

Nelson County Comprehensive Plan

**As Approved by the
Nelson County Board of Supervisors
and Nelson County Planning Commission**

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Prepared by
The Nelson County Planning Commission
with the assistance of
The Citizens of Nelson County
at the request of
The Nelson County Board of Supervisors

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Nelson County Comprehensive Plan

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Nelson County Comprehensive Plan

Executive Summary

Introduction to Nelson County and this Comprehensive Plan

Nelson County has a rich and varied history and offers a diverse variety of natural and man-made features for its 14,445 current residents. Formally established on December 25, 1807, Nelson County is named for General Thomas Nelson, Jr., Virginia's third governor. Nelson County has grown from an agricultural community to an industrial one and currently is growing in the service sector of its economy. Yet, Nelson County retains its rural character. Most of the land in the county is mountainous or hilly, with relatively little level land. Most development has followed stream valleys and roadways. New growth is most apparent in the Rockfish Valley to the west and in the Schuyler and Lovingsston areas.



This Comprehensive Plan is a blueprint for how Nelson County will deal with change, and how it will grow. It assists citizens in understanding the county and guides the Planning Commission, the Board of Supervisors, state agencies, and private developers in providing for the County's future needs. The Comprehensive Plan may be implemented through an official map, a capital improvements program, the zoning ordinance and zoning map, and the subdivision ordinance. The Plan states specific goals in eight key areas and establishes five development models and identifies where these development models are desired in the future. The Plan identifies implementation strategies and offers an abundance of information on the county in the appendices.

Goals for Nelson County

The goals for each of the eight key areas are as follows. In the full text of the Comprehensive Plan Principles are stated under each goal and are the more specific statements of the actions intended to achieve the goal.

Economic Development

Goal – Enhance the quality of life for Nelson County residents by maintaining and encouraging a diverse and vibrant local economy in designated development areas and compatible with the county’s size and rural character.

Goal – Seek to have new residential development support the additional county costs associated with the development.

Goal – Support and encourage tourism as a viable means to diversify the local economy.

Goal – Recognize the importance of the county’s agricultural economy as an integral part of Nelson’s economic heritage and as an important part of the current economy.

Transportation

Goal – Promote a safe, efficient and diverse transportation system to serve both local and regional traffic.

Goal – Enhance the internal and external flow of traffic within designated development areas.

Education

Goal – Support the educational needs of all Nelson’s citizens as a means of preparing for their future roles as workers, citizens, and parents.

Public and Human Services

Goal –Promote an equitable level of public services – fire protection, rescue services, crime protection and prevention – to all county residents.

Goal – Support the development of adequate infrastructure in designated development areas and in other areas of the county where lack of adequate water and sewage disposal creates a potential health risk.

Goal – Encourage access to a full range of quality health care facilities and programs for all county residents.

Goal – Support and strengthen resources to address the human service needs of county residents, with an emphasis on those with special needs.

Goal – Promote sound waste disposal practices and promote recycling to all county residents.

Goal – Reduce the number of county residents living in substandard housing by supporting the rehabilitation of substandard county residences and buildings.

Natural and Scenic Resources

Goal – Recognize that the natural environment is an important facet of our quality of life and efforts should be made to support and enhance that environment.

Goal – Protect the county’s scenic resources as essential to the county’s rural character, economic strength and quality of life.

Goal – Preserve and protect the historic character and features of Nelson County.

Recreation

Goal – Promote a diversity of recreational opportunities for Nelson’s citizens and for those who visit the county as tourists.

Development Areas

Goal – Channel new development into designated development areas thereby retaining the county’s rural character.

Goal - Ensure that new development does not exceed the county’s ability to provide the needed services and infrastructure.

Goal – Encourage and support the development of safe, sanitary and affordable housing for county residents of all incomes.

Rural Conservation

Goal – Maintain the rural character of Nelson County.

Goal - Protect productive agricultural and forestal land.

Land Use Plan

The land use element of this Comprehensive Plan is based on two fundamental principles:

New growth should be targeted to designated development areas following the guidelines included for each development model, so that growth takes place in a controlled manner without spreading into a dispersed, sprawling pattern.

Maintaining the rural character and ensuring the protection of current and future agricultural and forestal land are essential to preserving the heritage and unique character of Nelson County.

These principles are achieved through identifying designated development areas and by describing the five development models appropriate for these designated development areas. Maintaining and protecting the rural character of Nelson County is discussed in the Land Use Plan for Rural Conservation Areas. Finally, designated development areas and their desired uses are identified in the Future Land Use Plan.

Development Models for Designated Development Areas

Rural Small Town Development Model

A well defined center of activity following Nelson's historic small town pattern of grided streets creating blocks with sidewalks, and includes residential and small scale commercial uses as well as places for civic and public use. It is the highest density model except for large-scale commercial and industrial uses and water and sewer services are required.

Rural Village Development Model

A center of rural activity that captures the vitality and sense of community of Nelson's rural villages by promoting a mixture of uses – single family homes and other uses that support and enhance the daily needs and quality of life of its residents.

Neighborhood Mixed Use Development Model

A central gathering place able to fulfill the diverse needs and interests of nearby residents and visitors to the county, all within a focused, walkable and identifiable place.

Mixed Commercial Development Model

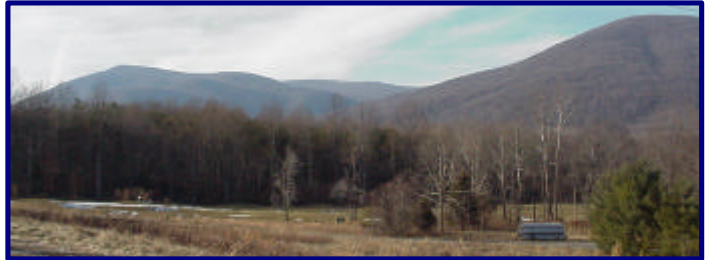
A commercial center offering regional shopping and county-wide services as well as multifamily housing near a primary highway but dependent on internal access and connectivity so all stores and attractions may be reached without continued reliance on the primary highway.

Light Industrial Development Model

The Light Industrial Development model combines both industrial uses and an activity center of residences, shops, and amenities that support the nearby industries, all within a walkable, clearly defined area. Water and sewer services are required.

Land Use Plan for Rural Areas

The majority of Nelson County is rural and the unique character and particular identity of the county is due in large measure to this rural character. The following attributes begin to describe rural character:



The farms, orchards, and forested land
The mountains and scenic vistas
The river and stream corridors
The barns, outbuildings, and farmhouses
The historic properties and sites
The scenic roadways passing through rural areas

In order to preserve these attributes of Nelson County, any development that occurs in rural areas should adhere to the following principles:

Historic sites, including farmhouses, outbuildings and barns should be incorporated into developments
Limit development on critical slopes in order to maintain the balance between slope, soils, geology, and vegetation.
Scenic vistas should be protected by limiting development and through height limits on new buildings
River and stream corridors, especially floodplains and wetlands, should remain undeveloped

To protect rural roadways, development should be well buffered from the road with existing vegetation preserved or vegetative buffer planted, and with limited access points

Moderate density residential development is more appropriate on the periphery of development areas.

To distinguish between residential development appropriate around designated development areas and rural residential better suited to rural areas, two models are described:

Rural Residential District – would allow low density residential and compatible non residential uses in rural areas where agriculture is not the predominant use. Clustering of residents further protects rural areas.

Rural and Farming District – would promote agricultural uses and compatible open space uses but discourage large scale residential development and commercial development that would conflict with agricultural uses. The Rural and Farming District would permit small scale industrial and service uses that complement agriculture. Protection of usable farmland should be encouraged. Clustering of any new development in areas of a site without prime or productive soils will enhance the protection of prime or productive soils for future agricultural uses.

