



To Encourage & Protect Agriculture

The 2030 Carroll County Comprehensive Plan

Adopted by the Carroll County Board of Supervisors: December 14, 2010

Amended: June 03, 2024

Board of Supervisors:

Planning Commission:

Acknowledgements

2010: The time, effort, and sincerity of all participants in the Plan Carroll County process are appreciated by Carroll County, including County Staff and the Planning Team. We would like to extend our thanks to everyone who gave of their time and talent in helping craft a vision and a plan the citizens of Carroll County can use to help move the county from the reality of today towards the possibilities of tomorrow.

- **Planning Works**

2024: In the spirit of *remembering yesterday, celebrating today, and inventing tomorrow*, we thank all of those in the community who strive to create a better and brighter tomorrow through collaboration and planning. With this update, we really wanted to focus on the future of Carroll County, utilizing the award-winning 2010 plan as the groundwork for a focused update.

- **Mount Rogers Planning District Commission**

“Would you tell me, please, which way I should go from here?” asked Alice. “That depends a good deal on where you want to get to,” said the Cat.

Lewis Carroll, Alice in Wonderland

Table of Contents

About the Plan	1
The Comprehensive Plan	1
Legal Purpose	1
Why We Plan.....	1
How the Plan Should be Utilized.....	2
Who Implements the Plan	2
Participation Process.....	2
Goals, Policies, and Strategies.....	3
Vision Statement.....	4
Carroll County Vision Statement:.....	4
Chapter 1. Introduction	5
Theme 1: Town and Country.....	6
Theme 2: Protecting Agriculture.....	8
The Challenge for Agriculture	8
Theme 3: Development Opportunities and Responsibilities	9
Theme 4: Balancing Fiscal Responsibility and Infrastructure Provision.....	10
Theme 5: Working Together as a Region.....	11
Chapter 2. Demographics	12
Population Trends.....	12
Historic Trends	12
Population Distribution and Density.....	14
Race and Ethnicity.....	16
Age and Gender	17
Dependency	20
Population Projections.....	21
Education	22
Chapter 3: Land Development	23
Introduction	23
Using Planning to Protect Agriculture.....	25
Agricultural Land Use Challenges.....	28
Protecting Agriculture Supports Economic Development	30
Protecting Agriculture Promotes Land Use Compatibility	30
Protecting Agriculture Creates Efficient Development Patterns.....	30
Protecting Agriculture Protects the Food Supply	31

Planning For Change	32
Official Map	32
Subdivision Regulations	33
Zoning Regulations	33
Capital Improvements Program	35
The “2232” Review	36
Growth Boundaries & Community Service Areas	36
Service Districts	37
Building the Plan	38
Existing Land Use	39
Land Evaluation and Suitability Analysis	44
Land Suitability Analysis Factors	45
Growth Tiers.....	48
Development Tiers	48
Community Service Areas	49
Future Land Uses.....	53
Regionalism	56
Land Development, Goals & Policies	58
Agriculture Goals and Policies.....	62
Chapter 4: Economics	64
Continued Opportunity	64
Existing Conditions	65
Employment.....	65
Commuting.....	71
Economy.....	72
Gross Domestic Product.....	75
Tourism	76
The Tourism Mission Statement for Carroll County is:	77
Supporting Economic Expansion.....	79
Jobs / Housing Balance	79
Infrastructure Development to Support Economic Development.....	80
Initiatives to Promote Agricultural Economic Development	81
Virginia Cooperative Extension	81
Southwest Virginia Farmers Market	81
Agroforestry	81
Initiatives to Support Tourism	82

Virginia Tourism Corporation.....	82
Heritage Tourism.....	82
Ecotourism	83
Agritourism	84
Economic Development, Goals & Policies	86
Chapter 5. Housing.....	88
Terminology	89
Housing Types	90
Workforce Housing	90
Senior Households	90
Special Populations	90
Existing Conditions.....	91
Housing & Living Characteristics.....	91
Households and Families	91
Accessible Housing.....	93
Addressing Housing Needs	94
Twin County Region Comprehensive Housing Analysis.....	94
Housing, Goals & Policies.....	96
Chapter 6. Nature & Community	97
Physical Characteristics.....	97
Physiographic Provinces and Geology	97
Relief	97
Climatology	97
Hydrology.....	98
Soils	98
Soil and Water Conservation	100
Historic Preservation.....	101
Character and Design.....	102
Site Design.....	102
Signage	102
Walkability	103
Handicap Accessibility.....	103
Complete Streets	104
Routes to Schools.....	104
Safe Environmental Design	104
Open Space, Trails, & Recreation.....	106

Open Space	106
Recreational Opportunities.....	107
Trails.....	107
Resource Protection, Goals & Policies	110
Historic Preservation, Goals & Policies	111
Parks and Recreation, Goals & Polices.....	112
Chapter 7. Facilities & Finance.....	113
Providing Public Facilities.....	113
Levels of Service.....	113
Defining Adequacy	113
Fiscal Balance & Responsibility	115
Costs of Growth	115
Financing Tools.....	116
Water and Sewer	118
Water Supply and Treatment.....	118
Wastewater Transport and Treatment.....	118
Solid Waste	122
Public Utilities	123
Power	123
Telephone and Broadband.....	123
Law Enforcement	125
Safer Environmental Design.....	125
Policing Principals.....	125
Fire Protection and EMS	126
Disaster Response	129
Emergency Operations Plan.....	129
Hazard Mitigation Plan.....	129
Education	130
Carroll County Public Schools Division.....	130
Crossroads Institute	131
Library System.....	133
Health and Social Services	134
Healthcare.....	134
Social Services	134
Leadership in Management	135
Human Capital.....	135

Leaders.....	135
The Mission	135
Governance and County Operations, Goals & Policies	136
Facilities and Services, Goals & Policies	138
Education and Human Services, Goals & Policies	140
Public Safety, Goals & Policies	141
Solid Waste, Goals & Policies.....	142
Water and Sewer Facilities, Goals & Policies.....	143
Chapter 8. Transportation.....	144
<i>VTrans</i>	144
Functional Classification	148
Access Management	149
Land Use / Transportation Linkage	150
Accessibility.....	151
Signage	151
Streetscape	151
Handicap Access.....	152
Complete Streets	152
Safe Routes to Schools.....	152
Airport.....	153
VDOT 6-Year Improvement Program.....	154
Identified Projects.....	154
Transportation, Goals & Policies.....	157
Implementation	158
Monitoring and Amendment	159
Annual Review.....	159
Land Development Amendments	159
Policy Review and Amendment	159
Key Implementation Tools	160
Development Regulations.....	160
Capital Improvements Plan (CIP)	160
Comprehensive Plan	160
Implementation Work Program.....	160
References	163

Maps

Map 1: Carroll County Base Map	24
Map 2: Agricultural and Forestal Lands	27
Map 3: Existing Land Use	40
Map 4: Addressed Structures, Parcels, and Residential Areas	41
Map 5: Average Value Per Acre	42
Map 6: Building Permit Assessment Value	43
Map 7: Composite Land Evaluation and Suitability Map	47
Map 8: Carroll County Growth Tiers	51
Map 9: Community Services Areas	52
Map 10: Water System Map	120
Map 11: Sanitary Sewer System Map	121
Map 12: Broadband Availability.....	124
Map 13: Fire Coverage Areas.....	127
Map 14: Rescue Squad Coverage Areas.....	128
Map 15: VTrans 2023 Mid-term Needs Assessment	146
Map 16: Corridors of Statewide Significance.....	147
Map 17: VDOT Six-Year Improvement Project.....	156

Tables

Table 1: Parcel Size (2010)	6
Table 2: Natural Increase/Decrease.....	13
Table 3: Population Distribution by Magisterial District.....	14
Table 4: Racial and Ethnic Composition	16
Table 5: Median Age; 1990 - 2020	17
Table 6: Dependency Ratios (2021)	20
Table 7: Educational Attainment by Population	22
Table 8: Land Suitability Acreage (2010).....	45
Table 9: Factors and Weighting Table.....	46
Table 10: Tiers and Community Service Areas.....	50
Table 11: Part 1 - Future Land Use.....	54
Table 12: Part 2 - Infrastructure and Improvements Requirements	55
Table 13: Employment by NAICS Industry Sector (Carroll County + Galax).....	66
Table 14: Local Area Unemployment Statistics	67
Table 15: Estimated Median Income	72
Table 16: Household Income	72
Table 17: Poverty Status (Percent Below Poverty Level)	73
Table 18: Real Gross Domestic Product.....	75
Table 19: Housing Tenure	92
Table 20: Units in Structure	92
Table 21: Households by Age	93
Table 22: Carroll County Six-Year Improvement List (FY23 Revised).....	155

Figures

Figure 1: Number of Parcels by Size (2010)	7
Figure 2: Total Acres Consumed by Parcels by Size (2010).....	7
Figure 3: Carroll County Population by Year	13
Figure 4: Magisterial Districts (2021)	15
Figure 5: Racial and Ethnic Composition (2020)	16
Figure 6: Population Pyramids by Age Group and Gender; 1990-2000, 2000-2008*.....	18
Figure 7: Population Pyramid, Carroll County 2020.....	19
Figure 8: Population Projection	21
Figure 9: Educational Attainment	22
Figure 10: Land Use Challenges (2010)	29
Figure 11: Percent Agricultural Employment by Year.....	65
Figure 12: Monthly/Annual Unemployment Rate; 1990-2023	68
Figure 13: Civilian Labor Force	69
Figure 14: Employed Persons.....	69
Figure 15: Largest Employers	70
Figure 16: Commuting Patterns	71
Figure 17: Average Weekly Wage By Industry	74
Figure 18: Fiscal Year 2023 Meals Tax	76
Figure 19: Fiscal Year 2023 Lodging Tax.....	76
Figure 20: Economic Impact Summaries.....	78
Figure 21: Year Structure Built	91
Figure 22: CCSPD At a Glance.....	132

About the Plan

The Comprehensive Plan

Successful communities do not just happen; they must be continually shaped and guided. A community must actively manage its growth and respond to changing circumstances if it is to continue to meet the needs of its residents and maintain the quality of life that initially attracted those residents to the community.

“Community values (common ground on which different groups can agree) are at the heart of the comprehensive plan, providing the foundation for articulating a shared vision and goals for the future.”

David Rouse and Rocky Piro, The Comprehensive Plan

Legal Purpose

Title 15.2 of the Code of Virginia, 1950, as amended, is devoted to regulations affecting counties, cities, and towns; Subsection 2223 states, “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 of the probable future requirements of its territory and inhabitants. *The comprehensive plan shall be made with the purpose of guiding and accomplishing 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.”

A duly approved and adopted comprehensive plan shall control the general or approximate location, character, and extent of each feature shown within such plan; features not shown on such plan shall be submitted to and approved by the Planning Commission as being substantially in accord with the adopted Plan (CODE OF VIRGINIA §15.2-2232).

It is advised to conduct an annual review of the Plan in coordination with other plans and policies (CODE OF VIRGINIA §15.2-2239) and required that the Plan be formally reviewed every five years (CODE OF VIRGINIA §15.2-2230). The Code of Virginia even goes so far as to specify the minimum contents of acceptable plans.

Why We Plan

Residents of Carroll County value their natural environment, the character and diversity of their neighborhoods, the quality of public services, the cultural resources and breadth of recreational opportunities, as well as the strong sense of “community.” Concern about the impact of new growth has increased as residents have experienced increased traffic congestion, commercial encroachment on neighborhoods and the inappropriate development of agricultural and natural, open areas. Effective growth management can help the County address each of these concerns.

By shifting urban and suburban service demands to areas that lack adequate services and facilities, growth threatens to create detrimental fiscal impacts in addition to its impacts on the character of developed neighborhoods, communities, and rural areas. The County must develop a strategy for growth management to make efficient use of both valuable infrastructure that is already in place, and to prevent unnecessary loss of the surrounding agricultural and open space

areas where such infrastructure is not yet in place. Effective plan implementation measures can curb the trend towards sprawl development and promote appropriate and available infill development and redevelopment. While allowing appropriate development opportunities in outlying areas, this plan seeks to promote development and economic growth in areas that can be effectively and efficiently served by public facilities and utilities.

As the Comprehensive Plan is implemented, it will strengthen the partnership between the public and private sectors.

Public and private sector partners can achieve infinitely more when both parties work together rather than alone. An important byproduct of an effective comprehensive plan is that it creates a “win/win” situation for the public and private sectors, for existing and new neighborhoods, for economic development and open space land conservation, and for fiscal integrity and enhanced quality of life.

How the Plan Should be Utilized

The Comprehensive Plan is a policy guide. While it discusses and describes land uses, the Plan itself does not regulate actual land use. Other tools, such as development regulations, site plan and performance standards, are the primary means by which a locality implements, or brings to life, the goals, policies, and strategies noted in the comprehensive plan. Thus, it is important that the comprehensive plan features an implementation schedule that will enable the community to move in the direction of its professed vision.

The Comprehensive Plan also functions as a platform for the articulation of development standards that will help implement the provisions and actions noted in the plan. Once the plan is adopted, considerable effort will be needed to make sure the county’s subdivision and building codes are in general conformance with the plan. The Plan also should guide the preparation of detailed facility master plans and capital improvement programs for the County’s facilities and services.

The Plan should be a dynamic document, subject to periodic amendment when conditions within the County change significantly. Periodic updates of the Plan will be needed to ensure that it continues to meet the needs of County businesses and residents.

Who Implements the Plan

The policies and strategies of the Plan must be implemented in a timely manner in order to ensure that the vision of the Comprehensive Plan becomes a reality. Who should be charged with the implementation of the goals, policies, and strategies? It should be a joint effort of the county Board of Supervisors, the county planning commission, the county staff, and county citizens. The implementation program featured in the Plan identifies and prioritizes strategies to ensure that the Plan’s vision becomes a reality. The schedule establishes priorities which should guide private actions as well as public actions.

Participation Process

During the original development of the 2030 Plan, working with *Planning Works*, the County underwent an extensive planning process, including:

- conducting an initial kick-off meeting,
- meeting with focus groups and stakeholders during a special “workshop week”,

- participating in numerous committee meetings with elected officials, county staff, and appointed committees,
- conducting youth outreach,
- Utilizing a unique website (plancarrollcounty.org) and social media accounts,
- Conducting a county-wide survey; and
- Issuing Press Releases in *The Carrol News*.

The data that was collected, both quantitative and qualitative in nature, remains of great value to the County and continues to be the foundation of the current Plan Update. The results of the 2010 outreach and planning activities, as outcomes of that plan, are summarized in the following paragraphs.

Identified Changes:

Positive Changes:

- The Carroll County Wellness Center
- Crossroads Institute
- Farmers Market
- Improved infrastructure
- Good schools

Concerning Changes:

- Job loss
- Lack of industrial development
- Uncontrolled development
- Loss of agricultural land

What the stakeholders wanted to see for Carroll County in 2030:

- Economic development and tourism
- Safety and security
- Affordability (housing and taxes)
- Rural character and agricultural heritage
- Open space protection and retention of scenic views
- Education investments
- Recreation opportunities
- Infrastructure investment (sewer, water, internet)
- Controlled, sustainable growth

Goals, Policies, and Strategies

Goals, policies, and strategies describe how Carroll County will meet the challenge of managing future growth and community development. Each element contains related goals and policies. Strategies are designed to achieve goals and policies and are included in the Implementation Chapter.

Goal: Description of a desired *state of affairs* for the community in the future. Goals are the broad, public purposes toward which policies and programs are directed. [Goals are phrased to express the desired results of the Comprehensive Plan.](#)

Policy: Statements of government intent against which individual actions and decisions are evaluated. [Policies indicate the direction the County should take.](#)

Strategy: Individual regulations and action which, taken together, will enable the County to achieve Goals and Policies. [Strategies are the basis for implementation of the Plan](#) by identifying and recommending specific courses of action. Strategies are included in the Implementation Chapter.

Vision Statement

A comprehensive plan is a community's common vision of its future. The Carroll County Comprehensive Plan is intended to define a long-term vision for the future (that is shared by its residents) and guide public and private actions to help achieve that vision. A long-term vision, rooted in community values, is the foundation of the Carroll County planning process. The vision statement helps citizens and decision-makers remember the ends to which the Plan aspires. In concert with Plan goals, it should temper and guide the interpretation, application, and amendment of the Comprehensive Plan over time. The vision is summarized in a succinct vision statement below and is more clearly defined through the goals, policies and strategies presented in this Plan.

Carroll County Vision Statement:

*Heritage and Opportunity in
the Blue Ridge Mountains.*

Chapter 1. Introduction

This is an action-oriented update of Carroll County’s Comprehensive Plan (adopted in 1978, as amended and revised since), specifically, *Carroll County’s 2030 Comprehensive Plan: Remembering Yesterday, Celebrating Today and Inventing Tomorrow*. *This Plan Update is a statement of the community’s vision for its own future and a guide to achieve that vision through the year 2030*. The future expressed in the Plan is shaped by local values, ideals and aspirations about the best management and use of Carroll County’s resources. The Plan Update is based on the County and its communities working cooperatively to define future growth areas, establish land use and infrastructure policies, and manage its facilities and finances. This updated Plan is a *guide to action*, that:

- Provides a clear, understandable, and widely supported vision for land use in Carroll County, extending from 2023 to the year 2030.
- Operates as a development guide to ensure that the County’s vision is considered during the public policy and development review decision-making processes.
- Guides growth and change to achieve economic benefits while protecting environmental quality and local cultural values; and
- Encourages intergovernmental cooperation between the unincorporated and incorporated areas within the County.

There is no single lifestyle or experience that shapes life in Carroll County – instead there are a variety of lifestyles and experiences that residents enjoy. The variety of opportunity contributes to Carroll County’s appeal and success. In terms of land use planning, development regulation and infrastructure management, it is counterproductive to insist on doing things “one way.”

The Plan supports a varied approach to achieve local goals, rather than a blanket approach that doesn’t appreciate the differences among Carroll County’s communities and rural areas.

The following five “themes”, continued from *Carroll County’s 2030 Comprehensive Plan: Remembering Yesterday, Celebrating Today and Inventing Tomorrow*, tell the story of the context for planning in Carroll County and set the stage for the Plan Update.

Theme 1: Town and Country

Carroll County is home to both traditional and suburban communities as well as large rural and agricultural areas. Residential and rural land use patterns generate different impacts and needs and should therefore be treated differently. There is a need for two levels of land use planning, *development regulation* and *facility and service provision* in the County. While development should be managed *consistently*, different standards should apply within different types of areas.

There is a striking duality in the division of land in Carroll County which is reflected by the 2010 data in **Table 1** and **Figure 1** and **Figure 2**. As is shown, over 80% of parcels in the County are 10 acres or less, that is, small to large size lots primarily suitable for residential use. However, over 80% of the total acreage in the County is divided into tracts of land that are more than 10 acres in size, which are more suitable for agriculture or conservation uses. That is to say, *most of the parcels in the County are small residential lots, but most of the County's land is actually in large open tracts.*

Table 1: Parcel Size (2010)

Parcel Size (in acres)	Number of Parcels	Percent of Total Parcels	Total Acres	Percent of Total Acres
0 - .25	3,497	10.4%	340	0.1%
.26 - .5	4,541	13.5%	1,745	0.6%
.51 - 1.00	6,235	18.5%	4,509	1.5%
1.01 - 2.5	6,289	18.7%	9,839	3.3%
2.51 - 5	3,398	10.1%	12,415	4.1%
5.01 - 10	3,389	10.1%	23,357	7.8%
10.01 - 20	2,428	7.2%	34,698	11.6%
20.01 - 40	2,051	6.1%	58,032	19.3%
40.01 - 100	1,437	4.3%	86,643	28.8%
100.01 - 160	269	0.8%	32,561	10.8%
160 +	114	0.3%	36,266	12.1%
Total	33,648		300,405	

SOURCE: PLANNING WORKS, 2010

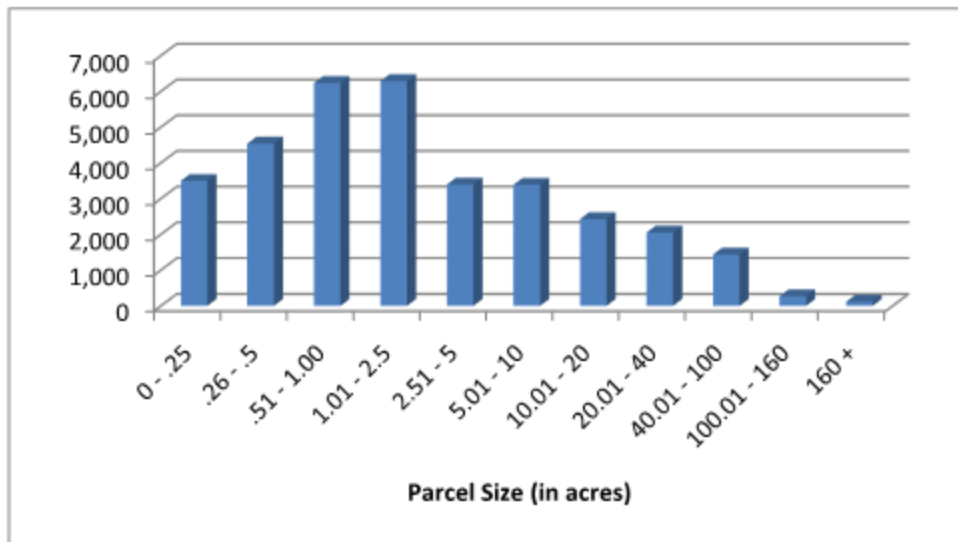
NOTE: An audit of the 2010 Planning Works analysis reveals 34,501 total parcels according to the county's geographic information system; though this appears to be a change in increase of 853 parcels, a closer inspection reveals that many parcels have unknown geographic characteristics – including parcel size. Total acreage according to the US census totals 303,833.6 acres, though the actual land area, once the area of waterways is removed, totals only 297,416 acres. Utilizing this data, and without having the full methodology of the 2010 analysis, *it is reasonable to conclude that the 2010 figures remain accurate to within a margin of error of +/- 1%*. Based on this analysis, for the purpose of this plan update, the original figures have been left unmodified related to *Theme 1*.

The Plan supports a higher level of development standards in suburban areas, and minimal standards in rural areas.

In the more densely populated communities and urban/suburban areas of the county, there is a desire for land uses that are compact; protects existing development; ensures land use compatibility; and allows for provision of a high level of public facilities and services. Standards governing setbacks, buffering, screening, landscaping, design, public improvements, access, and other improvements should be designed to ensure the maximum value for existing and future residents.

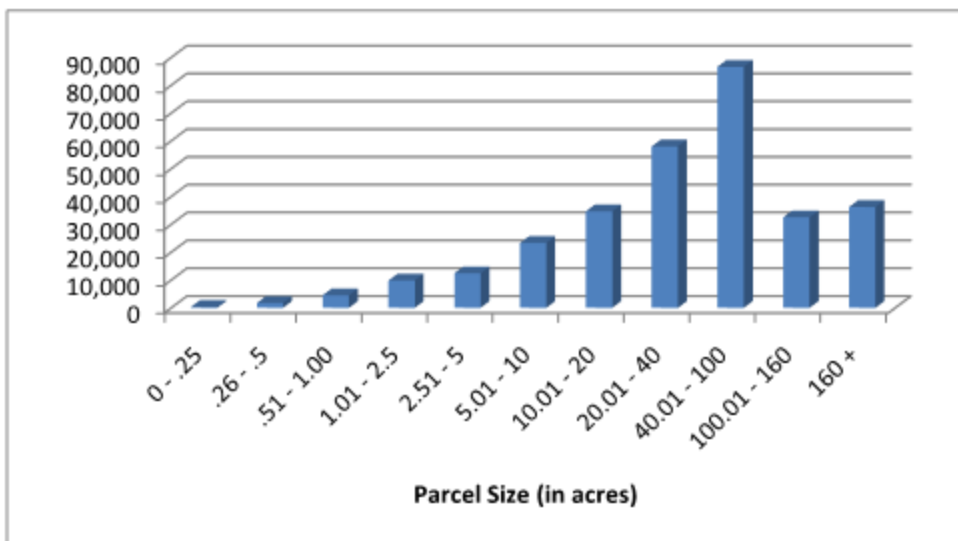
In the less densely populated rural and agricultural areas, there is a desire to limit regulation and allow continuance of existing rural uses and development patterns. Many rural residents prefer the County continue to take a “hands-off” approach; although there is recognition that development standards are needed to protect rural, sensitive, natural resource and prime agricultural areas from urban and suburban encroachment.

Figure 1: Number of Parcels by Size (2010)



SOURCE: PLANNING WORKS, 2010

Figure 2: Total Acres Consumed by Parcels by Size (2010)



SOURCE: PLANNING WORKS, 2010

These two major land use patterns enjoy peaceful co-existence in the County, and the Plan will support and recognize the needs of both urban/suburban and agricultural/rural areas. The Plan supports clustering of development and other compact development forms in areas served efficiently by facilities and services while protecting prime agricultural land and allowing a rural way of life. It will support provision of different levels of service depending on the location and character of development to provide the best value and meet the expectations of residents.

Theme 2: Protecting Agriculture

There has been a noticeable loss of farms and farmland in Carroll County, which not only impacts farm families, but Carroll County families. The reverberations from these losses can't help but be felt countywide. [According to the 2017 Census of Agriculture, from 2012 to 2017, there was an 8% decrease in the total number of farms, a 15% decrease in farm acreage, and an 8% decrease in the average size of farms within the county.](#)

Carroll County is a place where:

- Farmland is protected while accommodating growth and maintaining a high quality of life.
- Private property rights are respected. The rights of property owners are equitably balanced with their responsibilities to adjacent property owners and the community at large.
- The use of land and resources are planned and maintained through cooperation of rural and urban interests.

Addressing these issues will require decision-makers to balance priorities, considering important factors such as: land use compatibility, economic impacts, County character, aesthetics, availability of public facilities, site suitability, proximity to urban development and the availability of alternative sites. For example, while agricultural preservation typically is a top priority, when a highly productive tract of farmland is surrounded by urban development and has adequate public facilities, the County may more effectively promote smart, non-sprawl growth by approving the tract's development.

The Challenge for Agriculture

The issue of preservation of agricultural land centers on the conversion of agricultural land to other uses and the subsequent erosion of the agricultural base in the County. Preservation of agricultural land would not be meaningful unless the viability of farming could be addressed. Farming adjacent to residential land uses can be highly incompatible. Agricultural production is often associated with noise, dust, vibration, odors, extended hours of operation, and the application of chemicals, items commonly addressed by "industrial performance criteria". These conditions are generally not well received by residents in adjacent residential developments. It is a situation much like locating homes next to industrial areas in a city.

To support a viable agricultural economy in Carroll County, it is important to have agricultural areas unrestricted by residential development.

People who move from the "city" to the "country" are looking for a retreat, a bit of nature and a quiet place to live. They want to live in a quiet rural setting. However, they often bring with them expectations for services similar to those they experienced in the city: paved roads, sidewalks, near-immediate public safety response times and roads cleared of snow before the commute to work. Those looking for the "peace and quiet" of the country often are not aware of the noise, dust, odors and long hours of operations associated with agricultural operations.

[As agricultural areas become interspersed with residential and other types of development, farming becomes much more difficult and, in some cases, impossible.](#) The effect is similar to that which occurs when large, older homes are converted to apartments in the midst of single-family neighborhoods. The change of use is generally perceived as the coming trend. It often leads to a sense of impermanence toward the current land use. For property owners in the immediate vicinity, the result may be a disinvestment in the current use and eventually, sale of the property.

Theme 3: Development Opportunities and Responsibilities

Carroll County's natural beauty, when combined with the county's mix of locational assets, makes it an attractive community for business and industry, as well as agricultural activities. Accordingly, the county will need a deliberate strategy to ensure that it is able to efficiently provide facilities and services, to provide economic opportunity, and to capitalize on its opportunities and assets. As an example, over 6 million cars pass through Fancy Gap via the Blue Ridge Parkway every year. To leverage the impact of these visitors, the county, in partnership with the residents and businesses in and around the Fancy Gap community, should develop a strategy to capture a portion of the parkway travelers and generate local economic activity. A crucial step will be to strengthen the County's development standards in this unique gateway.

To promote high quality development that contributes to the long-term quality of life and provides economic opportunity for residents, developers must believe that their investment will be protected.

Existing development must be protected by requiring new development to be held to the same high standards. Development and building standards must ensure that land uses are compatible.

The Plan supports development of regulations that provide developers with flexibility, both in terms of the types and locations of projects, while establishing standards to prevent the worst forms of development. Inflexible plans and ordinances stifle creativity, preclude innovations in design and reduce all development to the same lowest common denominator. Conversely, an overly flexible plan can be unclear and therefore arbitrarily administered. Existing and new residents and businesses should be provided with the certainty they need regarding the planning and development process to continue to make informed investment decisions regarding their property.

Developers, neighbors, County staff and decision-makers can all perform their roles more effectively when they are certain of the Plan policies and development review process. The knowledge that the process will always occur in a predictable manner helps all participants remain focused on creating quality development rather than navigating a confusing and unpredictable process, while flexibility allows them to create the best-possible development without the burden of excessive regulation that stifles the ability to create a high-quality product.

The balance between flexibility and certainty is a key aspect of this Plan.

It is important to note that protection of development investment and agricultural investment are flip sides of the same coin. While separate standards will be developed to apply to communities and to rural areas, the standards work together to ensure that unregulated rural uses will not impact planned development, and that planned development will not encroach on agricultural areas. By establishing policies to prevent incompatible land use patterns, the Plan protects both types of investment.

Theme 4: Balancing Fiscal Responsibility and Infrastructure Provision

The quality of life in Carroll County is contingent on the County's continued ability to provide quality services at a reasonable cost to taxpayers.

If development projects go forward without a plan for recouping increased service provider expenses, existing taxpayers subsidize those expenses. To achieve equity and fairness in the funding and provision of public facilities and services, the Plan will recommend strategies to:

- Enhance the local property and sales tax bases to balance fiscal obligations for capital facilities, operations, and maintenance.
- Ensure that new development funds the costs of capital facilities and services required to serve that new development; and
- Ensure that facilities and services are planned in a way that allows ongoing operations without significant increases in the costs to residents and businesses.

Fiscal stability is a cornerstone of a sustainable community. Existing residents should not suffer a decline in the quality of their services or be unduly burdened by the costs of new growth. New residents and businesses should pay their fair share of the costs associated with extending infrastructure and urban services to new growth areas.

There are a wide variety of methods local governments use to ensure the adequate provision of facilities and services required by new development. For instance, the County chooses when and where to extend facilities such as water and sewer, which influences the suitability of an area for development. However, due to the rather aggressive extension of water and sewer throughout significant portions of the county, the ability to direct growth in the described fashion has become more challenging.

It will set forth policies to guide infrastructure provision and funding to ensure the County's fiscal sustainability.

The Plan will direct growth into compact and sustainable development patterns within areas already served with infrastructure, or in areas where infrastructure provision is planned and included in a community's **Capital Improvement Program (CIP)**.

Theme 5: Working Together as a Region

Increasingly, we have come to the realization that many vital issues are regional in nature – watersheds, air quality and other ecosystems, economic conditions, land use, service delivery, commuter patterns, housing, employment centers and other growth impacts ‘spill over’ municipal or County boundaries and impact the region as a whole. The problems a community faces do not begin and end at its borders, so why should its solutions? The health of Carroll County’s communities, the incorporated municipalities, the rural areas of the County and the welfare of the region are interconnected.

Our communities are not islands.

In many areas across the nation as well as Virginia, the lack of intergovernmental coordination has resulted in the loss of population and economic development. Such losses undermine economic stability and reduce public facility and service efficiencies, thereby making it more costly for local residents. The lack of inter jurisdictional cooperation and coordination makes an area less attractive for major economic development. Competing with one another rather than working together can be a deal breaker in the new economy.

The Plan sets forth a coordinated strategy for managing growth and future development. Such a strategy is needed to promote the efficient use of valuable infrastructure that is already in place, to minimize the cost of new infrastructure and facilities, and to prevent the unnecessary loss of open space and agricultural land.

The Plan will lay the foundation for building more effective regional partnerships in the County. Coordinated planning efforts will result in benefits to citizens of all communities in the region.

Chapter 2. Demographics

Population Trends

Changes in the total population and the characteristics of the population may have profound impacts on the economic, social, and natural environment of the County. Population increases generate demands for additional facilities and services. Different age and income segments of the population have different needs, which shape demands for housing, services, and infrastructure. For instance, an elderly population creates demand for communal housing types, medical services, passive recreational opportunities, and public transportation. Families with young children, on the other hand, generate demands for different housing types, day care facilities, schools, athletic recreational opportunities, and a mix of transportation options. The age demographics of a population also change the economic viable of various market segments and industrial development opportunities.

The destiny of a community is in its demographics.

This Chapter summarizes various demographic indicators relevant to the development of Carroll County's Comprehensive Plan, including a projection of the community's likely population beyond 2030. [This information will allow the County to craft land development policies that are responsive and reflective of the community's shifting demographics.](#)

Historic Trends

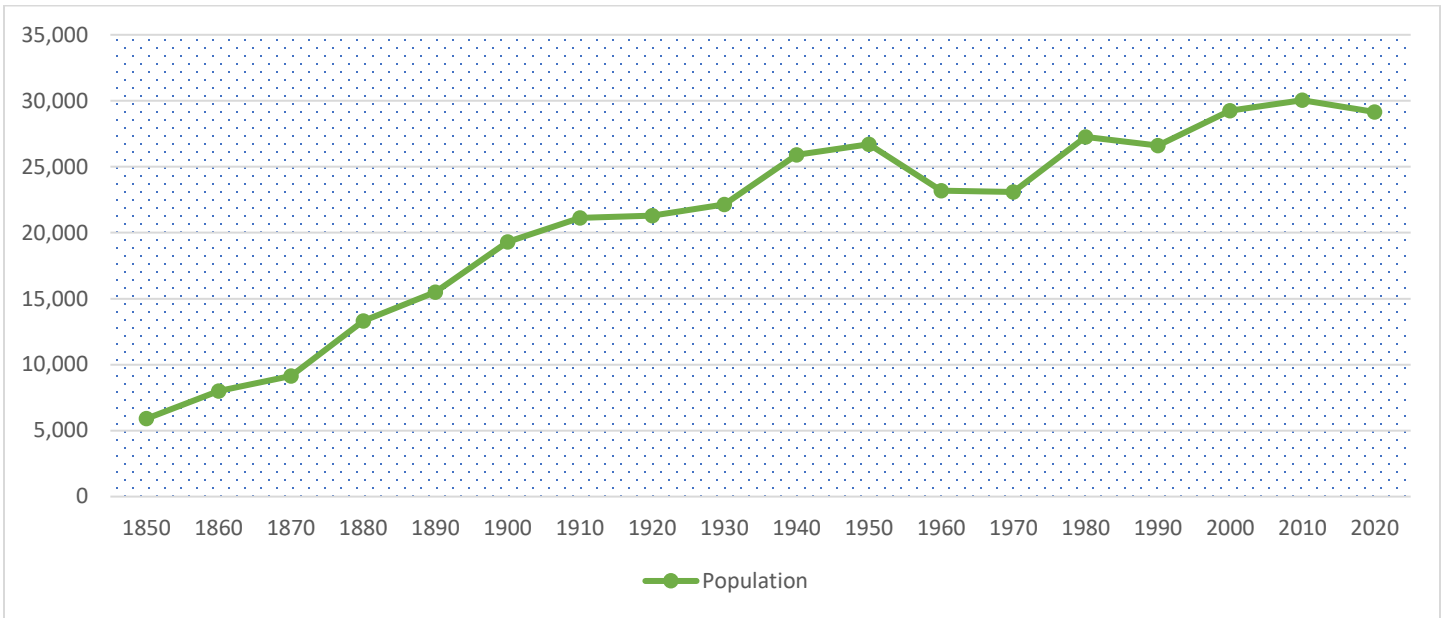
Carroll County's population has fluctuated over the past century as shown in **Figure 3: Carroll County Population by Year**. Between 1900 and 1950, the county's population gradually increased from 19,303 to 26,695. This steady growth was propelled by an expanding agricultural economy. During the 1950s, significant changes in methods of agricultural production reduced the demand for farm labor, thereby initiating a stream of out-migration that persisted for nearly two decades. The actual low point for the period of population decline was in the mid-1960s. By 1968, Carroll County's population decline leveled off.

Between 1970 and 1980, Carroll County's population increased at a rate of 1.8% per year. During that decade, the 18.1% increase was driven by a boom in manufacturing, specifically in the textile and furniture industries. This rapid growth realized during the decade of the 1970s was stifled during the 1980s as the County's population decreased by 2.5%. This trend reversed during the 1990s as the County grew at an average annual rate of 1%. Growth after 2000 slowed to an annual rate of 0.4%.

From 2010–2020, the County's population saw a *slight decline* from 29,985 residents to 29,155 (2020 Decennial Census) – a *net loss* of 830 residents over a decade. This period of decline is statistically significant, though less than that of the 1980s, making it the second largest decline since the 1950s – the largest period of decline in the County's history – a decline related to agriculture. In the post-COVID-19 global pandemic, [the US Census Bureau estimates the 2021 population for the county at 29,123 – continuing the trend of slow population decline.](#)

Figure 3 visually describes these historic populations trends, going back to the County's earliest history.

Figure 3: Carroll County Population by Year



SOURCE: U.S. DECENNIAL CENSUS, WELDON COOPER CENTER

As shown in **Table 2** (below), the *natural increase* (the number of births minus the number of deaths) has not been a factor in Carroll County’s population growth. These figures indicate a sustained decline in the county’s young adults in the years of greatest childbearing potential. Thus, [there are two main factors driving Carroll County’s population trend, an out-migration of young adults and an in-migration of older age groups](#). According to the 2021 annual American Community Survey (ACS), of the 29,123 residents, 5.3 ±1.0% of the County’s populations had migrated in; 2.2% from another place within Virginia and 3.1% from outside of the Commonwealth. Considering population migration trends, **Table 2** clearly provides evidence of in-migration as the key driver of recent population growth in the County.

Table 2: Natural Increase/Decrease

Year	Live Births	Deaths	Natural Increase
2008	289	358	-69
2009	288	363	-75
2010	222	358	-136
2011	237	326	-89
2012	279	359	-80
2013	234	384	-150
2014	269	371	-102
2015	267	354	-87
2016	234	346	-112
2017	208	349	-141
2018	246	357	-111
2019	251	385	-134
2020	230	477	-247

SOURCE: VIRGINIA DEPARTMENT OF HEALTH

Population Distribution and Density

The distribution of Carroll County’s population has followed the same basic pattern over the past 50+ years. Population is distributed relatively evenly across the county, with a heavier concentration of people between Galax and Hillsville. As can be seen in **Table 3**, both the Piper Gap and Sulphur Springs magisterial districts, the two districts that border the City of Galax, maintain the largest population concentrations in the county. The Sulphur Springs magisterial district is the most populous of the County’s five election districts. Development along U.S. Route 58 between Galax and Hillsville continues to grow at a relatively high rate. Areas south of the Blue Ridge Parkway near Interstate 77 and U.S. Highway 52 (Fancy Gap) are also experiencing increased development activity due to investment made in this area of the County.

The population density of Carroll County is 63.01 persons per square mile, calculated by dividing the 2020 total population (29,911 according to the 2020 Decennial Census) by the County’s total land area (474.7 square miles). Utilizing the 2021 ACS, though, the persons per square mile decreases to 61.35 – continuing a downward trend. Typically, any area with less than 50 persons per square mile is considered rural; therefore, based on population and land area, Carroll County would *not* be classified as rural. However, if the population concentrated along the U.S. Route 58 corridor is removed from the calculation, then Carroll County has a population density closer to 50 persons per square mile and better represents the county’s rural nature. In comparison, and according to the most recent 2022 estimates, the Commonwealth of Virginia has a population density of 219.3 persons per square mile.

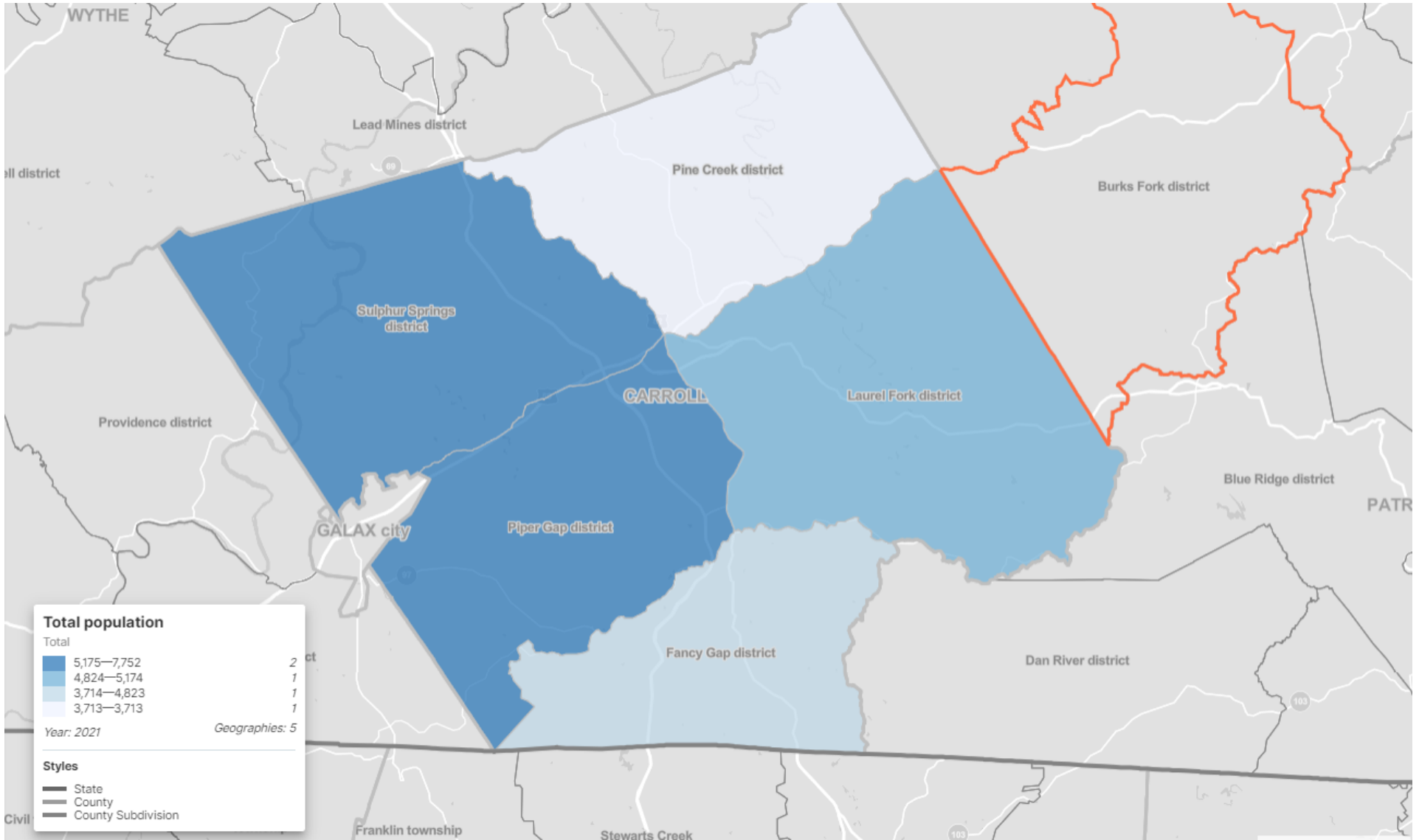
The U.S. 58 corridor, in many respects, functions as the County’s population center.

Table 3: Population Distribution by Magisterial District

District	Population						Percent Change
	1980	1990	2000	2010	2020	2021	2000 – 2020
Fancy Gap	4,542	4,443	4,926	4,924	5,117	4,823	(3.92)
Laurel Fork	4,499	4,375	4,769	4,835	5,372	5,174	12.25
Pine Creek	3,550	3,293	3,623	3,137	3,723	3,713	18.68
Piper Gap	6,787	6,860	7,530	7,877	7,633	7,752	(3.10)
Sulphur Springs	7,892	7,623	8,397	9,212	8,066	7,661	(12.44)
Total	27,270	26,594	29,245	29,985	29,911	29,123	(0.25)

SOURCE: US DECENNIAL CENSUS; ANNUAL COMMUNITY SURVEY

Figure 4: Magisterial Districts (2021)



SOURCE: US DECENNIAL CENSUS (2021 ESTIMATES)

Race and Ethnicity

Historically, the population of Carroll County has been predominantly white. The results of the 2020 Census indicate that, while the county’s population is still predominantly white, the percentage of non-white population has increased since 1990 (98.8% white). **Table 4** lists selected racial data for Virginia, the Mount Rogers Planning District, Carroll County, and the City of Galax in 2010 and 2020 respectively; unfortunately, data for the MRPDC was not available for 2010.

Table 4: Racial and Ethnic Composition

	Percent White		Percent Black		Percent Asian		Other (single race)	
	2010	2020	2010	2020	2010	2020	2010	2020
Virginia	68.6%	60.3%	19.4%	18.6%	5.5%	7.1%	3.2%	5.2%
MRPDC	*	94.4%	*	2.7%	*	0.5%	*	0.3%
Carroll County	97.1%	93.4%	0.6%	0.5%	0.2%	0.3%	1.3%	1.8%
Galax	87.6%	82.9%	6.4%	5.8%	0.5%	0.8%	5.3%	9.9%

SOURCE: US DECENNIAL CENSUS

As **Table 4** indicates, between 2010 and 2020, the population diversity in Carroll County grew by 3.7%, consistent with local, regional, and state demographic trends. For the 2010 and 2020 Census, race statistic data collected for single races only was broken out into “White alone”, “Black or African American alone”, “American Indian and Alaskan Native alone”, “Asian alone”, “Native Hawaiian and Other Pacific Islander alone”, and “Some other race alone”. Only the most statistically significant categories were listed in **Table 4** above. It should be noted for 2010 and 2020 that the number of persons indicating Hispanic identity was a function of the Census questions focused on ethnicity rather than race. For 2010, the number of persons identifying as Hispanic or Latino in the Count was 419 of 30,042 (1.4%) and 1,114 of 29,155 (3.8%) for 2020. For reference, the percentage of total population identified as Hispanic in 2000 was 1.8%.

The following graphic (**Figure 5**) illustrates the racial and ethnic demographics profile of the county for 2020.

Figure 5: Racial and Ethnic Composition (2020)



SOURCE: DATA USA (2020 ASC 5-YEAR)

Age and Gender

As noted, Carroll County’s population has continued to grow older over the past 30+ years. This trend includes a higher median age for females than for males, which has consistently increased for both sexes from 1970 – 2020, with specific data for 1990-2021 as shown in **Table 5**. There was a small decline in the median age for total population in 2021 that correlates to a drop in the median age for males that is larger than the rise in median age for females.

Table 5: Median Age; 1990 - 2020

Year	Males	Females	Total Population
1990	36.0	39.6	37.8
2000	39.2	42.3	40.7
2010	43.0	46.6	44.7
2020	47.0	49.8	48.3
2021*	46.5	50.5	48.0

SOURCE: US DECENNIAL CENSUS, 1990-2020; 2021 ACS

According to the 2021 ACS 5-year estimates, [the median age for Carroll County across all genders is 48 \(±0.7\)](#); for comparison, the 2021 median age for the State was 38.8 (±0.2); for the Nation, the median age for 2021 was the same as the Commonwealth at 38.8 – *in 1960, this was 29.5 years*.

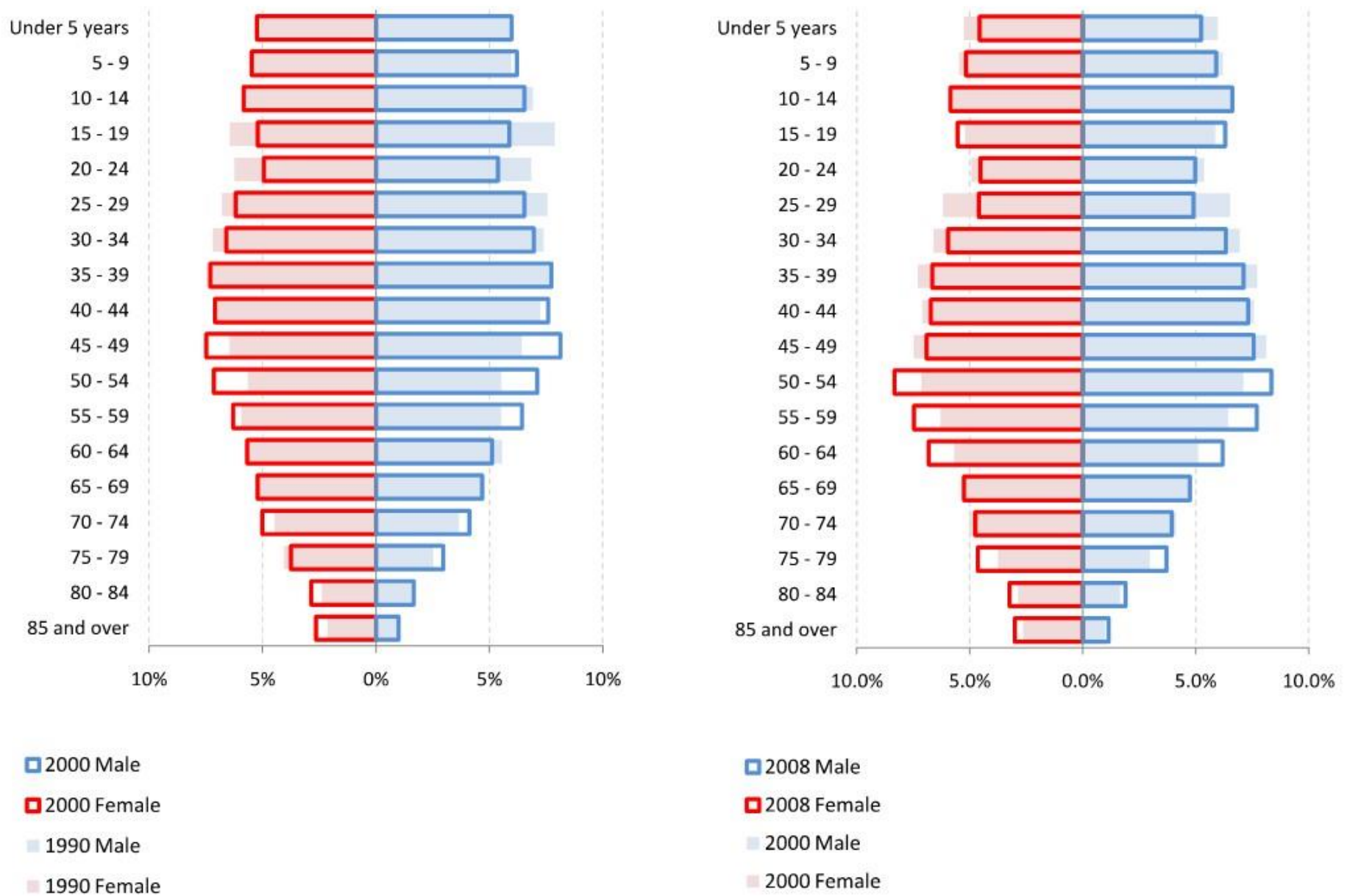
Mirroring national trends, the median age in Carroll County has increased consistently from 1970 to 2020.

The population pyramids in **Figure 6** and **Figure 7**(below) show that growth was not balanced across the various age cohorts. Males continue to outnumber females in the 0 – 19 age brackets, while females continue to outnumber males in the 50 and older age categories. As a percentage of the county’s total population, the secondary school age categories (15 -24) are declining, a fact supported by the negative natural increase in the county beginning in 1995. Since 1990, the 45 – 59 age brackets have experienced the highest rate of growth. [Overall, Carroll County’s population is growing older – as identified in Table 5: Median Age; 1990 - 2020 – and in-migration continues to be the most significant contributing factor to population growth.](#)

The population pyramid in **Figure 6** (below) shows that the population curve is continuing to crest at older age cohorts from the 1990-2000 and the 2000-2008 periods, shifting from a crest in the central age cohorts to those at the higher end of the scale. From 1990 to 2020, the highest populated age cohort has shifted from ages 35-39 in 1990, to ages 45-49 in 2000, to ages 50-54 in 2008, and upward to ages 60-64 in 2020.

Accelerating growth within the 50 – 64 age cohort groups coupled with the continued decline of the 20 – 34 age groups offer further evidence of Carroll County’s *graying* as a community.

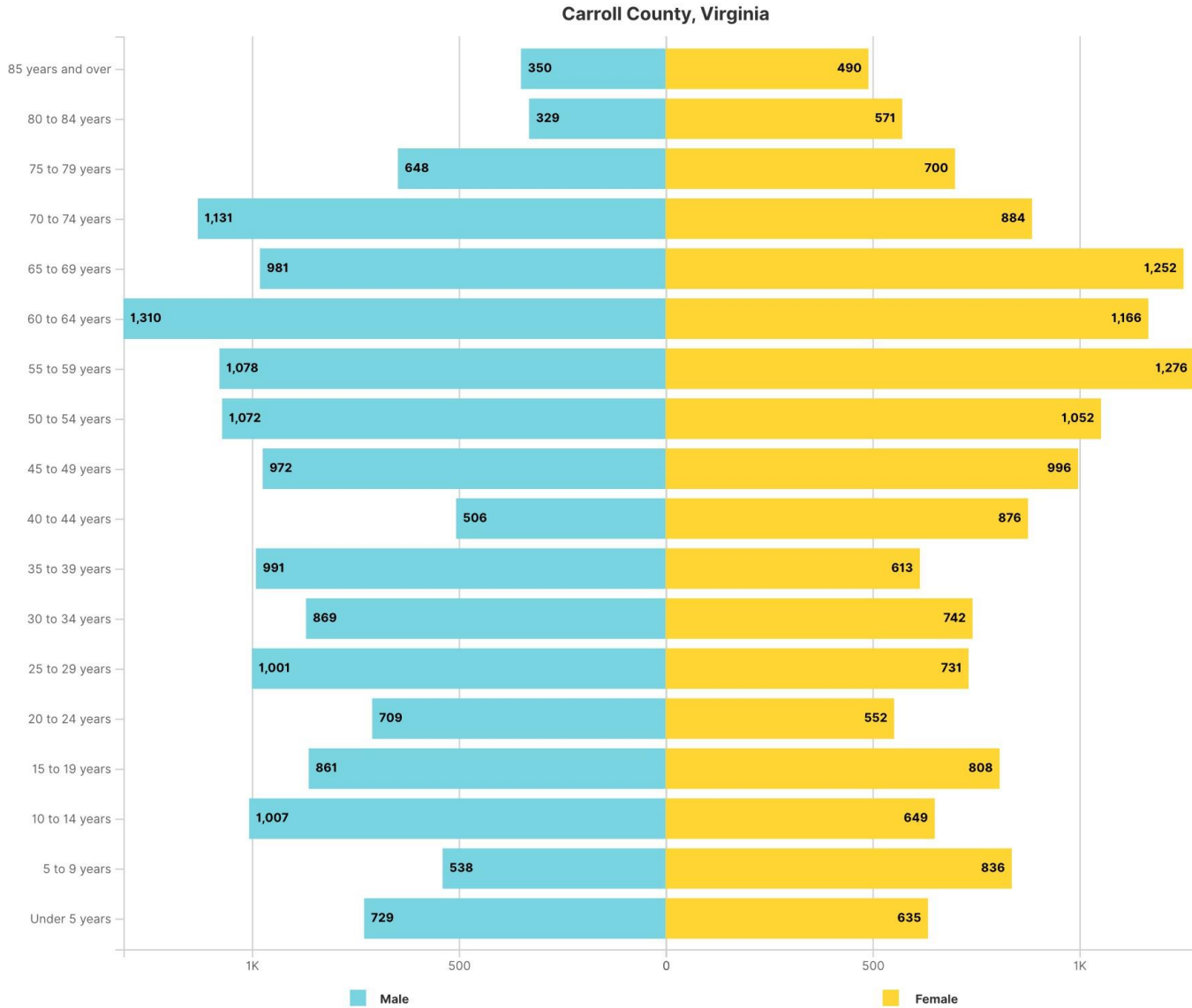
Figure 6: Population Pyramids by Age Group and Gender; 1990-2000, 2000-2008*



SOURCE: US DECENNIAL CENSUS

Figure 7: Population Pyramid, Carroll County 2020

Population Pyramid: Population by Age and Sex
in Carroll County, Virginia



S0101 | 2020 ACS 5-Year Estimates Subject Tables

SOURCE: 2020 ACS 5-YEAR ESTIMATES

Dependency

Table 6: Dependency Ratios (2021) below provides youth dependency and aged dependency ratios. These ratios reflect the number of people in the working age population for every young person and older person who are not in their prime wage-earning years. In general terms, these ratios indicate whether there is a significant imbalance between the workforce and those dependent on the workforce for goods and services. This factor, when combined with other economic indicators, can provide insight regarding the vitality of the local economy. In terms of the youth dependency ratio, Carroll County has 2.77 working aged person for each youth, somewhat higher than the Commonwealth (2.41).

Over the next decade, trends indicate that the post-retirement age population will continue to increase. This could potentially create a fiscal burden on local government by spreading available services to a greater population while losing a portion of tax revenues.

The age dependency ratio shows a wider variation. Consistent with its relatively high percentage of residents in older age cohorts, Carroll County has 2.27 workers for each person of retirement age, lower than the ratio for the Commonwealth. Over the next two decades, with more retirements looming on the horizon, Carroll County will likely feel added pressure vis-à-vis the aged dependency ratio. A decrease in either ratio will create an additional burden on the local government fiscally by spreading available services to a greater population while losing the most economically active age group and related loss of tax revenues.

“The number of Americans ages 65 and older is projected to nearly double from 52 million in 2018 to 95 million by 2060, and the 65-and-older age group's share of the total population will rise from 16 percent to 23 percent. The older population is becoming more racially and ethnically diverse.”

