mitigation tools to help maintain the county's rural character.

Finally, a section on goals and implementation strategies provides tools for how the community's vision can realistically be achieved.

EXISTING CONDITIONS

GROWTH TRENDS

Greene County has been transitioning over the last few decades from a rural community to a suburban one. The County's population has been climbing since 1970, and during the 1990s, Greene County's growth rates were among the highest in Virginia. While the annual growth rate has slightly lowered to a yearly average of 0.9 % between 2010 and 2020, population growth is expected to continue steadily into the future. The Virginia Employment Commission projects a county population of 22,376 by 2030, which is 7% more than the current population of 20,968.

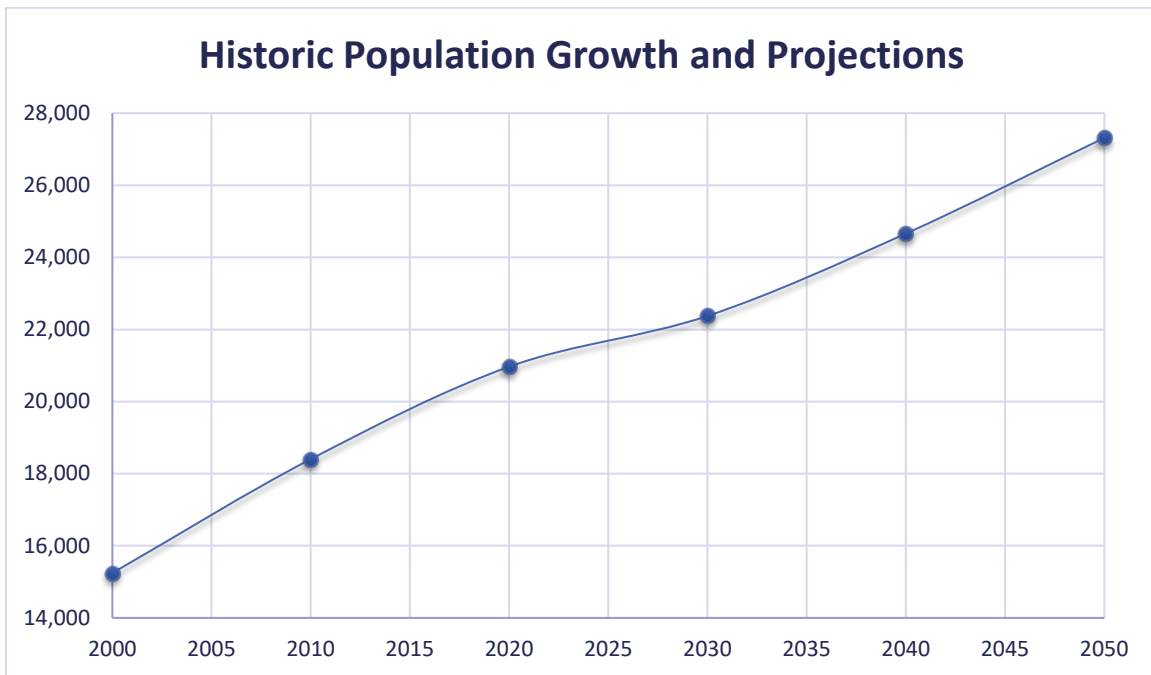


Figure 8: U.S. Census Bureau, VEC

While this ongoing growth is reflected in commuting behavior and economic conditions, the land use and development patterns of Greene County are the most obvious impacts. Most of the new development from this growth has been residential. A total of 8,770 dwelling units currently exist in Greene County, and over half of them have been built within the last 20 years. An average of 159 detached single-family building permits was issued per year between 2000 and 2021. In 2008 the number of building permits dropped to 101, a downturn in real estate activity not atypical of counties throughout the country during this period.

Table 5: Population Trends

Year	Greene County	(% Change)
1990	10,297	
2000	15,244	48%
2010	18,403	21%
2020	20,968	14%

*US Census Bureau

Multi-family and accessory dwelling unit building permits have significantly increased since 2009. There have been 666 issued from 2010-2021, signaling possible changes in both markets and population growth patterns in this region.

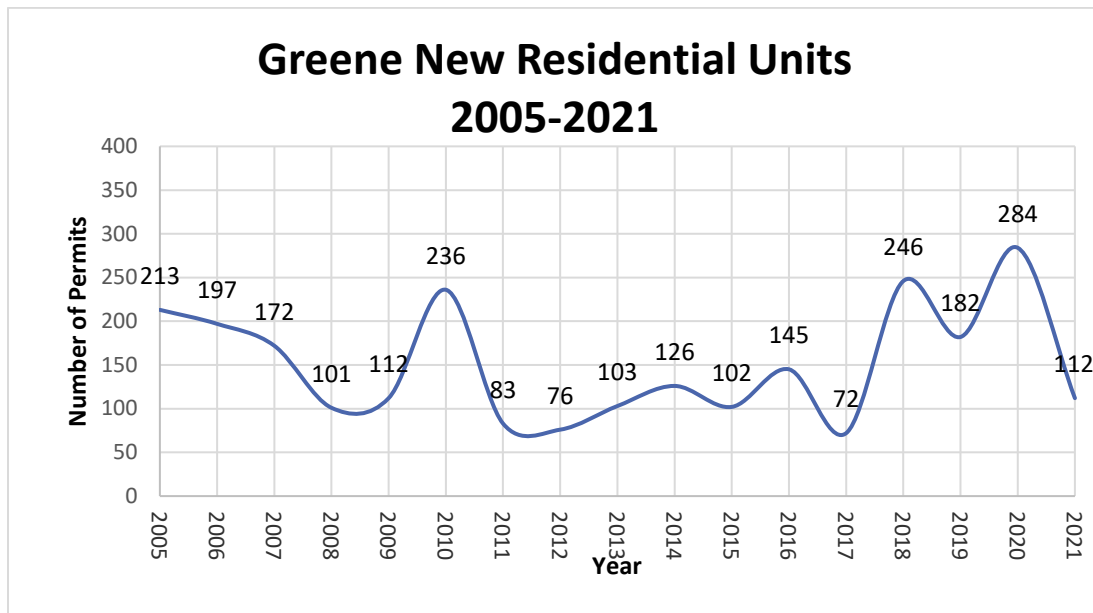


Table 6: New Residential Units

LAND USE PATTERNS

Although new development has occurred throughout the county, 42% of the structures (commercial and residential) constructed since 2016-2022 have occurred within the designated growth areas, which is less than the 61% for the period of 2010- 2014.

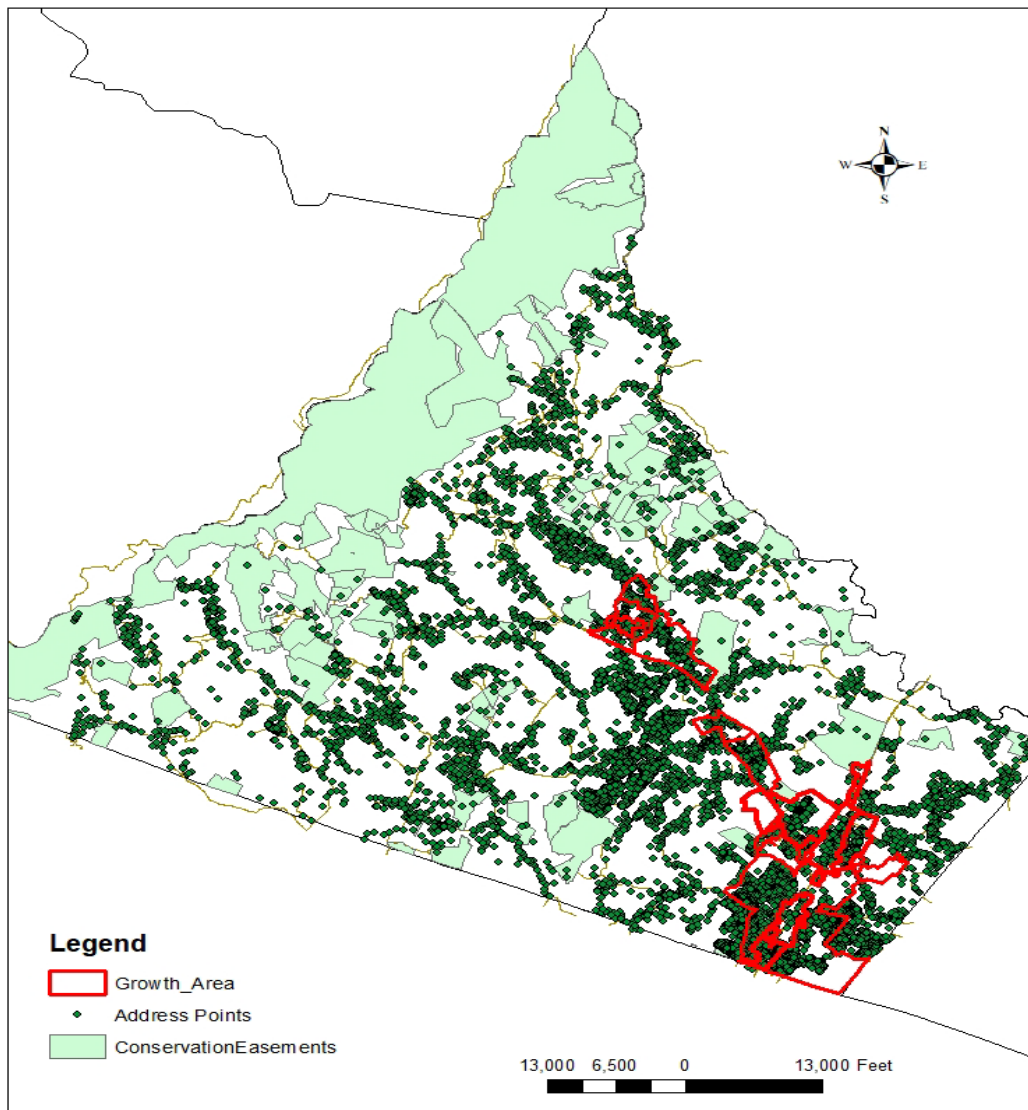


Figure 9: Greene County Dwelling Units, 2022

Over the last 20 years, commercial development has also occurred, but it currently comprises a smaller share of land use than residential. An even smaller percentage of land in Greene County is used for industry and warehousing. According to data from the Virginia Employment Commission, 3,538 Greene County jobs existed in 2021, resulting in 1 job for every 5.20 residents. This clearly indicates significant out-commuting to other jurisdictions, Albemarle County and the City of Charlottesville in particular.

Almost all major employment centers are located along the US 33 and US 29 corridors. The largest employers are the Greene County Public Schools, Walmart, and the County itself. The County Administration and School Administration offices are located in the Town of Stanardsville.

Employment in Greene County is expected to grow along with the population over the next 20 years. To plan for future scenarios, the Multimodal Corridor Study for the US 29 and US 33 Development Areas in Greene County assumed growth in jobs would match projected growth in population for the next 25 years at 1.96%, a growth rate slightly higher than the regional prediction suggested by the Virginia Employment Commission. However, employment growth for the last 20 years suggests another approach. Jobs have been growing faster than the population, and this trend will likely continue. A job growth rate of 2.55% per year fits historical trends by maintaining a stable ratio of 5.58 people per job.

These projections are relevant to land use because they help Greene County set planning goals in the context of a realistic expectation for growth and the distribution between different kinds of development. The following table represents a composite of each of these projections for 2030. Households are determined assuming the 2020 U.S. Census for Greene County household size of 2.7 stays the same.

Table 7: U.S Census Projections

	2015	2030	% Change
Population	19,162	24,092	15
Households	7,991	11,110	39
Jobs	3,590	5,367	49

It is worth noting that these findings merely project objective historical trends into the future, and they should not be read as predetermined and outside the bounds of control in any way. For example, the Economic Development chapter of this comprehensive plan outlines goals and strategies for increasing commercial growth in the county. This Land Use chapter includes the wish to retain the community's rural character. Land-use policies should be realistic, but they need not only to react to current trends, and they can shape the trends in the desired direction to a certain degree.

IMPLICATIONS OF LAND USE

Concentrating growth in compact, mixed-use places and focusing on residential growth in designated areas corresponds well with Greene County's goal of increasing the number of jobs and commercial development. Residents of Greene County have strongly expressed that the preservation of the county's rural character is central to their definition of livability. Businesses also benefit from being clustered along specific corridors rather than scattered, where transportation costs of deliveries and commuting are increased. Furthermore, mixed-use places encourage activity around the clock, which enhances security and allows businesses to spread out the peaks in their service times.

Concentrating growth also helps meet the county’s fiscal objective of providing municipal services and infrastructure without incurring an unreasonably high tax burden for county residents. A comprehensive survey of research on providing local government services around the country found that, on average, compact growth costs 15% less for local and State transportation infrastructure and 8-15% less for the provision of water and sewer service. Even emergency services and law enforcement operate more efficiently when officers and staff can travel shorter distances between places.

The availability of sufficient clean water is essential to the growth and subsistence of Greene County, both for supporting residential and commercial growth in the designated development areas and for the protection of the rural regions. Based on projections made by WW Associates for a Regional Water Supply study in April 2008, the area’s water demand was to catch up with supply by 2009. The peak daily flow was 1.2 million Gallons per Day by 2010, which requires the water treatment plant to operate near total capacity. The study recommended a new pump storage reservoir in Greene County to meet this need. The form new growth takes can be just as crucial to the water supply as the sheer quantity of new growth. Focusing new residential and commercial development into the existing water and sewer service area protects limited groundwater supplies throughout the county. It ensures developers that municipal water service can be counted on.

Finally, the connection between land use patterns and the use of the transportation network has been well documented. The *Multimodal Corridor* Study considered both of these elements in conjunction with each other to project future land use patterns and necessary transportation infrastructure improvements. Accordingly, the goals and objectives from the transportation chapter of this plan are closely aligned with those from the land use chapter.

FUTURE LAND USE FRAMEWORK

This Comprehensive Plan lays out a future land use vision that includes a discrete growth area and the retention of significant rural regions. Within the growth area, six development types are identified: Mixed Use Village/Town Center; Mixed Use Residential; Suburban Residential; Senior Residential;

Table 8: Total Acreage in Growth Area

Total Acreage in the County:	100,388
Total Acreage in Growth Area:	6,922
Percentage of County in Growth Area	6.9%

Technology/Flex Research and Development and Industrial. These development types range from the most focused and concentrated growth in the Mixed-Use Village/Town Center to a more dispersed residential area, Suburban Residential. Mixed-Use Residential and Senior Residential allow for higher-density residential development, and Mixed-Use Residential calls for small-

scale commercial and civic uses. Prevailing community wishes are for the county to retain its rural character and to preserve and promote the county’s agricultural heritage. Guidelines for Rural Areas call for the voluntary use of clustering and conservation subdivisions and creative ways to buffer rural development from the passerby.

Of the county’s approximately 100,000 acres, 6,922 are in the growth area, leaving the remaining acreage rural. The breakdown by growth area type is as follows:

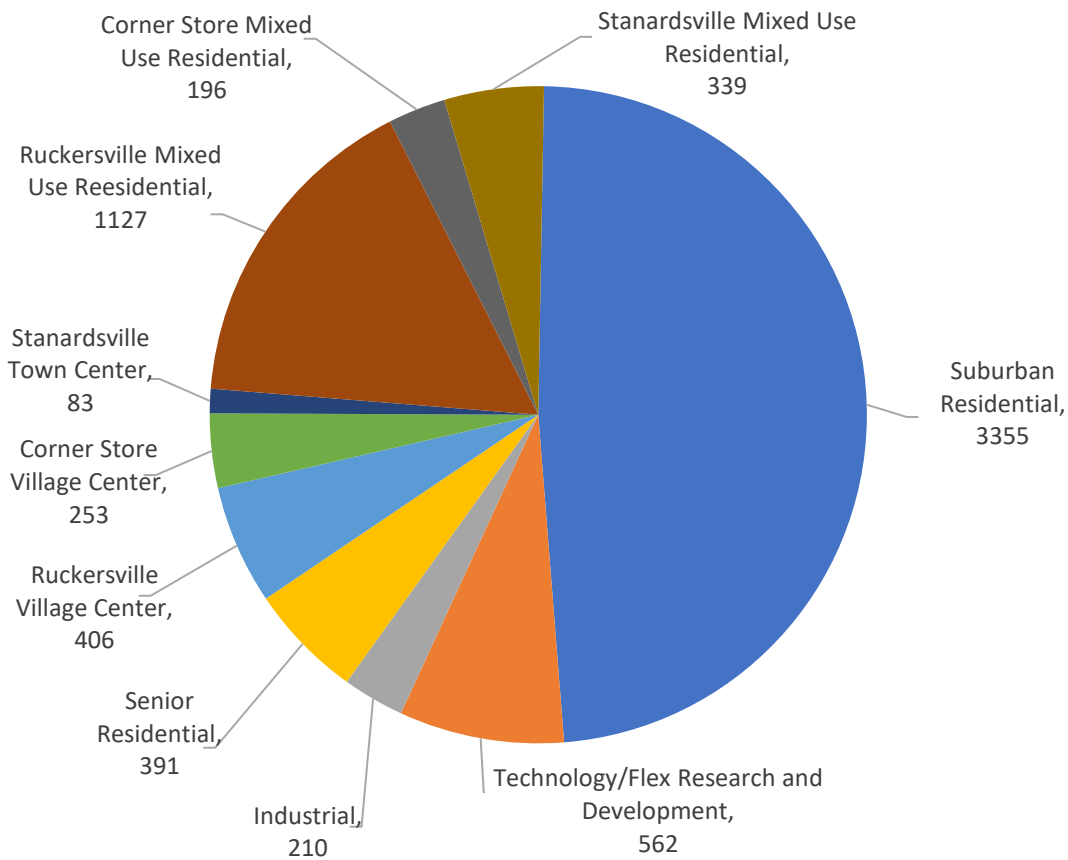


Table 9: Place Type Distribution

The three areas within the growth area that focus on growth most intensely are Ruckersville Mixed-Use Village Center, the Corner Store Mixed-Use Village Center, and the Stanardsville Town Mixed-Use Center. Stanardsville is the smallest, and Ruckersville is the largest. The fundamental framework for these three areas calls for flexibility in the proportion of non-residential to residential. Still, a general rule of thumb calls for an approximately 80% non-residential and 20% residential split. Within the non-residential areas of these centers, a variety of uses are appropriate, primarily commercial and office. Appropriate residential units vary from apartments, including apartments above stores, to single-family homes.

Within the Mixed-Use Residential areas, a mix of residential, commercial, and civic is intended. Appropriate commercial and civic are those that specifically serve the nearby residential population. The predominant use within the Mixed-Use Residential areas is residential, following a roughly 80% residential and 20% commercial split.

The Suburban Residential category is primarily single-family residences, although incorporating passive open space into these areas is encouraged. The Suburban Residential tier intends to create a rural, lower-density residential area close to services, jobs, and commerce.

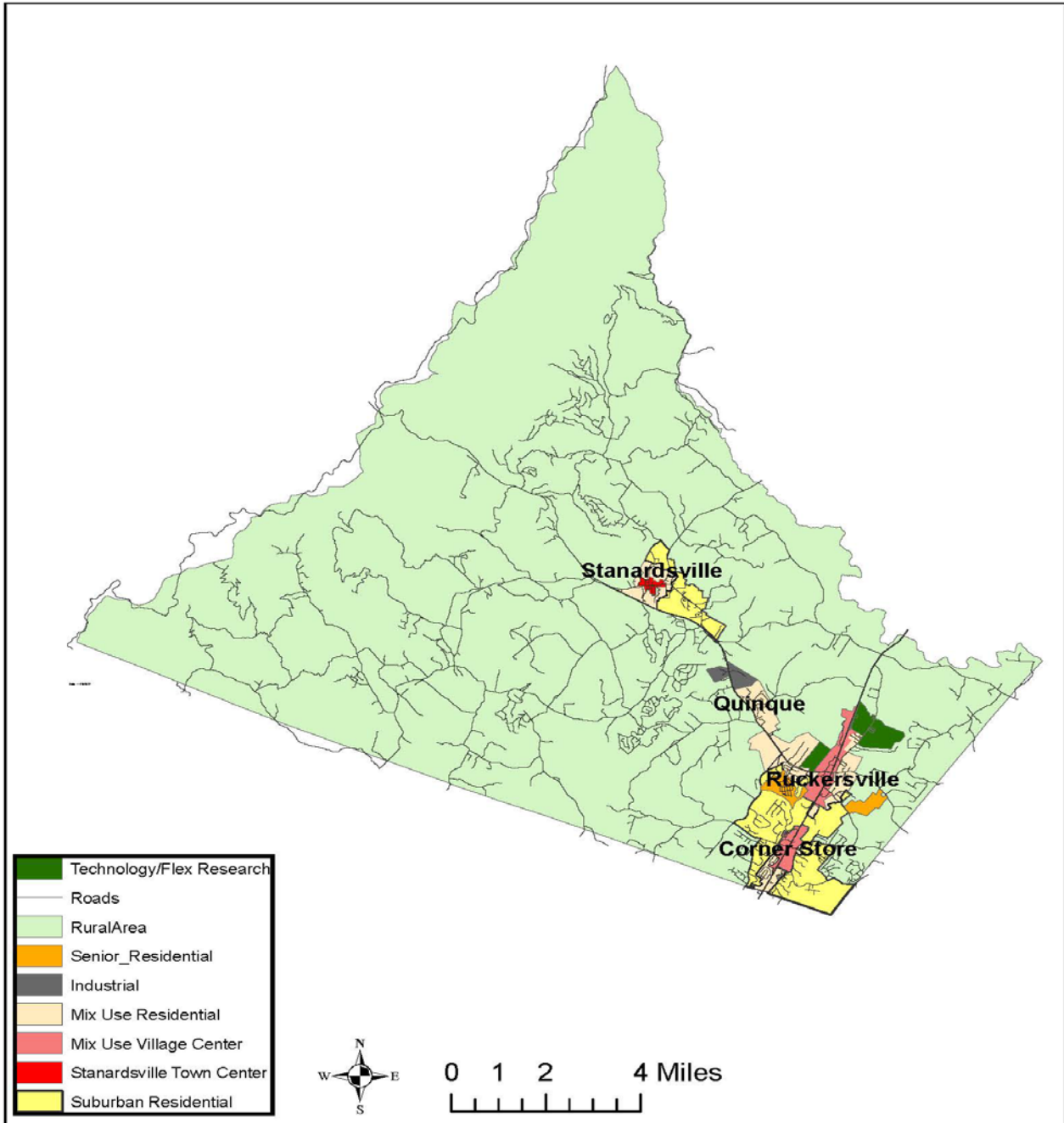
The abiding principle for all growth area categories is the walkability of new and retrofitted development. The “walkability circle” is ¼ mile-in radius and represents an approximately 5-minute walk. It is optimal for the center of the walkability circle to have an identifiable non-residential use. This may be as simple as a small park, civic green, or, in higher-intensity applications, a commercial or civic core.



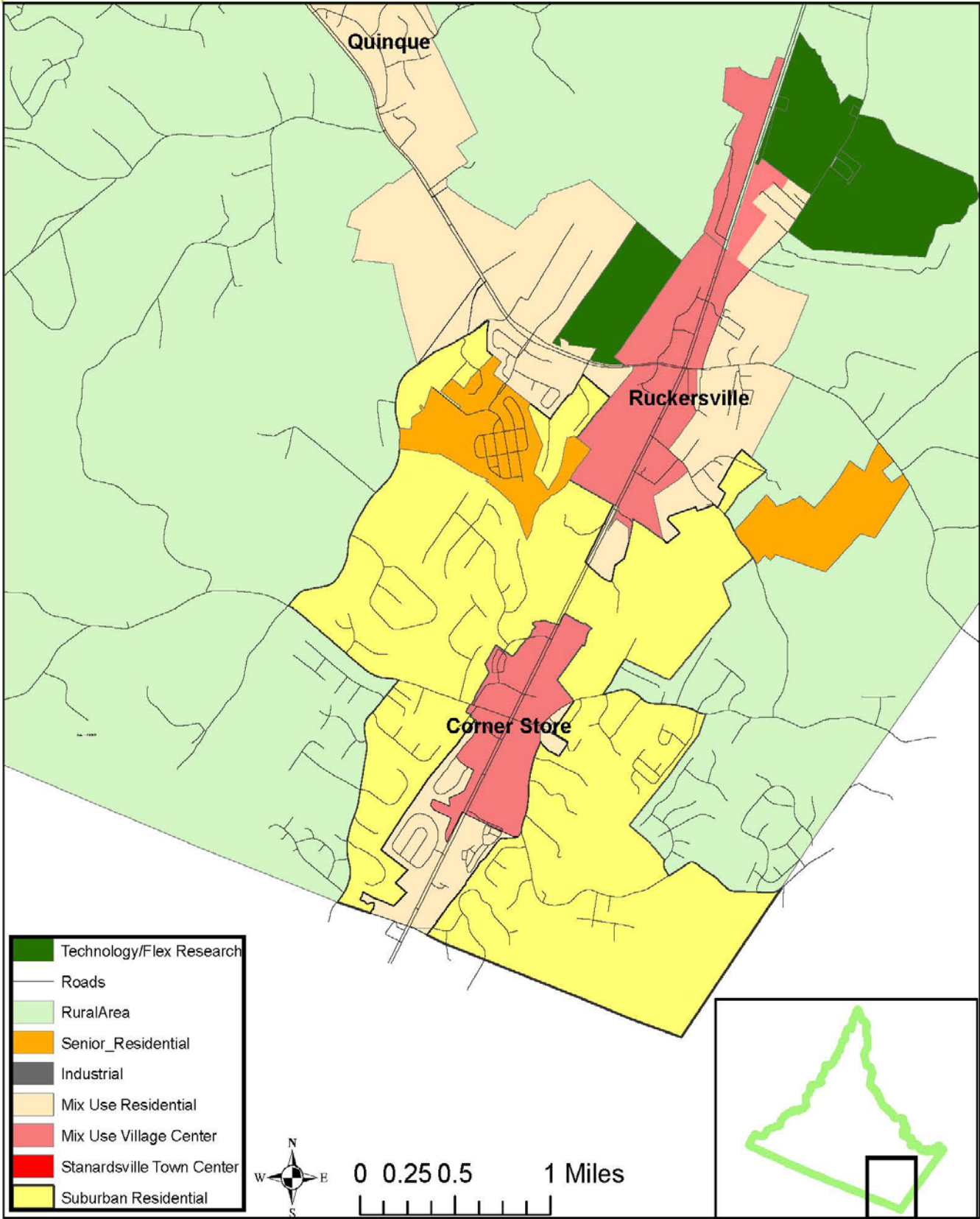
FUTURE LAND USE MAPS

The following maps show the county as a whole, and then three maps focus on the specific areas within the designated growth area. These maps detail the Route 29 corridor encompassing Ruckersville and Corner Store, the Route 33 corridor between Ruckersville and Stanardsville, and the greater Stanardsville area.