Future Land Use Plan

The Future Land Use Plan follows from the five development models described above and the following Future Land Use Map identifies the approximate locations appropriate for each of the development models. In summary, the following development models are recommended for the following areas:

Rural Small Town

Lovingston

Rural Village

Schuyler

Shipman

Neighborhood Mixed Use

Nellysford

Mixed Commercial

Lovingston, west of Route 29

Route 29 at three specific locations between Lovingston to Colleen

Route 29 at three locations south of Colleen to the county line

(Secondary sites which are currently lacking adequate infrastructure)

Light Industrial

Colleen

Route 29 at three specific locations between Lovington to Colleen

Route 29 at three locations south of Colleen to the county line

(Secondary sites which are currently lacking adequate infrastructure)

Arrington (Secondary site currently lacking adequate infrastructure)

Piney River (Secondary site currently lacking adequate infrastructure)

The Future Land Use Map also identifies areas appropriate for low density Rural Residential. These sites are adjacent to identified development areas and adjacent to existing institutional (typically schools) or small-scale industrial uses. These areas are not expected to be served by water or sewer and therefore must be developed at a density consistent with groundwater availability and the lot sizes needed to accommodate septic systems.

Finally the Future Land Use Map describes the bulk of the county as Rural Conservation, a designation adhering to the Land Use Plan Rural Conservation areas.

Bicycle and Pedestrian Plan

This chapter of the Comprehensive Plan provides information and guidance on development of facilities and other accommodations to enhance safe bicycle and pedestrian travel. It will also satisfy the Virginia Department of Transportation requirement that a roadway be included in an adopted bicycle or pedestrian plan before improvements are made. This proposed bicycle and pedestrian plan is included in the Comprehensive Plan to enable the county to consider support for the plan. Any bicycle or pedestrian facilities would rely on agreement with landowners before such facilities would cross private property.

Greenway Plan

The word greenway is perhaps most often used to describe a linear corridor or band of open space. They are often located along or within existing corridors such as stream valleys and riverfronts, utility corridors, abandoned or active rail lines, roadway corridors, ridge lines, and canals. This proposed greenway plan is included in the Comprehensive Plan to enable the county to consider support for the plan. Any greenway facilities would rely on agreement with landowners before such facilities would cross private property.

Plan Implementation

Zoning Ordinance

The Zoning Ordinance is one of the key tools for implementing the Comprehensive Plan. Zoning is the primary land use regulatory tool that divides a locality into specific districts and lists uses permitted in those districts. A site plan is a useful tool for applying the development standards addressed in general terms in this Comprehensive Plan to a specific piece of land or to a development proposal generally.

Subdivision Ordinance

The regulations in a subdivision ordinance focus on the platting of lots, the layout of streets, the location of common spaces and the building of public improvements associated with the subdividing of land. The Subdivision Ordinance should be coordinated with the Zoning Ordinance.

County Zoning Map

The Code of Virginia defines a zoning map as “a map or maps showing the division of the territory into districts and a text setting forth the regulations applying in each district”. The Future Land Use Plan of this Comprehensive Plan sets the general locations and regulations for each of the five development models and for a rural residential district. These areas may be more specifically located on the Zoning Map.

Capital Facilities Impacts

Rezoning applications should be evaluated for their potential impacts on public facilities. These impacts include effects on existing transportation network; effects on schools; and the impact on water and sewer facilities.

Capital Improvement Program

The Capital Improvements Program (CIP) is a five-year schedule of capital expenditures by the county. The CIP is to be based on the Comprehensive Plan.

Proffers

A proffered condition or a proffer generally is a promise or commitment given in writing by a developer to construct certain improvements, to make certain donations, to develop property subject to specified conditions to offset the impacts of the proposed development, and/or to develop the property in accord with the Comprehensive Plan. Proffers may be negotiated between the landowner, the county government, and the affected citizens. The county may encourage, but not require, proffers.

Nelson County Comprehensive Plan

Chapter One-Portrait of Nelson County

A Brief History of Nelson County

Nelson County has a rich and varied history, beginning with Native American cultures living in what is now known as Nelson County as early as 800 B.C. to 1000 B.C. From 1000 B.C. to 1600 A.D., Native American settlements formed on the floodplains and terraces of the largest rivers, particularly the James River. The community of Wingina is one such settlement site and is one of the largest and best preserved Native American village sites in the Piedmont section of Virginia. Descendants of these Native American settlers, the Monacans, continue to live in Nelson and Amherst counties today.



The first European explorers of present day Nelson County, John Findlay and Allen Tye, arrived in the county sometime prior to 1734. Findlay traveled up the James River, westward to Shipman and explored the region which now bears his name – Findlay’s Mountain. Allen Tye arrived in Nelson County from the Shenandoah Valley, naming the Tye River after himself.

Woodson’s Mill

The first permanent European settlement was established by a British surgeon, Dr. William Cabell, in 1741. This settlement, named Warminster after his village in England, was at the mouth of Swan Creek, along the James River. Many Scotch-Irish settlers located in the Rockfish Valley, and the French Huguenots settled in the Lovingson and Shipman areas.

By 1744 Albemarle County, including all of present Nelson County, was formally established. In 1761 Albemarle County was divided, with the newly formed Amherst County including all of present day Nelson County. By the American Revolution, approximately 2,000 settlers, half of whom were slaves, resided in the area. On December 25, 1807, Amherst County was divided, officially establishing Nelson County, which is named for General Thomas Nelson, Jr., Virginia’s third governor. Lovingson was chosen as the county seat shortly after the county was formally established. James Loving, for whom the town is named, donated the land on which the 1808-09 courthouse was erected.

European settlers continued the Native American tradition of agriculture, primarily growing grain and tobacco. Apple production increased following the Civil War, as did tobacco production. By 1900, family farms dominated Nelson County. In 1925 farmers constituted 66% of the county's total population.

As Nelson County moved toward an industrial economy, lumber milling, mining, particularly soapstone, became more dominant. The Virginia Blue Ridge Railway was built to carry lumber out of the Three Ridge and the Priest mountains, from bandsaw mills operating north of Woodson on the Piney River and on the Tye River at Massie's Mill.

The American Rutile Corporation was founded in 1903 in Roseland and in 1930 the Vanadium Corporation built a large titanium mining operation, around which the community of Piney River grew. Three mining operations, built to extract Aplite, an ingredient in glassmaking, were established in 1939, 1941, and in 1959. The Virginia Soapstone Company was incorporated in Schuyler in 1893 and constructed its mill building around 1902. By the end of World War I the company employed 650 men, growing to 1,000 in 1925. The mill at Schuyler slowly suffered from the Great Depression and temporarily closed its doors in 1934. World War II created a new demand for soapstone and the mill has operated inconsistently since then.



Nelson County's population reached its peak in 1920 with 17,277 residents and the population slowly declined until 1970. However, growth in the Rockfish Valley and along Route 29 south of Lovingson continued due in large measure to the development of primary highway routes 250 and 29 as well as Interstate Route 64. In 1970 Nelson County had 11,702 residents and has slowly grown in population to 14,445 in 2000.

The Village of Schuyler

Nelson County Today

Nelson County continues to grow at a modest rate, and regional forces are clearly affecting how Nelson is growing. The bulk of new residents are locating in the northern sections of the County, particularly the Rockfish Valley and along the Albemarle County border. This is shown not only by migration patterns but also by commuting patterns. In 1990, 1,826 Nelson residents commuted to Albemarle County and the City of Charlottesville for employment while only 558 commuted to Amherst County and the City of Lynchburg. Moreover, Route 151, the major corridor through the Rockfish

Valley, is the most stressed road in the county when daily traffic counts are compared to the volume for which the road was designed.

The year 2000 Census data shows the Rockfish District with 4,484 residents, compared to 3,674 in 1990 and 3,051 in 1980. This is a growth rate of 20% from 1980 to 1990 and a 22% growth rate from 1990 to 2000. No other district's population has grown as much, but the Schuyler District has grown steadily reaching a population of 2,585 in 2000, with a 21% increase from 1980 to 1990 and a 22% increase from 1990 to 2000. The Lovingsston District is the largest with 5,029 residents in 2000, and having lost population from 1980 to 1990 but growing from 4,591 in 1990 to the 5,029 in 2000, a 10% growth rate.

Yet, Nelson County retains its rural character. Most of the land in the county is mountainous or hilly, with relatively little level land. While most development has followed stream valleys and roadways, there are numerous scenic vistas in the county, most notably the Afton Overlook at the Blue Ridge Parkway, which allows views of 14,784 acres. Over 140 prehistoric and historic sites have been identified in the county, further enhancing the rural charm.