Population Reference Bureau

Table 6: Dependency Ratios (2021)

Age Group	Carroll County			Virginia		
	Number	Percent	Percent Change 2008-2021	Number	Percent	Percent Change 2008-2021
Youth (0-19)	5,838	20.0%	(1.0)	2,129,278	24.8%	(2.2)
Working (20-64)	16,170	55.5%	(5.5)	5,124,601	59.7%	(2.3)
Aged (65+)	7,115	24.5%	6.5	1,328,600	15.5%	3.5
Total	29,123			8,582,479		
Youth Dependency	2.77 (decrease from 2008)			2.41 (increase from 2008)		
Aged Dependency	2.27 (decrease from 2008)			3.88 (decrease from 2008)		

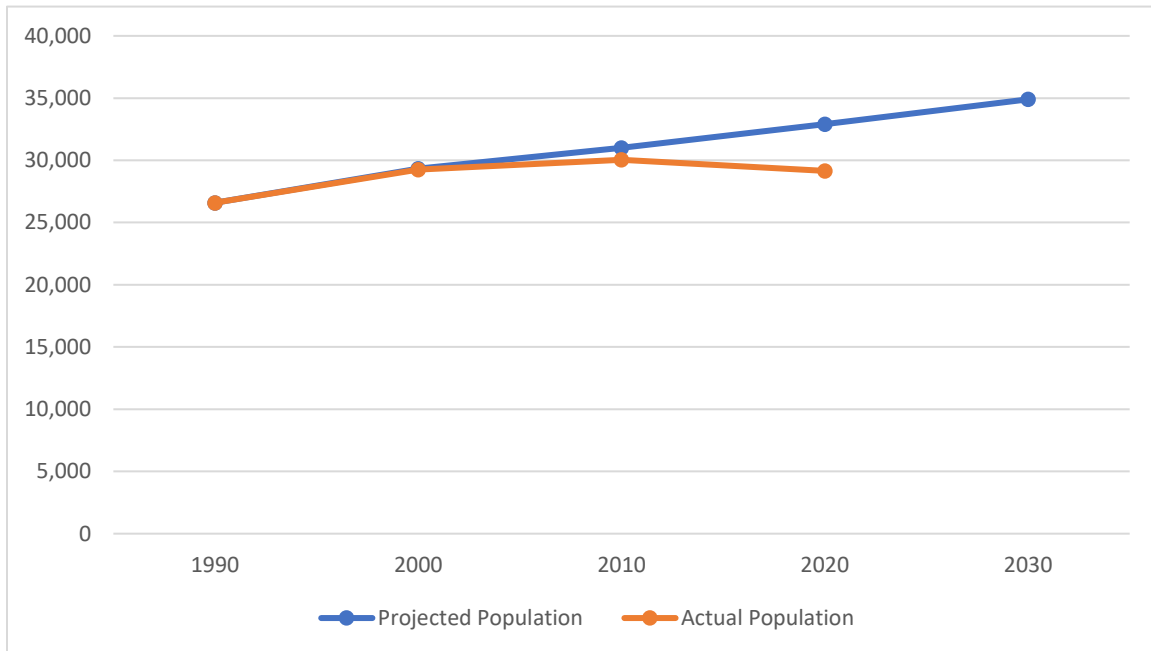
SOURCE: US CENSUS BUREAU (2021 ACS 5-YEAR)

Population Projections

Estimating population size into the future is an inexact science based on historic trends and various sets of available data. The aim of these projections is to establish a reasonable baseline that Carroll County can use to inform its land use policies during the planning period. The Virginia Employment Commission (VEC) is tasked at the State level for projecting Virginia's and its Cities and Counties' future population.

Factors affecting future population in a community include changing economic conditions, rate of natural increase, and the rate of in- and out-migration. Projections are based on information available at the moment; the estimates cannot account for unforeseen circumstances, such as industrial closings or changes in the national or international economy.

Figure 8: Population Projection



SOURCE: VIRGINIA EMPLOYMENT COMMISSION (JUNE 2003); US CENSUS BUREAU

Unfortunately, there are no new projected population figures beyond 2030, but as we can see in **Figure 8** (above), the actual population growth has fallen short of projected population figures from the Virginia Employment Commission in 2003. Following with our age and gender trends, along with our live birth and death rates previously shown, we can correlate these factors into a determination that [Carroll County's population growth slump is likely due to in-migration failing to adequately compensate for the rate of natural population decline \(birth vs death rates\).](#)

Education

In 2021, 81.5% of the population 25 years and over had at least achieved an education equivalent to a high school diploma, and about 15% had a bachelor’s degree or higher credential, as shown in **Table 7** below. Around 18.5% of the population had not graduated from high school or was not enrolled. The total school enrollment for Carroll County in 2021 was 4,036.

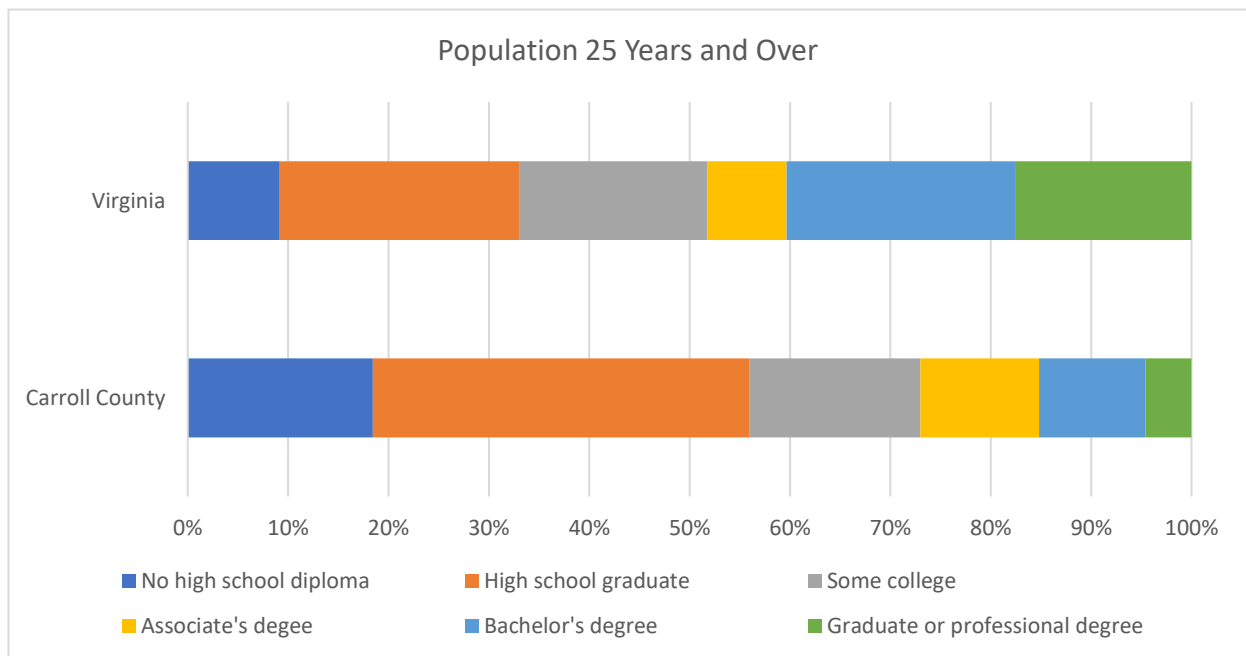
Table 7: Educational Attainment by Population

Education Level Attained	Population
Population 25 years and over	21,881
Less than 9 th grade	1,897
9 th to 12 th grade (no diploma)	2,139
High school graduate (included equivalent)	8,205
Some college (no degree)	3,730
Associate’s degree	2,588
Bachelor’s degree	2,325
Graduate degree or higher	997

SOURCE: 2021 ACS 5-YEAR

Figure 9 below is an illustration of the difference between educational attainment levels of the County as compared to the Commonwealth of Virginia. Carroll County continues to lag behind the Commonwealth in terms of higher levels of educational attainment. Various factors contributing to this include the agricultural nature of the County, the overall age pattern and the more recent lack of retention of high school graduates within the County.

Figure 9: Educational Attainment



SOURCE: 2021 ACS 5-YEAR

Chapter 3: Land Development

In a nutshell – Carroll County is located in Southwestern Virginia, bordered by Patrick County to the southeast, Floyd County to the east, Pulaski and Wythe Counties to the north, Grayson County and the City of Galax to the west, and Surry County, North Carolina to the south. The county was formed primarily from Grayson County, in 1842, and partly from Patrick County, in 1954. The Town of Hillsville is the County Seat and lies near the geographic center of the county. There are five magisterial districts in the County – Fancy Gap, Laurel Fork, Pine Creek, Pipers Gap, and Sulphur Springs. Land area totals approximately 474.7 square miles (303,808 acres), most of which is gentle rolling land, and includes forests, agriculture and open space, and the Jefferson Nation Forest in the northwest corner. Local relief (difference in elevation between highest and lowest points) is 2,470 feet. A base map is shown as **Map 1**. The land area only, water ways removed, accounts for 297,416 acres of the county.

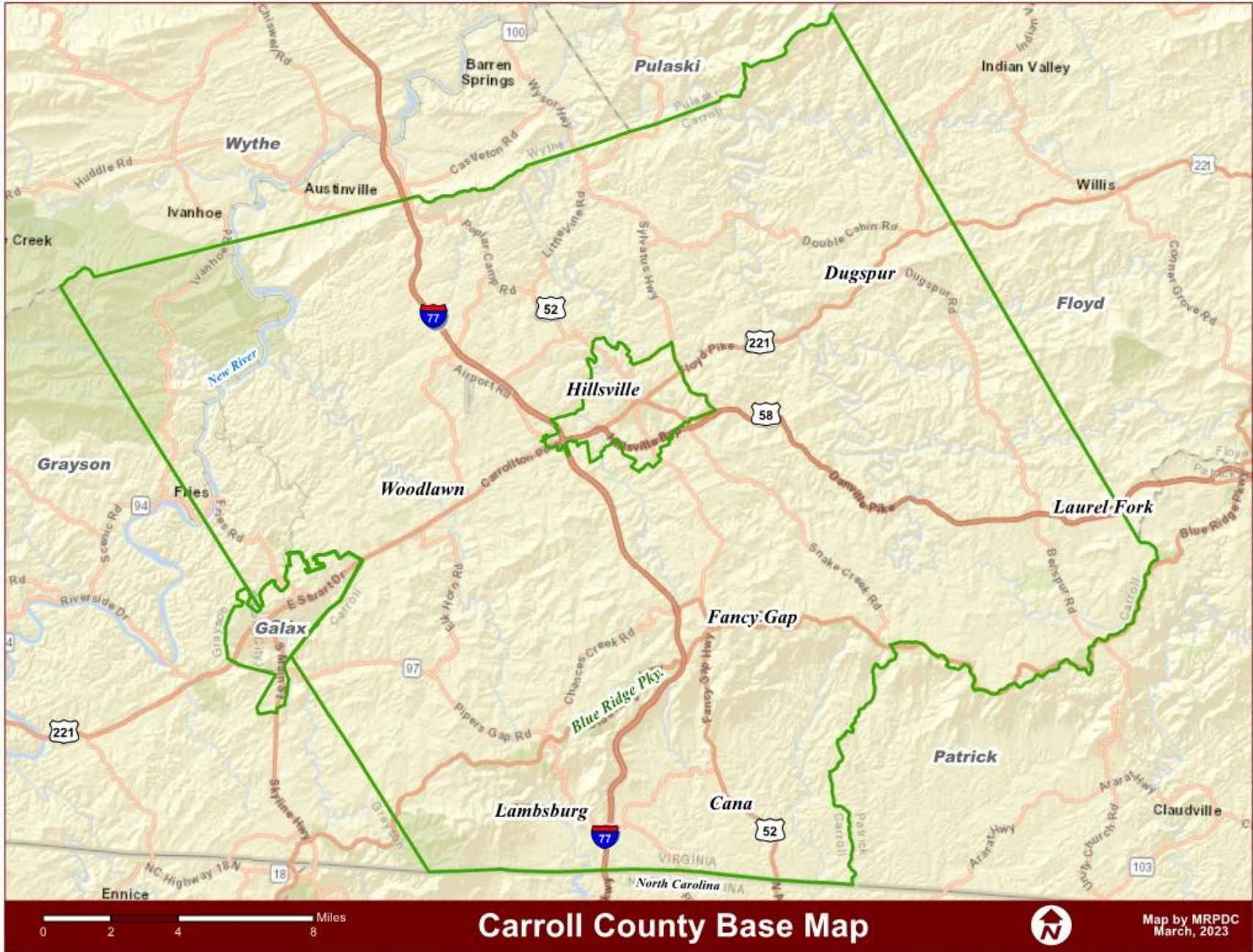
Introduction

Addressing the public safety, convenience and welfare needs of all Virginians is a fundamental reason that the Commonwealth of Virginia has mandated that all local governments plan for their future. The Code of Virginia, specifically Title 15.2, Chapter 22, outlines the legislative intent of the state with respect to the laws and statutes every county, town and city must follow regarding the planning and regulation of land within its political boundaries.

The Comprehensive Plan is the foundation for all decision- making, not just those involving land use planning.

Localities in Virginia plan for two major reasons: state law mandates that every local government in Virginia prepare and adopt a comprehensive plan (CODE OF VA § 15.2-2223), and to prepare for and cope with change. Change is inevitable, and whether it is a positive or negative force may depend on the effectiveness of the community’s planning efforts in managing change.

Map 1: Carroll County Base Map



Using Planning to Protect Agriculture

Agriculture is an intrinsic part of life in Carroll County, contributing to the County's heritage and economic health. Agriculture has been the predominant force behind the historic development and settlement patterns of the County. The County and its citizens recognize the importance of preserving and maintaining agriculture's role in the overall economy and life of the County and of preserving natural resources for the future residents of the communities in the County. Croplands and forested areas are shown in **Map 2: Agricultural and Forestal Lands**.

A key challenge of this Plan is to protect agricultural uses from encroachment by non-agricultural development.

In 2007, the 1,001 farms in Carroll County created agricultural sales of nearly \$34 million, employing 1,194 people. The total economic impact of agriculture in Carroll County in 2007 was estimated to be \$155 million, including the local economic impact for supplies and services provided by local merchants, further procession of commodities grown in Carroll County, and commodities grown outside the County but processed in the County to add additional value. A decade later, in 2017, the number of farms in Carroll County fell to 900, a drop of 8% since just since 2012, whereas the market value of farm products sold increased to more than \$44.5 million.¹ These figures do not include the timber industry or cultivated Christmas trees, though in 2017 there was 141 acres in production with 20,750 trees cut. The acreage reported for 2012 was significantly higher at 527 acres, but reported trees cut were nearly identical.

The importance of agriculture is not solely economic; however, food safety and security are also a growing concern. As communities increase their resilience to natural and man-made disasters, there is an increased awareness of the importance of having productive farms "close to home." Rising production costs, including fuel, fertilizer, feed, and land, have generated interest in growing food closer to home, thereby saving consumers money.

Eating "locally grown" has become a lifestyle for many people looking to improve their health, reduce their impact on the environment, and support local farms and the local economy. *Community Supported Agriculture (CSA)* is one example of the locally grown movement. CSA programs are cooperatives that bring the farmer and the consumers together, enabling consumers to buy shares of a harvest, keeping money in the local economy, and bringing consumers into closer contact with food producers and the environment.

Supporting agriculture is meaningful even for those not actively employed in agriculture.

The continued success of the Southwest Virginia Farmers Market shows the support for locally grown produce in Carroll County. It is not only the sales of products at the Market, but also the festivals, events and social contact that occurs at the Market that shows community support for agriculture.

But, while its value is clear, the sustainability of agriculture in Carroll County is not guaranteed. One of the biggest threats to agricultural operations is the subdivision and development of land in rural areas. Development can fragment agricultural lands, reducing the long-term viability of agriculture. Conflicts between non-agricultural development and agricultural uses are detrimental to everyone involved.

¹ Source: NASS 2001/2007/2012/2017 Agricultural Census Report.

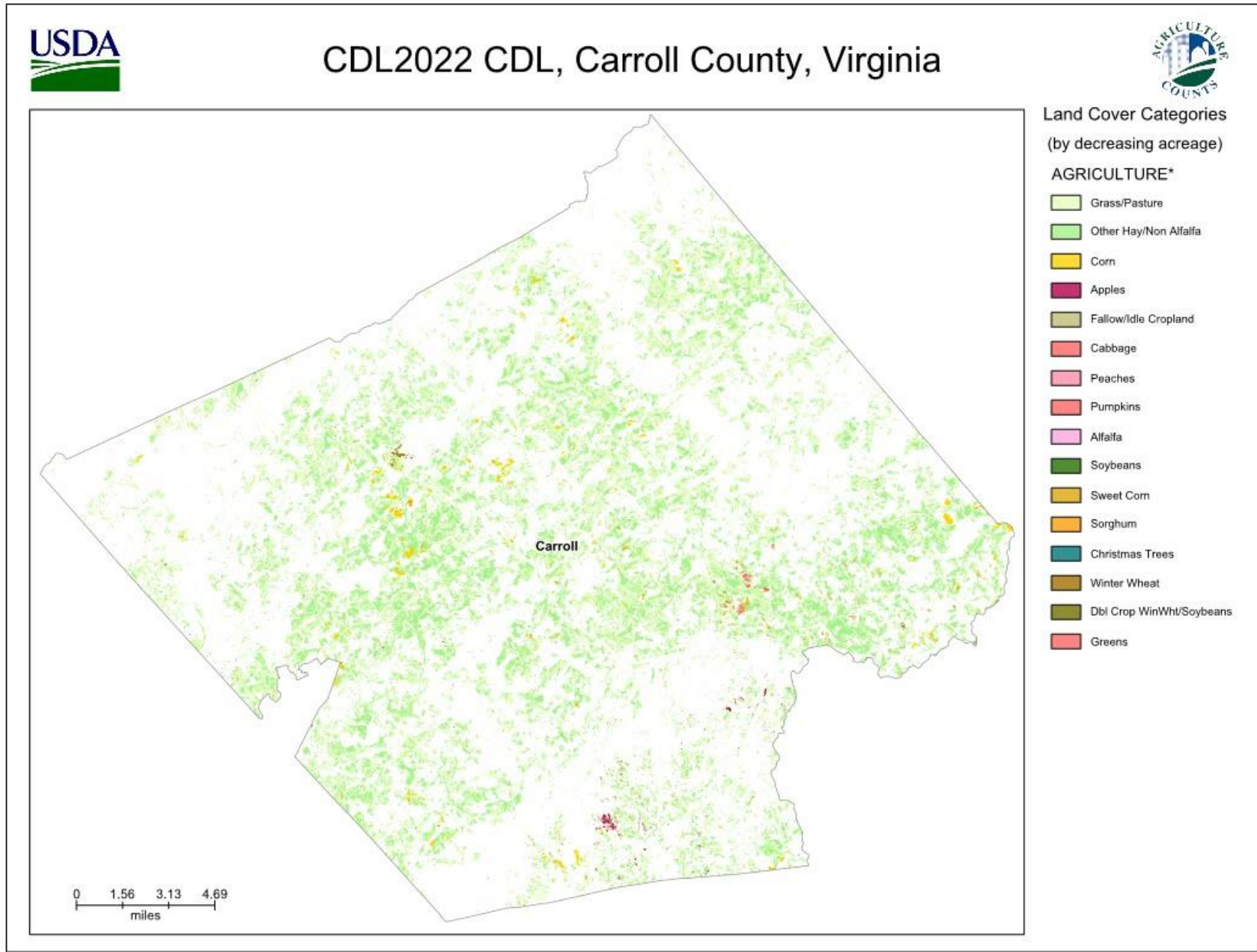
A key challenge of this Plan and any subsequent land development regulations is to protect agricultural uses from encroachment by non-agricultural development, while still allowing opportunities for a wide variety of needed development types. As discussed in the Future Land Use section, the Land Evaluation and Suitability Analysis model and the Tiers system delineate areas most appropriate for agricultural preservation and establish policies to prevent incompatible or intensive development.

In addition to the loss of prime farmland, there are other challenges for on-going agricultural operations and development. It is becoming increasingly difficult to survive economically in the farming business due to high expenses, lack of markets and environmental concerns. Agricultural operations will be changing hands as aging farmers retire, and the future of agricultural practices as they exist is uncertain. Large estate taxes play a role in whether the land will remain agricultural or transition to residential development.

However, there are many emerging markets for local agricultural products. Expanding markets for local agricultural products, local value-added food manufacturing and production present opportunities for local farmers and processors. Such opportunities include “farms to schools” programs that put fresh, local produce into schools and other institutional cafeterias; organic and sustainably grown products; and *agritourism*, including “pick your own” operations.

“Burn down your cities and leave our farms, and your cities will spring up again as if by magic; but destroy our farms, and grass will grow in the streets of every city in the country.”

William Jennings Bryan, July 9, 1896



Produced by CropScape - <http://naipgozdata.ginn.edu/CropScape>

* Only top 16 agriculture categories are listed.

SOURCE: USDA, [CropScape](#)

Agricultural Land Use Challenges

There are a number of challenges to agriculture and efficient land management attributable to past planning and development review outcomes. The timing of the Comprehensive Plan with additional County geographic information system (GIS) capabilities allows stakeholders and decision-makers the opportunity to learn from past practices via a bird's eye (albeit riding atop a satellite in geosynchronous orbit) view of development patterns, parcel boundaries and natural features. As shown in **Figure 10**, there are numerous examples, countywide, of planning practices that shouldn't be repeated if we are to protect agriculture, efficiently manage our fiscal resources and create a quality place for our families and businesses.

Smart Growth is growth that is fiscally sound and environmentally responsible. Among other components, this means efficient provision of infrastructure and a greater emphasis on the mix of uses, transportation options and environmental sensitivity. Smart Growth cannot be achieved through the use of a single tool that accomplishes all of the community's objectives but is achieved through the use of an integrated approach that uses carefully chosen tools calibrated to the County's needs and ability to implement specific programs.

Sprawl refers to unplanned, single use, auto dependent development built without regard to availability of infrastructure, facilities, and services. Smart Growth is the antithesis of sprawl. Unplanned growth can produce negative externalities, such as fostering more growth in areas that are unsuitable due to environmental constraints. It can create traffic congestion and overcrowded schools. If unplanned, low-density development prevents the orderly growth of urban development contiguous to the existing urban center, it can cause long-term fiscal stress for a jurisdiction. New growth should be planned in order to generate positive fiscal impacts and not burden current residents with higher taxes to pay for infrastructure that primarily serves new residents.

“Growth has helped fuel ... unparalleled economic and population boom and has enabled millions ... to realize the enduring dream of home ownership ... but sprawl has created enormous costs... Ironically, unchecked sprawl has shifted from an engine of ... growth to a force that now threatens to inhibit growth and degrade the quality of our life.”

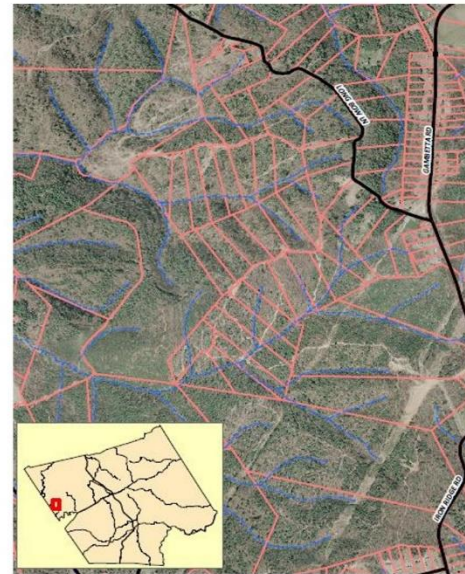
Beyond Sprawl, 1995 Bank of America

Smart Growth channels new development to areas already served with infrastructure, or into areas where infrastructure provision is planned, and is referenced in the Capital Improvements Plan. Smart growth does not seek to change the character of the community, but instead builds on the community's existing characteristics and supports amenities that improve the quality of life for residents. It is a framework for achieving Carroll County's vision for the future.

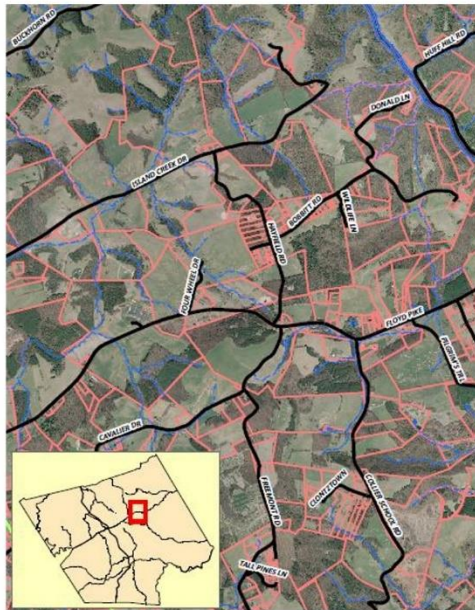
Figure 10: Land Use Challenges (2010)



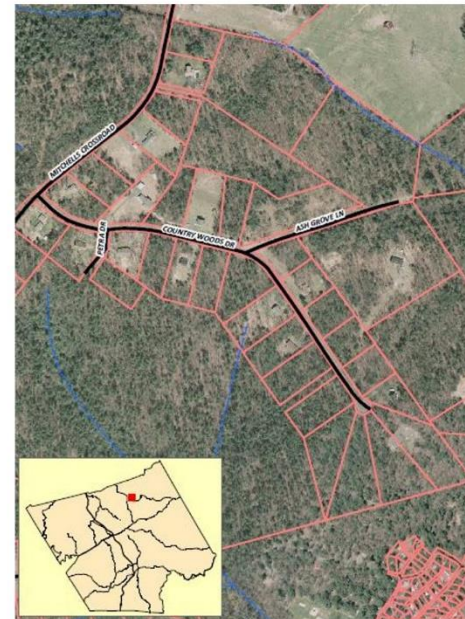
Inadequate roadway access (too many lots for one access road, which also is on a curve and hill), too compact to preserve woodlands or open space, incompatible with adjacent farmland.



Accessibility was not considered (lots with no direct and legal access to right-of-way – roads in black), no rational pattern of subdivision (a spider web of lots), drainage was not considered (blue lines are creeks and streams).



No rational subdivision or development pattern (another spider web), many lots without access to right-of-way, irregular-shaped lots, little consideration of drainage, small lots adjacent to and encroaching on active farms (future nuisance complaints).



This is not a rural subdivision but a series of rural cul-de-sacs (concerns for public safety, turnarounds and connectivity), large lots (future subdivision?) with no access to right-of-way, ultra-compact development at lower right corner not compatible.

SOURCE: PLANNING WORKS 2010

Protecting Agriculture Supports Economic Development

Smart growth policies that protect agricultural lands also promote economic development countywide. [Economic vitality includes larger disposable income for residents, a larger tax base and an increased standard of living community wide.](#) The economic stability of a community is based, in part, on providing employment and development opportunities, including research and educational facilities. Using Smart Growth to protect agriculture also means requiring efficient development patterns, which can be designed to support and advocate economic stability. The American Economic Development Council believes that when smart growth concepts succeed, so do agriculture and rural prosperity.

Using Smart Growth to protect agriculture also means requiring efficient development patterns...

The County has a strong agricultural economy. Though the County has experienced a loss of farms and farmland, new markets for agricultural products provide opportunities for local farmers. For example, local food markets capitalize on the growing interest in supporting alternatives to imported foods that are better for human health and food security, the environment and the stability of the economy. [Supporting agriculture as a critical component of economic development is important even for those not actively employed in agriculture.](#)

Protecting Agriculture Promotes Land Use Compatibility

One of the primary purposes of the planning process is to ensure compatibility among various land uses in order to preserve and protect the health, safety and general welfare of the populous. Future land use planning provides predictability and security by protecting property values and public and private investments in property improvements. Land use compatibility provides compatible edges between communities, ensures adequate transportation network capacity, and establishes connectivity between existing and new development.

Key components of land use compatibility include the intensity of development and how transitions between uses are addressed. Intensity of use is measured by density in residential zones – typically dwelling units per acre. In commercial areas, intensity is typically measured by floor area ratio (FAR), which compares the area of a building’s footprint on a lot to the amount of total area that the building is allowed to encompass. A higher FAR ratio indicates a more intense land use.

Land use compatibility issues include how well a proposed land use achieves the goals of the Comprehensive Plan, if there are adequate facilities to serve the proposed use, and how performance standards can be used to promote employment and economic growth while protecting residential areas from noise, traffic, fumes, and other externalities.

Protecting Agriculture Creates Efficient Development Patterns

While rural, large lot development is a popular lifestyle option, it is also resource-intensive, expensive to serve, overly consumptive of land, and results in excessive vehicle miles traveled. This low-density subdivision pattern is neither urban nor rural, a pattern that requires urban facilities and services but is not dense enough to fiscally support such services. [Continued sprawl development erodes the County’s scenic appeal, threatens the viability of agricultural operations, and undercuts the County’s fiscal stability.](#)

Efficient land use planning results in compact, mixed-use development served by adequate facilities and services that minimizes impacts on the environment and supports land and resource conservation. An effective growth management strategy based on **Growth Tiers**, as set forth by this Plan, directs intensive growth to appropriate areas served by facilities and services, and preserves rural areas for open space, agricultural and less intensive rural uses. The Tier system, by establishing specific levels of service, helps in directing growth to appropriate areas of the county while preserving the rural character and agriculturally significant areas.

Protecting Agriculture Protects the Food Supply

Agriculture in the United States is the envy of the world, because of its ability to provide a safe and economical source of food. America's agricultural landscape, products, and methods are exceptionally diverse-- ranging from compact practices to open fields, feedyards, pastures, public auctions, and farmer's markets. The economic value of these products is based on the abundance of animals and crops, made possible through successful farming techniques. Its value, as America's food supply, is among the most important, most vulnerable, and least protected of all potential targets of terrorists. With exposed fields, farms, and feedlots, the County's livestock industry is considered a "soft" target in military terms.

Agriculture is one example of what can be called a critical infrastructure, or a system without which our society cannot function. According to the USDA, agriculture, food, and related industries contributed roughly \$1.264 trillion to the U.S. gross domestic product (GDP) in 2021, about 5.4-percent of U.S. GDP. The output of America's farms contributed \$164.7 billion of this sum—about 0.7 percent of U.S. GDP.

What is Agriculture Security?

Our trust in the modern food system (we have unparalleled access to food from around the world) is so strong that many have come to take local agriculture for granted. [The potential for a breach of food security and/or skyrocketing costs seems increasingly more likely. Relying on global markets as a main source of our food at the expense of a local food supply system seems increasingly more questionable, even more so in the wake of the global COVID-19 pandemic.](#) The need for a comprehensive plan to protect the food production system has emerged as a critical issue over the last several years. Partnerships — the best way to protect our food supply — require the cooperation and coordination of local farmers, truckers, feedlot owners, and other critical members of the food-supply chain such as veterinarians and animal and plant health inspectors.

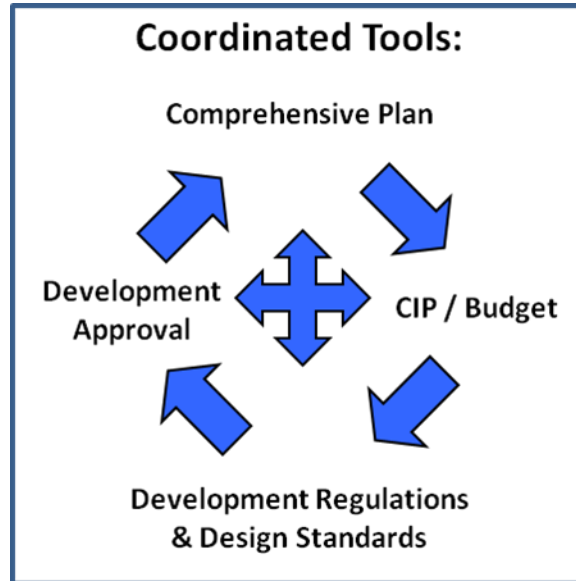
Communities throughout the United States are taking stock of what food and key items are being produced locally (within a 100-mile radius) and identifying gaps in production. These are the first steps to securing on-going access to vital resources and addressing the issue of food security as critical to a local economy. Emphasis on a localized economy will favor small- scale localized diverse industry over mass-marketed products.

- **Protect the national and international food chain from natural and manmade events.** Security from events that have a widespread negative effect on the food chain, such as transportation disruptions, weather events, water shortage, food- borne illness, energy supply scarcity, protection of research facilities and other components of the nation food system.
- **Viability of Local Farm/Local Food System.** Security by promoting economic viability of the local agriculture sector through management practices, resource preservation, product diversity, value added activities, direct marketing, and complimentary uses.
- **Affordable access to food.** Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

[The goal for rural communities is to establish a system that protects agricultural operations, protects the local economy, secures the local food supply, and identifies threats to agriculture before they become incidents.](#) A broad range of tools, including communication, partnerships, agricultural districts, and community policing can facilitate the transition towards a reliable and secure local, and regional, food supply.

Planning For Change

The Code of Virginia (§ 15.2-2224) identifies four primary tools communities can use to implement local plans - the Official Map, Subdivision Regulations, Zoning Regulations, and the **Capital Improvements Plan (CIP)**. These tools are identified in the land use element to emphasize their importance in helping coordinate land use policy in a systematic and logical manner. Carroll County is committed to developing a Comprehensive Plan that remembers its history, preserves our lifestyle, protects fiscal resources, and protects agricultural areas for future generations.



Official Map

The Carroll County Official Map is actually the series of maps found in the Comprehensive Plan. Identifying all of the necessary components on a single map, such as public facilities, streets, growth areas and future land uses, would produce an image only decipherable in an electronic format. Using a series of specific purpose maps – official as a part of the adopted Plan – is a more manageable and usable approach. By showing the area on the Official Map, the County furthers the implementation of the Plan by establishing the location of existing and proposed streets, open space, parks, other public lands and facilities, waterways and floodplain, informing property owners and developers of planned public improvements and land and easement acquisitions. The Official Map identifies private and public lands for which the public may have a current or future need, identifies and protects future improvements and extensions of the municipal road network, and provides notification of the location of potential public improvements and acquisitions, thus preventing construction within future rights-of-way and other future public areas and conservation easements. This provides for the coordination of public and private goals as property owners are informed early in the capital improvements planning process of long-range County goals for public facilities and services which allows development plans to be adjusted before detailed and costly plans are prepared.

The Official Map is not a zoning map, and it does not imply County responsibility for maintaining or improving mapped roads or facilities. The inclusion of proposed right-of-way, easement or other public facility does not constitute the opening or establishment of the street, the taking or acceptance of land or obligate the County to improve or maintain such streets or land until the time of dedication or purchase. The Official Map is not a taking of land; it does not prevent use of all land rights on mapped parcels. Inclusion of a parcel within the Official Map indicates the need for additional review to ensure that the proposed use or development is compatible with existing or planned County facilities, and that development will not preclude efficient building or operation of such facilities.

Subdivision Regulations

The term "**subdivision**" means the division of any parcel of land into a number of lots, blocks or sites as specified in a local ordinance, law, rule or regulation, with or without streets or highways, for the purpose of sale, transfer of ownership, or development. The term "subdivision" may include any alteration of lot lines or dimensions of any lots or sites shown on a plat previously approved and filed in the office of the county clerk or register of the county in which such plat is located. Subdivisions may be defined and delineated by local regulation, as either "major" or "minor", with the review procedures and criteria for each set forth in such local regulations.

Subdivision regulations set standards for streets, drainage ways, sewage disposal, water systems, and other aspects of public welfare. They are needed to protect communities and ensure building lots provide a wholesome living environment for future residents. These regulations ensure adequate lot size, public access, and the availability of public services to each lot created. They also help to conserve natural, scenic, historic, and recreational areas. Subdivision regulations also eliminate the need for excessive public expenditures by making the developer responsible for the installation of basic public facilities before the recording and sale of lots.

The Plan will not impact the standards and requirements of the Carroll County Subdivision Regulations.

Development regulations are considered the quintessential tool of plan implementation.

Zoning Regulations

A municipality's zoning power arises from the state's police power to protect the public's health, safety and welfare; zoning evolved primarily from nuisance law, with the first zoning ordinance adopted by New York City in 1916. VIRGINIA CODE §15.2-2200 outline the state's objectives in planning and land use laws, §15.2-2280 identifies the police power, and §15.2-2283 more specifically lists the purposes of zoning.

Zoning divides a locality into specific districts and establishes regulations concerning the use, placement, spacing and size of land and buildings within the respective districts. Zoning is intended to avoid disruptive land use patterns by preventing activities on one property from generating external effects that are detrimental to other properties. Zoning ordinances, if drafted by the planning commission and adopted by the governing body, must feature text describing each district and the district regulations, as well as a map detailing the location and extent of each district throughout the community.

Development regulations, in both theory and practice, must be consistent with the Comprehensive Plan – this is a mandate in Virginia and the most states nationwide.

To be effective, zoning ordinances need to reflect the views of how land within a jurisdiction can, or should, be used at the present time, as well as in the future. These views should be reflected in the community's comprehensive plan. Thus, when a property owner petitions a locality for a **rezoning** (zoning map amendment), the planning staff, planning commission and the local governing body must refer to the comprehensive plan to determine if the rezoning request comports with the plan's goals, objectives, policies, and vision. Indeed, the planning commission and the governing body must each hold public hearings before acting on any rezoning proposal. In addition to hearing the public's perspective regarding the proposed rezoning, the commission and governing body alike must identify and share the facts and findings each body used in deciding to support or reject the proposed rezoning.

Zoning regulations, in both theory and practice, must be consistent with the Comprehensive Plan - this is a mandate in Virginia and more than half of the states nationwide. This does not necessarily mean that a community should zone to the plan, which means to rezone property to conform to the planned future land use map. Rather, it means that the development standards pertaining to various districts and land uses should reflect the goals and policies set forth in the comprehensive plan. At present, Carroll County does not utilize zoning, and it is important to understand that the Comprehensive Plan is not another name for zoning.

Zoning for Agriculture

Large lot zoning is one of the techniques in a more inclusive category of zoning techniques called agricultural zoning or agricultural protection zoning. Agricultural zoning simply requires that the minimum lot size in a designated rural zoning district is set at a large enough size to protect agricultural activities from excessive encroachment of residential and other non-agricultural land uses. In Virginia, many counties use large lot zoning. In particular, Virginia counties with a large agricultural industry rely on many farm owners and operators to help protect farms and rural areas from the encroachment of residential and other urban land uses.²

Agricultural and large lot zoning limits the intensity of rural development by dispersing new houses in a low-density pattern. It reduces the immediate development pressure on farmland but is not a permanent measure. When establishing large lot zoning regulations, care must be given to ensure that landowners continue to be permitted a reasonable use of their property.

The concept of agricultural zoning is very flexible. It can be broadly or narrowly defined, as needed, to accomplish the goals the County is attempting to achieve. It also can be used to prevent intense subdivision of land, or discourage non-agricultural uses, adjacent to farms. Through the numerous discussions that took place during the 2010 planning process, Carroll County absolutely concurs with the sentiment repeatedly heard and offered by the Farm Bureau that the role for development regulations in agricultural areas isn't about taking away rights but protecting farm investment and protecting public health and safety.

Agricultural zoning can be used as an incentive, to encourage the location of agricultural businesses and support services in appropriate areas.

It also can be used to promote the clustering of lots, homes, and structures on agricultural lands in order to protect other areas for agricultural uses and promote development on lands that have easy access to highways and are served by public water and sewer. By promoting more compact development patterns, the County can reduce the amount of land needed for new development; retain more land for conservation and agricultural purposes.

Other frequently used tools for agricultural preservation include nuisance easements (also referred to as 'right to farm' easements), conservation easements and supporting property tax incentives.

- **Nuisance easements** may be placed on any property in an agricultural area as a condition of development. Future property owners are notified through the easement that their property might be

² Examples of Agricultural and Large Lot Zoning in Virginia, with their minimum lot sizes identified, include Accomack County (5 acre minimum lot size), Amelia County (5 acre minimum lot size), Fauquier County (25 to 50 acre minimum lot size), Hanover County (10 acre minimum lot size), Isle of Wight County (40 acre minimum lot size), Loudoun County (20 to 40 acre minimum lot size), Powhatan County (10 acre minimum lot size), Prince William County (10 acre minimum lot size) and Rappahannock County (25 acre minimum lot size). Of these, Accomack, Fauquier, Hanover, Isle of Wight, and Loudoun also encourage clustering to preserve agricultural lands.

negatively impacted by nearby farm operations, and they are restricted from taking legal action against agricultural uses for creating “nuisances,” such as noise or odor.

- **Conservation easements** allow agricultural property owners to voluntarily restrict their right to develop their land. Related to this are *Transfer or Purchase of Development Right (TDR)* programs. These programs allow a farmer to voluntarily give up the development rights of their property, and transfer or sell those development rights to a developer in an area that is more appropriate for development. The farmer generally receives a cash payment and tax benefits, and the developer is allowed to develop at higher intensities than would otherwise have been possible. TDR programs are now permissible in Virginia.
- Common **tax incentives** include differential or preferential taxation. *Differential taxation* ensures that a parcel is taxed at its value for agricultural use, rather than for its potential value as developed property to reduce the tax burden on farmers. *Preferential taxation* taxes property at a lower rate in exchange for the property owner agreeing to not develop for an agreed upon period of time in order to slow potential conversion of agricultural land to development (there also may be federal tax credits available for lands used and conserved as farms).
- **Farm Priority Areas (FPAs)** can be established, which are smaller than exclusive agricultural zoning districts, but may cross political jurisdictions. FPAs can be designed to require that any development must serve farms or farming families in the area.
- **Small-Acreage Farming Areas (SAFAs)** are a type of exclusive agricultural zoning district, with a minimum lot size of less than 35 acres. These areas can be established to *support Community Supported Agriculture (CSA)* farms, including vegetable or other specialty farms that don’t require large amounts of land and may be less intensive than other commercial farming operations.
- **Overlay Districts** as part of a zoning ordinance can be utilized to add increased regulatory restrictions to particular areas – spanning multiple zoning districts – for the purpose lowering development density, protecting historic resources, preventing certain types of developments in floodplains, protecting viewsheds, or other publicly defensible purposes.
- **Solar and/or Wind Ordinances** can be utilized separately or as part of a zoning ordinance but are implemented under the zoning authority of a locality or municipality. These regulations are becoming more and more common – and necessary – for the regulation of “green” infrastructure nationwide. Such infrastructure can drastically change the surrounding landscape and is thus increasingly highly regulated in most jurisdictions. Many of the best solar ordinances have provisions regulating the amounts, types, and density of vegetation as part of the permitting process. These regulations often go so far as to require native replanting, preventing acres of invasive replanting from affecting the surrounding agricultural lands and natural ecosystem.³

Capital Improvements Program

The **Capital Improvements Plan (CIP)** is an important tool that ensures the County has the capacity to provide and maintain necessary public facilities and services and that the facilities and services are cost-effectively planned and equitably financed. A short-range CIP (and budget) should identify and estimate costs of capital improvements and annual obligations (for staffing, training, etc.) required to serve development for a 5- to 10-year period, whereas a long-range CIP (and budget) should identify and estimate costs of improvements and annual obligations needed to serve development for a 10- to 20-year period. As part of the planning process, and updated with each annual CIP and budgetary process, the County should use the new CIP to guide the development of facilities and services in a

³ Katherine Smith, *Virginia Localities Solar Ordinances and Native Vegetation* (Virginia DCR: Division of Natural Heritage, December 2022)

sustainable, planned manner. Projects within the CIP would be prioritized to identify which are most important and critical, such as by the following factors:

- Removes/prevents imminent threat to public health and/or safety;
- Improves the quality and/or corrects deficiency of existing services;
- Provides incentive for economic development;
- Reduces long-term operating costs;
- Improves efficiency; and
- Furthers the goals of the Comprehensive Plan.

The “2232” Review

The comprehensive plan is considered advisory, and it serves as a guide for the physical development of the territory within the locality’s jurisdiction. However, according to §15.2- 2232 of the Code of Virginia, the comprehensive plan “...shall control the general and approximate location, character, and extent of each feature shown on the plan.” Thus, while the comprehensive plan itself does not directly regulate land use, [the plan does have status as a fundamental instrument of land use control once it is adopted by the local governing body.](#)

Additionally, §15.2-2232 provides that unless a feature is already shown on the adopted plan, no street or connection to an existing street, park or other public area, public building or public structure, public utility facility or public service corporation, whether publicly or privately owned, shall be constructed, established or authorized until its location has been approved by the local planning commission as being substantially in accord with the adopted comprehensive plan.

Growth Boundaries & Community Service Areas

A **growth boundary**, also called a community services boundary, is an officially adopted and mapped line beyond which the local government does not support development for a specified period of time. [Growth and service boundaries are planning tools that promote more efficient, orderly, and compact development.](#) For communities adopting them, they are two components of a growth management program designed to uphold community character, protect water and other natural resources, promote efficient development and use of public infrastructure, stimulate community and economic development, and impart long term, comprehensive thinking about the community’s future.

Growth is supported inside the boundary with utilities and development-friendly policies. Growth is discouraged outside the boundary.

Growth boundaries promote compact and contiguous development patterns that can be effectively served by public services and preserve open space, agricultural land, and environmentally sensitive areas that are not currently suitable for urban development. Growth boundaries also help:

- Manage leapfrog or sprawling development;
- Support densities needed for public transportation systems;
- Protect natural resources;
- Protect farmland so that it is viable for modern agriculture operations;
- Manage expenditures for urban services including road maintenance, water and sewer service provision, and police and fire protection.

Extensions of infrastructure, particularly water and sewer lines and major streets, significantly affect the timing and density of development. **Community service areas** (the area within a growth or services boundary) are the area in which certain public services, primarily water and sewer, will be provided and outside of which such services will not be extended thus discouraging development sprawl.

The Comprehensive Plan will designate areas which are planned for immediate or long-term utility service, coordinating development approvals and utility extensions to achieve an orderly and compact development pattern adjacent to existing developed area (CODE OF VA §15.2-2223 ET. SEQ.). Growth boundaries in Virginia are not zoning designations, but rather policy designations established in a comprehensive plan so as to guide decisions about rezoning applications and public infrastructure investments.⁴ As described in this element, a growth boundary and community service areas are identified as the *Planned Growth Area Tier*.

Service Districts

A **service district** is a defined area within which the County would plan for, coordinate, and provide and maintain public facilities and services, such as water and sewer. Service districts (sometimes called *Special Service Districts*) are legally defined (CODE OF VA § 15.2-2400 – 2405) geographic portions of a jurisdiction established by the local governing body.⁵ They are created to provide additional, more complete, or more timely services of government than are desired in the locality as a whole. Property owners within the special service district may pay a higher tax rate in exchange for these enhanced services. The service district allows the County to develop and manage facilities and services more efficiently and cost effectively. A district of this type also could be used to stimulate infill development or economic development within its boundaries and provide a more efficient use of land in harmony with its natural characteristics; preserve more usable open space, agricultural land, tree cover, recreation areas or scenic vistas and expand the opportunity for the development of affordable housing. Service districts are easy to create and have a long history of use across the Commonwealth for the purposes listed above.

⁴ See Virginia Code § 15.2-2223, et seq. Chesterfield and Hanover counties identify Planned Growth Areas (public water and sewer is required for development in the planned growth area). Chesterfield also has a Deferred Growth Area (no planned water and sewer extensions in this area, where development is discouraged).

⁵ Sections 15.2-2400 through 15.2-2405 of the Code of Virginia grant localities the authority to create and fund service districts.

Building the Plan

The Land Use chapter of the Carroll County Comprehensive Plan has been built around a methodology designed to serve as a development guide for decision-makers and stakeholders. To accomplish this task, past and current land use development patterns were examined, and future patterns were projected based on data and local preferences. The process, which will be described in detail in the following pages, can be itemized as follows:

1. Identify and analyze existing land uses and development patterns;
2. Use GIS (geographic information system) data to conduct a data-based land evaluation and suitability analysis;
3. Apply zonal statistics to aggregate the raw data into parcel-based data and maps;
4. Identify and apply existing and planned water and sewer services areas, using centroid analysis to establish parcel-based services areas;
5. Refine the resulting data into broad Development Tiers, including Agricultural Protection Tier, a Planned Growth Areas Tier, a Developed Areas Tier, plus a matrix of future land uses applicable to each tier, based on the need for and the availability of public facilities and services.

Existing Land Use

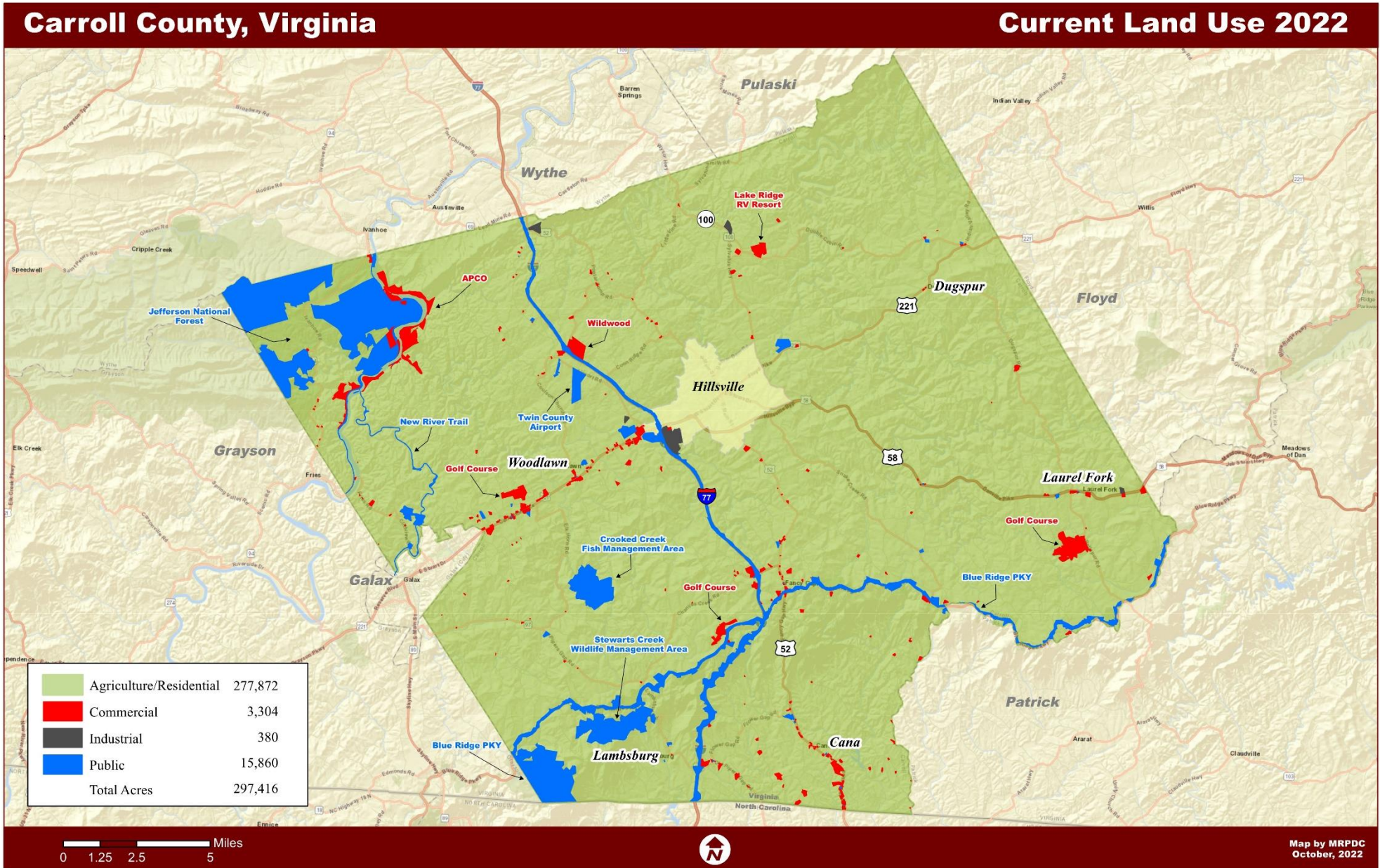
Map 3 illustrates the existing land uses in Carroll County based on broad type. The data for the map was collected by “windshield survey” methodology, which included in-person cataloging of actual property uses as observed from the public right-of-way. This map does not differentiate agricultural from residential uses since those two uses are so intermingled within the County.

Map 4 illustrates the number and distribution of addressed structures in the County, identifying dense residential areas, along with public, commercial, and industrial parcels. The parcel sizes and densities are displayed as well for agricultural areas – as identified on Map 3 – with addressed structures.

Map 3, Map 4, and Map 5 indicate to the following land use trends:

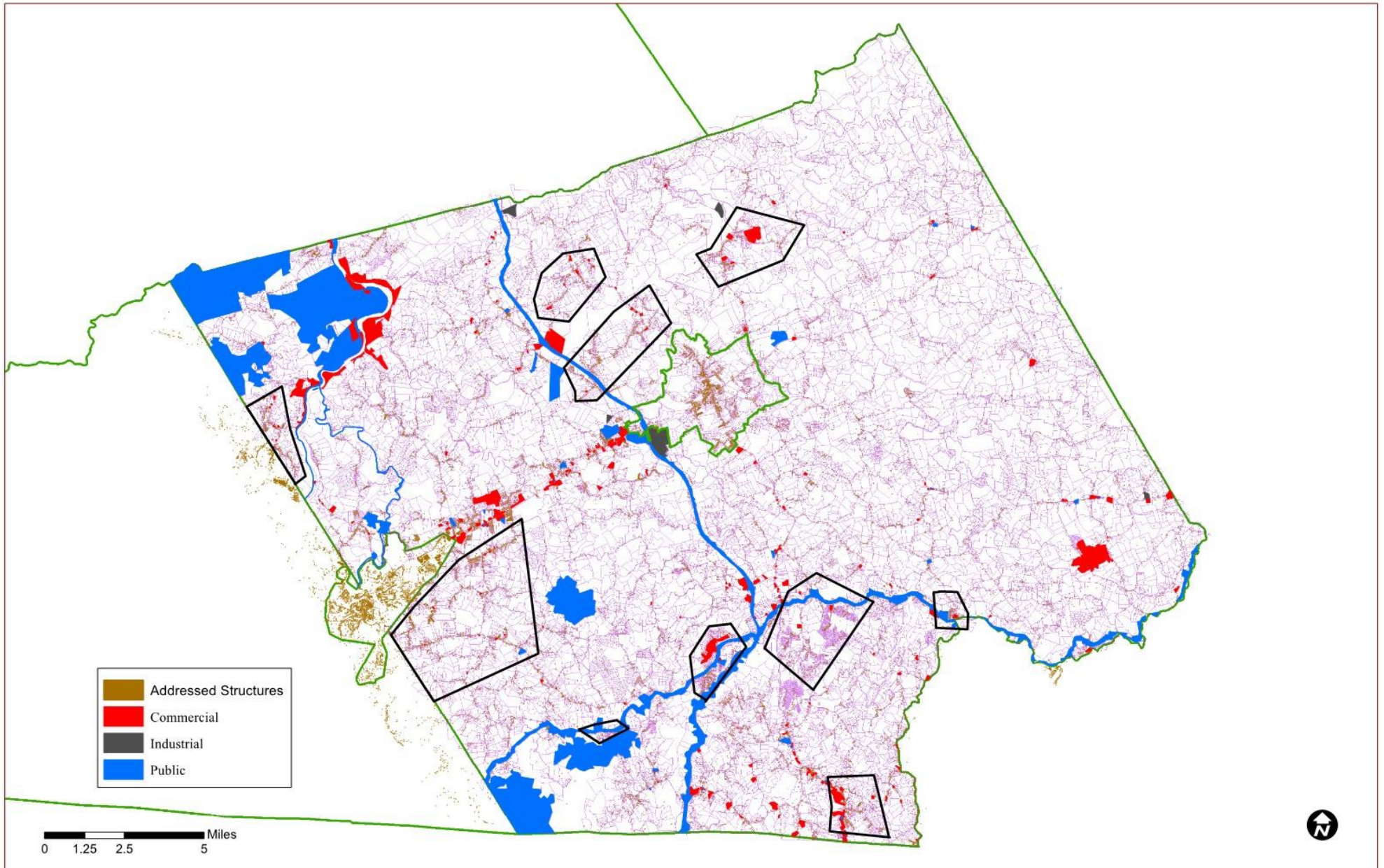
- **Residential development is the single most intensive use of developed land in rural areas.** As the County’s new development expands, the demand for land for residential development far surpasses the demand on land for other uses. Carroll County has a low projected rate of growth, even declining in recent years, but the greatest demand on the land for development will come from the residential sector. Outlying demands may come from wind or solar power generation (and accompanying power storage) facilities; these demands are more difficult to predict currently but would yield a much higher impact on the available land on a per development basis.
- **Suburban residential uses have continuously sprawled across the County, encroaching into agricultural and rural areas,** but are most prevalent on the western side of the County, dispersing gradually on the eastern side.
- Traditionally, commercial activity within the County has been limited to scattered small general merchandise stores located within farming communities, while high density commercial development has occurred only in the population centers of Hillsville and Galax. Later, increased commercial activity resulted in the development of commercial establishments along major roadways, principally Highways 58, 52, and 221. Somewhat more recently, with completion of Interstate 77 through the County, income from travelers played an expanding role in the commercial sector, certainly when the population was rising (prior to 2010).
- Through the growth of manufacturing employment, industrial activity has declined, the dominant economic factor in the County’s (including Galax) economy – manufacturing jobs – are still the predominant type of employment, followed by the retail trade, government services, etc. To enhance the continued economic growth of the County and provide a stable and broad employment base to residents, the Plan emphasizes continued development of the industrial sector.
- As predicted in the 2010 Plan Update, **development between Galax and Hillsville, along Highway 58, forms a near continuous commercial corridor.** Planning now, to anticipate how that corridor should look and operate in the future is crucial.
- Opportunities abound for creating a purpose-driven activity center at Fancy Gap as well as other activity centers including recreation-based mixed use activity centers. The map also shows the potential for rural activity centers, ideal for rural businesses, along Highways 52 (in the south), 58 (in the southeast) and 221 (in the northeast). There is also the opportunity to drive further residential development/redevelopments based on the location of these activity centers.