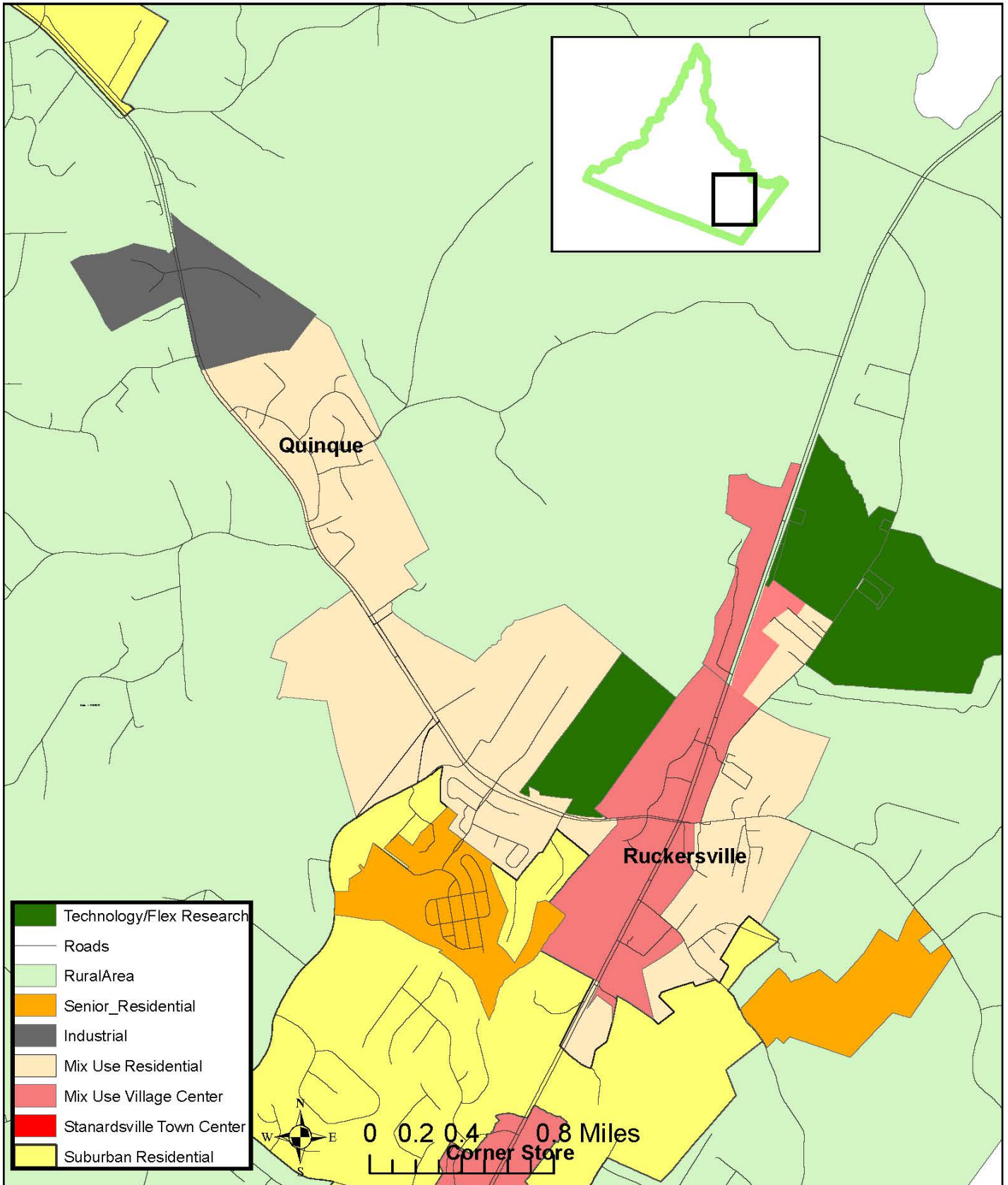
Future Land Use-Growth Area: Context Map



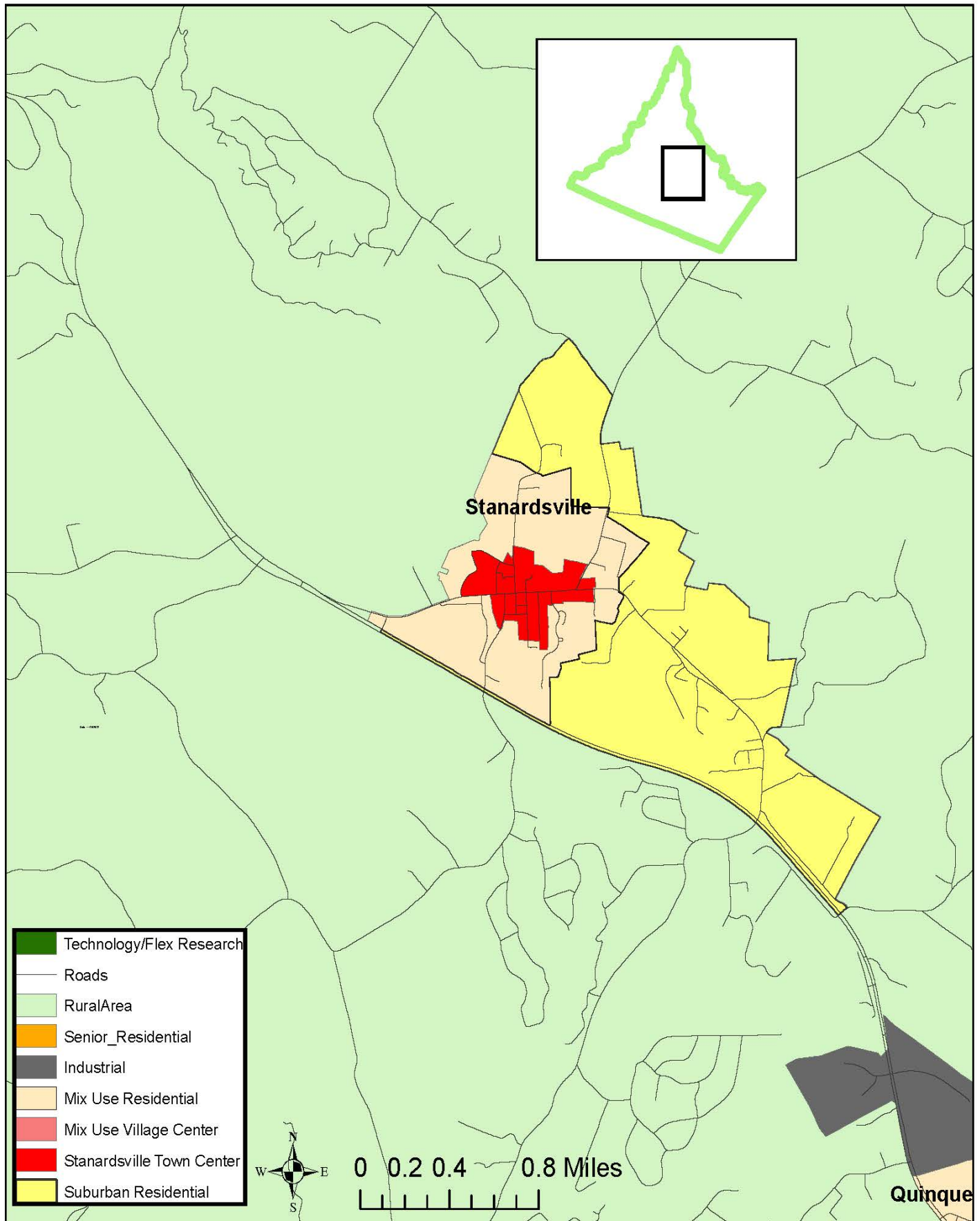
Future Land Use-Growth Area: Route 29 Corridor



Future Land Use-Growth Area: Route 33 Corridor



Future Land Use-Growth Area: Stanardsville



DEVELOPMENT GUIDELINES

This section presents the guidelines that describe basic parameters to follow when development occurs within the growth area and similarly within the rural areas. The Code of Virginia Urban Development Area requirements is discussed concerning the development guidelines. Flexibility and appropriateness are to be used as principles for decisions on new development. Next is an overview of the fundamental planning tools to be considered in implementing the county's future land use vision.

GUIDELINES FOR GROWTH AREAS

The Code of Virginia § 15.2-2223.1 states that “the comprehensive plan shall further incorporate principles of new urbanism and traditional neighborhood development.” New urbanism and traditional neighborhood development refer to development and transportation patterns evident in almost all-American towns built before the middle of the 20th century. The following section applies such principles to Greene County.

The Town of Stanardsville serves as an ideal model for traditional neighborhood development. The street grid of the original plats subdivided by William Stanard is highly connected. The roads are relatively narrow, and the turning radii at intersections are minimal. The blocks are short, allowing pedestrians to walk all around town easily. Modern development, built exclusively around the needs of automobiles, is often much more disconnected, necessitating busy thoroughfares to get around. This makes walking or riding a bicycle dangerous and unpleasant and often increases congestion for drivers.

The buildings along Main Street in Stanardsville come right up to the sidewalk, giving pedestrians something to see and allowing people to stop and chat. Some places are commercial establishments, others are offices, and there are nearby residences. By contrast, most modern development is strictly separated by different uses. Many people are finding that they enjoy walking to a nearby café or store, and commercial areas benefit from having people around them to watch the street and give life to the area around the clock. Of course, some more intensive uses genuinely don't mix well with homes, but many of the best towns find different uses mutually beneficial.

Different kinds of housing, from small apartments to detached single-family houses, are also found within Stanardsville. Residents have different housing needs at other times, especially the elderly and people with disabilities. When a town can provide for each of these needs, there can be a rich diversity of ages living in the community. A variety that includes some more modest dwellings is also a sure way to provide affordable housing to people who need it.

Developing vital towns goes hand-in-hand with preserving the rural heritage of Greene County, a value that citizens have emphatically stated. Traditional towns are more compact than modern development, and, in many cases, they can grow inward by redeveloping land that is already in use or vacant. Since Greene County expects to grow in population into the future, creating highly livable towns where people choose to live and shop must be part of any strategy for rural preservation. Town residents also benefit from having more natural areas, including neighborhood parks, within a close distance.

The following few pages offer design recommendations for different place types as identified on the Future Land Use Map. The Town Center in Stanardsville, Village Centers in Ruckersville, and Corner Store are the identified hearts, both geographically and culturally. The Mixed-Use Residential place type creates the periphery of these towns with a slightly different emphasis. Suburban Residential is the next layer outward, and Industrial Center, Technology/Flex Research and Development and Senior Residential are special districts designated for a particular purpose.

GUIDELINES FOR URBAN DEVELOPMENT AREAS

The Code of Virginia now mandates that all high-growth counties, which includes Greene, create urban development areas (UDAs) of sufficient size and density to accommodate anticipated residential, commercial, and industrial growth for at least ten years but no more than 20 years. According to the Code of Virginia, an urban development area is designated by the county appropriate for higher-density development due to proximity to transportation facilities, a public or community water and sewer system, and proximity to a city, town, or other developed areas. Such areas shall incorporate principles of traditional neighborhood development.

Code of Virginia: Design Elements for UDAs

- Pedestrian-friendly road design
- Interconnection of new local streets with existing local streets and roads
- Connectivity of road and pedestrian networks
- Preservation of natural areas
- Satisfaction of requirements for stormwater management
- Mixed-use neighborhoods, including mixed housing types
- Reduction of front and side yard building setbacks
- Reduction of subdivision street widths and turning radii at subdivision street intersections

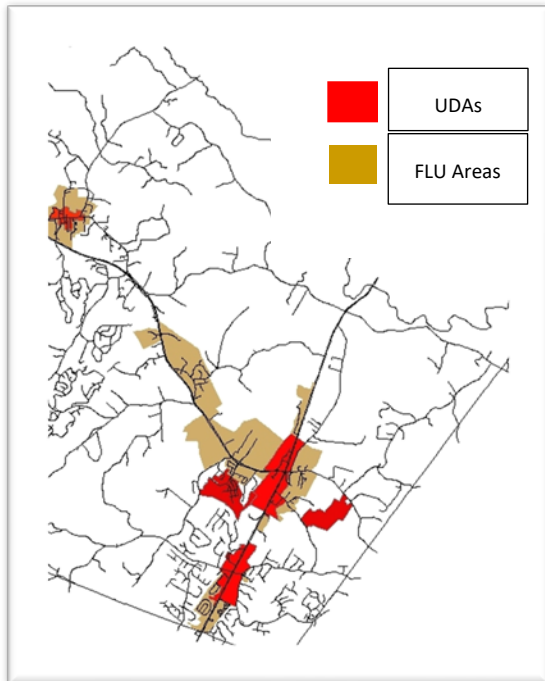


Figure 10: Urban Development Areas

More specifically, the Code of Virginia states that UDAs must provide for a residential density of at least four residential units per gross acre and commercial development with a minimum floor area ratio (FAR) of 0.4 per gross acre. While “urban” may be a misnomer in Greene County, given its rural heritage, growth areas are essential to preserving rural areas, and the term urban is relative. In this Comprehensive Plan, the Mixed-Use Village/Town Centers and the Senior Residential districts meet these basic guidelines for density and compactness.

More specifically, the Ruckersville, Corner Store Mixed-Use Village Centers, the Stanardsville Town Mixed-Use Center, and the Senior Residential Districts yield, when built at a density of 6 residential units per acre, more capacity than is anticipated for the next ten years’ growth. Based on current and projected population figures, planning for a population between 5,207 and 9,350 persons meets the Code requirements. These

figures are based on a minimum of a 10-year horizon and not more than a 20-year horizon. The 369 acres in the Ruckersville Mixed Use Center with a 20% residential component built at 6 residential units per acre yields the capacity to accommodate 1,956 persons. The 253 acres in the Corner Store Mixed-Use Village Center with a 20% residential component built at 6 residential units per acre yields the capacity to accommodate 820 persons. Similarly, the Stanardsville Mixed Use Town Center's 83 acres with a 20% residential component built at 6 residential units per acre yields the capacity to accommodate 269 persons. These calculations are based on a household size of 2.7 persons per home, as determined in the 2020 U.S. Census.

For the Senior Residential areas, the 391 acres built at 6 residential units per acre and with a household size of 2 persons yield the capacity to accommodate 4,692 persons.

All told, the Ruckersville, Corner Store, Stanardsville, and Senior Residential areas can accommodate 7,737 persons, creating enough capacity to plan for Greene County's expected growth through 2025.



The illustrations presented here are intended to show the density requirements for UDAs. Above is an existing development along the US 29 corridor. A one-story 65,000 square foot building footprint covers 26% of the parcel. The Floor to Area Ratio is 0.26, which is beneath the 0.4 required for UDAs.

The illustration below is a hypothetical development on the same site as the previous one. Each of the buildings is 3 floors, and they comprise a total of 165,000 square feet. This results in a Floor-to-Area ratio of 0.73, which is well above the state minimum. Note that the site would also comply with two-story buildings at 0.49 FAR.



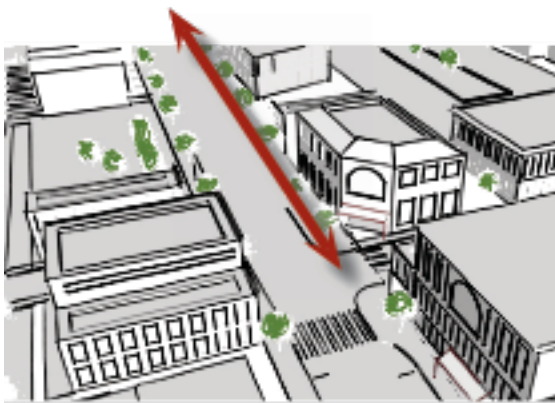
The final illustration is a hypothetical residential development directly adjacent to the previous commercial area. Despite the abundant green space and large size of homes, this neighborhood has a density of 4.9 dwelling units per acre, above the required minimum of 4 in the State Code



Mixed-Use Village or Town Center

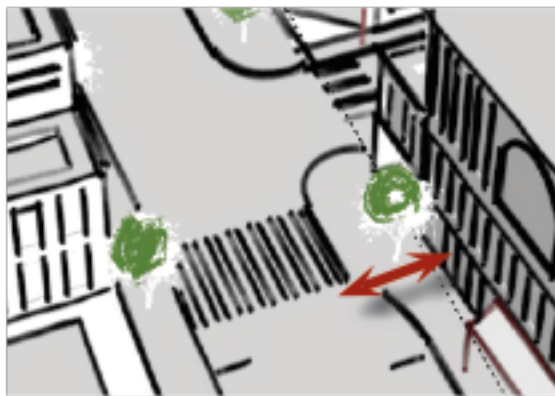
Village Center areas correspond with the first tier of growth areas in Ruckersville and Corner Store. This is called Town Center area in the case of Stanardsville. The primary intent of this place type is to create a discernible center of these communities by facilitating a mix of commercial, office, and residential uses

appropriate for a small scale. There is potential for future transit service in high-activity areas. The intended mix of uses within the Village and Town Centers includes a core of commercial and offices with residences fanning out from this core. The combination of uses should be market-driven, and flexible rather than prescriptive. The Village and Town Center residential developments are the highest density of all tiers and provide a diversity of housing types, including single and multi-family.



Block Length:

Block lengths should be small and walkable to offer the greatest number of possible connections. This reduces distances pedestrians must walk and ensures easier access to all buildings. More potential routes will also reduce traffic congestion through allowing good internal and external circulation.



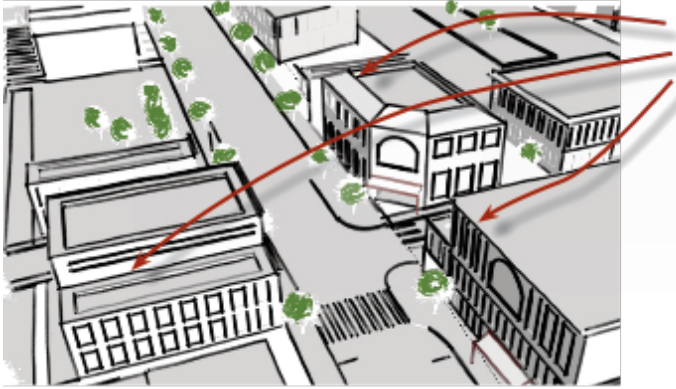
Streetscape:

Streetscape is an important element for drawing customers or clients into a commercial district. Sidewalks should be wide, preferably with planting strips between the sidewalk and road. Street trees greatly enhance aesthetics. Building setbacks are short to establish a pedestrian scale and identifiable village center.



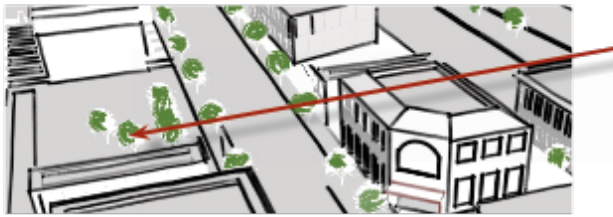
Building Height:

Buildings are sized to enclose the street and create the feel of an outdoor room while allowing enough light. Building heights should allow for a vertical mixture of uses, such as second story residences or offices.



Mix of Uses:

Village or Town Centers are the heart or Greene’s business environment, so commercial and office uses are primary. Residential uses are also helpful to ensure a 24-hour vibrancy to the place. Examples of appropriate uses are storefront retail, restaurants, office, multi-family residential, single-family residential.



Open Space:

Open spaces are designed for heavier use. A Town Center Square can create a public space that complements a retail environment. Pocket parks or a neighborhood park allow for a natural experience.

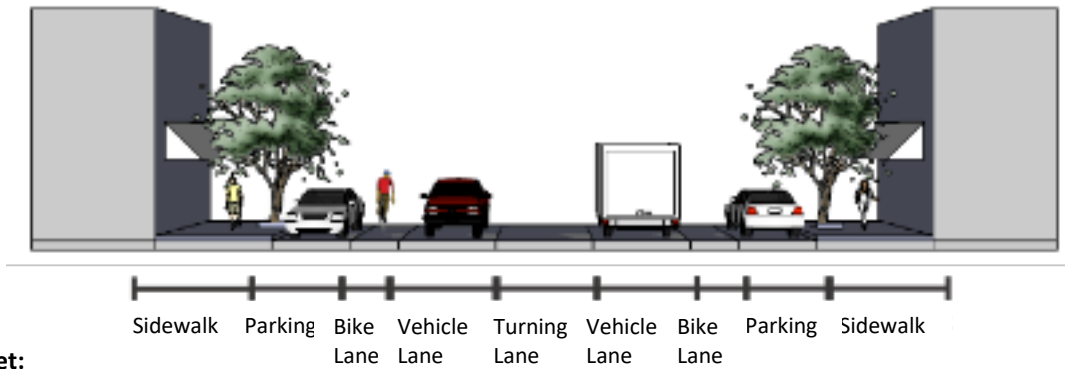


Parking:

On-street parking is ideal. It is a buffer for pedestrians, slows traffic, and is convenient for shoppers. Surface parking, where necessary, is located behind the building so it does not interrupt the pedestrian environment.

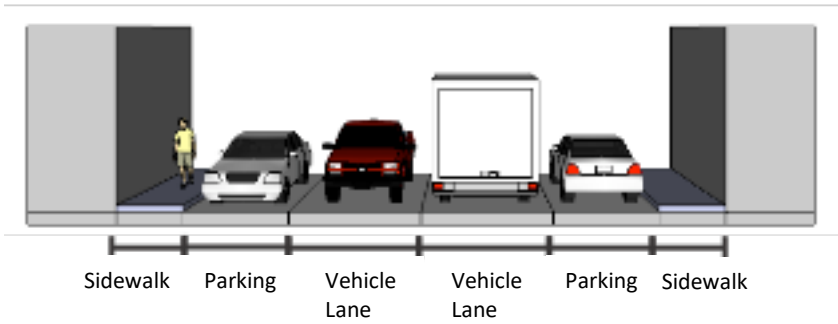
Commercial Street:

This street type is intended to facilitate the volumes of traffic needed for retail while maintaining an attractive environment for pedestrians. Buildings will typically front the street with little to no set back. The parking lane can be extended an extra 8 ft. for diagonal parking.



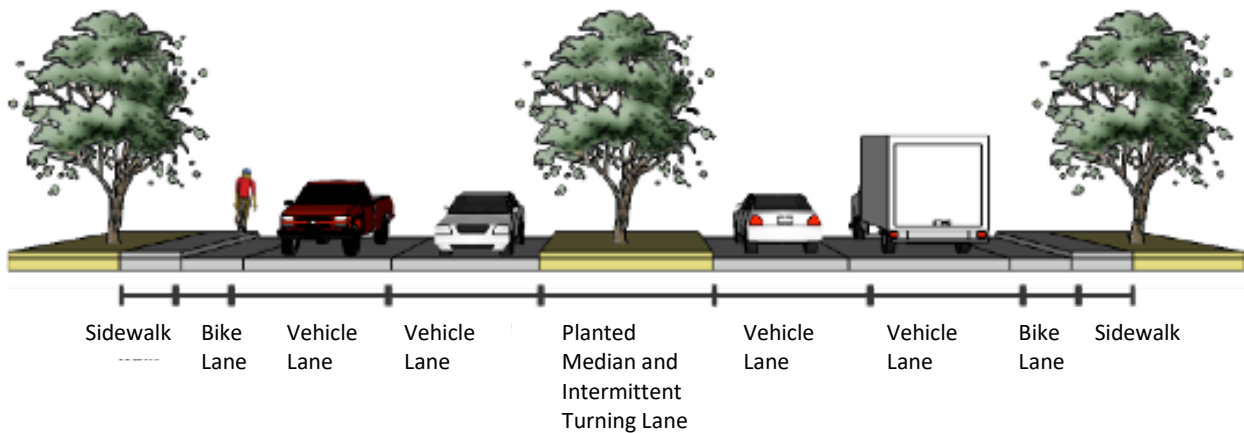
Side Street:

This street type is lower volume, intended to carry cross-traffic between commercial streets. Buildings will typically not front a side street. On-street parking is an important function. Sidewalks need not be generous but safely passable.



Collector Boulevard:

Collector boulevards are intended for higher volumes and more limited access points. There are two travel lanes in each direction with potential for a turning lane in the center median when necessary. Buildings are set back several feet and they may be fronting a parallel road instead.



Mixed-Use Residential

Mixed-Use Residential areas correspond with the second tier of growth areas around the Town of Stanardsville, Ruckersville, and Corner Store. The primary intent of this place type is to provide traditional high-amenity and market-driven residential choices, combining green space and sufficient privacy with access to services. The street grid is highly connected, with particular attention given to

the pedestrian experience. Commercial and office use complementary to a neighborhood are encouraged.



Block Length:

Blocks lengths should be relatively short and walkable to allow multiple routes of connection between places. This creates a pedestrian and cyclist-friendly environment and reduces congestion by dispersing traffic.



Streetscape:

Areas between public streets and private buildings should have a neighborhood feel. This includes adequate sidewalks with planting strips and bike lanes on busier roads. Homes can be setback or raised up to ensure privacy, but too much setback (> 30 ft.) detracts from the life of the street.



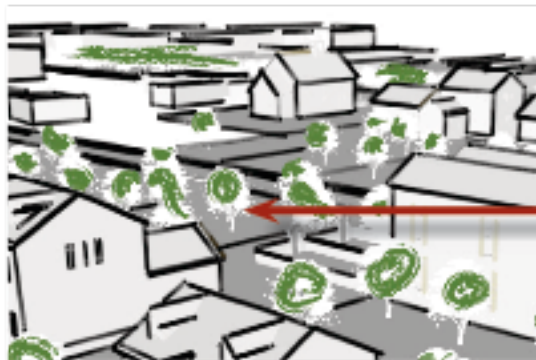
Building Height:

Building heights should be flexible enough to allow multiple uses, but not so much as to overshadow the residential character of the neighborhood.



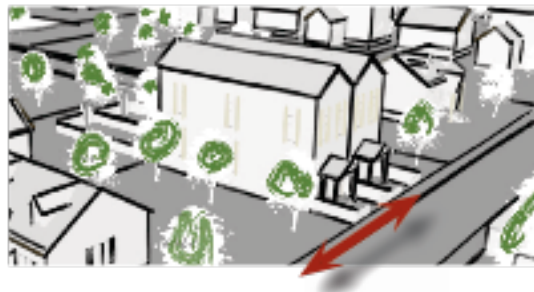
Mix of Uses:

Although the primary focus is residential, a variety of neighborhood-serving activities are allowed. Potential uses can be single-family residential, multi-family residential, storefront retail, civic, restaurant, or others.



Open Space:

Natural amenities are important to the livability of these areas. They are smaller-scale and focused on the needs of residents, often becoming neighborhood focal points. These include pocket parks, neighborhood parks, and community gardens.

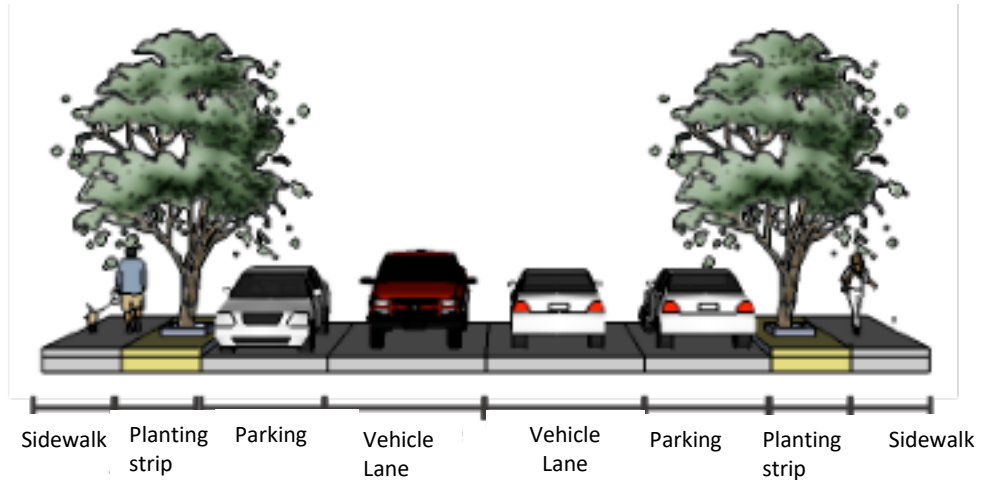


Parking:

On-street parking is preferred. It offers the most convenient front-door access and it helps buffer the sidewalk from vehicle lanes.

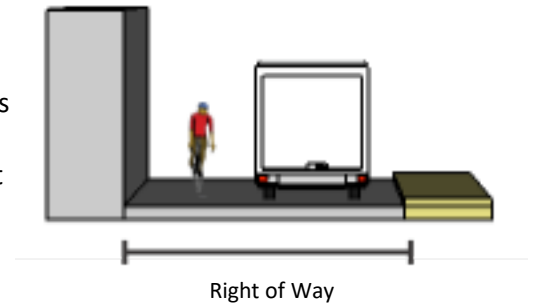
Neighborhood Street:

Neighborhood streets are quiet residential routes with generous landscaping. The lane widths are as narrow as possible to calm traffic, reducing the need for retroactive traffic calming. Sidewalks are separated from the road by a planting strip with street trees. Gentle curves and narrowing at designated crossings can also help to calm traffic.