The Overlook at Afton

Today, the service sector employs the greatest number of Nelson workers, and is the fastest growing as well. In 1987 the service sector employed just over 30% of the workforce and by 1997 it employed over 40%. Even though it employs less than 10% of the workforce, agriculture was the only other sector of the economy that grew from 1987 to 1997. In 1995 the median household income of Nelson residents was \$29,553, which is just above that of Buckingham County (\$26,829) and below that of Amherst (\$32,151) and Albemarle (\$43,475) counties.

Nelson County Comprehensive Plan

Chapter Two-Purpose of the Plan

The Code of Virginia 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.

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

The Comprehensive Plan may be implemented through an official map, a capital improvements program, the zoning ordinance and zoning map, and the subdivision ordinance. Thus it sets the broad stage under which the county's codes and ordinances fall.

Perhaps most importantly, the Comprehensive Plan is a blueprint for how Nelson County will deal with change, and how it will grow. It assists citizens in understanding the county and guides the Planning Commission, the Board of Supervisors, state agencies, and private developers in providing for the County's future needs.

(The full text of the Code of Virginia governing comprehensive plans is included as an Appendix to this Comprehensive Plan.)

Nelson County Comprehensive Plan

Chapter Three–Goals and Principles

The following goals and principles state the long-term expectations for the county under eight key areas: Economic Development, Transportation, Education, Public and Human Services, Natural, Scenic, and Historic Resources, Recreation, Development Areas, and Rural Conservation. Under each goal, principles are stated. Principles are a more specific statement of the actions intended to achieve the broad goal. In the following Land Use Plan Chapter and the Plan Implementation Chapter guidance is given for achieving these goals and principles. The information attached as appendices to this Plan provide the data and community input upon which these goals and principles are, in part, based.



Paul's Creek Community

Economic Development

Goal – Enhance the quality of life for Nelson County residents by maintaining and encouraging a diverse and vibrant local economy in designated development areas and compatible with the county's size and rural character.

Principle – Encourage a diverse mix of businesses and industries.

Principle – Discourage strip development and encourage limited access and internal access management in large scale commercial and industrial uses.

Principle – Support adequate setbacks, vegetative buffering, dark sky lighting, and unobtrusive signage in large scale commercial and industrial uses to protect primary roadways.

Principle – Support small scale commercial development as infill and as new development in designated development areas.

Goal – Seek to have new residential development support the additional county costs associated with the development.

Principle – Determine the cost of new residential development and encourage proffers to defray the county costs associated with the development.

Goal – Support and encourage tourism as a viable means to diversify the local economy.

Principle – Support local tourism and link it to the region's many tourism programs.

Principle – Promote historic sites that are accessible to the public as part of the tourist economy.

Principle – Promote local greenways and other recreational opportunities to enhance tourism.

Goal – Recognize the importance of the county's agricultural economy as an integral part of Nelson's economic heritage and as an important part of the current economy.

Principle – Support a local farmer's market, or markets, with an emphasis on local products.

Principle – Encourage businesses and industries that support and strengthen the county's agricultural economy.

Principle – Encourage the protection of prime farmland from development that would reduce its long term viability as part of the agricultural economy.

Principle – Promote farming as a productive way of life.



Productive Orchard Industry

Principle – Support enhanced transportation of agricultural and wood products to markets.

Principle – Encourage development of a regional distribution system for agricultural products.

Transportation

Goal – Promote a safe, efficient and diverse transportation system to serve both local and regional traffic.

Principle – Emphasize the importance of safety on county roads and publicize the negative affects of speeding.

Principle – Ensure that through truck traffic is meeting state standards.

Principle – Encourage the use of the county's existing rail lines for the movement of commercial and industrial goods and for passenger service, including tourists.



The Train Depot at Oakridge

Principle – Increase the mobility of the general public, and especially the elderly, handicapped and economically disadvantaged by encouraging walking, bicycling, bus and van services, park and ride lots, and carpooling.

Goal – Enhance the internal and external flow of traffic within designated development areas.

Principle – Promote internal vehicular, pedestrian, and bicycle connections within development areas.

Principle – Encourage a network of streets for internal traffic flow within development areas that limit “cut through” traffic.

Principle – For large scale industrial and commercial park development off Route 29, limit access to locations established in the Route 29 Corridor Development Study when possible.

Principle – Support improvements to designated roadways that include facilities for bicyclists, following the Regional Bicycle and Pedestrian Plan.

Education

Goal – Support the educational needs of all Nelson’s citizens as a means of preparing for their future roles as workers, citizens, and parents.

Principle – Support excellence in public education, including the school facilities.

Principle – Promote the year-round use of school buildings as community and multi-use facilities.

Principle – Support educational programs through the county schools, community based organizations, and community colleges that provide a trained workforce for local industries.

Principle – Ensure that the county’s library system meets the needs of a growing population.

Principle – Ensure adequate adult education to help adults fulfill their roles as workers, citizens, and parents.



Site of the Rockfish Valley Elementary School

Public and Human Services

Goal – Promote an equitable level of public services – fire protection, rescue services, crime protection and prevention – to all county residents.

Principle – Ensure that the E911 operations center is fully supported and maintains a coordinated emergency response system so that all citizens can receive help as quickly as possible.

Principle – Support the county's fire and rescue squads to ensure an efficient delivery of services, with an emphasis on prevention and training.

Principle – Support the county sheriff's department so that services are delivered efficiently and in a manner sensitive to the safety and protection of all residents.

Goal – Support the development of adequate infrastructure in designated development areas and in other areas of the county where lack of adequate water and sewage disposal creates a potential health risk.

Principle – The Nellysford and Schuyler development areas are priorities for development of adequate water and sewer service.

Principle – Support efforts to provide the Piney River community, and other areas with existing problems, with safe, adequate water and sewer service.

Principle – Support development of a plan to assess and monitor groundwater.

Principle – Support development of surface water impoundments as a public water source.

Goal – Encourage access to a full range of quality health care facilities and programs for all county residents.

Principle – Develop a specific community health improvement strategy.

Principle – Support health care outreach to special populations such as the economically disadvantaged, the elderly, children, and the disabled.

Goal – Support and strengthen resources to address the human service needs of county residents, with an emphasis on those with special needs.

Principle – Encourage development of the interdisciplinary facilities in support of the elderly, the disabled, children, and the economically disadvantaged.

Principle – Support regional human service providers based on documentation of services to be provided to Nelson residents, and with an emphasis on consolidation of services rather than duplication of effort.

Goal – Promote sound waste disposal practices and promote recycling for all county residents.

Principle – Support waste management and recycling planning that will include a rational, cost-effective, environmentally sound approach for handling waste and recycling material.

Principle – Sensitivity to our natural environment as well as economics should guide future waste management and recycling policy.

Goal – Reduce the number of county residents living in substandard housing by supporting the rehabilitation of substandard county residences and buildings.

Principle – Support the rehabilitation of substandard housing, particularly those residences lacking indoor plumbing and which house low income residents.

Natural, and Scenic, and Historic Resources

Goal – Recognize that the natural environment is an important facet of our quality of life and efforts should be made to support and enhance that environment.

Principle – Recognize the importance of ground water and surface water to the county by supporting guidelines for the protection of these resources and conducting additional water studies as needed.

Principle – Protect natural resources, including prime soils for agricultural use, groundwater, air, wetlands, and forest resources.

Principle – Recognize the county's major rivers and waterways as significant environmental resources and provide for their protection and appropriate use for recreation.

Principle – Limit development on critical slopes in order to maintain the balance between slope, soils, geology, and vegetation.

Goal – Protect the county’s scenic resources as essential to the county’s rural character, economic strength and quality of life.

Principle – Protect the county’s scenic roadways by designating them as State Scenic Byways and by adopting a local scenic byways ordinance as needed. In particular, support designation of Route 29 from Woods Mill to the Albemarle County line and Route 664 as scenic byways.

Principle – Maintain areas of scenic beauty of the county’s waterways and rivers as natural resources and in support of the county’s tourism program.

Principle – Promote the preservation of the viewsheds of scenic vistas as an important part of the county’s tourism program.

Principle – Discourage ridgeline development.

Goal – Preserve and protect the historic character and features of Nelson County.