Map 3: Existing Land Use



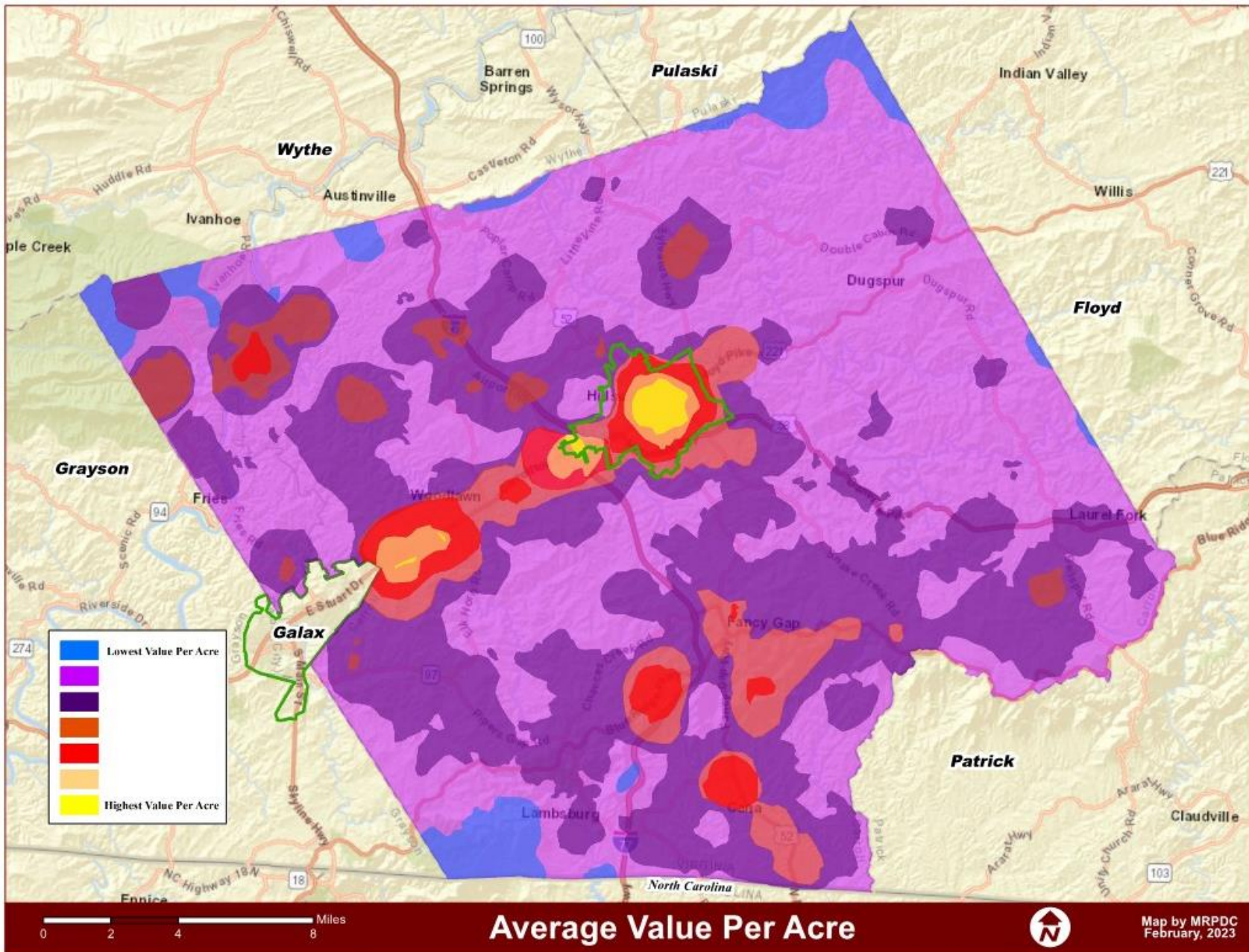
SOURCE: CARROLL COUNTY GIS; MRPDC

Map 4: Addressed Structures, Parcels, and Residential Areas

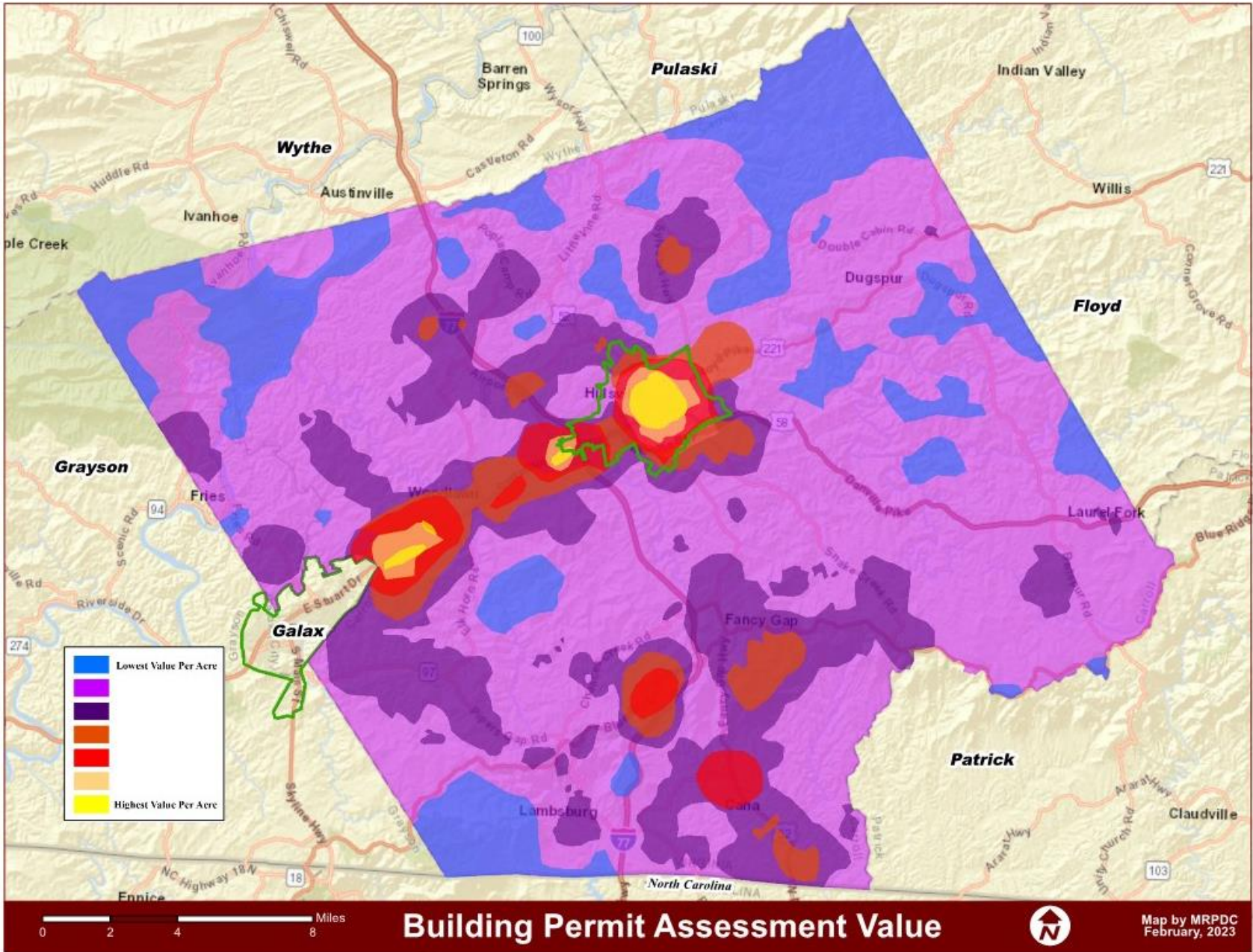


SOURCE: CARROLL COUNTY GIS; MRPDC

Map 5: Average Value Per Acre



Map 6: Building Permit Assessment Value



Land Evaluation and Suitability Analysis

A land development suitability model was developed in 2010 to provide decision makers and interested parties with a quantitative tool for assessing the environmental and infrastructural opportunities and limitations within the County. The model incorporates a weighting procedure that allows the user to increase or decrease the relative importance of a variety of economic and natural resource factors. Factors are based on *geographic information system (GIS)* datasets assembled from multiple sources including local, state, federal and other non-governmental sources. A development suitability map is only one of many tools that are used in the preparation of a land use plan. A final land use plan cannot be simply generated directly from a suitability map; although it is possible to generate a conceptual-level map showing where development should occur from a suitability map. Three broad factor categories were used:

1. Identify land suitable for agricultural protection.
2. Identify environmentally sensitive land.
3. Identify lands proximal to infrastructure and investment.

The purpose of a land use suitability analysis is to provide a rational, systematic guide for identifying areas which are more suitable for development, and identifying areas which should be maintained for rural or agricultural uses or protected as conservation areas. The suitability analysis is created using GIS data, which is data that is registered to a geographic coordinate system. The fact that the data sets are registered to a coordinate system makes it possible to add up the values of the input data sets, to create an overall score that indicates the degree of development suitability at every point on the map within the Carroll County.

Various factors were weighted, as shown in **Table 9: Factors and Weighting Table**, by applying multipliers that reflect judgments regarding the relative importance of each factor. A total of twenty-three factors were used to create the development suitability map for Carroll County. The source and content of these input data sets, and their relevance to land development suitability, further described at the end of this Plan. Maps for each of the factors are shown following the table. After each factor was compiled, a composite map (**Map 7**) shows the output based on the 22 factors, indicating development suitability based on the following presumptions:

- *Low Suitability for Development (High Agricultural Sensitivity)*. In these areas, there is a presumption that land is not suitable for development. This does not preclude development but requires a showing by the applicant that sufficient conditions exist that, should development occur, on- and off-site mitigation attributable to the proposed development is required and addressed.
- *Moderate Suitability for Development (Moderate Agricultural Sensitivity)*. In these areas, there is no presumption regarding suitability (that land is suitable or not suitable for development).
- *High Suitability for Development (Low Agricultural Sensitivity)*. In these areas, there is a presumption that land is suitable for development; this does not guarantee that a proposed development is appropriate for any specific location.

Table 8 below shows the total land acreage, last updated in 2010, in each suitable ranking.

Table 8: Land Suitability Acreage (2010)

	Percent	Acres (305,833 total)
Protected	5.3%	16,228
Least Suitability	53.0%	162,007
Moderate Suitability	34.4%	105,094
Highest Suitability	7.4%	22,504

SOURCE: PLANNING WORKS, 2010

Land Suitability Analysis Factors

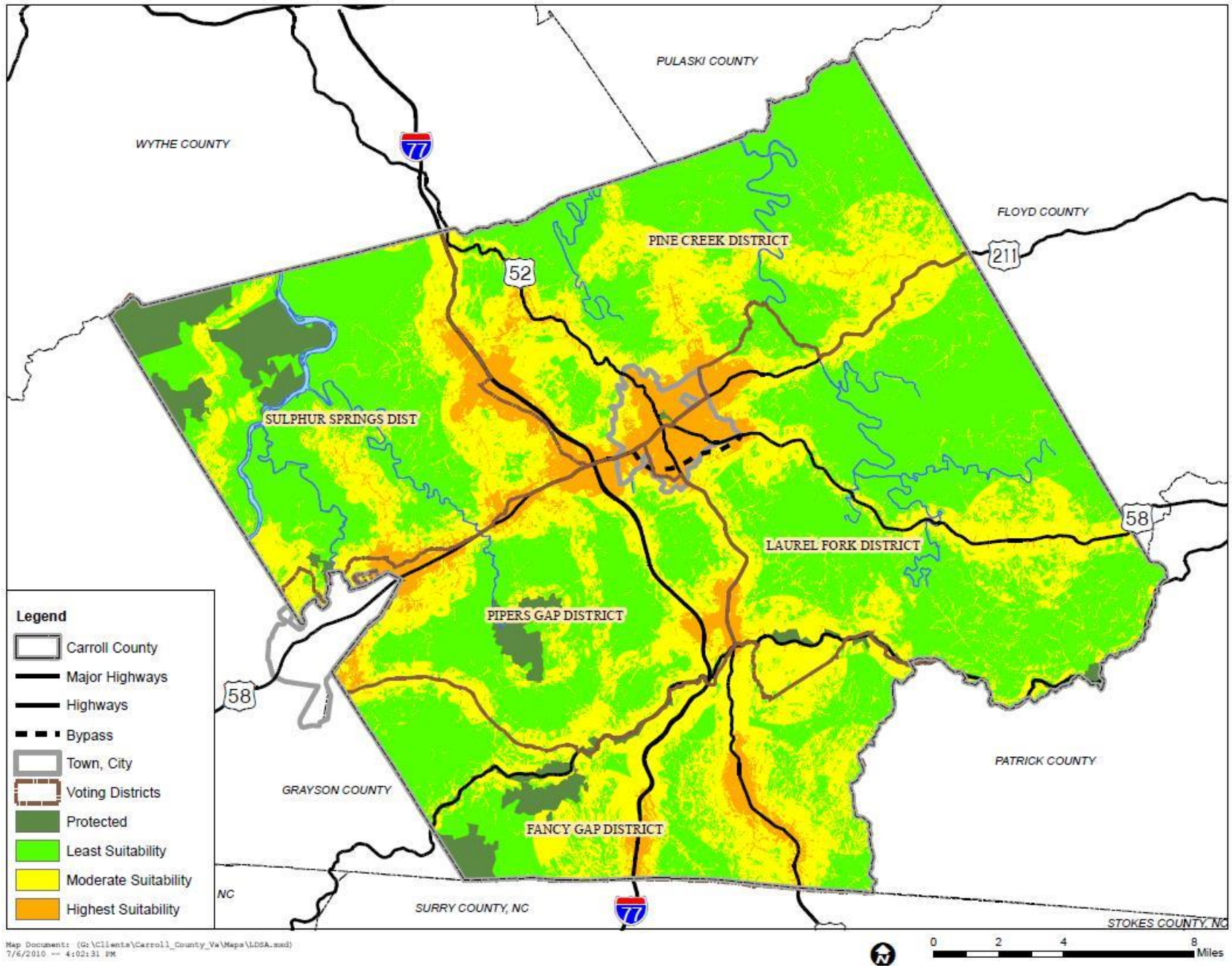
The specific factors listed in **Table 9: Factors and Weighting Table** (below) are described further in detail as they relate to the suitability analysis. These factors are included at the end of this Plan and include specific information for each factor related to Data Source, Description of Data, Relevance, and Methodology. There is a unique map and data table, or chart, provided for most factors relevant to proof of validity of the analysis. The compilation of all maps and data related to the identified land suitability analysis factors is still provided within the Plan as **Map 7**, below.

Table 9: Factors and Weighting Table

Land Evaluation and Suitability Analysis Factors		Presumption of Non-Ag Development Suitability			Factor Weighting	
		Low Suitability	Moderate Suitability	High Suitability		
Factor 1	Identify land suitable for agricultural protection					
1.1	Identify on-site agricultural use	Cropland	Grassland	Developed	6	15.0%
1.2	Identify prime farmland classification	All Prime farmland	Farmland of Statewide Importance	Not Prime Farmland	1	2.5%
Factor 2	Identify environmentally sensitive land					
2.1	Identify land proximal to wetlands	within 500 ft	outside, within 1/4-mile	outside, 1/4-mile or greater	1	2.5%
2.2	Identify important habitat areas	confirmed	modeled	not within	2	5.0%
2.3	Identify lands with steep slope	Greater than 25%	10% to 25%	Below 10%	2	5.0%
2.4	Identify land proximal to drainage	within 500 ft	outside, within 1/4- mile	outside, 1/4-mile	1	2.5%
2.5	Identify land proximal to 100-year floodplain	within 100-year floodplain	within 500 feet	outside 500 feet	2	5.0%
2.6	Identify land within fire risk areas	highest risk	moderate risk	lowest risk	2	5.0%
2.7	Identify forested land	forest land		non-forest land	1	2.5%
2.8	Proximity to impaired and or scenic rivers	within 500 ft	outside, within 1/4- mile	outside, 1/4-mile or greater	1	2.5%
2.9	Identify land with septic limitations	Very Limited	Somewhat Limited	Not Limited	1	2.5%
2.10	Conservation and game lands	within 500 ft	within 1/4 mile	outside 1/4 mile	1	2.5%
Factor 3	Identify lands proximal to infrastructure and investment					
3.1	Identify soil suitable for dwellings without basements	Very Limited	Somewhat Limited	Not Limited	1	2.5%
3.2	Identify land proximal to municipal boundary	outside 1/2 mile	within 1/2 mile	within boundary	1	2.5%
3.3	Identify land proximal to fire station	greater than 4-miles	2-mile to 4-miles	less than 2-miles	2	5.0%
3.4	Identify land proximal to school	greater than 1 mile	1/2 mile to 1 mile	less than 1/2 mile	2	5.0%
3.5	Identify land proximal to highway interchange	More than 1/2-mile	1/4-mile to 1/2-mile	Within 1/4-mile	2	5.0%
3.6	Identify land proximal to major road	greater than 1/2-mile	1/4-mile to 1/2-mile	less than 1/4-mile	2	5.0%
3.7	Identify economic development opportunities	outside	-	inside	2	5.0%
3.8	Identify land proximal to sewer lines	outside 1/2 mile	within 1/2-mile	within 1/4 mile	3	7.5%
3.9	Identify land proximal to water lines	outside 1/2 mile	within 1/2-mile	within 1/4 mile	3	7.5%
3.10	Proximity to community trails and parks	outside 1/2 mile	within 1/2-mile	within 1/4 mile	1	2.5%

SOURCE: PLANNING WORKS 2010

Map 7: Composite Land Evaluation and Suitability Map



SOURCE: PLANNING WORKS 2010

Growth Tiers

The Growth Tiers system is the first step in moving the County to a more reliable and functional land use scheme with a future land use that will provide confidence to residents and businesses about future development expectations. Each Tier includes a broad mix of land uses that describe and identify preferred future development patterns. Tiers are used to establish a framework for determining which growth management goals, policies and strategies should be used in different areas of the County, recognizing the uniqueness of each area and community, and to direct the location, timing, and phasing of growth in order to achieve rational growth patterns, efficiently provide facilities and services and protect rural, agricultural, environmentally sensitive or other important open spaces from inappropriate development.

The Tiers Map for Carroll County is not a zoning map. The Map is *conceptual* and functions as a guide on which future land use decisions can be made. Future land uses should be based on the goals and policies set forth in the Plan. Tools such as development regulations, transportation plans and capital improvement plans all are used to implement the Plan. Consideration should be given to the following:

- **Tiers are not zoning designations** – they are intended to guide local decisions on when and where growth should occur.
- **Tiers reflect a future condition** – uses designated on the map may be appropriate in 10 to 20 years, but currently may not be appropriate due to reasons of compatibility, availability of adequate public facilities, or proximity to services.
- **The Tiers Map is dynamic** – as justified by changing conditions in the community, the Tiers should change. While map amendments should not be made frequently, periodic adjustments to better achieve community goals will help the community achieve its planning goals.
- **The Tiers Map and text of the Plan are to be used together** – the text and maps of the Plan will guide interpretation and implementation of the overall growth management strategy.

Development Tiers

Carroll County has been divided into three tiers, described below. The tiers allow similar policies and programs to be used in similar areas while distinguishing different areas and using special policies to address their growth. **Map 8** illustrates the **Development Tiers**.

- The **Developed Area Tier** is suitable for most types of residential and non-residential development. This tier encompasses the areas adjacent to Galax and Hillsville, consistent with their adopted plans. The highest density and intensity development will be located in areas closest to the respective communities, where service facilities are available; lower density and intensity development will be located at the edges of the more intense service areas.
- The **Planned Growth Area Tier** accommodates residential growth. It is characterized by suburban and rural residential development intermingled with small agricultural uses. As continued development occurs, there will be a significant increased demand for roads, water, emergency services, schools and other public services and infrastructure, as well as some non-residential development. The amount and timing of development will be subject to the availability of adequate public facilities.
- The **Agriculture Protection Tier** is intended to support ongoing agricultural operations and preserve valuable natural resources. Policies within this tier allow sparse residential development to minimize negative impacts on agricultural operations and to minimize the demand for public services and infrastructure. Commercial uses are limited to agricultural related services and limited retail. The County also recognizes the importance of the Agriculture Protection Tier to protect farms, residents and lifestyles in the most rural areas of the County. The County's policies are designed to retain this agricultural character rather than support encroachments of urban or suburban development in these very rural areas. Some agriculture-

related or service commercial uses to meet the needs of local residents may be appropriate, including some home occupations and home industry. The Agriculture Tier offers the opportunity to preserve agriculture and open space while still allowing some development through the use of conservation subdivisions and conservation easements.

Community Service Areas

Existing and Future Community Service Areas are shown in **Map 9: Community Services Areas**. **Table 10: Tiers and Community Service Areas** shows the amount of land in each tier and Community Service Areas. These areas are located within the Planned Growth Area Tier but recognize that more intensive uses will require public facilities and services. This concept builds on the Tiers system by recognizing that different areas of the County face different needs and solutions related to growth and development. The service areas target and leverage public and private funding and investment to these priority growth areas, identifying areas in which urban/suburban-level growth is expected to occur within the next 20 years. These also serve as an incentive for compact development.

- **Existing Service Areas** identify where urban and suburban development is likely and reasonable to occur within the next 10 years. Infrastructure is either planned, budgeted or reasonably available. New infrastructure may be installed provided that there is required participation by new development to fund. Service providers should plan and construct facilities in these areas to meet the needs of development at these urban intensities. Capital Improvement Projects should be utilized for these primary growth areas first, before investment in Future Service Areas.
- **Future Service Areas** show where development is likely and reasonable to occur in these areas over the next 10 to 20 years. Infrastructure may not be currently available, but may be extended, provided there is funding participation by new development. Infrastructure may be reasonably available (it may be close, in time or location) and funding alternatives may be identified, but participation by new development would be required. These secondary growth areas are not expected to develop at urban intensities until public facilities, primarily water, sewer, and improved roads, are installed, which is not intended to occur until years 10 to 20 of the planning term. Clustering will be required, but some large lot development may be permitted provided that significant open space is provided, and total development capacity occurs at the maximum density identified on the future land use map.

In comparison, **in the Agricultural Protection Tier, there are no plans to provide additional public facilities and services.** Infrastructure is not available or budgeted and any use that requires infrastructure to be provided solely at the expense of new development. Urban and suburban development is not likely and reasonable to occur in more than 20 years, if at all. As this area contains agriculture, hillsides and areas identified as environmentally sensitive, lands will not be sewered nor receive other capital infrastructure.

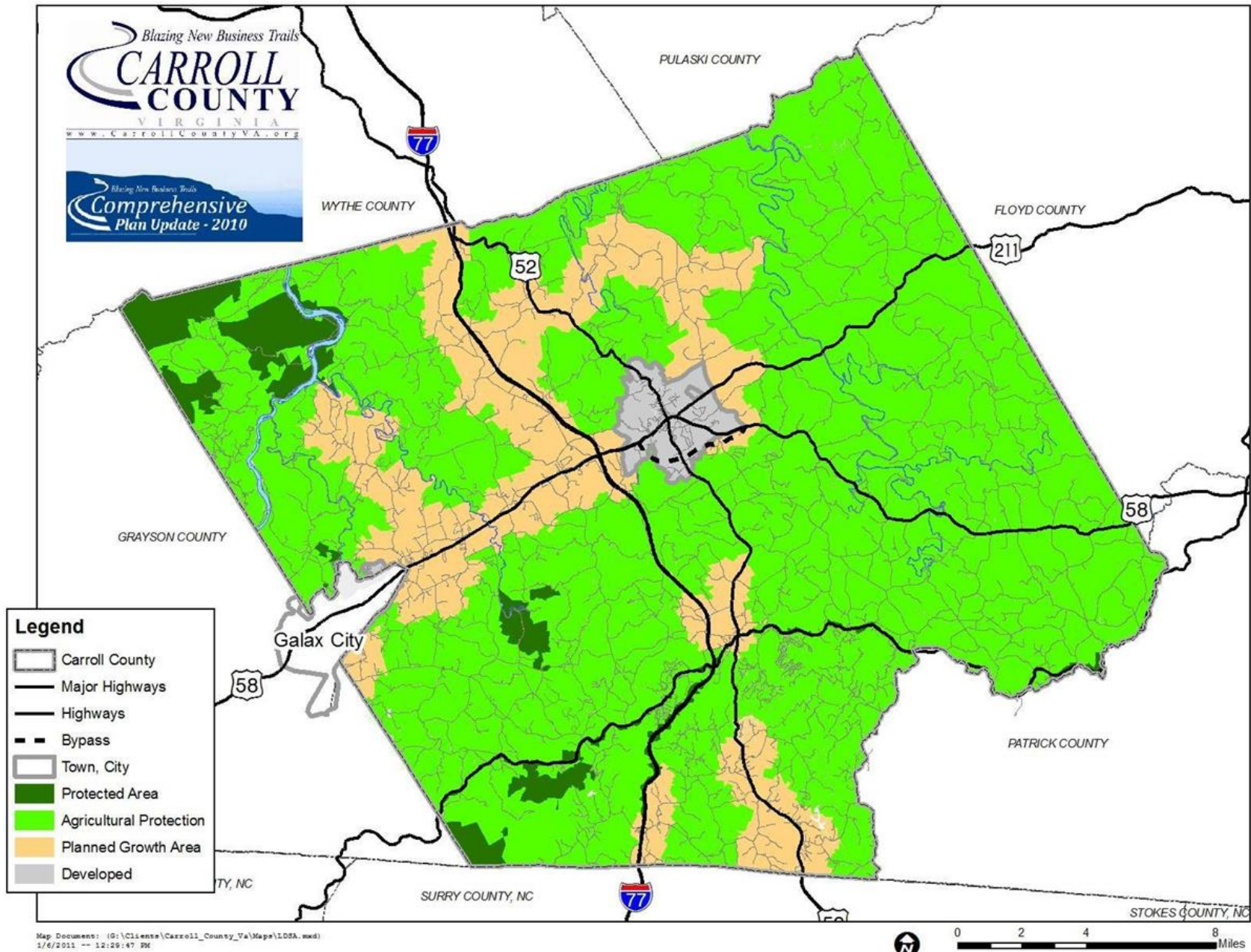
The outer boundary of the Planned Growth Area is effectively the growth boundary between developed/developing areas and the agricultural and conservation (protected national forest) areas. This defines the outer boundary of undeveloped lands that should accommodate most of the County's future growth, though it may be revised when the land contained within them is developed and additional land is needed to accommodate growth. This boundary promotes coordination between service providers and citizens in determining where urban services should and can be extended, creates an incentive to infill existing developed areas. It also provides certainty to developers in defining which areas will receive services, such as water, wastewater, and improved roads in the near future. Combined with other tools, the growth boundary may help Carroll County identify where growth should and should not occur and effectively guide development accordingly.

Table 10: Tiers and Community Service Areas

Tier	Acres
Protected Area	13,751
Agricultural Protection	229,170
Planned Future Service Area	38,557
Existing Service Area	13,336
Developed	6,342
Total	301,576

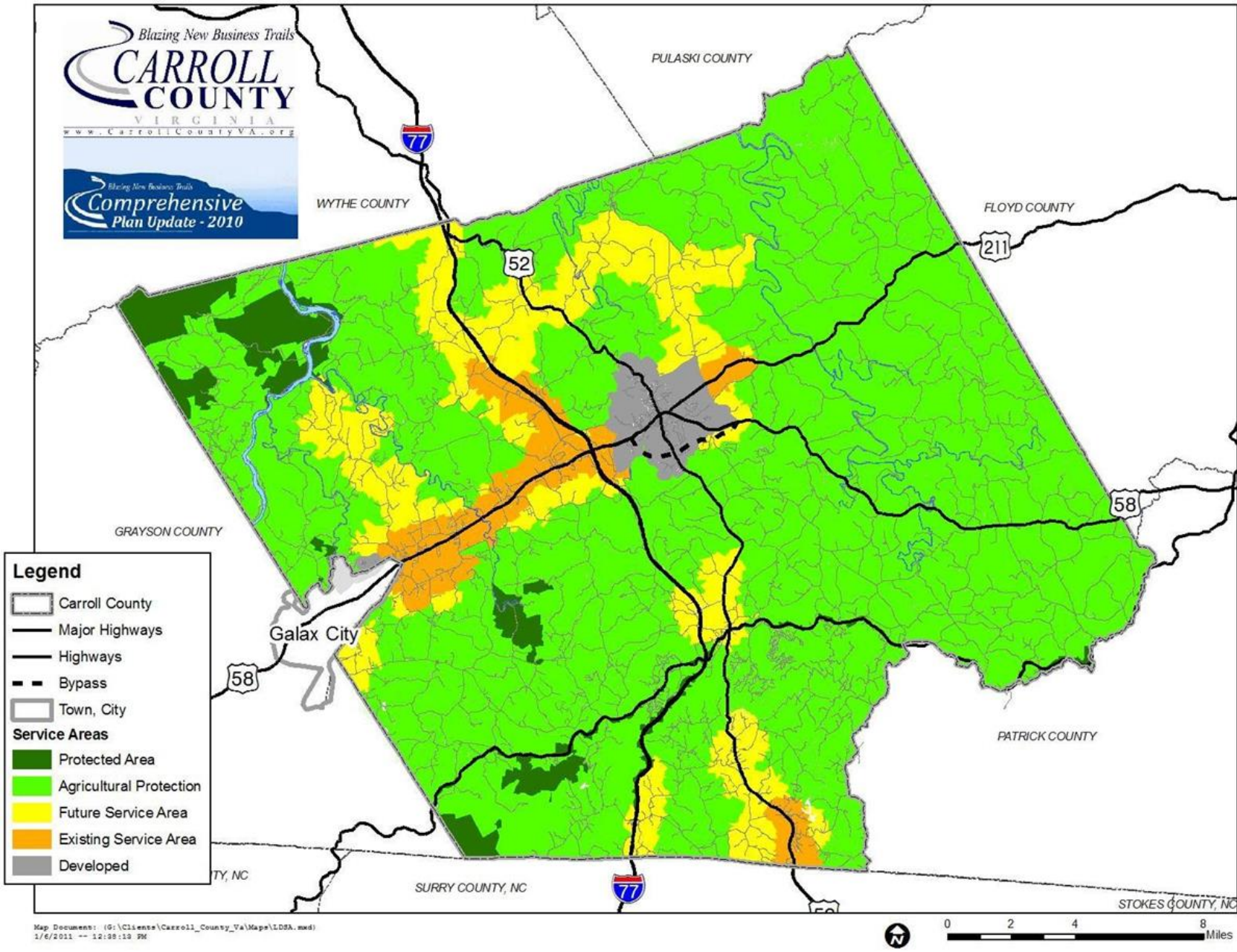
SOURCE: PLANNING WORKS, 2010

Map 8: Carroll County Growth Tiers



SOURCE: PLANNING WORKS, 2010

Map 9: Community Services Areas



SOURCE: PLANNING WORKS, 2010

Future Land Uses

While the County has a tradition of rural uses, many newer uses are resource-intensive, inordinately expensive to serve, and overly consumptive of land creating, excessive vehicle miles traveled, which results in unnecessary air pollution and greenhouse gas emissions. While rural, large lot development is a popular lifestyle option, the public and private costs of such development are excessive and do not position the County or its residents to attain fiscal sustainability or protect farms. To allow continuation of large lot development that damages natural and cultural resources and lacks a desirable sense of place will also erode the County's appeal as a tourist destination, further impacting the quality of life and economic opportunity. The Comprehensive Plan also assures that future large lot rural residential development will contribute to the environmental, traffic, fiscal integrity, adequate public facility, and sustainable design and improvement standards of the County.

This Plan authorizes compact development served by adequate facilities and services that minimizes impacts on farms and the environment and supports land, resource, and energy conservation.

This Plan identifies two parts to identifying appropriate future development once the Tier is identified where development is proposed to occur. First, using **Table 11: Part 1 - Future Land Use**, one would identify appropriate future land uses in each tier, including the average lot size for each land use type. Then, once the proposed future land use is identified, one would use **Table 12: Part 2 - Infrastructure and Improvements Requirements** to identify the necessary infrastructure and improvement standards to serve the development. The tables are described in more detail as follows:

Future land uses are identified to show the range of uses permitted, planned development patterns and relationship to growth tiers, and, together with the goals and policies contained in the Plan, establishes the County's policy direction, and acts as a guide for decisions affecting future development; but *future land uses are not zoning*. Future land uses operate as a guide to future land use patterns and infrastructure planning. The list of broad future land uses is shown in **Table 11** and depicts only general expectations rather than formal regulations and requirements. This exhibit depicts where different types of development should occur based on the growth tiers framework. It is intended to guide the decision-making process for development and subdivision proposals and help staff and elected and appointed officials make recommendations.

Infrastructure and improvement requirements shall be consistent with applicable tier policies and future land use types. Public service providers should use the plan to guide infrastructure improvements to accommodate future growth. The location and capacity of public service improvements may be determined by comparing existing land use and service demands with the proposed land use pattern. **Table 12** indicates the general level of public service, infrastructure and on-site improvements required prior to or concurrently with development within each tier. Density and intensity bonuses also may be offered for projects that surpass open space requirements and provide additional sustainability and 'green design' features.

"The problems we face today will not be solved at the same level of thinking we were at when we first created them."

Albert Einstein

Table 11: Part 1 - Future Land Use

Land Use	Average Density / Lot Size	Uses	Ag Protection Tier	Planned Growth Areas	Developed Areas
Agriculture	20 acres	Farm and timber lands to be protected from encroachment of non-farm development and conversion to urban uses. Non-farm development is strongly discouraged. Rural homes on large lots, sometimes as part of rural subdivisions (a subdivision of only a few lots and very low densities).	P		
Rural Residential	5 acres	Farms and ag uses permitted. Large lot single-family residences with access to adequate water and road improvements. Centralized water and sewer service and access to chip-sealed or paved roads are required for subdivisions in this category. Clustering and conservation and nuisance easements are encouraged and may be required as a condition of subdivision approval.	P		
Community Residential	4 DU per acre	Residential development connected to centralized water and wastewater systems. This category is limited to areas with access to paved roads, centralized water and wastewater systems. This type of development is allowed only in Developed or Planned Growth Areas.		C	P
Rural Business		Limited commercial uses serving the needs of rural residents. Uses include small retail, agricultural support operations (co-ops, feed stores, etc), rural services and natural resource based uses.	P		
Community Center		Neighborhood or community scale shopping centers and personal and professional services conveniently located near residential areas. Intended to be designed and integrated with adjacent uses and development patterns, typically as part of a mixed use or planned development. Mixed use encouraged.		P	P
Regional Center		Larger, regional scale shopping centers, which may be anchored by department or home improvement stores or other large-scale anchors, and employment centers. Because of intensity, must be designed and integrated with adjacent uses and development patterns as mixed use or planned development. Mixed use encouraged.		C	P
Opportunity Center		Unique, site- or purpose-specific uses, not likely to be replicated in other locations, benefiting from locational attributes, such as natural resources, viewsheds or recreational/environmental amenities. Non-residential uses range from energy, to eco-tourism, to supporting other economic development activities.	C	C	C
P = Permitted; C = Conditionally Permitted					

SOURCE: PLANNING WORKS, 2010

Table 12: Part 2 - Infrastructure and Improvements Requirements

Improvement	Agriculture	Rural Residential	Community Residential	Rural Business	Community Center	Regional Center	Opportunity Center
WATER							
Centralized		✓	✓		✓	✓	
Individual Well	✓	✓					
Site and Use Dependent				✓			✓
WASTEWATER							
Centralized		✓	✓		✓	✓	
Onsite	✓	✓					
Site and Use Dependent				✓			✓
TRANSPORTATION							
Legal Access	✓	✓	✓	✓	✓	✓	✓
Grants of Right-of-Way and Easements	✓	✓	✓	✓	✓	✓	✓
Arterial			✓		✓	✓	
Paved Road			✓		✓		
Within 1/4-mile of a Paved Road				✓			
Within 1/2-mile of a Paved Road		✓					
Dust Control Required		✓					
Site and Use Dependent							✓
PUBLIC SAFETY							
Sheriff - Average Response Time of Less Than 8 Minutes			✓		✓	✓	✓
Sheriff - Average Response Time of 8 Minutes or More	✓	✓		✓			
Fire - Average Response Time of Less Than 8 Minutes			✓		✓	✓	✓
Fire - Average Response Time of 8 Minutes or More	✓	✓		✓			
Adequate Fire Flow			✓	✓	✓	✓	✓
DEVELOPMENT AND DESIGN							
Curbs, Gutters, Sidewalks			✓		✓	✓	✓
Paved Parking					✓	✓	✓
Shared Parking					✓	✓	✓
Drainage Detention/Retention Facility			✓		✓	✓	✓
Landscaping, Buffering			✓		✓	✓	✓
Open Space		✓	✓		✓	✓	✓
Cluster, Conservation Subdivision		✓			✓	✓	
Planned Development			✓		✓	✓	✓
Density Bonus for Additional Open Space		✓	✓		✓	✓	
Density Bonus for Sustainability		✓	✓		✓	✓	

SOURCE: PLANNING WORKS, 2010

Regionalism

Regionalism means more than neighborliness. Regionalism recognizes that the future quality of life and competitiveness of a region is a shared responsibility, of all communities. It requires the coordination, cooperation and consensus of communities working strategically to effectuate change. That a regional approach is needed goes without challenge - Southwest Virginia is facing new challenges every day, along with old challenges for sure. *The region faces years of slow growth and uncertainty following the Great Recession of 2008 and the COVID-19 global pandemic, plus the expected recession to follow. Despite the considerable funds local government and providers spend every year on facilities and services. The uncomfortable truth is that communities have been living off the legacy of investments of previous generations.* The region continues to be challenged by sprawling development into rural and sensitive environmental areas. A regional perspective is the proper scale and context for analyzing and addressing many of these difficult and challenging issues.

Counties are not islands - the problems we face do not begin and end at our borders, neither should our solutions.

The Twin County region shares a common destiny. Regionalism recognizes that our communities are intertwined, transcending arbitrary political divisions. *Regionalism* lays the foundation for building more effective regional partnerships. **Intergovernmental cooperation** is any arrangement by which two or more jurisdictions can communicate visions and coordinate plans, policies, budgets, and capital improvement programs to address and resolve regional issues of mutual interest. Many issues in today's interdependent complex society cross jurisdictional boundaries, affecting more than one community with the actions of one governmental unit impacting others.

Our region shares a common destiny.

Increased communication technologies and personal mobility enables people, money, and resources to move across jurisdictions as quickly and freely as air and water. Persons traveling along roadways use a network of transportation routes, moving between jurisdictions without even realizing it. Increasingly, we have come to the realization that many vital issues are regional in nature – watersheds, air quality, ecosystems, economic conditions, land use, service delivery, commuter patterns, housing, employment centers and other growth impacts ‘spill over’ County and municipal boundaries and impact the region as a whole. The health of Carroll County and the welfare of our region are interconnected. Issues cross jurisdictional boundaries. The activities of one level of government have extraordinary impacts beyond its jurisdictional boundary.

Coordinated planning efforts will result in benefits to citizens of all communities in the region, such as:

- **Coordinated strategies** - to address regional issues by communicating and coordinating actions to address and resolve issues which are regional in nature.
- **Cost savings** - by increasing efficiency, avoiding unnecessary duplication, and using area-wide cooperation and *economies of scale* to provide services that would otherwise be too costly, as well as to stabilize taxes by improving the performance and delivery of programs and service; to reduce the cost of providing facilities and services by local government and other providers (water districts, fire districts, school districts, etc.) and improve the level of service and delivery of facilities and services. Man-made (roads, transit, stadiums and jails) and natural features (water basins, air shed) affect the whole region, at a minimum.

- **Economic development** - by enhancing economic growth by planning, funding and providing the infrastructure and services needed for sustainable community and regional growth including requiring developments whose impacts or services and facilities cross the approving jurisdiction's boundaries, to pay their fair share of the costs needed to mitigate the impacts generated by their growth and demand.
- **Sustainability** - to achieve sustainable development practices. [Development is pushing against capacity](#). As we balance growth with environmental preservation and social equity, part of the solution requires acting regionally.
- **Early identification of issues** - to [identify and resolve potential conflicts at an early stage](#), before public and private entities have established rigid positions, before the political stakes have been raised, and before issues have become conflicts or crises.
- **Reduced litigation** - by resolving issues before parties engage in litigation, resulting in diverting funds that could have been used to provide facilities and services, unwanted outcomes, and reducing tensions to improve the working relationships of local government, service providers and community organizations in the region.
- **Consistency and predictability** - of plans, development regulations, policies, implementation actions and development approvals between service providers and among neighboring jurisdictions, for residents, businesses and developers that establishes a framework of reasonable expectations and decision-making in the development process.

Land Development, Goals & Policies

Goal 1: Growth is managed through designation of Development Tiers that guide the location, timing, and phasing of development.

- Policy 1.1: Establish a Sustainable Development Tiers program that maintains a balanced, sustainable land use pattern based on the availability, timing, adequacy and equitable funding of necessary infrastructure and services, and supported by appropriate land use regulations.
- Policy 1.2: Establish a Developed Area Tier to distinguish existing developed areas that are served by facilities and services and where compatible infill development is likely to be appropriate.
- Policy 1.3: Establish a Planned Growth Area Tier that contains Existing Service Areas and Future Service Areas.
- Policy 1.4: Existing Service Areas include areas where urban and suburban development is likely and reasonable to occur within the next 10 years. Infrastructure is planned, budgeted or reasonably available. New infrastructure may be installed provided that there is required participation by new development to fund.
- Policy 1.5: Full urban services will be required for any development in Existing Service Areas, including approved public water and wastewater systems, urban road improvements, and urban service levels for public safety, fire and emergency medical assistance. Service providers should plan and construct facilities in these areas to meet the needs of development at these urban intensities.
- Policy 1.6: County and service provider Capital Improvement Projects should be utilized for Existing Service Areas first, before investment in Future Service Areas.
- Policy 1.7: Future Service Areas, urban and suburban development is likely and reasonable to occur in these areas over the next 10 to 20 years. Infrastructure may not be currently available, but it is planned and identified in short- or long-range Capital Improvements Plans. Infrastructure may be reasonably available (it may be close, in time or location) and funding alternatives may be identified, but participation by new development is required.
- Policy 1.8: Future Service Areas are not expected to develop at urban intensities until public facilities, primarily water, sewer and improved roads, are installed, which is not intended to occur until years 10 to 20. Clustering will be required, but some large lot development may be permitted provided that significant open space is provided, and total development capacity occurs at the maximum density identified on the future land use map.
- Policy 1.9: Establish an Agricultural Protection Tier to protect farms and agricultural uses and prevent all non-compatible development.
- Policy 1.10: Direct new development to the Developed Area Tier and Planned Growth Area Tier where infrastructure and service levels are adequate to minimize development costs.
- Policy 1.11: Direct growth to Developed and Planned Growth Area Tiers to curtail haphazard and scattershot development patterns.

- Policy 1.12: Use Capital Improvements Plan (CIP) to support provision of water and sewer in Developed and Planned Growth Areas in coordination with partial or full funding by new development to reduce the burden on citizens.
- Policy 1.13: Limit provision of water and sewer service to the Developed and Planned Growth Area Tiers.
- Policy 1.14: Limit extension of utilities in the Agricultural Protection Tier and require development to fund the expense of extending infrastructure.
- Policy 1.15: Curtail County subsidies for development in the Agricultural Protection Tier by no longer providing free water and sewer access in order to prevent further encroachment into agricultural areas.
- Policy 1.16: Improve the value and quality of new and existing development through establishment of zoning, subdivision, and design standards in Developed and Planned Growth Area Tiers.
- Policy 1.17: Identify and support opportunities for regular and continuing intergovernmental communication, including but not limited to economic development, agricultural protection, tourism, parks and recreational facilities, transportation, water and sewer facilities, solid waste, and stormwater management.

Goal 2: A sustainable, orderly and compatible mix of land uses in Carroll County is achieved through coordinated growth management.

- Policy 2.1: Engage community residents and property owners in the development and implementation of plans and development standards for residential, commercial and mixed-use neighborhoods throughout the County.
- Policy 2.2: Promote appropriate interconnectivity between adjacent land uses, including connections between non-residential development and adjacent neighborhoods. Lot patterns should be designed to provide safe and direct connections between residential and non-residential uses for pedestrians as well as automobiles.
- Policy 2.3: Develop and maintain a coordinated intergovernmental planning and development review process to foster efficient County growth patterns.
- Policy 2.4: Use the Comprehensive Plan and future land use map to guide land use and development decisions. Require findings that any amendments to the Future Land Use Map:
- Will be consistent with Plan priorities;
 - Will be compatible with existing and future land uses for surrounding areas of the County;
 - Will not create a shortage of any particular type of residential or non-residential land;
 - Will support the efficient provision of public facilities and services; and
 - Will enhance the overall quality of life in the County.
- Policy 2.5: Provide and support a detailed, County-wide GIS database of existing data and enhance data inclusion and availability.

Goal 3: A high-quality, built environment exists throughout the County.

- Policy 3.1: Promote private investment in existing commercial and residential neighborhoods through a combination of public investment in infrastructure and active efforts to enforce County codes and eliminate code violations that erode property values.
- Policy 3.2: Enhance the overall design and quality of development along major corridors and at key intersections, including enhanced gateway signage and standards for building site design, materials, architectural design, signage, landscaping and street trees and other design considerations. Ensure that open space areas and street frontages project attractive images of the development.
- Policy 3.3: Provide additional sidewalks and trails in development neighborhoods and require the development of such amenities in new neighborhoods and commercial areas.
- Policy 3.4: Promote high quality design of signage through regulatory tools and incentives.
- Policy 3.5: Promote high quality landscaping and encourage the use of environmentally sensitive landscaping techniques, such as rain gardens, xeriscaping, and the use of native plants through regulatory tools and incentives.
- Policy 3.6: Ensure that new developments and redevelopments along major corridors include pedestrian-oriented design features that provide linkages between residential and commercial uses.
- Policy 3.7: Support a clean and attractive environment.
- Policy 3.8: Improve visual appeal by encouraging and requiring property maintenance.

Goal 4: Commercial centers meet the needs of residents and visitors.

- Policy 4.1: Enhance downtowns and commercial centers as destination places for residents and visitors and promote the development of retail, service, and entertainment businesses.
- Policy 4.2: Maintain the predominant scale and design character established by historical development patterns in downtown areas.
- Policy 4.3: Encourage mixed use buildings in community areas that are primarily occupied by retail uses on the ground-level and office or residential uses on upper levels.
- Policy 4.4: Encourage walkability in urbanized areas by requiring walkways and sidewalks and supporting the provision of pedestrian amenities, including green spaces, seating areas, plazas and public art.
- Policy 4.5: Promote convenient and safe access to commercial centers and prevent linear or “strip” development along roadways.
- Policy 4.6: Direct the development of commercial activities in or adjacent to the areas that they primarily serve, such as convenience stores in residential areas, and agriculturally oriented enterprises in agricultural areas.
- Policy 4.7: Coordinate with the Town of Hillsville to ensure that infrastructure is available to establish the Town as a prime regional commercial center.
- Policy 4.8: Encourage local-serving commercial development.

Goal 5: Diversified industrial development contributes to economic development and a strong tax base.

- Policy 5.1: Promote industrial development to provide employment opportunities.
- Policy 5.2: Direct industrial development to locations where it will have a minimum adverse impact on existing and future residential development, agricultural lands, and natural resources.
- Policy 5.3: Protect existing and potential industrial sites from encroachment by non-industrial activities.
- Policy 5.4: Direct industrial development to established or planned industrial parks to provide necessary facilities and services more efficiently.
- Policy 5.5: Establish performance, site, dimensional, design and access standards to ensure high quality, compatible industrial development.
- Policy 5.6: Encourage industrial development in areas served by transportation infrastructure, including at I-77 exits.
- Policy 5.7: |Continue to promote Wildwood Commerce Park at I-77 Exit 19.
- Policy 5.8: Support aggressive marketing of commercial/industrial sites to encourage companies to locate in Carroll County to aid in job creation.
- Policy 5.9: Encourage expanded Workforce Development.
- Policy 5.10: Allow industrial sites to incorporate on-site solar power generation facilities in accordance with adopted regulations.
- Policy 5.11: Encourage Emergency Preparedness Plans in industrial sites owned or operated by the county or a partner agency.

Agriculture Goals and Policies

Goal 6: Agriculture contributes to the local economy and local character due to the preservation of agricultural land.

- Policy 6.1: Preserve agriculture land, forested land, and open space – large and small – for its local economic benefit, scenic beauty, ecological benefit, and place making in Carroll County’s heritage.
- Maintain land use taxation in its current form.
- Policy 6.2: Protect productive agricultural lands from encroachment by incompatible residential, commercial, or other intensive development.
- Policy 6.3: Promote local agricultural production by supporting locally grown food and local food security initiatives.
- Support local producers in obtaining BQA (Beef Quality Assurance) and GAP (Good Agricultural Practices) certifications.
- Policy 6.4: Support agriculture as a way of life by keeping agriculture in the school curriculum and supporting FFA and 4-H and encourage the use of the school system agriculture farm for teaching.
- Policy 6.5: Support agritourism.
- Policy 6.6: Support development of food processing plants, cold storage, and warehousing and distribution infrastructure for value- added and processed foods.
- Policy 6.7: Encourage new crop processing development.
- Policy 6.8: Support the role of the Virginia Cooperative Extension and the Food Processing Safety Initiative.
- Conduct small grower meetings to educate about the need for a diversified crop.
- Policy 6.9: Encourage producers to become GAP (Good Agriculture Practices) certified.
- Policy 6.10: Support the role of the Southwest Virginia Farmers’ Market, including to:
- Research the feasibility of constructing a forced-air cooling facility.
 - Find the best, most stable prices available for locally grown fruit and vegetable crops.
 - Complete improvements to the retail building.
 - Maintain the hydro-cooler for continued use.
 - Receive grants to supplement budget for needed improvement projects.
- Policy 6.11: Encourage local market development and develop non-local markets and marketing programs.
- Policy 6.12: Protect farms and agricultural facilities from uses that affect operations and security by minimizing encroachment of incompatible uses while allowing complementary activities.

- Policy 6.13: Support site plan flexibility to allow for security of the site and encourage consideration of emergency preparedness training and plans.
- Policy 6.14: Encourage and promote private and community gardens.
- Policy 6.15: Protect and preserve factors of production through land and natural resource conservation measures.
- Policy 6.16: Enforce “No” land exchange, purchase development rights, or transferable development rights for agricultural land.

Chapter 4: Economics

Continued Opportunity

Carroll County has taken an economic hit with the demise of the textile industry, but with the continued emphasis on tourism, infrastructure and regional partnerships, the economic base is being rebuilt and the county has a promising economic future.

The completion of I-77 through the County has had a tremendous impact on the development of the County's economy. The availability of interstate transportation has been and is an advantage not to be taken lightly by County leaders as they attempt to attract desirable jobs to the county – not without its challenges though.

The County has other stimulants to development on the horizon, which will add to the County's ability to compete for jobs in the future. These are the completion of U. S. Route 58 as a 4-lane highway, the construction of natural gas distribution lines thru Hillsville to Galax, and the construction of a fiber-optic backbone thru the county. The many opportunities for the County include:

Create a tourist-friendly environment.

Tourist-based business could be enhanced through creating a more tourist-friendly environment by developing signs to guide tourists, creating a more walkable streetscape connected to an areawide system of bike, pedestrian and hiking trails, and developing a concentrated mix of specialty retail and service businesses that support tourism. These efforts will require a collaborative effort between public and private interests. Encouraging and supporting a role for local businesses to identify their needs and expectations will make the County a stronger player in the regional economy.

Increase employment opportunities.

The County has areas planned for commercial and industrial development, primarily at the highway interchanges. While most of these areas are currently served by adequate facilities, many of the sites have constraints, such as slope and drainage problems, proximity to identified habitat areas and potential incompatibility with existing development (including use and design). By proactively addressing some of these constraints, the County could increase the attractiveness of these sites as employment centers.

Capture a greater share of sales taxes.

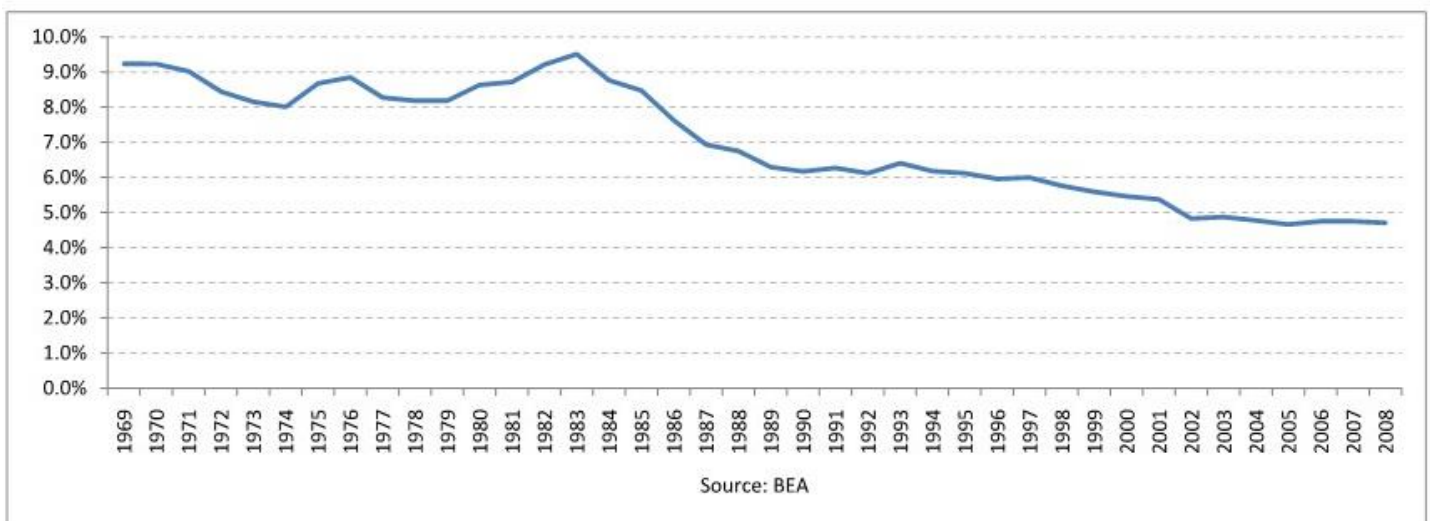
Carroll County loses a significant share of sales tax revenues because of the limited shopping opportunities within the County, along I-77 and the Blue Ridge Parkway. The County could better capitalize on the regional market through the establishment of appropriately located large-scale retail centers, particularly in areas with better access to traffic along the Interstate and Parkway. Additionally, with the surge in local development, the County must determine the best locations for transportation corridor commercial centers that will serve the needs of future residents and visitors. Once the County has determined the best locations for community and regional scale retail centers, it must ensure that these sites are protected from incompatible development that would displace needed retail uses opportunities.

Existing Conditions

Employment

Carroll County, like the Nation as a whole, is experiencing a shifting economic base. Historically, agriculture was the primary economic activity that supported a host of businesses in other sectors. Agriculture’s influence on the local economy has steadily declined for many decades while other sectors have experienced growth. According to the Bureau of Economic Analysis (BEA), from as early as 1969, agriculture fluctuated, but remained a relatively steady 9.0% of the County’s employment. In 1983, agricultural employment as a percentage of the County’s workforce peaked at 9.5%, declining thereafter; by 2008, that percentage had declined to 4.7%. In 2021, “farm” employment sits at a slight increase at 5.3% of county employment, showing some stabilization in the decline.

Figure 11: Percent Agricultural Employment by Year



The Bureau of Economic Analysis (BEA) provides a measure of employment by industry that includes estimated self-employed as well as other employed persons. It should be noted that another major difference between the datasets is that BEA includes the City of Galax for historical continuity. **Table 13** provides the BEA estimates of employment in North American Industry Classification (NAICS) sectors.

Recent trends indicate that Carroll County’s work force is being employed increasingly in the retail trade and manufacturing, and much less so in governmental enterprises. Furthermore, [shifts in economic activity within Carroll County mirror the national trend towards retail, service, and information-based activities.](#)

Table 13: Employment by NAICS Industry Sector (Carroll County + Galax)

DESCRIPTION	2010	2019	2020	2021
Employment by place of work				
Total employment (number of jobs)	16507	16392	15877	16223
By type				
Wage and salary employment	13183	12735	11959	12223
Proprietors' employment	3324	3657	3918	3985
Farm proprietors' employment	896	818	816	801
Nonfarm proprietors' employment ⁽²⁾	2428	2839	3102	3184
By industry				
Farm employment	999	889	879	867
Nonfarm employment	15508	15503	14998	15356
Private nonfarm employment	12754	13249	12971	13355
Forestry, fishing, and related activities	(D)	234	216	219
Mining, quarrying, and oil and gas extraction	25	(D)	(D)	(D)
Utilities	(D)	(D)	(D)	(D)
Construction	(D)	(D)	(D)	(D)
Manufacturing	2488	2566	2349	2568
Wholesale trade	(D)	339	350	358
Retail trade	2271	2071	2176	2305
Transportation and warehousing	350	(D)	(D)	362
Information	166	(D)	(D)	(D)
Finance and insurance	372	392	442	460
Real estate and rental and leasing	341	421	450	459
Professional, scientific, and technical services	(D)	451	478	469
Management of companies and enterprises	(D)	9	9	3
Admin & support/ waste management & remediation services	530	664	611	674
Educational services	(D)	(D)	(D)	(D)
Health care and social assistance	(D)	(D)	(D)	(D)
Arts, entertainment, and recreation	189	174	(D)	167
Accommodation and food services	1299	1314	(D)	1198
Other services (except government and government enterprises)	811	905	882	890
Government and government enterprises	2754	2254	2027	2001
Federal civilian	124	94	89	79
Military	123	115	110	106
State and local	2507	2045	1828	1816
State government	709	248	209	201
Local government	1798	1797	1619	1615

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

(L) Less than 10 jobs but the estimates are included in totals.

⁽²⁾ Excludes limited partners.

SOURCE: BUREAU OF ECONOMIC ANALYSIS

Carroll County has been faced with periods of unemployment in excess of the state and national unemployment rates. In the fifteen-year span between 1995 and 2010, the unemployment rate peaked at 13.7%. While Carroll County generally fluctuates around the national unemployment rate, unemployment is consistently above that of the state. The current unemployment rate (4.5% in 2022) exceeds the state (2.9% in 2022) and national (3.6% in 2022) averages. The increase in unemployment during the early-to-mid 2000s is largely due to the relocation of textile industries out of the United States, while the recession correlated to the Mortgage Crisis of 2008 drove unemployment rates to their highest in 70 years. Unemployment rates dropped steadily until the COVID-19 global pandemic and dropped again quickly thereafter.