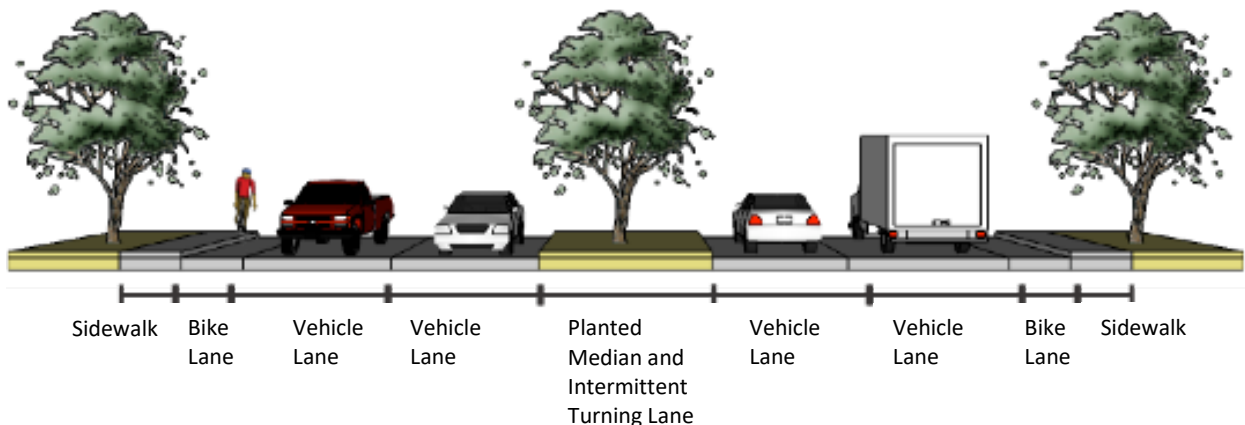
Service Alley:

Service alleys run behind residences and businesses to facilitate pick-ups and drop-offs as well as waste removal. Because the vehicle movement is slow, they can also function as safe bicycle routes.



Collector Boulevard:

Collector Boulevards are intended for higher volumes of traffic and more limited access points. There are two travel lanes in each direction with potential for a turning lane in the center median when necessary. Buildings are set back several feet and they may be fronting a parallel road instead. Landscaping is not only aesthetic but helps remediate stormwater runoff.



Suburban Residential

Suburban Residential areas correspond with the third tier of growth areas around the Town of Stanardsville, Ruckersville, and Corner Store. The primary intent of this place type is to provide private neighborhoods and facilitate optimal automobile access. Passive open space is used liberally to give the feel of a rural character. These design elements are intended to be voluntary and

interpreted in the marketplace context.



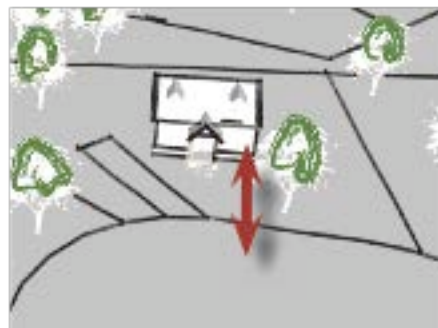
Block Length:

Street intersections need not be as frequent as in the Mixed-Use Neighborhood, but a certain minimal degree of connectivity will ensure an efficient flow of traffic. Streets are likely to be placed to follow the natural curves of topography. External connections to nearby neighborhoods and activities enhance the whole area by allowing safer pedestrian and cyclist routes and dispersing traffic flow.



Building Height:

Buildings are one or two stories, as typical of detached single-family residential buildings.



Streetscape:

Homes are set back from the street to establish privacy and project a rural feel. Streets will ideally have sidewalks, but larger lot subdivisions may forgo this feature.



Mix of Uses:

Detached Single-family Residential is the dominant use. Certain civic institutions may be present as well.



Open Space:

The majority of open space is in private ownership as residential lawns. There may be a community park and some passive open spaces as well.



Parking:

Most parking occurs in residential driveways and garages, but on-street parking is typically available as well. It is recommended that garages be placed to the side or rear of the house so that they do not dominate the residential frontage.

Senior Residential

The Senior Residential place type is intended to facilitate the creation of age-restricted communities. Many seniors prefer places conducive to active living, within walking distance of useful services and activities, and with enough variety of housing, types to meet changing needs. The Senior Residential place type also pays close attention to the needs of residents with disabilities and overall safety provisions.



Mix of Uses:

Senior residential incorporates a variety of residential types, from single-family detached houses to multistory condominiums, in order to meet the needs seniors, face as they age. A limited number of community facilities, such as clubhouses, pools, and gyms are also encouraged to serve the residents.



Streetscape:

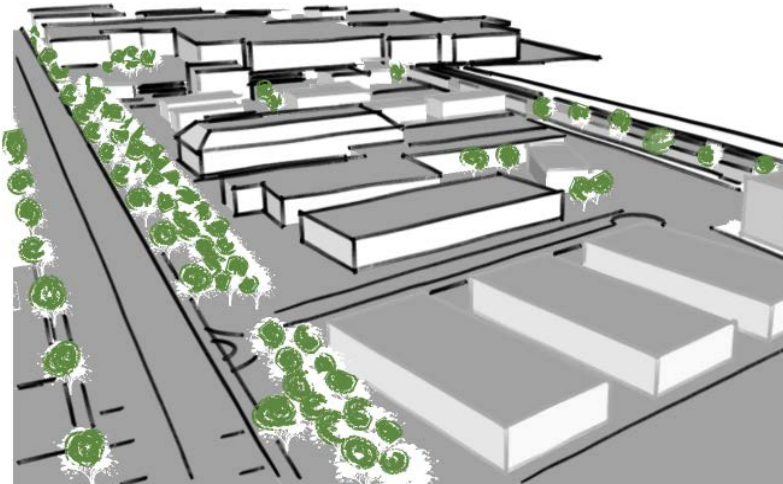
Sidewalks with generous widths and clearly marked crossings are important for pedestrian safety. Landscaping along the street creates an attractive park-like setting.



Design of the site and buildings ought to allow for “aging in place.” Residents can meet their changing needs without having to move to a different location for each stage. Principles of Universal Design allow access for a broad range of ability levels. For example, grounds are smooth and free of obstructions to allow for wheelchair movement. Street signage is large enough to see from a distance. Doors and passageways are sufficiently wide. Outdoor lighting is bright and appropriately placed for safety and convenience. In some cases, auditory signaling is used to assist pedestrians at high-volume crossings.

Industrial Center

The Industrial Center place type is coordinated with the Greene County Industrial Park. It is intended to provide the necessary space for contemporary businesses and industrial operations functioning at a regional scale. Although the place type is for employment uses only, the designated location between Stanardsville and Ruckersville is reasonably close to residential areas and other services. Regional transportation access is also fundamental to its location.



Mix of Uses:

A variety of industrial uses that do not exert a negative impact on adjoining property owners are part of the Industrial Center. Office complexes, research labs, and other specialized facilities such as trade schools fit as well. Limited commercial services may be present to serve employees. Storage areas, such as warehouses and supply yards, are also part of the mix of uses.

General Principles of Industrial Center Design:

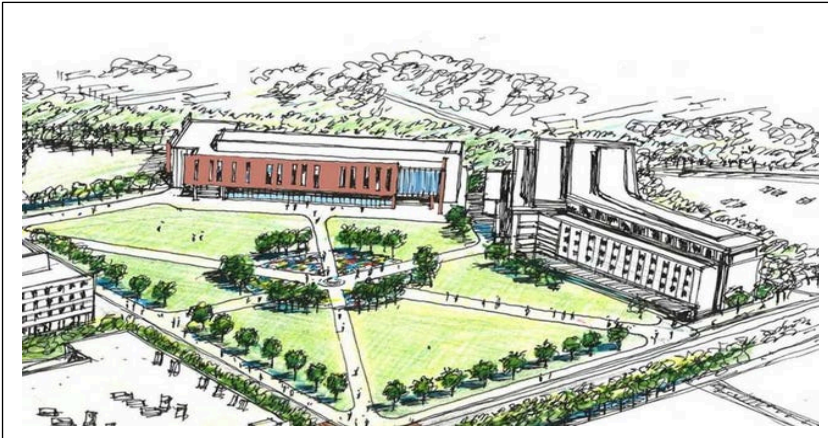
Of all of the place types, the Industrial Center can offer the greatest degree of flexibility to meet the site specifications needed by the various businesses in the Center. However, there are some generalized principles that can guide design decisions within the Center:

1. **Vegetative Buffer.** A green setback can help screen the industrial uses from roadways, as well as filter the stormwater runoff from impervious surfaces. Placement in the low-lying areas or in graded swales is ideal.
2. **Transportation Access.** Convenient truck and car access to all portions of the industrial center are critical to business operations. Sufficient off-street parking and higher-capacity roadways are recommended.
3. **Environmental Site Selection.** Any industrial use will alter the natural state of the land, but attention ought to be given to areas of special ecological significance. Low-Impact Design techniques can help mitigate any land use effects.
4. **Coordination of waste exchange.** Ideally firms can be encouraged to co-locate to take advantage of exchanges of resources, thus lowering costs and reducing the overall waste stream. For example, a scrap wood yard could recycle materials for a cabinet-making facility. Site design may be able to facilitate such exchanges.

Technology/Flex Research and Development

Technology/Flex Research and Development areas provide opportunities for production, flex office/warehouse space, and warehousing uses that do not require sizeable outdoor storage or produce nuisances such as noise, dust, or vibration. They are less hazardous and have limited impacts on surrounding areas compared to industrial uses. Buildings in

this area have medium to deep setbacks and larger block sizes.



Mix of Uses:

A variety of technology /flex research and development that do not exert a negative impact on adjoining property owners such as Data Centers, Healthcare, Life Sciences, Federal Government Contracting, Research & Development, Flex Space, Warehousing & Logistics, Advanced Manufacturing

General Principles of Technology/Flex Research and Development

Of all of the place types, the Technology/Flex Research and Development Center is specific to technology and development uses that do not require large outdoor storage or produce nuisances such as noise, dust, or vibration. However, there are some generalized principles that can guide design decisions within the development:

- 1. Vegetative Buffer.** A green setback can help screen the Technology/Flex Research and Development uses from roadways, as well as filter the stormwater runoff from impervious surfaces. Placement in low-lying areas or in graded swales is ideal.
- 2. Transportation Access.** Convenient truck and car access to all portions of the Technology/Flex Research and Development center are critical to business operations. Sufficient off-street parking and access to higher-capacity roadways are recommended.
- 3. Environmental Site Selection.** Any Technology/Flex Research and Development use will alter the natural state of the land, but attention ought to be given to areas of special ecological significance. Low-Impact Design techniques can help mitigate any land use effects.

GUIDELINES FOR RURAL AREAS

One of the most significant wishes of county citizens, as voiced in the 2010 Comprehensive Plan community workshops, is for the county to retain its rural character. The Future Land Use map designated 93,968 acres of the county as rural, outside the designated growth area. Two preliminary planning approaches serve this end. First, growth areas should be desirable and attractive places to live and work. Such desirable locations take the pressure off the rural areas and help decrease the rural suburbanization of the county. Growth areas should be the destination of choice. The above Guidelines for Growth Areas section lays out the principles that help achieve this goal. Second, the planning principles applied in rural areas and discussed in this section help retain the county's rural character, even as a degree of rural growth occurs.

While the rural character is notoriously difficult to define, specific land use techniques help retain the county's rural feel and ambiance. First, land preservation techniques are the most apparent method of keeping rural character. Second, effective rural development techniques contribute to retaining rural character. Careful use of these rural development techniques can maintain the rural appearance. For example, careful placement of the homes within a subdivision, through clustering or other neighborhood design approaches, and the retention or planting of a vegetative buffer between the houses and the rural roadway help hide the development that lies behind them.

LAND PRESERVATION TECHNIQUES

CONSERVATION EASEMENTS



Conservation easements are long-term, typically indefinite, contractual agreements to leave an allotted portion of the property in a natural state. A landowner always accepts an easement voluntarily, either as a donation or sale, and a specific agency is authorized to oversee compliance with the agreement. Easements can be made on a portion of a parcel, and they do not have to allow public access. In many cases, the land held in easement continues to be for agricultural or forestry use.

Often there are tax incentives from both the federal and state levels available for landholders with easements. There are currently 79 conservation easements in Greene County, for a total of 10,648 acres. Greene County currently encourages easements by utilizing a land use tax, as

explained in the following section. This policy is particularly useful for promoting easements in the land that would otherwise be highly susceptible to development.

Source: <https://pec-geohub.piedmont.hub.arcgis.com/documents/caee76c4b7ba4080b99e10ab31cf36ba/explore>

LAND USE ASSESSMENT POLICY

The Code of Virginia (§ 58.1-3230 through 3244) specifies that real estate meeting specific criteria be given special tax consideration. Properties devoted to an agricultural, horticultural, forest, or open space use as outlined in the Code of Virginia “Special Assessment for Land Preservation” §58.1-3230 are eligible for a reduction in real estate taxation. For the year 2020, there were 978 properties in Greene County enrolled in land use assessment, which resulted in a tax deferral of \$2,210,000. The purpose of land use taxation is to preserve agriculture and forestry industries by providing a financial incentive. This reduction in tax assessment is essential in supporting a profitable agricultural/forestry business. Counties that have chosen to remove land use taxation as a management tool have seen a high rate of property converting to more intensive uses and a significant loss of agricultural/forestry lands. The benefit of land use taxation extends to all the county's citizens since tax rates can remain lower when residential growth is not expanding at a rapid pace.

AGRICULTURAL/FORESTRY DISTRICTS

The Agricultural and Forest Conservation District Program, is a voluntary program in which farmers, foresters, and landowners form an Agricultural and/or Forest Conservation District to conserve rural and agricultural areas. In 2000, there were 13,500 acres designated as Agricultural and Forestal District in Greene County. The district was reviewed in 2010, finding that the acreage was reduced to 5,324 acres. In 2019, only 3,466 acres remained in the district.

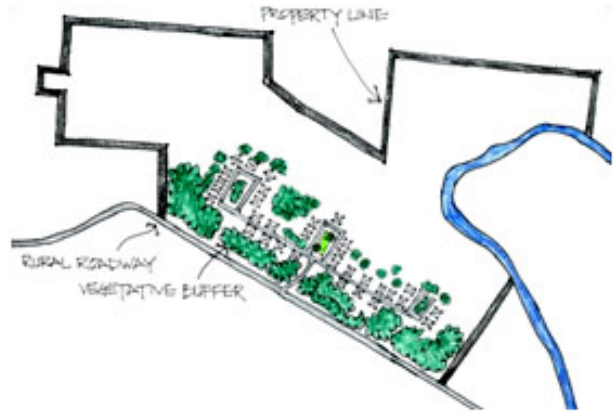
The property owner continues to hold fee simple title to the land, but the easement restrictions run with the land for a fixed term of years. The agreements usually include exceptions that permit the landowner to withdraw from the program under certain circumstances.

The State of Virginia established Agricultural-Forestry Districts (AFDs) as a means for counties to offer incentives to landowners to maintain their property in agriculture and forestry. These benefits include (1) eligibility for Land Use taxation, (2) A degree of protection from eminent domain and municipal annexation, and (3) protection from nuisance complaints. These protections are in effect for the duration of the contract period. As a result, the county can more accurately plan land use in the region since the owner agrees not to convert the property to more intensive use for the duration of the contract. The rural nature of the landscape is maintained, and the tax rates remain low since residential development is slowed and county resources are not overburdened.

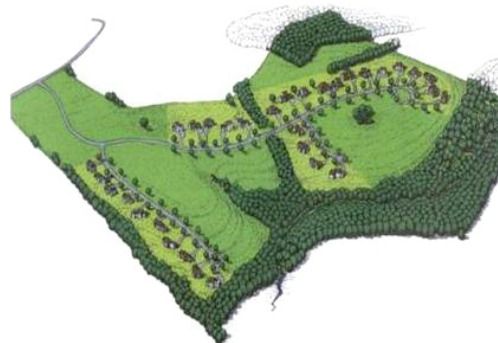
RURAL DEVELOPMENT TECHNIQUES

CLUSTER DEVELOPMENT

The cluster form of development seeks to preserve open space within a property by developing a subdivision in a condensed form on a portion of the land. Clustering buildings on a site allows space for ecologically-sensitive areas while allowing development to proceed. Clustering offers numerous benefits to the community, the natural environment, and the property values of the new development. The open space can serve as agricultural land, recreational land, wildlife habitat, or any combination. Clustering also often qualifies as Low Impact Development (LID), which can significantly reduce stormwater runoff and non-point source pollution. This specific clustering is tailored to rural rather than urban development.



Dispersed Subdivision



Clustered Subdivision

CONSERVATION SUBDIVISIONS

At the individual site level, developers can use many design strategies to draw out the natural features inherent to the landscape. This approach requires a more careful survey of existing conditions and creation of site-specific plans, but developments that take these steps are often financially successful.

This is a somewhat reversed process from conventional site development in that the roads and parcel lines are placed last. This approach has been shown to decrease the impervious surface in a given development, maintain the initial gross densities, and save money by needing less pavement and clustering for more efficient service delivery.

Conservation Subdivisions combine features to protect water quality with site-specific designs that consider the locations of valuable natural resources. Often conservation easements are used to protect portions of the development, and conservation subdivisions are appropriate developments in the rural areas of Greene County. This form of development may be preferred by Greene County's residents based on input provided at various planning forums.

ZONING ORDINANCE

Zoning is a primary land use regulatory tool that divides a locality into specific districts and lists uses permitted in those districts. The zoning ordinance's text provides uniform regulations throughout each district and generally spells out the substantive restrictions on land use and development within those districts.

Zoning ordinances regulate only land-use elements authorized under the enabling legislation. This primarily includes the regulation of land use, size, height, bulk, and removal of structures, dimensions of land, water, and air space to be occupied by buildings, structures, and uses, and the excavation of mining soil and other natural resources.

Zoning ordinances may use the physical form of development within districts as additional tools. This physical form addresses the relationship between building facades and the public realm, the form and mass of buildings concerning one another, and the scale and types of streets and blocks. The place types described above use the physical form of development as guidelines.

SUBDIVISION ORDINANCE

The division of land often results in more intense and different land uses, which have impacts on surrounding land and communities. Consequently, most jurisdictions use subdivision regulations to permit the orderly division of land into parcels or lots for development.

Subdivision regulations provide for the direct control and standardization of land development. The coordination between development and supporting infrastructure occurs in conjunction with a well-organized zoning ordinance. A benefit of subdivision regulations is that they can be applied during development.

Subdivision of land is a “by-right” allowance for a landowner, and, as such, the review of a subdivision proposal is a ministerial act by a local government. Therefore, the landowner is only obligated to meet the applicable subdivision (and zoning) regulations to subdivide. It is critical to the successful implementation of the current planning policy that the subdivision ordinance fully reflect the intent of that policy and that there is a complementary linkage between the Comprehensive Plan, Zoning Ordinance and Subdivision Ordinance.

CAPITAL IMPROVEMENTS PLAN

The Capital Improvements Plan (CIP) is the multi-year scheduling of public physical improvements that help guide a locality’s decisions on allocating funds. The scheduling is based on needs identified in the comprehensive plan, studies of available fiscal resources, and the choice of specific projects for construction in the medium-term future.

The CIP provides a mechanism for estimating capital requirements; planning, scheduling, and implementing projects; budgeting high-priority projects; developing revenue policy for proposed improvements; monitoring and evaluating the progress of capital projects; and simply informing the public of projected capital improvements.

Localities use the CIP to support growth through the calculated sizing, timing, and location of public facilities such as roads, school improvements, parks, recreation enhancements, attractions, water and sewer facilities, and drainage improvements.

Any proposed public improvement not included in the CIP is required by the Code of Virginia Section 15.2-2232 to be subject to a public hearing and decision from the County Planning Commission to determine consistency with the Comprehensive Plan.

GOALS AND IMPLEMENTATION STRATEGIES: FUTURE LAND USE

- Greene County will support land use practices that help retain the rural character of the county by the following actions:
 - Encourage the protection of the forest, wildlife habitats, and the rural landscape in rural development.
 - Develop ordinances that encourage clustered subdivisions and conservation subdivisions.
 - Encourage the voluntary dedication of land in conservation easements or Agricultural and Forestal Districts
 - Encourage the location of homes within a rural subdivision to buffer development from the roadway, thereby preserving the rural character.
 - Establish a stakeholder group to develop recommendations for land use tools that will promote and support rural opportunities.
- Greene County will promote business and residential development in a manner that focuses on growth in the designated growth area by the following actions:
 - Create incentives for concentrating development in the designated growth area.
 - Promote flexibility in planning places in the growth area to take advantage of the unique needs and opportunities inherent in a specific site.
 - Coordinate public infrastructure improvements and the Capital Improvements Plan to facilitate development in the designated growth area.
 - Update county zoning and subdivision ordinances to reflect the recommendations included in this chapter.
- Greene County will focus on the majority of business, office, higher density residential development, and institutional uses in the Mixed-Use Village and Town Centers by the following action:
 - Encourage infrastructure improvements, including water, wastewater, and transportation, in the Mixed-Use Village and Town Centers
- Greene County will encourage developments in the designated growth area to include traditional neighborhood design principles:
 - Develop design guidelines or models that define and illustrate traditional neighborhood principles best suited to Greene County.
 - Encourage infill development within the growth area to create more compact places.
 - Integrate various transportation options, including pedestrian, bicycle, transit, and other vehicular traffic.

HOUSING AND COMMUNITY SERVICES

INTRODUCTION

The availability of decent, affordable housing for all residents is an important goal for Greene County. This challenge becomes particularly relevant for the elderly and others with limited means or special housing needs. Ensuring that the housing stock, including its location and type, adequately meets the needs of a growing population is essential for achieving the desired outcome. Several programs are currently underway in Greene County to help meet the housing needs of residents.

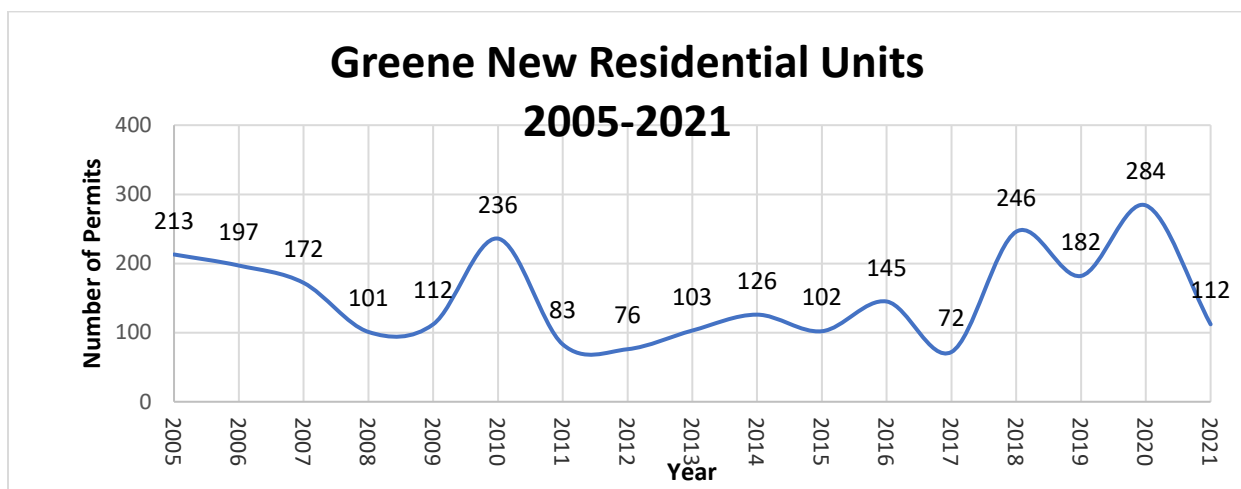
The many community services available to Greene County residents enhance their well-being and quality of life. Greene County residents value their branch of the Jefferson-Madison Regional Library, and the circulation of books and media has steadily grown. The library also provides internet access, which is an essential service for residents without access to broadband service. Medical facilities within and outside the county provide routine care and emergency aid to residents. The accessibility of medical care can be a critical component in land use and transportation planning.

EXISTING CONDITIONS

HOUSING RESOURCES

In 2019, the U.S. Census Bureau estimated 8,770 housing units in Greene County. After two decades of fairly consistent growth in housing stock, the number of residential building permits issued by Greene County has dropped in the last ten years, with the most precipitous drop occurring between 2007 and 2008. As of 2020, 7.6 % (667 units) of all dwelling units in Greene County were in multi-unit structures. This is a 3% increase since 2014.

Table 10: New Residential Unit



AFFORDABILITY OF HOUSING

The federal Department of Housing and Urban Development (HUD) has defined housing affordability as no more than 30% of gross household income. If total housing costs, including utilities and maintenance, consume more than this threshold, the housing is not considered affordable in most circumstances. While this standard may vary depending on the costs of transportation associated with accessing the particular site, it is recommended that communities seek to limit the number of households in the above 30% category.

Using this guideline, as provided by Skyline Cap’s Community Needs Assessment 2020, the chart below details the hourly wage needed to afford a two-bedroom home at the fair market rent amount in 2019. Note: figures assume an individual works 40 hours weekly for 52 weeks each year.

Table 11: Two-Bedroom Affordability

2019 Two-Bedroom Affordability (\$)					
Location	Housing Wage	Fair Market Rent	Annual Income Needed	Estimated Mean Renter Wge	Affordable Rent
Greene	\$23.13	\$ 1,203	\$ 48,109	\$ 18.27	\$ 950
Madison	25.48	1,325	53,000	8.91	464
Orange	18.48	961	38,440	11.61	604

Source: National Low Income Housing Coalition, <https://reports.nlihc.org/orr/virginia>

The following table, compiled from American Community Survey, shows the occupancy status and tenure for existing housing projected through 2021 in Greene County. There was a decline in homeownership due to the foreclosure and credit crisis, which caused people to lose their homes and prevented new home purchases. That trend is turned around, and owner-occupied housing has rebounded. This has fueled a demand for new construction and provided an opportunity for developers to meet the changing needs of the local population. However, in the last two years, the cost of building and the high demand for housing in this area has limited the available housing stock in Greene County

Table 12: Occupancy Status

Housing Units by Occupancy Status and Tenure								
	2010		2013		2018		2021	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	7,509	100.0%	7,769	100.0%	8,204	100.0%	8,770	100.0%
Occupied	6,780	90.3%	7,086	91.2%	7,502	91.4%	7,491	89.3%
Owner	5,450	72.6%	5,594	72.0%	6,004	73.2%	6,061	80.9%
Renter	1,330	17.7%	1,492	19.2%	1,498	18.3%	1,430	19.1%
Vacant	729	9.7%	683	8.8%	702	8.6%	893	10.7%

Without new construction, the housing stock becomes out-of-date, dilapidated, and insufficient to meet changing needs and a growing population. Residential construction is also a significant contributor to the local economy. New construction has been moderate in Greene County, tapering off considerably after the housing bubble burst in 2007, although all areas have seen a decline in the building since 2005. There was very little new multifamily construction compared to the need. The median age of housing in

Table 13: Demographics

Population, 2020	Greene	
	Count	Percent
Total Population	20,131	
<i>Male</i>	9,886	49%
<i>Female</i>	10,245	51%
<i>Children (0-17 years)</i>	4,696	23%
<i>Adults 18-64 years</i>	11,682	58%
<i>Adult 65+ years</i>	3,753	19%
<i>White only</i>	17,456	87%
<i>African American only</i>	1,514	8%
<i>Asian only</i>	479	2%
<i>Other race</i>	120	1%
<i>Two or more races</i>	562	3%
<i>Hispanic/Latino*</i>	1,327	7%

the County is 22 years, far younger than the state average of 33. However, there is little variety in the housing stock, with 82.6% being single-family detached homes. This limits options for residents whose needs change over time.

The two largest populations, Millennials and Baby Boomers, have diverse housing needs but similar housing desires. Among these are smaller, lower maintenance units with energy-efficient features. They are also looking for locations that offer access to public transportation and are within walking distance of amenities and services. New housing stock and development patterns will help meet this demand and attract these growing populations to Greene County.