Principle – Recognize and honor stewardship of historic properties and sites through, for example, the Historic Designation Program and through formal recognition by the Board of Supervisors.

Principle – Encourage the establishment of local historic districts in support of the county’s tourism program and to protect their historical, architectural, and cultural significance. Lovington and Schuyler, in particular, are appropriate for historic district designation.

Principle – Promote architectural compatibility of new development, including infill development, in designated development areas where significant historic resources exist.



Swannanoa

Recreation

Goal – Promote a diversity of recreational opportunities for Nelson’s citizens and for those who visit the county as tourists.

Principle – Promote recreation facilities that are county-wide resources for recreation and athletic events.

Principle – Encourage small-scale “pocket” parks in designated development areas to enhance the recreational opportunities for nearby residents.

Principle – Support the development of county greenways, including the Blue Ridge Railway Trail, and new greenways, for recreation, and to preserve open space and protect river and stream corridors.



Blue Ridge Railway Trail

Principle - For increased recreational and tourism opportunities, provide access and connections to key destination points and attractions.



The Tye River

Development Areas

Goal – Channel new development into designated development areas thereby retaining the county’s rural character.

Principle - Direct large scale commercial and industry into development areas designated Mixed Commercial or Light Industrial in the Future Land Use Map or where appropriately zoned.

Principle - Discourage strip development and encourage limited access and internal access management in large-scale commercial and industrial uses.

Principle – Promote dark sky lighting, unobtrusive signage and design guidelines in all commercial and industrial development.



Principle – Direct small-scale commercial and residential development into development areas designated Rural Small Town, Rural Village, or Neighborhood Mixed Use, in the Future Land Use Map.

Stone Church in Schuyler

Principle – Encourage exclusively residential development on the periphery of designated development areas as defined in the Future Land Use Map.

Principle – Promote orderly expansion in designated development areas that is consistent with the pattern and character of existing development.

Goal - Ensure that new development does not exceed the county’s ability to provide the needed services and infrastructure.

Principle – Limit development densities to ensure future development stays within the capacities of water and sewer systems.

Principle - Encourage proffers to defray the county costs associated with development.

Goal - Encourage and support the development of safe, sanitary and affordable housing for county residents of all incomes.



Principle - Support affordable housing development in designated development areas.

Montreal Village in Shipman

Principle - Fund affordable housing development and the rehabilitation of substandard housing using a combination of private and public (federal, state, and local) funds and continue to support private foundations and organizations in the development of affordable housing and in the rehabilitation of substandard housing.

Rural Conservation

Goal - Maintain the rural character of Nelson County.

Principle - Protect sensitive rural areas such as steep slopes, river and stream corridors, prime farmland, old growth forests, and historic sites from encroaching development by discouraging rural growth in areas adjacent to these sensitive areas.

Principle - Protect rural scenic roadways through vegetative buffers between the roadways and new rural subdivision growth.

Principle - Protect scenic views and vistas by encouraging the siting of new buildings in conformance with the existing topography and into the existing landscape and vegetation.

Goal - Protect productive agricultural and forestal land.

Principle - Promote voluntary measures such as Agricultural Forestal Open Space designations and voluntary dedication of easements as undeveloped land.

Principle – Continue the Land Use Taxation as an incentive for continued agricultural productivity.



The Rockfish Valley

Nelson County Comprehensive Plan

Chapter Four-Land Use Plan

Introduction

The land use plan is the description and rationale for desired new growth in the county. The Plan is based on two fundamental principles:

New growth should be targeted to designated development areas following the guidelines included for each development model, so that growth takes place in a controlled manner without spreading into a dispersed, sprawling pattern.

Maintaining the rural character and ensuring the protection of current and future agricultural and forestal land are essential to preserving the heritage and unique character of Nelson County.

The following sections of this land use plan describe the methods for achieving these two principles. First, data related to land use planning are summarized with accompanying maps to depict this information for Nelson County. Second, the Land Use Plan for Designated Development Areas identifies five “development models” that describe the desired growth patterns and the types of uses within them.

The Land Use Plan for Rural Areas describes the important features of the rural nature of the county that must be considered for the protection of the unique rural character of the county and for protection of agricultural and forestal land. Finally, this chapter includes a Future Land Use Plan and Map that identifies the desired locations for the different development models as well as the portions of the county to remain rural.

Land Use Planning Data

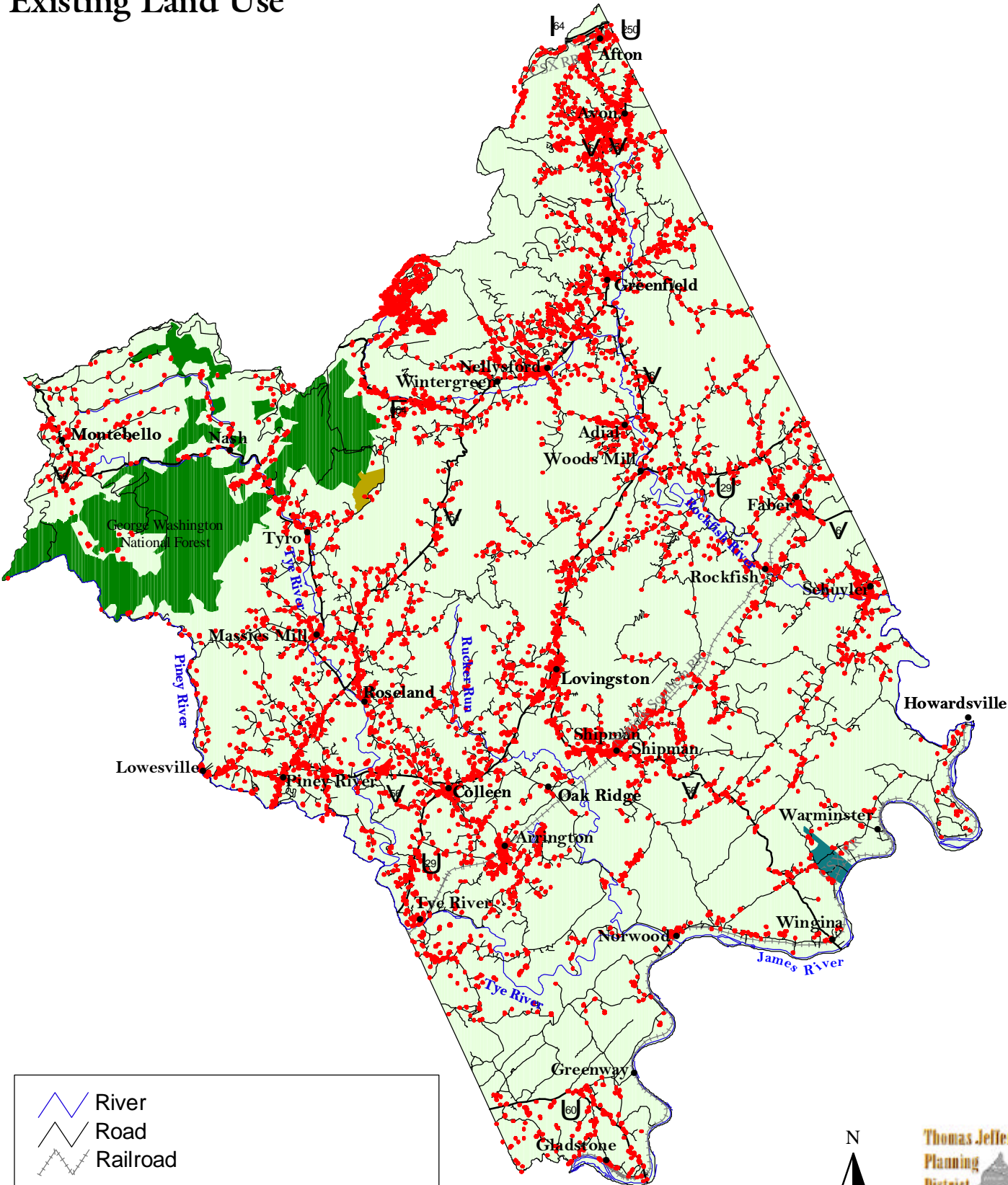
Existing Land Use

The following Existing Land Use map identifies the building footprints in the county, based on information from the county's E911 database. The relative clustering of the footprint images creates a county-wide pattern of development. The small town of Lovington and the villages of Afton, Schuyler, Shipman, Arrington, Colleen, Roseland, Massies Mill, Piney River and Montebello have higher concentrations of buildings, which has been the dominant settlement pattern throughout Nelson's history.