Table 14: Local Area Unemployment Statistics

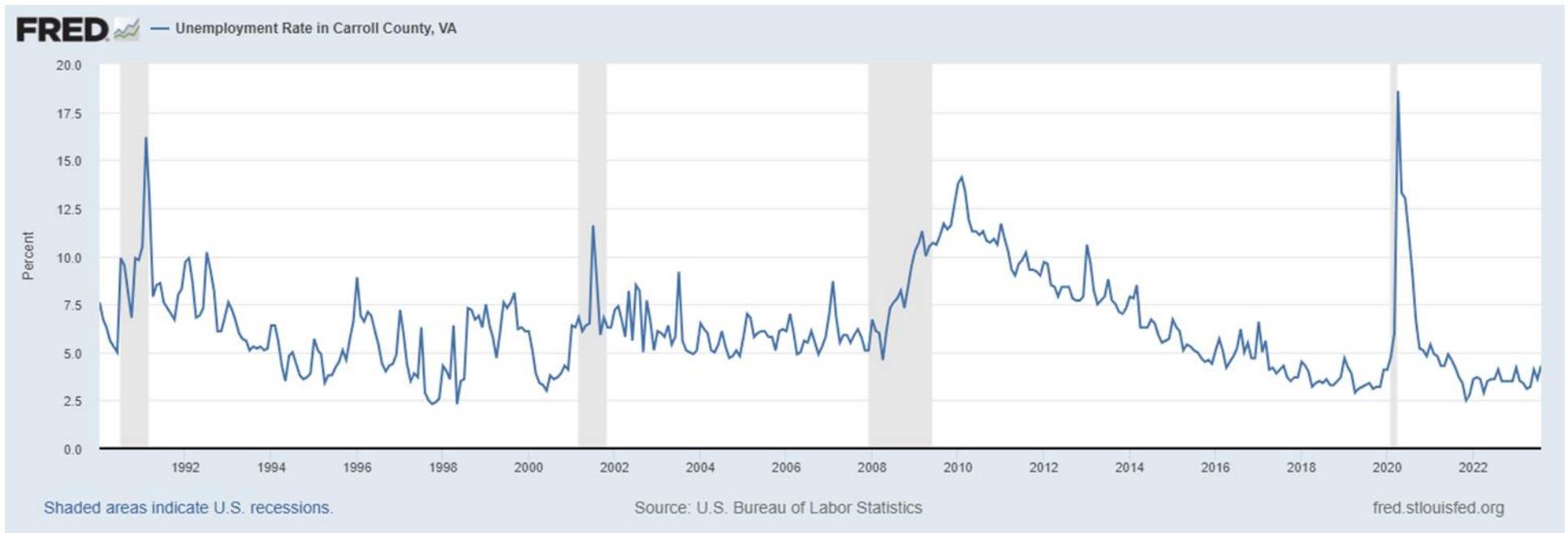
Year	Labor Force	Employed	Unemployed	Unemployment Rate	Previous Year Unemployment Rate	Percent Change
2022	12,931	12,475	456	3.5	4.1	-14.63
2021	12,805	12,274	531	4.1	8.5	-51.76
2020	13,129	12,013	1,116	8.5	3.5	142.86
2019	13,328	12,856	472	3.5	3.6	-2.78
2018	13,343	12,859	484	3.6	4.4	-18.18
2017	13,637	13,040	597	4.4	5.1	-13.73
2016	12,977	12,321	656	5.1	5.3	-3.77
2015	13,100	12,409	691	5.3	6.6	-19.7
2014	13,229	12,357	872	6.6	8.1	-18.52
2013	13,256	12,185	1,071	8.1	8.4	-3.57
2012	13,467	12,341	1,126	8.4	9.8	-14.29
2011	13,602	12,267	1,335	9.8	11.8	-16.95
2010	14,032	12,382	1,650	11.8	10.8	9.26
2009	14,407	12,848	1,559	10.8	6.6	63.64
2008	14,058	13,124	934	6.6	5.6	17.86

SOURCE: VEC (<https://virginiaworks.com/Local-Area-Unemployment-Statistics-LAUS>)

Statistics on employment trends over the past fifteen years, shown in **Table 14** above, shows the rather dramatic fluctuation of unemployment in Carroll County with a fairly sharp decline in the county’s annual unemployment rate following the Mortgage Crisis of 2008. Unemployment continued to decline post crisis; however, reflecting the state of the nation’s economy after 2020, unemployment drastically rose to multi-decade highs.

Below, **Figure 12: Monthly/Annual Unemployment Rate; 1990-2023** depicts annual smoothed unemployment rates for the County. Compiled by the research department of the Federal Reserve Bank of St. Louis into database, Federal Reserve Economic Data (FRED), the graphic also shows identified periods of economic instability for reference.

Figure 12: Monthly/Annual Unemployment Rate; 1990-2023



U.S. BUREAU OF LABOR STATISTICS, UNEMPLOYMENT RATE IN CARROLL COUNTY, VA [VACARR5URN], RETRIEVED FROM FRED, FEDERAL RESERVE BANK OF ST. LOUIS; [HTTPS://FRED.STLOUISFED.ORG/SERIES/VACARR5URN](https://fred.stlouisfed.org/series/VACARR5URN), OCTOBER 27, 2023.

Figure 13: Civilian Labor Force and **Figure 14: Employed Persons** (below) show that according to data from the FRED, the County's civilian labor force correlates closely with the County's employed citizen base, with the exceptions of identified recessions or times of economic crisis. Employed persons consistently fall short of the total estimates labor force available. Various factors contribute to a declining labor force in these figures, including but not limited to, retirement aged persons diluting the labor force and farmers still working but not considered part of the labor force due to age.

Figure 13: Civilian Labor Force

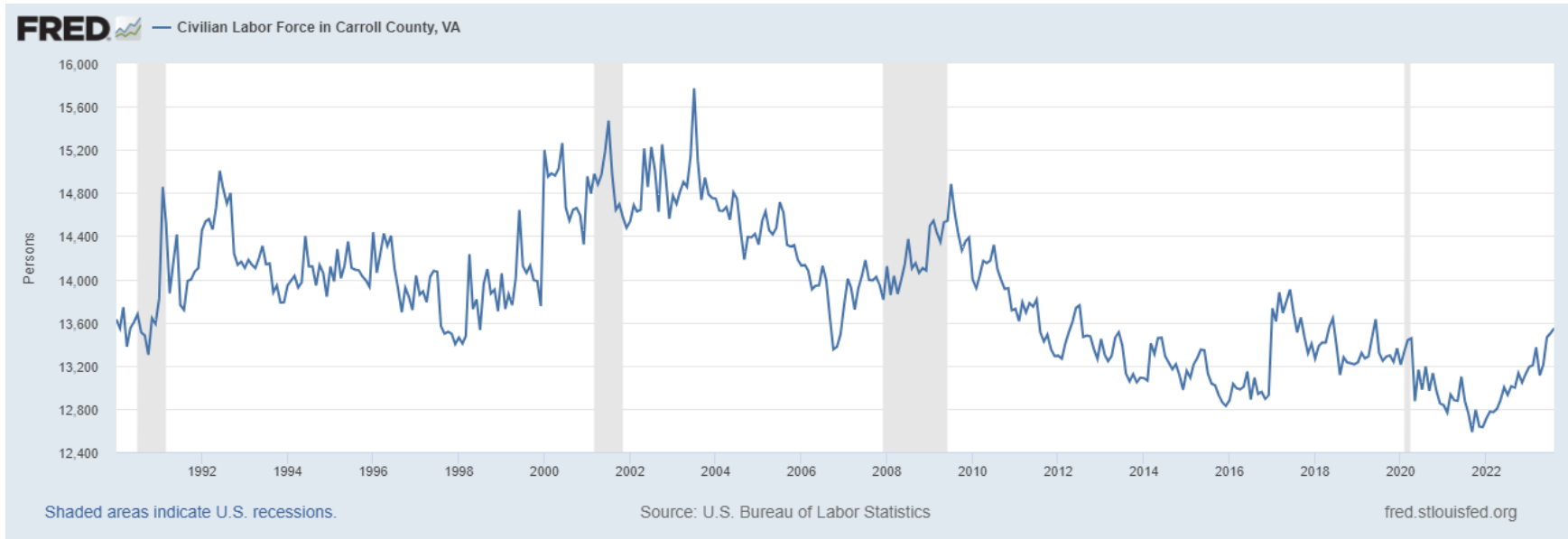


Figure 14: Employed Persons

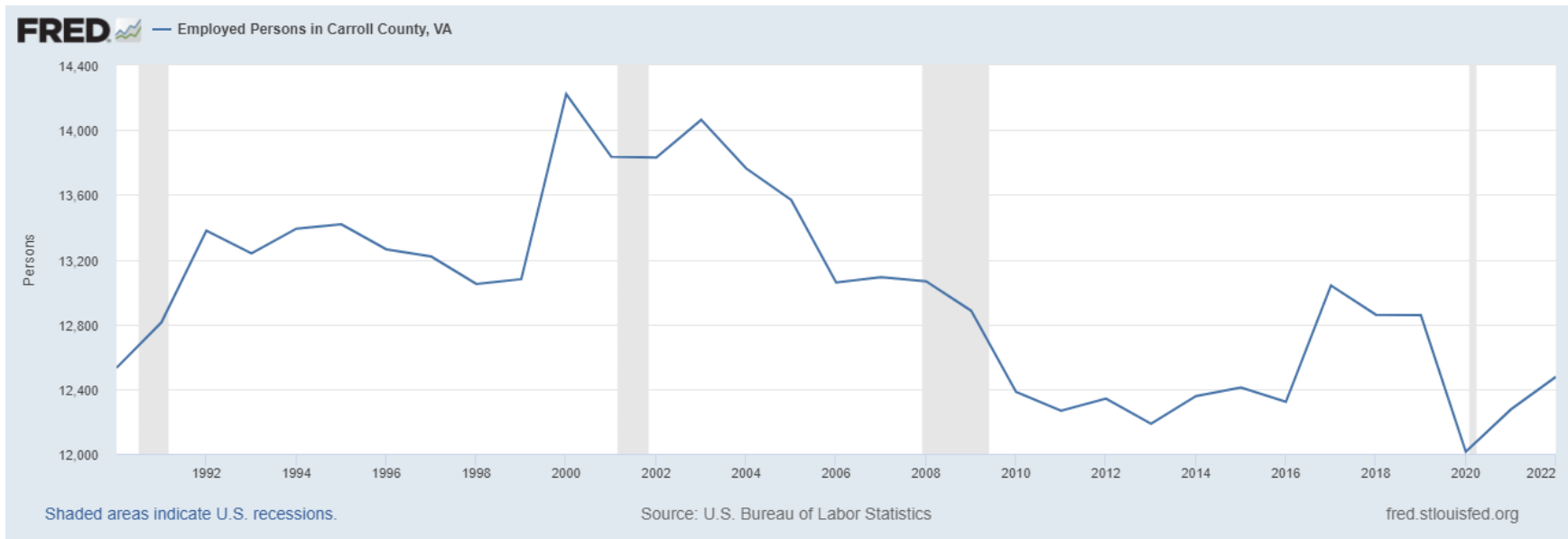


Figure 15 lists the 50 largest employers within the County (as of September 2023) and is consistent with the Employment by Industry table above with publicly owned health care services and social services (education) as the top two employers.

NOTE: Parkdale Mills closed 3 of 4 plants in October 2023, laying off 300+ employees.

Figure 15: Largest Employers

- | | |
|---|---|
| 1. Carroll County School Board | 26. Dolgencorp LLC |
| 2. County of Carroll | 27. Loves Travel Stop |
| 3. Parkdale Mills Inc | 28. Loves Travel Stops & Coun Inc |
| 4. Virginia Produce Co LLC | 29. Hills Trucking Company |
| 5. Barker Microfarads | 30. Mission Veterinary Partners |
| 6. Lowes' Home Centers, Inc. | 31. Siha LLC |
| 7. Mohawk Esv Incorporated | 32. Blue Ridge Designs, LLC |
| 8. Vanguard Furniture Company | 33. Sino American Trading Company |
| 9. McDonald's | 34. Southern States |
| 10. McDonald's | 35. Eye Care On The Ridge |
| 11. Cockerham's Fuel Center | 36. M G Golf Facilities LLC |
| 12. Food Lion | 37. Postal Service |
| 13. Mountain Valley Hospice | 38. Appalachian Power Company |
| 14. Uac Field, LLC | 39. Community Connection Support Servic |
| 15. Turman Sawmill | 40. McCraw Trucking, Inc. |
| 16. Tri-Area Health Clinic | 41. Wendy's |
| 17. Blue Ridge Home Health Care | 42. Taco Bell |
| 18. Heritage Hall | 43. Hardee's |
| 19. VDOT | 44. The Mason Jar |
| 20. Hillsville Health & Rehab Center LLC | 45. Blue Ridge Concrete Prod. Inc |
| 21. Wheatland Hillsville | 46. Carrols LLC |
| 22. Young and Associates Inc | 47. Lake Ridge Rv Resort |
| 23. MT. Rog. Com. Men. Hlh. Ret. Svc. Bd. | 48. Race In |
| 24. Town of Hillsville | 49. Aunt Bea's Family Restaurant |
| 25. Jeff Johnson Chevrolet Inc | 50. Liddle Adventures Learning Academy |

Source: Virginia Employment Commission, *Economic Information & Analytics, Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2023.*

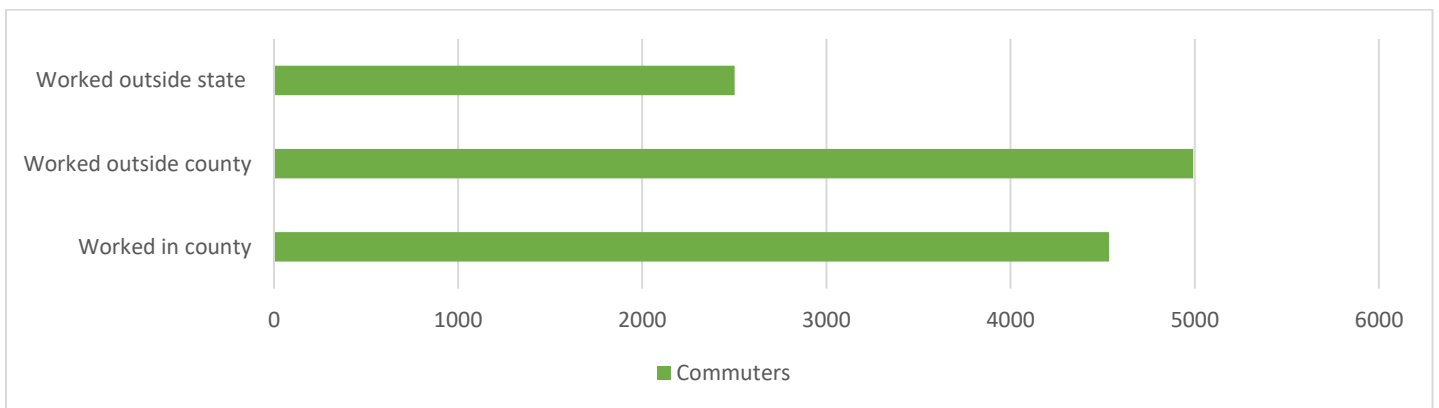
Commuting

Many of the jobs held by Carroll County residents are in neighboring Galax City and Surry County, not reflected **Figure 15: Largest Employers**. According to the 2022 ACS Census, 83.9% of Carroll County workers drove to work alone, 10.4% carpoled, 1.4% walked, less than 0.1% took public transportation, and 0.6% used other (bicycling, taxicab, motorcycle, etc.) means. The remaining 3.5% worked from home.

In 2022, more than half of all employed residents worked outside the county.

In 2022, more than half (62.3%) of the 12,029 ±642 employed Carroll residents (workers 16 years and over) worked outside of the County and state. Of those employed in Carroll County, 3,314 live in other counties. Approximately 5.6% of employed residents worked from home.

Figure 16: Commuting Patterns



SOURCE: 2022 ACS 5-YEAR (S0801)

Among those who commuted to work, it took them on average 26.6 minutes to get to work – for comparison, in 2000 the average commute time was 26.5 minutes, and 25.3 minutes in 2008. Greater separation between home and work increases the number of vehicle miles traveled, which equates to greater demands on public funded road construction and maintenance. It also means greater commute times and less family time.

Economy

As shown in **Table 15**, median income values in Carroll County are much lower than median values in the state. In fact, 2022 values in the county remain lower than 2017 state values. The rate of change in Carroll County has declined against the state, continuing its trend since 1999.

Table 15: Estimated Median Income

Income Type	Carroll County			Virginia		
	2013-2017	2018-2022	Change (%)	2013-2017	2018-2022	Change (%)
Median household income	\$49,276	\$49,113	(0.33)	\$68,766	\$87,249	26.88
Median family income	\$63,056	\$61,754	(2.07)	\$83,164	\$107,504	29.27

SOURCE: 2022 ACS 5-YEAR (CP03), (S1901)

Southwest Virginia has a tradition of income below the state average, but these figures indicate that Carroll County is significantly falling behind versus the state average – [median incomes are not rising in the county nearly as quickly as the state](#).

In 2022, according to the Bureau of Economic Analysis (BEA), Carroll County (plus Galax) had an average per capita personal income (PCPI) of \$44,770. This PCPI ranked 84th in the state (up from 86th in 2008) and was 64.9% of the state average (\$68,985) and 68.4% of the national average (\$65,470). According to the BEA, in 2022, personal income increased in 1,964 counties, decreased in 1,107, and was unchanged in 43; luckily, Carroll County was not one of those counties that had a decreased PCPI.

Table 16: Household Income

Income Category	2000	2008	Change (%) 2000-2008	2022	Change (%) 2008-2022	2000	2008	2022
Less than \$10,000	1,693	1,222	(38.5)	878	(28.2)	13.9%	8.3%	7.0%
\$10,000 to \$14,999	1,068	1,075	0.7	659	(38.7)	8.8%	7.3%	5.4%
\$15,000 to \$24,999	2,258	2,027	(11.4)	1,229	(39.4)	18.5%	13.8%	10.1%
\$25,000 to \$34,999	1,912	1,517	(26.0)	1,787	17.8	15.7%	10.3%	14.8%
\$35,000 to \$49,999	2,479	2,610	5.0	1,592	(39.0)	20.3%	17.7%	13.1%
\$50,000 to \$74,999	1,882	2,589	27.3	2,163	(16.5)	15.4%	17.6%	17.7%
\$75,000 to \$99,999	473	1,074	56.0	1,572	46.4	3.9%	7.3%	13.0%
\$100,000 or greater	423	585	27.7	2,261	286.5	3.5%	4.0%	18.7%
Total	12,188	14,707	17.1	12,141	(17.4)	100%	100%	100%

SOURCE: 2022 ACS 5-YEAR

According to the Census 2022 ACS, 7.0% of households had incomes less than \$10,000, down from 8.3% in 2008. Just over a quarter of the households had annual incomes ranging from \$10,000 to \$24,999 in 2000 a number that has declined to 21% in 2008, and 15.5% in 2022. A significant rise has occurred between 2000 and 2008 in the number of households with income over \$50,000, rising from 22.8% to 28.9%. [Though the trends continue with the percentage of household incomes below \\$10,000 dropping, the percentage of incomes above \\$50,000 continues to grow](#). **Table 16** provides more comprehensive data on household income in the county.

Poverty rates in Carroll County remain well above that of the Commonwealth.

Another indicator of income distribution is the poverty status of the population. As shown by the data in **Table 17**, the overall “poverty rate” in Carroll County is higher than the rate in the Commonwealth. *The disparity is shrinking when one looks at the groups with persons age 65 and over according to the age demographics curve rising, bringing wealth into the higher age brackets.* and families with female householder. The disparity is particularly strong when one looks at female householder families with children under eighteen, which is the family group with the highest poverty rate, with 58.9% living in poverty, a significant increase from 1999 (41.5%). Data published by the U.S. Census Bureau ACS for 2022, shows the rate of families living in poverty increased by 1.5% since 2008. A similar upward trend can be seen for families living in poverty with related children under eighteen. The rate of poverty for this family group is similar to the statewide average.

Table 17: Poverty Status (Percent Below Poverty Level)

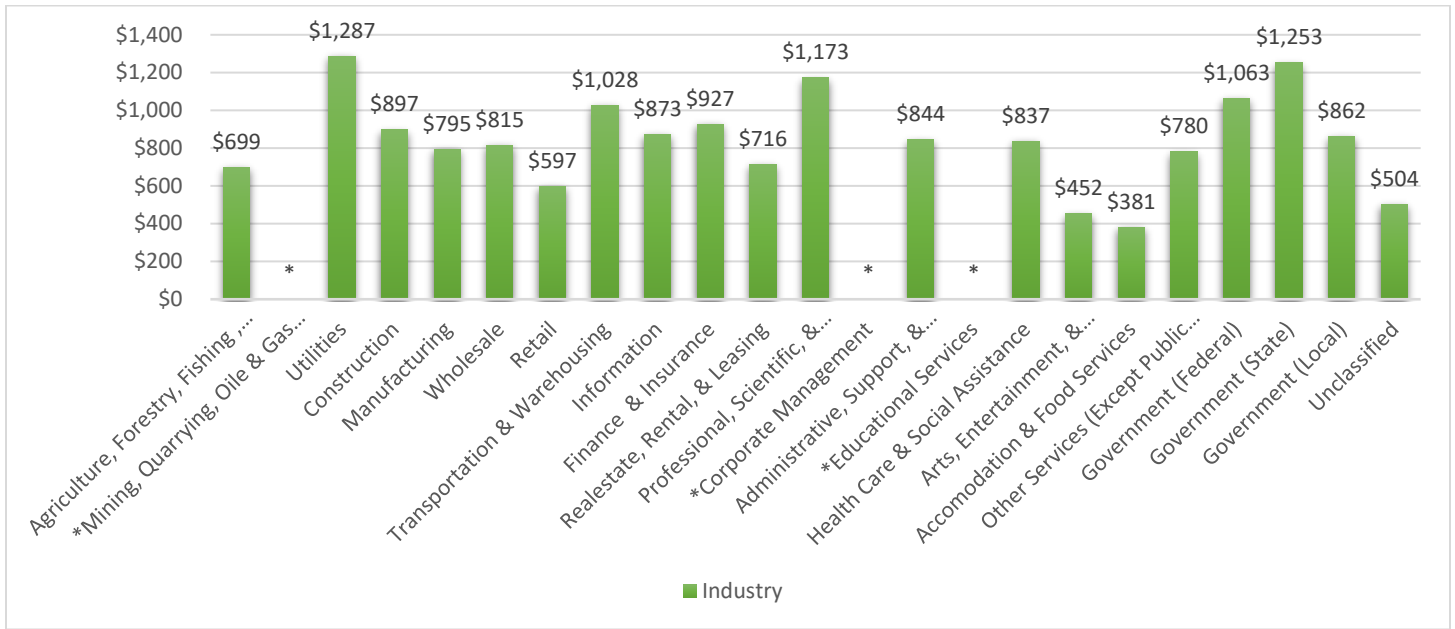
By Population Group	2008		2022	
	Carroll County	Virginia	Carroll County	Virginia
All persons	13.7%	9.9%	15.2%	10.6%
Persons 65 & up	14.2%	8.9%	11.7%	8.7%
All families	9.5%	7.0%	12.2%	7.4%
Families w/ children under 18	11.7%	10.8%	19.7%	10.8%
Families w/ female householder	37.6%	22.5%	36.2%	17.5%
Families w/ female householder w/ children under 18	47.2%	29.1%	58.9%	9.0%

SOURCE: 2022 ACS 5-YEAR (S1702)

Figure 17: Average Weekly Wage By Industry (below) shows the average weekly wages per worker by industry sector during the third quarter of 2023, the latest data available during the planning process. *Carroll County’s wage rate has remained well below the state average and only slightly lower than the average for the Mount Rogers Planning District.* By 2008, the average weekly wage had climbed to 56.4% of the state average, compared to 88.7% for the planning district. Carroll County has had a consistently lower weekly wage than the planning district for the entire period.

As can be seen in Figure 17 average weekly wages are the highest paid in government jobs, professional services, utilities, and transportation and warehousing industries. *For Carroll County, government employment has the highest percentage of employment by industry sector*, second only to manufacturing, as shown in **Table 13: Employment by NAICS Industry Sector (Carroll County + Galax)**. Though much of the manufacturing jobs may be correlated to the independent City of Galax, pay per week for manufacturing falls short of government positions. Average weekly wages in the agricultural employment industry types remain higher than retail, arts, entertainment, food services and accommodations, and other unclassified occupations, and falls short of real-estate by a narrow margin, approx. \$17 per week.

Figure 17: Average Weekly Wage By Industry



NOTE: ASTERISK (*) INDICATES NO DISCLOSABLE DATA.

SOURCE: VIRGINIA EMPLOYMENT COMMISSION, ECONOMIC INFORMATION & ANALYTICS, QUARTERLY CENSUS OF EMPLOYMENT AND WAGES (QCEW), 3RD QUARTER (JULY, AUGUST, SEPTEMBER) 2023.

Gross Domestic Product

According to the Bureau of Economic Analysis (BEA), *Real Gross Domestic Product* (GDP) by county and metropolitan area is an inflation-adjusted measure of each area's gross product that is based on national prices for the goods and services produced within the area. The real estimates of gross domestic product (GDP) by county and metropolitan area are measured in chained (2012) dollars.

Table 18: Real Gross Domestic Product

Carroll + Galax, VA	2001	2010	2021
Real GDP	\$925,478	\$882,549	\$834,734

SOURCE: BUREAU OF LABOR STATISTICS

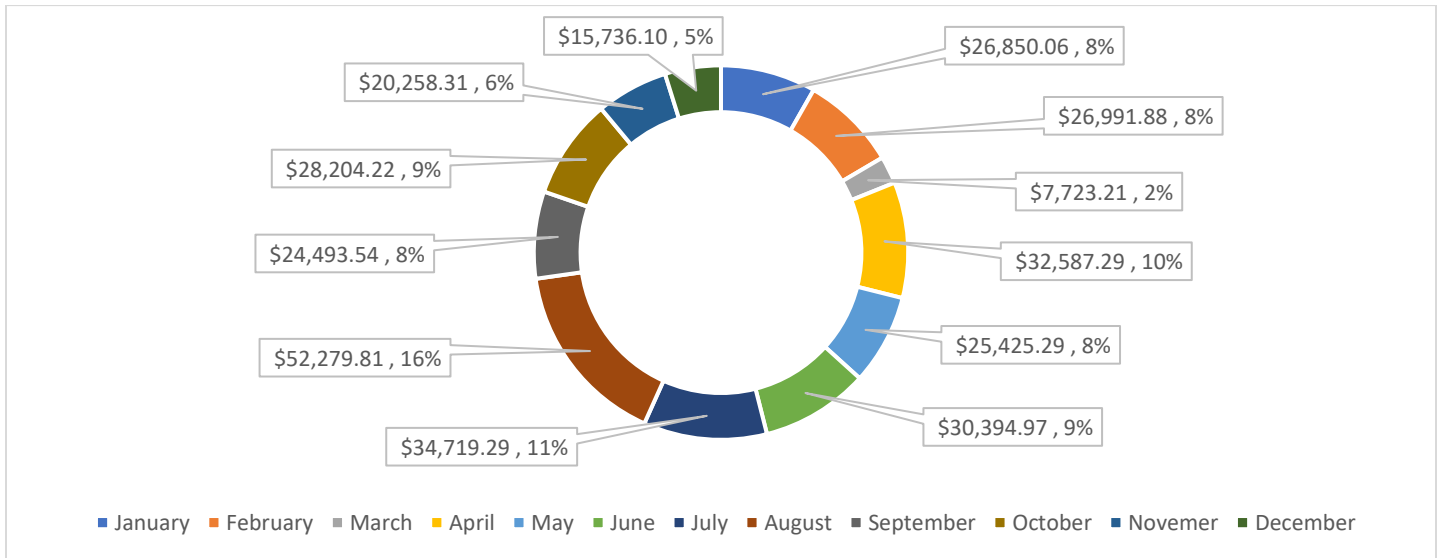
Real GDP for Carroll County is only available in a set including Carroll County + Galax according to the BEA, and data shows that there has been a gradual decline in real GDP from the set, declining approximately \$50,000 (or 5.4%) from 2001 to 2010, and approximately \$50,000 (or 5.7%) from 2010 to 2021. A continuing shift in economic activity within Carroll County (+ Galax) mirrors the national trend towards retail, service, and information-based activities.

Tourism

Tourism is a significant source of revenue for the County, sustaining 9.1% of the county’s jobs.; **Figure 18** illustrates the revenue from meals taxes collected per month for fiscal year 2023 and **Originally adopted** in 1992, Carroll County, Va Code § 221-29 states that “[i]n addition to all other taxes and fees of any kind now or hereafter imposed by law, a tax is hereby levied and imposed on the purchaser of every meal served, sold or delivered in the County by a restaurant or caterer. The rate of this tax shall be 4% of the amount paid for the meal.”

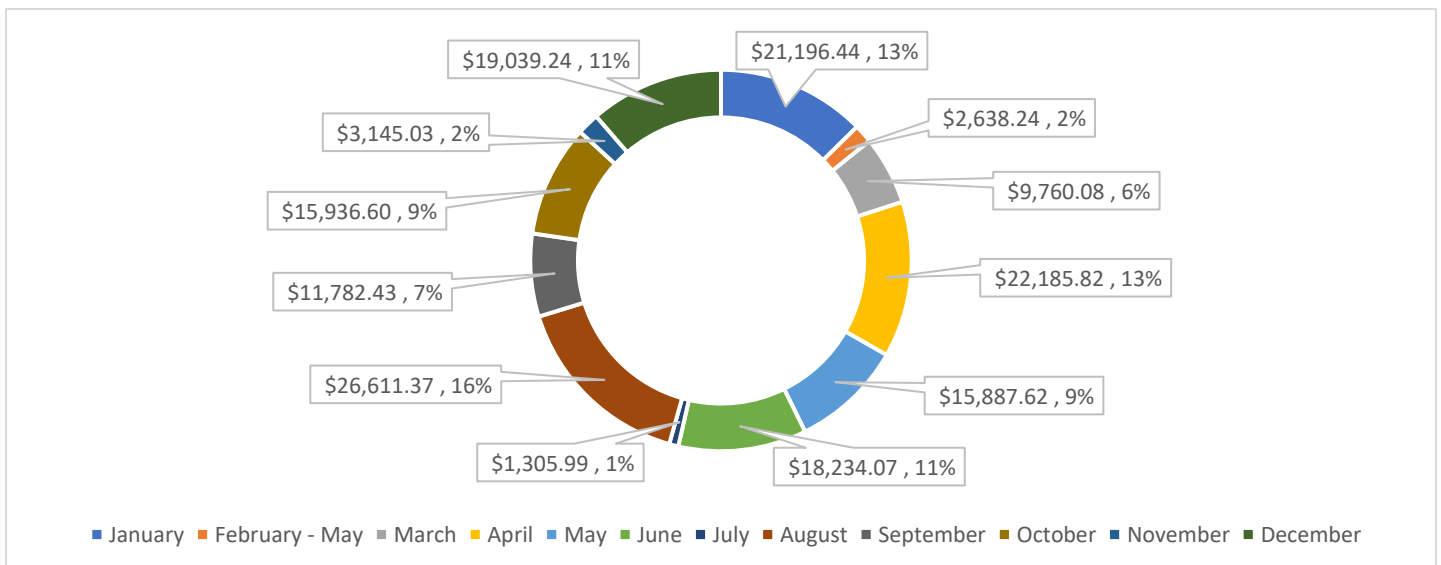
Figure 19 depicts the amount of tax revenue generated by lodging taxes for the same times period. It is important to note that the County also collects and tracks meals and lodging tax revenues from the Interstate 77 corridor. Total meals tax revenues from this corridor for FY23 is \$274,684.51 and the County collected \$261,407.98 in lodging tax revenues for the same period – that nearly doubles the total meals and lodging tax revenues collected throughout the County.

Figure 18: Fiscal Year 2023 Meals Tax



Originally adopted in 1992, [Carroll County, Va Code § 221-29](#) states that “[i]n addition to all other taxes and fees of any kind now or hereafter imposed by law, a tax is hereby levied and imposed on the purchaser of every meal served, sold or delivered in the County by a restaurant or caterer. The rate of this tax shall be 4% of the amount paid for the meal.”

Figure 19: Fiscal Year 2023 Lodging Tax



In accordance with [Carroll County, Va Code § 221-13](#), Carroll County, VA, imposes on every transient(s) a lodging tax in the amount of 5% of the charge made for each room rented to such transient(s). Furthermore, any person or business renting room or space that is suitable or intended for occupancy for dwelling, sleeping, or lodging purposes is required to register annually with the Commissioner of the Revenue Office.

In order to make the most of these *ad valorem* excise tax revenues, the County currently deploys a modern tourism website domain located at <http://www.itscoolerinthemtns.com/>, with the subdomain <https://www.lovecarroll.com/> for the *Love Carroll* campaign expressing **positive place-making**. The slogan “It’s Cooler in the Mountains” is trademarked by the county. This website replaced the *pickplacestay.com* website, built upon the previous logo, and was completed in-house.

Tourism is a significant source of revenue for Carroll County, sustaining 9.1% of the county’s jobs. The summer months are the most active for tourism-related activities.

The following **Figure 20: Economic Impact Summaries** illustrates the economic impact and visitor spending totals related to tourism throughout much of the Commonwealth. The *leftmost table* (below) reports the total business sales, employment, labor income, state taxes, and local taxes for 2021; with this, we can compare figures for Carroll County to other counties in the region and across the Commonwealth. [This data indicates that Carroll County has a higher visitor spending total \(\\$46.8 million\) than many of its neighboring municipalities](#), including Bland County (\$8.4 million), Floyd County (\$24.8 million), Grayson County (\$19.2 million), Patrick County (\$22.2 million); however, a couple of neighbors have a higher tourism impact, specifically Pulaski County (\$77.6 million) and Wythe County (\$129.9 million).

The *rightmost graphic* (below) illustrates key tourism figures for the County, showing visitor spending figures for a range of years, 2016 to 2021, and breaks these visitor spending figures down into specific categories. There has been a trending growth in visitor spending throughout the County since 2020.

The Tourism Mission Statement for Carroll County is:

To promote and develop tourism in Carroll County while preserving its natural resources. Ensuring and preserving a high quality of life, by including community involvement, economic development, and meeting the needs of our visitors through regional and corporate partnerships.

Figure 20: Economic Impact Summaries

Economic Impact for State, Counties, and Cities | County/City Spending & Economic Impact

Year: 2021 | Geography: All | Direct or Total: Total

	Total Business Sales	Total Employment	Total Labor Income	Total State Taxes	Total Local Taxes
Virginia	\$39,444.2M	273,154	\$11,832.8M	\$925.6M	\$1,545.0M
Accomack County	\$245.4M	1,764	\$58.2M	\$5.1M	\$8.4M
Albemarle County	\$647.0M	4,476	\$236.6M	\$16.6M	\$25.9M
Alleghany County	\$37.2M	310	\$9.4M	\$0.9M	\$1.4M
Amelia County	\$8.4M	74	\$2.2M	\$0.2M	\$0.2M
Amherst County	\$65.8M	528	\$16.9M	\$1.5M	\$2.0M
Appomattox County	\$25.9M	227	\$6.5M	\$0.6M	\$0.8M
Arlington County	\$4,311.7M	20,688	\$1,165.1M	\$78.6M	\$165.1M
Augusta County	\$194.9M	1,503	\$48.4M	\$4.6M	\$6.3M
Bath County	\$114.8M	530	\$26.6M	\$2.8M	\$5.3M
Bedford County	\$106.0M	748	\$25.7M	\$1.9M	\$3.3M
Bland County	\$8.4M	35	\$1.0M	\$0.1M	\$0.2M
Botetourt County	\$83.8M	735	\$26.7M	\$2.1M	\$3.3M
Brunswick County	\$16.2M	125	\$2.8M	\$0.2M	\$0.4M
Buchanan County	\$20.3M	201	\$5.7M	\$0.4M	\$0.7M
Buckingham County	\$12.3M	99	\$2.1M	\$0.2M	\$0.3M
Campbell County	\$170.9M	1,171	\$76.0M	\$4.3M	\$6.5M
Caroline County	\$70.5M	408	\$13.1M	\$1.6M	\$2.2M
Carroll County	\$68.9M	545	\$15.2M	\$1.5M	\$2.3M
Charles City County	\$11.5M	75	\$2.2M	\$0.2M	\$0.3M
Charlotte County	\$11.5M	99	\$2.8M	\$0.2M	\$0.3M
Chesterfield County	\$870.6M	7,641	\$242.8M	\$21.9M	\$33.0M
Clarke County	\$23.8M	163	\$6.3M	\$0.5M	\$0.8M
Craig County	\$4.4M	38	\$1.2M	\$0.1M	\$0.2M
Culpeper County	\$103.2M	886	\$28.9M	\$2.4M	\$3.7M
Cumberland County	\$5.0M	47	\$1.1M	\$0.1M	\$0.2M
Dickenson County	\$18.2M	164	\$4.5M	\$0.4M	\$0.6M
Dinwiddie County	\$34.9M	278	\$7.4M	\$0.7M	\$1.0M
Essex County	\$50.1M	353	\$10.9M	\$1.1M	\$1.4M
Fairfax County	\$4,460.6M	31,079	\$1,482.1M	\$110.6M	\$173.6M
Fauquier County	\$221.5M	1,578	\$60.9M	\$5.4M	\$7.3M
Floyd County	\$24.8M	172	\$5.4M	\$0.5M	\$0.8M
Fluvanna County	\$16.5M	118	\$3.5M	\$0.3M	\$0.4M
Franklin County	\$101.2M	688	\$22.6M	\$1.7M	\$3.2M
Frederick County	\$259.4M	1,855	\$71.9M	\$6.4M	\$8.8M
Giles County	\$47.9M	346	\$11.4M	\$1.2M	\$1.6M
Gloucester County	\$66.4M	547	\$17.6M	\$1.4M	\$2.3M
Goochland County	\$78.6M	598	\$25.4M	\$1.8M	\$2.5M
Grayson County	\$19.7M	110	\$2.8M	\$0.3M	\$0.5M
Greene County	\$45.2M	364	\$10.6M	\$1.1M	\$1.8M
Greensville County	\$40.4M	325	\$8.9M	\$0.9M	\$1.3M
Halifax County	\$77.1M	764	\$22.1M	\$1.9M	\$2.7M
Hanover County	\$327.6M	2,687	\$93.7M	\$7.8M	\$11.9M
Henrico County	\$2,098.9M	13,372	\$721.9M	\$47.7M	\$84.6M
Henry County	\$68.4M	619	\$18.8M	\$1.6M	\$2.2M
Highland County	\$2.7M	27	\$0.8M	\$0.1M	\$0.1M
Isle of Wight County	\$75.1M	653	\$19.7M	\$1.9M	\$2.6M
James City County	\$752.8M	6,042	\$243.9M	\$20.9M	\$30.4M
King and Queen Cou..	\$6.5M	43	\$0.9M	\$0.1M	\$0.2M
King George County	\$60.7M	553	\$15.5M	\$1.3M	\$2.1M
King William County	\$30.2M	242	\$7.0M	\$0.7M	\$0.9M
Lancaster County	\$108.7M	801	\$31.0M	\$2.5M	\$3.5M
Lee County	\$33.2M	258	\$7.3M	\$0.7M	\$1.0M
Loudoun County	\$4,478.9M	22,392	\$1,351.9M	\$82.8M	\$155.8M
Louisa County	\$92.7M	527	\$22.7M	\$1.9M	\$3.0M
Lunenburg County	\$8.9M	64	\$1.4M	\$0.1M	\$0.2M
Madison County	\$31.1M	276	\$8.8M	\$0.7M	\$1.2M
Mathews County	\$24.3M	115	\$2.3M	\$0.2M	\$1.3M
Mecklenburg County	\$148.4M	1,040	\$29.8M	\$2.9M	\$4.9M
Middlesex County	\$42.9M	230	\$7.2M	\$0.6M	\$1.1M
Montgomery County	\$367.0M	3,248	\$142.5M	\$10.6M	\$16.1M
Nelson County	\$118.7M	845	\$29.5M	\$2.6M	\$4.4M
New Kent County	\$42.9M	296	\$12.8M	\$1.0M	\$1.4M
Northampton County	\$98.1M	559	\$19.7M	\$2.3M	\$3.4M
Northumberland Cou..	\$31.4M	100	\$2.3M	\$0.2M	\$1.8M
Nottoway County	\$27.7M	221	\$6.8M	\$0.6M	\$0.9M
Orange County	\$77.2M	606	\$21.8M	\$1.8M	\$2.6M
Page County	\$159.0M	1,361	\$44.4M	\$4.0M	\$7.1M

Carroll County

Year: 2021 | Geography: Carroll County



\$46.8M
Visitor Spending
YOY: ▲ 39.6%

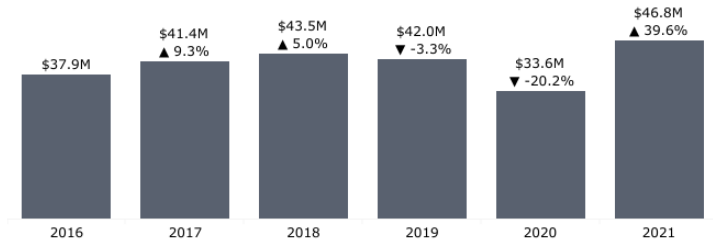


9.1% is the share of all county jobs sustained by tourism



Visitors generated **\$2.8M** in state and local taxes

Visitor Spending
Actual & % change YOY



Spending



Employment



Labor Income



State Taxes



Local Taxes



Visitor Spending by Category in 2021

Actual, share & % change YOY

Lodging \$16.0M Share: 34.1% YOY: ▲ 32.9%	Food & Beverage \$12.2M Share: 26.1% YOY: ▲ 50.1%	Recreation \$4.6M Share: 9.7% YOY: ▲ 44.9%
	Transport \$10.1M Share: 21.6% YOY: ▲ 40.6%	Retail \$4.0M Share: 8.5% YOY: ▲ 29.9%

Supporting Economic Expansion

The Economic Development Department exists to promote entrepreneurial and new business activity that will result in incremental jobs for Carroll County residents. The department's primary responsibility is to assist existing and potential businesses in developing business plans and locating both public and private sources of funding. The department should also recruit new businesses to the area and participate in whatever local and regional collaboration is necessary to help ensure the economic vitality of the region.

Jobs / Housing Balance

The jobs / housing balance within the County has implications for residents and employers as well as for service providers. Balanced County development has employment options for residents, so that they can live and work in the same community; and an educated workforce for employers, so that they are able to hire employees who are vested in their community and in their job. **Communities with an imbalanced ratio of jobs to housing are unsustainable for both residents and employers.** Commercial uses generate more revenues for jurisdictions than residential uses, and therefore an imbalanced land use mix can also negatively impact the ability of service providers to maintain levels of service.

There is an opportunity for planned growth areas to develop with a balanced jobs to housing ratio from the outset to reduce traffic congestion, support revenue generation and provide a high quality of life for residents. While the built-out land use mix is ultimately most important, it will also be important to encourage jobs / housing balance during the phasing of development in growth areas.

From an economic perspective, adequate workforce housing should be available to support a high-quality employment base for local and regional employers.

Critical to the achievement of jobs / housing balance is the designation of appropriate sites for non-residential development. The availability of appropriate sites, while necessary, isn't likely to induce economic growth on its own. However, the lack of appropriate sites is certain to limit economic growth.

Infrastructure Development to Support Economic Development

Like other rural localities in Southwest Virginia, Carroll County's economic base has evolved from predominantly agricultural to a diversification of employment in the manufacturing, service, and trade sectors. The unemployment rate has generally been a problem in the Mount Rogers region since the national economic downturn in the early 1990s and has been exasperated by recent downward trends. The lack of infrastructure (water and sewer) and limited industrial recruitment have been limiting factors to job growth. Until Carroll County can expand its industrial base, much of the county's labor force will continue to look for opportunities in the City of Galax, Wythe County, Surry County, North Carolina, and other locations.

A key to attracting and keeping both existing industries and the target industries described above is the development of twenty-first century infrastructure within the County. Without adequate infrastructure, other community development and economic activities are weakened and increasingly difficult to support. [In assessing current strengths and weaknesses related to infrastructure, the County has identified regional infrastructure development in broadband, renewable energy, and agriculture infrastructure as key to advancing the local economy into the future.](#) However, broadband implementation is complex, and the County continues to research resilient planning processes for implementing and regulating renewable energy sources.

The County, in its effort to aid the attraction, expansion and retention of economic investment, has identified several key structural components necessary to develop a sustainable local economy. These components include:

- Economic infrastructure that is sensitive to environmental and community needs, addressing both current deficiencies and developing new capacity as necessary. Specific examples include the expansion of broadband service, the local generation and distribution of renewable energy, and the enhancement of transportation systems.
- A viable, educated, trained and skilled labor force, including the development of a green workforce and support of the local youth workforce. Specific examples include offering supportive services and opportunities to allow workers to transition from outdated skills to currently marketable skills and enabling local youth to develop skills at an early age to lead to meaningful employment in the future.
- Adequate economic development services. Specific examples include promoting entrepreneurial and small business capacities and supporting key cluster industries.
- The strategic development of cluster industries such as the "green" industry, agriculture, outdoor recreation and ecotourism.
- Stronger local and regional community participation and organization. Partnering with other governmental agencies and non-profit organizations allows for coordination and cooperation on a regional basis, strengthening economic development outreach and ensuring future economic activity is diversified and appropriate to area communities and regions/supported by these groups. Partnerships create a stronger front, allowing more targeted approaches and a greater ability to seek out desired businesses.

Initiatives to Promote Agricultural Economic Development

The same approach to growing and attracting new commercial and industrial businesses applies to supporting and encouraging the agricultural economy, which means a supporting infrastructure for a local food industry needs to be in place. One of our biggest challenges is to "jump start" this industry by developing local markets for locally grown food. Opportunities for immediate expansion include sales to local institutions such as schools, hospitals, food assistance agencies, restaurants and locally managed stores capable of sourcing their food locally. Other areas of consideration for the short-term include local food networks (partnerships between farmers, buyers and consumers) and ethanol plants.

Virginia Cooperative Extension

The Virginia Cooperative Extension responds to the needs of individuals, families, groups and organizations in the three broad areas of Agriculture & Natural Resources, Family & Consumer Sciences, and 4-H Youth Development. Virginia residents can participate in Carroll County programs through the local extension office. Agriculture and Natural Resources programs help sustain profitability of agricultural and forestry production, while protecting and enhancing the quality of our land and water resources. Family and Consumer Sciences programs improve the quality of life for individuals, families, and communities, and support economic self-sufficiency and family stability and emphasize appropriate and safe food and nutrition choices, encourage physical activity, and improve health literacy. 4-H is the comprehensive youth development program of Virginia Cooperative Extension. Young people from ages 5 to 18 engage in hands-on learning experiences under the guidance of 4-H agents and trained adult or teen 4-H volunteers.

Southwest Virginia Farmers Market

The Southwest Virginia Farmers Market is responsible for the operation and maintenance of wholesale and retail fruit and vegetable market buildings. In addition, they provide a location for local farmers to learn about and participate in innovative ways of marketing, packaging, and cooling their crops. The Farmers Market:

- Buys, sells, packages and cools vegetable and fruit crops grown by Southwest Virginia farmers.
- Provides a location for retail vendors to operate their business.
- Provides a location for wholesale vendors to operate their business.
- Is a regional leader in promoting crop diversification.
- Assists local farmers in marketing their crops.

Agroforestry

The United States Department of Forestry defines agroforestry as:

“AGROFORESTRY IS THE INTENTIONAL INTEGRATION OF TREES AND SHRUBS INTO CROP AND ANIMAL FARMING SYSTEMS TO CREATE ENVIRONMENTAL, ECONOMIC, AND SOCIAL BENEFITS. “

Agroforestry has been implemented globally and in the United States for centuries and enhances agricultural landscapes and watersheds and creates more resilient communities.⁶ For management practice to be considered true agroforestry, it must be *intentional*, *intensive*, *integrated*, and *interactive*. The five most common agroforestry practices include *alley cropping*, *forest farming*, *silvopasture*, *riparian forest buffers*, and *windbreaks*. Implementation of such practices can create more sustainable agriculture, complement agritourism efforts, and build community character through resilient and intentional design. Increased quality of life is a tangible economic development incentive when considering available labor force.

⁶ The Agroforestry Strategic Framework (Fiscal Years 2019 – 2024) includes strategic goals and objectives to support the mission and vision of the US Dept. of Forestry related to agroforestry and provides a reference document for small to large-scale farming initiatives throughout the county. Available from: <https://www.usda.gov/sites/default/files/documents/usda-agroforestry-strategic-framework.pdf>

Initiatives to Support Tourism

Successful tourist venues tell *the story of a place* to visitors and inspire them to become a part of a place's future history, encouraging repeat visits, purchases of vacation homes and priceless word-of-mouth advertising. Carroll County is a product of its history, location, regional attributes, and development trends. The County has enjoyed the impacts of tourism over the years, but the challenge of the future is to re-tell the story plus maintain and increase the tourist appeal, while remaining committed to providing services to permanent residents. One key challenge for Carroll County will be to bring people off the main highway to stop at destinations inside the County, and the opportunity will be to provide a higher quality of shopping, dining, and recreational experiences to meet the demands of an increasingly sophisticated tourist market.

The qualities that make Carroll County an attractive place to live are much the same as the qualities that make it an attractive place to visit.

Year-round residents as well as part time residents and visitors demand basic amenities such as clean air and water, reliable emergency services, efficient transportation, and retail options. Residents and visitors alike value the natural beauty of Carroll County and the surrounding environs in addition to the many recreational amenities and facilities available. Recognizing that tourism has a profound effect on the local economy and government, including employment, revenues, infrastructure and service demand, the environment and overall quality of life factors, [the goals and policies for tourism aim to promote tourism within a sustainable framework](#) for the entire Carroll County community.

The County adopted a Five-Year Strategic Plan drafted by the Carroll County Tourism Advisory Committee and County Staff in early 2010 and the Visitor Center became a state certified local/regional visitor center on March 1st, 2008. Visitor spending generated nearly \$25.2 billion in Virginia state tax revenues in 2021, of which Carroll County's share was \$46.8 million.

Virginia Tourism Corporation

Virginia Tourism Corporation (VTC) is the state agency tasked with supporting tourism across the Commonwealth and offers many grant programs to municipalities, Destination Marketing Organizations (DMOs), and private sector venues and partners to expand tourism initiatives state-wide.

Current grant programs include: *VTC Marketing Leverage Program, Virginia DMO Marketing Grants, Virginia Special Events and Festivals Program, VA250 Marketing Leverage Program, VTC Microbusiness Marketing Leverage Program, Drive Outdoor Grant Program, Tourism Development Financing Program (TDFP), and Tourism Improvement Districts (TIDs)* – these are all programs that many localities in Virginia have taken advantage of and had success.

Heritage Tourism

The historic and cultural resources in Carroll County draw visitors to the area, making historic preservation an element of the County's economy. Historic preservation aims to identify, preserve, and protect sites, buildings, and structures that have significant cultural, social, economic, political, archaeological, or architectural history. The social and cultural benefits to historic preservation are numerous; it can revitalize neighborhoods and instill pride in the community. Preservation is also associated with sustainability, as it encourages the use of existing buildings and sites as well as their infrastructure, rather than building new structures in green fields. By taking advantage of existing infrastructure through adaptive reuse (using historic buildings for new purposes), preservation reduces the environmental toll of growth.

Historic preservation also increases and encourages heritage tourism. The National Park Service identifies heritage tourism as "traveling to experience the places, artifacts, and activities that authentically represent the stories and

people of the past and present.” While on vacation, visiting historic and cultural sites ranks second only to shopping, which underscores the economic importance of preservation.

Scenic Routes and Heritage Sites

A small portion of the Jefferson National Forest (the Mount Rogers National Recreation Area) lies within the northwestern corner of Carroll County, and thirty miles of the Blue Ridge Parkway is located within the county. The Blue Ridge Parkway, completed in 1977, is a 469-mile scenic route through Virginia and North Carolina. The Blue Ridge Parkway not only provides Carroll County residents with recreational opportunities, but with the possibility of substantial economic growth.

Heritage tourism in Carroll County is also supported by *The Crooked Road: Virginia’s Heritage Music Trail*. *The Crooked Road* is a driving route through the coalfields, Appalachian Mountains, and the Blue Ridge Mountains of Virginia. Carroll County is home to two stops on the trail: the Blue Ridge Music Center and the Rex Theatre. The Blue Ridge Music Center is located near mile marker 213 on the Blue Ridge Parkway in both Carroll and Grayson Counties. Phase I of the music center opened in 2001, which included an outdoor amphitheater with seating capacity for 2,000 people, picnic areas, and a gift shop. Phase II featured a 17,000 square foot facility with interpretive center, exhibit gallery, music sales and information area, an indoor auditorium, a listening library and a classroom area to accommodate visiting school groups. The second stop on *The Crooked Road* is the Rex Theatre, located in the City of Galax.

Heritage Events

The Annual Old Fiddler’s Convention is held annually in August in Galax. Originating in the spring of 1935, the Convention was dedicated to "Keeping alive the memories and sentiments of days gone by and make it possible for people of today to hear and enjoy the tunes of yesterday". The contest attracts thousands of musicians and fans every year.

Ecotourism

Conservation of open space and environmentally sensitive areas can increase revenues because businesses and residents are drawn to areas with a high quality of life, which includes high percentage of protected lands and open spaces in and near to urban areas and prime research and educational facilities.

Within Carroll County, tourism is a significant and clean industry with great influence over the County and regional economy.

Visitors are attracted to Carroll County’s cultural assets and natural beauty. Protection of these unique environmental and cultural resources will ensure that our competitive advantage in tourism is preserved and enhanced to ensure the viability of tourism.

A significant amount of tourist activity in Carroll County can be regarded as “ecotourism.” **Ecotourism includes all tourist activities that have a reduced impact on the natural environment, encourage educational awareness of the environment and culture of a place, and improve the welfare of the local people.** These types of activities usually include scenic trips, such as visiting National parks and wildlife preserves, educational and awareness trips, such as guided tours, and volunteer trips, as well as canoeing, hiking, and other outdoor adventures. Ecotourism is increasing in popularity in concert with the growing popularity of green products, sustainable development and environmentally friendly alternatives to conventional standards of the past. Ecotourism can be a fast growing and important economic development component for the County, provided that it “fits” within the environmental and community constraints.

It is important to note that promoting developing ecotourism is only one component of a successful ecotourism development program. [First and foremost, a healthy environment with connected, protected and accessible natural areas is critical.](#) For the County to protect its ecotourism assets, it must prevent development from infringing on a critical mass of natural preserves. Carroll County has several natural trails that should be protected and promoted as key ecotourism assets, including Stewarts Creek Wildlife Management Area, Crooked Creek Wildlife Management Area/Fee Fishing/Birding Trail, Devil’s Den Nature Preserve, New River Trail State Park, and Beaver Dam Creek Wildlife and Birding Trail.

Agritourism

The Code of Virginia defines agritourism as:

“ANY ACTIVITY CARRIED OUT ON A FARM OR RANCH THAT ALLOWS MEMBERS OF THE GENERAL PUBLIC, FOR RECREATIONAL, ENTERTAINMENT, OR EDUCATIONAL PURPOSES, TO VIEW OR ENJOY RURAL ACTIVITIES, INCLUDING FARMING, WINERIES, RANCHING, HISTORICAL, CULTURAL, HARVEST-YOUR-OWN ACTIVITIES, OR NATURAL ACTIVITIES AND ATTRACTIONS. AN ACTIVITY IS AN AGRITOURISM ACTIVITY WHETHER OR NOT THE PARTICIPANT PAID TO PARTICIPATE IN THE ACTIVITY.” (CODE OF VIRGINIA § 3.2-6400).

According to a study completed in 2017, [The Economic and Fiscal Impacts of Agritourism in Virginia](#), Virginia’s agritourism sector makes substantial contributions to the fiscal position of the Commonwealth, and as a subset of tourism revenue injected into the economy from external sources, agritourism is regarded as a valid economic engine. Aligning with Carroll County’s vision, agritourism may prove to be a sustainable economic engine worth the investment of resources from the governing body. These relatively lost-cost investments may encourage protection of valuable agriculture land by creating more financially viable uses for the land, incentivizing protection.

DEAR FUTURE TRAVELER,

I sit on this bench looking at this place of magic, mystery, and beauty. It's really pretty outside. The days are getting longer, the nights are getting shorter, the birds are singing, blossoms are blooming, and everything around me is green; The outdoors are coming alive, but the world around me is calm. The summers here are quiet, but friendly. Time moves a bit slower here. The hikes, creeks, and New River provide peace and refuge from the hustle and bustle of everyday life.

Don't wait to get out in nature to explore. Make time to learn a new art form. Listen to music that sets your soul on fire. Share what you love with who you love.

I have been looking for love and I've found it here, in the heart of the Blue Ridge Mountains of Appalachia: in the land, in the music, in the memories and people. Discover miles of inspiration here. We are explorers in the same sweet place, but at a different time. To each heart it feels new, different, yet ever so much the same. Wherever the road takes you, I hope you will make the most of your time here.



<https://www.lovecarroll.com/home/love-carroll-county>

Economic Development, Goals & Policies

Goal 7: Tourism is a foundation for the local economy, with enhanced amenities and attractions for residents and visitors.

- Policy 7.1: Support development of cultural and recreational attractions.
- Policy 7.2: Support development of eco-tourism and protect the natural resources that contribute to the viability of ecotourism and outdoor recreation.
- Policy 7.3: Promote and protect the scenic beauty of the Blue Ridge Parkway.
- Policy 7.4: Enhance quality lodging options for visitors.
- Policy 7.5: Encourage expanded dining options for visitors.
- Policy 7.6: Support implementation actions from the Tourism Development Plan.
- Policy 7.7: Support the development and programming of the Crooked Road: Virginia’s Heritage Music Trail.
- Policy 7.8: Continue to partner with the Twin County Chamber of Commerce.
- Policy 7.9: Support the role of the Office of Tourism, including to:
- Re-establish the Tourism Advisory Board to update and implement the five-year strategic plan.
 - Help build and sustain our regional tourism marketing groups.
 - Continue to work on tourism related infrastructure.

Goal 8: A sustainable local economy provides employment opportunities and supports a high quality of life.

- Policy 8.1: Support agricultural-based economic development and maintain the viability of the agricultural sector of the County’s economy through developing and supporting new, local and enhanced markets for locally grown food and local products.
- Policy 8.2: Promote a diversified regional economy with more high-tech industry.
- Policy 8.3: Support workforce training opportunities.
- Policy 8.4: Encourage small business development.
- Policy 8.5: Support the use of economic development incentives to create employment opportunities, establish public-private partnerships, and encourage development that provides public benefits and amenities.
- Policy 8.6: Promote, encourage, and support Blue Ridge Crossroads Economic Development Authority (BRCEDA), which is a regional authority of Carroll, Grayson, and Galax that promotes regional efforts.
- Policy 8.7: Support the Crossroads Institute, which serves as an off-campus site for WCC and workforce training and houses the Small Business Institute and BRCEDA.
- Policy 8.8: Encourage wind turbines/farms and other green energy options.
- Policy 8.9: Encourage job creation.
- Policy 8.10: Encourage development of manufacturing and distribution centers.

Policy 8.11: Support facilities and services that contribute to quality of life to attract new businesses.

Policy 8.12: Support and finance County acquisition of land for business and industrial development.