Seniors also have a growing need for affordable housing. Trends show that seniors are increasingly facing debt and housing cost burdens, and tax

abatement programs, financial assistance with home repairs, and additional rental units will help address their needs.

Therefore, housing affordability is a problem in Greene County but not yet as pronounced a problem as it is in the region, particularly in the City of Charlottesville and Albemarle County.

The high and growing proportion of single-family detached houses in Greene County may provide barriers to affordable housing for low-income households. This housing type is typically the most expensive in terms of land and energy costs, and a broader range of options in housing types may reduce the burden of housing costs for those in the 30% and above category.

Between the years 2017-2021, the median sale price for homes in Greene County, as recorded by the Charlottesville Area Association of Realtors (CAAR), increased by 40%, a trend that undoubtedly put more pressure on affordable housing in the County.

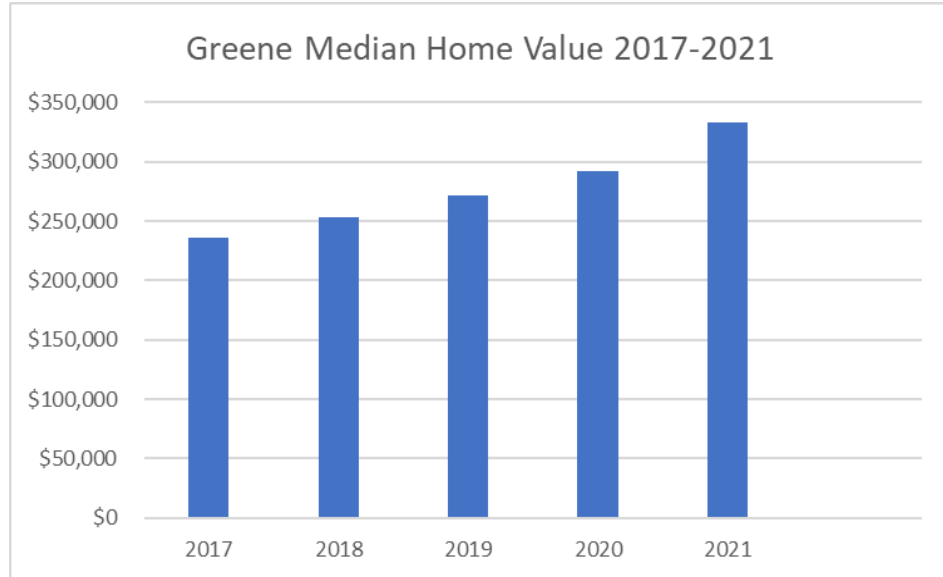


Table 14: Median Home Value

Skyline Community Action Program (CAP) offers several services to assist Greene County residents with housing affordability. Through the HOME Program in Greene County, Skyline CAP offers down payment and closing costs assistance to first-

time homebuyers as well as rehab assistance. Skyline CAP also offers indoor plumbing/rehab assistance to Greene County homeowners in cooperation with Albemarle Housing Improvement Program (AHIP). There is an Emergency Home Repair Program in Greene County as well.

Habitat for Humanity has constructed three affordable homes in Greene County and is able and willing to do more. In helping first-time homeowners participate in home ownership, Habitat builds affordable housing that is high quality and energy-efficient while marshaling a spirit of community volunteerism.

Additionally, Piedmont Housing Alliance (PHA), Albemarle Housing Improvement Program (AHIP), Habitat for Humanity of Greater Charlottesville, Region 10, and Jefferson Area Board for Aging (JABA) assist with housing needs in Greene County and throughout the region. Greene County offers a real estate tax exemption for the elderly and people with disabilities who meet guidelines for income and net worth.

Housing and transportation costs make up the two largest components of a household's budget. Transportation costs, such as car payments, maintenance, gas, and insurance, follow housing costs as the second highest expenditure for a typical household. Based on 2019 American Community Survey data, 7,131 Greene County residents are employed and commute outside of the County for work, 2,314 people commute into Greene County for work, and 1,450 both live and work within the County. Commuting to and from work contributes to an increase in a household's overall monthly transportation costs, and with roughly 83% of the working-age population commuting outside of Greene County, the cost savings associated with a lower cost of living in Greene County can quickly be eroded by transportation costs. Greene County workers have an average commute time of 30.6 minutes, consistent with other localities within the region.

Top out-commute destinations include the Hollymead area in Albemarle County, the town of Gordonsville, the City of Charlottesville, the town of Orange, the City of Harrisonburg, and the City of

Waynesboro. Assuming an average of 0.58 cents per mile 20 working days a month, out-commutes to the top employment destinations for Greene County residents amount to an additional \$541 a month in transportation cost.

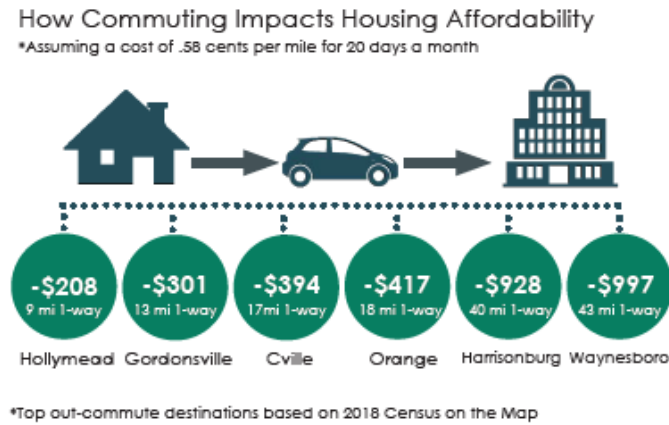


Figure 11: Impacts of Commuting

ACCESSIBILITY AND SUSTAINABILITY OF HOUSING

The population of seniors in the region is expected to grow at a faster rate than the population in general. By 2030, those ages 65 and older are expected to grow by 30% compared to 15% of the total population. This projected demographic shift will likely create new pressures on housing types and accessibility because an older population has a higher propensity for physical disabilities. Principles of Universal Design, such as no-step entrances, an open floor plan, ground-floor bedrooms, and accessible bathrooms, can allow residents to “age in place” and open up new opportunities for seniors to relocate to Greene County. These principles can be applied to new home construction, where appropriate, in Greene County.

Green building techniques can promote affordability by reducing energy costs, lessening the impact of

Poverty Rate (%)	Greene	
	All ages	Children
2007	7.4%	10.1%
2008	7.3%	10.9%
2009	8.6%	12.1%
2010	9.7%	13.3%
2011	9.2%	13.9%
2012	9.5%	13.6%
2013	11.5%	16.6%
2014	9.6%	13.8%
2015	9.3%	13.9%
2016	8.4%	12.8%
2017	8.3%	12.3%
2018	8.1%	12.2%
2019	7.6%	11.1%
2020	8.1%	12.3%

Table 15: Poverty Rates

new construction on the environment, and protecting public health. U.S. Green Building Council certifies buildings through its LEED standards, and EarthCraft certifies residential buildings in particular. The programs award points for such features as efficient insulation, high indoor air quality, use of renewable energy sources, sitting in an accessible location, reduction of water pollution impact, and use of materials with low toxicity. There are several buildings certified by these programs in the Charlottesville-Albemarle region, but none as of yet in Greene County.

SOCIAL SERVICES

According to the 2020 U.S. Census, 8.1 % of the residents of Greene County have income below the federal poverty line. That is down compared to 9.6 % in 2014. This segment of the population, as well as others, may have a temporary lack of resources or

special needs. The County Department of Social Services runs several programs to assist families, children, and adults in need. The office offers a range of family services, from adoption counseling to placement of children into foster care. They assist the unemployed with finding gainful employment and provide different avenues for financial or medical aid to those who have special unmet needs.

The Greene County Commissioner of Revenue also offers a Tax Relief for the Elderly/Disabled Program to reduce the tax burden for the more vulnerable residents of the County. As of 12/31/21, the County received 241 tax relief applications, for a total of \$185,967 exempted for the year.

In addition to Social Services, there are numerous non-profit and church groups that offer services for needy families and individuals in Greene County.

LIBRARY

The Greene County Public Library, established in the 1960s, moved into its current home in Stanardsville in 2003. Since July 1996, the Greene Library has had a professional librarian as branch manager, and since 2012 has had two Branch Specialists who focus on Children's and Teen services in the Branch. It is a member of the Jefferson-Madison Regional Library, which has eight branches throughout the region. The Greene County Branch is open 48 hours per week and contains 32,000 volumes, with access to about 500,000 regionwide. In FY2022, library visits totaled 32,000, with over 1,300 computer signups and over 1,800 Wi-Fi sessions. Additionally, 7,583 Greene residents were cardholders in July 2022 and checked out a total of 93,981 items in FY22.



Figure 12: Greene County Branch

In addition to books and journals, the branch offers several community services, including programs for adults, children, and teens, the use of computing equipment, the use of the internet and software, and notary services.

MEDICAL FACILITIES

The primary medical facilities serving residents of Greene County are the University of Virginia Health System, located in the City of Charlottesville, and Sentara Martha Jefferson Hospital, located in Albemarle County. UVA Health System is a nationally recognized hospital and school of medicine with over 450 specialists and subspecialists. UVA Children's hospital is included in the health system. Sentara Martha Jefferson is a non-profit hospital with a regional scope.

The Greene Care Clinic is a not-for-profit clinic offering free medical exams, prescriptions, and lab services for limited-income residents who do not have health insurance. The clinic is located in Stanardsville. Greene Family Medicine, affiliated with Sentara Martha Jefferson Hospital, is a private practice in Ruckersville.

GOALS AND IMPLEMENTATION STRATEGIES:

- Greene will support affordable housing initiatives in the County
 - Coordinate affordable housing needs with the County’s housing arm, Skyline Community Action Program.
 - Encourage participation in tax relief programs for low-income property owners.
 - Support Habitat for Humanity home construction projects.
 - Encourage residential development of affordable housing in or near Stanardsville.
- Unhoused Recommendations:
 - Dedicate per capita proportional cost of local funds to the Consortium of Care emergency shelter program.
 - Dedicate local funds to the Continuum of Care Homeless prevention program to address Greene County residents at risk of homelessness.
 - Apply for available programs such as the Low-Income Housing Tax Credit Program, Housing Choice Voucher Program, Mainstream Voucher Program, and Section 202 Supportive Housing Program. Set aside units for people at risk of or experiencing homelessness.
 - Invest resources into identified community resource groups to increase their capacity to create affordable rental units available to people experiencing homelessness & provide home rehabilitation to prevent people from falling into homelessness.
 - Develop private landlord incentives to participate in voucher programs or in accepting low-income renters. Incentives could take the form of security deposit payments, one-month rental funds in case of a tenant vacates early, funds for tenant damage repair, etc.
- Affordable Rental Recommendations:
 - Reduce or waive tap fees for projects that include affordable housing units.
 - Conduct an inventory of homestay units in the County to gauge whether there are impacts with this activity.
 - Share data and recommendations with JAUNT and TJPDC’s Ride Share to identify prioritized transit stop and park and ride lot locations within the County.
 - New developments within the growth areas should accommodate commuter transit services to help reduce household transportation costs.
 - In partnership with local providers, develop a lease-to-own program where households that meet income restrictions can have the opportunity to purchase a home at the end

of a two-year period where a percentage of their monthly rent is applied to the down payment. This two-year program would also allow participants to repair their credit before a home purchase.

- Encourage the development of missing middle mixed-income housing, particularly in the Ruckersville and Stanardsville areas. This could take the form of a Low-Income Housing Tax Credit (LIHTC) project.
- Work with regional partners to advertise and promote homebuyer education courses and resources to either provide additional funding or directly assist in loan program promotion.
- Make use of available programs such as the Low-Income Housing Tax Credit, Housing Choice Voucher Program, Mainstream Voucher Program, and Section 202 Supportive Housing Program.
- Pursue the development and implementation of an Anti-Displacement and Tenant Relocation policy and accompanying guidelines and regulations.
- Encourage residents to be proactive, involved, and informed in the development review of new housing projects and about the housing need and supply in the County.
- Expand the capacity of existing non-profit organizations that provide retrofit and rehabilitation supportive services, either through a partnership or dedicated funding to rehab and preserve the aging housing supply.
- Create an Accessory Dwelling Unit implementation guide/toolkit to promote the mutual affordability benefits of ADUs to homeowners and renters & promote grant programs targeted to ADU creation.
- Work with regional partners to advertise and promote homebuyer education courses and resources to either provide additional funding or directly assist in loan program promotion.
- Allow for mobile, manufactured, and modular homes by right in all residentially zoned districts
- Create a set-aside fund to increase the supply of affordable homeownership units. This support could be used to partner with Community Land Trusts, neighborhood stabilization programs, shared equity programs, and market-rate builders and to provide down payment assistance.
- Share data and recommendations with JAUNT and TJPDC's Ride Share to identify prioritized transit stop and park and ride lot locations within the County.
- New developments within the growth areas should accommodate commuter transit services to help reduce household transportation costs.
- Greene County will encourage more private medical facilities in the County, including comprehensive walk-in and emergency health care services
 - Work with Sentara Martha Jefferson Hospital and UVA Medical Center to expand medical services and facilities, particularly emergency treatment in the County
- Expand services for seniors in Greene County

- Assist in finding an appropriate location for a service-enriched independent senior living facility.
 - Work with JABA to design new programs and housing initiatives.
- Greene County will enhance a robust library system in Greene County by the following actions:
 - Coordinate with the Jefferson-Madison Regional Library System to assess the feasibility of a Ruckersville branch library or book drop.
 - Work with the Greene County Library to expand its role as a center of learning for all ages.
- Greene County will encourage more accessible housing to meet the special needs of people with disabilities.
 - Publicize the benefits and features of Universal Design.
 - Work with Regional Disabilities Service Board.
 - Work with Skyline CAP and the HOME Consortium to include the construction and rehabilitation of Universal Design features in affordable housing.

LAW ENFORCEMENT AND EMERGENCY SERVICES

INTRODUCTION

Both the quality of life and economic development of Greene County depends upon law enforcement and emergency services. The need for effective provision of these services has grown as the County has grown in population. Calls for emergency services have continued to increase each year, and the community needs to be assured law enforcement and emergency services personnel are equipped to carry out their tasks in responding to this need.

Preparedness and prevention are as important as response efforts in creating a healthy and resilient community. From individual households to larger government institutions, planning for a crisis can substantially mitigate the damage or avert the crisis altogether.

Greene County is susceptible to many natural and man-made disasters. The County is particularly vulnerable to weather-related emergencies. Because of the many threats our area faces, the importance of readiness as a county and for residents cannot be overstated.

EXISTING CONDITIONS

LAW ENFORCEMENT



The Greene County Sheriff's Office is responsible for providing law enforcement, courtroom security, and the service of civil process for the jurisdiction of Greene County. Beyond investigative and patrolling functions of law enforcement, the Sheriff's Office offers services such as search and rescue, tactical operations, and neighborhood watches, along with public outreach and education. As the population of Greene County has grown, the Sheriff's Office has expanded. There were 20 sworn deputies in 1999; the number grew to 34 in 2015.

FIRE AND EMERGENCY MEDICAL SERVICES

Greene County is served by three all-volunteer fire departments; Stanardsville Volunteer Fire Department, Ruckersville Volunteer Fire Company, and Dyke Volunteer Fire Company. These departments cover our entire jurisdiction, 157 square miles, and our population of 20,552 (2020) residents. Basic geographical boundaries are established for their first due areas; however, most calls require a multi-department response. The individual fire department's front line/core apparatus consists of two (2) engines, one (1) tanker, and one (1) brush truck. Command/chief vehicles, specialty vehicles, support-type vehicles, and EMS first-response vehicles are also distributed within the departments. In 2019, there were 1,409 fire-type related calls for service and 1,464 in 2020.

The Greene County Emergency Medical Services (GCEMS) Department responds to all emergency calls for service within Greene County and provides mutual aid to adjacent localities when available. GCEMS personnel staff two advanced life support units 24/7. The department consists of one (1) EMS Supervisor, fourteen (14) full-time, and thirteen (13) part-time employees. GCEMS apparatus consists of five (5)

ambulances and two (2) support/first responder-type vehicles. In 2019, there were 2,258 rescue-type related calls for service, and 2,480 in 2020.

In 2020, the Greene County Board of Supervisors requested the Virginia Fire Services Board to undertake a study of fire and emergency medical services in Greene County. The study reviewed several areas of responsibility within the County's fire and rescue services in order to maximize opportunities for improvement and overall enhancement of the quality and coordination of Fire and EMS service delivery to its citizens.

The requested areas of concentration of the study included:

- Organization
- Budget, Administration, Accountability
- Training
- Level of Service
- Delivery of Services
- Fleet Design and Management
- Communications
- Safety and Operations
- Greene County Emergency Services Board

Recommendations from the study are being reviewed and will be implemented as appropriate.

EMERGENCY COMMUNICATIONS

The Greene County Emergency Communications Center serves as the Public Safety Answering Point (PSAP) for Greene County 24 hours a day, seven (7) days a week. It operates a three (3) channel VHF conventional (analog and digital system), PL steered radio system, a Computer Aided Dispatch system, a Master Street Addressing Guide system, regional interoperability equipment, and an enhanced 911 system. Staff currently consists of 10 full-time employees and five (5) part-time employees who are professionally trained and constantly strive to protect and serve during emergency and non-emergency situations.

As the PSAP for Greene County, the Center is responsible for all 911 calls, including wireline, wireless, Text-to-911, and voice-over-internet protocol calls that originate within our borders. All service requests are handled promptly and dispatched according to protocol.

Emergency Communications staff receive extensive training in radio procedures, emergency call-taking, and standard operating procedures for all agencies for which services are provided. In addition, they must become certified with the Department of Criminal Justice and the Commonwealth of Virginia by attending a six-day course provided by the Central Shenandoah Criminal Justice Academy. At a minimum, staff must also be certified in the following courses:

- Communications Officer Basic
- Virginia Criminal Information Network / National Crime Information Center
- CPR / AED / First Aid
- Emergency Medical Dispatch
- Public Safety Telecommunicator I
- Fire Service Communications
- Crisis Intervention Training

- National Incident Management System 100, 200, 700 and 800

EMERGENCY MANAGEMENT

The Greene County Office of Emergency Services is responsible for the overall coordination of emergency services for Greene County, which includes coordinating local emergency planning, training, and exercise activities and overseeing maintenance of the local emergency operations plan. The office is responsible for the operational response to local emergencies and natural or man-made disasters, as well as overseeing the readiness of the Emergency Operations Center (EOC) and managing the EOC upon activation.

The Emergency Services Office maintains liaison with local public safety officials, local government, state and federal agencies, school officials, organized emergency volunteer groups such as the Red Cross, industry, and other organizations or agencies that may be involved in the four (4) phases of emergency management: preparedness, response, recovery, and mitigation.

Greene County has an Emergency Operations Plan and All Hazards Plan to direct employees, volunteers, citizens, and visitors of Greene County through any situation that may arise. The plans consider a wide variety of natural or man-made hazards and lay out an organizational structure of roles, responsibilities, and protocols to address the incident.

Greene County also operates under a regional Hazard Mitigation Plan with other localities/entities through the Thomas Jefferson Planning District Commission. The plan only addresses natural disasters, such as flooding, storms with high winds, wildfires, tornadoes, and droughts, omitting human-caused events such as terrorism and chemical spills.

Greene County may be susceptible to wildfire events which may be prepared for with proper planning. The Virginia Department of Forestry urges local governments and communities to know where their high wildfire risk areas are located, particularly in proximity to residences and businesses, the factors that make those areas at risk, and what can be done to mitigate or reduce this risk. Greene County established and implemented a Wildland Fire Mitigation Plan in 2013.

Citizens are encouraged to be aware of statewide drills/exercises that provide them with an opportunity to practice being prepared for certain types of events. A disaster supply kit with the provision of necessities is recommended for readiness in general. The supply kit should include the following:

- Water, one gallon of water per person per day for at least three days for drinking and sanitation
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand-crank radio and an NOAA Weather Radio with tone alert and extra batteries for both
- Flashlight and extra batteries
- First aid kit
- Whistle to signal for help
- Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
- Moist towelettes, garbage bags, and plastic ties for personal sanitation
- Wrench or pliers to turn off utilities
- Manual can opener
- Local Maps
- Cell phone with chargers and a backup battery

GOALS AND IMPLEMENTATION STRATEGIES

GOALS AND IMPLEMENTATION STRATEGIES: LAW ENFORCEMENT AND EMERGENCY SERVICES

- To ensure law enforcement and emergency services meet the needs of a growing population, Greene County will:
 - Concentrate growth as outlined in the land use chapter to allow for efficient and cost-effective service.
 - Expand emergency services through grants.
 - Reduce crime, the root causes of crime, and the fear of crime.
 - Utilize a comprehensive community policing approach to engaging residents, businesses, and relevant stakeholders in a wide variety of crime prevention strategies to prevent crime from occurring
 - Conduct monthly crime reviews to identify emerging crime patterns and trends.
 - Deploy resources and design problem-specific strategies in hot spot areas where crime patterns and trends are evident.
 - Promote ethical behavior among all personnel (employees, volunteers, etc.).
 - Promote prudent fiscal operations to produce cost-effective emergency services.
 - Assess the need for a Ruckersville EMS Station.
- To support volunteers with paid fire and rescue staff, when required, to assure adequate 24-hour coverage, Greene County will:
 - Recognize volunteers and recruit new volunteers.
 - Explore the need for additional Greene County EMS personnel.
 - Seek grant opportunities to secure additional funding.
 - Foster team-building through training opportunities as a County.
 - Incorporate a training schedule at the County level.
 - Incorporate a volunteer auxiliary program within GCEMS.
- To ensure that all staff and volunteers have the necessary equipment to perform their assigned tasks, Greene County will:
 - Develop a communications equipment replacement plan, recognizing that equipment often has a 5–7-year life span.
 - Establish a system to provide a continual evaluation of response capabilities and the resources required to ensure the effective delivery of services
 - Continue progress on the new public safety radio system; the completion date is Winter 2023.
 - Continue the emergency apparatus replacement plan.
- To ensure well-coordinated emergency response and disaster management planning, Greene County will:
 - Ensure law enforcement and emergency services personnel have county-wide broadband coverage.
 - Continue to support regional partnerships and programs.

- Establish the Local Emergency Planning Committee.
- To maintain adequate School Resource Officer protection of school facilities and grounds and to spearhead community involvement in safety training and intervention, Greene County will:
 - Establish a Public Schools Safety Advocacy Group, including parents, administrators, teachers, and law enforcement personnel.
 - Assess the need for an SRO at each school.
- To ensure that adequate resources would be available for various incidents, Greene County will update the Emergency Operations Plan (EOP) and Hazard Mitigation Plan
 - Work with the Thomas Jefferson Planning District to update the Hazard Mitigation Plan.
 - Utilize current EOP as support for securing grant funds.
 - A required biannual EOP update is scheduled and amended as needed.

NATURAL RESOURCES AND THE ENVIRONMENT

INTRODUCTION

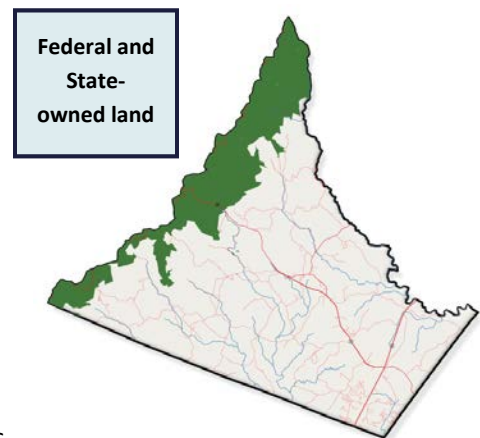
Greene County is blessed with many unique and valuable natural resources. Preserving these features for the use and enjoyment of future generations has long been a value shared by residents of Greene County. It is important to see these lands and waterways not only as wildlife habitats and functioning ecosystems but also as integral to human life and economic activity. In many ways, from the provision of recreation opportunities to a basis for tourism, their health represents the health of the entire County.

Greene County is situated in two headwater river basins, the Rapidan River (Rappahannock River Watershed) and the Rivanna River (James River Watershed), both of which flow into the Chesapeake Bay. Maintaining clean water not only protects the drinking water source for residents but helps to preserve fish habitat and the natural course of the waterways both within the county and for communities downstream.

Several policies and strategies have been and can be employed to meet the goals of preserving a healthy environment. While stopping all development and human use is not desirable, there are ways to ensure that lands can be effectively utilized and preserved for the benefit of future generations at the same time.

EXISTING CONDITIONS

Portions of Greene County, particularly the Shenandoah National Park and various smaller state-owned lands, are managed to preserve their natural condition while allowing the public to enjoy the use of the land. The national park comprises a total of 197,438 acres, 79,579 of which are designated as wilderness. 95% of the park is forested, hosting more than 1,300 distinct species of plants. Within the park are also 50 species of mammals, 32 species of fish, 27 species of reptiles, 24 species of amphibians, and more than 200 species of birds. There are more than 60 mountain peaks with an elevation above 3,000 feet and more than 90 mountain streams originating in the park. The Rapidan Wildlife Management Area, made up of 1,169 acres near the border with Madison County, is the primary state-owned preserve with many of the same ecological characteristics as the national park.



The western portion of Greene County is predominantly mountainous, containing a significant portion of the county’s animal habitat, as well as the source of many waterways. The mountains also create the visual backdrop that gives Greene County its unique aesthetic character. One objective measure that often identifies such a landscape is “critical slopes,” defined as land with a slope greater than 25% (as defined by the Virginia Department of Environmental Quality.) This land is especially susceptible to erosion and landslides, as well as the loss of vegetation if disturbed.

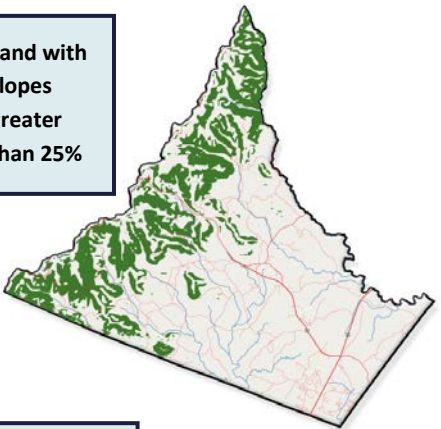
Greene County has several important waterways running through it. Waterways in Greene County flow into two watersheds. The northern portion of the county is in the Rappahannock watershed, and the lower portion of the county is in the James watershed. Both are within the major watershed of the Chesapeake Bay.

The Rapidan River creates the northeastern border of Greene County with Madison County and is a drinking water source for Greene County residents. The Conway River and the South River are two other important waterways completely contained within Greene County that flow into the Rapidan River. Swift Run, Blue Run, and Roach River flow through the southern portion of the county into the North Fork of the Rivanna River.

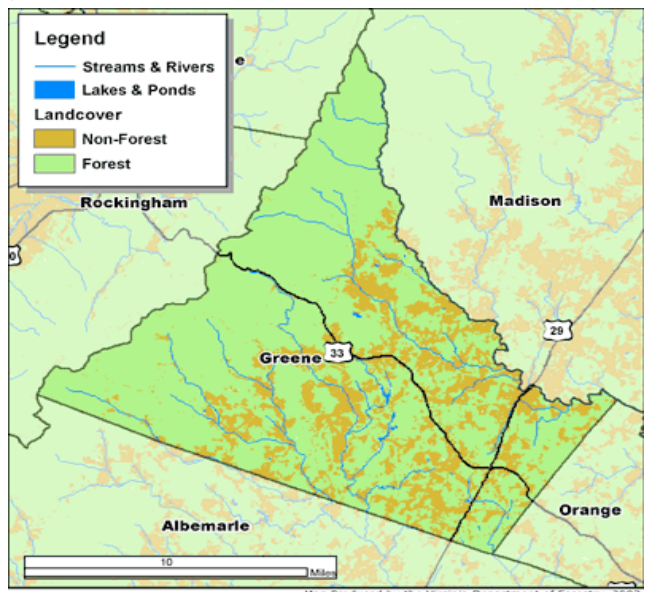
The federal Environmental Protection Agency requires states to monitor waterways under the Clean Water Act. 305(b)/303(d) Integrated Report.