The number of buildings that follow the Route 151 corridor from the Albemarle County line to and including Route 664 show new growth not characteristic of the county's earlier settlement patterns. This is confirmed by 2000 Census data which show the Rockfish District with 4,484 residents, compared to 3,674 in 1990 and 3,051 in 1980. This is a growth rate of 20% from 1980 to 1990 and a 22% growth rate from 1990 to 2000. No other district's population has grown as much, but the Schuyler District has grown steadily reaching a population of 2,585 in 2000, with a 21% increase from 1980 to 1990 and a 22% increase from 1990 to 2000. The Lovington District, the largest in population, lost population from 1980 to 1990 but grew from 4,591 in 1990 to 5,029 residents in 2000, for a 10% growth rate.

Nelson County Comprehensive Plan

Existing Land Use



- River
- Road
- Railroad
- Building
- Lesense State Forest
- James River Wildlife Mgmt. Area
- George Washington Nat. Forest

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 Prepared by the Thomas Jefferson Planning District Commission.
 Source: Nelson County E-911 Data and US Census Tiger Data
 January 2002

Areas Served by Water and/or Sewer

The availability of central water and sewer service is key to future development for any large scale commercial or industrial uses as well as for those development areas with a planned higher density. The accompanying Water and Sewer Services Areas Map details existing infrastructure.

Wintergreen Resort and the Stoney Creek development, as well as Lovington and the Route 29 corridor south to, and including Colleen, and portions of Schuyler offer both water and sewer service. Other portions of Schuyler, Gladstone, and the Route 56

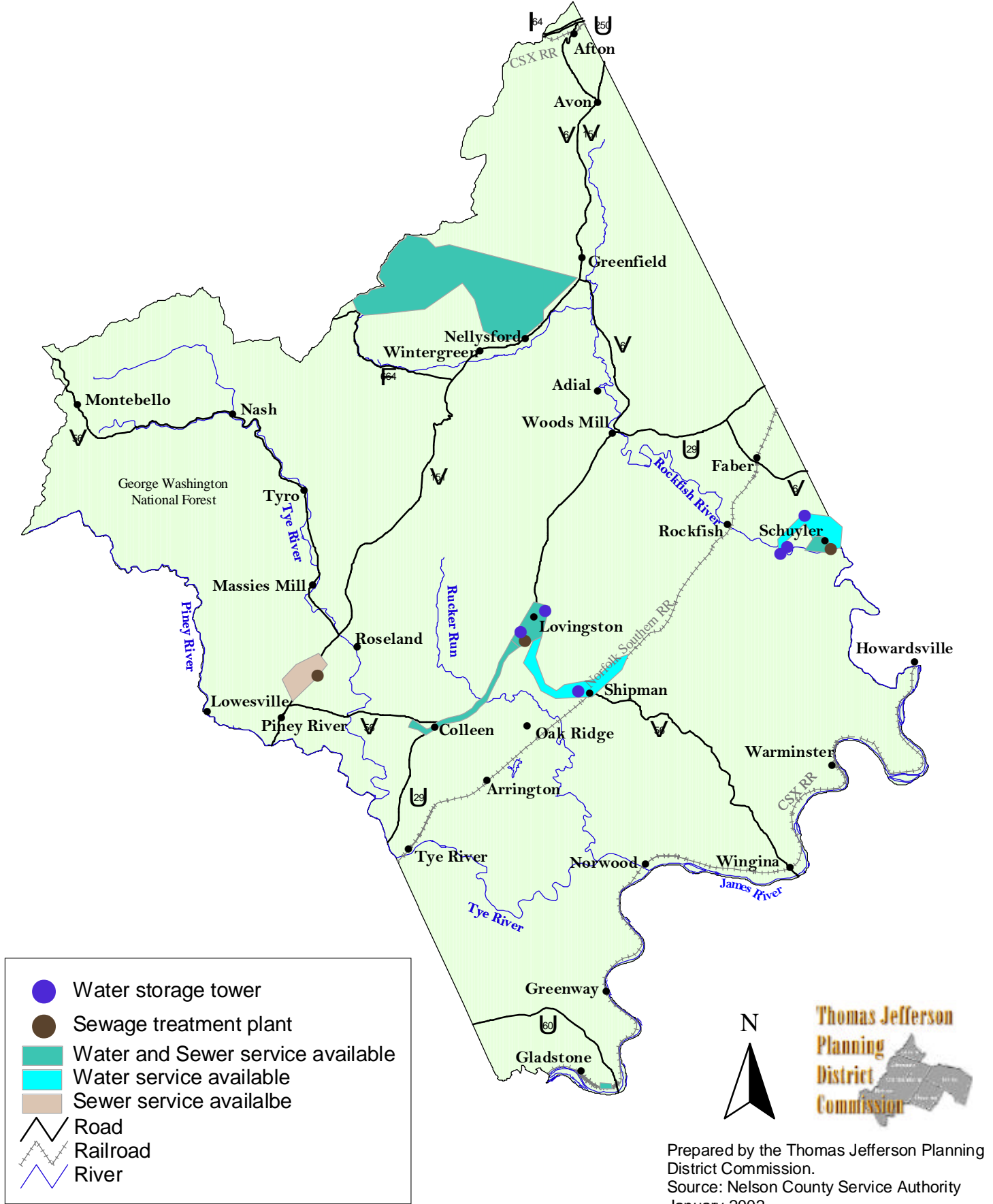


corridor to and including Shipman offer water only. Finally, Piney River has a constructed wetlands facility that provides wastewater treatment only. The Piney River system includes individual septic tanks for solid waste.

The Food Lion Complex

Nelson County Comprehensive Plan

Water and Sewer Service Areas



Environmental Constraints

Steep Slopes

As any county resident knows, Nelson County has a high number of steep slopes, defined as slopes greater than 25%. For development purposes, steep slopes present a building challenge and possible environmental consequences. Clearing, grading, building, cropping, and overgrazing of steep slopes can result in extensive erosion and landslides or sloughing of soil and rock, excessive stormwater runoff, increased siltation and sedimentation, and degrading of the aesthetic value. In the event of a septic system failure, the septic effluent has a greater travel distance.

General standards for steep slopes can mitigate these possible hazards.

Avoid the use of septic systems on slopes of 20 percent or greater.

Roads should follow the natural topography to minimize grading, cutting, and filling.

Maintain natural drainage channels in their natural state and/or stabilize natural channels to protect them from the impact of development activity.