Policy 8.13: Support the role of the Carroll County Economic Development Authority to promote Carroll County as a rising center for commercial and industrial development, including to:

- Assist new clients seeking Economic Development Services.
- Locate and secure funding for new and existing Carroll County businesses.
- Generate new capital investment in Carroll County.
- Generate new business activity that stimulates new jobs for the Carroll, Galax, and Grayson area.

Chapter 5. Housing

Provision of adequate and attainable housing is a vital foundation for supporting sustainable community and economic development. Demographic factors such as an aging population and changing economic conditions play a role in the development of policies and actions related to housing needs and demand. Unique community characteristics and diverse development patterns in different parts of the County impact policy and implementation strategies.

Sustainable communities provide housing options for all residents, so that people can stay vested and participate within their community though their housing needs may change over time. In terms of housing, social sustainability means that housing is available for people of all racial, ethnic, and socioeconomic backgrounds, as well as all household types (families, singles, un-related individuals, elderly, etc.). Sustainable neighborhoods provide a mixture of housing forms, sizes, prices, and densities, as well as opportunities for social interaction, such as neighborhood parks or neighborhood-based schools. Conventional subdivisions are often designed and marketed to separate housing products based on small pricing increments, for instance, homes with two bedrooms priced very closely to one another are all located in one pod, while slightly larger homes with three bedrooms priced just higher are located in a different pod. While this is presented as a way to maintain property values, it really serves to isolate people based on very small economic factors and matters of preference.

From an economic perspective, adequate workforce housing should be available to support a high-quality employment base for local and regional employers. Workforce housing is necessary if the County is to maintain and enhance its economic health and vitality. Additionally, the provision of adequate, attainable housing helps to prevent neighborhood deterioration and a declining tax base. It is normal in Carroll County and many other regions of the country for workers to seek housing in other more affordable communities, forcing them to commute long distances to work. This economic factor influences social and personal health aspects of people's lives as well as the environment, as long-distance commutes have huge impacts on local and global air quality.

Finally, from an environmental perspective, housing should be sustainable in terms of energy efficiency and its ecological footprint. The design of neighborhoods should support alternative transportation methods and public health goals through the integration of pedestrian facilities and proximity to employment opportunities.

Terminology

Providing a balance of housing types within the community can be a challenging endeavor. Local housing issues often involve a broad range of considerations and terminology. Before any meaningful discussion can occur on housing policy, it is important to clarify specific definitions frequently used by those who are addressing local housing issues in the community.

National definitions for housing are created by the U.S. Department of Housing and Urban Development (HUD). According to HUD, the term *affordable housing* refers to the ability of a person or household to pay no more than 30% of their (gross) income for housing. “*Low- and moderate-income household*” is HUD’s definition for families earning 80% or less of Area Median Income (AMI). The majority of federal and state subsidy programs are geared to assist low- and moderate-income (LMI) households.

However, in many communities, households earning more than 80% of the Area Median Income are also in need of some form of housing assistance, due to locally unsustainable wage levels or high housing prices. *Attainable* is a term that Carroll County may use to refer to households earning between 80% and 125% of AMI. Housing programs to meet the needs of both low- and moderate-income households as well as families earning above 80% of AMI can contribute to the social and economic sustainability of growth.

An umbrella term used to refer to both target populations is **workforce housing**. This term refers to the concept of providing programs that meet the County’s diverse workforce housing needs, consisting of both owner- and renter-occupied housing that is affordable to the local workforce and carefully located to meet their needs. [Lack of housing that is affordable to the local workforce causes increased commuting times, increased pollution, increased roadway congestion and less time at home with family.](#) When this occurs, quality of life suffers, and the social balance of the community is disrupted.

There are also **special needs** populations outside of the workforce who need housing assistance. These groups include military families, seniors, persons with disabilities, and the homeless.

Housing Types

Workforce Housing

The availability of workforce housing has real impacts on the regional economy. Employers in the region will find it increasingly difficult to attract and retain employees due to the lack of affordable quality housing, exacerbated by skyrocketing real estate values, which impacts economic development efforts and the very fabric of the community.

The persons and families that need affordable *workforce housing* are, for the most part, ‘working people’. This is a particular hardship for those who work in entry level jobs that are vital to sustaining a good economy and a good quality of life for everyone, and also includes essential workers (police, fire, health care, utilities, teachers and childcare workers) retail, industrial, office and service industry workers, entry- and mid-level professionals and public sector (government and non-profit community organizations) employees. The relationship between commercial enterprises and workforce housing is key to employment supply and demand factors, focusing on location of residence, business location and transportation and accessibility.

Senior Households

Retired people often have smaller household sizes, reduced incomes, and can suffer impaired abilities and mobility as they age. Without housing choices, long-time residents may be forced to leave the community they have always lived in to find appropriate housing as they age. [It is expected that senior housing will be a growing concern as baby boomers age](#), this has been described in [Chapter 2](#).

Senior housing is generally based on market-rate rents and provides a community for seniors to live in that provides for their increasing needs. Communities that are designed for those 55 years of age and older are increasingly committed to an “active lifestyle” for seniors and cater to the increased health and vitality of today’s seniors. Community input has indicated that there are seniors living within the community that are interested in market rate, senior-specific housing. Many middle-income seniors that are looking for housing do not qualify financially for the available government-subsidized senior housing. The preference of many seniors is to obtain modestly sized residences where they can live near to their children and grandchildren.

Special Populations

Special populations include seniors, developmentally and physically disabled, large families, single parents, the homeless or near homeless, and ex-offenders. Various program strategies can be implemented to meet the needs of special populations, such as property tax abatement for lower income homeowners, developing more group homes or shared living for the disabled, increasing emergency shelter options, and offering transitional housing.

Existing Conditions

Housing & Living Characteristics

The median household income in Carroll County according to the 2021 ACS was \$45,220, while the median property value for owner-occupied housing units (with a mortgage) was \$136,900. The median monthly housing costs for Carroll County are \$1,004, lower than the \$1,885 median monthly housing costs of nation.

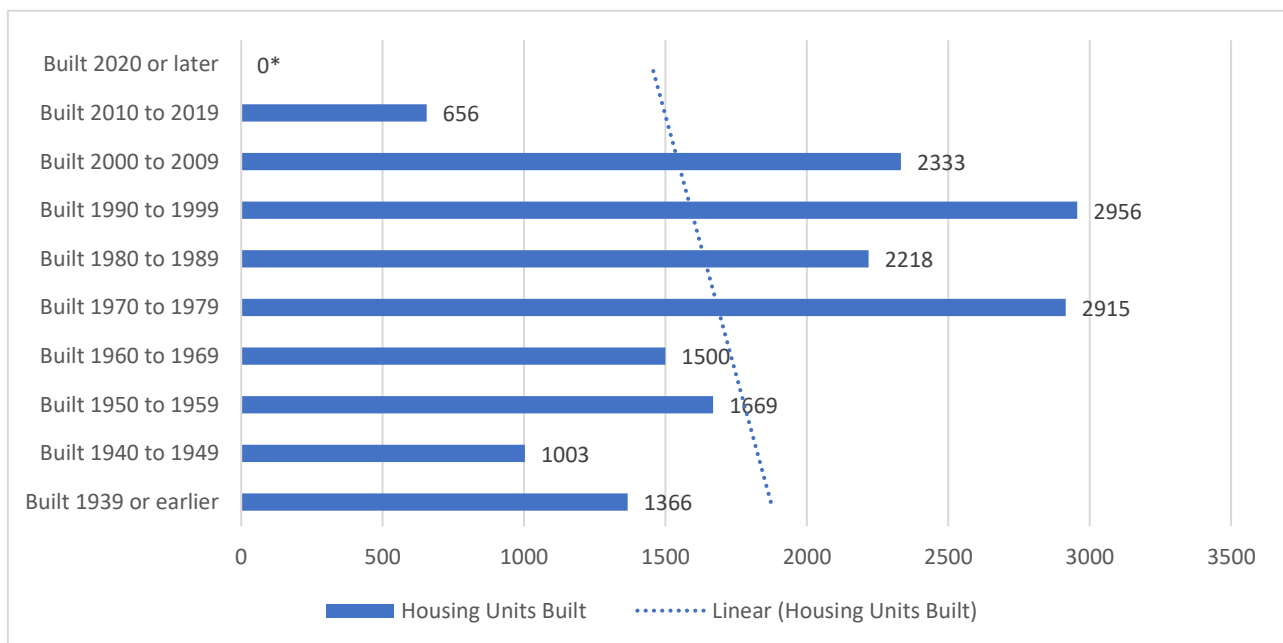
Citizens of Carroll County have an average of 2 cars per household, similar to the national average, with an average commute time of 26.9 minutes – and they indicated that they drive alone to work. The national average commute time one way is similar at 27.6 minutes and 41 miles per day, to and from. Home ownership rate for Carroll County for 2021 was above 77%, well above the national average – this says nothing of the age and condition of the homes, however, which may be classified as substandard.

Households and Families

The housing stock in Carroll County grew by 20.2% (1.9% annual growth rate) between 1990 and 2000 to a total of 14,680 housing units. This annual growth rate declined to a rate of 1% between 2000 and 2008 despite the housing boom of the early-and mid-2000s. Total housing units were up to 16,579 (30.1% vacancy rate) in 2020 from 16,569 in 2010 (29.1% vacancy rate), but vacancy rate had also increased by 1%, even though the housing stock had only increased by 0.01%. **Most of the housing units in the County were built prior to the 2000s, as shown in Figure 21.**

Like neighboring Grayson County, much of the increase in vacant housing units can be attributed to the development of recreational homes, though much of the housing stock is older. Housing units identified as *seasonal, recreational, or occasional use* in the 2000 Census numbered 1,380, an increase of 502 units compared to Census year 1990. For 2010, those housing units identified as seasonal, occasional, or recreational use decreased slightly to 1,246, but for 2020 increased significantly to 2,087, a 59.7% increase from the previous decade – though few new houses were being built during that period. The growth in Carroll County’s recreational housing is most likely a function of the County’s natural beauty and the presence of the Blue Ridge Parkway.

Figure 21: Year Structure Built



SOURCE: US CENSUS BUREAU B25034

According to the 2020 5-Year ACS, Carroll County had 16,579 housing units, 30.1% of which were vacant and increase of 1.0% from 2010, as shown in **Table 19**. Of note here, the 2021 ACS 5-Year Estimate depicts the total housing units for the County at 16,616 – a small increase – but the vacancy rate at 37.0%, a significant 6% increase from 2020.

In 2021, families made up approximately 65% of the households in Carroll County.

For 2021, the majority of the 12,134 occupied homes were owner occupied (79.3%). Of the total housing units, 74.1% were in single-unit structures, 3.7% was in multi-unit structures, and 22.2% was mobile homes, further described in **Table 20: Units in Structure**.

Table 19: Housing Tenure

Tenure	Number
Total housing units	16,616
Occupied housing units	12,127
Percent vacant	4,489
Owner-occupied	9,434
Renter-occupied	2,693
Average household size (owner-occupied)	2.42
Average household size (renter-occupied)	2.27

SOURCE: 2021 ACS 5-YEAR DP04

Table 20: Units in Structure

Unit Type	Number
Total housing units	16,616
1-unit, detached	12,523
1-unit, attached	44
2 units	16
3 or 4 units	141
5 to 9 units	196
10 to 19 units	92
20 or more units	102
Mobile home	3,498
Boat, RV, van, etc.	4

SOURCE: 2021 ACS 5-YEAR DP04

In 2021, there were 12,127 total households in Carroll County, of which the average household size was 2.39 people per household. Families made up 65.1% of the households within the County, with an average family size of 2.98 persons. Selected households by type based on age are shown in **Table 21: Households by Age**.

Table 21: Households by Age

Household Type	Percent
Households with one or more people under 18	22.6%
Households with one or more people 60 years and over	52.8%
Households with one or more people 65 years and over	41.5%
Householder living alone	31.6%
Householder living alone, 65 years and over	16.6%

SOURCE: 2021 ACS 5-YEAR S1101

Accessible Housing

Accessible design and “*visitability*”⁷ are related concepts that address the design of homes to accommodate individuals with all levels of abilities, as well as the ability of physically handicapped individuals to visit a home or community without needing assistance. Since the cost of converting a built home to accessible standards is much greater than that of building accessible homes initially, the following minimum requirements for new homes are recommended in order for a house to be deemed “*visitable*” (VISITABILITY.ORG):

- 32-inch-wide passage doors and hallways;
- At least a half bathroom on the main floor large enough to accommodate a wheelchair; and
- At least one “zero-step” entrance, approached by an accessible route where feasible due to flood zone requirements.

The County is home to persons with various special needs, including an aging baby boomer population that will require accessible housing. With the natural increase and immigration of retirement-aged people into Carroll County, accessible housing will become a more sought-after housing product. Standards should be different to reflect topography, development, and character, but by considering these needs in the planning and development review process, the County can set itself apart as a place with a high quality of life for all its citizens and a progressive view of inclusiveness.

⁷ A house is considered visitable when it meets three (3) basic accessibility criteria: a “zero step” entrance; minimum widths for ground floor doorways and hallways; and, a ground floor bathroom. These criteria are utilized to meet the definition of “*visitability*” in many public and private sector guides.

Addressing Housing Needs

Programs exist in Carroll County to help eligible recipients with home purchase, emergency housing needs, weatherization, heating costs, and rehabilitation of low-income housing. The County is also eligible to apply for housing assistance through the Virginia Department of Housing and Community Development (DHCD).

Available programs and services available to Carroll County residents include the following:

- **District III Senior Services:** This agency provides services to people aged 55 and over in Bland, Carroll, Grayson, Smyth, Washington, and Wythe counties, and the cities of Bristol and Galax. Services include a limited range of home repairs. The agency's Main Office is located at 4453 Lee Highway outside of Marion, but there is also a branch office at 300 Oldtown Street, Galax. For more information call 276-783- 8157.
- **Carroll County Department of Social Services:** This agency, located in the Carroll County Governmental Complex, 605 Pine Street, provides rental assistance to eligible recipients (276-728-9186).
- **Hostel of the Good Sheppard:** This is a 20-bed emergency shelter for the homeless, providing emergency housing and transitional housing, located at 405 West Center Street in Galax. Call 276-236-7573 for more information.
- **Mountain Community Action:** This nonprofit agency is based at 680 West Main Street in Wytheville. It develops low-income housing and provides weatherization services in Smyth, Wythe, Bland, Carroll, and Grayson counties, and the City of Galax. Call 276-228-5231 for more information.
- **Rooftop of Virginia Community Action Agency:** This nonprofit agency, serving Carroll County, Grayson County, and the City of Galax, stands at 205 North Main Street in Galax. Its services include a weatherization program to insulate homes and reduce high utility costs. Call 276-236-7131 for more information.

Twin County Region Comprehensive Housing Analysis

Prepared for the Mount Rogers Planning District Commission by S. Patz and Associates, Inc., on behalf of the Counties of Carroll and Grayson and the City of Galax, the [Twin County Region Comprehensive Housing Analysis](#) was completed in November 2022. The report was designed to analyze the current and potential market for new homes within the region and was intended to provide detailed market data on the Twin County Region economy and its various housing markets. [The goal of this report is to provide a realistic strategy to attract new housing to the region.](#)

Not all findings are directly related to Carroll County, but a [summary of all findings and recommendations](#) are listed as follows:

- Employers in the Twin County Region have announced approximately 400 new jobs in the near- and mid-term.
- At-place jobs refer to the number of jobs physically located within the City of Galax, Carroll County, and Grayson County – (15,250± jobs). [Approximately 40.8 percent of these jobs are situated in Carroll County.](#) This is compared to 21.1 percent that is located in Grayson County. Just over 38 percent of the region's jobs are located within the City of Galax. Most Manufacturing jobs are located in Carroll County and Galax, as fewer than 14 percent of these jobs are situated in Grayson County (refer to Table 2 Page 16 of the Study).
- Over 9,500 new jobs have been announced in neighboring counties and cities – most of these are located in areas that also face housing shortages.
- Interviews with area property managers and realtors indicate a sizable number of existing employees in the Twin County Region prefer alternative housing but have few or no options. Interviews confirm that many local employees will leave the region after a few years due to this issue.
- Many seniors could afford and wish to purchase new, smaller homes that require less maintenance but simply have no options.

- Carroll County is the one jurisdiction in the Mount Rogers Planning District that expanded its housing stock, albeit by only ten housing units.
- The market-rate apartment market has expanded, essentially all of this growth has been driven by small-scale conversions of older homes into rental units. These have not satisfied demand. The region’s market-rate apartment supply is mature.
- The affordable rental housing stock is mature, at full occupancy, and primarily serves low- rather than moderate-income households. Fewer than 200 apartment properties target households with moderate incomes. There are no age-restricted affordable apartment properties without deep rent subsidies in the Twin County Region.
- The for-sale home market is dominated by re-sales and comprised almost entirely of single-family homes. Only a small number of new homes have been built speculatively to be sold over the past decade. Apart from secondary home purchasers and high-income households from outside of the region, seniors and first-time homebuyers represent the largest cohorts of prospective homebuyers.
- Section IV of the report showed that the Twin County Region has an abundance of available parcels and buildings with the potential for residential development. Some of the larger available parcels may need to be subdivided but are large enough to support various housing types. Most would require rezoning, but several properties are publicly owned, which could reduce costs and make development more viable.

Recommendations:

Based on the above, it is evident that the Twin County Region’s existing housing stock is not meeting the current demand. Due to the level of future job growth, the greatest existing housing need is for market rate, rental housing. The analysis also finds that the current new home sales market in the Twin County Region is essentially non-existent and is not providing home prices that are affordable to most prospective homebuyers. Moreover, the senior population is underserved. Thus, the initial recommended housing needs for the Twin County Region (shown on page 94 of the study) are as follows, in units:

- 100± Market Rate Apartments
- 50± Affordable General Occupancy Apartments
- 40± Affordable Age-Restricted Apartments
- 40+ Patio Homes for Sale
- 30-40 Townhomes for Sale

The recommendations include a large number of new homes, as it totals up to 270 housing units; however, the total includes (1) for-sale and rental homes, (2) market rent and affordable homes, and (3) general occupancy and age-restricted homes. Not all of these homes will be built simultaneously. There is likely to be demand for future phases, particularly the apartment units.

To reiterate, the initial focus should be on apartment unit development, as this will address the most pressing housing needs in the Twin County Region and provide the best opportunities to attract developers from outside of the region. The region is fortunate to have multiple sites and buildings available for new housing, including several that are publicly owned.

Housing, Goals & Policies

Goal 9: High quality residential neighborhoods and workforce housing with a variety of healthy and compatible housing types serve the various needs of Carroll County residents.

- Policy 9.1: Promote the construction of a broad range of housing types to accommodate the varied needs and incomes of the County's residents.
- Policy 9.2: Direct "clustering" of residential development to provide community services efficiently and economically.
- Policy 9.3: Encourage residential development in or adjacent to the Town of Hillsville and other existing higher density neighborhoods and communities with available services.
- Policy 9.4: Encourage multi-family developments that are compatible with surrounding land uses and located in areas with available or planned public facilities and services, including water, sewer, and transportation.
- Policy 9.5: Encourage the development of mobile home parks that are served by available or planned public facilities and services and include amenities for residents.
- Policy 9.6: Encourage the location of singular mobile homes to reduce conflicts with permanent residential structures and development.
- Policy 9.7: Ensure that multi-family and mobile home parks contribute to quality of life and community character through improvement and design standards.
- Policy 9.8: Encourage development of housing for elderly and disabled populations.
- Policy 9.9: Encourage development of workforce housing.

Chapter 6. Nature & Community

Physical Characteristics

Physiographic Provinces and Geology

The majority of the Carroll County area lies in the Blue Ridge Physiographic Province. A small portion of the county's northwestern corner is in the Ridge and Valley Province and a part of the Piedmont Province occupies a section in south central Carroll County.

- **Blue Ridge Province** - This is mountain plateau characterized by moderate to steeply rolling land with much of the area having a slope in excess of 20%. Within the county, the most prominent features of the province are the northwest and southeast slopes. The pre-Cambrian rocks of the Blue Ridge Province are igneous and metamorphic. The lava flows, gneissic and schistose rock have been moved (faulted) with respect to one another; and with the work of erosion a plateau-like region has resulted.
- **Ridge and Valley Province** - This region consists of parallel valleys and ridges oriented in a roughly northeast to southwest direction. Several of these ridges form the northwest border of Carroll County. These ridges consist of Paleozoic-Cambrian dolomite, shale, and sandstone.
- **Piedmont Province** - Part of the southeastern corner of the county extends into the Piedmont Province. This province is underlain by Triassic sedimentary rocks and sporadic basaltic sills and dikes. The Piedmont Province consists generally of gently rolling low hills, dropping gradually toward the Coastal Plains and the Atlantic Ocean.

Relief

Elevations in Carroll County vary from a maximum of 3,570 feet at Fisher Peak to a low of 1,100 feet above sea level in the southeast near Cana—where Lovills Creek flows into North Carolina. It is in the southern portion of the county that the most striking changes in elevation occur. Stretching northeast from Fisher Peak, the Blue Ridge Escarpment separates the lowlands of North Carolina from the Blue Ridge Plateau. Northward from the escarpment, the land slowly drops toward the New River with long, low parallel ridges. To the west of the New River, Chestnut Knob (a point on Ewing Mountain—the eastern extremity of Iron Mountain), rises to an elevation of 3,374 feet. In the northeast corner of the county, Bear Knob (near the Carroll- Pulaski County line), a peak on Macks Mountain reaches 3,390 feet.

Slightly more than half of the total land area has a slope in excess of 20%.

Climatology

Carroll County has a moderate continental climate. The maximum average temperature occurs in July and is about 75.1 degrees Fahrenheit with the average minimum temperature in January being about 34.6 degrees Fahrenheit. The growing season averages about 180 days. The majority of the county falls into United States Department of Agriculture [hardiness zone 7a](#). The [USDA Plant Hardiness Zone Map](#) is the standard by which gardeners and growers can determine which perennial plants are most likely to thrive at a location. The map is based on the average annual extreme minimum winter temperature, displayed as 10-degree F zones and 5-degree F half zones.

Average annual rainfall in Carroll County is about 44.7 inches. Precipitation during the six warm months, April through September, ranges from an average of 28 inches in the southeast to less than 24 inches in the northwest. Snowfall averages about 20 inches annually.

The prevailing winds in the county are from the west with southern and northern winds occurring infrequently. The mountains, along with the westerly wind flow, tend to isolate the county from the effects of severe storms originating over the Atlantic Ocean.

Hydrology

Surface Water

Carroll County is situated in two major watersheds. The eastern continental divide runs through the county, roughly along the Blue Ridge Parkway. To the south, the headwaters of the Yadkin River drain to the Atlantic Ocean. To the north, tributaries of the New River drain to the Gulf of Mexico.

The major streams of the Yadkin River Basin in Carroll County include Stewarts Creek, Paul's Creek, and Lovills Creek. All drain south into North Carolina. The largest, Lovills Creek, is a water source for Mount Airy, North Carolina.

The New River, with headwaters in North Carolina, flows through the northeastern portion of the county northward to the Ohio River. In Carroll County, it has a gradient (defined as drop in feet per stream mile) of 14 feet per mile and ranges from 300 to 800 feet in width with numerous rapids and shallows.

The Carroll County tributaries of the New River are Chestnut Creek, Crooked Creek, Little Reed Island Creek, and Big Reed Creek. All are shallow, relatively fast-moving streams with gradients between 10 and 20 feet.

There are two dams on the New River in Carroll County—the Byllesby and Buck. They are 54 feet and 32 feet high, respectively, and are owned and operated by the Appalachian Power Company.

Groundwater

Except for a small area along the northwestern boundary, igneous and metamorphic rocks underlie Carroll County. These rocks have been deeply weathered and have sufficient permeability to absorb and hold groundwater. However, recharge to full storage, except in aquifers near streams and below the elevation of their beds, is slow because of the steep land surface and low absorption rate of most soils. These conditions produce a few low springs.

The range of estimated potential well yield is 20 to 100 gallons per minute. It is possible that a series of shallow wells would provide sufficient water for moderate demands in some of the larger stream valleys.

In the northwestern portion of the county, the New River crosses folded and faulted dolomite, limestone, and shale formations. The groundwater recharge capability in the area is not known, but conditions seem to be favorable for obtaining large quantities of groundwater at properly located sites.

Soils

The soils of Carroll County have been mapped and delineated into 11 soil associations. A soil association is a region that has a distinctive proportional pattern of soils—that is, each association has a certain repeating pattern of soils and other features that give it a characteristic landscape. The soils in one association may occur in another, but in a different pattern. An association normally consists of one or more major soils and one or more minor soils and is named for the major soil.

The following are descriptions of the soil associations in Carroll County:

- *Manor-Talladega-Watauga Association*: Shallow to moderately deep, well-drained to excessively drained, micaceous, sloping to very steep soils on strongly dissected uplands.
- *Ramsey-Wiekert-Hazel association*: Shallow to moderately deep, excessively drained, very stony and channery, sloping to very steep soils on strongly dissected uplands.

- *Hazel-Manor-Gilpin association*: Shallow to moderately deep, well-drained to excessively drained, sloping to very steep, soils on dissected uplands.
- *Madison-Wickham-Talladega association*: Deep, well drained and excessively drained, gently sloping to steep soils on uplands.
- *Madison-Talladega association*: Deep to shallow, well-drained and excessively drained, gently sloping to steep soils and uplands.
- *Chester-Glenelg-Manor association*: Deep and moderately deep, well-drained or somewhat excessively drained soils on dissected uplands.
- *Porters-Chester-Glenelg-Manor*: Deep to shallow, well-drained or somewhat excessively drained, gently sloping to very steep soils on strongly dissected uplands.
- *Chester-Glenelg-Manor-Porters association*: Deep and moderately deep, well- drained to excessively drained soils on uplands.
- *Stony land-Manor-Rock land association*: Moderately deep and deep, well-drained, gently sloping to steep soils on uplands.
- *Myersville-Chester-Glenelg association*: Deep and moderately deep, well-drained, gently sloping to very steep soils on uplands.

Soil and Water Conservation

The New River Soil and Water Conservation District comprises the counties of Grayson and Carroll and the City of Galax. The district's overall objective is to see that every acre of land is to be treated according to its capabilities. This not only includes farm uses, but urban and industrial as well. These objectives are carried out by encouraging every farm to have a conservation plan, and every county and town to adopt and carry out Virginia's Erosion and Sediment Control Program. The New River Soil and Water Conservation District works toward these objectives through education, evaluation of Erosion and Sediment Control plans, farm planning and the Best Management Practices (BMP) Cost-share Program. Their goal is to improve the environment and the conservation of our natural resources. The district strives to achieve this goal by educating residents about environmental assessment, data collection, watersheds, lake ecology, wildlife and soils.

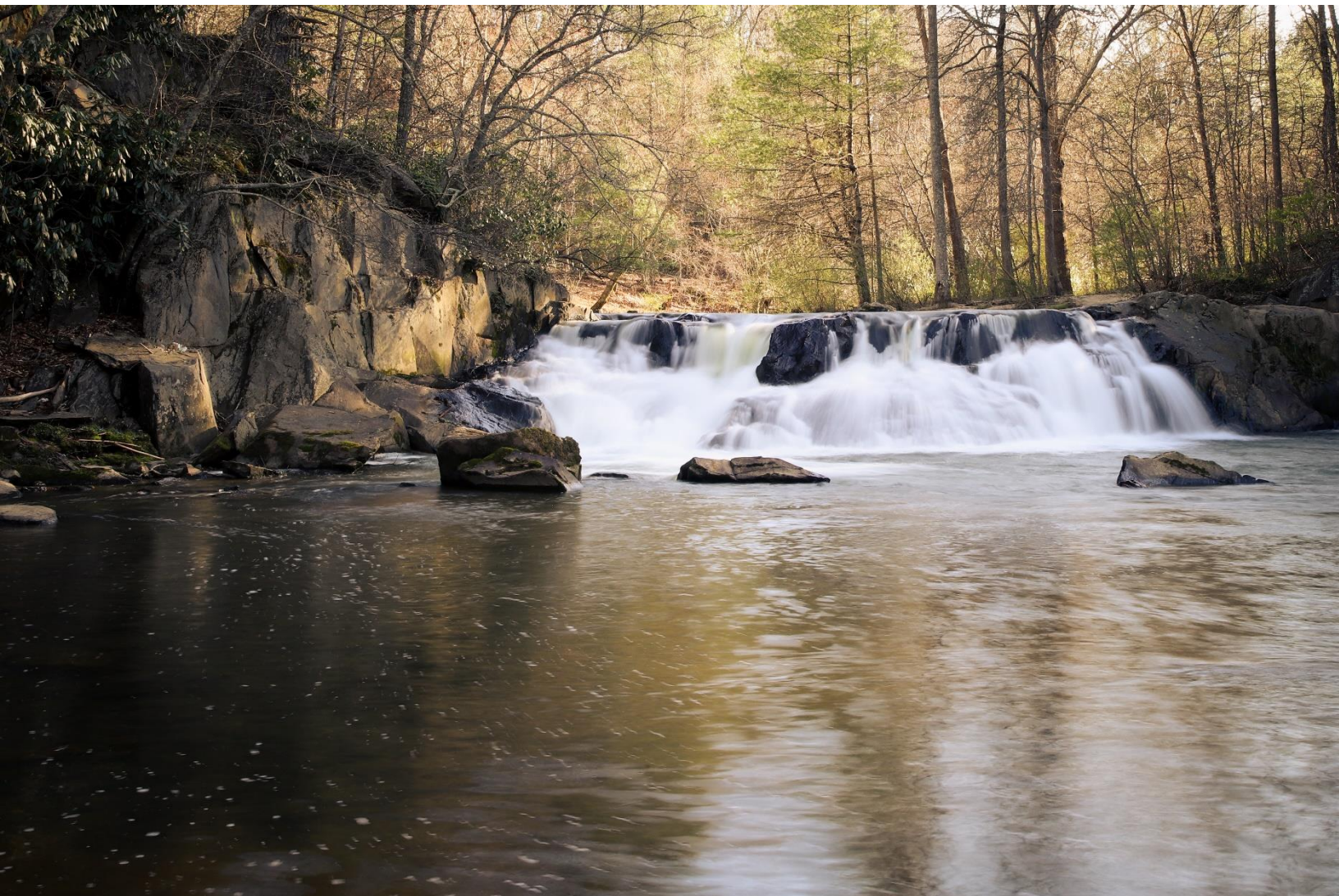
The mission of the New River-Highlands Resource Conservation and Development Area is to promote the management of natural resources for the enhancement of the quality of life and environment in the New River-Highlands Resource Conservation and Development Area.

Carroll County boasts many fine trout streams, and has over 50 combined miles of trout waters, the most famous being Crooked Creek. [The County must preserve the natural watershed to maintain the sustainability of these natural assets.](#) A watershed is the area of land where all of the water drains to the same area. To protect the streams, land within the watershed must be managed to protect the waters from pollution and sedimentation that accumulates due to stormwater runoff.

[The Plan supports protection of the Crooked Creek watershed from development. The Plan recommends policies and strategies to direct inappropriate development away from sensitive areas in the watershed.](#) Property owners are encouraged to seek the use of Land Trust and Conservation easement vehicles that are available to them, as well as to use soil and water conservation strategies in the management of their property to increase the stewardship of the County's natural resources.

Historic Preservation

In order to preserve and enhance the heritage of Carroll County, it is essential to preserve historic and cultural sites, landmarks and buildings. Such sites, landmarks and buildings include, but are not limited to, structures which either are designated by the official register of cultural properties maintained by the Virginia Department of Historic Resources or are properties which may contain historic or pre-historic structures, ruins, sites or objects. Desecration or destruction of these resources would result in an irreplaceable loss to the public of their scientific, educational, informational, or economic interest or value.



Character and Design

This Plan includes policies and strategies for improving the aesthetic quality of Carroll County's gateways, corridors and other public spaces to reflect the high quality of life and pride of community. Above all, local and regional styles and preferences should be celebrated! Residents and visitors entering the community should know that have reached a unique destination based on the visual cues they see in the built environment and landscape. Guidelines for landscaping, signs, lighting, and open space should ensure an aesthetically pleasing environment that residents are proud to call home. These standards are especially important along key corridors and gateways that serve as the public "face" of the County.

The design of public and private places, including streets, sidewalks, buildings, and open spaces influences how we interact with our environment. Whether we walk or drive, linger or hurry, feel safe or look over our shoulder, is directly influenced by the quality and design of our surroundings. A public space can invite you to sit and relax or can make you feel open and exposed. The following section describes various techniques and programs that can be implemented in Carroll County to maintain and enhance the high-quality public realm and private development. These techniques can be modified to apply to the County's rural areas, small communities, and development in planned growth areas.

Form-based regulations and design guidelines are one potential implementation tool that can be used to achieve desired development patterns and design elements. Form-based regulations control the design of a structure rather than the use of that structure, which is what more traditional ordinances are meant to accomplish. The use of a structure still plays a role, but its role is subservient to that of development character and intensity. It is often noted in thriving urban areas (whether they be walkable small towns or larger cities) that many buildings change their use repeatedly over time, or contain a variety of uses, but they still fit within the larger context of the area because of their design characteristics. Architectural design standards and/or form-based codes can be applied to a community, or to a specific area, such as a community, corridor, or historic neighborhood.

The key to creating successful design guidelines is to communicate clearly and concisely to address the community's individual issues – a one-size fits all approach will not suffice. Any new standards should encourage creativity and individuality, while fitting in with the broader context of Carroll County. Preventing monotony and lowest-cost options for new construction, including franchise design, should be a priority, while special care should be taken to prevent property owners from avoiding the review process due to unattainable improvement standards.

In new and infill development, building architecture and materials should reflect the character of surrounding development. The Plan recommends that development reflect regional and historic building styles. New developments should be designed with architecture and quality, climate-appropriate materials in mind. A key to sustainability is that buildings are of high quality and timeless design so that they encourage maintenance and reinvestment to remain in service for many years, with adaptive re-use in mind for future uses.

Site Design

Site design plays the most significant role in assuring land use compatibility. Factors must include transitioning between land use types, intensities, and densities using buffers and floor area ratios; conserving environmental assets using standards to preserve open space and to limit impervious surfaces; providing adequate vehicular and pedestrian traffic circulation and connectivity; mitigating potential nuisances, such as signage, excessive noise, smoke, heat, light, vibration, or odors detectable to human senses off the premise; and *designing for public safety*.

Signage

Signs are an integral part of the built environment. The manner in which a community regulates signs impacts the character and quality of development, ultimately influencing economic development opportunities and quality of life. Commercial signs, political signs, traffic and public safety signs, temporary signs and wayfinding signs are but some of the types of signage that one encounters on a major County corridor. While the negative visual impacts of uncontrolled

signage are obvious to any visitor driving into a new place, signs are a very necessary tool for businesses and visitors. [An ongoing concern in Carroll County is the design and character of the major gateways and corridors that lead into the County, on scenic byways, rural corridors, near and through communities and scenic sites.](#) Revising the sign standards to limit the size and number of signs on a given property, and to regulate the materials, lighting, colors, orientation, height and other design considerations will enhance the visual appeal and first impressions of the community.

Walkability

The physical condition of streets, sidewalks, utilities, public spaces and other infrastructure often provides visitors with their first impression of a place and sets the tone for the level of maintenance of private property. High quality streetscapes enhance the community identity and encourage pedestrian activity, adding vitality to commercial and residential areas.

Pedestrian amenities make walking and biking attractive for recreation and travel. Such amenities include:

- Sidewalks and bike lanes;
- Street furniture: benches, trash receptacles, bicycle racks, etc.;
- Street trees and street lights;
- Other public spaces, such as plazas and squares;
- Dedicated public access easements; and
- Public art.

Obesity and related health problems, such as diabetes and heart disease are a widespread public health issue that dominate media and public health campaigns across the nation. Obesity-related health problems result in increased health care costs and reduced productivity, as well as a possible decline in quality of life. Walking has been touted as one of the easiest, most affordable and accessible strategies for improving public health. Provision of adequate infrastructure and destinations to support walkability is key to achieving public health benefits.

Handicap Accessibility

According to the Center for Disease Control (CDC), 11.1 percent of U.S. adults have a mobility disability with serious difficulty walking or climbing stairs, while 40.5 percent of adults with a disability are obese while 28.9 percent of adults without a disability are obese.⁸ The majority of American homes and communities are neither welcoming nor safe for physically handicapped people to visit. [Communities and homes that are inaccessible to so many may create social barriers, increase the number of institutionalized individuals, and increase the chance of injury for handicapped individuals.](#) As the baby boomers reach retirement age, the need for accessible housing increases.

Currently there are limited federal mandates that affect the way a new home is constructed in regard to handicap accessibility, but these do not apply to single-family housing. Title II of the Americans with Disabilities Act (ADA), as well as many state laws require homes built with public funding to be accessible. However, more and more states are mandating or adopting incentives for homes built accessible for a growing number of disabled Americans.

Universal design, accessible design, and “*visitability*” – as discussed previously related to housing – are related concepts that address the design of homes to accommodate individuals with all levels of abilities, as well as the ability of physically handicapped individuals to visit a home or community without needing assistance.

⁸ Centers for Disease Control and Prevention. Disability and Health Data System (DHDS) [Internet]. [[updated 2022 May; cited 2022 December 12]. Available from: <http://dhds.cdc.gov>

Complete Streets

Complete Streets, *context sensitive design*, and *green streets* are similar concepts that promote a more comprehensive approach to the design and function of roadways. The key premise is that **roadways should be designed and operated to enable safe access for all users**, including pedestrians, bicyclists, motorists and bus riders of all ages and abilities. Streets should be engineered to meet the demands placed on the roadway and should be done so in a way that minimizes negative impacts and recognizes the character and function of the surrounding area. For instance, even though a downtown street may be heavily travelled, it should not be designed to function like a high-speed arterial.

Considerations should include:

- Consider the needs of all users, including pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities;
- Create a comprehensive, integrated, connected network;
- Recognize the need for flexibility in design dependent upon the context of the roadway and the character and design of surrounding development;
- Consider exceptions to established standards to enhance safety, promote traffic calming and walkability or achieve other objectives;
- Seek opportunities to involve the community in the design of roadways;
- Direct the use of the latest and best design standards; and
- Ensure that streets fit in with the context of the community.

“Any town that doesn’t have sidewalks doesn’t love its children.”

Margaret Mead

Routes to Schools

According to the Federal Highway Administration, the number of school children that walk or ride a bike to school has dropped from 50% in 1969 to less than 15% today. This is particularly alarming in consideration of the rising rates of childhood obesity and the associated chronic health disorders, including Type II diabetes and asthma. Aside from the public health concerns of a less physically active school-age population, the number of children who cannot walk to school due to safety concerns is problematic in terms of the increasing costs of fuel for cars and buses. An additional concern is that as more children are driven to school, the increased traffic and air pollution around schools makes it more challenging for the remaining walkers and bike riders to travel safely – parents repeatedly identify safety as the number one reason their children ride in vehicles.

While children in rural communities are not necessarily within reasonable walking distance from school, development in planned growth areas and communities should incorporate safe route concepts. To promote safe routes to schools and the quality of the overall pedestrian environment, the County should include specific design components for new and existing facilities, parks, schools, and other community gathering places, such as pedestrian crosswalks, sidewalks and bike trails, signage, schools near to neighborhoods, traffic calming measures, pedestrian refuges, and other techniques, including community education.

Safe Environmental Design

Proper design of the physical environment can be used to reduce opportunities for criminal activity to occur and improve public perceptions of safety and well-being. **When residents feel safe in their community, they experience a**

higher quality of life, and the community becomes more attractive for investment of all types. **Crime Prevention Through Environmental Design (CPTED)** (pronounced *sep-ted*) uses four physical design strategies, as described below, to create safer neighborhoods, shopping, recreation and business areas, as well as public spaces. Encouraging these principles through the development review process may contribute to great comfort and perceptions of safety.

Four Strategies of Crime Prevention Through Environmental Design:

- **Natural Surveillance** - A design concept directed primarily at keeping intruders easily observable. Promoted by features that maximize visibility of people, parking areas and building entrances: doors and windows that look out on to streets and parking areas; pedestrian-friendly sidewalks and streets; front porches; adequate nighttime lighting.
- **Territorial Reinforcement** - Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. Promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, and "CPTED" fences.
- **Natural Access Control** - A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. Gained by designing streets, sidewalks, building entrances and neighborhood gateways to clearly indicate public routes and discouraging access to private areas with structural elements.
- **Target Hardening** - Accomplished by features that prohibit entry or access: window locks, dead bolts for doors, interior door hinges.

Additional support for this approach is the "*broken windows theory*"⁹, which attempts to explain why neglected spaces attract crime by feeling like a neglected space, not a monitored, controlled, and generally maintained zone. By following the four strategies identified above, communities may present themselves as spaces that do not invite criminal activity – beautiful, illuminated spaces without shadowy corners.

⁹ The theory first appeared in a 1982 article titled "Broken Windows" and featured in The Atlantic by two social scientists, James Q. Wilson and George L. Kelling.

Open Space, Trails, & Recreation

Open Space

While sustainability in terms of open space preservation is a simple and appealing concept, it is difficult to measure. Incremental losses of open space or habitat rarely have measurable or predictable impacts – it is the cumulative impact of many decisions over time that has more profound effects. This, combined with the fact that [developed land is rarely redeveloped as open space](#), increases the importance of ensuring that adequate land is set aside to maintain the community's environmental integrity.

While all undeveloped land can be considered “open space,” this discussion centers on land that is desirable as permanently protected open space because it has certain characteristics that the community values over and above its development potential. For instance, its visual appeal, such as scenic vistas; public safety features, such as steep slopes or fire and flood protection; or cultural or environmental features, such as historic areas or wildlife habitat. As with other facets of planning, balancing the value of development with the value of open space preservation to the community is central to the design and implementation of an *open space preservation program*. Prioritization of important parcels for preservation should be monitored on an on-going basis.

Open Space is usually considered to be:

- **In a natural or primarily natural state.** Some development of limited intensity is appropriate in specific open space areas such as trailheads and access points for passive recreation or wildlife management purposes.
- **Containing significant features that warrant protection.** Such features should be determined by community values, but may include environmentally sensitive areas, wildlife habitat, migration corridors cultural/historical areas, scenic vistas, visual open space, important recreational areas, water re-charge areas, drainageways, or other locally determined features.
- **Permanently protected from development.** [Undeveloped land is not open space unless it is permanently protected from development](#). The community must understand that private and publicly owned lands may be subject to development unless it takes steps to properly protect important land from development.

Varying degrees of protection apply to existing open space depending on the physical and regulatory development constraints effective on each parcel. For instance, while a parcel in a floodway may be permanently protected from development, some federally owned lands are not permanently protected. Federal lands may be subject to certain kinds of development, such as mining or access roads, or may be transferred or sold in certain instances. A comprehensive plan to preserve open space in the County should identify the level of protection for existing open spaces, identify and prioritize desired open space, authorize potential tools for open space preservation and implement strategies to achieve multiple open space objectives.

“Preserving parks and open spaces is a winner because it doesn't need to be explained to everyday Americans.”

Frank Luntz

As Open Space is incorporated into the land use plan, the County must assume a variety of responsibilities for the management of that land, potentially including property negotiation/acquisition, construction and maintenance of improvements, environmental stewardship, and public safety/education. There are many tools and techniques that may be used to acquire and fund open space and trails, such as conservation easement, cluster development, deed restrictions/covenants, reserved life estate, cash purchase, donation or gift, land exchange, purchase of development

rights (PDR), transferable development rights (TDR), estate planning, conservation subdivision development, and intergovernmental agreements (IGAs).

Carroll County's assets include abundant natural and cultural resources as well as incredible outdoor recreational opportunities. The public lands, parks, trails, and scenic vistas and landscapes enhance the quality of life and economic value in the County. Open land and trails attract businesses and tourism and help strengthen communities by providing opportunities for residents to recreate and connect with the landscape and nature.

Population growth and continuing urbanization threaten the County's distinctive landscapes and increase public demand for additional recreation opportunities. Increased population and land consumption can result in conflicts between development and land conservation, including increased demand from residents of growing urban areas for access to recreation and trails.

Recreational Opportunities

Parks, recreation and open space are an important part of the quality-of-life element for any community and an important aspect of the Comprehensive Plan. Recreational opportunities are abundant in Carroll County, including hiking, biking, canoeing, fishing, golfing, and the Lambsburg Community Center.

Hiking and biking locations include Beaver Dam Creek Walking Trail, Granite Quarry Overlook, Agricultural Lease Interpretative Overlook, and Carter Pines Community Park. The major canoeing locations in Carroll County are the Fries to Byllesby New River Route and Lovill's Creek Lake Recreation Area. Some of the prime fishing areas are the Crooked Creek Wildlife Management Area and Stewart's Creek Wildlife Management Area. There are three golf courses located within the county - Olde Mill Golf Resort, Skyland Lakes Golf Club, and the Blue Ridge Golf Course. Other competitive sports, such as baseball, basketball, and football, are available through the county recreation program; these sports are also available through the public school system. New River Trail State Park is a key location for outdoor recreation, providing opportunities for hiking, biking, canoeing, horseback riding, fishing, and wildlife observing. Camping is available at the New River Trail State Park, the Fox Trail Campground, R-J Ranch RV Resort, and Utt's Campground.

The Carroll County Recreation Department was created in February 1975 to provide a well-rounded recreation program for citizens of all ages in Carroll County

The Carroll County Parks and Recreation Department has identified a number of specific needs to ensure that adequate facilities and services are available to accommodate projected growth. Currently the County lacks adequate gym space, ball fields, and a public swimming pool. Additionally, the County is in serious need of more parking spaces. In order to accommodate the County residents, the construction of multiple new sports complexes has been proposed.

Trails

Trails are an important community asset, providing both recreational and transportation opportunities for a variety of users. Understanding the types of trail users and their needs and preferences is key to designing a system that is well-used for both practical and recreational purposes. The sidewalks, walking trails, equestrian trails, bike lanes and informal pathways that make up a trail system connect residents to the places they go, such as work, school, or a neighborhood business, as well as to their neighbors, as one resident meeting another on a community trail is more likely to spark a personal connection than passing each other on a congested freeway. The social, environmental, and public health benefits of a well-designed trail system contribute to a high quality of life and associated economic benefits for the community.

New trails should be connected to new and existing trails, creating opportunities for pedestrians, cyclists, and equestrians to travel to destinations including schools, parks, natural areas, and community gathering places. Unique aspects of the climate and terrain should be taken into consideration when designing and building trails. Features such as shaded arbors and drinking water stations should be included when appropriate, and the material for the trail tread should be selected carefully based on location and user types, preferring impervious materials whenever feasible. Public

education and outreach regarding trail safety should be incorporated into the design of trailheads and other high-use areas. There is an opportunity with the trails system to focus on the ecology and heritage of Carroll County, incorporating design elements and educational components that reference the natural setting.

Three basic considerations to understand when discussing a trail system include:

- **Trail Users.** Children, adults, residents, and visitors, who might be walking, jogging, biking or rollerblading, or equestrians. Equestrian trails should have specific considerations.
- **Trail Routes.** Trails connect homes, parks, shopping areas, businesses, schools and public lands, and other transportation modes. Direct routes are preferable to reach practical destinations, such as schools or shopping, while scenic routes are preferable for recreational users.
- **Design.** Surface materials, width, grades, signage, and lighting are some of the design issues to consider when thinking about the trail users and their needs. Perhaps most importantly, trail design must account for the challenges of the geography.

Trail Users

- **Commuters.** Commuters use the trail system to access specific destinations, such as work, school, shopping, and parks. Travelling efficiently and safely from place to place is of key concern, with safety being of greater importance when considering the needs of children walking to and from school. Trails and sidewalks surrounding schools should be clearly marked with safe crossings planned whenever the route intersects a street.
- **Recreational Users.** Recreational use is a very broad category including everything from adult cyclists to young children. The trail system should be designed to minimize the potential for conflict among trail users and be built wide enough in high traffic areas to allow for multiple users and user types. Maximum grades and trail side hazards (such as steep drops) are among the many considerations. Trail-side attractions, such as fitness stations, educational displays/nature areas, park equipment, benches and other amenities can enhance the trail experience. Different surfaces appeal to different users, for instance, in-line skaters prefer smooth, hard surfaces while casual walkers might like a natural surface.
- **People with Disabilities.** People with disabilities are a sometimes-overlooked population of trail users, especially those without access to or ability to drive. While not every portion of a trail system is accessible to those with certain disabilities, especially those using walkers or wheelchairs, neighborhood trails and other high use areas can be designed to accommodate many levels of users at little or no additional cost. Considerations should include smooth, consistent surfaces, wheelchair ramps at curbs, and appropriate railings and gentle grades. ADA guidelines should be considered.
- **Active Adult (55+).** Active adult and retirement housing is expected to increase due to the aging of the population and influx of retirees into Carroll County. Active adults run the same spectrum of ability and preferences as the general population of trail users, but it is likely that active adults will be heavy users of a comprehensive trails system, using it recreationally and as commuters to work, shopping and social events. As for other user groups, integrating aspects that will appeal to the active adult population, such as benches, lighting, appropriate railings, grades, and crossings should be considered.

Types of Trails

- **Neighborhood Trails.** Neighborhood trails connect homes to schools, parks, and businesses. They also provide recreational “escapes” for walkers and cyclists as well as safe routes to school for children. Neighborhood trails may act as feeder trails to the larger community trail system.
- **Natural Surface Trails.** These trails are for less intensive use and are primarily for recreational use, maintained in a more natural state and suitable for hiking or mountain biking, as well as possible equestrian use. Natural surface trails may also connect to public lands.
- **Bike Trails.** Bike trails can be incorporated into the design of streets in the County. A bike trail system can consist of both bike lanes and bike routes. Bike lanes are striped on streets and marked with signage, while bike routes are low traffic streets suitable for use by cyclists and designated by signage.
- **Drainageway Trails.** Trails can be incorporated into the design of natural or man-made creeks, streams, and other waterways. With the incorporation of trails, these natural features can serve multiple functions as both drainageways and linear parks. Due to the drainage function of these areas, this land is unsuitable for more intense development and the dual use of the land for recreation will be a net benefit to the community.
- **Rails-To-Trails.** Rails-To-Trails turn abandoned railroad tracks into community assets by re-purposing these areas of vacated right-of-way as public trails. In Carroll County, the Norfolk and Southern Railway track area has been turned into the New River Trail for walking, biking, horseback riding.

Resource Protection, Goals & Policies

Goal 10: Natural resources, rural character, and historic resources are protected and preserved.

Policy 10.1: Preserve and promote the heritage of County life for succeeding generations.

Policy 10.2: Protect surface and ground water quality and quantity.

Policy 10.3: Direct development away from stream valleys, floodways, sensitive waterways, and other areas that are at high risk of water pollution.

Policy 10.4: Require erosion and sedimentation control best management practices.

Policy 10.5: Protect open space, viewsheds and environmental features that contribute to the visual beauty and natural aesthetic of Carroll County.

Policy 10.6: Preserve current natural areas, including, but not limited to, Crooked Creek WMA, Stewarts Creek WMA, Poplar Knob Area NPS, Blue Ridge Parkway, Beaverdam trail, Devils Den Nature Preserve, Jefferson National Forest, and New River Trail State Park.

Policy 10.7: Limit development activities on environmentally sensitive lands, including areas with high slopes and poor soil suitability. Depending upon the fragility of the resource, restrictions should limit or prohibit construction, grading, and vegetative clearing. Constrained land should be subtracted from land acreage on which development density is calculated.

Policy 10.8: Require new developments to preserve on-site natural features critical to healthy watersheds and ecosystems, including trees, vegetation, drainageways and other features.

Policy 10.9: Require new development to capture storm water to enhance aquifer recharge and minimize erosion.

Policy 10.10: Prevent light pollution.

Policy 10.11: Support the mission of the New River Soil and Water Conservation District.

Policy 10.12: Support the mission of the New River-Highlands Resource Conservation and Development Area.

Historic Preservation, Goals & Policies

Goal 11: Cultural, historic, and archaeological sites that contribute to the heritage of Carroll County are preserved.

Policy 11.1: Support identification of cultural, historic, and archeological sites and development of a plan for their preservation.

Policy 11.2: Protect cultural and historical landmarks against encroachment from incompatible land uses.

Policy 11.3: Encourage the active use and adaptive reuse of historic sites so that they may become or remain an integral function of County life.

Policy 11.4: Support preservation of historic sites and buildings including, but not limited to, the Allen House, the Carter House, and the Courthouse. Support preservation of sites of Quaker history, including meeting house sites such as Burke’s Fork, the “Old Quaker graveyard” (site of the Mount Pleasant Friends Meeting) and the Wards Gap Meeting.

Policy 11.5: Protect public and private cemeteries from agricultural activities and public or private developments that might encroach on these sites; this protection should extend to ingress and egress for the sites.

Parks and Recreation, Goals & Policies

Goal 12: Trails and recreational areas establish the County as a destination for outdoor recreation.

Policy 12.1: Enhance and expand County parks and recreation areas.

Policy 12.2: Provide trails for hiking, biking, walking and equestrian, including trails along the river.

Policy 12.3: Support reservation of parks, recreation areas, trails and sidewalks by reserving right-of-way and establishing mechanisms for acquisition.

Policy 12.4: Support inclusion of bike lanes, walking paths and sidewalks into road improvement projects.

Policy 12.5: Provide safe areas for walking.

Policy 12.6: Provide more opportunities for adult and youth recreation.

Policy 12.7: Support development of additional recreation facilities or community centers (with amenities such as swimming pool, walking track, senior citizens activities, tennis courts, pickleball courts, hiking trails, etc.).

Policy 12.8: Maintain and bring recreational facilities up to standard to support provision of adequate recreational activities.

Chapter 7. Facilities & Finance

Providing Public Facilities

Levels of Service

Levels of service (“LOS”) standards define the County’s role as a service provider, and in partnership with other service providers, define public and private responsibilities for the provision of facilities. Qualitatively, levels of service are indicators of the attractiveness of a community to existing and future residents and businesses. Adequate public safety provision, air quality, environmental preservation, recreational and cultural opportunities and accessible open space are just a few of the elements that the County influences that make Carroll County a desirable place to live. Counties that provide a high level of services project an image that attracts new residents and maintains property values, ensuring their ability to continue a high level of service provision.

[The quantitative aspect of the relationship between levels of service and quality of life can be described in fiscal terms that can be proven empirically.](#) For instance, levels of service for roadways would be described by traffic flow and measurable delays due to congestion. Traffic delays that make it difficult for employees to get to their jobs can result in a loss of productivity, making the region less desirable for workers and businesses alike.

Level of service standards for community facilities and services are most commonly presented in terms of the resident population served. Initially, LOS is determined by comparing the existing levels of service that are provided to the existing resident population. Level of service indicators can be evaluated based on a service provider's LOS goals, performance data provided by other communities and/or professional standards. Levels of service typically are measured and projected in terms of service area population (*e.g.*, two police officers per 1,000 population). LOS also may be based on responses to calls for service. This measure frequently is used for police, fire and EMS services. Based on the level of service standards and the projected population to be served, costs can be projected for facility levels of service.

This concept applies to schools, public facilities, transportation networks, water and sewer, surface water discharge, police, fire, emergency response, parks and recreation, libraries, social services, and any other public service provided by local governments.

Defining Adequacy

A number of regulatory, fiscal and administrative techniques exist that, if properly employed, allow communities to ensure that development projects are timed, located, designed and financed without negatively impacting the community. ["Adequate public facilities" and "concurrency" are two similar techniques that tie development pace and location to the availability of public facilities and services.](#) Both terms refer to land use regulations that are designed to ensure that the necessary public facilities and services, at adopted levels of service required to support new development, are available and adequate at the time that development occurs.

Concurrency and adequate public facilities regulations ensure that the service levels enjoyed by existing development are not diluted below the adopted LOS due to new development. Such regulations control the timing of new development; if adequate infrastructure is not available at adopted levels of service, as shown in the Capital Improvements Plan (CIP), the application for discretionary development approval will be denied or conditionally approved through phasing of the development until the CIP facilities are available. The major objectives are:

- To link the provision of needed public facilities and services to the type, amount, location, density, rate and timing of new development;

- To ensure that new growth and development do not outpace the ability of service providers to accommodate such development at established level of service standards; and
- To coordinate public facility and service capacity with the demands created by new development.

The provision of adequate public facilities in a timely manner is a necessary precondition to development approval in order to prevent sprawl, assure a positive fiscal impact for the County, provide a high quality of life through infrastructure and service provision, achieve the goals of this Plan, and protect the public health, safety and general welfare of the community.



Fiscal Balance & Responsibility

A key component of growth management techniques is maintaining fiscal responsibility and fiscal health. Fiscal stability is a cornerstone of a sustainable community. Existing residents should not suffer a decline in the quality of their services or be unduly burdened by the costs of new growth. New residents and businesses should pay their fair share of the costs associated with extending infrastructure and urban services to new growth areas.

The quality of life in Carroll County is contingent on the County's continued ability to provide quality services at a reasonable cost to taxpayers. If development projects go forward without a plan for recouping increased service provider expenses, existing taxpayers subsidize those expenses. To achieve equity and fairness in the funding and provision of public facilities and services, this Plan recommends strategies to:

- Enhance the local property and sales tax bases more rapidly than the fiscal obligations for capital facilities, operations and maintenance;
- Ensure that new development funds the costs of capital facilities and services required to serve that new development; and
- Ensure that facilities and services are planned in a way that allows ongoing operations without significant increases in the costs to residents and businesses.
- Achieving fiscal balance is an important aspect of planning for the provision of adequate public services and facilities. The County should consider mechanisms to equitably finance necessary improvements to serve development.

Costs of Growth

Low-density, dispersed sprawl development is expensive to serve because of the cost to expand facilities, including water/sewer and road infrastructure. Not only is infrastructure expensive to construct, but maintenance costs are an increasing proportion of County expenses. As fuel and materials costs rise, costs to serve also increase. Personal transportation costs also increase with escalating fuel costs, resulting in reduced discretionary spending, especially for commuters who drive to more urban areas for employment. While living in rural areas may seem more affordable initially, due to lower housing costs, increased transportation costs erode these savings in the long term. If septic systems fail in rural areas, it is costly to provide sewer service to dispersed development. In areas with clustered or compact development, provision of sewer service is more economical and has less potentially negative impacts to the environment. Expansion of facilities should be curtailed in areas inappropriate for more intensive urban development due to the long-term costs of maintenance and operations.

A balanced, vigorous economy in combination with fiscally responsible policies ensures the long-term fiscal health of the County and its residents and businesses.

The negative fiscal impacts of residential development must be minimized to maintain long-term fiscal sustainability, through increasing service efficiencies, maintaining balanced land uses and shifting growth-related development costs to new development.