The most prevalent sources of water pollution are urban development, agricultural practices, improper sewage disposal, fertilizer runoff, and improper handling of chemicals and petroleum. Polluted waters not only disrupt animal habitats and plant life but can create health risks for recreational activity and drinking water supply contamination. Waterways in Greene County are regularly monitored by the Department of Environmental Quality and scored relatively well with 2020 Virginia DEQ Water Quality Assessments. During the Water Quality Assessment process, stream samples are analyzed to determine if the water quality meets set standards. From those standards, it is determined if the water is clean enough for swimming, fishing, and other uses. If water quality falls below a certain level of cleanliness, DEQ identifies the location, the area of concern (such as high bacteria counts), and the likely

Land with slopes greater than 25%



Major Waterways with 100 ft. riparian buffer



sources (such as failing septic systems or feedlot runoff). The streams that do not meet Virginia water quality standards are listed in a widely circulated Water Quality Assessment

The 2020 DEQ Water Quality Assessment identified segments of four streams that did not meet the expected standards for E. coli bacteria and were considered impaired enough to require the development of a federal Total Maximum Daily Load, which sets the level of pollutants a waterway can have and still meet EPA standards. These streams are Rippin Run, Preddy Creek, Swift Run, and the North Fork Rivanna River. One of these, Rippin Run, has completed its cleanup plan and the Culpeper Soil and Water Conservation District hold grants to help landowners defray implementation costs. In addition, eight streams were identified as not meeting state expectations for streambed benthic communities and required a cleanup plan; Blue Run, Stanardsville Run, Marsh Run, Swift Run, Quarter Creek, Preddy Creek, North Branch Preddy Creek, and North Fork Rivanna River. A TMDL study was completed in 2019, and they currently await implementation planning. The Rivanna Conservation Alliance, through the ongoing Stream Watch program, also monitors the health of waterways in Greene County and helps prioritize mitigation efforts. Greene County is estimated to have 63.6% forest cover, which is 1.6% above the forest cover percentage for Virginia. About 98% of Greene County's forest cover is hardwoods, most commonly oak-hickory, and 2% is natural pine. Direct ecosystem services of forests include water filtering, soil conservation, plant and animal habitat, and sequestering greenhouse gases.

All land and waters, from wilderness areas to residential backyards, function as wildlife habitats. The Virginia Department of Game and Inland Fisheries has listed 393 animal species as documented or likely to be within Greene County. The list includes 25 species listed as endangered, threatened, or of particular concern. The Virginia Wildlife Action Plan identifies two distinct "eco-regions" for Greene County, the Blue Ridge Mountains and Southern Appalachian Piedmont. Because of soil type, climate, and land cover differences, these two area types host different ecosystems.

AVAILABLE PRESERVATION TOOLS

The following tools are in addition to those presented in the land use chapter of the Comprehensive Plan. See the Land Use chapter for a description of conservation easements, land use assessment policy, Agriculture and Forestal Districts, clustering development, and conservation subdivisions.

CULPEPER SOIL AND WATER CONSERVATION DISTRICT (CSWCD)

The CSWCD develops and delivers a wide range of programs to encourage community participation in conserving and protecting soil, water, and related natural resources, with a particular focus on agriculture, onsite residential septic, and the impact of land disturbance and management of the Chesapeake Bay. District programs are funded by local, state, and federal agencies and district-authored implementation grants with additional programmatic opportunities available from the USDA Natural Resources Conservation Service (NRCS), which supports many programs for working lands conservation; grazing land management; forage management, which all benefit both producer and soil and water quality. More than 110 miles of streambank in pastureland have been protected in

Greene through their programs since 2010. In addition, many projects include grazing management, which helps the land retain available precipitation and lessen harmful runoff.

CSWCD also facilitates two successful urban/residential cost-share programs designed to lessen the residential impact on soil and water resources. The Virginia Conservation Assistance Program (VCAP) offers cost-share funding for various best management practices that focus on reducing runoff and nutrient pollution of receiving waterways. The District's On-Site Residential Septic System, Cost Share Program, offers cost-share for a full range of septic best management practices. Both programs are designed to protect receiving waters and ground waters. CSWCD co-funded 188 septic system pump-outs, 29 septic system repairs, and 11 replacement septic systems in Greene County during 2017-2019. Funding opportunities continue in the north half of the County. In addition to supporting producers and homeowners, significant CSWCD resources are provided to teachers in Greene County for classroom presentations, outdoor field days called Meaningful Watershed Educations Experience, and teacher continuing education certification programs.

Website: <http://www.culpeperswcd.org/>

DARK SKY PROTECTION

In 2007, the Zoning Ordinance was amended to include a lighting ordinance to cut down on light pollution, reduce the effects of artificial lighting on the environment, and encourage energy efficiency. The ordinance allows for nighttime lighting for safety and utility while minimizing its intensity and glare from misdirected or unnecessary light sources. Dark skies' primary benefit is allowing people to see stars in a natural setting that may add value for tourism, quality of life, and amateur astronomy.

EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT

Stormwater runoff has been recognized as an environmental concern for many reasons. Rushing waters tend to scour stream channels, which evolved to hold only a specific capacity, and the excess sediment is eroded and deposited further downstream. Additionally, water runoff can carry ground pollutants, such as motor fuels and lawn fertilizers, into the waterways. Under natural conditions, significant rainwater will be dissipated from evaporation into the air or infiltration into the soil, but surfaces such as roadways, parking lots, and rooftops promote greater overland flow directly to stream channels. These hard surfaces, also known as impervious surfaces, are often characteristic of increased development.

On May 13, 2014, Under Code § 62.1-44.15:27 of the State of Virginia, an ordinance was adopted by the County of Greene Board of Supervisors as part of an initiative to integrate the County of Greene stormwater management requirements with the County of Greene erosion and sediment control requirements into a unified stormwater program. The program regulates any land-disturbing activity, such as grading, excavation, and construction.

GREEN INFRASTRUCTURE

Green infrastructure is a purposeful creation and preservation of a network of green space throughout the region. It is often depicted as a connected network of hubs and links. The vision may be achieved by a county using a composite of conservation tools or incentives. The challenge of green infrastructure

is to navigate between the extremes of environmental preservation by strategically choosing which

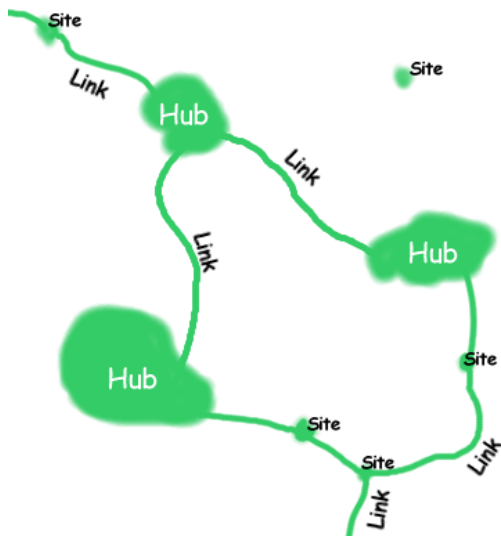


Figure 13: Green Infrastructure, Hubs and Links

lands will remain open and ensuring that proper links are made between these spaces. Instead of reacting to the pressures of development haphazardly, the placement of a community's green infrastructure ought to be deliberate, science-based, and firmly within the public interest. This requires as much foresight as we put into the roads and other infrastructure needed to build the places we live.

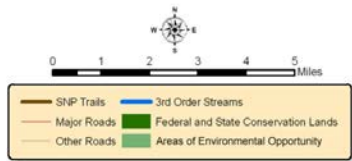
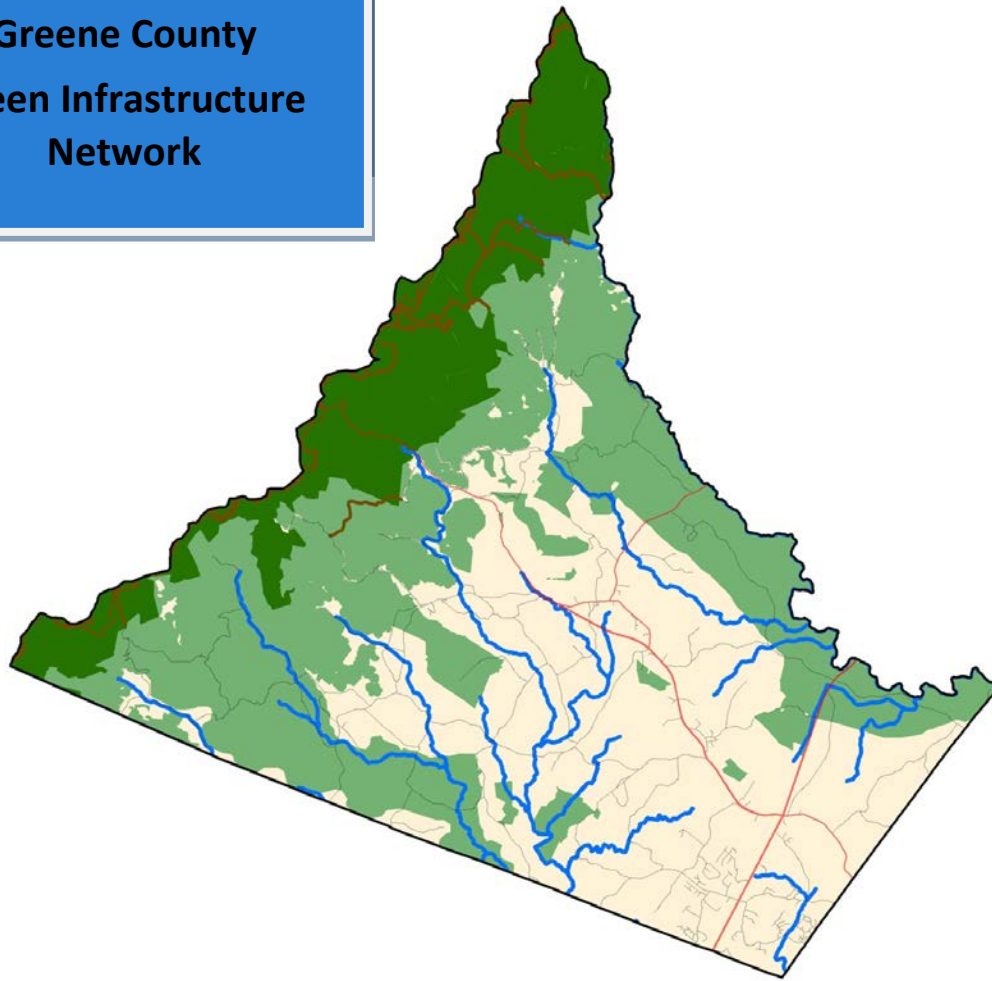
Green infrastructure recognizes that a connected system of open space dispersed throughout a region serves many goals. Securing natural amenities close to living spaces increases the quality of life for residents and has been shown to enhance property values. Health benefits, from decreased obesity rates to better air quality, have long been associated with sufficient green space nearby. Additionally, interconnected lands are

vital to the preservation of biodiversity. Protecting fragmented and isolated preserves of land for wildlife is insufficient to allow a healthy ecosystem to function.

A 2009 Green Infrastructure Study by the Thomas Jefferson Planning Commission analyzed several natural features throughout Greene County, labeling them "cornerstones layers." These layers on the map included known habitat areas, steep slopes, buffers on major streams, existing trails and adopted greenway plans, and already protected lands. All of these factors were combined to create a composite map, which forms the basis of a potential green infrastructure network.

It should be noted that the areas marked on the Green Infrastructure Network map as "Critical Environmental Areas" all lie outside of the Future Land Use Growth Areas of this Comprehensive Plan.

Greene County Green Infrastructure Network



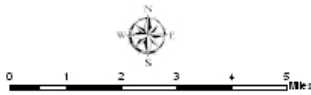
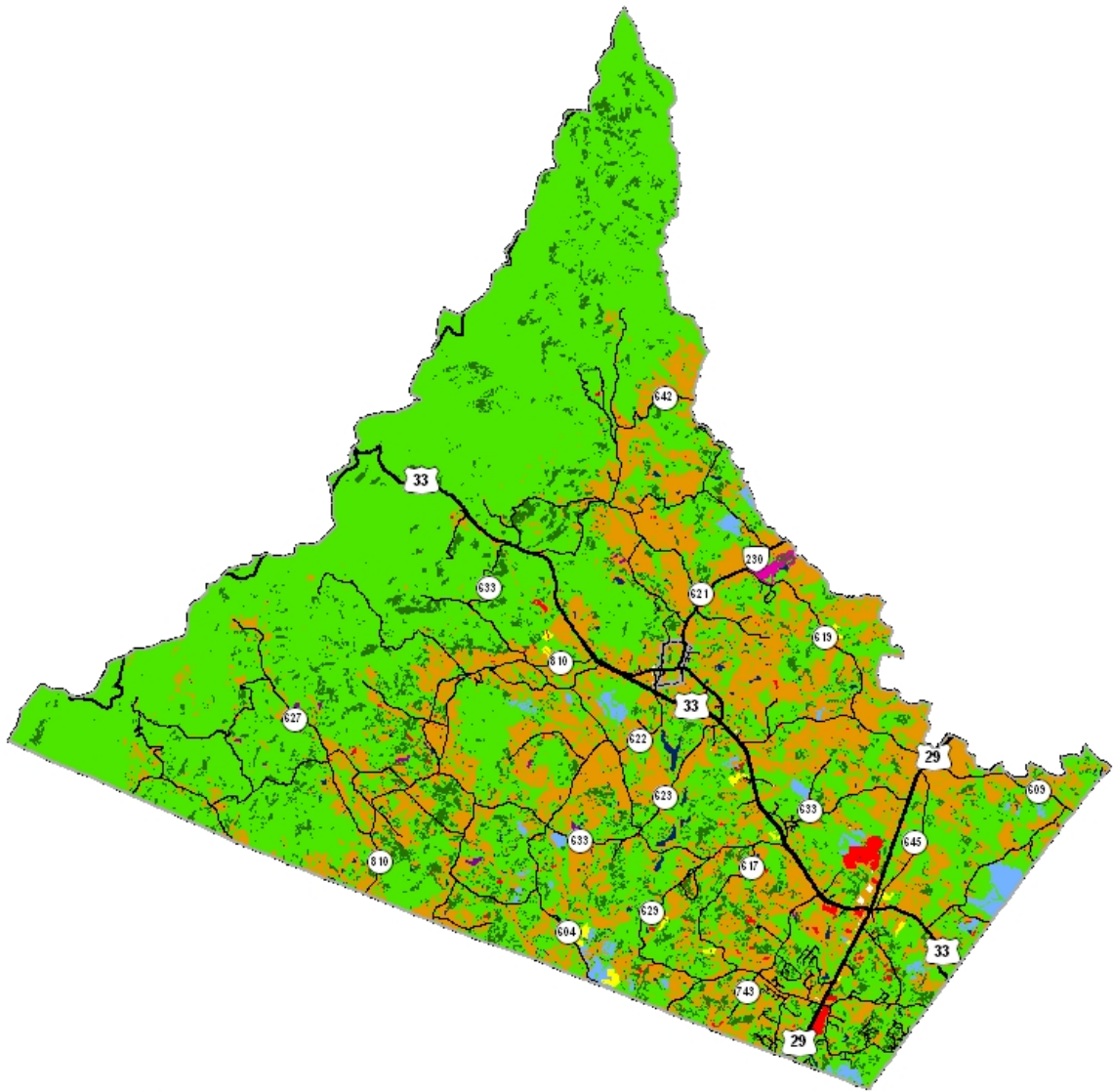
ENERGY EFFICIENCY PROVISIONS

Minimizing energy usage and the carbon footprint from buildings within the County can help meet important local and national conservation goals and reduce County energy expenses. After an independent energy audit in 2010, the County has implemented numerous energy efficiency modifications. The leading energy-efficiency standard for buildings is LEED, which evaluates insulation and heating efficiency measures. The location of a building relative to other services is also an important determinant of energy usage. More compact development patterns tend to reduce travel volume and thus reduce total fuel usage.

CURRENT LAND COVER/LAND USE CLASSIFICATIONS

The following map, “Current Land Cover/Land Use Classification: Greene County,” details the land cover/land use categories for the County: deciduous forest, coniferous forest, pine plantation, forest harvest, orchard/vineyard, golf course, bare Earth, open land (e.g., pasture, lawn), water, and impervious surface (e.g., streets, sidewalks, roofs, parking lots). This map evaluates actual land cover to a high degree of detail in areas of specific interest, such as stream buffers, critical slopes, and potential conservation easements. This information may be used to evaluate potential sites for the placement of greenways, parks, and schools. The map will be helpful for assessing biodiversity and will be a source of data for more studies that correlate land use with stream health and for models that correlate land cover, hydrology, and the hydraulics of area streams.

Current Land Cover/Land Use Classification for Greene County



 Deciduous	 Impervious	 Bare Earth
 Coniferous	 Pine Plantation	 Golf Course
 Open Land	 Forest Harvest	 Primary Arterials
 Hydro	 Orchard/Vinyard	 Secondary Roads

RIPARIAN BUFFERS

Riparian areas are the interface between land and streams. These borders play an important role in soil conservation, biodiversity, and aquatic ecology.

Riparian buffers can protect landowners from soil erosion and consequently protect the waterways downstream from excessive sedimentation. They provide natural flood control by slowing down and absorbing some of the rushing

stormwater passing through the channel. There are water quality benefits as well. A 100-foot-wide strip of forest and grass can reduce sediment by 97%, nitrogen by 80%, and phosphorus by 77%.

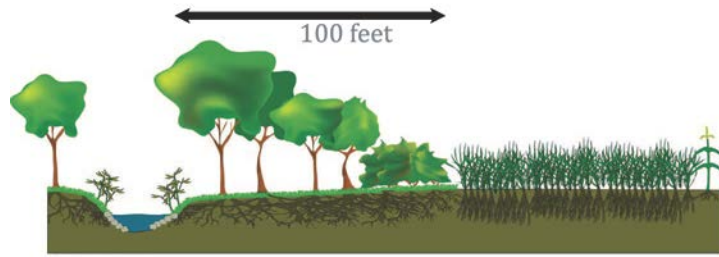
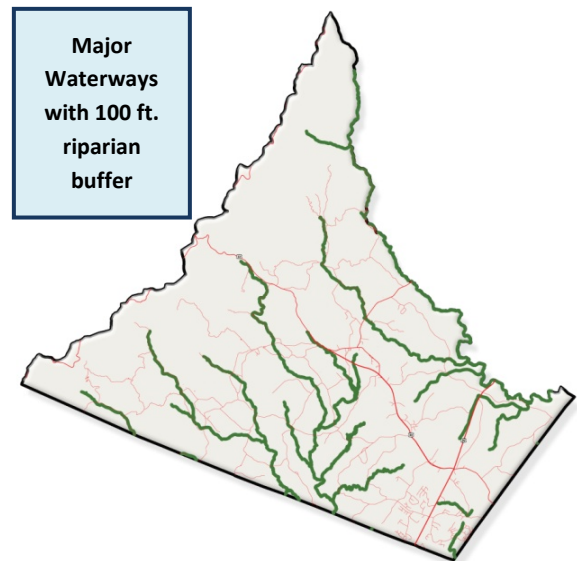


Figure 14: Riparian Buffer Example

There are economic incentives in place in Virginia to encourage riparian buffers on farmland or forested land. The Department of Forestry offers tax reduction incentives for forest buffers. The Culpeper Soil and Water Conservation District has several programs available in Greene County to reimburse landowners anywhere from 50-100% of the costs for restoring buffers; rates vary with situations. The U.S. Department of Agriculture runs several cost-sharing programs that Greene County residents may be eligible for, including the Conservation Reserve Program (CRP), Virginia Conservation Reserve Enhancement Program (CREP), and the Environmental Quality Incentives Program (EQIP). Virginia Department of Conservation and Recreation (DCR) also offers several opportunities for assistance equal to 25% of the landowner's out-of-pocket expenses incurred in installing the practices. Greene County would receive DCR assistance through the Culpeper Soil and Water Conservation District.



WATERSHED DESIGN STANDARDS

There are several ways to design residential, commercial, or mixed-use developments to minimize the impact on water quality and quantity of runoff for urban or rural settings. Strategies include the use of pervious surfaces as much as possible to let water seep into the soil naturally. Green roofs are vegetative layers placed on rooftops to capture water before it ever runs to the ground. Roof drain disconnection, rain gardens, well-placed drainage basins, and various water treatment or filtration practices are other elements of watershed design. At the household level, individuals can use rain barrels or other catchment devices to capture rainwater and reuse it for



Figure 15: Green Roof

household purposes. On May 13, 2014, the Greene County Board of Supervisors adopted a unified stormwater program as part of an initiative to integrate the County of Greene stormwater management requirements with the County of Greene erosion and sediment control requirements. The unified stormwater program is intended to facilitate the submission and approval of plans, issuance of permits, payment of fees, and coordination of inspection and enforcement activities more conveniently and efficiently for both the County of Greene and those responsible for compliance with these programs

CONTROL OF INVASIVE SPECIES

Much of the nature of the County's rural land is conveyed in its visual aspects: rolling, tree-covered hills leading to the surrounding slopes of the Blue Ridge. Over its history, that view has changed, declined, and returned through combinations of human, animal, and plant impacts. The beauty of Greene County now faces increasing threats from invasive insects and plants, which threaten existing plant species. Greene County's forests, fields, fencerows, and floodplains are infested with dozens of invasive introduced plants, the most common of which include Japanese Honeysuckle, Japanese stilt grass, Multiflora Rose, Oriental Bittersweet, Autumn Olive, Chinese Privet, Tree of Heaven, and others.

The non-profit organization Blue Ridge Partnership for Regional Invasive Species Management (PRISM), whose 10-county focus area includes Greene, was founded in 2014 with a mission to reduce the impact of invasive plant species on the landscape. It accomplishes this mission through public education and support, enabling landowners to do or manage invasive plant control themselves and by directly treating certain high-impact species that are still confined to limited areas in the region. As of 2021, the PRISM has funded, facilitated, or managed control projects on 10 sites in Greene, from single to multi-property sites comprising tens to hundreds of acres.

The PRISM's website (blueridgeprism.org) is resource-rich, including downloadable invasive plant factsheets, guidance on the use of herbicides, and announcements of education and training events and events of its many partners.

Although the County has no direct role in combating invasive species, citizens are encouraged to be aware of these emerging issues, perhaps with guidance or support from various state and federal resources.

GOALS AND IMPLEMENTATION STRATEGIES

- Greene County will protect and conserve surface and groundwater resources, especially headwaters of critical rivers and tributaries, by the following actions:
 - Limit certain kinds of septic systems on slopes of 25% or greater to the extent allowable by State law.
 - Promote the voluntary establishment of new riparian buffers, as defined by the Department of Conservation and Recreation, around third-order streams to protect valuable surface water resources and maintain existing riparian buffers.
 - Consider adopting Watershed Protection Design Standards.
 - For developments of 10 or more homes in A-1 or C-1 zones, consider the requirement for a hydrological study to demonstrate that the groundwater supply is sufficient to support the development.
 - Prior to issuing a building permit in areas not served by central water, require the landowner to demonstrate that the well provides adequate water.
 - Protect water quality for fish in all existing streams and new water in impoundments or parks.
 - Cultivate awareness and practice of water conservation.
 - Promote and support TMDL projects and implementation efforts.
 - Promote and support programs and initiatives of Culpeper SWCD.
 - Encourage and promote septic system pumping, inspection, and repairs.
- Enact measures to protect Greene County's irreplaceable natural resources and become a model county for natural resource stewardship.
 - Consider initiating a Mountain Protection Plan process.
 - Discourage road construction on slopes of 25% or greater. Permitted roads should follow the natural topography and minimize grading, cutting, and filling as much as possible.
 - Discourage excessive changes to the existing topography or tree cover, particularly outside designated growth areas.
 - Reduce carbon footprint associated with the structure and location of buildings.
 - Encourage voluntary monitoring and control of invasive species.
- Greene County will encourage open space dedication, riparian buffers, pervious surfaces, and other best management practices.
 - Seek voluntary proffers for open space dedication, riparian buffers, limits to pervious surfaces, and similar practices.

- Support voluntary implementation of the recommendations of the County Green Infrastructure Study.
- Encourage the voluntary dedication (through proffers and other tools) of land in conservation easements or Agricultural and Forestal Districts.
- Greene County will create governmental and public awareness of preserving natural resources while accommodating residential growth.
- Greene County will enact natural resource protection measures through development standards.
 - Promotes conservation/cluster development to protect sites sensitive natural resources.
 - Minimize impact and preserve aesthetics of the rural countryside by buffers and natural vegetation screening.
- Refer to Green Infrastructure Study as a means to protect ecologically sensitive areas.

PARKS AND RECREATION

INTRODUCTION

A sufficient supply of parkland can enhance the quality of life, public health, and property values for any community. The Virginia Department of Conservation and Recreation recommends various park sizes and types to meet different recreational needs and allow green space access to the broadest possible range of citizens. The Greene County Community Park is a centrally-located park for residents, and plans have been adopted to improve the park with additional playing fields, parking facilities, and landscaping. The Department of Parks and Recreation organizes several recreational activities, from regular organized sports to general classes, activities and special events ensuring all residents and visitors have access to the benefits of local parks and recreation. As Greene County considers how to bolster the parks amenities and recreation offerings, a variety of outside funding sources may prove to be beneficial.



Locally owned private facilities also provide recreational opportunities such as gym facilities, horseback riding, golf, group sports, biking, art classes, and swimming, which are situated throughout the County.

In addition to local and private programs, the Shenandoah National Park includes much of the western third of Greene County and provides significant opportunities for hiking, camping, educational programs, and picnicking for residents and visitors. The Rapidan Wildlife Management Areas provide similar access to trails and hiking.

EXISTING CONDITIONS

Greene County Parks and Recreation oversees operations of the county-owned parkland and numerous recreational activities held throughout the year. The mission is to enrich the quality of life for all community members by offering leisure activities and special events throughout the year in a fun and learning environment.

RECREATIONAL ACTIVITIES

Greene County Parks and Recreation organizes and runs various events, sports, and classes for all ages. There are typically over 2100 participants for all of the programs per year. Volunteers assist the two staff members and make significant contributions toward facilitating activities and administration. Diverse specialty camps such as soccer, volleyball, cheerleading, football, basketball, S.T.E.A.M., art, and nature courses are offered during the summer months. Organized sports for children and adult intramurals are also held weekly throughout the fall, winter, and spring seasons. There are classes for

youth activities, teen and adult special interest programs, health and wellness programs, and special events.

GREENE COUNTY COMMUNITY PARK

Greene County has one district park, the Greene County Community Park. It is comprised of 64 acres of county-owned land purchased in 1996, located along Route 33 between Stanardsville and Ruckersville. The park currently offers rectangular multi-use athletic fields, a children’s playground, a disc golf course, nature trails for jogging and walking, and two picnic shelters available for first-come, first-served uses. These shelters are also available for exclusive private rental reservations.

In September of 2008, the County Board of Supervisors adopted a Master Plan for phased improvements to Greene County Community Park. The first element of phase one, which was completed in 2009, was a newly paved road and bikeway to access the park from Route 33 to the north. The next project of phase one that was completed was a comfort station and concession stand in 2011 and a basketball court in 2014. In 2022, three (3) pickleball court layouts were added on the basketball court for multi-use purposes. To finish phase one would entail building an expanded paved parking lot and four tennis courts. Phase two of the Master Plan calls for a service road to another section of the park, where there would be a community center with a pool and gym, three softball fields, a parking lot, and a skate park.

In addition, there is a pocket park at the visitor’s center located on Route 29 and a trail system at Preddy Creek that has been proffered and is in the planning process.



PARK CLASSIFICATIONS

The Virginia Department of Conservation and Recreation and the National Parks and Recreation Association has adopted standards for a variety of park types to meet the different needs of the community: neighborhood parks, community parks, district parks, and regional parks. They also make recommendations for how many of each class of parks are appropriate for a given population. Under these standards, Greene County Community Park is classified as a district park.