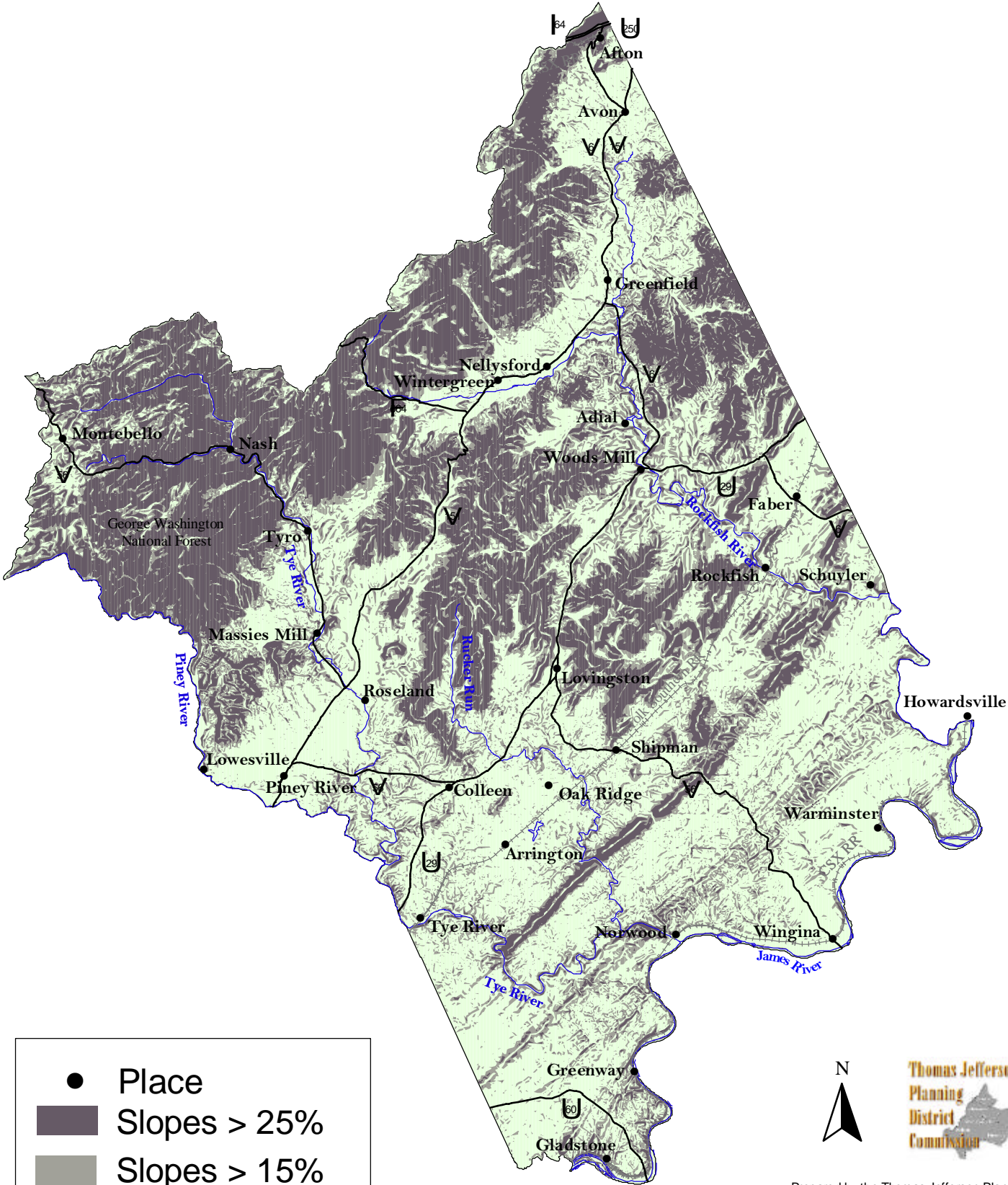
Design public utility corridors to fit the topography.

Adapt development to the topography and natural setting. Excessive grading, cutting, and filling should be discouraged.

As land slope increases, the rate of stormwater runoff also increases. Fertilizers, pesticides, herbicides, and other chemicals may be ineffective and can increase probabilities of surface and groundwater pollution.

Nelson County Comprehensive Plan

Steep Slopes



Prepared by the Thomas Jefferson Planning District Commission.
Source: United States Geological Survey
January 2002

Environmental Constraints

Soil Potential for Agricultural Use

The following Soil Potential for Agricultural Use Map is, in a sense, a reverse mirror image of the Steep Slopes Map. Low lying flatlands and floodplains make for some of the best soils for agriculture.

In Nelson County, there are little prime agricultural soils as defined by the U.S. Department of Agriculture and they are found primarily in floodplains. Good and moderate soils are more plentiful, and include what little amount of flat and rolling terrain exists in the county. Nelson County farmers have made productive use of soils not indicated as prime agricultural soils for, in particular, orchards, grazing land, and vineyards.

Maintaining the agricultural (and forestal) land base helps sustain the scenic quality and rural character of the county, which both residents and tourists appreciate. Maintaining agricultural land also promotes the existing agriculture business and retains these lands for future farming.

Protection measures for agricultural lands and forests include:

Use Value Assessment (land use tax) allows for real estate tax deferrals with reduced assessments based on the actual use of the land.

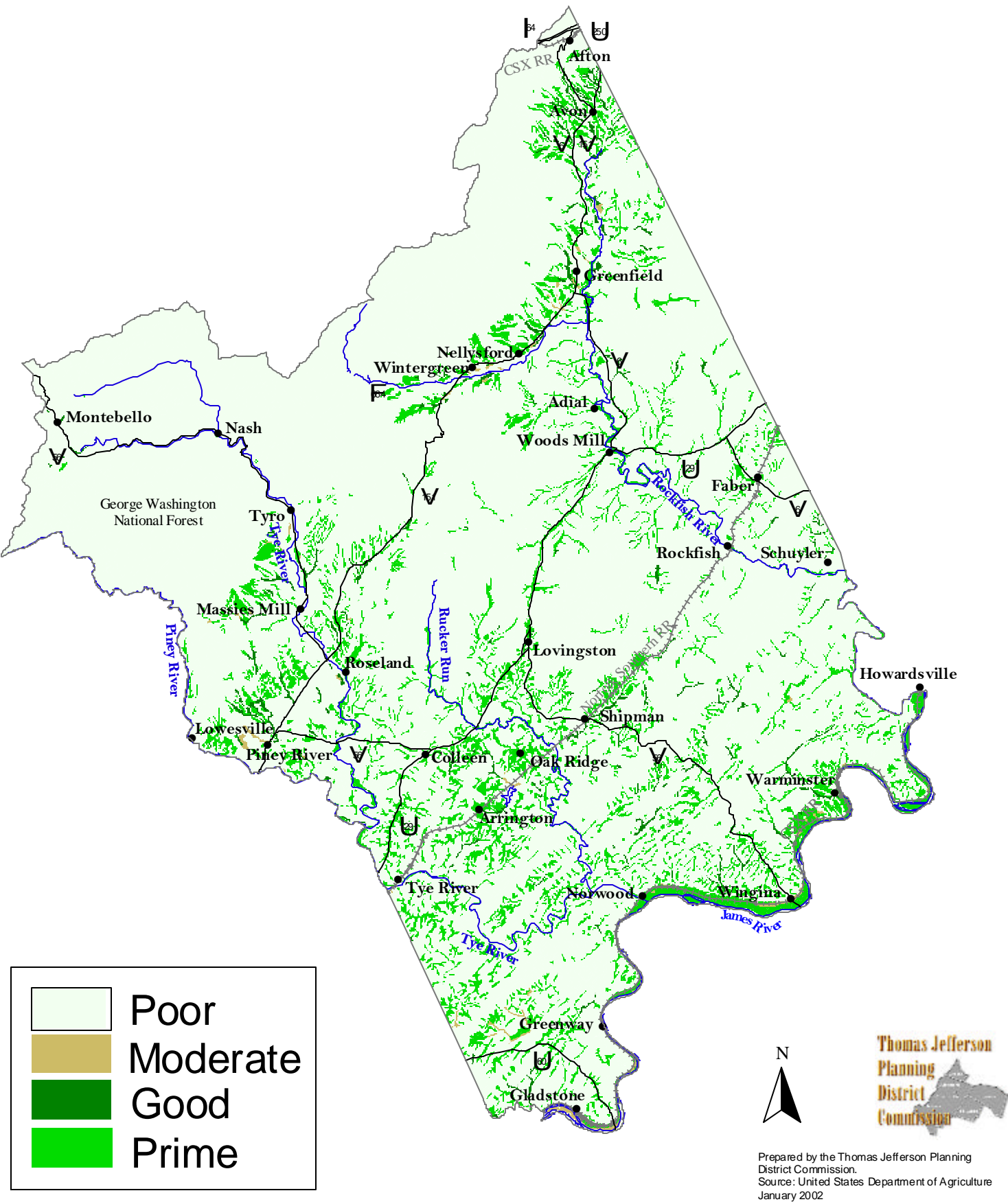
Agricultural and Forestal Districts allow a landowner to voluntarily enroll in an agricultural/forestal district, which provides certain tax benefits and restricts state agencies from their development. The participating landowner agrees to limit development of the property during the specified number of years (4-10 years) that the district is in effect.

Conservation or open space easements may be donated by the landowner to the Virginia Outdoors Fund, or other federal or state agencies, or to an authorized private charitable organization.

A **Purchase of Development Rights** program is similar to conservation or open space easements, but the easement is purchased rather than donated. Financial incentives such as a PDR program can encourage rural landowners unable to afford a gift of development rights. The PDR program allows owners to preserve their land as an alternative to sale for development.