New development necessitates public facilities and services, and if proportional improvements are not made to serve new development, the overall level of service declines for County taxpayers. New development, under existing regulations, fails to contribute equitably to the funding of facilities and services necessitated by such development.

Non-residential development, which provides economic opportunity for residents and typically is a net fiscal gain for local jurisdiction, is dependent upon the adequacy of emergency services, law enforcement, fire protection, water,

sewer, and transportation. Such facilities and services, if provided at appropriate levels of service, attract economic investment.

Significant public savings can be realized when growth takes place where infrastructure already exists or in mixed-use centers where infrastructure can be provided efficiently, and external trip generation can be minimized. Incentivizing and directing growth to primary growth areas, if coordinated with other service providers with respect to the timing and location of installation or replacement of utilities, maximizes infrastructure investment and minimizes long-term operating and maintenance costs.

Financing Tools

Special Assessments and Improvement Districts

Special assessments are revenue-raising devices designed to recover the cost of capital improvements that directly benefit properties within a designated *"benefit area"*. Fees are collected from property owners for tangible public infrastructure improvements that a local government provides and that benefit the properties being charged. Unlike impact fees and mandatory dedications imposed under a county's police and land use control powers, special assessments may be used to pay for improving existing infrastructure deficiencies.

[A wide variety of assessments and improvement districts may be created to fund infrastructure improvements or construction.](#) These include transportation improvement districts, community facility districts, utility districts, neighborhood improvement districts, business improvement districts, special road districts, transportation corporations and special road and bridge taxes. All of these special districts and techniques involve the designation of a geographic area and use of statutory powers to raise revenue or impose charges for facilities and services within the defined geographic area to fund infrastructure improvements and construction. Tax exempt bonds are generally issued to pay the costs of the improvements, which would be secured by the real property in the area that is benefited by the improvement. Properties benefiting from the improvements are assessed a fee to pay the principal and interest on the bonds.

Mitigation Fees

"Pay-as-you-grow" programs help protect existing residents from growth-related costs. These programs include a variety of techniques that allocate the public costs of development fairly and do not unduly burden existing residents, such as development impact fees and exactions, or provisions for financing infrastructure and services in development agreements.

Communities across the country have adopted some form of development impact fees pursuant to statute to mitigate the impacts of new growth and maintain consistent levels of service for both existing and future residents. Development impact fees are one-time charges against new development to raise new revenues to pay for new or expanded public facilities necessitated by new development.

Exactions and Dedications

Before approving development projects, the County may require the developer to dedicate land for public purposes. Typically, exactions are imposed at the time of development approval. Courts have required that municipalities document the need for development exactions with studies that link the public purpose to be achieved with the nature and extent of the conditions imposed. This is most easily undertaken for on-site exactions, such as subdivision fee requirements and land dedications. The goal of providing adequate public facilities to serve a new development is a recognized valid purpose, and if the exactions will mitigate development impacts proportionally caused by the developer upon whom the exaction is levied, the legal requirements will be met.

Where exactions are meant to fund off-site facilities called for by several development projects, the legal tests must be satisfied by studies: 1) showing the future scope of growth, 2) naming the needed facilities, 3) defining

facility costs allocated to new growth, and 4) specifying service units and service areas. The results of these studies are then inserted into a funded capital improvements plan.

Development Agreements

A development agreement is a contract between the County and a developer, whereby the developer promises to pay for certain on-site or off-site improvements or to perform certain obligations in exchange for the vesting of discretionary approval. A voluntary development agreement may be sought by a developer to avoid denial, or timing and phasing of the project by reason of failure to meet the adequate public facilities requirements of the Plan. Development agreements differ from other public contracts because they are executed in conjunction with police power actions regulating the zoning, subdivision, or development of private property. A development agreement may require payment or advancement of public road improvements or construction or obligate the developer to perform those improvements at its expense. Development agreements are useful tools for a community because they:

- Provide a mechanism for the County and developers to form agreements, binding on all parties, regarding development, financing and land use of the development project;
- Promote land development regulation by allowing the County to adopt development agreements that include terms, conditions, and other provisions that may not otherwise be able to be mitigated or implemented without the use of a development agreement;
- Promote stability and certainty in development project regulation by providing for the full enforceability of such agreements by all parties;
- Provide a procedure for the adoption of such agreements that ensures the participation and comment of the public and elected officials; and
- Provide mechanisms for establishment of public improvement districts and public infrastructure zones for the financing of capital facilities and public services as provided for in the Comprehensive Plan and/or Capital Improvements Plan and/or other adopted plans.

General Obligation and Revenue Bonds

General obligation bonds (GOBs) pledge the full faith and credit of the County for General Fund improvements. GOBs are primarily used for the non-revenue-producing and the non-development generated share of major capital improvement projects, including the County's share of state, regional and county-wide roads and highways, correctional facilities, storm water management facilities, parks, recreational areas, trails, scenic vistas, governmental facilities, structures and buildings, and repair and replacement of deficient facilities. GOBs can also be used for land purchases for rights-of way and other public facility sites on the Official Map. GOBs can fund equipment purchases in the form of large public safety or public works apparatus, central computer systems, and correctional facilities. Each GOB funded project may have a component portion financed by development fees, dedications, and exactions, Public Improvement District (PID) funds, revenue bonds, or state and federal grants and tax distributions.

Water and Sewer

Water Supply and Treatment

The Carroll County PSA operates eight water systems in the county: Route 100, Woodlawn, Gladeville/Cranberry, Tower Road, Cana, Fancy Gap, Industrial Park, and Hillcrest. The Route 100 system is located along Route 58 East in Hillsville, Route 221 North in Hillsville and beyond, Route 100 North, Lovell Road, Whitetown Road, Little Vine Road, Double Cabin Road, Hardscuffle, and Spring Willow Road. The Woodlawn system is located within the Woodlawn section of Carroll County. The Gladeville/Cranberry system is located along Route 58 West, Cranberry Road, Glendale Road, Hebron Road, and Riverhill Road. Tower Road system provides water along Tower and Bedsaul Roads, and also a small section of Pipers Gap Road. The Cana system water supply runs North and South along Route 52. Fancy Gap system provides water to the area surrounding U.S. Interstate 77 Exit 8. The Industrial Park system provides water to the area surrounding U.S. Interstate 77 Exit 14. The Hillcrest subdivision off Route 666 is served by a stand-alone system.

Carroll County PSA operates 13 wells and purchases water from the City of Galax for the Tower Road water system. The gallons per minute (GPM) for the wells range from 12 GPM to 145 GPM, with the average being 28.6 GPM. The wells range from three to 40 years old and are all located in the vicinity of their respective water systems. The county wells, the Town of Hillsville, and the City of Galax treat 669,340 gallons per day (GPD). The plants for the 13 wells are capable of treating 1,111,200 GPD. The City of Galax is capable of treating 48,960 GPD, and the Town of Hillsville can treat up to 125,000 GPD.

The New River Regional Water Authority manages all of Carroll County's water systems with the exception of Tower Road, Cana, Hillcrest, and Fancy Gap. The system has 110,200 linear feet of 14" lines and smaller. The water is transported from the New River Regional Water Plant. The New River Regional Water Plant has a capacity of 4 MGD; Carroll County shares one-third of this total with Wythe County and the Town of Wytheville.

The Fancy Gap water and sewer project is 69,400 LF of 8" or smaller water lines, 26,800 LF of 8" gravity sewer and 53,700 LF of 6" or smaller sewage force main. The water system is powered by ground water wells and the sewer is pumped into the Exit 14 pump station to Hillsville. This project added approximately 190 water customers and 65 sewer customers and support the development of the Fancy Gap Highway 52, Blue Ridge Parkway and Interstate 77 Exit 8.

The treated water system within the County is shown on **Map 10: Water System Map**.

Wastewater Transport and Treatment

Carroll County PSA operates five sewer systems and maintains one sewage treatment plant, which furnishes primary and secondary treatment and disinfection of the effluent. The wastewater treatment plant is located at Exit 1, Interstate 77 in Lamsburg to serve the Loves Travel Stops, Subway and McDonald's. It is a 20,000 GPD package plant.

Sewage from the collection sites located at the Carroll County Industrial Park/U.S. Interstate 77 Exit 14 area, Fancy Gap, the Hillsville East area are being pumped to the Town of Hillsville; Exit 19 and Woodlawn, and the Route 58 and Gladeville/Cranberry areas are pumped to the City of Galax for treatment.

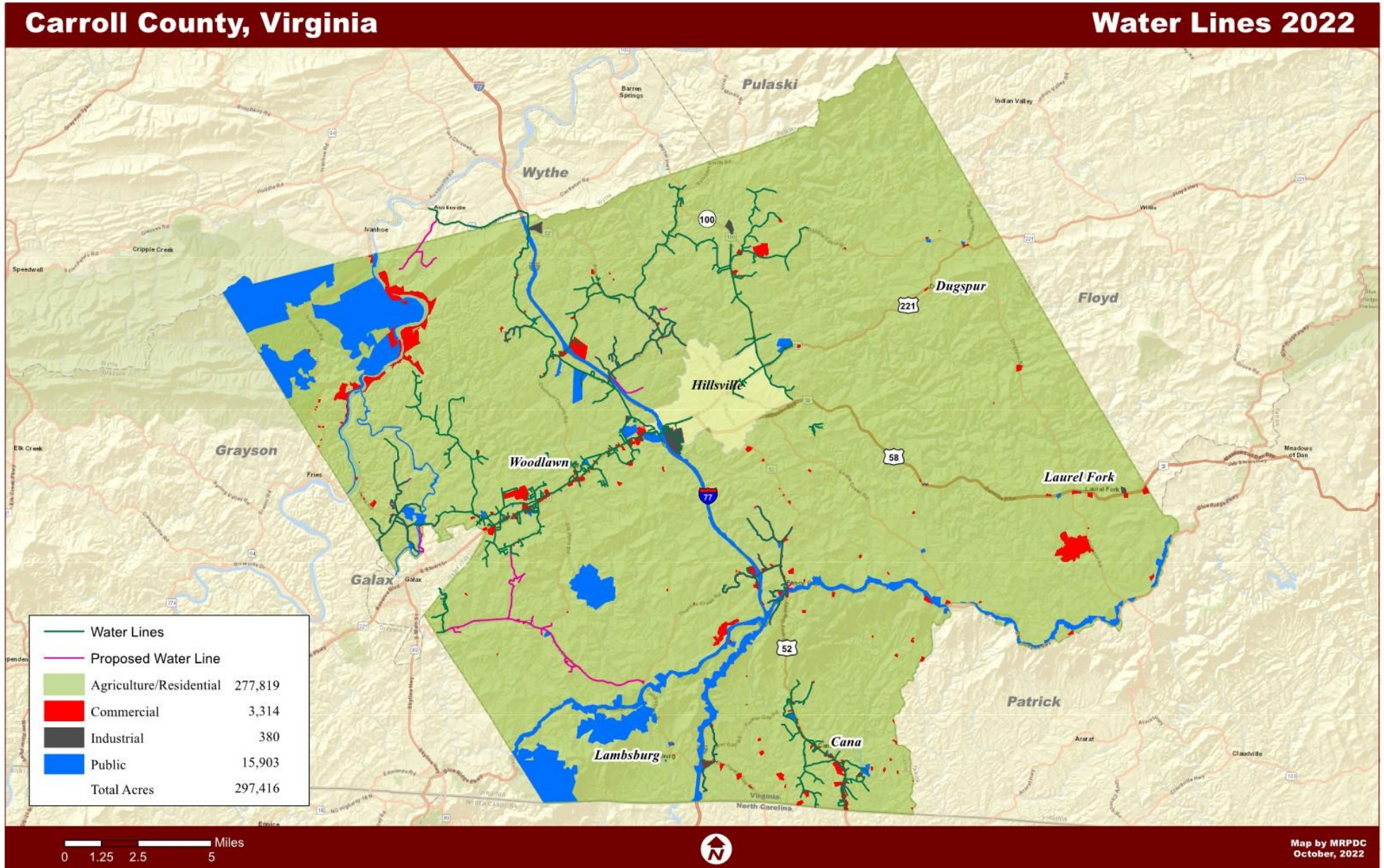
The five sewage systems are capable of treating the waste from approximately 30,000 households; however, on a daily basis, the systems only treat the waste from approximately 13,209 households.

The Fancy Gap system consists of 1,000 feet of eight-inch gravity sewer line and a plant capable of treating 30,000 gallons per day. The Hillsville East system is comprised of 3,000 feet of gravity sewer line, 3,000 feet four-inch pump line, and one sewer pump station. The Industrial Park system includes 1,000 feet of ten-inch gravity sewer line, 4,000 feet of eight-inch gravity sewer line, 6,000 feet of six-inch pump line, and two sewer pump stations. The Gladeville/Cranberry system is comprised of approximately 100,000 feet of eight-inch gravity sewer line, 7,000 feet of six-inch pump line, and two sewer pump stations. The Woodlawn system consists of 7,581 feet of 10" gravity sewer line, 21,429 linear feet of force main, and two pump stations, located on Woodlawn and Senior Road. This system connects the Industrial Park

system and the Gladeville/Cranberry system. The Exit 1 system consists of 350 linear feet of gravity sewer and a 20,000 GPD plant.

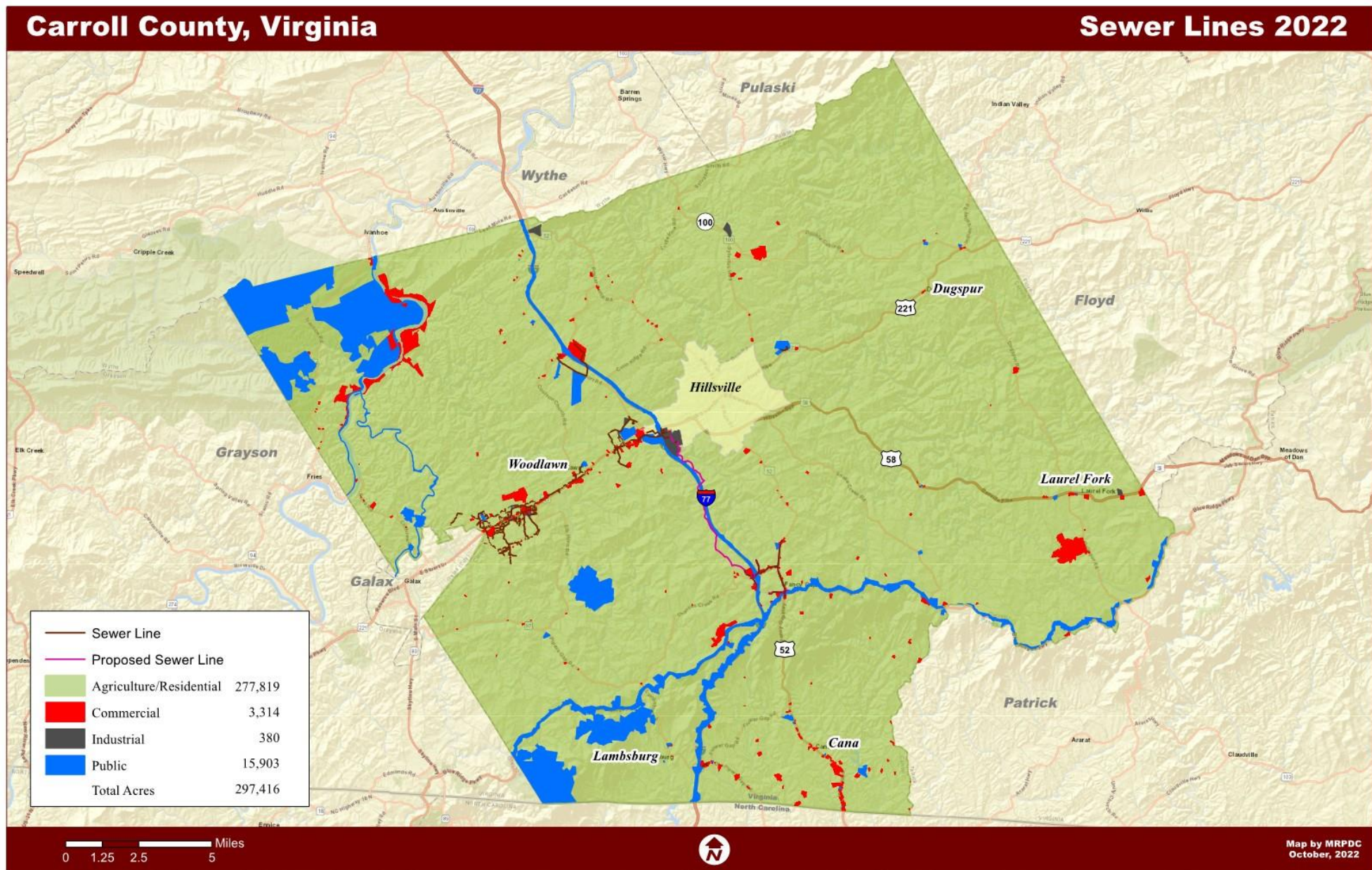
Water system proximity is shown on **Map 10** and sewer system proximity is shown in **Map 11**; note, these include the system owned and operated by the City of Galax that stretches out into the county. [Considering the wide distribution of vacant parcels, limiting existing and planned publicly funded infrastructure to specifically defined areas will be critical to the County's fiscal sustainability.](#)

Map 10: Water System Map



SOURCE: CARROLL COUNTY GIS

Map 11: Sanitary Sewer System Map



SOURCE: CARROLL COUNTY GIS

Solid Waste

Currently, only one landfill is available in Carroll County. Carroll and Grayson Counties and the City of Galax jointly operate this landfill as a regional landfill. Due to the annexation on June 30, 2001, the landfill is now entirely located within the Town of Hillsville. Originally, this landfill contained 70 acres, with a majority of the land usable. The Carroll/Grayson/Galax Solid Waste Authority purchased 153 additional acres (in the early 2000s) for the landfill, but only approximately 36 acres are currently usable. The total acreage now is 268.5, the final track being bought for cover material only. A large portion of the land is part of protected wetlands, buffer zones, and the like. The fourth cell is to be built in 2024 with 6 cells permitted in total – this is the largest cell of the six at nearly 8 acres. The landfill is anticipated to have a lifespan of 40 years, with nearly 13 years of use before needing to build the next (5th) cell.

The City of Galax and the Town of Hillsville provide pick-up for their residents. Collection services for the county residents are provided by Waste Industries. Commercial collection services are provided by Cooke Rental and Waste Industries.

Carroll County currently provides only one convenience collection site in Cana on Epworth Church Road. This location is for residential trash only.

In recent years, following in the wake of the global COVID-19 pandemic, litter issues along vehicle corridors in the county have increased significantly. This may be exacerbated by the fluctuating value of aluminum related to recycling – from a current level of 2,416.18 USD per Metric Ton, down from 2,501.82 in January 2023 and down from 3,245.79 in February 2022; this is a change of -3.42% from January 2023 and -25.56% from February 2023. The lowest value of recent years however was in June 2020 at 1,568.57, with the highest value in March of 2022 at 3,498.37, as compiled by YCharts.

The county has recently established a litter task force to address the ongoing litter issues.

Public Utilities

Power

Appalachian Electric Power (AEP) system provides electricity for Carroll County. AEP has hydroelectric generating plants in the Northwestern portion of the county on the New River.

There is now a distributor for natural gas within portions of the County, with a planned extension into the City of Galax. In 2013, Carroll County began distribution with 3 miles of pipeline to Mohawk Industries, and the County owned and maintained the system until 2016, when the system was sold to Appalachian Natural Gas (ANG) following advisement by the State Corporation Commission. In 2016, the system had 3 customers, Mohawk Industries, Barker Microfarads, and the government complex, but ANG has added 25-50 customers on average per year since then. In 2021, with funding assistance from [GO Virginia](#), ANG completed a 5-mile extension (\$1.6 million) from Training Center Road to the Wildwood Industrial Park, making Wildwood ready for a Tier 1 project. An extension was also built out to Coon Ridge from Wildwood for future use. [The ANG network in Carroll County currently extends some 11 miles and serves 225 meters and counting – customers have been connected all along the pipeline.](#) There is a proposed line extension, approximately 7 miles, to the Twin County Regional Hospital in Galax, where it may serve other large and small industries and public service buildings.

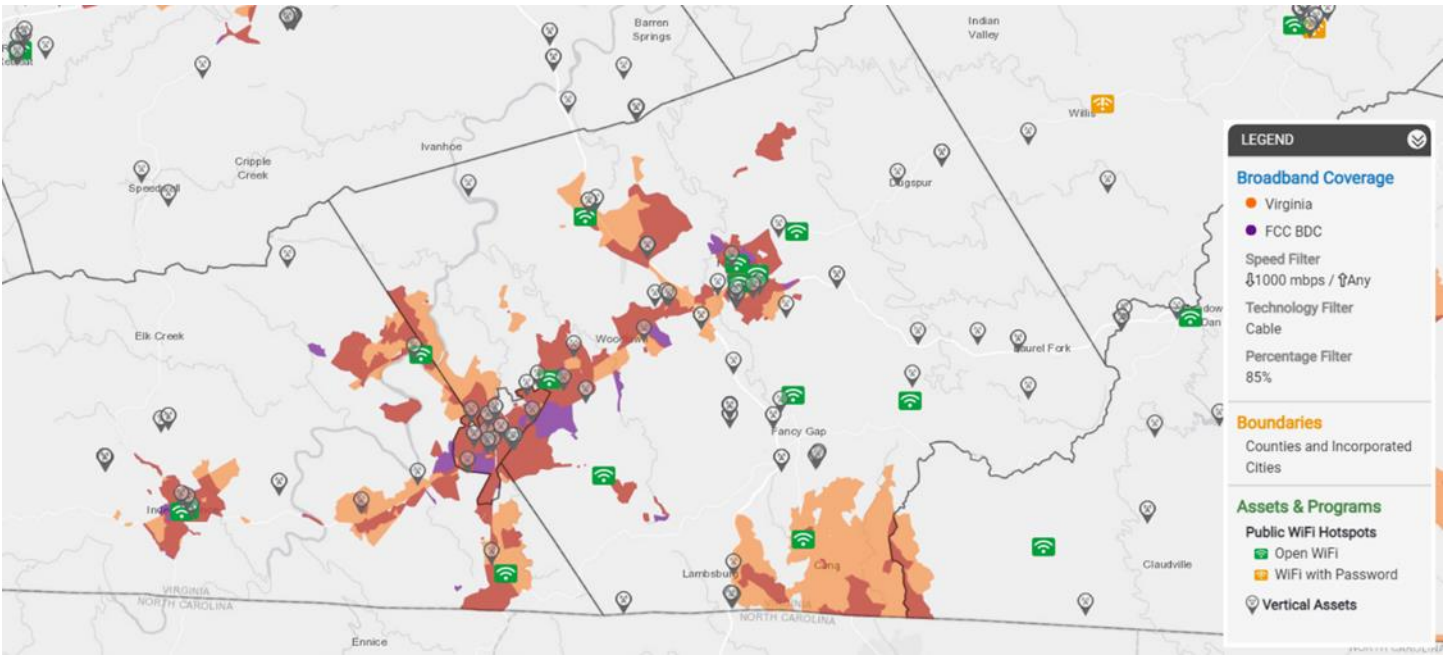
Telephone and Broadband

Telephone services for the county are provided by Sprint and Citizens Cable. Cellular phone services are available through U.S. Cellular, T-mobile, and Verizon, and Citizens Cable and Comcast provide cable television. The four primary broadband Internet providers are Brightspeed and Xfinity. Carroll County also has two wireless providers: Trificient Technologies and Crossroads Technologies, Inc.

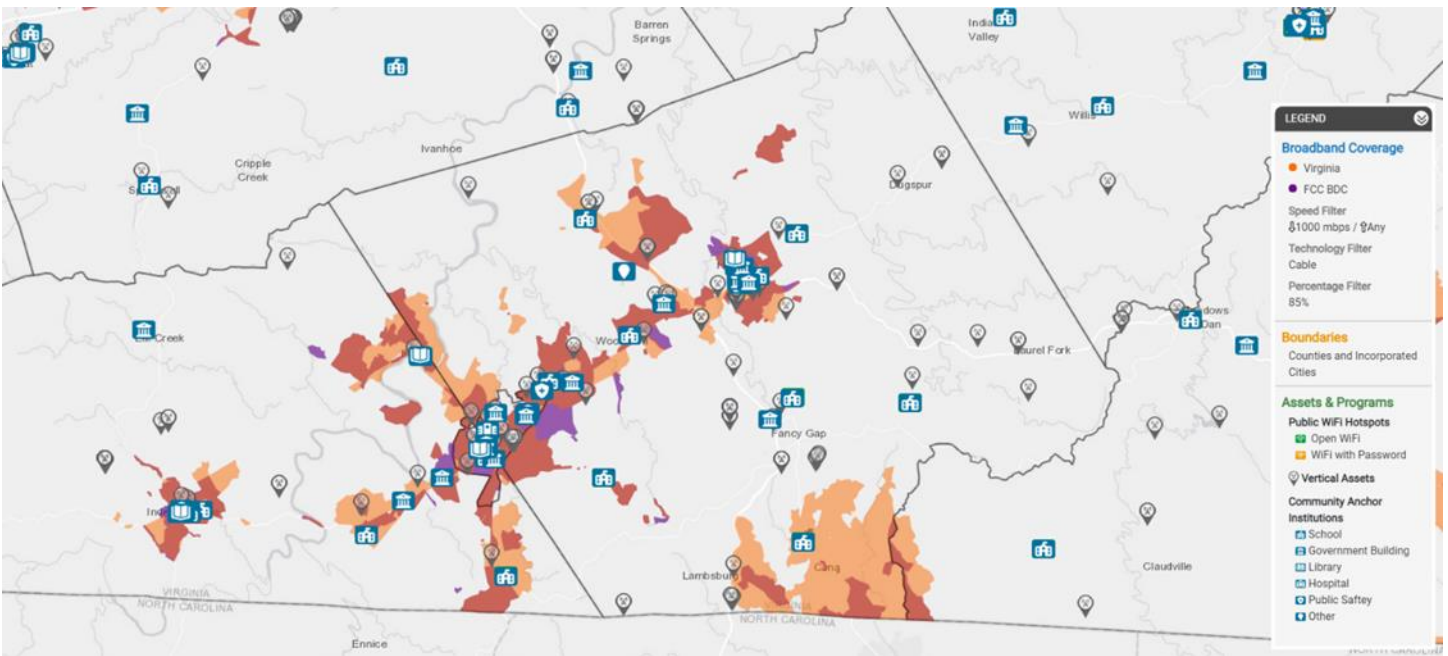
Carroll County has worked with regional partners to expand access to high-speed internet services. **The Wired Road** is a collaboration of Carroll and Grayson counties and the City of Galax. The goal was to provide the businesses and residents of the region with access to world class broadband services using a fully integrated fiber and wireless network. The local governments of the Twin Counties region will not sell broadband services but will operate the broadband network as a regional broadband authority. As with conventional transportation roadways, the authority will build and maintain these new digital roads, but private businesses will use the system to deliver broadband services. This is consistent with the Commonwealth's view that municipalities should not compete with the private sector. This approach creates unlimited opportunities for Internet service providers, who can offer a wide variety of services on the network for very low cost.

Map 12: Broadband Availability shows the location of broadband availability in Carroll County, including Galax and the surrounding region. The map was created through the [Commonwealth Connection](#). For this map, only cable internet was shown available and set at the highest available speed of 1,000 mbps download/ any upload speed. Availability as shown drops off above the 85% threshold, but public Wi-Fi is available as shown, and correlates to the various public institutions as shown. The map contains data collected by the FCC in December 2022 and by Virginia in March 2023.

Map 12: Broadband Availability



The below figure illustrates the community anchor institutions for comparison with the identified locations offering available public wireless infrastructure.



SOURCE: COMMONWEALTH CONNECTION

Law Enforcement

The Carroll County Sheriff's Department is the primary law enforcement agency in the County, headquartered in Hillsville at the Carroll County Governmental Center. In addition to the Sheriff, an elected position, the Carroll County Sheriff's Office consists of employees including law enforcement/patrol officers, investigators, school resource officers, civil process deputies, court security officers, dispatchers, and office staff. The Hillsville Police Department also protects and serves Carroll County, along with Virginia State Police officers assigned to Carroll County.

All communications for local law enforcement agencies are handled through the central dispatch in the Sheriff's office. Communications with the FBI, State Police, and other outside law enforcement agencies are also handled through the central dispatch.

The Virginia Compensation Board sets staffing standards for the Sheriff's Office. The standard for law enforcement is one deputy per 1,500 population, as set out in CODE OF VIRGINIA §15.2-1609.1.

Safer Environmental Design

Approaches toward [more passive, and less active law enforcement](#) can be utilized to create safer communities with the additional benefits of reducing fiscal burden, increased safety to officers, and reduced chances of on-the-job accidents. As discussed previously, **Crime Prevention Through Environmental Design (CPTED)** uses four physical design strategies, as described below, to create safer neighborhoods, shopping, recreation and business areas, as well as public spaces. Encouraging these principles through the development review process may contribute to great comfort and perceptions of safety.

The Four Strategies of Crime Prevention Through Environmental Design are, as discussed previously in more detail:

1. Natural Surveillance
2. Territorial Reinforcement
3. Natural Access Control
4. Target Hardening

Considering the *"broken window theory"* (discussed previously), which attempts to explain why neglected spaces attract crime by feeling like a neglected space, not a monitored, controlled, and generally maintained zone, may help the County plan for capacity needs. The more areas within the County that fit the description in the *broken window theory*, the higher the law enforcement burden the County should expect, and the less safe citizens may generally express they feel.

Policing Principals

Sir Robert Peel, who established the London Metropolitan Police Force in 1829, known as the "Father of Modern Policing", established a list of nine policing principles based on three core ideas which are still very much relevant today and set the standard for responsible policing. Carroll County Sheriff's Department should strive to follow the **9 Policing Principles** set forth by Sir Robert Peel in order to best serve the citizens of the County.

"To recognize always that the test of police efficiency is the absence of crime and disorder, and not the visible evidence of police action in dealing with them."

Sir Robert Peel, 9 Policing Principles

Fire Protection and EMS

The Emergency Services Department is responsible for reducing the loss of life and property from fire, medical and environmental emergencies. The Emergency Services Department consists of both paid and volunteer Fire and Rescue departments throughout Carroll County, which provide 24-hour protection and response to Carroll County's residents and visitors. The Emergency Services Director is responsible for coordinating the development of the County's strategic emergency management system and plan for preparedness, response and recovery phases of a wide range of emergencies and disasters. The Emergency Services Department is responsible for the Emergency Radio System in Carroll County.

Fire and rescue services are dispatched by Twin County E-911, which is a regional 911 Commission that includes Galax, Carroll County and Grayson County. It is located in the Harold Snead Safety Building in Galax, and each locality has two representatives to the Commission.

Fire protection, suppression and emergency response service are integral public safety services provided to the Carroll County residents. Fire coverage areas are shown in **Map 13**. Hillsville and Cana volunteer fire companies each have three stations; Laurel Fork volunteer fire company has two stations; the county volunteer fire companies are supported by the career staffing at Carroll County Fire - Rescue, which has two stations in the county, and a shared station with Laurel Fork Vol. Fire in the Crooked Oak community. Hillsville has 38 active volunteer members, Cana has 26 active volunteer members, and Laurel Fork has 15 active volunteer members.

Combined there are 10 Engines in the county (9 of the 10 Engines have 1,000 gallons of water), served by 5 tankers, and 15 auxiliary apparatus (brush trucks, QRVs, and Command/Support vehicles).

Carroll County has two active volunteer rescue squads: Pipers Gap EMS and Laurel EMS. Primary EMS coverage is divided between Carroll Co. Fire-Rescue, Pipers Gap, and Laurel. Rescue squad coverage areas are shown in **Map 14**.

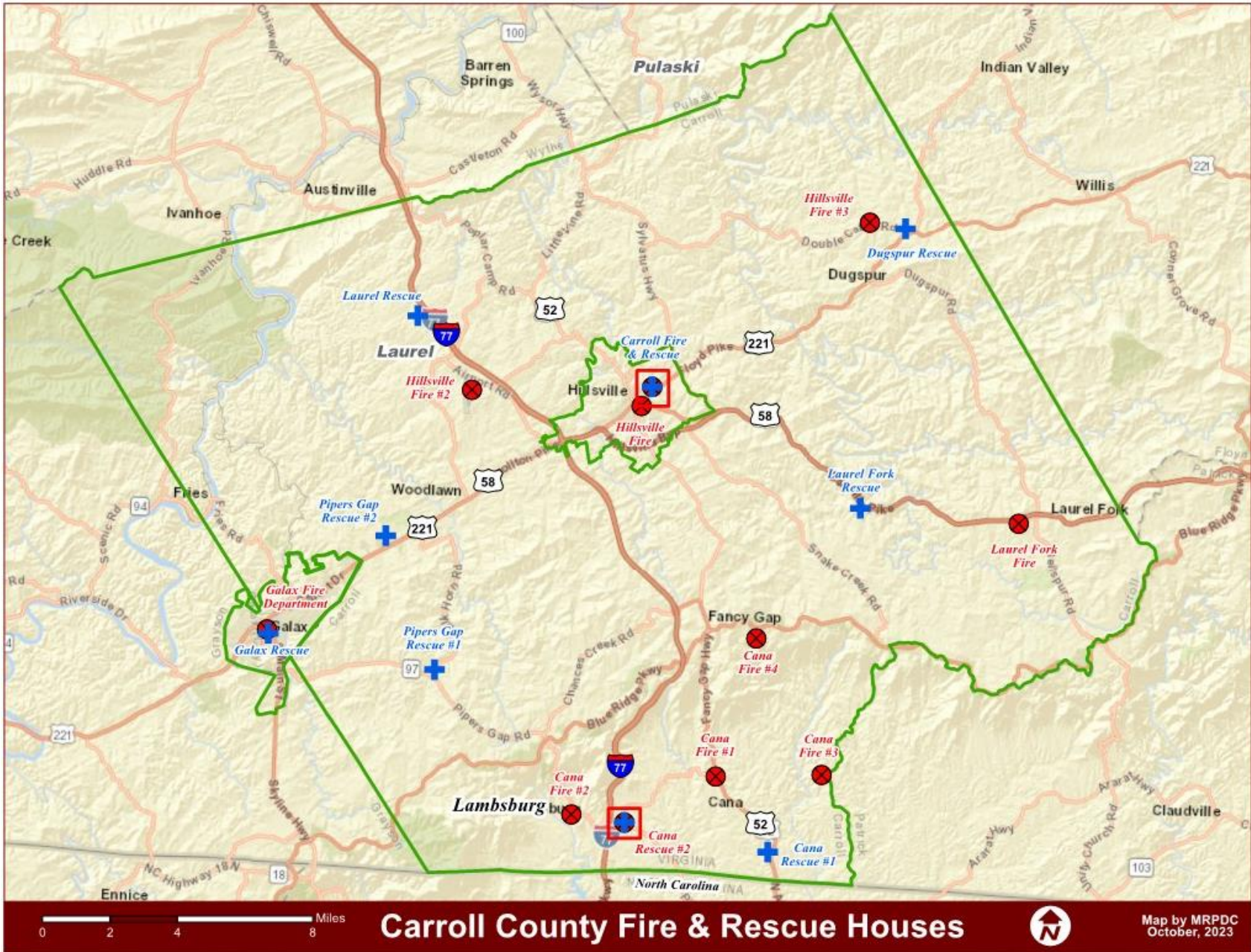
As per the Fire and Rescue CIP, fire districts are rated by the Insurance Service Office (ISO) for insurance purposes on a scale of 1 to 10 with 1 being the highest and 10 the lowest. A district rating of 1 indicates an urban area with a sound municipal water system and ample vehicles and stations to accommodate the district population; a rating of 10 indicates a rural area with no community water system, inadequate equipment, and no stations. In 2009, the Cana Fire department improved their rating from 9/9 to 6/9. The Laurel Fork Fire District is Class 9/10. The Hillsville Fire Department is Class 6/9. Land purchased for new EMS facility.

The County's volunteer fire and EMS companies are directly supported in their operations by Carroll County Fire-Rescue with dual trained, Fire/EMS personnel providing air-pack qualified FFs and additional ALS providers. Carroll has recently started county level training for career and volunteer personnel to include EMT-B, FF I & II, HMO, and EVOC.

The Emergency Services Dept. is actively working with volunteer leadership with recruitment and retention efforts and has recently published a county recruitment web page to support this effort.

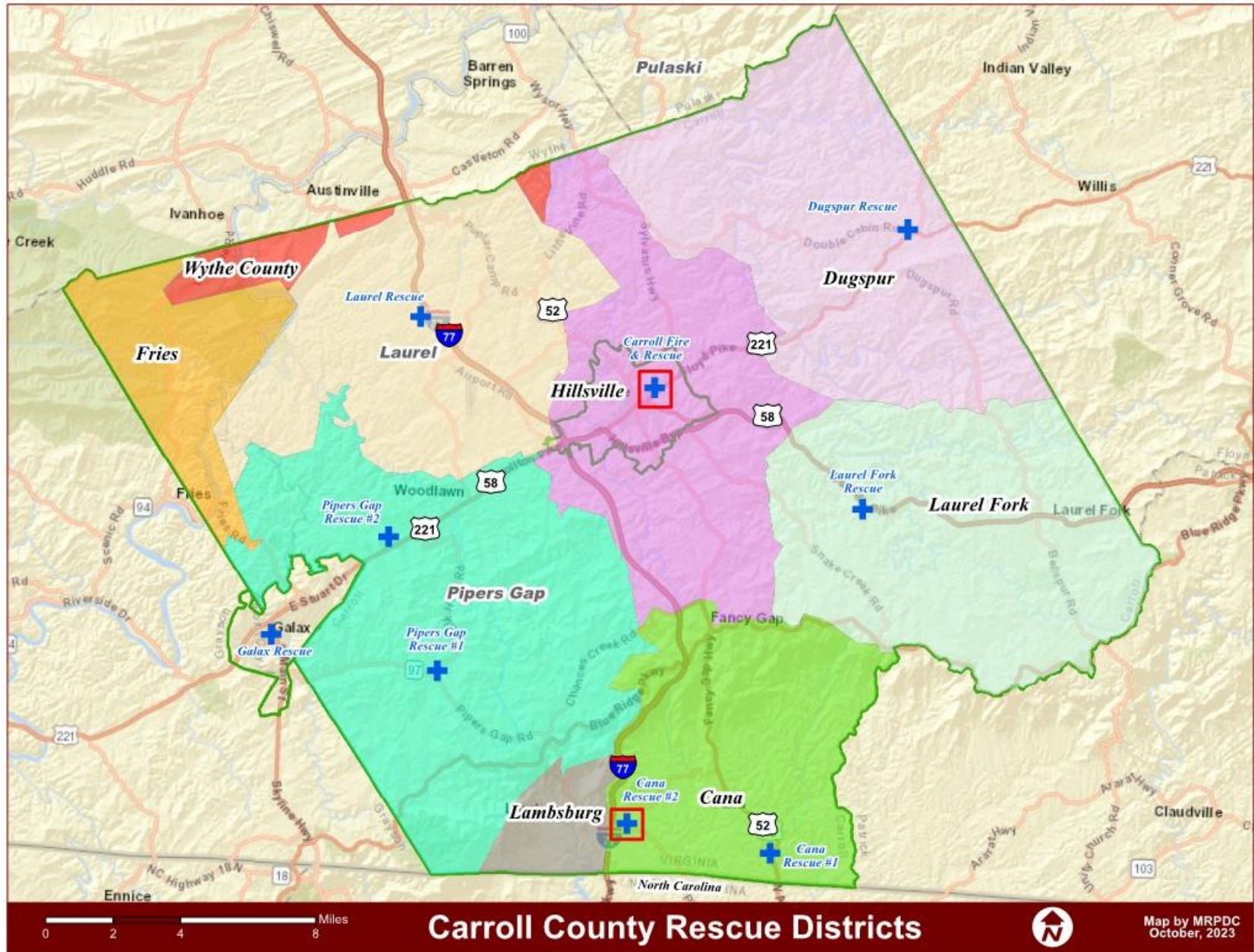
Through county CIP planning, Carroll has updated essential EMS equipment, fire and EMS apparatus, and PPE for personnel. The Chief/Director continuously works with volunteer leadership through the Carroll County Emergency Services Advisory Council for the planning and coordination of emergency services operations. Equipment, training, apparatus, and planning needs are reviewed annually by the Chief/Director, Administration, and the Board of Supervisors.

Map 13: Fire Coverage Areas



SOURCE: MRPC

Map 14: Rescue Squad Coverage Areas



SOURCE: MRPDC

Disaster Response

Emergency Operations Plan

Carroll County has an **Emergency Operations Plan** in order to establish the legal and organizational basis for operations in the County to effectively respond to and recover from all-hazards disasters and/or emergency situations. It assigns broad responsibilities to local government agencies and support organizations for disaster prevention, preparedness, response, and recovery. These responsibilities are generally extensions of normal, day-to-day functions involving the same personnel and material resources. Supporting plans for all-hazards disasters set forth the concepts and procedures whereby the county can effectively apply available resources to ensure that casualties and property damage will be minimized and that essential services will be restored as soon as possible following an emergency or disaster situation.

During an emergency situation the County has many priorities. The top priorities for Carroll County include saving lives and protecting the health and safety of the public, responders, and recovery workers. Another priority is to ensure security of the jurisdiction and prevent an imminent incident from occurring. An additional priority is to protect and restore critical infrastructure and key resources, as well as to ensure the local government continues to function throughout the incident. The protection of property and the mitigation of damages as well as impacts to individuals, communities, and the environment, are all important priorities of Carroll County during an emergency situation. Finally, the County wants to be able to facilitate the recovery of individuals, families, businesses, government, and the environment.

Ongoing plan management and maintenance are important elements for successful implementation. Carroll County should conduct training exercises, plan review and revision prior to formal adoption every four years in order to maintain plan currency. The plan should also be updated and reviewed following training exercises. Carroll County also has adopted a specific Oil and Hazardous Materials Response Plan.

Hazard Mitigation Plan

Carroll County participates in the [Mount Rogers Planning District's Pre-Disaster Hazard Mitigation Plan](#) which addresses natural hazards of importance to the Mount Rogers Planning District region of southwest Virginia (2,777 sq. mi.). Natural disasters included in the plan include dam safety, drought, earthquakes, flooding, karst and sinkholes, landslides, severe winter storms, thunderstorms/lightning, tornadoes, hurricanes, wildfires, windstorms, and even pandemics and climate change for the most recent version(s). The original plan was adopted by all of the localities and approved by FEMA in December 2005.

Adoption of the Hazard Mitigation Plan and approval from FEMA is required for localities to remain eligible to apply for Hazard Mitigation Assistance (HMA) programs, including the four annual grant programs, Pre-Disaster Mitigation Program (PDM), Flood Mitigation Assistance (FMA), Repetitive Flood Claims (RFC), and Severe Repetitive Loss (SRL), plus the post-disaster Hazard Mitigation Grant Program (HMGP). Adoption of this plan is also required to receive a declaration of a major federal disaster or emergency from FEMA.

The purpose of the plan is to meet the requirements set forth in the **Disaster Mitigation Act of 2000** (DMA 2000) which requires state and local governments to identify hazards, assess their risks and community vulnerability, and to describe actions to mitigate those risks and vulnerabilities.

Education

The Carroll County public school system operates one high school, one intermediate, and seven elementary schools. Carroll County High serves grades 19-12, Carroll County Middle serves grades 6-8. The Elementary schools serve Pre-K-5th grade, with the exception of St. Paul School which serves Pre K-7th grade. The Carroll County Adult Education Center provides training for adults to increase their skills in reading, math, literature, social studies, science, spelling, writing, measuring, and English.

The School District has a total capacity of 5,690 and an enrollment of 3,517. Excluding the capacity of the Adult Education Center, the District has a capacity of 5,250 and an average Student to Teacher ratio of 12.65. The only facility operating above capacity is Carroll County Intermediate, which uses two portable classrooms. The District has stable enrollment rates and capacity is generally not a problem. However, the aging of District's facilities is a factor in its operations, as many factors have changed since the buildings were designed, including programming and technology changes.

Though there are no institutions of higher education in Carroll County, the County is part of a service area of Wytheville Community College, a two-year multi-purpose institution located in Wytheville, Virginia. The Crossroads Institute is an off-campus site for Wytheville Community College that is located in Galax, VA.

Carroll County Public Schools Division

Much like the Carroll County government has a Comprehensive Plan outlining conditions, opportunities, strengths, weaknesses, potential threats, and goals and policies, so too does the Carroll County Public School Division (CCPSD). Data included in the Accountability Report ranging from 2015 to 2021, comparing statistics from Carroll County against those of the Commonwealth and against previous reporting years outline performance based on student success rates.

According to the **Comprehensive Plan 2022-2028 for Carroll County Schools**, the organization “recognizes the need to provide for all learners an equality of programs and equity in access to them.”

The goals of Carroll County Public Schools include:

- I. Carroll County Public Schools will ensure that all students acquire the skills and knowledge needed to meet their present and future needs to become productive citizens.
- II. Carroll County Public Schools will implement comprehensive assessment procedures that are aligned with the SOL that incorporate student growth and performance data which results in sound data driven instructional decisions.
- III. Carroll County Public Schools central office administrative, maintenance, transportation, and food services departments will provide innovative and quality products and services that support excellence in education.
- IV. Carroll County Public Schools instructional staff will provide innovative and quality products and services that support excellence in education.
- V. The Carroll County School Board will continue to align resources to ensure students meet state standards.
- VI. Carroll County Public Schools will continue to develop plans and implement the Facilities Renovation and Upgrade Plan to provide for current and future instructional programs and community needs.
- VII. Carroll County Public Schools will provide a safe and disciplined environment conducive to learning.
- VIII. Parents, students, staff, and members of the Carroll County Public Schools' community will have a high degree of support for all programs and schools.
- IX. The Carroll County School Board and Carroll County Public Schools will maintain a commitment to continuous improvement.

According to the **Carroll County Public Schools Comprehensive Plan 2020-2026 Accountability Report**, goals established align with the Comprehensive Plan 2022-2028 for Carroll County Schools. The data included in the report illustrates statistically relevant actual results as related to target results for particular goals.

Crossroads Institute

The **Crossroads Rural Entrepreneurial Institute** is located at 1117 East Stuart Drive in Galax, VA and opened in July 2005 to help improve the lives of people in southwest Virginia and beyond by providing an innovative educational and economic development engine that contributes to the revitalization of the region's economy. The mission statement of the Crossroads Rural Entrepreneurial Institute is to “Contribute to the continuing revitalization of the region's economy and offer a brighter future for our citizens through an innovative center for educational and economic development.” Currently, the Crossroads Institute offers Master’s level courses through multiple colleges and universities.

Throughout Carroll County, Grayson County, and Galax City, people are envisioning ways to improve their lot in life. If in some way, CREI can assist them and help their dreams come to be, CREI will have contributed greatly to the economic fortunes and future of our region.

Partnering Entities

Blue Ridge Crossroads Economic Development Authority: Formed in 2008 among Carroll County, the City of Galax, and Grayson County, BRCEDA leverages the leadership capacity of these three localities to deliver coordinated economic development services to the region focused on small business development and related projects.

Wytheville Community College: A technology-enhanced educational center - including high-demand technical curricula and occupational programs for high school and college students, transfer programs, a university center, and a continuing education center for workforce skills including literacy, GED, workforce, and corporate training.

Crossroads Small Business Development Center: A center to assist small business development by providing business plan preparation, one-on-one counseling, financial analysis, sales marketing planning, and access to capital resources.

From 2023 to 2024, Wytheville Community College has worked with partners to purchase the Institute and bring the facilities completely under the programming, management, and oversight of the community college.

Figure 22: CCSPD At a Glance



Published 3/22/22

SOURCE: CARROLL COUNTY PUBLIC SCHOOLS (03/22/2022)

Library System

Libraries are an integral community service that enhances quality of life. Libraries are more than repositories of print and electronic media. Modern libraries have outreach programs that perform valuable community services educating, informing, and entertaining all segments of the population.

The Galax-Carroll Regional Library provides the community with educational, informational, and recreational library services in an accessible and timely manner. The Carroll County Public Library is a branch of the Galax-Carroll Regional Library System and is located in Hillsville.

The library's mission statement is:

The mission of Galax-Carroll Regional Library is to provide and encourage the use of the library resources and services to meet the educational, recreational, informational needs and interests of the public; thus, enhancing individual and community life.

Health and Social Services

Healthcare

Carroll County residents receive medical attention requiring hospitalization primarily from the Twin County Regional Hospital located in the City of Galax on Carroll County's western border. The Twin County Regional Hospital (TCRH) is considered a rural hospital that serves a total population of around 60,000 people, a large portion of which is Medicare. The TCRH opened its doors in 1973 and now operates as a Duke LifePoint Hospital with 141 beds and includes acute care, ambulatory care, and emergency services.

Twin County Regional Hospital services include Acute Medical & Surgical Care, Behavioral Health, Cardiac Rehabilitation & Cardio Direct, Cardiology, Cardiopulmonary, Chronic Disease Management & Education, Radiology, Emergency Services, Gastroenterology, Intensive Care Unit (ICU), Laboratory Services & Lab Direct, Occupational Health/WorkPoint Wellness, Orthopedics, Pain Services, Rehabilitation Services, Sleep Center, Stroke Center, Teleneurology, and Women's Health & Birthing Center.

Twin County Physician Practices include Cardiology, Family Practice (Galax, Hillsville, Independence), Gastroenterology, Orthopedics, Pediatrics, Surgery, Urgent Care, and Urology.

Other hospitals include Northern Surry Hospital in Mount Airy, North Carolina and Pulaski Community Hospital in Pulaski, Virginia.

Social Services

Carroll County provides several social service agencies to meet the needs of the residents. Agencies located within the Carroll County government complex include: the Carroll County Department of Social Services, Carroll County Health Department, Carroll County Disability Services Board, and the Carroll County Victim-Witness Program.

Numerous other agencies serve residents of Carroll County, including Mount Rogers Community Services Board—Carroll County Counseling Center, Joy Ranch Home for Children, Willing Partners, Mountain Shelter, Virginia Employment Commission, Southern Carroll County Community Center, Rooftop of VA-CAP, Mountain View Youth and Family Services, and Preserving Safe and Stable Families Program.

These agencies provide programs to assist in improving the quality of life for low-income individuals and families in Carroll County. For example, the programs offered by the Rooftop of Virginia Community Action Program (CAP) include housing, winterization, crafts, childcare, and head start. Preserving Safe and Stable Families Program provides a program for after school tutoring and mentoring.

Leadership in Management

Perhaps one of the most commonly overlooked aspects of success in local government is creating an environment in the workplace that lends itself toward encouraging leaders and teams accomplishing a purposeful mission. In many ways, the private sector and public sector aren't that different when it comes to achieving success – both require [people that make a difference](#). In order to make a difference in local government, the people in the organization need to be fully engaged, with a clear mission and the passion to achieve it. [Without clear leadership and vision, the organization will fail to achieve its purpose](#). When it comes to planning efforts, it is the leaders with vision that will see the value.

Human Capital

The greatest resource for an organization to be concerned about isn't financial capital – that's one output of achieving certain goals, sure – but human capital, which is the high priority that most organizations agree on. [Without human capital, by which we mean highly skilled, trained, experienced, and motivated people, the goals of an organization may be unattainable](#). The people that make up an organization are the same people that interact with the customers/clients/consumers of the organization, and those same people must sell the purpose of its existence. By building a base of high-quality, driven staff that feel appreciated and motivated towards clear goals, the organization – the locality – can establish a presence of purpose.

Leaders

[Leaders don't need to be caught up in taking charge when they can be inspiring others to do just that](#). A title doesn't illicit respect from people as much as actions do, and leaders are about action. ***Most managers are not good leaders***,¹⁰ and there most certainly is a difference, but another issue among even leaders is that many struggle with truly understanding the organization's end goal. ***The urgent priorities of the moment may not actually further the end goal***, the best leaders will understand this, and your organization should seek to hire or retain these individuals. More specifically, the municipality should strive to promote and hire leaders into what are typically considered management positions with the County.

The Mission

The mission is not just a mission statement.

Even in the public sector, local governments have a key mission, which often gets set aside in day-to-day activities of those within the organization in the pursuit of daily duties. It is common to lose sight of the mission in local government, and even more common to not fully understand the mission, but this is evidence for why establishment of a clear mission and excellent leadership is so important. Everyone in the organization must be accountable and there must be clear thresholds for achievement of goals toward furthering the mission – this will keep people energized.

“A feeble execution is but another phrase for a bad execution; and a government ill executed, what may be its theory, must, in practice, be a bad government.”

Judge Joseph Story

¹⁰ Building a Winning Culture in Government by Patrick R. Leddin, PHD and Shawn D. Moon; 2018.

Governance and County Operations, Goals & Policies

Goal 13: Residents and businesses enjoy efficient and responsive governance.

- Policy 13.1: Support regulatory requirements that are fair, predictable and protect the interest of public and private property owners and the community as a whole.
- Policy 13.2: Improve government transparency.
- Policy 13.3: Improve public relations with citizens.
- Policy 13.4: Promote intergovernmental cooperation and coordination to address regional planning issues and support County goals.
- Policy 13.5: Support coordination and communication among the County, its communities, municipalities and surrounding municipalities and counties.
- Policy 13.6: Support the role of the County Administrator, including to:
- Develop and manage strategies to assist each department and Board of Supervisors to achieve their individual departmental goals while serving the public needs in the most effective and efficient manner possible.
 - Serve as a key link between the Board of Supervisors, County staff and the public.
 - Coordinate County departments.
 - Work to expand economic development opportunities for Carroll County citizens and expand the tax base.
 - Create a connection between each department's work and job creation.
- Policy 13.7: Support the role of the Finance Department, including to:
- Implement strategic financial planning in the areas of budget and capital improvement.
 - Provide timely and accurate financial services to departments and the Board of Supervisors.
 - Participate during development review regarding provision and funding of facilities and services.
 - Investigate areas in which more fiscal efficiency may be achieved.
- Policy 13.8: Support the role of the Office of Information Technology, including to:
- Complete update and redesign of CarrollCountyVA.org website.
 - Complete inventory of computer hardware and software.
 - Implement a 4-year replacement cycle.
 - Install a public access computer on the second floor at the Governmental Complex.
 - Establish secure wireless connection for Board of Supervisors' use.

- Continue to support development and maintenance of public access computers and wireless access at County offices.
- Continue to support public access to on-line forms and County documents and information via the County website.

Policy 13.9: Support the role of the Maintenance Department, including to:

- Provide repair and maintenance of all County facilities with in-house expertise.
- Maintain all County vehicles, including Sheriff's Department and Carroll Fire & Rescue, in a timely and cost-efficient manner.
- Provide top quality custodial services to all County facilities.

Policy 13.10: Support the role of the Resource Development Office, including:

- Decrease taxpayer cost with grants to reduce government and public safety expenses.
- Create new jobs and economic development with grants.
- Rank nationally in professional accreditation.

Policy 13.11: Strive to promote and hire leaders into what are typically considered management positions within the various County departments.

- Support the funding of leadership courses for managers, elected officials, and committee chairs.

Facilities and Services, Goals & Policies

- Goal 14: Residents and businesses enjoy efficiently provided and equitably funded public facilities and services.**
- Policy 14.1: Plan for and equitably fund the efficient provision of public facilities and services.
- Policy 14.2: Assure that the provision of County services is efficient and does not shift the costs of facilities to serve new residents and businesses to existing residents and businesses.
- Policy 14.3: Support adequate public facilities to be available or funded prior to approval of new development. The implementation of this policy will be coordinated with the adoption of a Capital Improvements Plan that addresses existing deficiencies and future capacity needs.
- Policy 14.4: Annually update and prioritize the Capital Improvements Plan (CIP) to ensure that projects are consistent with the goals of the Plan and targeted to Developed and Planned Growth Areas. Prioritize County CIP projects, state and federal projects that are located within Developed and Planned Growth Area Tiers.
- Policy 14.5: Coordinate with other service providers to exchange information about capital improvements projects and to coordinate the timing and capacity of improvements to efficiently provide for demands from planned development.
- Policy 14.6: Coordinate the provision of new infrastructure and facilities with existing infrastructure and facilities to maximize use of existing capacity.
- Policy 14.7: Maintain adequate levels of service for county facilities and services, for road capacity, operation and maintenance; law enforcement; fire protection and emergency medical response times; parks, trails and open space; water, sewer and stormwater drainage.
- Policy 14.8: Maintain adequate levels of service for school district facilities and services including participation during County development review and coordination with short- and long-range CIPs.
- Policy 14.9: Require adequate public facilities in a timely manner as a required precondition to development approval in order to prevent sprawl, assure a positive fiscal impact for the County, provide a high quality of life through infrastructure and service provision and protect the health, safety and general welfare of the County.
- Policy 14.10: Require facilities to be extended through new developments to provide for future growth. Facilities may be required to be over-sized to serve future development with provisions for reimbursement for facilities that benefit other properties.
- Policy 14.11: Direct public facilities that serve large populations, such as hospitals, schools, and health clinics, to locate near the intersection of major transportation routes.
- Policy 14.12: Encourage co-location and grouping of community facilities such as libraries, fire stations, rescue centers, public health clinics and other governmental service facilities.
- Policy 14.13: Encourage acquisition of sites for planned community facilities in advance of need.
- Policy 14.14: Support provision of broadband telecommunications infrastructure.
- Policy 14.15: Plan, support, and fund infrastructure development in coordination with the PSA.
- Policy 14.16: Support the role of Galax-Carroll Regional Library, including to:

- Complete an update to the Galax-Carroll Regional Library Policy Manual according to the Five-year Strategic Plan (adopted September 2023).
- Provide Wi-Fi access for patrons within and in the library parking lots for Galax and Carroll.
- Provide downloadable e-audiobooks and e-books through the Southwest Virginia Public Libraries Overdrive Consortium service via the library's website.
- Implement updates and revisions in Library's automated operating system.
- Continue to expand adult and youth reading programs and outreach to underserved groups.
- Promote staff development through in-service training and events.

Policy 14.17: Ensure that new developments incorporate necessary road improvements prior to beginning construction.

Goal 15: The County enjoys fiscal strength and balance due to the use of the full range of financing tools.

Policy 15.1: Ensure the fiscal sustainability of the County through the efficient provision and phasing of public facilities and services, the use of fiscal impact assessments, and the use of the full range of revenue-generating tools.

Policy 15.2: Establish and assess public improvement districts to finance on- site development public facilities construction, operation, maintenance and repair; and provide incentives for the installation of renewable energy and water recycling infrastructure.

Policy 15.3: New development shall fund its proportional share of costs for capital facilities for on- and off-site capital improvements required to serve new development.