Classification of Parks

Adapted from the 2007 Virginia Outdoors plan and the National Recreation and Parks Association



McGuffey Park, Charlottesville

Neighborhood Park

- 3 acres per thousand citizens
- Within 15 minute walk
- Also known as “pocket parks”
- Often feature playgrounds, ball courts, benches and steps



Quincy Park, Arlington

Community Park

- 3 acres per thousand citizens
- Serves 2 - 5 neighborhoods
- Ideally accessed by walking or biking, but within 15 minute drive
- Includes larger facilities, such as lighted game fields, swimming pools, and picnic areas



Greene Community Park, Greene County

District Park

- 50 acres and above
- 4 acres per thousand citizens
- Within 15 - 20 minute drive, but also accessible by pedestrians and bicycles
- Includes recreational activities, but also natural amenities such as jogging trails, lakes, and open land



Pleasant Grove Park, Fluvanna County

Regional Park

- 100 acres and above
- Within 25 minute drive, but also accessible by walking and cycling
- Often managed by multiple jurisdictions
- Open space and many natural amenities

GOALS AND IMPLEMENTATION STRATEGIES: PARKS AND RECREATION

- Greene County will create a county park in the Ruckersville.
 - Consider siting off Rt. 29 South in the Ruckersville area.
 - Connect the community park with a hike/bike trail following the recommendations of the Green Infrastructure study.
 - Planning should move quickly before growth in development makes land acquisition difficult.
 - Secure grant money for property acquisition to house additional recreational opportunities.
 - Incorporate a park into the new Ruckersville town center or at the County owned parcel located on Deerfield Drive.
- Greene County will support the completion of phases one and two of the master plan for Greene County Community Park through:
 - Development of a recreation community center, athletic fields, and additional passive recreation improvements (trails, outdoor recreation, etc.) to meet the needs of the growing/changing community's desires.
 - Continue infrastructure /development expansion to support phase two
 - Easement/roadway enhancements to accommodate access from Rt. 33 and access toward the undeveloped park parcel.
 - Water/sewer enhancements to accommodate pool/center
- Greene County will support the development of a public swimming area.
 - Complete the pool planned for Greene County Community Park,
- Consider recreational uses at a future reservoir site.
- Encourage neighborhood parks and interconnected trails in new neighborhoods.
 - Encourage new developments and neighborhoods that include small parks and trails.
 - Support efforts to create a park and hiking/biking trail in the county's western portion.

SOLID WASTE

INTRODUCTION

As Greene County grows in population, the waste stream has also increased, and its management has become more complex. Currently, solid waste in the county is handled through the Greene County Transfer Station and by several private waste haulers. Many private haulers take waste to transfer stations and landfills outside of the County. Residents and haulers can take their waste to the Greene County Transfer Station, where they pay a fee to dispose of solid waste or recycle items for free. In recent years curbside trash pickup has become available to residents in subdivisions. Private haulers provide these services for a fee. Businesses and commercial enterprises also contract with these haulers for waste removal. Since 2009 the amount of waste passing through the Greene County transfer station has declined as more residents have taken advantage of curbside trash services offered by private-sector haulers. In 2008 the Greene County Transfer station handled 65,066 tons of solid waste. By 2014 the total dropped to 23,643 tons of solid waste. The total waste handling fluctuates each year based on the number of private haulers. The 2020 total waste at the Greene County Transfer station had dropped to 21,633 tons.

EXISTING CONDITIONS

The EPA estimates show that total Municipal Solid Waste (MSW) generation has increased from 251.1 million tons and 4.45 pounds per person per day in 2010 to 292.4 million tons and 4.91 pounds per person per day in 2018. After years of significant growth, the recycling rate plateaued in 2010 at 35% and, in recent years, dropped significantly. From 2017 to 2018 alone, there was a 10% drop in the recycling rate from 35% down to 32%

In 2020, the Greene County Transfer Station received a total waste stream of 21,633 tons, 15,386 of which were not recycled and were sent off to be landfilled. These figures include waste received from other localities and do not include the waste that was handled by private haulers. Therefore, the numbers represent only a percentage of the total waste generated in the County and therefore do not accurately depict waste generated by just Greene County residents. Reported recycling rates were based on the total waste stream received at the transfer station. Of the disposed solid waste, there were 14,415 tons of residential waste and 971 tons of commercial waste.

An additional 6247 tons of Greene County solid waste was recycled in 2020, with paper, metal, and wood waste comprising 97% of the total recycled materials. Greene County's recycling rate was 28.9% in 2020. This is a 3.7 % drop from the recycling rate high point of 30% in 2017 but a 43% increase over the 21% recycling rate in 2010. Greene County's recycling rates have dropped in recent years, but the rate decrease is smaller than national averages and slightly higher than regional averages. There has not been enough data collected to determine if the trends will continue over time.

The county's former landfill, located near the Greene County Community Park, has been closed since 1992, and the land is being managed for future reuse. All waste is now processed at the Greene County Transfer Station and sent to the Amelia County landfill. The transfer station is equipped to handle 150

tons per day. The community has expressed an interest in expanding recycling and reuse activities at this site. The central location of the site is convenient for collecting waste for the entire county, but the community would like smaller convenience centers located near the population centers. Transport of waste to the transfer site is conducted by individual households and businesses, usually under contract with professional services.

Each year members of the Thomas Jefferson Planning District Commission Waste Planning staff submit a report on solid waste and recycling activities in the planning region. These reports are used to ensure that the region is meeting the state-mandated minimum recycling rate of 25% and that activities are occurring within compliance with the Regional Solid Waste Management Plan. The Greene County Transfer station recycling rate of 28.9% exceeds the minimum.

The Thomas Jefferson Planning District maintains a regional Solid Waste Management Plan to meet state requirements and assist member localities in their waste management. Several objectives for the region are defined in the plan.

1. Increase recycling of reusable materials and exceed the state-mandated recycling rate of 25% for the region
2. Minimize the use and unsafe disposal of hazardous material
3. Promote a sense of individual responsibility for limiting waste
4. Increase individual and cooperative efforts to reduce waste

As of October 2011, when the regional Solid Waste Management Plan was last amended, there were no plans to expand the operations of the Greene Transfer Station. Based on current trends, there is now an excess of capacity available at the Greene County Transfer station. This excess capacity is expected to continue as more solid waste is handled by private haulers and private transfer stations located outside of the County. The current waste handling volume is less than 20% of the maximum capacity of 150 tons per day. It is anticipated that the current hybrid model will be adequate to address the County's solid waste needs over the next 30 years.

Additional existing activities help improve the management of solid waste in Greene County. A volunteer-run waste exchange program makes clothing and other reusable items available to the public at no charge. A retailer periodically takes a truck to the county containing off-merchandise for people to take items free of charge. Trash cans help reduce litter in the Town of Stanardsville, and a major volunteer county-wide road cleanup is held every spring.

GOALS AND IMPLEMENTATION STRATEGIES: SOLID WASTE

- Greene County will provide residents with convenient, cost-effective solid waste management and recycling services.
 - Ensure that solid waste generated in Greene County is collected, processed, and disposed of in a manner that is consistent with TJPDC's Regional Solid Waste Management Plan and the waste management hierarchy.
 - Continue to maintain a 25% or greater minimum recycling rate by providing recycling facilities to county residents
 - Examine the feasibility and demand for additional convenience-type recycling centers at additional locations in Greene County.
 - Promote recycling and proper solid waste disposal through advertising and education
 - Encourage new development to include recycling in addition to solid waste collection services
- Greene County will participate in TJPDC's Regional Solid Waste Planning efforts to promote the region's household hazardous waste collection days
 - Continue to participate in the annual regional recycling rate report
 - Continue to participate in the Thomas Jefferson Regional Solid Waste Planning Unit
 - Identify grant monies to participate in hazardous waste collection days
- Greene County will limit the burning of household trash to the extent possible
 - Comply with state codes and regulations on the burning of trash
 - Provide affordable, accessible waste disposal options at the County transfer station or county convenience centers.
- Greene County will continue to manage and operate the solid waste facility efficiently and within budget goals
 - Improve signage at the facility including clear labeling of recycling bins for different materials
 - Make improvements to the recycling collection center layout to make it easier for citizens to separate and deposit recyclable waste properly



TOURISM

INTRODUCTION

Greene County has several assets for the vital tourism industry. The proximity to the Shenandoah National Park and many acres of scenic rural lands provides an ideal backdrop for visitors, and various amenities exist to serve those who visit. In recent years, Greene has significantly increased the tourism trade, resulting in tourism being one of the largest economic drivers in the community.

The County focuses marketing toward tourists from metropolitan areas seeking a destination for rest and rejuvenation, as well as hikers and bicyclists seeking vacation lodging accommodations. Recognizing that guests do not stop at county lines, the www.ExploreGreene.com website focuses on being a great place to vacation and promotes many of the regional assets. In addition to the metropolitan areas within a three-hour drive, Greene's tourism capitalizes on the 1.5 million annual visitors to Shenandoah National Park and the vibrant wedding industry.

In 2021, the town of Stanardsville completed the Greene Commons venue. Funded through a Department of Housing and Community Development (DHCD) grant, the venue offers a 2,000-square-foot Pavilion and a large Performance Stage with seating for as many as three hundred guests. Regular music events and other special events make this gathering space a venue to connect tourists and members of our community in a fun, outdoor, green space. The weekly highlight of the venue is the vibrant Greene Farmers Market (see the agricultural section for more detail.) Greene Commons is a public-private partnership that is working to restore economic vitality to Greene's historic county seat of Stanardsville. The activities of Greene Commons are directed by a volunteer Board of Directors as well as an Advisory Board composed of citizens from the community.

In addition, through the significant increase in Transient Occupancy Tax revenues, the County was able to purchase, with only tourism funds, a permanently highly visible location for the Visitor Center. Located on two acres in the heart of Ruckersville, the 1930 Taylor House has proven to be a much more visible location to promote the County's rural, agricultural tourism assets. Two outbuildings and the open space provide a tremendous asset for travelers to learn about the County, stop for a picnic, or attend the variety of tourism events that will be planned.

Other significant attractions to Greene's tourism include the Ruckersville Antique District and the very popular Blue Ridge Barn Quilt Trail. Currently, Greene is collaborating with Greene and Albemarle vineyards in the Dyke area to create the Simmons Gap Wine Trail and has designated routes 810 and 230 as VDOT Virginia Byways.

The Economic Development and Tourism Department, Greene County Chamber of Commerce, and the Town of Stanardsville promote the County, town, and surrounding areas through their websites, activities, programs, and events. Statewide tourism programs also assist in building exposure for the County's tourism. Likewise, the preservation of the rural character and scenic beauty of the County is equally important for building a healthy tourism industry.

EXISTING CONDITIONS

In the last several years, Greene County has made a concerted effort to bolster the tourism potential of the County and the Town of Stanardsville. It is well known that tourism can be an important driver of economic development, as well as a revenue source for local government. The current goals set forth are to identify the inherent strengths of Greene County and concentrate on enhancing these assets, on

retaining the rural character of the County that visitors seek, to coordinate tourism efforts regionally, and to attract several visitor services within the County.

Tourism is intertwined with many other elements of this comprehensive plan, especially economic development, natural resources, parks and recreation, land use, and transportation. However, it is still important to reflect upon how the momentum generated from these other endeavors can be effectively harnessed for the benefit of the tourism industry in Greene County. This requires a coordinated planning approach.

The Town of Stanardsville was awarded a Community Development Block Grant in 2017, which is funded by the Virginia Department of Housing and Community Development for a comprehensive Business District to stimulate economic development and tourism within the Town. The Business District Revitalization Project provided grant funds for façade improvements on commercial buildings; apartment upgrades on several low-income housing properties; blight removal; and renovation of William Mills House on the hill above the library, and construction of a farmers' market/performance pavilion structure behind the County Administration Building.

The Virginia Tourism Corporation (VTC) estimates the economic impact of travel for each locality in the State. The totals are drawn from a variety of travel-related expenses, which include, but are not limited to, tourism spending. In 2019, \$22 million was spent in Greene County. This is a 5.8% increase in the monies spent by travelers in Greene County over the previous year.

The primary tourism-related tax revenue sources are lodging and meal taxes. The current Greene County meals excise tax rate is 4%, and the lodging tax is 5% which is commensurate with many other similar localities in the state. In 2020, \$312,344 was collected for lodging tax. Over the past 5 years, Transient Occupancy Taxes have increased by 77%. Overnight lodging gross receipts alone brought \$6.2 million into Greene's 2020 economy.

HISTORIC RESOURCES

Heritage and cultural tourism are important sectors of the overall tourism industry in America. The region surrounding Greene County, with world-class attractions such as Montpelier, Monticello, and the University of Virginia, is particularly well suited for capturing this market. Greene County itself has historical attractions and relevant services with the potential to capitalize on some of the regional markets. Whether historic sites are destinations in their own right or ancillary features of an overall pleasant environment, Greene County can benefit from recognizing and using its historic resources as economic assets and community-building tools.

In 2017, Greene County dedicated its Blue Ridge Heritage Project monument. Similar memorial sites are located in the eight counties where land was acquired to create the Shenandoah National Park. Each monument educates visitors about the lives and culture of the people who lived in the mountains before being evicted from the Shenandoah National Park. Shenandoah National Park guests can find solo standing chimneys, often the only remnants of these forgotten homesteads. Located in Stanardsville, the interpretive signage and a free-standing chimney monument memorialize all the names of these property owners.

The National Register of Historic Places and the Virginia Landmarks Register contain eight entries for Greene County:

1. The Greene County Courthouse
2. The Octonia Stone (A marking for the northwest corner of the Octonia land grant in 1722)
3. Gibson Memorial Chapel and Martha Bagby Battle House at Blue Ridge School
4. Skyline Drive Historic District
5. Beadles House in Stanardsville
6. Powell-McMullan House in Stanardsville
7. Stanardsville Historic District

The highest concentration of historically-important structures in Greene County is found in downtown Stanardsville, making this an obvious focal point for heritage tourism. The town contains over 20 buildings dating back to the early 19th century, including some currently in use as Bed and Breakfasts. The Lafayette Inn, built-in 1840, is a well-known restaurant and Bed and Breakfast. In small towns such as Stanardsville, the concentration of historic resources can create a vital synergy greater than the sum of its parts.

NATURAL RESOURCES AND AGRITOURISM

The Shenandoah National Park is perhaps the most critical resource for tourism in Greene County. A total of 15,285 acres of the national park resides in Greene County. The Swift Run Gap entrance, one of four entrances to the park, is directly accessible from Route 33. This entrance connects to the scenic Skyline Drive and provides direct access to 8 of the 10 most popular trails. In 2019, the National Park Service recorded 1.4 million visitors to the park, spending over \$96.7 million. To attract an increasing share of these visitors, the County continues to orient the range of services and promotional efforts toward meeting their specific needs.

Hunting and fishing draw visitors to the preserved land of Greene County. There are 15 bodies of water for fishing in the County. The South River and mountain streams running from the national park are also popular trout fishing sites. The Rapidan Wildlife Management Area is a 10,326-acre parcel along the border of Greene and Madison Counties operated by the Virginia Department of Game and Inland Fisheries. This natural area is a popular place for wildlife and fishing activities. While hunting, fishing, and wildlife viewing are the primary uses of the area, other outdoor activities compatible with the wildlife management area include hiking, primitive camping, and nature photography. Road bicycling is another outdoor recreational activity that draws visitors. Road bicycling is extremely popular along Skyline Drive and Greene's foothills. Blue Ridge School provides premier mountain biking venues for Greene County residents and guests. The Charlottesville Area Mountain Biking Club offers several additional trails in the region, including the very popular Preddy Creek trails. Gravel bicycle riding has increased in popularity, and Greene County's rural roads also attract many cyclists.

Agritourism is another critical sector in Greene County. Farmers' markets are growing in popularity around the country as anchor tourist destinations. Because these markets tend to showcase a community's unique characteristics in terms of locally grown foods and handmade crafts, they typically draw tourists looking for a retail experience they cannot replicate at home. See the agricultural section to learn more about the vibrant Farmers Market at Greene Commons. Wine tastings are another growing form of agri-tourism, and Virginia is gaining stature as a nationally-recognized region for vineyards. The Monticello Wine Trail, billed as a "guide to the birthplace of American Wine," passes through Greene County, with stops at Stone Mountain Vineyards and Kilaurwen Winery. Both Stone Mountain Vineyards and Kilaurwen Winery offer tastings and tours.

TOURISM PROMOTION

Several entities are involved in promoting tourism in Greene County. The new Greene County Visitor Center exemplifies the County's rural, agricultural, and mountain heritage. It is located along Route 29 with exposure to the large volumes of vehicles that travel along this corridor. The center directs visitors to destination sights and appropriate services in the County and disseminates materials such as maps and brochures. The property provides the opportunity to have several tourism-related events and attractions. State certification requires the visitor center to promote out-of-county interests as well. The Economic Development and Tourism Department manages and markets the visitor center, coordinates other promotional material, and maintains a tourism website. The department's website, www.exploregreene.com, promotes local lodging, outdoor activities, vineyards, artisans, antiques, dining, wedding venues, and historic sites both in the County and in the region.

Greene County Economic Development and Tourism frequently collaborate with the Charlottesville-Albemarle Convention and Visitors' Bureau, Orange County Tourism, and Madison County Tourism to market visitors' information for the region and other regional marketing initiatives. Additional certified centers in the area also point to Greene County attractions. At the state level, a "Virginia is for Lovers" guide and website are published yearly for interests throughout the state.

MAJOR PUBLIC EVENTS

Public events are celebrations for the community itself and often serve as a significant draw for visitors from outside the County. Dates may vary from year to year.

- Strawberry Festival
- Stanardsville Independence Day Celebration
- Greene Farm and Livestock Show
- Tour de Greene
- Virginia Clay Festival
- Parade of Lights

GOALS AND IMPLEMENTATION STRATEGIES

- To assure Stanardsville's Vitality and Sustainability, Greene County will
 - Explore EDA Small Business revolving Loan fund options for Tourism start-ups
 - Encourage the development of a Stanardsville Merchants Alliance
 - Encourage a buy-local campaign for Stanardsville
 - Encourage town residential growth to support tourism and other businesses
 - Maximize the use of the new pavilion and related facilities
 - Seek Transcontinental Bike Route (76 Route) alternate route through Stanardsville
 - Promote annual events (i.e., Virginia Clay Festival, 4th of July, Strawberry Festival, Parade of Lights, Greene County Livestock Show)
 - Promote and preserve Stanardsville's historic district
 - Encourage safer multimodal transportation
 - Address the impact of tractor-trailer traffic
- To capitalize on Shenandoah National Park's Assets and Potential Guests, Greene County will
 - Create a plan to get Stanardsville identified as an Appalachian Trail Community

- Promote Blue Ridge Heritage Project on a website and other promotional material
 - Collaborate with the Blue Ridge Heritage Project and other designation marketing organizations to create a driving tour for all sites
 - Create a partnership with Delaware North (SNP concessioner)
 - Recruit a hostel entrepreneur to establish a business in Stanardsville to support hikers and bicyclists
 - Market Stanardsville as Piedmont’s SNP destination
- To develop a Comprehensive Marketing and Advertising Strategy, Greene County will
 - Identify key target markets (Tidewater, NOVA, Richmond, International, Washington DC)
 - Identify key demographics (age, interests, transportation {drivers, charter groups, hikers
 - Analyze the current website’s Search Engine Optimization (SEO) (fresh air, romance, seclusion, convenience, central location, rural scenery, natural beauty, mountain views, Piedmont views from above, night skies, agricultural, small-town charm, historic)
 - Create a marketing campaign specific for SNP and outdoor activities (hiking, biking, fishing, etc.
 - Continuously update ExploreGreene.com to maximize Search Engine Optimization and vibrancy of the site
 - Create initiatives to encourage return visits
 - Investigate having a URL for Skyline Drive leading to ExploreGreene.com (i.e., SkylineDriveSNP.com, loveSkylineDrive.com)
 - Communicate Greene as the central location to a region in all marketing initiatives
 - Increase visibility on third-party websites
 - Investigate how the County can leverage third-party websites (HikingUpward.com, MapMyRide, etc.)
 - Establish a mechanism to survey current visitors on websites used to find Greene
- To advocate growth that supports tourism opportunities, Greene County will
 - Pursue identification of being a Dark Skies Community
 - Endorse the Ruckersville Small Area Plan to create a sense of place
 - Encourage the County to use Blight Abatement tools to address properties that are unsafe and harm tourism
 - Discourage urban sprawl by encouraging the Board of Supervisors to implement designated growth areas identified in the Comprehensive Plan
 - Assess county ordinances for ways to enhance the tourism experiences
 - Explore designating Stanardsville and the surrounding area as a tourism district with unique ordinances to support tourism businesses (signage, zoning, buffers hiding development, etc.)
 - Encourage the county to identify greater residential density close to Stanardsville’s town limits
 - Recognize and protect Route 29 as a valuable asset
- To support Individual Tourism Industries, Greene County will
 - Hold semi-annual industry-specific meetings for lodging, restaurants, artisans, wedding destinations, antique shops, and agri-tourism
 - Create individual marketing plans for each tourism industry
 - Establish various industry weeks (restaurant week, antique week)
 - Collaborate with PVCC and the Small Business Development Center to provide training/coursework for supporting successful tourist small businesses.

- To strengthen and Capitalize on Partnerships, Greene County will
 - Support a Shenandoah National Park Regional Marketing Campaign with other localities
 - Establish frequent communication and collaboration with Virginia Tourism Commission (VTC)
 - Host annual concierge visits from Shenandoah Crossings, Massanutten Resort, and other major hotels (i.e., Boars Head Inn, Omni, Keswick Hall)
 - Create a community public relations program communicating the tourism impact and how residents can play a role

TRANSPORTATION

INTRODUCTION

A well-designed transportation system provides a variety of choices – vehicular, pedestrian, bicycle, and transit– and can have a positive influence on economic development, quality of life, and a sound land use strategy. The arrangement of land uses a significant impact on the transportation system. Walkable communities, transit-ready and transit-oriented design, and land use strategies coordinated with sound transportation principles result in increased transportation choices – and more livable communities - for Greene County citizens and visitors. This is the essence of a “multimodal” transportation system that is linked to land use.



Figure 16: The Corner Store

This chapter provides a summary of existing transportation conditions, makes the connection between transportation and land use, identifies transportation needs, and makes recommendations on how to meet these needs. Specific recommendations follow, in part, the recommendations in the 2009 *Multimodal Corridor Study for the US 29 and US 33 Development Areas in Greene County*. These recommendations include access management strategies, a thoroughfare plan, connectivity measures, and future street types. This chapter provides an overview of calming traffic techniques for both new and retrofitted applications.

EXISTING CONDITIONS

CURRENT ROADWAYS AND STREET NETWORK



Figure 17: Route 33 Business

In Greene County, only 2.5% of occupied housing units reported “no vehicles available” in the 2020 census. This trend makes it evident that roadways are the most prominent elements of Greene County’s transportation infrastructure. In addition to safely and efficiently facilitating automobile traffic, the Virginia Department of Transportation (VDOT) has made efforts to improve roadways to serve a number of travel modes, such as bicycling, walking, and bus transit.

As of 2020, VDOT maintained 90 miles of primary roadways and 414 miles of secondary roadway, of which 50 miles are unpaved. The 2019 State of the Pavement VDOT report determined most primary

roadways in Greene County to be in excellent or good condition, with the notable exception of Route 33 east of the US 29 corridor, which was labeled poor.



Figure 18: Route 33W, Powell Mountain

Two primary highways create the backbone of Greene County's system, US 29 and US 33. US 29 parallels the county's eastern edge and provides direct access to Charlottesville and Albemarle County to the south and Culpeper and Washington DC metro area to the north. This highway receives substantial through traffic, as well as commuter traffic. US 33 runs east to west across the center of Greene County, connecting Stanardsville and Ruckersville, and running west into the Shenandoah Valley across Swift Run Gap and east to Orange County and Richmond. These two roadways make up the bulk of Greene County's primary roadway.

The US 33 Bypass is intended for Stanardsville, and Route 230 connects the town to Madison County to the north.

TRANSPORTATION STUDIES FOR THE US 29 AND US 33 DEVELOPMENT AREAS IN GREENE COUNTY

2009 Multimodal Corridor Study: The Thomas Jefferson Planning District Commission and The Renaissance Planning Group developed multimodal transportation solutions and land use strategies for Greene County while addressing regional travel needs on the US 29 and 33 corridors. The five key goals of the Study were to:

- Create safe multimodal transportation options
- Improve access to and between area businesses
- Coordinate land use planning and transportation in the Greene County Comprehensive Plan update
- Identify and prioritize cost-effective public and private transportation recommendations
- Coordinate with the larger VDOT US 29 Corridor Study

2018 Safety and Operation Study: VDOT hired a consultant, RK&K, to review incorporated operational and safety analyses, field investigation, and development of alternatives.

The study area includes Route 29 from Route 33 to Route 607, along with seven intersections in the vicinity. The consultants provided a conceptual design for the corridor that had alternative intersections such as signalized restricted crossing U-turns (RCUTs)/J-Turns to replace the existing signalized intersections and unsignalized RCUTs/J-Turns to replace the remaining unsignalized intersections. The concept is referred to as a transportation "superstreet" as shown in the graphic below.

A superstreet is a non-traditional, signalized intersection that can provide more capacity than a traditional intersection. Traffic movements in superstreet intersections prohibit side-street (minor cross street) traffic from turning left or going straight through the mainline intersection, much like

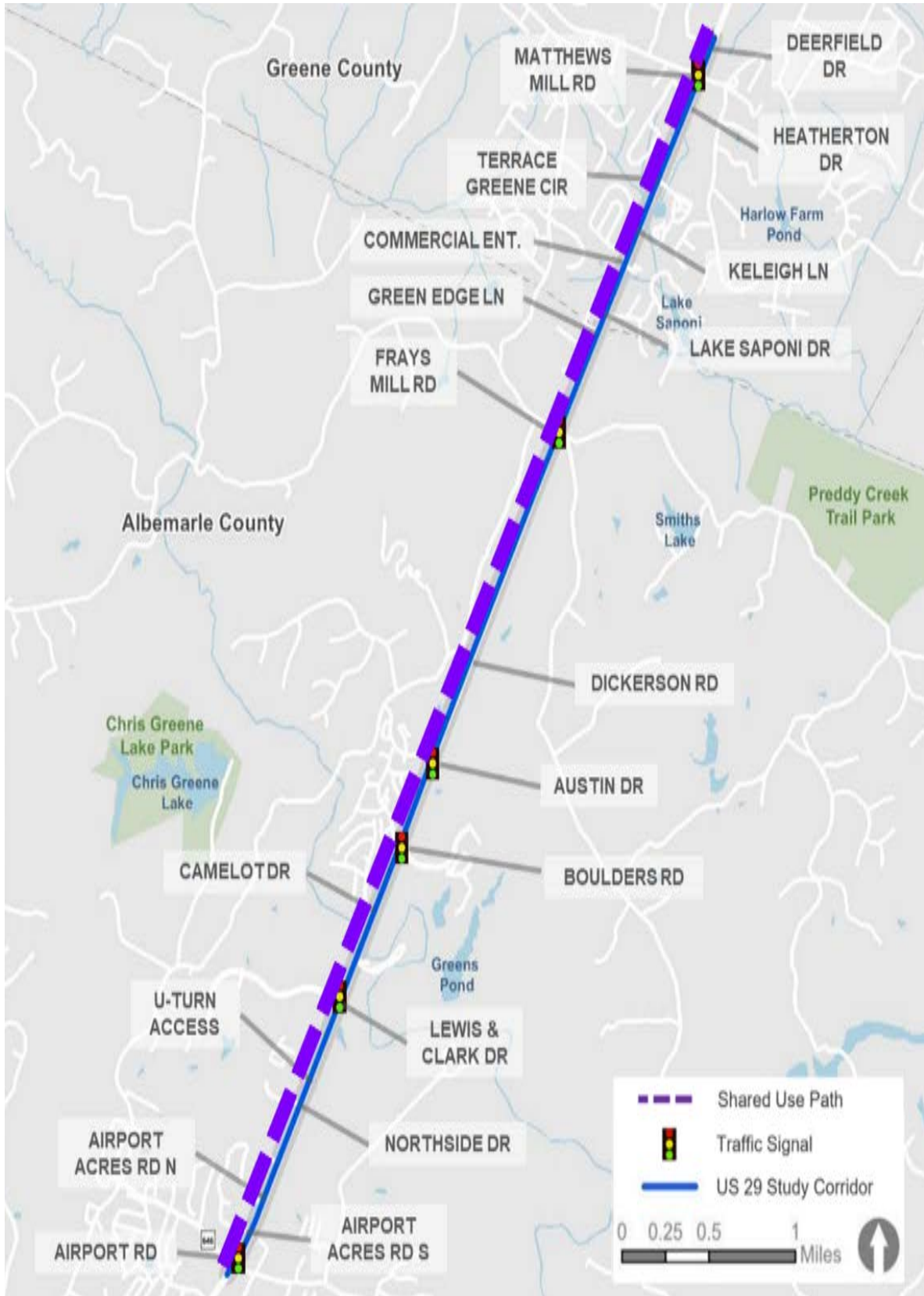
a Restricted Crossing U-Turn (RCUT). Instead, motorists will turn right and do a legal U-turn at a nearby one-way, signalized median crossover to follow their desired path.