Nelson County Comprehensive Plan

Soil Potential for Agricultural Use



Transportation

The following Transportation Network and Needs Map identifies present JAUNT rural transit service, park and ride lots, and county roadways that, according to the Virginia Department of Transportation, show a present or future (2015) need for improvement. The link between transportation and land use planning is important because successful land use planning does not over burden the existing or planned transportation network.



Route 151 at Nellysford

The five development models described in the Land Use Plan chapter for designated development areas provide transportation recommendations for within and immediately surrounding the development areas. The Transportation Network and Needs Map that follows provides a county-wide examination of transportation options and issues. The primary benefit of this Map is to plan for the relative densities to be allowed within the five development models so that the transportation network needed to access these areas is not over burdened. Available transportation engineering models can estimate the impact of future residential, commercial, and industrial growth and can help pace new growth with transportation improvements. In addition, expanding rural transit, additional park and ride lots, and bicycle lanes can mitigate the impact of new growth on the county's roadways.

Nelson County Comprehensive Plan

Transportation Network and Needs



Land Use Plan for Designated Development Areas

The five development models are:

Rural Small Town
Rural Village
Neighborhood Mixed Use
Mixed Commercial
Light Industrial

The Future Land Use Map included in this chapter establishes the locations for the five development models. Each development model is defined, described, and diagrammed with an example sketch. The range of densities, the methods of movement/transportation, parking characteristics, growth or change potential, and historic issues are discussed for each development model as well. These five development models, along with the Land Use Plan for Rural Areas, are the “building blocks” for the county. By combining the development models in different configurations, the county-wide land use pattern is defined, with remaining rural land following the Land Use Plan for Rural Areas.

By using these models in the desired development areas, the county may grow in a manner that coordinates investments in schools, transportation, and other public services such as water and sewer more efficiently. Other benefits include a greater mixture of uses within development areas so that, for example, shopping, employment, and recreation, are close to where people live. Transportation is enhanced because walking, bicycling, and transit options become possible. Because the development models include a diversity of housing types, affordable housing options are available.

Rural Small Town Development Model

A well defined center of activity following Nelson's historic small town pattern of grided streets creating blocks with sidewalks, and includes residential and small scale commercial uses as well as places for civic and public use. It is the highest density model except for large-scale commercial and industrial uses and water and sewer services are required.

The Rural Small Town Development Model is the highest density development allowed in the county, except for large scale uses such as regional-scale commercial and industrial. Water and sewer service is required. The rural small town model includes interconnected streets for good internal mobility and allows for growth by using parallel collector roads added to the town. However, additional growth is allowed only within the defined boundaries of the town or expanded based on increased water and sewer service. The types of uses allowed include single family and multifamily residential, retail, offices, civic or public uses, parks/recreation, and limited, small-scale industrial. New buildings should reflect the scale of, and be compatible with, existing buildings. Preferred examples of commercial uses are shoe and clothing stores, dry cleaner, dentist and doctor's offices, antique and craft stores. A public gathering spot, such as a park or playing fields is a vital part of a vibrant small town. The town includes sidewalks or pedestrian paths, safe bicycling, and transit options such as JAUNT service and park and ride lots. On-street parking, off street parking, and parking lots are included within the town. As the county-wide land use map shows, rural small towns must be located near major highways or other means of good transportation.

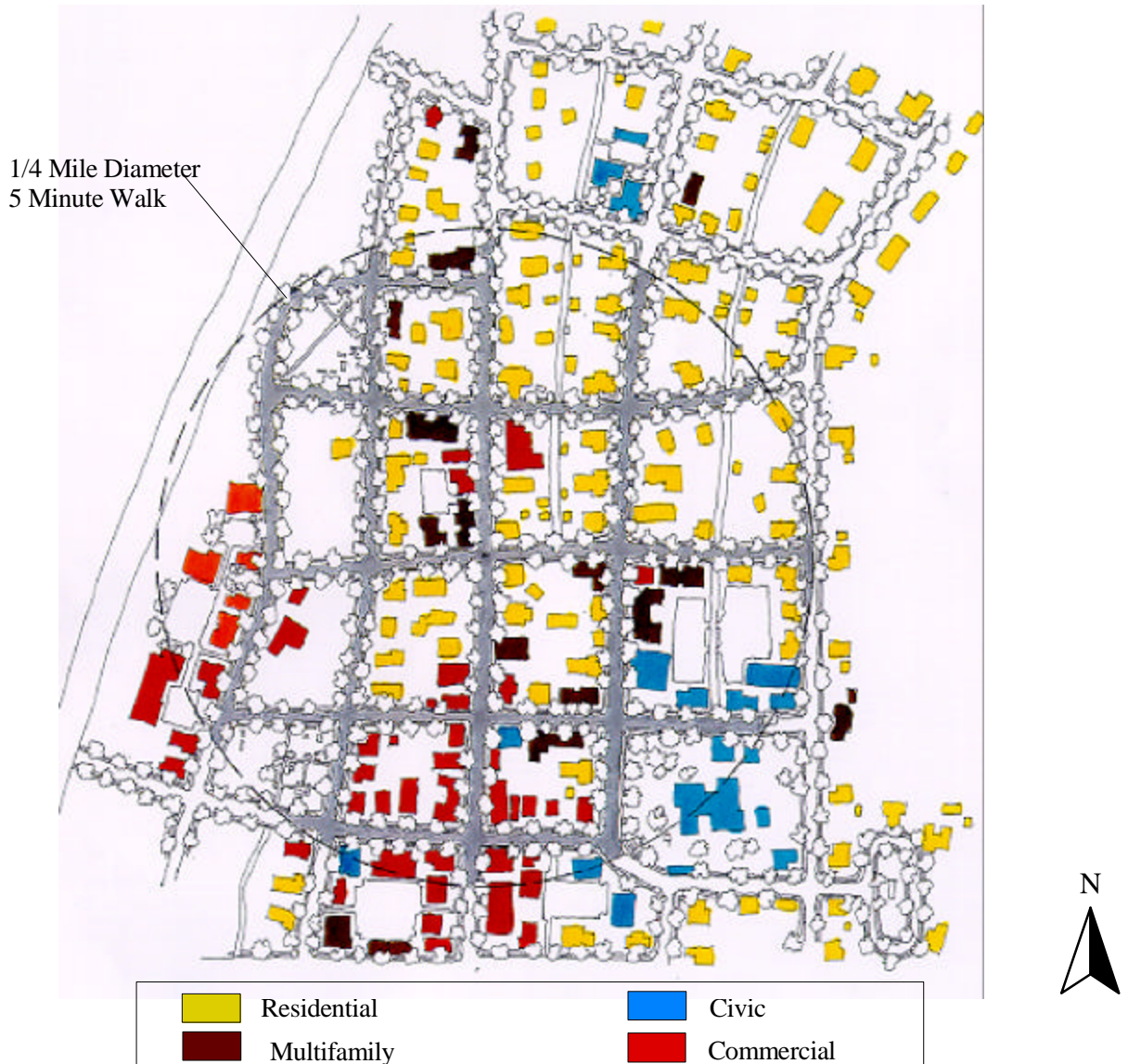
The only existing rural small town in Nelson County, Lovington, is the prototypical rural small town. Future growth, or infill development, is desired in Lovington, but must follow the design model described in the following diagram and be in keeping with the historic character that is so evident in Lovington.



Downtown Lovington

Nelson County Comprehensive Plan

Rural Small Town Development Model



Small Town

A well-defined center of rural activity that is surrounded by sparsely developed, or sparsely populated rural or agricultural land. The area contains at least several of the following land uses: residential, retail, office, civic, institutional, limited industrial, and park/recreation.

Building Sizes - Building scale should be compatible with existing buildings.

Proximity of Activities and Methods of Transportation - High proximity, balanced travel among automobile, rural transit, bicycling, and walking.

Locational Requirements - Usually at or near a crossroads; sometimes major highways.

Parking Characteristics - A mixture of on-street parking, parking lots, and driveways.

Growth/Change Potential - Relatively stable. However, some areas are facing growth pressures and suburbanization, while others are losing residents. Infill development is encouraged.