Education and Human Services, Goals & Policies

Goal 16: **Quality healthcare and human development services contribute to a sense of community and healthy families.**

Policy 16.1: Support educational opportunities for all ages, with emphasis on higher education and improved educational facilities.

Policy 16.2: Coordinate long-term school planning with the Carroll County and Hillsville Planning Commissions.

Policy 16.3: Improve educational opportunities through quality schools, training in trades, access to arts and cultural courses, access to higher education, and support of community college courses (including dual credit and early access associates degrees).

Policy 16.4: Provide CTE opportunities and dual credit opportunities for high school students.

Policy 16.5: Provide support for the Crossroads Institute.

Policy 16.6: Increase access to medical care.

Public Safety, Goals & Policies

Goal 17: Essential public services including fire protection, rescue operation and law enforcement are available to all County residents.

Policy 17.1: Support provision of public safety services at higher levels of service in urban and suburban areas with more intense development and concentrated population, and at lower levels of service in rural areas.

Policy 17.2: Improve safety by preventing loose and stray dogs.

Policy 17.3: Expand and enhance emergency services.

Policy 17.4: Support development of a county-wide training program for career and volunteer staff.

Policy 17.5: Support operational planning to include career trucks with dual-trained personnel stationed in each response area.

Policy 17.6: Support the expansion and improvement of public safety communications infrastructure, including appropriate planning and for maintenance and strategic replacement existing and expanding assets.

Solid Waste, Goals & Policies

Goal 18: All sanitary landfills are maintained and operated in the most efficient and sustainable manner possible, with a high percentage of solid waste diverted to recycling centers.

Policy 18.1: Require reclamation and conversion of closed sanitary landfills to open space for dispersed use, timber management, recreation areas, or wildlife feeding and breeding areas.

Policy 18.2: Encourage recycling, resource recovery and other alternative uses of solid waste.

Policy 18.3: Support the strategic location of additional convenience stations throughout the county.

Water and Sewer Facilities, Goals & Policies

Goal 19: Water and sewer service is provided in urban and suburban neighborhoods and communities; rural areas generally rely on well and septic systems.

Policy 19.1: Coordinate with the New River Water Authority in order to ensure the long-term water needs of the County are met.

Policy 19.2: Support the use of the New River as a source of water for both Wythe and Carroll Counties.

Policy 19.3: Continue implementation of the recommendations in the County's 604(b) study for the provisions of water and sewer facilities.

Policy 19.4: Support use of alternative methods of sewerage treatment and disposal.

Policy 19.5: Provide access to water and sanitary sewer in Primary Growth Tiers.

Policy 19.6: Limit development of water/sewer lines in rural areas.

Chapter 8. Transportation

Transportation planning is vital to any community and should be an integral part of countywide comprehensive planning. Transportation systems should seek to provide for the efficient movement of people and goods within and between the County and other areas. Transportation planning additionally influences economic activity and patterns of growth by providing access to land. Planning of this type should be accomplished with a view towards safe and convenient access to and from specific sites as well as to and from major collector streets and arterial roadways. Much of this transportation planning is completed through the Rural Technical Committee (RTC), hosted by the Mount Rogers Planning District Commission, and responsible for producing the Regional Long Range Transportation Plan (RLRTP). RLRTP is a formalized effort on behalf of the state to improve communication with local officials in small urbanized and rural areas (areas with less than 50,000 people), giving them a stronger voice in transportation decision making and programming, including the VDOT Six Year Improvement Program (SYIP). The format resembles that of the Metropolitan Planning Organization (MPO), which coordinates transportation planning and programming in Virginia’s urbanized areas as mandated by federal law. The benefits of involving local stakeholders in rural transportation planning include increased trust in government, better plans and programs, stronger support for actual implementation and improved performance of transportation systems. The current RLRTP is the [2035 Rural Long Range Transportation Plan](#), adopted in 2011. The newest RLRTP should be adopted in Spring 2024 and extend through 2045.

Carroll County is bisected east to west by U.S. Routes 58 and 221 and north and south by U.S. Route 52 and U.S. Interstate 77. Interstate 77 was completed in 1977 and significantly improved traffic congestion along U.S. Route 52. According to numbers published by the Virginia Department of Transportation (VDOT) for 2021, Interstate 77 through Carroll County averages 34,500 annual vehicles per day. The [VTrans Multimodal Transportation Plan 2025 Needs Assessment](#) identifies only one consolidated need (identified as [S.13](#)) within Carroll County, and that is Interstate 77, which has identified needs classified as “safety” and “congestion”.

Most of the county’s roads are managed and funded by VDOT and fall into the jurisdiction of VDOT’s Salem District. Carroll County and Galax are the only two localities within the Mount Rogers Planning District which belong to the Salem District rather than the Bristol District. The county is rural in nature and currently has not identified any Urban Development Areas (UDA) in accordance with [CODE OF VIRGINIA § 15.2-2223.1](#). Urban development areas are characterized as areas suitable for higher density development and can be designated by localities to meet projected residential and commercial growth for a period of 10-20 years. The boundaries and size of these areas must be reviewed every five years in conjunction with the comprehensive plan.

The Blue Ridge Parkway, a National Scenic Byway, is the longest linear national park in the United States – approximately 469 miles through North Carolina and Virginia – runs through Carroll County as it links the Shenandoah National Park to the Great Smokey Mountains National Park. As a national park, the Blue Ridge Parkway is managed by a division of the National Park Service, rather than VDOT.

VTrans

Virginia has the nation’s third largest system of state-maintained highways, totaling approximately 58,000 miles of arterial, collector, and local roads, including around 20,000 bridges and structures – this does not include independent cities and towns, and counties authorized by special legislation to maintain their own local transportation systems, receiving funds from VDOT to do so according to accepted standards.

The transportation network is managed by VDOT in accordance with [Virginia’s Transportation Plan \(VTrans\)](#), which has four focus areas: vision, mid-term planning, long-term planning, and strategic actions. Additionally, this plan develops a long-term risk and opportunity register for to prepare for *Megatrends* including climate change, technological

advancements, consumption patterns, and socio-demographic patterns. The current version of the state’s transportation plan is titled the **VTrans 2040 Multimodal Transportation Plan**.

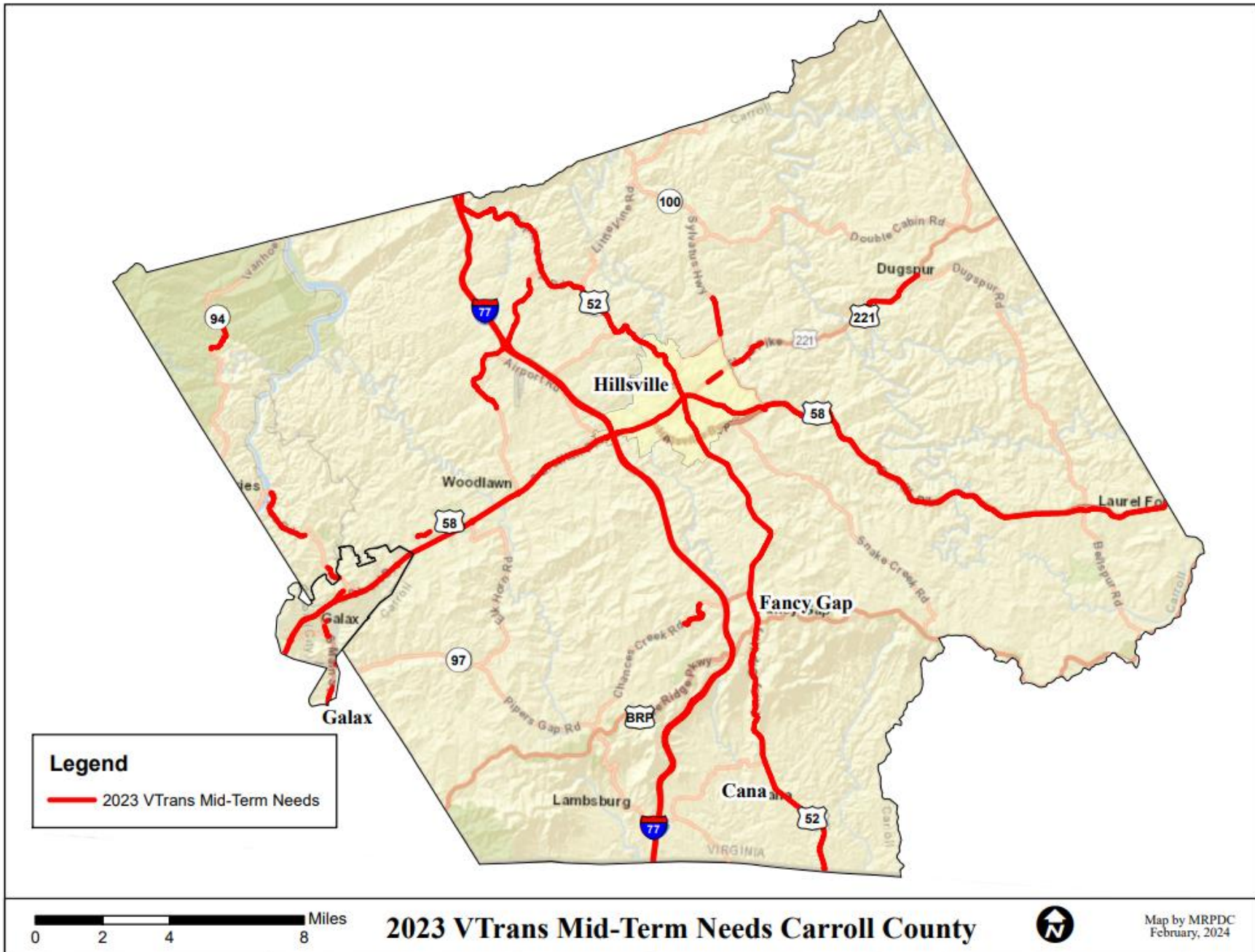
As a critical part of the SMART SCALE Process, the bi-annual release of the 2023 Mid-term Needs was completed in February 2024 for SMART SCALE Round 6, following its presentation to the Commonwealth Transportation Board on January 16th, 2024. VTrans, Virginia’s Transportation Plan, identifies mid-term (next 10 years) transportation needs; these needs are periodically updated, and the most recent map of needs is shown below as **Map 15: VTrans 2023 Mid-term Needs Assessment**. The needs assessment can be reviewed more in-depth utilizing [Interact VTrans](#).

As part of *VTrans 2040*, Carroll County has two identified **Corridors of Statewide Significance (CoSS)**: 1) the Western Mountain Corridor, Segment L1, consisting of I-77 and US 52; and 2) the Southside Corridor, Segment J2, consisting of US 58. These corridors cross just northwest of the center of the county, the US 58 corridor connecting the City of Galax and Town of Hillsville, running approximately east and west, and the I-77 corridor running approximately north and south and crossing US 58 at the western corner of Hillsville. The CoSS described above are illustrated in detail in **Map 16** below. All CoSS have some common components, such as rail travel, but there are also common strategies for improvements – including the goals of safety and security, system preservation and maintenance, and/or mobility, connectivity, and accessibility.

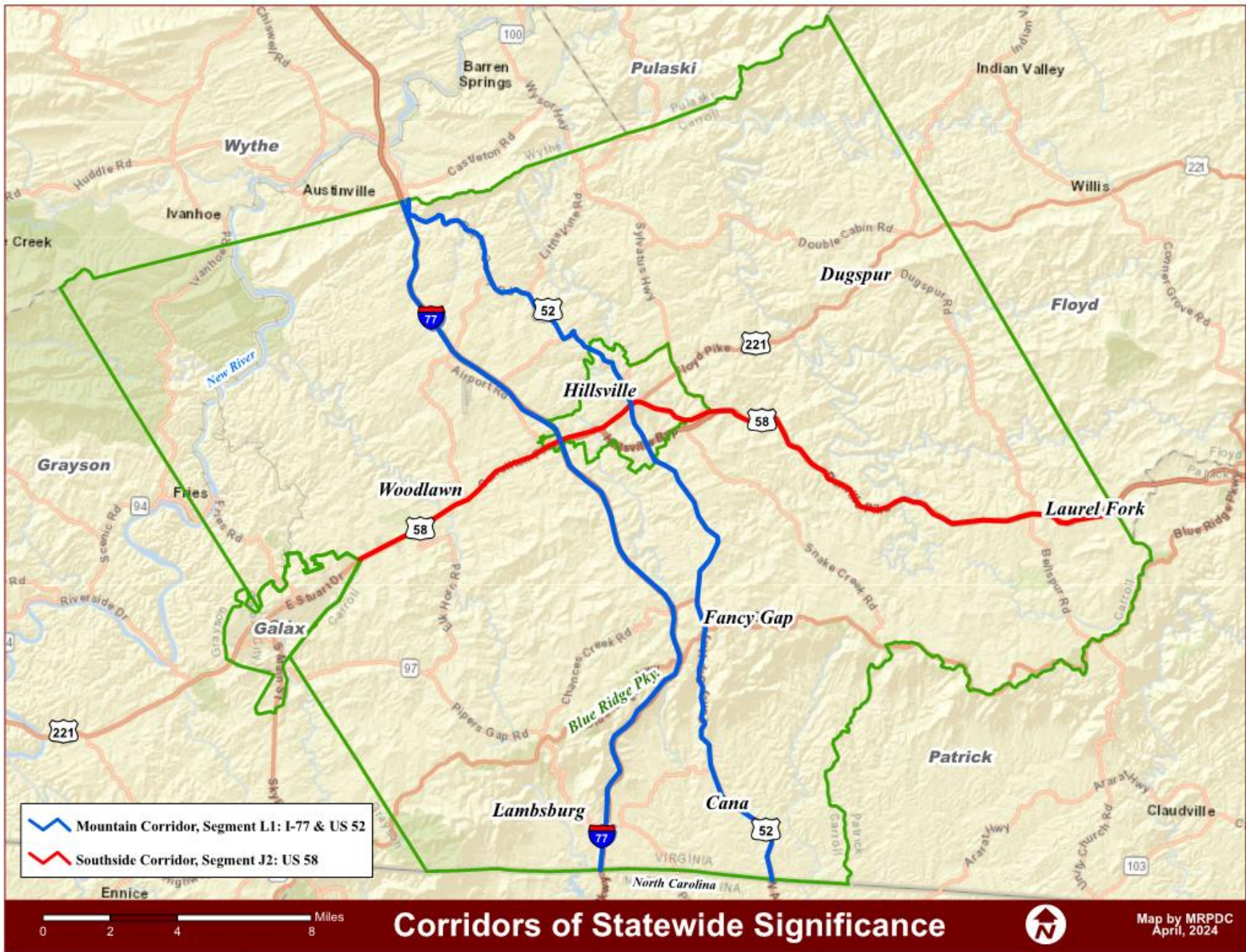
The Commonwealth Transportation Board (CTB) creates and maintains the transportation system in Virginia. The CTB uses a Six-Year Improvement Program to allocate funds for transportation projects proposed for development, construction or study in the next six years. The program is updated on an annual basis. The Six-Year Improvement Program is discussed in further detail later in this chapter. Under the general supervision of the CTB, the Department of Rail and Public Transportation (DRPT) is responsible for the administration of programs related to public transportation and rail functions.

The Office of Intermodal Planning and Investment (OIPI) – within the Office of the Secretary of Transportation – was created in 2002 to support and advise the Secretary in their role as the Chairman of the Commonwealth Transportation Board. The OIPI takes on a leadership role within the performance-based planning and programming process: planning, development of solutions and programs, investment strategies, and monitoring and evaluating the performance of investments. The OIPI also administers the Growth & Accessibility Planning (GAP) Technical Assistance (or GAP-TA) program in accordance with VTrans.

Map 15: VTrans 2023 Mid-term Needs Assessment



Map 16: Corridors of Statewide Significance



Functional Classification

The roads in the county perform different functions according to their size and location. Most travel occurs through a network of interconnected roadways, with each roadway segment moving traffic through the system toward identifiable destination points/areas. Roadways are assigned into classifications within a hierarchy according to the character of travel service each roadway provides – planners and engineers use this hierarchy to properly channel transportation movements through a transportation network.

The Virginia Department of Transportation (VDOT) classifies roads in the following manner.

Principal Arterials -Roads serving as high-speed connecting links in interstate travel between the county’s major population centers and for statewide travel between the larger cities and towns in the Commonwealth. The two categories of principal arterials are:

Interstate, Freeways, and Expressways. These routes have the highest design standards possible, including control of access. Full control of access is required on interstate routes and freeways, but expressways may be constructed with partial control.

Other Principal Arterials. These routes have lower design standards than interstate or freeways. Except for unusual circumstances, access control will be limited to bypasses and major relocations.

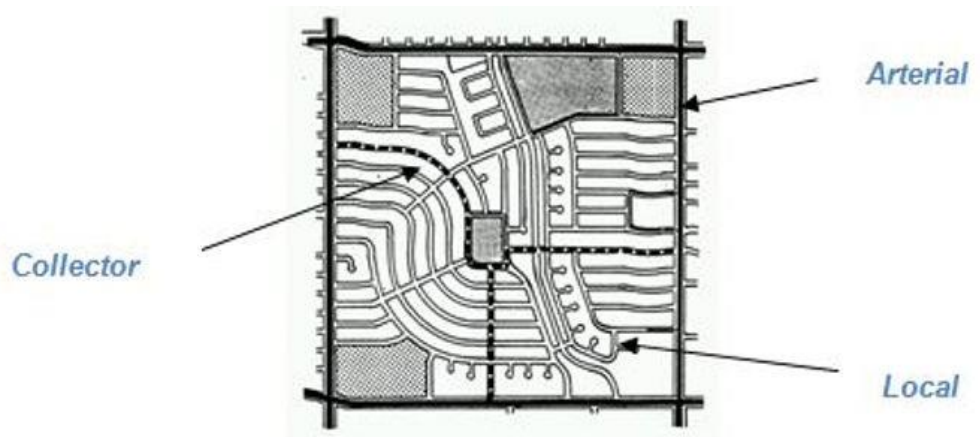
Minor Arterials - The function of these roads is to link urban areas with towns not situated on principal arterial routes and to form a network providing interstate and inter-county service. This system is designed to provide relatively high-speed travel, even though in many cases multi-lane facilities will not be required.

Collectors - This system consists of those routes that, regardless of traffic volume, primarily are of intra-county rather than statewide importance. Since trip lengths will be much shorter than on arterial routes, design standards provide for moderate travel speeds. Although some collector corridors may run through several counties, trip lengths within the corridor are usually relatively short. Collectors are also subdivided into two categories:

Major Collectors. These routes have three main functions; to connect the locally important travel generators, to link travel generators to nearby towns on higher-class roads, and to serve the more important intra-county travel corridors.

Minor Collectors. These routes form a network bringing all remaining developed areas within reasonable distance from a major collecting route. [There are a number of minor collectors in the county.](#)

Local Roads - The local road system serves primarily to provide direct access to adjacent land parcels. These roads are designed for low travel speeds.



Access Management

The County should take an active role in access management to ensure access to key development at critical intersections and on major corridors while preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. Access management is important as the County strives to maximize the economic impact of its highway interchanges and increase tourism – the intersection of Route 100 and 221 is a prime example of hazards related to poor access management and should be addressed through VTrans.

The spacing, location, and design of entrances, traffic signals, street intersections and median openings are all important aspects of an access management program. Each one of these produces conflict points where vehicles must slow down or stop, interrupting the flow of traffic. The increasing number of conflict points correlates with traffic congestion and crashes. Reducing conflict points can be realized through managing the location and design of median openings, driveways, and other points of access to state highways and other corridors.



SOURCE: MARC / RTA

Land Use / Transportation Linkage

Transportation is an important and costly component of a community's infrastructure base that has a profound influence on its land use patterns and rate of growth. Consideration of traffic demands is a critical aspect of an overall smart growth framework. Impacts to both local streets and neighborhoods and the region's arterials and highway system should be considered. Traffic congestion *may* increase the costs of doing business in the region, potentially discouraging new businesses from locating in the area. Pollution and congestion have harmful effects on the quality of the natural environment and the area's quality of life if the necessary transportation improvements are not funded as needed.

Transportation is inextricably linked to the development of land.

Transportation is inextricably linked to the development of land. Countywide development patterns and site-specific lot design influence the availability and efficiency of various transportation modes. Development intensity/density, street lay-out, connectivity and access, and public improvement requirements are some of the many components that contribute to the viability of transportation options.

Moderate to high-density mixed-use development is widely regarded as a land use that maximizes transportation options. The benefit of mixed-use development and higher density residential include land conservation and increased mobility options, such as carpooling, biking/walking, bus or fixed-route transit since uses aren't artificially separated and population densities support viable ridership. Mixed uses allow people to live, work and shop in the same neighborhood, reducing their need to travel long distances in the course of daily living. Increased mobility options can reduce household transportation costs, reduce pollution and traffic congestion, and increase interaction between neighbors.

Given increasing congestion and the likelihood of escalating energy costs, there will be an increased incentive to use modes other than single occupancy vehicles. It is important to avoid development typologies that would preclude transit options as they become more necessary in the future, such as large-lot residential development, non-contiguous growth, and leap-frog development. **Transit is neither cost effective nor convenient to use in very low-density neighborhoods.** Generally, residential areas must be at a density of 8 or more units per acre to make transit a viable option.

Accessibility

Signage

Proper signage serves many purposes, from the perspective of telling a story, to wayfinding and even regulation of speed, uses, and the like for the purposes of public safety. Appropriate, clear, and easily identifiable signage reveals the character of a place to those both unfamiliar and familiar with their location; this sets the tone of a traveler's experience and clearly defines unique locations. Comprehensive wayfinding guides visitors effectively, aiding in experience, efficient travel times and methods, and reduces frustration that may result in risk to life and property. Regulatory signage is necessary for the health, welfare, and safety of the public, and keeping such system of signage up to date and in good working order is necessary for the efficient function of law enforcement, fire and rescue, and other public services.

Appropriate, clear, and easily identifiable signage reveals the character of a place.

An ongoing concern in Carroll County is the design and character of the major gateways and corridors that lead into the County, on scenic byways, rural corridors, near and through communities and scenic sites. Revising the sign standards to limit the size and number of signs on a given property, and to regulate the materials, lighting, colors, orientation, height and other design considerations will enhance the visual appeal and first impressions of the community. These results are critical to developing pride in communities and establishing the character of a community to visitors.

Streetscape

The physical condition of streets, sidewalks, utilities, public spaces, and other infrastructure often provides visitors with their first impression of a place and sets the tone for the level of maintenance of private property. High quality streetscapes enhance the community identity and encourage pedestrian activity, adding vitality to commercial and residential areas and incentivizing private investment.

Pedestrian amenities make walking and biking attractive for recreation and travel. Such amenities include:

- Sidewalks and bike lanes with proper striping, signage, and pedestrian safety features;
- Street furniture (benches, trash receptacles, bicycle racks, bus stops, etc.);
- Street trees, shrubs, flowers and groundcovers and street lights;
- Other public spaces, such as plazas and squares for gathering;
- Dedicated public access easements; and
- Public art.

Streetscape investments generate private sector investment, pride in citizens, better experience for visitors, and increase neighboring property values. Properly designed and/or engineered streetscapes can also be implemented to slow vehicular traffic for pedestrian safety, encourage visitor interaction with a particular area – such as a business district – and shade plazas and other built environments for comfort.

Public infrastructure as part of a properly engineered streetscape can be more effective and longer lasting. Studies have shown that shaded asphalt reduces damage from heat and solar radiation, plus the radiant heat generated is reduced, lessening potential harm on adjoining properties and people-focused areas. Adding well designed landscape features into streetscape designs can also create more natural pedestrian safety mechanisms and provide stormwater mitigations strategies in areas that are heavily developed with impermeable surfaces or areas with steep slopes.

Handicap Access

The [Americans with Disabilities Act \(ADA\)](#) is a broad civil rights statute that prohibits discrimination against individuals with disabilities in all areas of public life, but in relation to public transportation, the primary purpose of the **Federal Highway Administration's (FHWA)** ADA program is to ensure that pedestrians with disabilities have an *equal opportunity* to use the public rights-of-way within the public transportation system. Public transportation within the Virginia Department of Transportation's (VDOT) system utilizing federal funding through the FHWA's program complies with the Act. Similarly, grant programs available to the County through either VDOT or directly with the FHSA require compliance with the Act. Compliance with the Act requires specific engineering standards related mostly to pedestrian and bicycle infrastructure, but also signage. The guidelines included in the FHSA's ADA program not only create equal opportunity for use of public transportation facilities, but also safe and effective facilities.

Complete Streets

*Complete Streets*¹¹, *context sensitive design*, and *green streets* are similar concepts that promote a more comprehensive approach to the design and function of roadways. The key premise is that roadways should be designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and bus riders of all ages and abilities. Streets should be engineered to meet the demands placed on the roadway and should be done so in a way that minimizes negative impacts and recognizes the character and function of the surrounding area. For instance, even though a downtown street may be heavily travelled, it should not be designed to function like a high-speed arterial.

Considerations should include:

- Consider the needs of all users, including pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities;
- Create a comprehensive, integrated, connected network;
- Recognize the need for flexibility in design dependent upon the context of the roadway and the character and design of surrounding development;
- Consider exceptions to established standards to enhance safety, promote traffic calming and walkability or achieve other objectives;
- Seek opportunities to involve the community in the design of roadways;
- Direct the use of the latest and best design standards; and
- Ensure that streets fit in with the context of the community.

Safe Routes to Schools

According to the Federal Highway Administration, the number of school children that walk or ride a bike to school has dropped from 50% in 1969 to less than 15% today. This is particularly alarming in consideration of the rising rates of childhood obesity and the associated chronic health disorders, including Type II diabetes and asthma. Aside from the public health concerns of a less physically active school-age population, the number of children who cannot walk to school due to safety concerns is problematic in terms of the increasing costs of fuel for cars and buses. An additional concern is that as more children are driven to school, the increased traffic and air pollution around schools makes it more challenging for the remaining walkers and bike riders to travel safely.

Parents repeatedly identify safety as the number one reason their children ride in vehicles. [Safe Routes to School \(SRTS\)](#) is a national program that addresses the issues that prevent students and parents from utilizing transportation alternatives. Schools provide a unique opportunity to educate students as well as provide school-based walking

¹¹ [Complete Streets](#) is a term defined by the Federal Highway Safety Administration (FHSA) and the FHSA is focused on supporting agencies to plan, develop, and operate safe and safe-feeling streets for all users – equitable streets and networks that prioritize safety, comfort, and connectivity.

programs where students can walk safely in supervised groups. The SRTS Program projects are currently eligible under the *Transportation Alternatives Set-Aside* and the *Surface Transportation Block Grant Program*.

While children in rural communities are not necessarily within safe walking distance from school, development in planned growth areas and communities should incorporate safe route concepts. To promote safe routes to schools and the quality of the overall pedestrian environment, the County should include specific design components for new and existing facilities, parks, schools and other community gathering places, such as pedestrian crosswalks, sidewalks and bike trails, signage, schools near to neighborhoods, traffic calming measures, pedestrian refuges and other techniques, including community education.

Airport

Carroll County is home to the Twin County Airport; at 2,694 FT above sea level, the airport is located just west of I-77 near Exit 19, approximately seven nautical miles northeast of the City of Galax and six miles northwest of the Town of Hillsville. The Twin County Airport Commission was chartered in 1964 by an Act of the General Assembly of the Commonwealth of Virginia. The Airport Commission consists of two appointed representatives from Galax, Carroll County and Grayson County. The Airport Commission establishes policy for airport matters, authorizes project submittals, and approves the annual operating budget. The Twin County Airport now includes a relatively new terminal with a conference room, offices, and a pilots' lounge, additional T-Hangars; however, the runway remains at 4,204 feet. The airport's hours of operation are Monday through Friday 8:00AM to 5:00PM.

On January 8, 1992, Carroll County adopted an **Airport Safety Ordinance** as required by VIRGINIA CODE § 15.1-491.02 (the code number at that time). The County also recognizes certain criteria, as outlined by the Virginia Department of Aviation, for airport zoning. [To implement effective land use planning and control measures around airports, it is necessary to identify specific planning boundaries; these boundaries will identify airport environments for land-use planning purposes.](#) Federal and state airport design criteria, safety of flight requirements and land use provisions unique to the community should be incorporated into the zoning process.

Airport safety zones, standard aircraft traffic patterns, over flight areas, noise contours, and FAR Part 77 height restriction criteria should be considered by land use planners as central elements when developing zoning ordinances, airport overlay districts, and comprehensive land use plans for the community. All of these factors should be considered for airport-compatible land uses. [In general, land use for residences, schools, churches, hospitals, daycare centers, nursing homes, and other uses resulting in large open-air assemblies of people – such as amphitheaters and stadiums – in over flight areas should be discouraged.](#) Compatible uses include commercial, industrial, agricultural, golf courses, parks, and other similar uses. Carroll County follows these criteria, their Airport Safety Ordinance, and any regulations specified by the FAA.¹²

¹² Virginia Department of Aviation, 2005; Carroll County Chair of Airport Commission, 2005

VDOT 6-Year Improvement Program

As required by the CODE OF VIRGINIA, §33.2-214, the Commonwealth Transportation Board (CTB) allocates public funds to transportation projects over six fiscal years, comprising the [Six-Year Improvement Program \(SYIP\)](#). State law authorizes the CTB with power and duty to coordinate planning for financing of transportation needs, including needs for highways railways, seaports, airports, and public transportation and set aside funds, among other things.

From the Commonwealth Transportation Board’s website, the CTB updates the SYIP each fiscal year (starting July 1). As revenue estimates are updated, new priorities are identified, and existing projects advance. Every Fall, public meetings are held across the state on project priorities and the SYIP. Through this process, public input is taken into consideration as the next update of the SYIP is drafted and presented to the CTB in the Spring, whereafter, public meetings are held considering the draft SYIP prior to adoption of the final program in June.

The CTB allocates project funds using the following priorities, in no particular order, as guidance:

- Fund deficits in current project phases.
- Maximize use of federal funds to meet federal strategy.
- Fund project phases already underway, as well as project phases that start in the current federal fiscal year (Oct 01).
- Fund deficit bridges and paving projects.
- Fund Appalachian Development Highway System planned projects with an average of 4% of total federal maintenance and construction funds over the six years.
- Fund deficit bridges with an average of 13% of total federal maintenance and construction funds over the six years.
- Increase funding for preliminary engineering.
- Support development of private-public partnerships (CODE OF VIRGINIA, §33.2-214(D)).
- Allocate funds consistent with planned obligations and expenditures.
- Redirect inactive balances on projects.

According to virginiaroads.org, “[t]he SYIP contains both linear projects data as well as a point layer representing the summary of both point and line projects. In the summary layer, linear projects are converted to points based on the centroid of the line and are combined with the normal point projects into a single dataset. Spatial data is intended to highlight mappable projects in the SYIP but may not include all records due to unique business circumstances. Data included in this layer is produced, owned, and managed by VDOT Infrastructure Investment Division (VIID).”

Identified Projects

County-wide projects include, generally:

- County-wide engineering and surveying;
- County-wide fertilization and seeding;
- County-wide traffic services;
- Fiscal year 2022 plant mix Carroll County primaries; and
- Carroll County rural rustic road projects.

The Six-Year Improvement Program outlines various selected improvement projects for funding in Fiscal Year 2023 (FY23) as outlined in the following **Table 22**.

Table 22: Carroll County Six-Year Improvement List (FY23 Revised)

Line Item Search Results (21 line items found)										
Total Line Item Estimate: \$477,698 (K)										
UPC	Description	Route	District	Road System	Jurisdiction	Estimate	Previous	FY23	FY24-28	Balance
(Values in Thousands of Dollars)										
120998	#BF - SALEM YEAR 4 - BRIDGE REHAB CONTRACT (D)	77	Salem	Interstate	Carroll County	\$10,415	\$0	\$0	\$10,415	\$0
17533	RTE 58 - CORRIDOR DEVELOPMENT PROG - 4 LANES (LAUREL FORK)	58	Salem	Primary	Carroll County	\$6,935	\$6,935	\$0	\$0	\$0
17534	RTE 58 - CORRIDOR DEVELOPMENT PROG - 4 LANES (CROOKED OAK)	58	Salem	Primary	Carroll County	\$307,900	\$8,709	\$0	\$0	\$299,191
17535	RTE 58 - HILLSVILLE BYPASS-CORRIDOR DEV PROG-4 LANES	58	Salem	Primary	Carroll County	\$106,567	\$106,567	\$0	\$0	\$0
101004	#SGR18VB RTE 58 WBL BRIDGE RPLCMNT OVER CROOKED CR	58	Salem	Primary	Carroll County	\$3,684	\$3,684	\$0	\$0	\$0
118860	#SGR22VP FY22 PLANT MIX CARROLL CO. PRIMARIES	9999	Salem	Primary	Carroll County	\$1,901	\$1,901	\$0	\$0	\$0
111015	ROUTE 620 - SAFETY IMPROVEMENTS	620	Salem	Secondary	Carroll County	\$1,057	\$1,057	\$0	\$0	\$0
18107	RTE 669 - RECONSTRUCTION	669	Salem	Secondary	Carroll County	\$19,200	\$1,703	\$0	\$0	\$17,497
122038	FY22 CARROLL COUNTY SIGHT DISTANCE SAFETY PROJECT	690	Salem	Secondary	Carroll County	\$225	\$225	\$0	\$0	\$0
117016	#SGR21VB - RTE 764 OVER GREASY CR (STR. 4762)-SUPER REPLACE	764	Salem	Secondary	Carroll County	\$2,103	\$0	\$50	\$2,053	\$0
117009	#SGR22VB - RTE 881 OVER LITTLE REED ISLD (STR 4780)-BR REPL	881	Salem	Secondary	Carroll County	\$11,305	\$1,525	\$0	\$9,781	\$0
100172	COUNTYWIDE ENGINEERING & SURVEY	4005	Salem	Secondary	Carroll County	\$250	\$63	\$0	\$0	\$187
100284	COUNTYWIDE FERTILIZATION & SEEDING	4006	Salem	Secondary	Carroll County	\$250	\$27	\$0	\$0	\$223
100070	COUNTYWIDE TRAFFIC SERVICES	4007	Salem	Secondary	Carroll County	\$250	\$101	\$0	\$0	\$149
T25346	FY27 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$655	\$0	\$0	\$1,297	(\$642)
T25345	FY26 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$655	\$0	\$0	\$648	\$6
T25344	FY25 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$529	\$0	\$0	\$522	\$6
T25343	FY24 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$529	\$0	\$0	\$522	\$6
116582	FY21 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$670	\$670	\$0	\$0	\$0
118621	FY22 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$952	\$952	\$0	\$0	\$0
121260	FY23 CARROLL COUNTY RURAL RUSTIC ROAD PROJECTS	9999	Salem	Secondary	Carroll County	\$1,665	\$1,033	\$626	\$0	\$6

SOURCE: VIRGINIA DEPARTMENT OF TRANSPORTATION

The following **Map 17: VDOT Six-Year Improvement Project** shows the location of identified FY23 SYIP projects from the table above:

Map 17: VDOT Six-Year Improvement Project



SOURCE: VIRGINIA DEPARTMENT OF TRANSPORTATION

Transportation, Goals & Policies

Goal 20: Safe and convenient mobility and a variety of mode choices are available to residents and visitors.

Policy 20.1: Encourage plans that minimize through traffic in residential areas and cause the least adverse effect possible on public centers such as schools, parks, and playgrounds.

Policy 20.2: Promote the construction of access roads to serve activity centers, including residential areas, parks, playgrounds, industrial parks, and commercial centers.

Policy 20.3: Preserve highly productive agriculture areas within the County by encouraging transportation routes to be routed along existing rights-of-way.

Policy 20.4: Participate in a coordinated, regional approach to transportation planning and seek adequate funding to support all transportation modes.

Policy 20.5: Secure rights-of-way required to serve planned development before development occurs.

Policy 20.6: Require subdivision design to coordinate street alignment with existing and future streets to promote a rational and interconnected street system.

Policy 20.7: Improve existing high traffic roads and provide more maintenance of roads.

Policy 20.8: Identify and support potential opportunities for public transportation.

Policy 20.9: The county should plan appropriately for the location of future public facilities to incorporate the safe routes and complete streets concepts.

Implementation

Carroll County's Comprehensive Plan is intended to be a dynamic document – one that responds to changing needs and conditions. To assess the Plan's effectiveness in responding to changing conditions, the County will need to monitor actions affecting the Plan and amend the Plan periodically. Decision-makers should consider each proposed amendment carefully to determine whether or not it is consistent with the Plan's goals and policies. The cumulative effect of small, incremental changes may result in a shift in overall policy direction. For this reason, Comprehensive Plan amendments must be evaluated in terms of their significance to overall County policy.

This chapter describes the processes to annually review, monitor, and amend the Plan, Plan goals and policies, and the Development Tiers Map. The Map amendment process will be subject to adopted code provisions.

Monitoring and Amendment

Annual Review

Department Directors complete an annual review of Comprehensive Plan related activities prior to the initiation of the budget process each year. The annual review is intended to:

- Measure the County's success in achieving plan goals through the recommended strategies;
- Propose strategies to be pursued under the coming year's budget;
- Identify unlisted strategies that will achieve Plan goals;
- Document growth trends and compare those trends to plan projections;
- List development actions which affect the Plan's provisions; and
- Explain difficulties in implementing the Plan.

This annual review should include statements identifying each respective department's progress in achieving the goals of the Plan, the impact of the Plan on service provision, and proposed programs to help achieve the Plan's goals. The annual review should be used as a tool to help set budgetary priorities.

Land Development Amendments

The **Map 8: Carroll County Growth Tiers** is intended to serve as a guide for public and private development and land use decisions. The County should adopt a formal amendment process in the development regulations. Land use amendments are anticipated as growth occurs and market conditions change. While land use amendments may occur more frequently than policy changes, they should not occur more than once per year. By limiting opportunities to amend the future land use plan, the County will reduce the potential for incremental land use changes to result in unintended policy shifts.

Policy Review and Amendment

To ensure that the Comprehensive Plan remains an effective guide for decision-makers, Carroll County should conduct periodic major evaluations of the plan policies and strategies. These evaluations should be conducted every four to six years, depending on the rate of change in the community, and should consider the following:

- Progress in implementing the Plan;
- Changes in community needs and other conditions that form the basis of the Plan;
- Fiscal conditions and the ability to finance public investments recommended by the Plan;
- Community support for the Plan's goals and policies; and
- Changes in county, state or federal laws that affect the County's tools for Plan implementation.

The major review process should encourage input from merchants, neighborhood groups, developers, and other community interests through the creation of a Citizen Review Committee. Plan amendments that appear appropriate as a result of this review would be processed according to the adopted Plan amendment process.

Key Implementation Tools

The Plan implementation program identifies a number of tools available to the County that may be employed to bring the goals, policies and strategies of the Plan to fruition. These implementation tools are interrelated and work together providing continuity and breadth to the implementation program.

Development Regulations

On a day-to-day basis, the development regulations (zoning and subdivision regulations) are the most important tools for Plan implementation. The Growth/Development Tiers Map (Map 8) and the growth-related goals are achieved through a myriad of incremental decisions about specific development projects. Because the Plan does not carry the force of law, the County must effectuate Plan policies through a variety of actions, including amendments to the County development regulations. Updates to these development regulations should be consistent with the Plan to ensure that incremental actions on development requests support the Plan's goals, policies, and recommendations.

Capital Improvements Plan (CIP)

Short- and long-range CIPs are important planning tools to ensure that the County has planned the most cost-effective facilities and to determine whether the County will have the capability to fund needed public facilities. The short-range CIP should identify and estimate costs of improvements needed to serve anticipated growth for the next 5 to 10 years; the long-range CIP should identify and estimate costs of improvements needed to serve anticipated growth for the next 10 to 20 years. This Plan is not an engineering document but should provide enough specificity to determine which costs are required to remedy existing deficiencies and which costs provide new capacity that will be demanded by new development.

The short-range CIP should establish the basis for the County's development fees and be updated annually. The long-range CIP should be updated at least once every five years or when significant changes to the base systems modify the County's long-term capital investment strategies (e.g., changes in service areas, significant changes in the Future Land Use Plan, changes in service demand or delivery patterns). The CIPs should list short-term projects needed to maintain existing levels of service, with each project being assigned a budget and a time frame for completion. The CIP also should delineate the proportion of project costs that is designed to provide new capacity and the proportion that is required to fund existing deficiencies. This delineation will enable the County to quantify the capital costs associated with new development and to monitor the expenditure of development fees.

Comprehensive Plan

Completion of the Comprehensive Plan is not the end of planning for the future.

Completion of the Comprehensive Plan is not the end of planning for the future as other planning projects will build upon the foundation of this plan, whether they are neighborhood plans that provide detailed examinations of needs and conditions, or area plans developed in partnership with a developer. As the County continues to plan for its future, these planning efforts should be based on the vision and goals of the Comprehensive Plan and be consistent with the policies established by this document.

Implementation Work Program

Successful implementation of the Plan results from many individual actions by the County, other jurisdictions and service providers, and private decision-makers over the course of many years. The goals and policies describe what the community wants to become and how decision-makers should respond to varied circumstances. To accomplish the Plan's goals and the Community Vision, the County will need to accomplish many tasks throughout the life of the plan.

Key strategies will be used to accomplish the Plan's goals in the initial years of plan implementation. While most of the items on the list will be carried out by the County, some items may require coordination with neighboring cities, other service providers, or economic development entities.

The work program:

- Correlates implementation measures with specific Comprehensive Plan goals and policies;
- Sets a general time frame to carry out each strategy;
- Identifies action tools (*i.e.*, existing and proposed codes, ordinances, regulations, standards, requirements and policies) to implement action items; and
- Assigns responsibility for implementing the action items and lists other entities that should be involved in the process.

The work program is not intended to be an exhaustive list of all strategies that will implement the Plan. The County may pursue different strategies and adjust priorities, depending on changing opportunities and resources. The County should update this work program on an annual basis, adjusting the **Short-Term Work Plan** and tasks that are included in each year's budgeted work programs.

Implementation Strategies Matrix

The Strategies Matrix, which also serves as the *long-term work plan*, is intended to be the most dynamic component of the Plan. Through annual updates, the County can ensure that the Plan continues to serve the community effectively.

The **Strategies Matrix**, shown as the **Work Plan** schedules actions and recommends the initial Work Program, which should be updated annually to reflect community accomplishments, new approaches to community issues, changing conditions, shifting priorities and new demands. This list is not intended to be exhaustive or all inclusive – the County and other public and private entities will take numerous actions throughout the life of this plan to achieve the community goals. This list is intended to identify the highest priority tasks to be pursued over the next several years. The table identifies the goals related to each task, the timeframe for task completion, and the entities responsible for carrying out the tasks. Tasks that are not funded in the recommended years should be evaluated for removal from the list or to be shifted back for later implementation. Programs that are completed should be removed from the list.

The list of implementation strategies provides the following information in each column:

- **Project/Activity** - identifies the task and describes the project, action, or document necessary to carry-out the strategy.
- **Priority/Schedule** - a ranking of importance based on its priority relative to other similarly classified strategies. The ranking abbreviations are labeled in the following manner:
 - 1 = This is a critical task and should be undertaken as soon as possible. Necessary for immediate implementation of the Plan. To occur in the first three years of Plan implementation
 - 2 = This is a very important task with a sense of urgency. Necessary to implement the Plan. To occur in years 4-9 of the planning period
 - 3 = This is an important task but there is no immediate sense of urgency. This task will help implement the Plan. To occur within years 10-20 of the planning period.

Within the matrix, Priority One and Two strategies are listed in order of importance. Priority Three strategies are in no particular order, since these items will certainly go through additional rounds of review and prioritization prior to implementation.

- **Responsible Party** - the person, department or agency that is primarily responsible for initiating, advocating and/or performing the strategy. Anticipating that some functions currently performed by County staff may be contracted to qualified consultants, references are made to function (*i.e.*, 'Planning' refers to tasks that are the responsibility of the County's planner or planning consultant). When multiple entities are identified, they are presented in order of responsibility for the task.
- **Budgetary Impact** - indicates the relative fiscal impact of the specific strategy on the County's budget. The ranking abbreviations are labeled in the following manner:

Low = Little or no fiscal impact on the County's budget.

Mod = Moderate; some fiscal impact, but likely to be funded within one to two fiscal periods.

High = May be a significant fiscal impact, depending on the nature of the capital investment, but may provide opportunities for the use of alternative revenue sources.

Short-Term Work Program




The Short-Term Work Program is developed and reviewed on an annual basis to identify the previous year's accomplishments and to modify the work program tasks establishing a reasonable timeline for key plan implementation tasks. The Short-Term Work Program includes all of the Priority One Strategies as shown in the *Work Plan*.




References


1. U.S. Bureau of Labor Statistics, Unemployment Rate in Carroll County, VA [VACARR5URN], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/VACARR5URN>, October 27, 2023.
2. U.S. Census Bureau, Population Estimate, Total, Not Hispanic or Latino (5-year estimate) in Carroll County, VA [B03002002E051035], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/B03002002E051035>, October 27, 2023.
3. U.S. Census Bureau, SNAP Benefits Recipients in Carroll County, VA [CBR51035VAA647NCEN], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CBR51035VAA647NCEN>, October 27, 2023.
4. U.S. Bureau of Labor Statistics, Civilian Labor Force in Carroll County, VA [VACARR5LFN], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/VACARR5LFN>, October 27, 2023
5. U.S. Bureau of Labor Statistics, Employed Persons in Carroll County, VA [LAUCN510350000000005A], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/LAUCN510350000000005A>, October 27, 2023.
6. U.S. Census Bureau, Resident Population in Carroll County, VA [VACARR5POP], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/VACARR5POP>, October 27, 2023.
7. U.S. Census Bureau, Population Estimate, Total, Hispanic or Latino (5-year estimate) in Carroll County, VA [B03002012E051035], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/B03002012E051035>, October 27, 2023.
8. Virginia Community Profile Carroll County. (2024). <https://viriniaworks.com>. Retrieved January 23, 2024, from <https://viriniaworks.com/community-profiles>
9. Vincent P. Magnini, Ph.D., & Esra Calvert, M.S. (2017). *The Economic and Fiscal Impacts of Agritourism in Virginia*. <https://www.vatc.org/research/>
10. Building a Winning Culture in Government by Patrick R. Leddin, PHD and Shawn D. Moon; 2018.

Work Plan:

Implementation Strategies Matrix


Strategy Number	Strategy	Priority	Responsible Party	Budgetary Impact	Capital Item
PRIORITY ONE (Strategic Plan)					
1	Conduct a 'Year-in-review' annual meeting that: <ul style="list-style-type: none"> Highlights the year's development activity; Identifies actions undertaken during the year to implement the Comprehensive Plan; Evaluates Plan effectiveness and proposes necessary amendments; and Identifies implementation actions planned to occur during the following year. 	1	Administrator; Planning Commission	Low	
2	Maintain a high-level, integrated Geographic Information System that incorporates local, regional, state, and federal data, is used to aid all county departments, specifically including Land Use, Economic Development and Public Works and is accessible to the public via internet access.	1	Administrator; Commissioner of Revenue	Moderate	
3	Recruit companies that use local labor and those that provide a living wage.	1	Economic Development	Low	
4	Partner with State and Federal agencies and other funding partners to expand infrastructure and economic development.	1	Economic Development	High*	
5	Provide the four interchanges in the County with water, sewer, natural gas, and fiber-optic connection in addition to roads, electric power, and telephone service.	1	PSA; Administrator	High	
6	Develop and implement a marketing plan to attract economic development.	1	Tourism	Low/Mod	
7	Collaborate with counties within commuting distance, including Grayson, Wythe, Patrick, Floyd, and Surry to develop a regional economic development plan.	1	Economic Development	Low	
8	Develop and implement a strategic Economic Development Plan and work program.	1	Economic Development	Low	
9	Provide necessary infrastructure and market development sites.	1	Administrator; Economic Development; PSA	Mod/High	
10	Continue to coordinate with Entrepreneurship Business Development through BRCEA, Business Development, and Crossroads Small Business Development Center to open more businesses, encourage capital investment and create jobs.	1	Administrator	Low	
11	Identify and increase awareness of recreation needs for the community, and the feasibility to create facilities (private versus public venture) to enhance tourism through various events (i.e. sporting events, fairs, festivals, etc.).	1	Parks & Recreation, Tourism	Low	
12	Extend water and sewerage services to the I-77 interchange with State Route 620, the interchange at Fancy Gap, and along U. S. Route 58 from Hillsville to Galax.	1	PSA	High	





13	Develop an Advanced Technology Center for the region to be used by high schools and the community college.	1	Administrator; Economic Development; School District	High	
14	Support the Blue Ridge Crossroads Economic Development Authority (BRCEDA) in its efforts to secure property for future industrial development.	1	Administrator	Low	
15	Implement a plan for the provision of wireless broadband services to the remainder of the county.	1	Administrator; PSA; Information Technology	Low	
16	Develop a major emphasis on technology education through an Alternative Energy Research Center.	1	School District	Mod	
17	Coordinate with the Town of Hillsville to prepare and implement a plan for the development of the interchange of the U. S. Route 58 interchange with U.S. 52.	1	Planning Commission	Low	
18	Establish a pro-tourism public relations effort (local, state, and national outreach) and seek to position Carroll County as the Southern Gateway to Southwest Virginia.	1	Tourism	Low	
19	Continue County program to extend water lines to low-and moderate-income neighborhoods.	1	PSA	High	
20	Establish a communications plan to effectively communicate with the public.	1	Administration	Low	
21	Strengthen tourism related partnerships and enhance communications through various media (i.e. websites, newsletters, calendars, etc.) while encouraging and strengthening positive regional affiliations.	1	Tourism	Low	
22	Develop and implement plans and programming to enhance emergency service provision.	1	Emergency Services; Sheriff's Dept	Low/Mod	
23	Provide adequate critical care medics.	1	Emergency Services	Moderate	
24	Establish standards to require erosion and sedimentation control best management practices.	1	Erosion & Sediment control; Planning Commission	Low	

25	Establish and coordinate partnerships (e.g. Virginia Cooperative Extension, small communities, etc.) to help identify, increase awareness, and promote current assets and homegrown experiences (i.e. simpler way of life, front porch experience).	1	Economic Development; Extension Office	Low	
26	Maintain updates to the Assessment Plan for Emergency Services and Emergency Plan.	1	Emergency Services; Sheriff's Dept	Low	
27	Establish regulations to limit most development, including dense, small lot and commercial development to areas with water and sewer service.	1	Planner; Planning Commission	Low	
28	Maintain adequate fire vehicles and replace as necessary.	1	Emergency Services	Moderate	
29	Adopt revisions to the land development regulations to protect commercial and industrial land from encroachment and incompatible uses.	1	Planning Commission	Low	
30	Continue to cross-train EMS personnel as Firefighters.	1	Emergency Services	Low	
31	Reduce the number of Emergency vehicles in the county by eliminating non-utilized vehicles and replacing them with more efficient multi-task vehicles.	1	Emergency Services	Low	
32	Establish regulations to prohibit development of subdivisions or small lots that lack necessary infrastructure.	1	Planning Commission	Low	
33	Require development to pay for the costs of services beyond established service areas.	1	Planner; Planning Commission	Low	
34	Restrict outdoor storage of junk cars and other unsightly materials.	1	Planning Commission	Low	
35	Establish and enforce junk ordinances.	1	Planner; Planning Commission	Low	
36	Develop a community policing strategy that engages farmers in the protection of agricultural areas, in coordination with the Farm Bureau, health officials and industry personnel.	1	Administrator; Extension Office	Low	
37	Train public safety and public works personnel on activities, facilities and responses, update emergency preparedness training and plans, identify threats to the local agricultural industry and incorporate key agriculture facilities into emergency response plans.	1	Emergency Services; Sheriff's Dept	Moderate	

38	Build a coalition of public and private interests to explicitly support efforts to enhance the local food system.	1	Tourism; Chamber; Extension Office	Low	
39	Encourage and promote a local food supply by removing barriers to agriculture and food supply businesses, promoting agriculture entrepreneurship and engaging in economic development activities targeted to strengthening and diversifying local agriculture.	1	Planning Commission; Business Development; Extension Office	Low	
40	Identify current and future Ecotourism and Heritage Tourism opportunities in the County and develop a marketing strategy to grow this economic sector based on local desires and natural resource capacities.	1	Tourism Office; Business Development	Low	
41	Support efforts to educate the community on the value of a localized food system through a variety of techniques including school and community-based initiatives, community networks, local marketing (and events) and farm-based and web-based education.	1	Extension Office; Business Development	Low	
42	Develop an Agricultural Economic Development Plan that focuses on the value of agriculture to Carroll County and identifies specific policies and strategies to support farms and ag-based business.	1	Planner; Economic Development; Business Development; Extension Office	Low	
43	Develop a Comprehensive Economic Development Plan that recognizes Carroll County plays a significant regional role and partners with communities in Carroll County and with adjacent counties to better position the region to compete with other areas and enhance local commerce.	1	Administrator; Planner; Economic Development	Low	
44	Develop a series of Economic Activity Plans (EAPs), or business plans, which are limited to defined areas, have available or planned infrastructure to accommodate and incentivize economic development and promotes intergovernmental and public-private partnerships, with initial EAPs for Fancy Gap, Exit 19 (Wildwood), Exit 14 (Carroll County Industrial Park) and the Exit 1 interchange.	1	Administrator; Economic Development; Business Development; PSA	Low	
45	Initiate cooperative planning efforts with neighboring Counties and municipalities to facilitate implementation of the goals, policies and strategies identified in each jurisdiction's respective Comprehensive Plan.	1	Administrator; Planning Commission	Low	
46	County staff should regularly communicate with the staff of adjacent jurisdictions and hold quarterly workshops within the region. Meeting locations should be rotated among communities.	1	All Departments	Low	
47	Use intergovernmental agreements and other cooperative efforts to address and resolve regional intergovernmental issues.	1	Administrator; Planning Commission	Low	
48	Periodically review intergovernmental agreements and discuss implementation of the agreements with each of the affected units of government covered by the	1	Administrator	Low	




	agreements to look for opportunities to expand the agreements to cover additional joint ventures, improve cooperation and coordination, including coordinating budgetary expenditures and capital improvement programs, and to discuss opportunities to eliminate inefficiencies and duplication of services.				
49	Participate in the comprehensive and strategic planning processes of other jurisdictions and service providers and invite their participation in Carroll County's planning processes.	1	Administrator; Planning Commission	Low	

Strategy Number	Strategy	Priority	Responsible Party	Budgetary Impact	Capital Item
PRIORITY TWO					
50	Prepare an Open Space Plan as an element of the Comprehensive Plan, including open space requirements for new development.	2	Planning Commission	Low	
51	Conduct special area planning with local and community-based economic development partners, service providers and VDOT to ensure that new investment in economic development activities has adequate infrastructure and access.	2	Planning Commission; PSA; Economic Development	Low	
52	Provide funding for the farmers' market and cannery.	2	Farmers Market	Moderate	
53	Expand high speed internet access.	2	Economic Development; Information Technology	High	
54	Establish industrial sites and parks with adequate infrastructure and services.	2	Economic Development; IDA	High	
55	Recruit more EMS volunteers in combination with paid Fire Response personnel.	2	Emergency Services; Human Resources	Low	
56	Develop a plan to establish a Countywide recreation facility or community centers.	2	Recreation Department; PSA	Low	
57	Establish code enforcement programming.	2	Planning Commission	Moderate	
58	Develop an effective litter control program that includes sponsoring community clean-up days, increasing trash and recycling collection services, enforcing litter laws, and providing a landfill in Cana.	2	Solid Waste Authority, Litter Task force	Moderate	

59	Establish a parks, recreation and trails plan that identifies existing and planned park, recreation area and trail locations.	2	Planning Commission; Recreation Department; PSA	Low	
60	Establish standards to direct development away from stream valleys, floodways, sensitive waterways, and other areas that are at high risk of water pollution or flooding.	2	Planning Commission	Low	
62	Advocate for a full interchange at Exit 1 on I-77.	2	Economic Development; PSA	Low	
63	Continue to implement the recommendations contained in the 604b study for the construction of water and sewerage facilities.	2	PSA	High	
64	Provide tax incentives to encourage agriculture by continuing land use taxation in its current form and phasing out the personal property tax on farm machinery.	2	Assessor; Treasurer; Commissioner of Revenue; Economic Development	Moderate	
65	Establish standards and incentives to attract green energy development.	2	Economic Development	Low	
66	Develop and enhance research-based advertising and marketing efforts through brand establishment and niche market identification.	2	Economic Development	Low	
67	Expand infrastructure to support tourism including an assessment of current infrastructure and amenities and identification of priorities based on a fiscal impact analysis.	2	Economic Development; PSA	High	
68	Continue to participate in the Crooked Road: Virginia's Heritage Music Trail.	2	Tourism Department	Low	
69	Increase tourism funding by identifying and prioritizing all opportunities and emphasizing the derivative benefits of tourism.	2	Administrator; Tourism Development	Moderate	
70	Develop a feasibility study for the provision of eldercare facilities as well as childcare for older children.	2	Economic Development; Health Dept	Low	
71	Study the viability of developing facilities for sporting competitions and/or development of a major regional theme park to attract visitors.	2	Economic Development; Recreation Dept	Low	
72	Support the construction of the Twin County Airport to an all-weather facility with a 5,000-foot runway.	2	Economic Development; PSA; BRCEA; TCAC	Moderate	

73	Provide an annual report detailing how tax money is spent in each district.	2	Administrator; Treasurer; Commissioner of Revenue	Low	
74	Requiring screening of commercial uses, outdoor storage, and mechanical areas.	2	Planning Commission	Low	
75	Establish signage standards.	2	Planning Commission	Low	
76	Implement the Regional Hazard Mitigation Plan.	2	Emergency Services; Sheriff's Dept	Moderate	
77	Seek a productive use of the Carter Building, maintaining its integrity as a Historic Structure.	2	Administrator; Economic Development	Low	

Strategy Number	Strategy	Priority	Responsible Party	Budgetary Impact	Capital Item
PRIORITY THREE					
78	Establish standards to support development of bed and breakfast inns.	3	Planning Commission; Planner; Tourism Department	Low	
79	Establish standards to support development of high-quality campgrounds for tents and RV's.	3	Planning Commission; Economic Development	Low	
80	Coordinate with Grayson County and the City of Galax to investigate the feasibility of integrating the City School System into each County's system.	3	School District	Low/Mod	
81	Seek funding for a program for grant and loan assistance for first time homebuyers.	3	Economic Development	Low/Mod	
82	Coordinate with the Mount Rogers Planning District Commission to study of all the subdivisions in the County that have non- state-maintained roads to determine the miles of unpaved streets in the county and the number of housing units in these developments that appear to be occupied permanently.	3	Planning Commission; Planner	Low	
83	Contract with the State to catalogue structures and places of Historical and Archeological significance in the County.	3	Administrator; Planning Commission	Moderate	
84	Develop a plan to address vacant properties by using or razing them.	3	Planning Commission; Health Dept	Low	

85	Establish standards for walking paths and sidewalks in subdivision and improvement standards.	3	Planning Commission; Recreation Dept	Low	
86	Stripe bike lanes on appropriate existing roads and restripe crosswalks.	3	Recreation Dept; VDOT	Moderate	
87	Map suitable bike routes and include in right-of-way acquisition.	3	Recreation Dept; GIS; VDOT	Low	
88	Establish and enforce leash laws.	3	Administration; Animal Control	Low	
89	Establish standards and outreach programs to protect the Crooked Creek watershed from inappropriate development.	3	Planning Commission; Extension Office	Low	
90	Establish standards for outdoor lighting to minimize light pollution.	3	Planning Commission; VDOT; AEP	Low	
91	Prepare a plan for the improvement of secondary roads in the county with special emphasis on designation as a scenic by-way, with construction of a bike lane on each shoulder.	3	Administrator; Recreation Dept; VDOT	Low	
92	Prepare a plan for the installation of guard rails on secondary roads with special emphasis on safety.	3	Administrator; PSA; VDOT	Low	
93	Establish a program to pave more gravel roads, especially those near main arteries.	3	Administrator; PSA; VDOT	High	
94	Provide more buses to transport low income, elderly, and disabled residents to critical locations.	3	Administrator	Mod/High	
95	Support (non-financial) the construction of Route 94 from east of Fries to Galax across the low-water bridge.	3	Economic Development; PSA	Low	
96	Support (non-financial) the construction of a container loading facility in Wythe County.	3	Economic Development; PSA	Low	
97	Purchase land adjacent to the interchanges at Fancy Gap and the airport for future industrial development and construct access roads.	3	Economic Development; PSA; IDA	High	
98	Establish a planned right-of-way map.	3	Planner; PSA; GIS	Low	
99	Pursue funding necessary to complete the construction of U. S. Route 58 from Patrick County to I-77 in Carroll County.	3	Administrator; Economic Development; PSA	High	
100	Complete a market leverage study to identify leakage areas that represent a significant share of sales tax revenues lost because of the limited shopping opportunities within the County.	3	Tourism	Low	

Land Suitability Analysis Factors

Growth and Development

Factor 1.1 – Agricultural Use of Land

Data Source:

United States Department of Agriculture (USDA), National Agricultural Statistics Service (NASS).