By allowing for more efficient traffic movement, superstreets reduce congestion, cut down on delays, and limit collision opportunities. Typically, a superstreet intersection reduces the total conflict points from 32 to only 14 or 8, depending upon the precise design or style, and these potential conflicts are most often lower in severity than those at a traditional intersection.



2022 US 29 Corridor Study: The study compiled the results of the US 29 Corridor Study and included: findings from the study, which examined existing and future conditions for US 29 between Deerfield Drive, in Greene County, and Airport Road, in Albemarle County; recommendations for intersection alternatives and corridor-wide improvements; and next steps for implementing the recommendations. One of the alternative recommendations included multimodal or shared use paths from Deerfield Drive in Ruckersville to Airport Road, connecting the two economic centers.

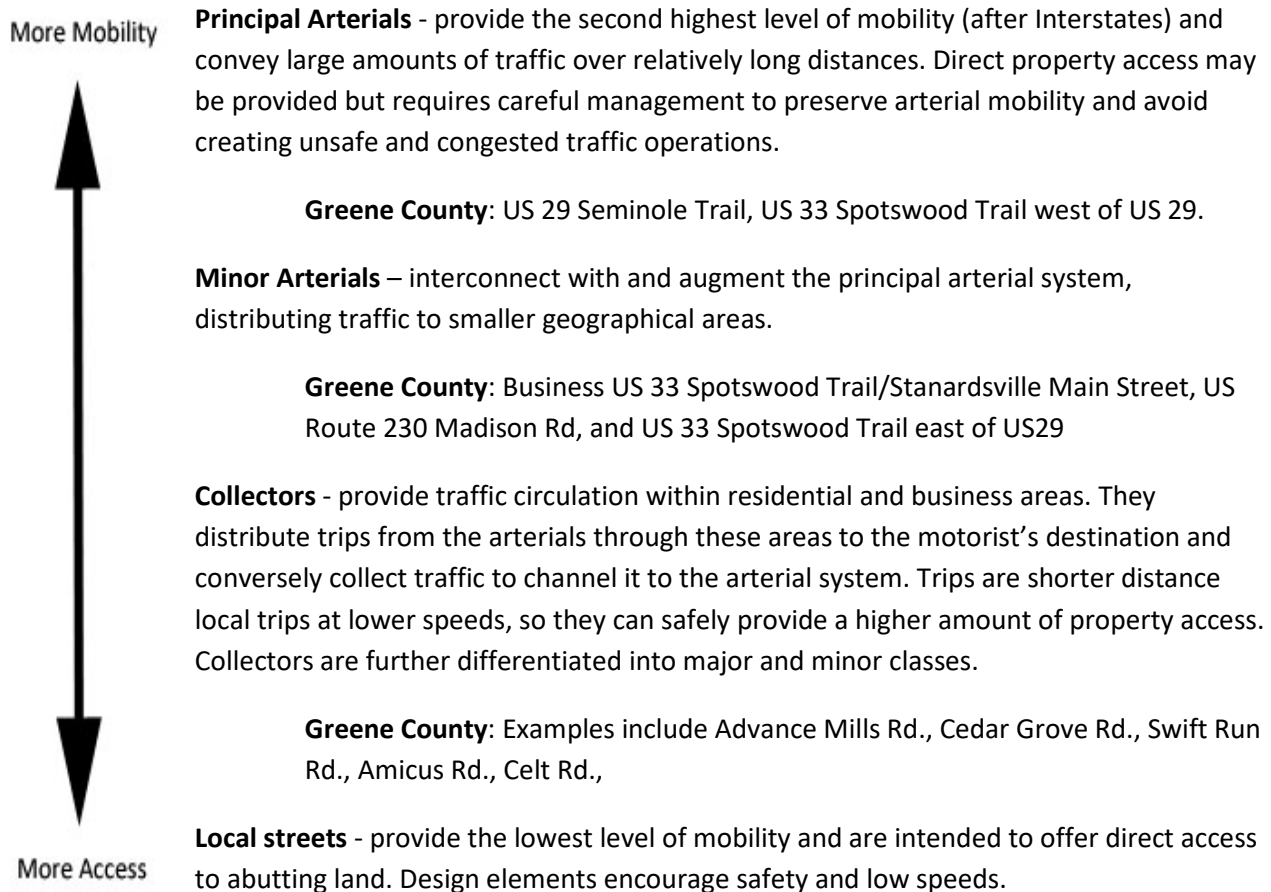
Figure: Proposed Shared Use Paths



FUNCTIONAL CLASSIFICATION OF ROADWAYS

A street network provides a spectrum of different road types to serve different functions in order to achieve safe and efficient travel circulation. The hierarchy of classification is based on the balance between moving traffic swiftly and in high volumes and providing high levels of access to adjoining properties. Different streets are needed to serve these different purposes. Furthermore, the functional classification of various roadways will significantly overlap with the land use of the adjoining properties. This reality is reflected in the land use chapter of this plan.

The Code of Virginia 15.2-2222.1 requires localities to develop plans that “recognize and differentiate among a hierarchy of roads such as expressways, arterials, and collectors.” VDOT categorizes functional classification according to a statewide standard, differentiating between urban and rural areas. Despite recent growth in Greene’s urban growth areas, the area is still characterized as a rural area as far as functional classification is concerned.



The VDOT classifications have corresponding capacity thresholds attached to them, represented by the following chart. Level of Service (LOS) is a measure of roadway congestion, with LOS A signifying the completely free flow of traffic and LOS F forced or breakdown traffic flows. LOS E, given on the chart, is the maximum capacity of the roadway before reaching failing levels of congestion.

Table 16: Road Classification and Level E Capacity

VDOT classification	Number of lanes	Signal/ spacing	Divided/Undivided	Capacity at Level of Service E
1 - Rural Interstate (n/a for Greene)	4	n/a	divided	63,000
2 - Other Principal Arterial	4	<2 signals/mile	divided	34,200
2 - Other Principal Arterial	4	>2 signals/mile	divided	32,200
6 - Rural Minor Arterial	2	signalized	undivided	14,900
6 - Rural Minor Arterial	4	signalized	divided	31,200
6 - Rural Minor Arterial	2	unsignalized	undivided	27,500
6 - Rural Minor Arterial	4	unsignalized	divided	58,300
7 - Rural Major Collector	2	signalized	undivided	14,600
7 - Rural Major Collector	4	signalized	divided	30,900
8 - Rural Minor Collector	2	unsignalized	undivided	14,600

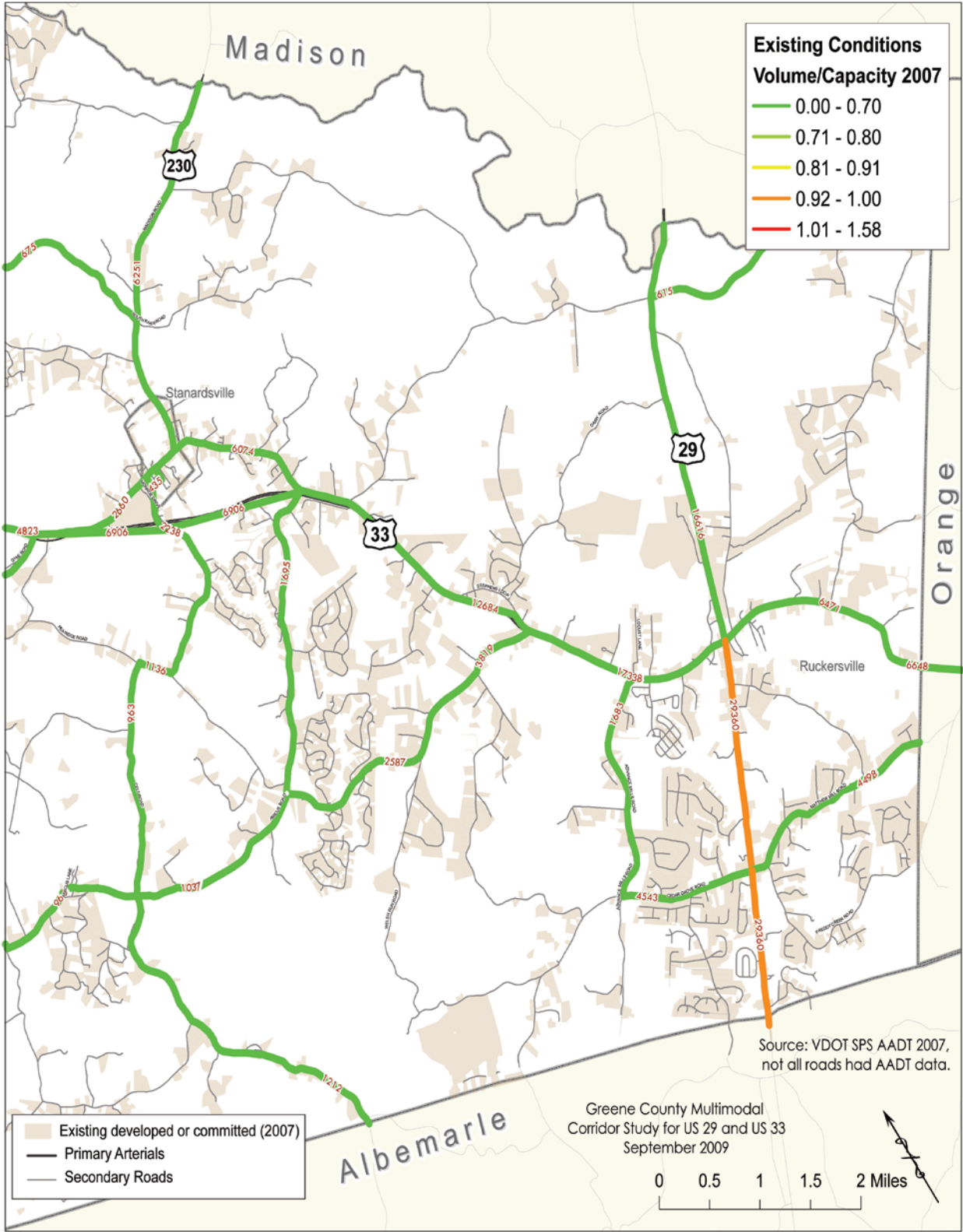
VOLUME TO CAPACITY RATIO

VDOT tracks roadway usage using sensors and cameras and releases a report periodically for each jurisdiction in the State. The measurement most commonly used to determine the volume of traffic on a particular roadway segment is Average Annual Daily Traffic (AADT), defined as the total annual traffic estimate divided by the number of days in the year.

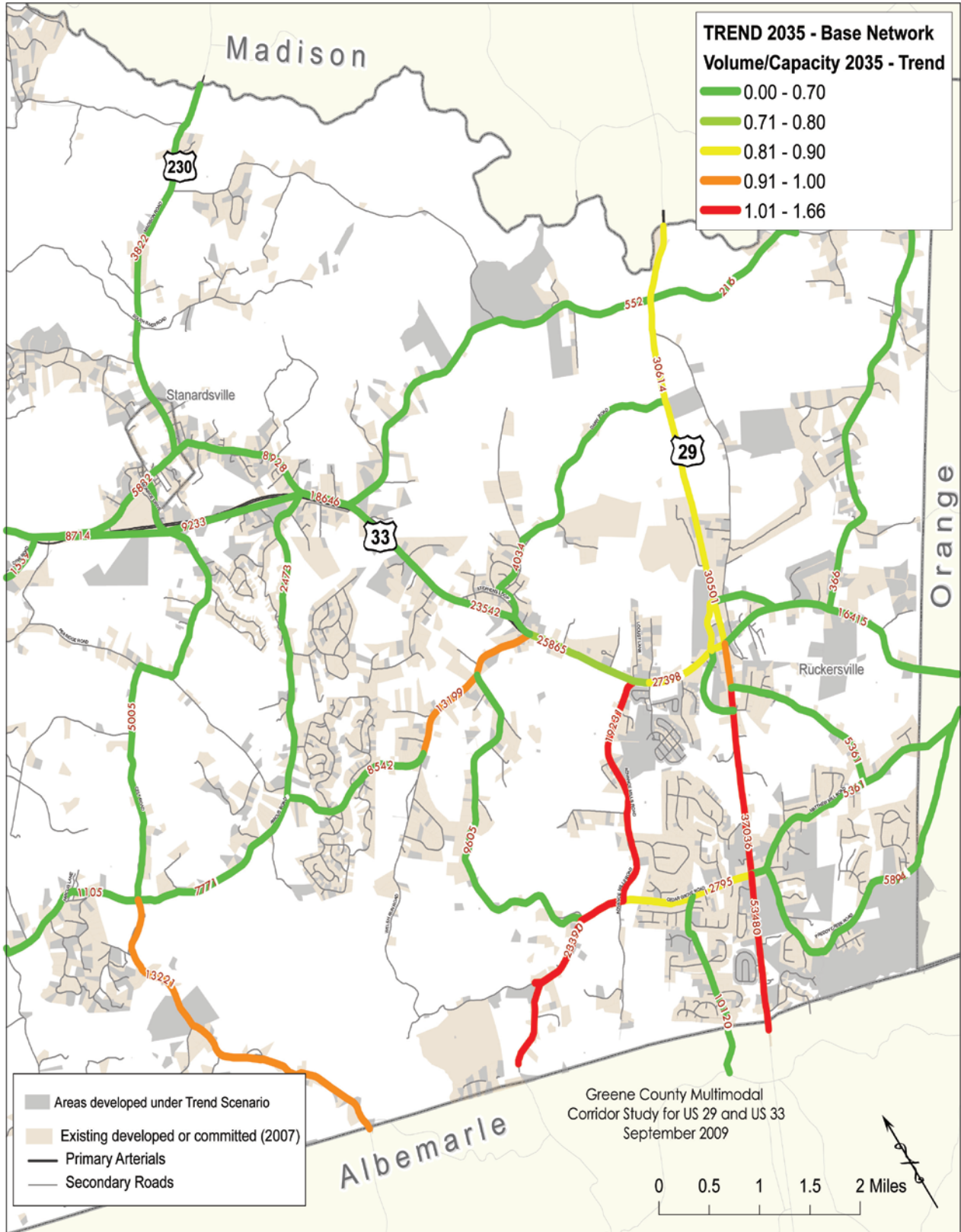
When the existing average volume of traffic is compared to the capacity of the roadway, as determined by its functional classification, a volume-to-capacity (VC) ratio can be discerned. When a VC ratio reaches a value of 1.0 then a roadway segment is considered to be at capacity. The map on the following page shows the VC for current traffic volumes by color. All colors but red are passing. The orange color indicates that a roadway segment is approaching a failing grade, which is 0.91 or greater. The volumes for each segment are labeled on the map.

The future trend analysis, conducted for the *Multimodal Corridor Study*, uses growth projections and land use inputs to model a possible “business as usual” scenario for 2035. The next two pages contain a map of 2007 VC ratios and a map of projected 2035 VC ratios for the areas around Greene Counties’ designated growth area.

Greene County - Existing Conditions 2007 - Volume to Capacity



Greene County - 2035 Trend Road Network Analysis



The results of the VC ratio projections do not bode well for the future of mobility in Greene County. Even at modest growth estimates, the southern half of US 29 will likely be at or over capacity in the near future and certainly by 2035. There are several factors that may be contributing to this problem.

First, disconnected local street networks funnel all traffic onto major arterials. Subdivisions and commercial properties that do not connect to each other have a heavy reliance on US 29 and US 33 for access. This pattern requires the primary arterials in Greene County to function both as local main streets and as fast-moving regional highways. When a street is required to perform contradictory functions, the performance of both will suffer. Current patterns of local and regional traffic are both heavily reliant on US 29.

Second, local traffic does not have alternate routes or choices for avoiding US 29. Even existing semi-parallel facilities like Advance Mills Road, west of US 29, are shown to have failing volumes by 2035. Parallel road networks increase the overall circulation of the transportation system, reduce the need for signalized intersections along major arterials, and allow more local roads to have access to surrounding land uses.

Third, most of the existing street network lacks multimodal character, encouraging travelers to use an automobile for all trips. Transit and facilities for bicycling and pedestrian use can help reduce traffic volume to a certain degree. This is especially true around areas of higher population density, which are the segments of roadways deemed most likely to fail by 2035.

Widening of US 29 in Greene will only temporarily solve the problem and will prove to be expensive and disruptive to the local economy. If the proliferation of future signals continues, even if permitted by access management standards, the capacity improvements that come from widening will be negated. The overarching solution is multifaceted and includes land-use strategies to match growth with sufficient transportation infrastructure. The needs and recommendations section of this chapter provides further detail.

TRANSIT

Greene County residents and visitors are served by Jaunt, which is the region's award-winning public transit system, connecting the residents of Albemarle, Buckingham, Charlottesville, Fluvanna, Greene, Louisa, and Nelson to all of central Virginia. Jaunt delivers convenient and reliable service with an on demand-response and commuter routes, all through the use of current technology and a customer-focused approach. Jaunt is a public service corporation owned by the local governments they serve and operating with financial assistance from community partnerships, federal and state transit grants, and local government funding support



In 2022 approximately 172,770 passengers rode Greene County Transit compared to the approximately 142,418 who rode in 2021. This is a 21% increase. Of those passengers, approximately 60% were 55 years of age or older, and 91% had a disability. Greene County Transit maintains a fleet of 22 vehicles, 6 of which are Dodge Caravans. One of these caravans is able to carry a wheelchair, and 15 vehicles in the fleet have the capacity to carry between 10-14 passengers.

PEDESTRIAN AND BICYCLE FACILITIES

Greene County's most complete sidewalk network exists in Stanardsville thanks mainly to a Streetscape Enhancement grant award that made the downtown area safer and more pedestrian-friendly with new sidewalks, bulb-outs, and crosswalks. Construction began on November 29, 2021, on the Phase II streetscape project and was completed in September 2022. The project continues the Town's new sidewalk network by extending the sidewalks at either end of Main Street. Specifically, the Phase II improvements involve the construction of sidewalks on the north side of Main Street from Celt Road to Pioneer Bank on the west, a distance of about 300 feet, and on the east side from Rectory Lane to Greene Pharmacy, a distance of about 900 feet. The project also will install 21 colonial-style streetlights and a pedestrian bridge across Mitchell Creek.



Figure 19: Stanardsville Town Square

Additionally, an off-street sidewalk connects the Greene County Primary School with the center of Stanardsville, and other walking paths exist around the County Office Building. A Stanardsville Historic Walking Tour allows tourists and residents alike to explore the town on foot.

Cycling infrastructure elements, such as safety signage and dedicated bike lanes, are currently limited in Greene County. However, in the fall of 2021, the Commonwealth Transportation Board designated roads from Crozet in Albemarle County through Greene and ending in the Town of Madison, a scenic byway. Bicycle travel is not only a mode of transportation; it is an important component of Greene County's tourism industry, as described in the tourism chapter of this plan.

Public workshops held in conjunction with this Comprehensive Plan update have highlighted the need to improve pedestrian and bicycle accommodations in Stanardsville and in other growth areas throughout the county. A Bicycle and Pedestrian Infrastructure Assessment was completed by Thomas Jefferson Planning District Commission in 2022. This plan recommended a network of on-street bicycle routes and

off-street greenways throughout Stanardsville and the county to connect population centers and recreational areas.

In the last five years, VDOT has redoubled efforts to encourage cycling and walking throughout the state. A number of policies have been passed, according to VDOT, in order to “accommodate bicyclists and pedestrians, including pedestrians with disabilities, along with motorized transportation modes in the planning, funding, design, construction, operation, and maintenance of Virginia’s transportation network.”

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) seeks to improve the efficiency of the transportation system by encouraging usage that maximizes its potential for capacity. Strategies may include encouraging carpooling, staggering work hours, or giving incentives for using alternative forms of transportation which incur fewer public costs.

Rideshare, operated through the Thomas Jefferson Planning District Commission currently provides programs to manage transportation demand in Greene County. The regional carpool matching service has 16 commuters enrolled in Greene County. This is down from 30 commuters just five years ago. This shift may be attributed to COVID and individuals working more frequently from home. Rideshare also offers a guaranteed ride home to alternative transportation users in case an emergency arises, and immediate transportation is needed.

Greene County is host to one Park and Ride lot near the Greene County Primary School on Route 33, near the corner of Monroe Drive and Spotswood Drive. This lot is a pick-up point for Greene County Transit, and it is also used to coordinate carpooling.



Figure 21: Four Seasons Subdivision

REGIONAL CONTEXT

The transportation system can only be effectively analyzed in a regional context. Of course, the circulation of traffic flow is not contained within jurisdictional boundaries. This is especially true for Greene County because of its relatively high rates of out-commuting and close economic connection to the Charlottesville, Harrisonburg, and Northern



Figure 20: Town of Stanardsville

Virginia areas. The following table indicates the commuting pattern to communities outside of Greene.

Commuting Patterns	
People who live and work in the area	1,203
In-Commuters	1,822
Out-Commuters	6,666
Net In-Commuters (In-Commuters minus Out-Commuters)	-4,844

Figure 22: Commuting Patterns

Greene County. Other workers come in from Albemarle County, Orange County, the City of Charlottesville, Rockingham County, and Madison County (in order from greatest to least).

A safe and efficient transportation network facilitates the flow of labor throughout the region and is thus integral to the economic vitality of the area, both for residents of Greene County who need reasonable commute times and businesses located in Greene County that need to attract qualified employees.

The US 29 corridor is the primary connection between Greene County and the rest of the region. VDOT conducted (2009-2011) a corridor study for the entirety of this roadway from the intersection with I-66 to the North Carolina border. According to the vision of the study, the functionality of the roadway “will



Figure 23: Route 29N Ruckersville

They clearly reveal the interconnection between residences and employment centers throughout the region.

The labor shed table shows the other side of the equation, where those who work in Greene County are traveling. The regional connections exist in the labor shed, but they are less pronounced. 39.8 % of everyone employed in Greene County lives in

be achieved through the use of both transportation and land use solutions that maintain the roadway’s scenic and historic qualities, while promoting multi-modal transportation and nodal, mixed-use, transit-supportive development, where appropriate.”

Residents of Greene County depend on regional transportation access to airports. The Charlottesville-Albemarle Airport, which had a passenger traffic of 630,000 in 2019, is as close to Ruckersville as it is to Charlottesville. The closest major terminal is Dulles International Airport, which is roughly 70 miles north of Ruckersville.

SCENIC BYWAYS

The aesthetic character of roadways has long been linked to the quality of life in a community and identified as a driving force for the tourism industry. Although these subjective qualities are not incorporated into an engineering analysis of the transportation infrastructure, they do contribute to the experience of travel in Greene County.

Greene County possesses a number of scenic roadways, with one such route including Routes 810, 33 to 230, which have been designated under the state scenic byway program. Skyline Drive in Greene County is a scenic byway of national significance. It is recognized officially by VDOT and promoted through tourism literature at the State and Federal levels. The roadway is also listed under the National Register of Historic Places and the Virginia Landmarks Register. Other Greene County roadways are featured in scenic drives organized around the themes of Civil War battle history, bicycling, and tours of vineyards.

NEEDS AND RECOMMENDATIONS

SUSTAINABLE ACCESSIBILITY: LINKING TRANSPORTATION AND LAND USE

The fundamental need for transportation infrastructure is to facilitate the movement of people and goods to their desired destinations as efficiently, safely, and comfortably as possible. This task does not take place in a vacuum. Land use decisions both create demand for movement and are, in turn, highly influenced by the placement of the transportation infrastructure itself. The management of roadway capacity, land use, and travel demand are equally vital to the provision of sustainable accessibility.



Using the term accessibility recognizes that a high level of mobility itself does not necessarily lead either to economic development or a high quality of life for residents. The important goal is to provide the means for all users of the transportation system to have convenient access to their chosen destinations. When activity centers within the county are more concentrated, residents may be able to increase their accessibility while reducing the sheer amount of movement, thus saving personal time and money, reducing the fiscal stress on providing infrastructure, and reducing the impact on the environment.

Many of the chapters of this Comprehensive Plan intersect with the goal of providing accessibility to residents in Greene County, and explicitly drawing these connections can lead to balanced and effective transportation policies. Public education requires the movement of students to a school. Careful placement of schools and an efficient transportation network is a beneficial condition to the school system. Allowing students to walk or bike to school can reduce the costs of busing, a reality that VDOT has accounted for in street design and safety requirements near schools.

The economic development of the county is highly correlated with the availability of adequate transportation for employees, customers, and goods and services. Likewise, agriculture and forestry are

reliant on a means to get their products from farm to market quickly. The tourism industry requires transportation connections between Greene County and the wider region while taking into account the preservation of the scenic beauty that draws visitors into Greene County.

Transportation infrastructure has an impact on the natural environment. Roadways and parking lots are generally impervious surfaces where stormwater runs off into the rivers and streams of the county. This can lead to excessive erosion and sedimentation and the deposit of pollutants from automobiles and other sources into the waterways. Roads can also create barriers to wildlife movement and disrupt the biodiversity of the local ecosystem. Parks and recreational opportunities ought to be accessible to the broadest range of residents. In some cases, transportation infrastructure itself serves a recreational function, such as greenways that can be used for commuting or simply enjoying the outdoors alike.

Affordable housing goes hand in hand with affordable transportation. Housing and transportation are typically the two largest segments of household budgets in the United States. Families with limited means need both housing they can afford and a location that provides access and options for alternative modes of transportation to reduce the cost burden. Emergency services need to move patients to a hospital or a fire engine to the site of a fire efficiently. In preparation for disaster, the same emergency access should be planned for in high volumes.