Description of the Data:

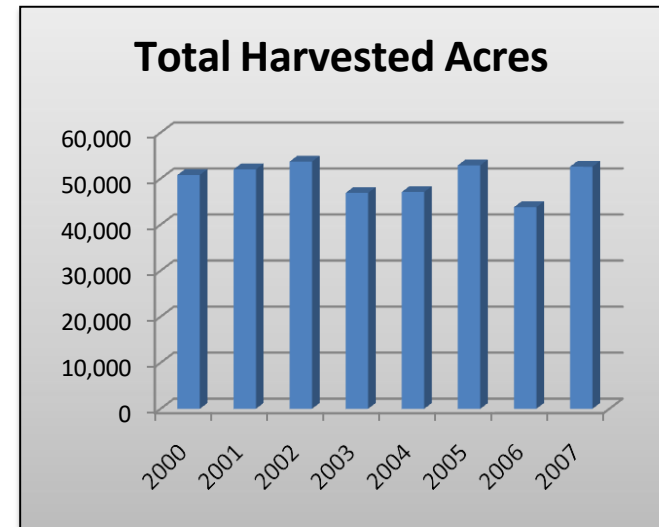
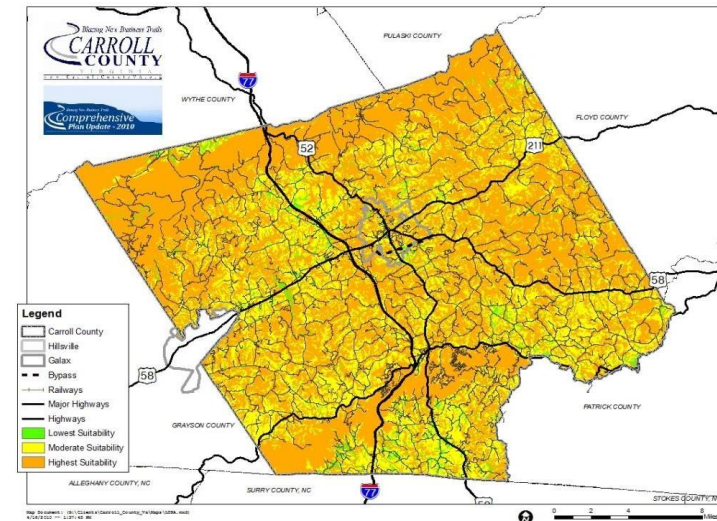
The USDA, National Agricultural Statistics Service, 2008 Virginia Cropland Data Layer (CDL), 2008 Edition. The CDL is produced using satellite imagery from various sources that are converted to agricultural crop types. The strength and emphasis of the CDL is agricultural land cover. Please note that no farmer reported data are derivable from the Cropland Data Layer.

Relevance:

When farmland is developed, the resulting fragmentation of the land base puts new pressures on farmers and foresters who now face a public that is increasingly divorced from agriculture, and who are not accustomed to the sights, sounds and smells associated with working farms and forests. Approximately 1/6th of the County is harvested agricultural land.

Methodology:

The Cropland Data Layer depicts numerous types of agricultural products. All of these crop types were consolidated into an agricultural use class. The agricultural class was given the lowest development suitability, grasslands and other barren land was given a moderate suitability, and developed or urban classed lands were given the highest suitability.



Factor 1.2 – Prime Farmland Soil Classification

Data Source:

United States Department of Agriculture (USDA), National Natural Resources Conservation Service (NRCS).

Description of the Data:

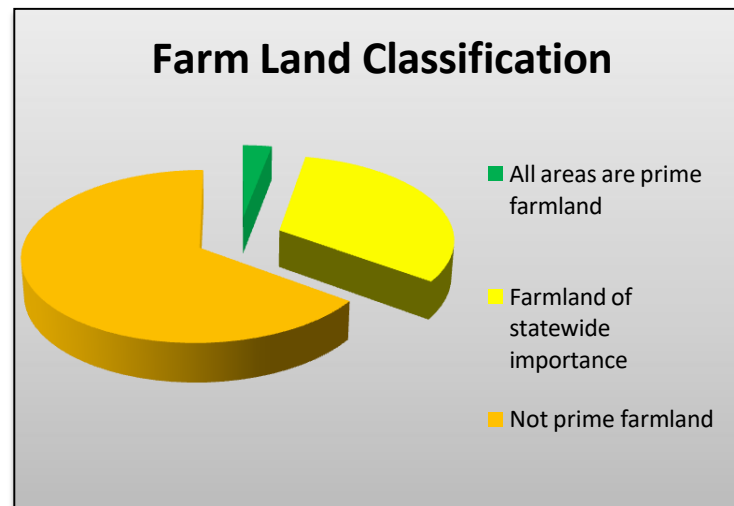
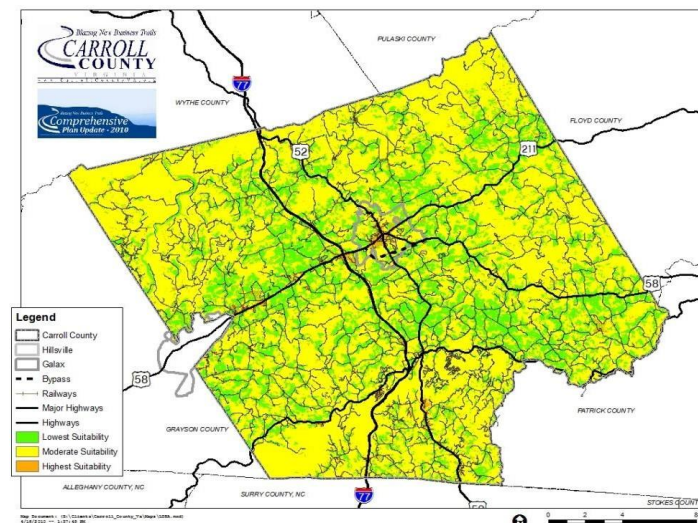
Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods.

Relevance:

Food is produced on prime farmland more efficiently and with less soil erosion, resulting in less pollution from sediment, nutrients and pesticides. When prime land is lost, it not only takes more non-prime land to produce the same amount of food, but also results in lower returns per unit of production input. Approximately 1/3rd of the County is Prime or Statewide Importance lands.

Methodology:

Prime Farmlands received the lowest suitability rating, Statewide Importance land received a moderate rating while Not Prime Farmland received the most suitable for development rating.



Factor 2.1 – Wetlands

Data Source:

U.S. Fish and Wildlife Service (FWS), Virginia Department of Environmental Quality (DEQ).

Description of the Data:

“Wetlands” is the collective term for marshes, swamps, bogs, and similar areas found in generally flat vegetated areas, in depressions in the landscape, and between dry land and water along the edges of streams, rivers, lakes, and coastlines. This data set represents the extent, approximate location and type of wetlands and deepwater habitats in the conterminous United States.

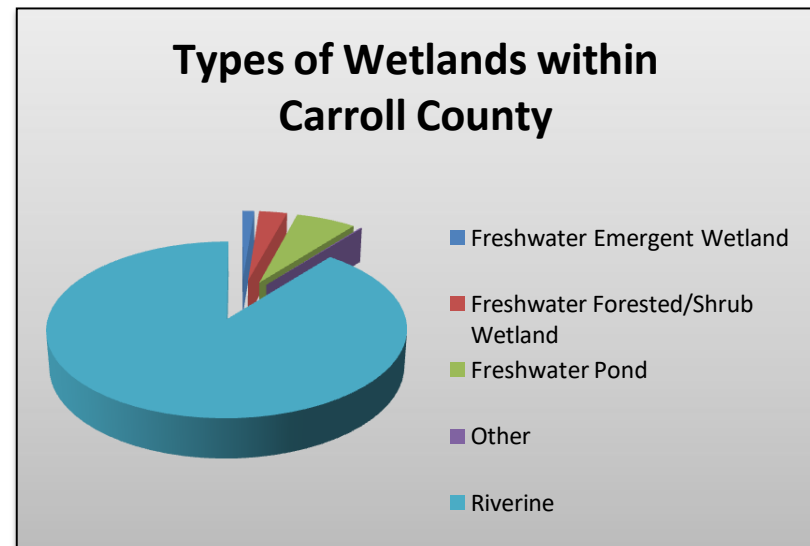
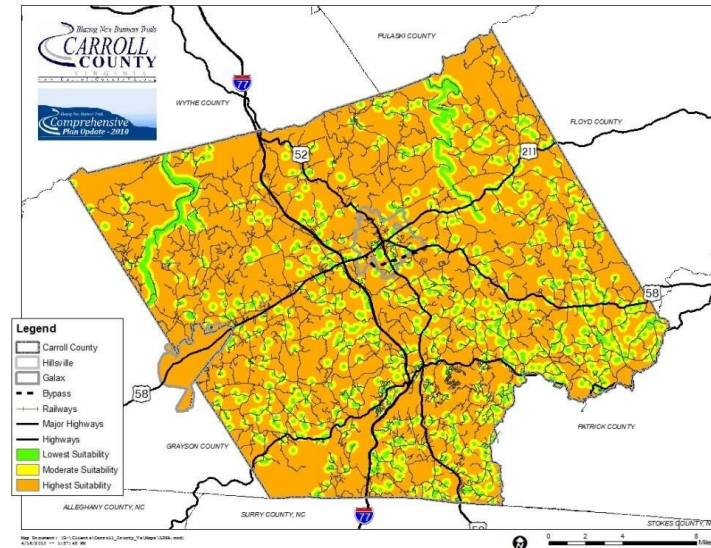
Relevance:

Wetlands have important filtering capabilities for intercepting surface water runoff from higher dry land before the runoff reaches open water. Wetlands comprise 1.5% of the County. Benefits include:

- filters and replenishes groundwater
- acts as a flood buffer like a sponge
- provides and protects fishing and hunting habitat
- mitigates / prevents erosion
- provides natural products (food)

Methodology:

Areas in or within 500 feet of wetlands received the least suitable rating, lands between 500 feet and ¼ mile were moderate and land outside ¼ mile received the highest development suitability rating.



Factor 2.2 – Habitat

Data Source:

Virginia Department of Game and Inland Fisheries (DGIF), Virginia Marine Resources Commission (VMRC), U.S. Fish and Wildlife Service (FWS).

Description of the Data:

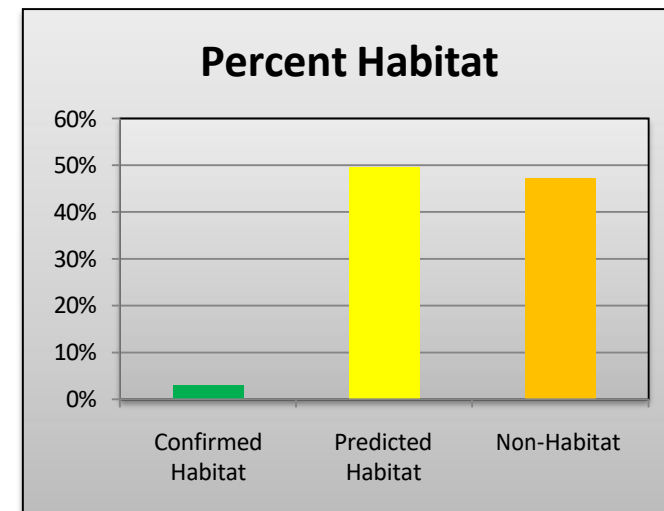
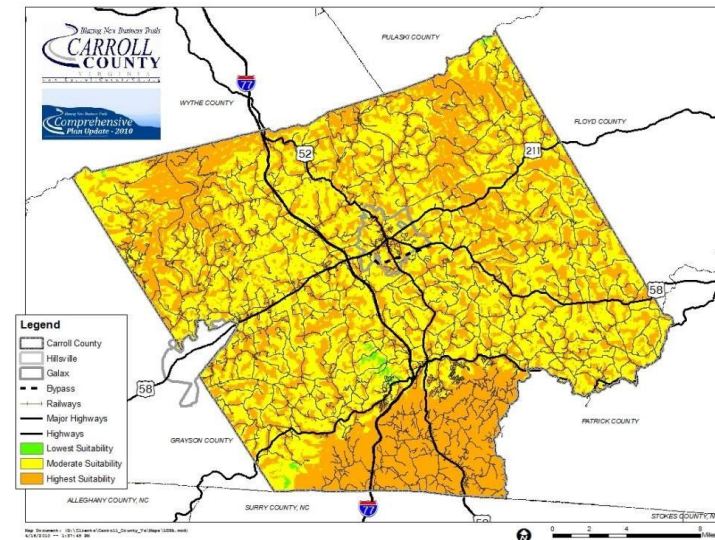
Carroll County is mostly situated within the “Blue Ridge” habitat region as defined within the Virginia Wildlife Action Plan. According to the Wildlife Plan, the County is habitat for one endangered turtle species (Bog turtle). This indicates either a lack of bio-diversity within the County, or a lack of habitat fragmentation due to development.

Relevance:

Fragmentation and development of habitat is one of the most frequently identified issues facing wildlife preservation and diversity. To address these issues, those responsible for land planning will need to be more fully engaged in wildlife conservation efforts.

Methodology:

Areas that are confirmed to be habitat of the Bog turtle received a least suitable rating; areas that were calculated to be habitat of the bog turtle received a moderate rating, while areas outside of those received the highest development suitability rating.



Factor 2.3 – Steep Slope

Data Source:

United States Geological Survey (USGS).

Description of the Data:

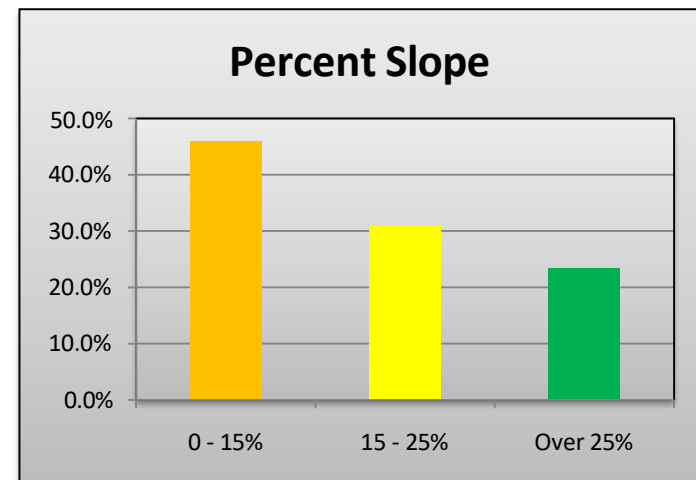
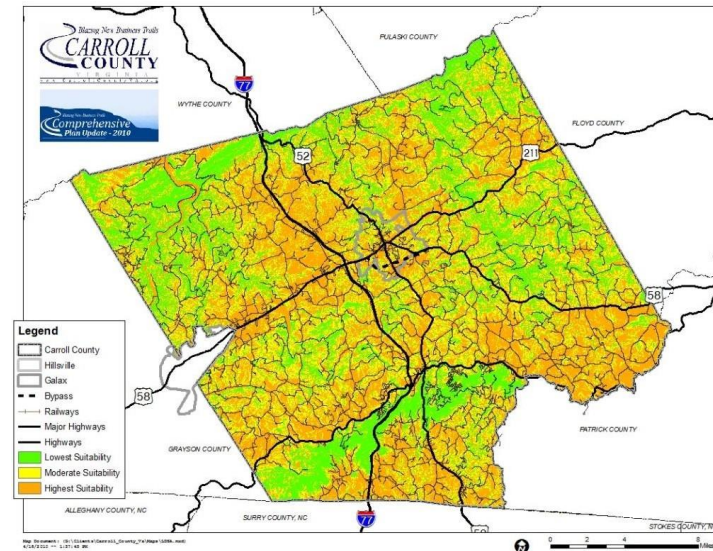
The data is a 10 meter grid file of elevation within the County. This data is widely used in LESA type models.

Relevance:

Steep slope areas are more prone to erosion, subsidence, and landslide hazards, as well as high wildfire hazards (wildfire spread rapidly up steep slopes). Erosion on steep slopes contributes to siltation and other water quality problems in water bodies that are fed by runoff from these slopes. In addition, most of the scenic landscape features in the County (canyons, escarpments, prominent peaks and ridges) are characterized by steep slope areas. Development is more costly due to grading.

Methodology:

Topography was evaluated for the % of slope using GIS software. The areas of less than 15% slope were given the highest suitability rating while areas over 25% received the least suitable rating. Land in between 15% and 25% received a moderate development suitability rating.



Factor 2.4 – Drainage

Data Source:

U.S. Geological Survey (USGS); Horizon Systems.

Description of the Data:

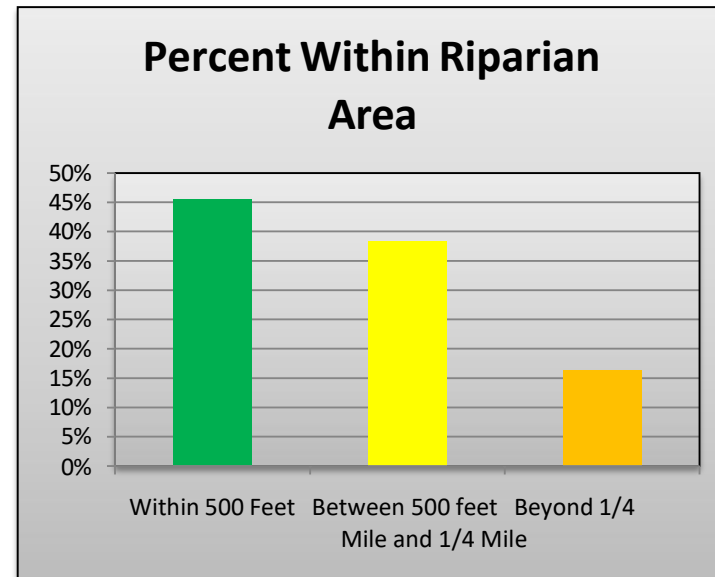
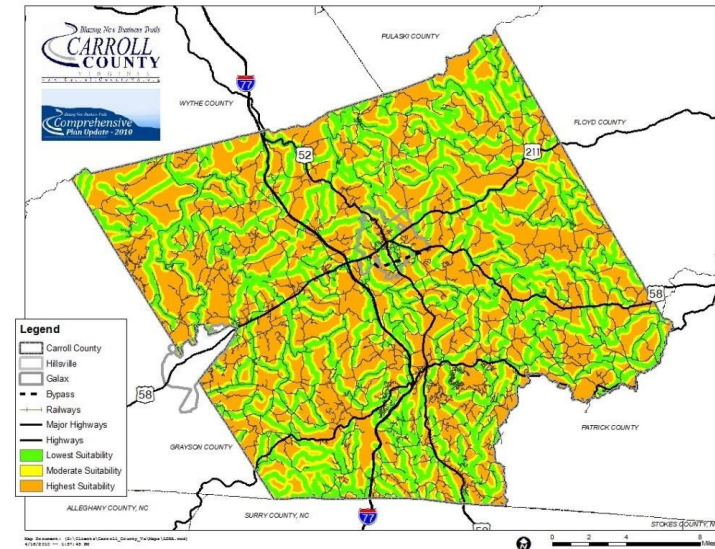
Horizons Systems has been tasked with updating drainage paths data. This data depicts likely and known paths of water flow and their direction.

Relevance:

Carroll County is uniquely situated within 50 miles of 4 (out of 18 contiguous USA) sub-basins; the Mid-Atlantic, the South Atlantic-Gulf, Ohio and Tennessee. Areas in close proximity to surface waters have a higher degree of impact on these surface waters from storm water runoff contaminants, siltation, septic tank effluent, and leaks and spills of chemicals and petroleum products. Areas in close proximity to streams and rivers are also more prone to flash flooding, and often contain significant wildlife habitat and wildlife movement corridors. Protecting drinking water sources is always a high priority for sustainable development.

Methodology:

"High Constraints" are locations within 500 feet of stream or river. "Moderate Constraints" are within 500 feet and one quarter mile from drainage. "Low Constraints" are greater than one quarter mile from drainage and are most suitable for development.



Factor 2.5 – Floodplain

Data Source:

Federal Emergency Management Agency (FEMA)

Description of the Data:

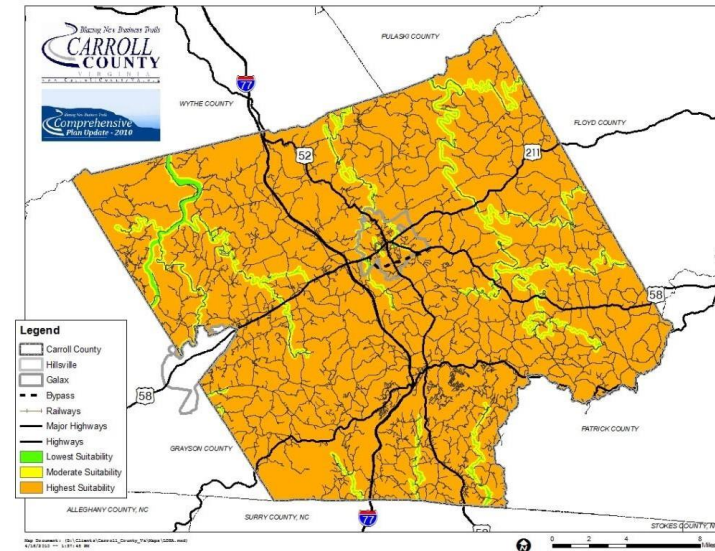
Flood hazard areas are determined using statistical analysis of records of river flow, storm tides, and rainfall; information obtained through consultation with the community; floodplain topographic surveys; and hydrologic and hydraulic analyses. FEMA defines a 100 year flood as: a flood that has a 1% chance of being equaled or exceeded in any given year. The 100-year flood, which is the standard used by most Federal and State agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance. A structure located within a special flood hazard area shown on a NFIP map has a 26% chance of suffering flood damage during the term of a 30 year mortgage. Mortgaged property within areas designated in the 100 year floodplain is required to carry flood insurance.

Relevance:

100-year floodplain consists of those areas that are most susceptible to inundation from floods. Development in floodplains has a high level of susceptibility for damage to life and property.

Methodology:

"Least Suitable" locations represent those areas within FEMA's 100-year floodplain
 "Moderate Suitability" are within a 500 foot buffer of the 100 year floodplain, and "Most Suitable" areas are outside the 500 foot buffer.



Land Area in Carroll County	Acres	Percent
Within 100 Year Floodplain	5,713	1.9%
Outside 100 Year Floodplain	299,725	98.1%
Total	305,438	



Factor 2.6 – Fire Risk

Data Source:

The Virginia Department of Forestry (VDOF)

Description of the Data:

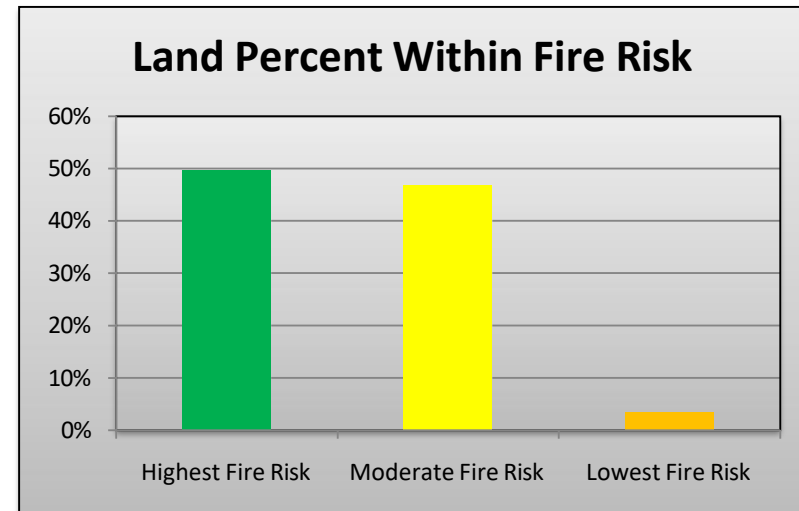
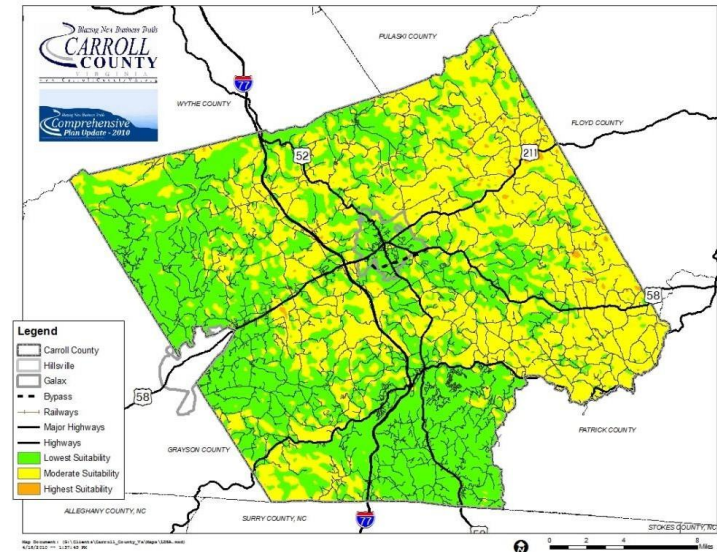
The VDOF Wildfire Risk Assessment model that aims to: (1) identify areas where conditions are more conducive and favorable to wildfire occurrence and wildfire advancement; (2) identify areas that require closer scrutiny at larger scales; and (3) examine the spatial relationships between areas of relatively high risk and other geographic features of concern such as woodland home communities, fire stations and fire hydrants.

Relevance:

High wildfire fuel loads is associated with a high level of hazard for wildfire damage to property and injuries to persons, and high costs to the public for fighting wildfires.

Methodology:

Lands with the highest Fire Risk received the lowest development score while lands with the lowest Fire Risk received the highest development suitability score.



Factor 2.7 – Forested Land

Data Source:

United States Forest Service

Description of the Data:

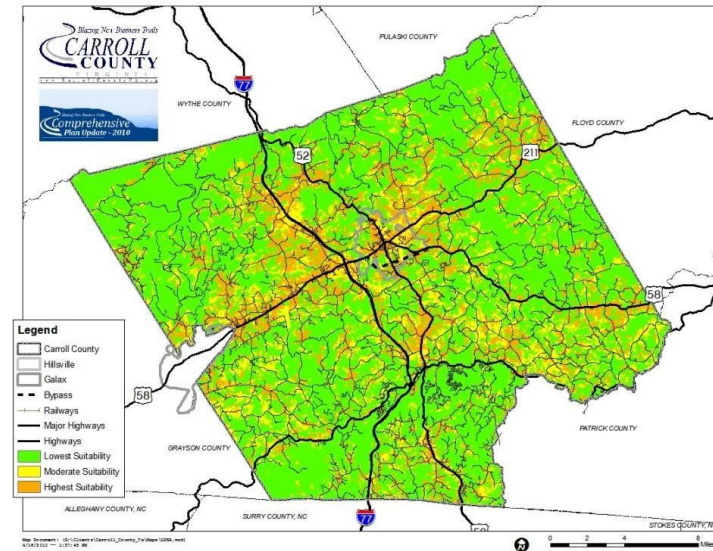
The Virginia Forest Cover Map (VFCM 2005) was developed to identify forest in Virginia as defined by the United States Forest Service (USFS) Forest Inventory and Analysis (FIA) Program.

Relevance:

Forest fires can endanger and burn homes and businesses. Fires that start as structural fires can also spread to the forest. Ninety-eight% of forest fires in Virginia are caused by humans. More people in or near the forest can cause more forest fires. Surveys show that over the past 15 years the number of woodland homes developments in Virginia has increased from 524 to 2,914 and the number of dwellings in those developments from 18,203 to 138,111.

Methodology:

Data is based on VFCM forest fragmentation analysis dataset.



Factor 2.8 – Impaired or Scenic River

Data Source:

Virginia Department of Environmental Quality (DEQ); Virginia Department of Conservation and Recreation (DCR)

Description of the Data:

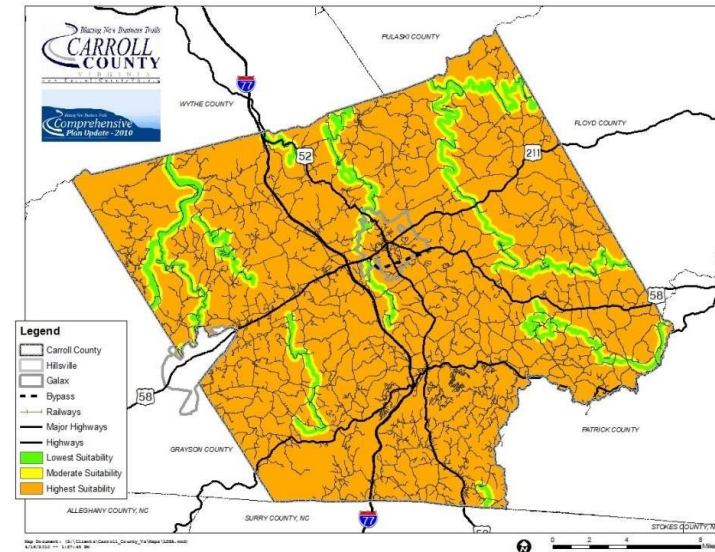
The DCR Scenic Rivers Program encourages the protection of rivers with scenic, recreational, historic and natural characteristics. If locally adopted, the properties along designated scenic rivers may be eligible to get a special tax assessment to reduce the tax liability. DEQ Impaired Rivers data derives from water quality reporting requirements of the Commonwealth of Virginia under Sections 305(b), 303(d), 106, 314 and 319 of the Federal Clean Water Act and the Virginia Water Quality Monitoring, Information and Restoration Act (Section 62.1-44.19:5 C of the Code of Virginia).

Relevance:

Additional conservation measures should be considered for rivers designated as Impaired and or scenic. These rivers have been specially designated by either a panel or advisor committee or through thorough analysis of existing conditions as mandated by Federal Law. Encroaching development can have adverse impacts on both the scenic and ecosystemic qualities of rivers.

Methodology:

Impaired and Scenic River datasets were merged into one file. Areas within 500 feet of an impaired or scenic river received the least development suitability score, areas between 500 feet and ¼ mile received moderate suitability score while areas outside ¼ mile received the highest development suitability score.



Carroll County Rivers	Length in Miles
Impaired River	111.6
Scenic River	57.8
*There is a small degree of overlap.	

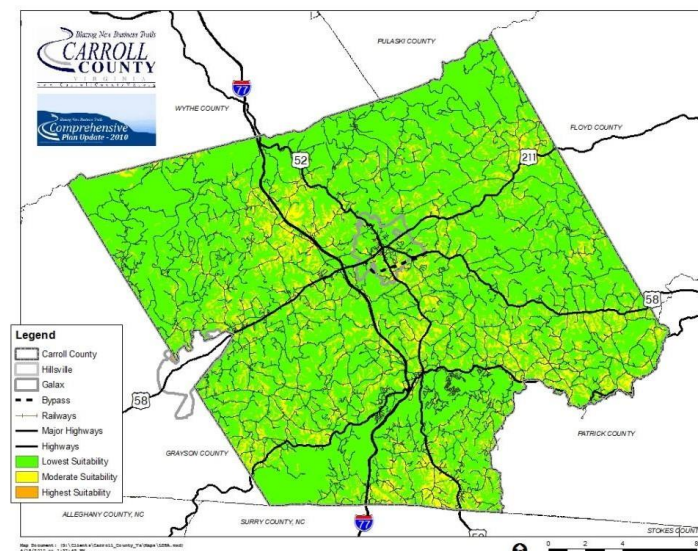
Factor 2.9 – Soil Septic Limitations

Data Source:

Natural Resources Conservation Service (NRCS)

Description of the Data:

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.



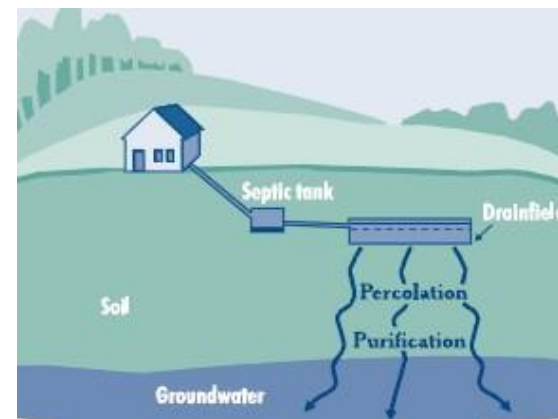
Relevance:

Areas with soils that are poorly suited to septic tank use are more prone to surface and groundwater contamination from septic tanks, higher costs of septic tank installation and maintenance, and higher risks of septic tank failure.

Methodology:

Soils with Septic Limitations	Acres
Not rated	32,694
Somewhat limited	56,177
Very limited	219,772

Areas that are classified as “Very Limited” received the least suitable development score, while “Somewhat limited” areas received a moderate score. There are no areas that are classified as “Not Limited” within Carroll County. “Not Rated” Areas received the lowest suitability score. These areas generally are areas with excessive slope.



Factor 2.10 – Conservation and Recreation Protected Lands

Data Source:

Virginia Department of Conservation and Recreation (DCR)

Description of the Data:

This dataset contains the boundaries for lands of conservation and recreational interest in Virginia.

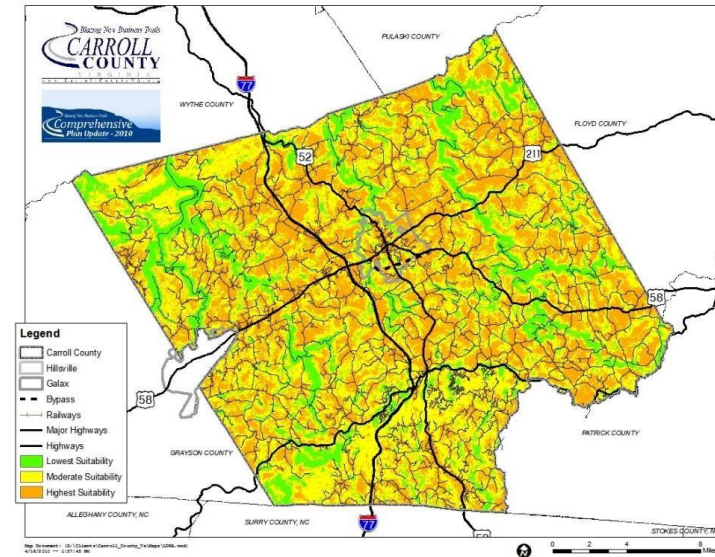
Relevance:

Development is usually discouraged in close proximity to lands that have been identified as conservation or are managed by a conservation entity such as VLCF, VDOF, DCR, and other various state federal and local organizations and agencies. These lands include:

- lands for recreational purposes
- lands for threatened or endangered species, fish and wildlife habitat
- natural areas
- and agricultural and forestall lands and open space.

Methodology:

Areas within 500 feet of protected land received the least development suitability score, areas between 500 feet and ¼ mile received moderate suitability score while areas outside ¼ received highest development suitability score.



Carroll County Conservation Land Acres	Federal	Local	Private	State
Big Branch NF Special Biological Areas	498			
Blue Ridge Boy Scout Camp*			13,822	
Blue Ridge Parkway National Park	40,642			
Crooked Creek Wildlife Management Area				1,733
George Washington and Jefferson National Forest	140,726			
Hawks State Forest				122
Mountain Meadow Preserve		42		
New River Trail State Park				642
Stewarts Creek Wildlife Management Area				1,080
Total	181,865	42	13,822	3,577
*Boy Scout Camp abuts the County and is included within the analysis				

Factor 3.1 – Soil Dwelling without Basements Limitations

Data Source:

Natural Resources Conservation Service (NRCS)

Description of the Data:

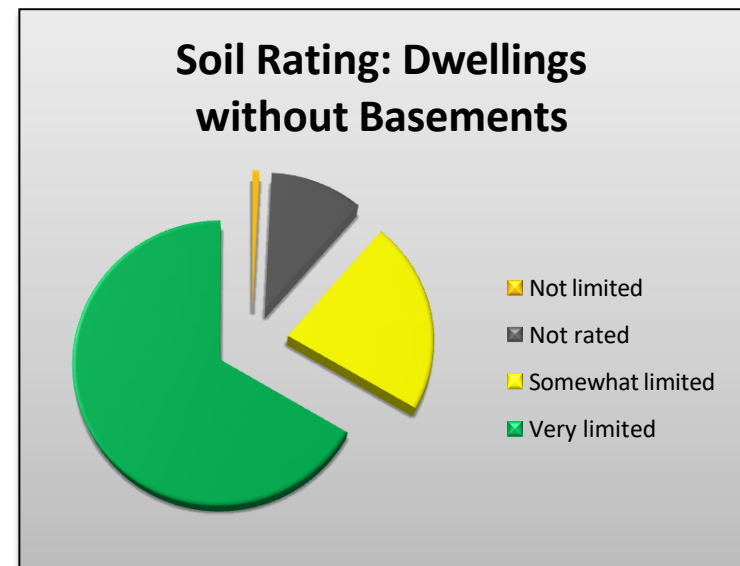
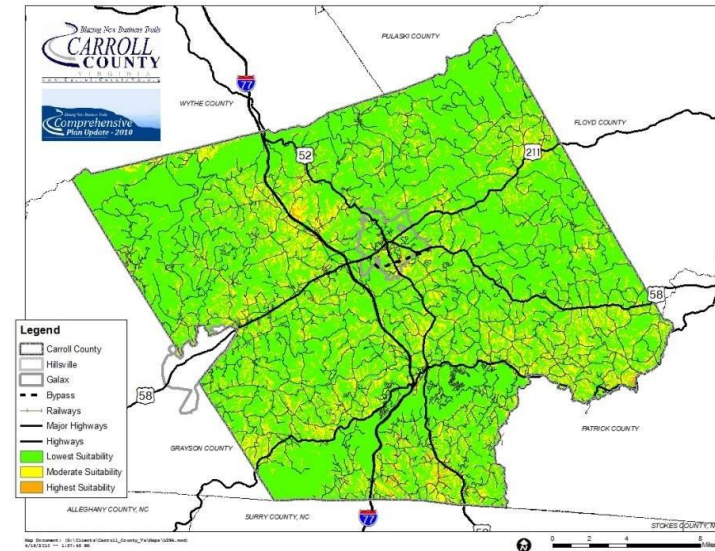
The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility.

Relevance:

Areas with low bearing strength and stability of soils for structure are associated with higher development costs and potential failure of structures, roads, and water and sewer lines from subsidence.

Methodology:

Areas rated as “Not Limited” received the highest suitability score while areas rated “Very Limited” received the lowest score. “Not Rated” areas are generally areas of significant slope.



Factor 3.2 – Proximity to Municipal Boundary

Data Source:

Carroll County GIS

Description of the Data:

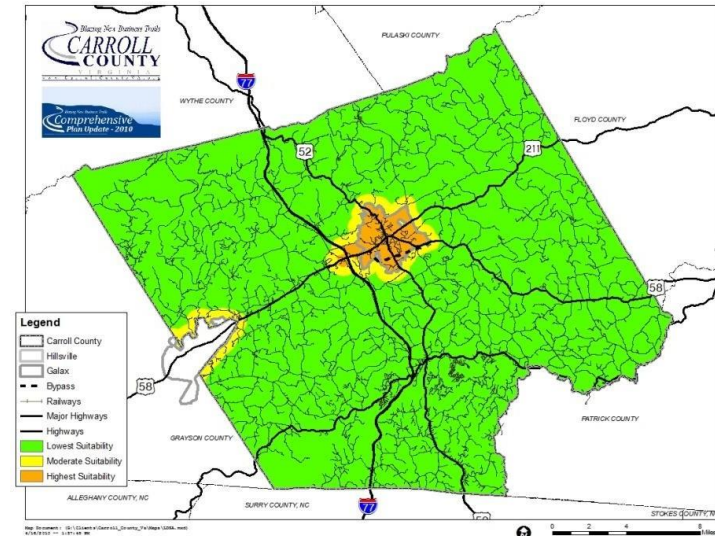
Municipal Boundary proximity is commonly used in LESA systems throughout the County. Current municipal boundaries usually indicate areas where investment in infrastructure is greatest. Building upon and utilizing existing infrastructure is generally regarded as a more sustainable approach to new development.

Relevance:

Proximity to existing municipalities associated with the availability and efficiency of public facilities and services, and proximity to employment and retail centers which are more commonly found within municipalities, as opposed to outlying areas. Encouraging development within areas close to existing municipalities promotes a compact and efficient pattern of development, which decreases the cost of public facilities and services and transportation.

Methodology:

Areas within the communities of Hillsville and Galax were determined to be most suitable for development activity, while areas outside of half mile were determined to be least suitable for development.



Factor 3.3 – Fire Station Proximity

Data Source:

Carroll County GIS

Description of the Data:

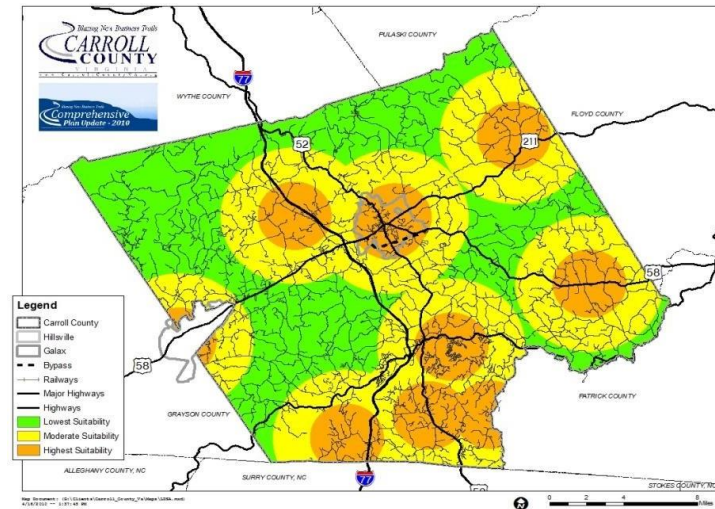
The dataset represents the location of each fire station within the County.

Relevance:

Proximity to fire stations is associated with adequate emergency response times and is associated with the cost to the public of maintaining adequate levels of fire protection. Response coverage also affects insurance rates.

Methodology:

Areas within a 2-mile radius (4 minute response radius at 35 mph) received the highest development suitability, areas within 2 – 4 miles (8 minute response radius at 35 mph) received moderate suitability score while areas outside the 8 minute response radius received the least suitable for development score.



Carroll County Fire Stations
Laurel Fork Fire
Cana Fire #1
Cana Fire #2 - Lambsburg
Hillsville Fire #1
Hillsville Fire #3 - Dugspur
Cana Fire #3 - Mt Bethel
Cana Fire #4 - Cascade Station
Carroll County Fire And Rescue
Hillsville Fire #2 - Airport

Factor 3.4 – Elementary and Middle School Proximity

Data Source:

Carroll County GIS

Description of the Data:

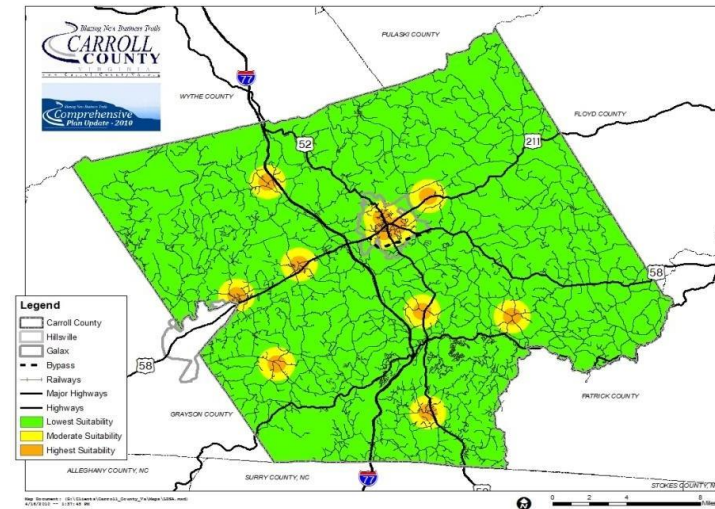
The dataset represents the location of each school within the County.

Relevance:

Proximity to elementary and middle schools is associated with the desirability of land for residential development (parents generally prefer to be close to schools), and is associated with the costs to the public of transporting children to and from schools.

Methodology:

Areas within .5 mile of elementary or middle schools receive the highest suitability score while areas between .5 and 1 mile receive moderate development suitability scores. Areas outside 1 mile receive the lowest suitability score.



Carroll County Elementary and Middle Schools

Gladesboro Elementary School
Fancy Gap Elementary School
Laurel Elementary School
Woodlawn School
Gladeville Elementary School
Oakland Elementary School
Carroll County Intermediate
Hillsville Elementary School
St Paul School

Factor 3.5 – Highway Interchange Proximity

Data Source:

Planning Works, ESRI

Description of the Data:

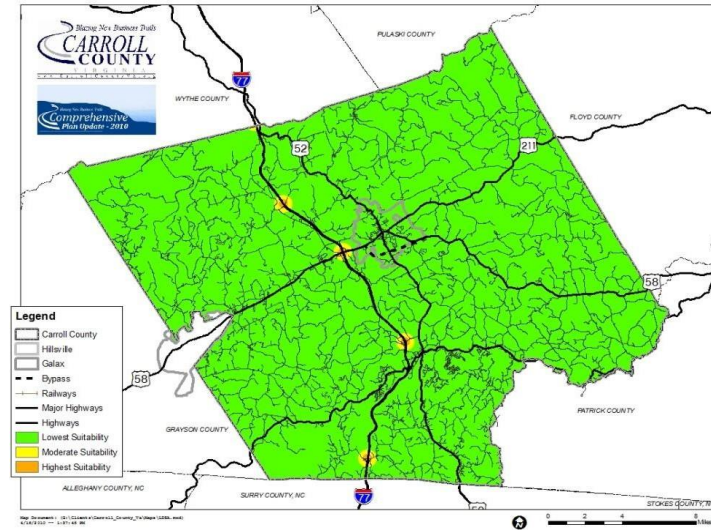
Planning Works identified major highway interchanges within the County.

Relevance:

Proximity to freeway interchanges is an indicator of the degree of access of land to the thoroughfare network and the regional transportation system. These areas tend to foster commercial investment.

Methodology:

Areas within $\frac{1}{4}$ mile of an interchange receive the highest development suitability. Areas between $\frac{1}{4}$ mile and $\frac{1}{2}$ mile receive moderate suitability score, while areas outside $\frac{1}{2}$ mile receive the least development suitability score.



Carroll County Highway Interchanges
Exit 1 (Old Pipers Gap & I-77)
Exit 8 (Chances Creek and I-77)
Exit 14 (58 Highway and I-77)
Exit 19 (Coulson Church and I-77)

Factor 3.6 – Major Road Proximity

Data Source:

Carroll County GIS, ESRI

Description of the Data:

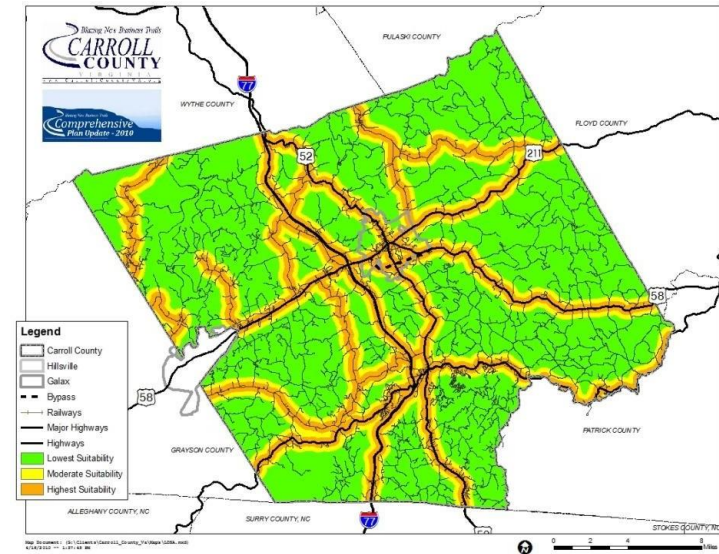
The most recently available depiction of the road network was utilized.

Relevance:

Major roads are highways, arterials and major collectors that carry a significant portion of the County’s traffic. Proximity to highways and other major roads is an indicator of the degree of access of land to the thoroughfare network and the regional transportation system, and the cost of building and maintaining local roads between major roads and development sites.

Methodology:

Areas within ¼ mile of an interchange receive the highest development suitability. Areas between ¼ mile and ½ mile receive moderate suitability score, while areas outside ½ mile receive the least development suitability score.



Street Type	Miles
Major	221
Minor (Local)	1,052
Private (Driveway)	77
Grand Total	1,351

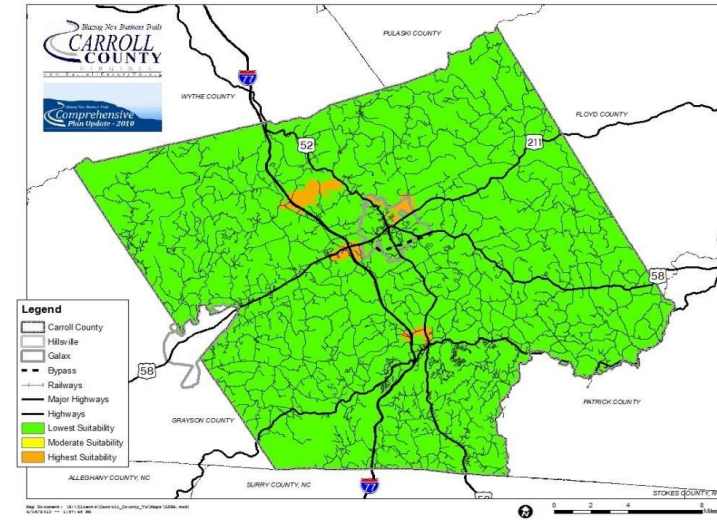
Factor 3.7 – Economic Opportunities

Data Source:

Virginia Economic Development Partnership (VEDP)

Description of the Data:

The datasets depict available industrial sites and land that are within an Enterprise Development Zone. Enterprise zone boundaries are important when creating information packages for economic development prospects. This coverage is useful with other business quality of life or environmental layers to help identify areas available for development that may benefit from certain tax advantages. This coverage is also used to identify sites and buildings available that are in an enterprise zone.



Relevance:

These sites have been identified as areas with tax incentives. Tax incentives can drive growth and development.

Methodology:

Areas within these sites receive the highest development suitability score while areas outside the sites receive the least suitable for development score.



Economic Opportunities Sites	Acres
Enterprise Zones and Industrial Sites	4,561.61

Factor 3.8 – Sewer Infrastructure Proximity

Data Source:

Carroll County GIS

Description of the Data:

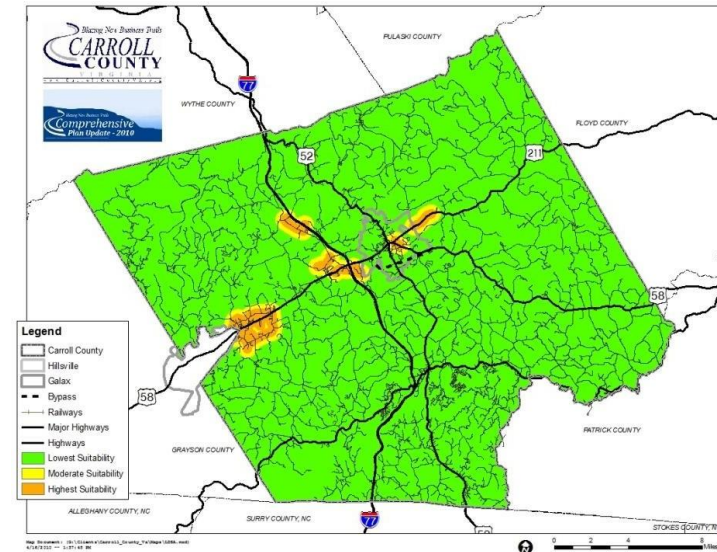
The data depicts both existing and proposed waste-water infrastructure within the County.

Relevance:

Proximity to sewer lines is associated with the feasibility of providing sewer to new development, which impacts service efficiency and cost. Availability of sewer allows for clustered development and higher densities without adversely impacting groundwater quality.

Methodology:

Areas within $\frac{1}{4}$ mile of a sewer line receive the highest development suitability. Areas between $\frac{1}{4}$ mile and $\frac{1}{2}$ mile receive moderate suitability score, while areas outside $\frac{1}{2}$ mile receive the least development suitability score.



Factor 3.9 – Water Infrastructure Proximity

Data Source:

Carroll County GIS

Description of the Data:

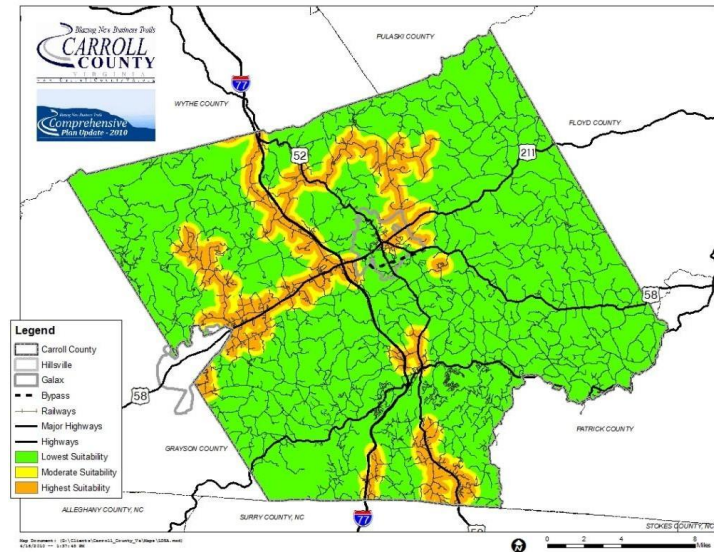
The data depicts both existing and proposed water infrastructure within the County.

Relevance:

Proximity to central water lines is associated with the feasibility of water to new development, which impacts service efficiency and cost.

Methodology:

Areas within $\frac{1}{4}$ mile of a sewer line receive the highest development suitability. Areas between $\frac{1}{4}$ mile and $\frac{1}{2}$ mile receive moderate suitability score, while areas outside $\frac{1}{2}$ mile receive the least development suitability score.



Factor 3.10 – Recreational Parks and Trails

Data Source:

Carroll County GIS

Description of the Data:

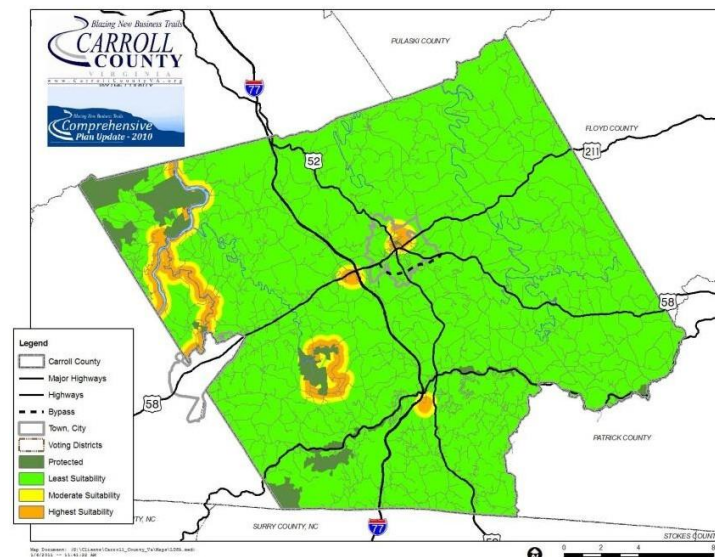
The data depicts the extents of trails in Carroll County.

Relevance:

Proximity to parks and recreation facilities provides residents with opportunities for active recreation which helps to encourage and facilitate healthy lifestyles. Parks and recreation areas may also provide secondary environmental benefits of preserved natural areas as well as better property values.

Methodology:

Areas within ¼ mile of a trail receive the highest development suitability. Areas between ¼ mile and ½ mile receive moderate suitability score, while areas outside ½ mile receive the least development suitability score.



Suitability	Acres	Percent
Protected	16,228	5%
Low	162,007	53%
Moderate	105,094	34%
High	22,504	7%
	305,833	