THOROUGHFARE PLAN RECOMMENDATIONS

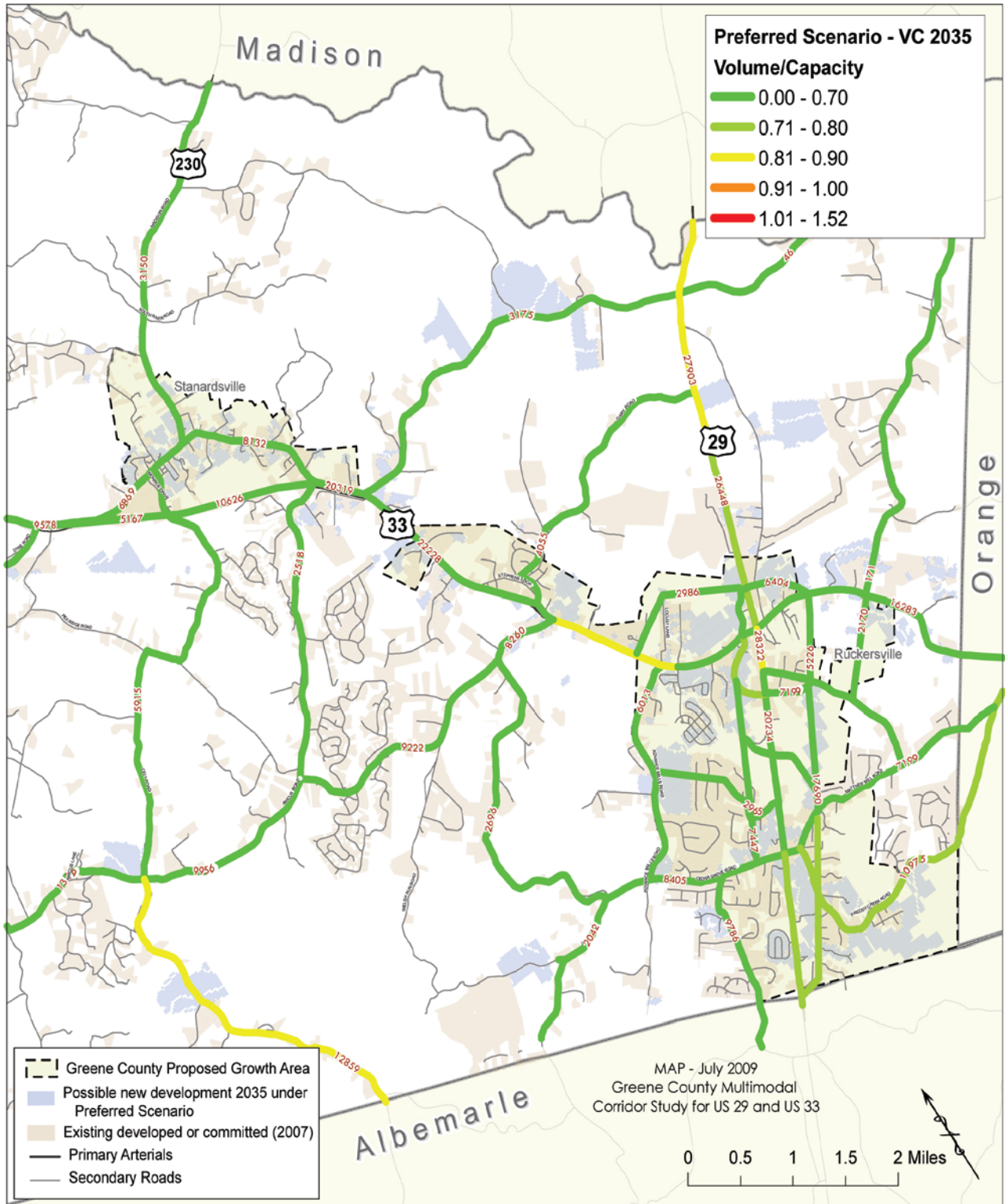
A thoroughfare plan is designed to improve the overall connectivity and performance of the transportation network, with an emphasis on growth areas. Whereas access management addresses access points along the Route 29 and Route 33 corridors, a thoroughfare plan identifies new or improved roadway linkages designed to improve connectivity. The following recommendations are intended to provide guidance on a street network that supports the land use characteristics identified in this Comprehensive Plan. Therefore, the following recommendations emphasize the link between land use and transportation:

- For local traffic, plan and build corridors parallel to Route 29 that link the Ruckersville and Corner Store Mixed Use Village Centers: These village centers are intended to have internal connectivity and local streets with walking and bicycling options. In addition, local transit service between the village and town centers through an “internal loop” that connects key destinations within the county.
- In order to avoid too many access entrances on Route 29 and Route 33, manage site access to limit and separate entrances, intersections, median openings, and traffic signals. In addition, inter-parcel connectivity should be encouraged to limit the need to access Route 29 multiple times when frequenting local businesses.
- Maximize walking and biking opportunities by using the street cross-sections in the Mixed-Use Village, and Town Centers Mixed Use Residential areas as similarly described in the Future Street Types Recommendations.

- In the Mixed-Use Village and Town Centers Mixed Use Residential areas, VDOT's new subdivision standards are to be applied, which facilitate internal connectivity and walking and biking options.
- Plan for a strategy that phases out near-term signalized intersections, replacing them with an internal grid system and grade separations along Route 29.

The following map from the Multimodal Corridor Study illustrates key thoroughfare recommendations in relation to the designated Growth Area. See the map on page 51, "Greene County – Thoroughfare Plan – Functional Class (Existing)," to distinguish the roads on the following map that are existing from those that are planned.

Greene County - 2035 Preferred Scenario and Optimized Network Analysis



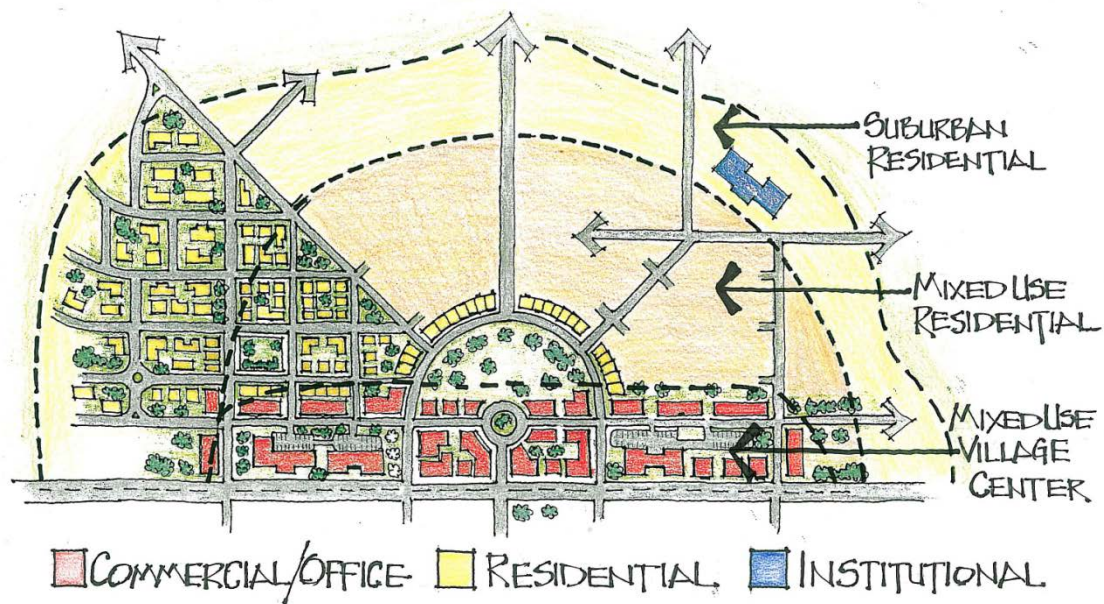
CONNECTIVITY RECOMMENDATIONS

The mixed-use, compact design strategies identified in the Future Land Use chapter for the Mixed-Use Village and Town Centers and Mixed-Use Residential areas should emphasize a good street network and internal connectivity. In so doing, multiple travel options are provided. A good street network disperses traffic, and good internal connectivity facilitates walking and biking and, in mixed-use communities, allows for residential, commercial, and professional uses within walking or biking distance. In so doing, fewer external trips are needed, thus reducing traffic congestion on busy arterials. This concept is termed “capture rate” and may be estimated based on the types and intensity of land uses within the development.

As the Land Use Development Guidelines recommend for mixed-use communities, short block lengths, bicycle and pedestrian facilities, and access between parcels all facilitate connectivity. Short block lengths create more intersections, providing shorter distances to destinations and walkability. Good bicycle and pedestrian design include on-street bicycle lanes, off-street bicycling paths, sidewalks, crosswalks, and planting strips that buffer pedestrians from vehicular traffic. Access between parcels is enhanced with one entrance to a common parking lot and linking commercial parcels internally, preferably through behind the building’s links.

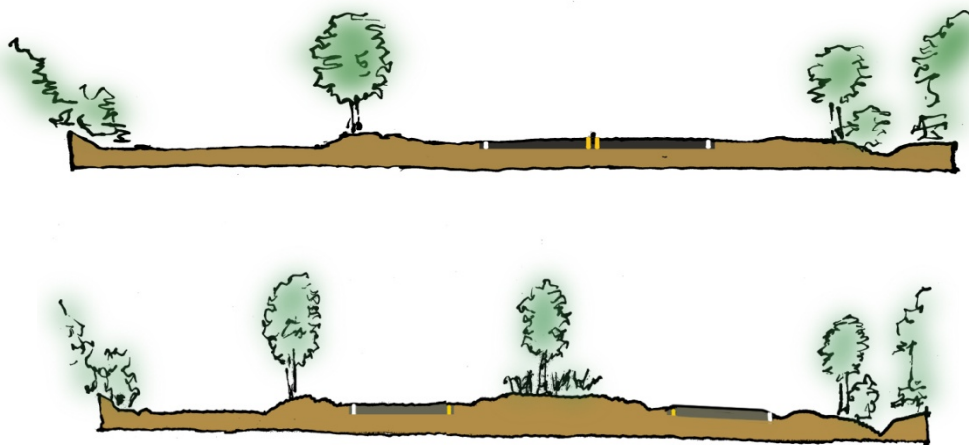


The following graphic illustrates these connectivity concepts through the continuum of Mixed-Use Village and Town Centers, Mixed-Use Residential, and Suburban Residential land uses. The left side of the graphic depicts a gridded street pattern with short block lengths, especially in the Mixed Use Residential, and their concepts apply throughout the graphic even though shown only on the left. A school is an ideal institutional use in this context:



STREET TYPES RECOMMENDATIONS

The *Multimodal Corridor Study* differentiates between rural and urban roads when recommending street types. Rural roads include parkways, rural roads, and rural roads with shared-use paths. Urban roads include commercial, main, collector, and neighborhood/local streets. When designed correctly, streets can facilitate not only vehicular traffic but bicycling and walking, as well as convenient transit stops. The following street elevations show some of the characteristics of good street design. The first two elevations depict a rural road with a multi-purpose path on the left and with and without a median. The third elevation depicts a more urban density with parallel parking, wide sidewalks, and bike lanes.





Good street design can also help achieve environmental objectives. “Green Streets” use vegetation and pervious surfaces to manage stormwater runoff. The environmental benefits of green streets result from a natural systems approach to managing stormwater and can reduce flows, improve water quality and enhance watershed health. More specifically, green streets help:

- Reduce polluted stormwater entering rivers and streams;
- Divert stormwater from the sewer system to mitigate sewer backups and combined sewer overflows;
- Reduce impervious surface so stormwater can infiltrate to recharge groundwater and surface water;
- Increase urban green space;
- Improve air quality and reduce air temperatures;
- Reduce demand on the sewer collection system and the cost of constructing expensive pipe systems.



Figure 24: Green Street Example

GOALS AND IMPLEMENTATION STRATEGIES

- Greene County will coordinate land use strategies with transportation planning to provide multiple travel options and improved accessibility
 - Maximize walking and biking opportunities by using the street cross-sections in the Mixed-Use Village, and Town Centers Mixed Use Residential areas for all transportation improvements
 - Promote internal connectivity through use of short block lengths and multiple access points, especially in the Mixed-Use Village and Town Centers and Mixed-Use Residential areas
- Greene County will increase convenient access to key destinations for all modes of travel
 - Apply access management criteria to new and existing roadways to achieve compliance with VDOT guidelines
 - Work toward a fully connected street network parallel to both sides of Route 29
 - Work with the development community to obtain right-of-way and improvements leading to a fully connected parallel network along the US 29 corridor
 - In a new development, encourage internal connectivity to ease the burden of local traffic on arterial roads
 - Promote driveway access point consolidation in existing developments
- Greene County will promote safe travel for pedestrians, bicyclists, and motorists
 - Apply calming traffic techniques in current developments and new development as appropriate
 - Encourage sidewalks and planting strips, medians, bicycle lanes, and narrow streets
 - Support Stanardsville's efforts to restrict tractor-trailer traffic on Main Street
 - Coordinate with adjacent counties to pursue a Scenic Byways designation.
- Greene County will promote additional intra-county and external transit options
 - Plan for local transit service between the Mixed-Use Village and Town Centers through the development of an "internal loop" route
 - Consider the feasibility of providing additional commuter transit to key employment destinations
- Greene County will minimize the environmental impacts of new roadways and other areas with significant impervious surface
 - Encourage the construction of "Green streets" with minimal impervious surfaces

- Greene County will promote travel demand management to help reduce the volume of traffic on county roads
 - Work with the regional Ride Share program to expand the number of county residents carpooling
 - Publicize the availability of and provide physical improvements, including signage, at the Stanardsville Park and Ride lot. Ruckersville
- Minimize the impacts of new growth and development on the transportation network by integrating access management, thoroughfare planning, and improved connectivity.

WATER SUPPLY AND WASTEWATER

INTRODUCTION

The availability of sufficient clean water is essential to the growth and sustainability of Greene County. All drinking water in the County is derived from groundwater sources pumped through individual wells or the Greene County + Utility system, which draws from the Rapidan River running along the border of Greene and Madison counties. To ensure adequate water supply for the community's future, it is important to protect the current supply and plan for the infrastructure improvements needed to meet increased demand.

Adequate wastewater treatment capacity is critical to meeting sustainable municipal, business, and residential needs. Adequate long-term wastewater treatment is essential for the long-term viability of the County's different communities. Well-maintained wastewater treatment facilities provide health and safety benefits to the community and mitigate environmental impacts while allowing for higher density in the County's designated growth areas.

Greene has experienced rapid residential and commercial growth over the past two decades. With this growth comes increased demands for services and infrastructure. In order to best use limited resources, both water supply areas, and wastewater treatment service areas should be consistent with the Future Land Use Plan as developed in this Comprehensive Plan.

Adequate and reliable provision of water and wastewater services to the County's Designated Growth Areas is a critical enabling factor for future growth in those areas, diverting pressure from the groundwater resources of the rest of the County.

EXISTING CONDITIONS

POTABLE WATER SUPPLY

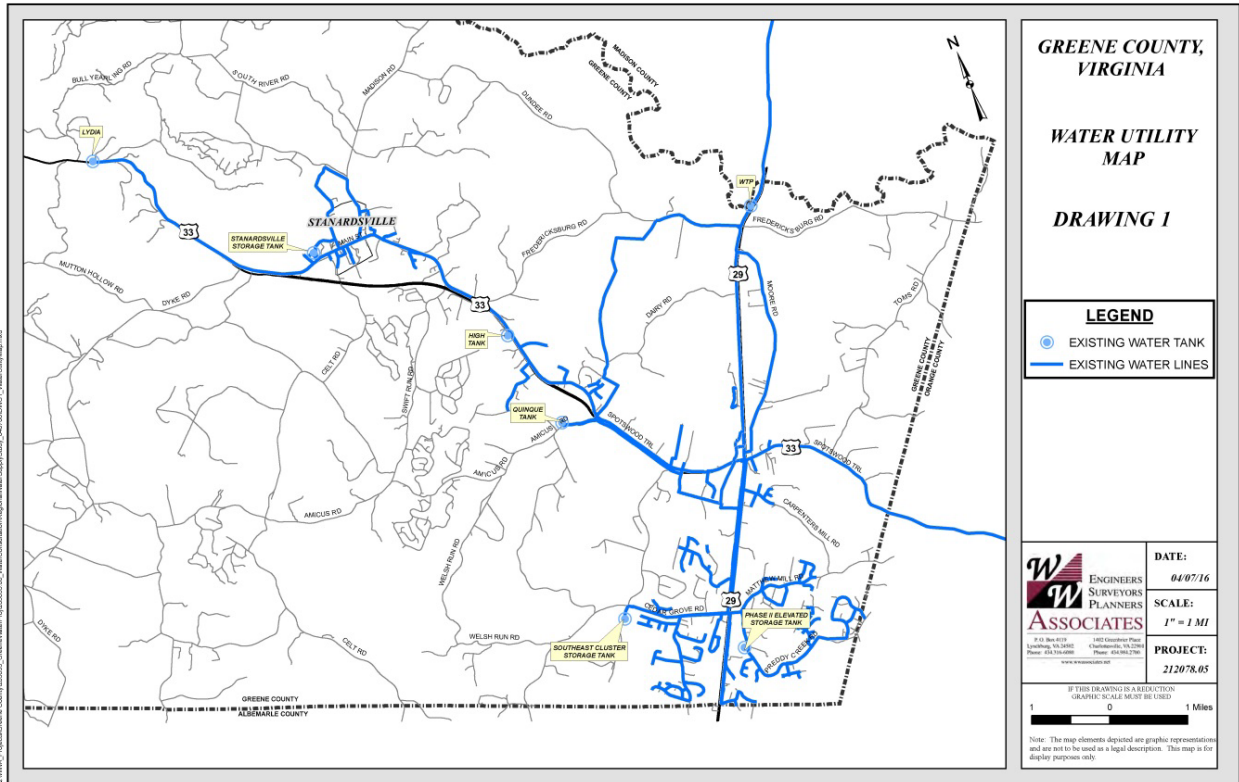
The public water supply needs of Greene County are serviced by the Greene County Water and Sewer Utility. The utility operates and maintains water and sewer systems in various portions of Greene County. A public utility has operated in Greene County since 1969.

The system operated from 1969 until 2022 as the Rapidan Service Authority (RSA). Much of the existing infrastructure has been in operation for more than 40 years, and the need for expanded water supply capacity has been identified. The County of Greene has applied for several grant funding opportunities to replace the water and sewer infrastructure in the Town of Stanardsville and to create an expanded water supply capacity.

Water sources can be categorized as surface water (rivers and lakes) or groundwater (wells). The primary surface water source for the County is the Rapidan River, which has an average flow of 97 million gallons per day (MGD). According to state standards, the river has a safe yield at the point of intake of 1.15 MGD, which is the maximum amount that can be extracted for use on any given day in Greene County. Additionally, the County has developed a groundwater well on U.S. Route 29 with a capacity of 0.09 MGD. The water treatment plant for Greene County, which draws water from the Rapidan River, is on U.S. Route 29 just south of the Greene/Madison County border. The plant has a maximum treatment capacity of 1.15 MGD and was last upgraded in 2001. The U.S. Geological Survey also operates a gauging station, a facility that monitors and tests water conditions downstream of the intake on the Madison County side of the river.



The existing water distribution system of pipelines and tanks is concentrated within the County's designated growth area corridors along U.S. Route 29 and U.S. Route 33. Expanded infrastructure has been proposed to meet growing demands from development. The Greene County Water and Sewer Utility has also developed plans to improve connection standards and internal system redundancy to create a safer, more consistent water delivery.



Based on the water supply Statement of Need made by WW Associates for the Regional Water Supply Plan dated April 2008, revised on February 11, 2011, the area's water demand would exceed the water treatment plant's capacity on peak days by 2020. Conservation strategies and the 2008 housing crisis kept the average daily demand rate lower than predicted in the Regional Water Supply Plan. As predicted, occasional peak days began to exceed the plant capacity by the summer of 2019. The study recommends a new pump storage reservoir with a minimum safe yield of 3.5 MGD and a new water treatment plant with a capacity of 3.0 MGD, expandable up to 6.0 MGD, to meet current and future demand. Figure No. 23, Table No. 17, and Table No. 18 indicate the growth projections and the water deficit before the construction of the new facilities

Figure 25: Average Daily and Peak Demand

Municipal Community Water System Demand
Average Daily and Peak Day Demand

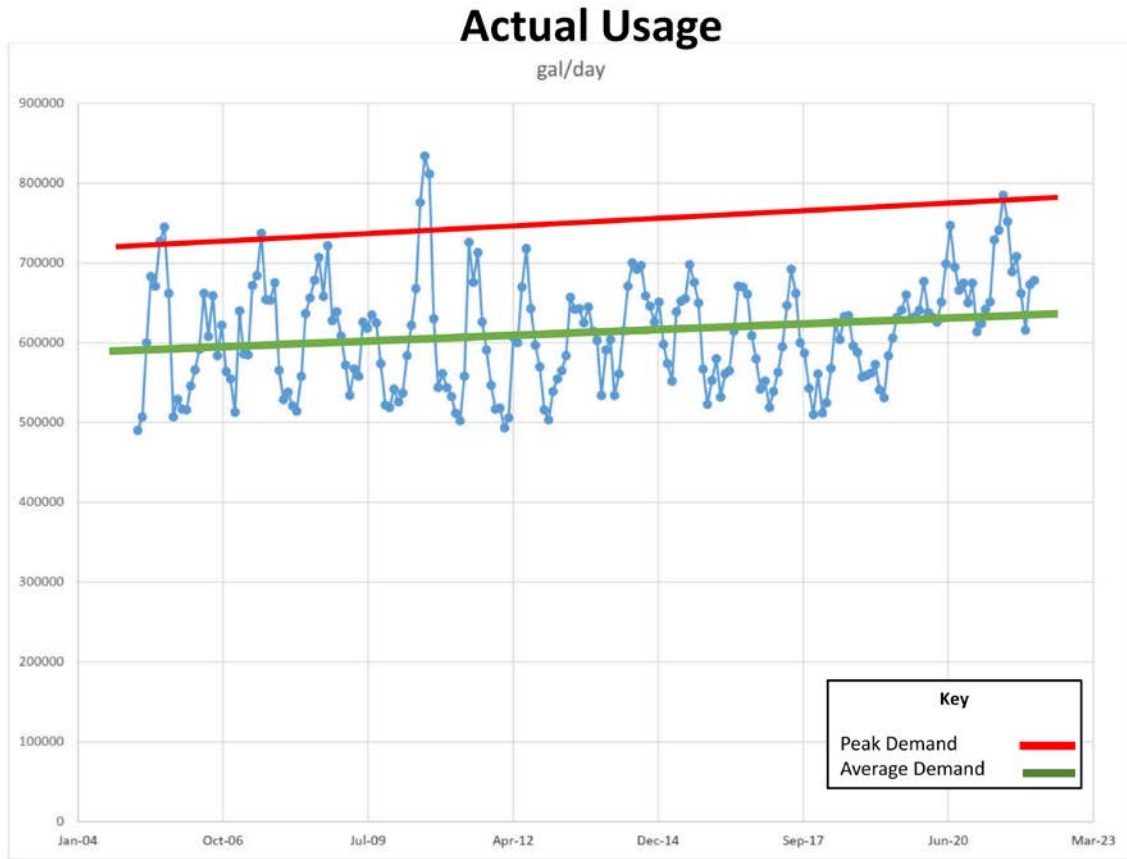


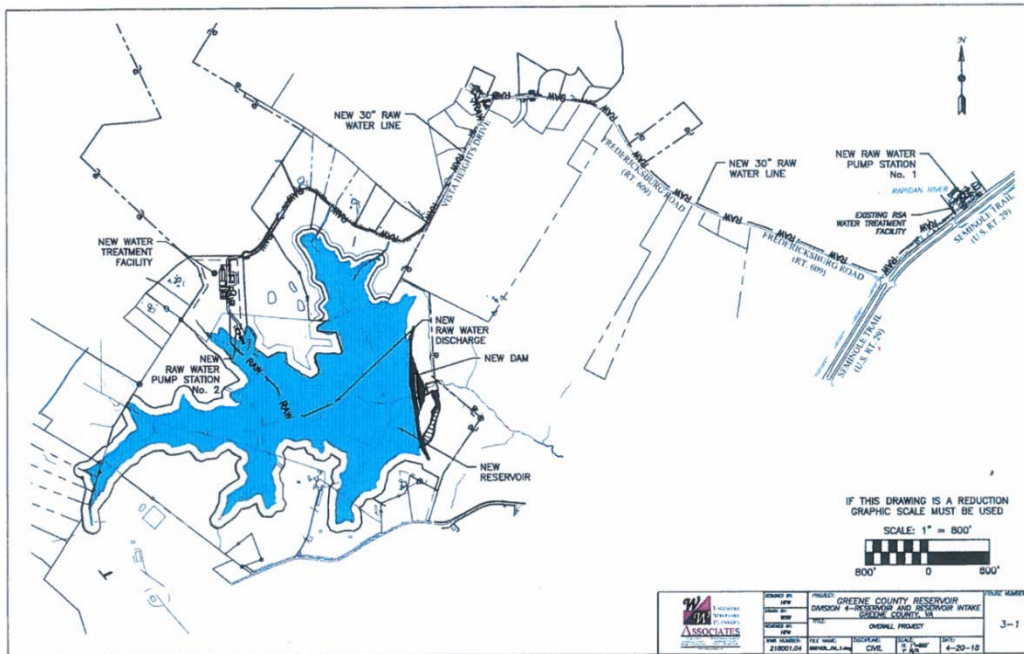
Table 17: Average Daily Demand

Municipal Community Water System Demand Projections Average Daily Demand Adequacy Analysis		
Year	Average Daily Demand (MGD)	Surplus or Deficit (MGD)
2010	0.65	0.55
2020	0.67	0.53
2030	1.11	0.09
2040	2.50	-1.30
2050	3.50	-2.30

Table 18: Peak Day Demand

Municipal Community Water System Demand Projections Peak Day Demand Adequacy Analysis		
Year	Peak Day Demand (MGD)	Surplus or Deficit (MGD)
2010	0.85	0.35
2020	1.25	-0.05
2030	2.97	-1.77
2040	4.27	-3.07
2050	5.93	-4.74

Figure No. 2: Pumped Storage Reservoir



The County has acquired a pumped storage reservoir site for this purpose on an unnamed tributary of the White Run. Figure No. 2 shows the reservoir site and its relationship to the existing water system. A planned raw water pump station will transfer raw water to the new reservoir site. A new 3.5 MGD water treatment facility will be constructed at the new reservoir site. A Joint Permit Application was approved, and the reservoir project is ready for development. The transfer of the utility operation from RSA to the County of Greene, completed in the spring of 2023, removed the final barrier to the project. The project is expected to take three to five years to complete. Construction of the County’s Water Supply Project will significantly increase the water supply and improve water security for the community. The sustainable water supply will increase economic development opportunities and improve service delivery to existing users.

WASTEWATER

The Greene County Water and Sewer Utility also manages wastewater collection and treatment for Greene County. All Greene County wastewater is processed through the Stanardsville and Ruckersville Wastewater Treatment Plants. A 0.6 MGD secondary wastewater treatment facility was constructed in Ruckersville in 2003 to service the U.S. Route 29/33 corridor area of Greene County. The Ruckersville Wastewater Treatment Plant is purchasing nutrient credits to meet the requirements of the Chesapeake Bay Act. A future planned upgrade will allow the plant to remove nutrients on-site.

The wastewater treatment plant includes mechanical screening and aerated grit removal as a preliminary treatment process to remove primary solids and protect downstream mechanical equipment. An activated sludge process consisting of a continuous-flow oxidation ditch and two circular clarifiers provide biological treatment and suspended solids removal. The plant has future provisions for post-filtration for suspended solids removal and potential denitrification. A future aluminum sulfate chemical feed system will be utilized to augment total phosphorous removal. Ultraviolet disinfection and post-aeration are included on the treated effluent prior to discharge from the plant. Waste sludge generated by the treatment process is stabilized via aerobic digestion. Stabilized sludge is mechanically dewatered with a centrifuge facility prior to landfill disposal.

The Civilian Conservation Corps built the Stanardsville wastewater treatment system in 1931. The replacement of this system with a pump station to deliver Stanardsville waste to the Ruckersville Plant for treatment has been studied and appears to be the superior solution in terms of both the system's efficiency and the protection of the environment.

GOALS AND IMPLEMENTATION STRATEGIES

- Greene County will establish a safe and reliable water supply to meet the projected needs for business and residential growth through 2050
- Greene County will establish and adopt a water and sewer service area.
- Greene County will proceed with constructing the White Run pumped storage reservoir project.
- Greene County will promote water conservation
 - Encourage rainwater harvesting (rain barrels), abandoned well capping, and green roofs where possible.
- Greene County will protect valuable water resources through education and implementation of riparian (rivers and streams) buffers
 - Support and encourage landowners who want to implement riparian buffers
- Greene County will encourage commercial and residential development and provide adequate water pressure and supply for Stanardsville.
 - Implement the completed engineering design for a new Stanardsville area water and sewer network
- Greene County will ensure the integrity of wastewater treatment facilities through comprehensive system upgrades, including for the Town of Stanardsville
- Greene County will develop and fund a capital improvement plan to construct infrastructure upgrades within the water and sewer service areas to meet current and future growth needs.
- Greene County will utilize public/private partnerships to assist in funding wastewater treatment system construction
- Greene County will ensure Greene County citizens' health, safety, and welfare by requiring connection to public water and sewer within the water and sewer service area.