Rural Village Development Model

A center of rural activity that captures the vitality and sense of community of Nelson's rural villages by promoting a mixture of uses – single family homes and other uses that support and enhance the daily needs and quality of life of its residents.

Rural villages are central to Nelson County's heritage. The earliest settlement patterns revolved around small villages, which were often important centers of commerce and employment. The Rural Village Development Model is designed to recapture the vitality of these rural villages through a mixture of uses including residences, civic or public uses such as parks, recycling centers, park and ride lots, small-scale commercial to support the daily needs of the nearby residents, institutions, primarily churches, and may include limited industrial uses in close proximity, especially if the industry is supportive to the county's agricultural economy. Generally water and sewer service is needed, but wells and mass drainfields may serve this purpose. Residences make up the majority of buildings in the rural village and are predominately, if not exclusively, single family. Modest multifamily dwellings in the range of two to four units allow for more affordable housing. Along the circumference of the rural village, single family residences are appropriate. The range of commercial uses includes, for example, convenience stores and small grocery stores, garden centers, video rentals, automobile parts store, restaurants, drugstores, banks, and hardware stores.

Rural villages promote "neighborliness" and a sense of community by making residences, commercial, and civic uses close to one another, but at a rural scale. Walking and bicycling within the village are promoted, even though the automobile remains the dominant form of transportation between the village and other parts of the county. Rural transit services such as JAUNT may appropriately serve rural villages, and park and ride lots for residents are encouraged. Some villages in Nelson County may experience growth pressures, especially those near Albemarle County, while others may see a decline in population.

The following development model diagrams and describes the desirable development pattern for rural villages. It is a model for future growth in the rural villages depicted in the county-wide land use map.

Nelson County Comprehensive Plan

Rural Village Development Model

1/4 Mile Diameter
5 Minute Walk



	Residential		Civic		Industrial
	Multifamily		Commercial		

Rural Village

A center of rural activity, smaller than a small town, surrounded by sparsely developed, or sparsely populated rural or agricultural land. The area may contain residential, commercial, civic, institutional, or industrial uses.

Building Sizes - Building scale should be compatible with existing buildings.

Proximity of Activities and Methods of Transportation - Moderate proximity, balanced travel among automobile, rural transit, bicycling, and walking.

Locational Requirements - Located at or near crossroads; sometimes major highways.

Parking Characteristics - A mixture of on-street parking, parking lots, and driveways.

Growth/Change Potential - Relatively stable. However, some areas are facing growth pressures and suburbanization, while others are losing residents.

Neighborhood Mixed Use Development Model

A central gathering place able to fulfill the diverse needs and interests of nearby residents and visitors to the county, all within a focused, walkable and identifiable place.

The Neighborhood Mixed Use Development Model allows for a variety of uses focused around a central gathering place. As with all the models for the development areas, the neighborhood mixed use model emphasizes a walkable community with many amenities available. Located off a primary road (and not divided by a primary road), the neighborhood mixed use model creates a system of internal roads that alleviate the pressures on the primary road and keep new development focused within a quarter mile diameter. This enhances the internal walkability of this model by allowing visitors to park their cars and walk to the services within. Parking lots should be placed behind buildings or in other areas where the impact of the lot on the neighborhood is minimized. Dark sky lighting and unobtrusive signage is appropriate for all new development. Water and sewer service is needed to manage the density proposed in the neighborhood mixed use model.

Appropriate Neighborhood Mixed Use land uses include both single family and multifamily residential, a variety of commercial establishments, professional offices, civic and public uses, and parks or recreation facilities. Some of the preferred uses include a grocery store, restaurants, cultural and entertainment opportunities, a drugstore, doctor and dentist offices, and churches. For public use, a library, farmers market and space for recreation are appropriate. Over time, a neighborhood mixed use community may expand to offer a wider variety of retail and civic uses. Multifamily dwellings, commercial and office buildings may be up to three stories in height.

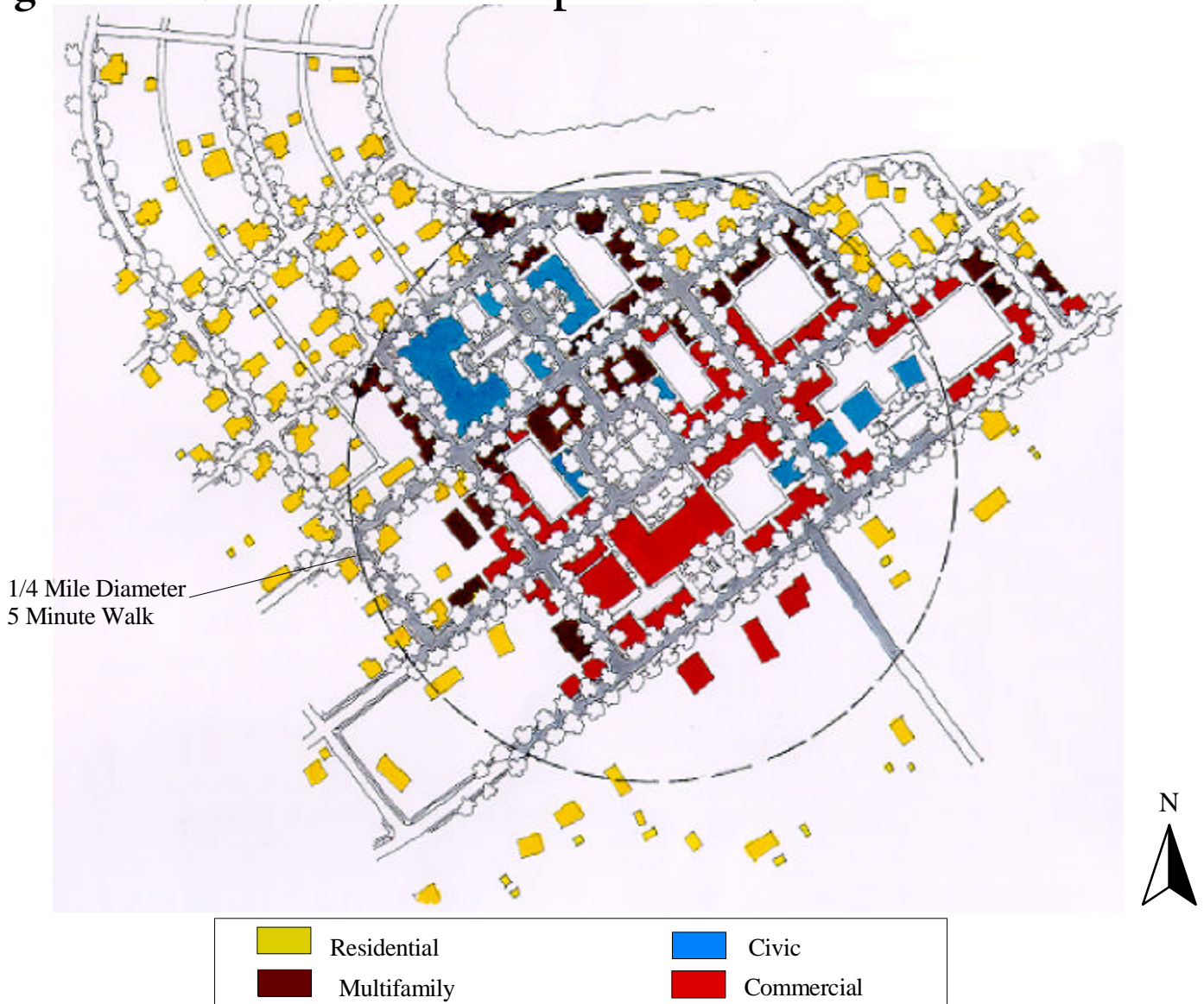
The following design model offers a sketch of how the internal flow and variety of uses are developed around a central gathering place.



Shops in Nellysford

Nelson County Comprehensive Plan

Neighborhood Mixed Use Development Model



Neighborhood Mixed Use

A well-defined, moderately dense center of rural activity that is surrounded by sparsely developed, or sparsely populated rural land. The area contains two or more of the following land uses: residential, retail, office, civic or public uses, and parks/recreation. At its center is a central gathering space.

Building Sizes - Building scale should be compatible with existing buildings.

Proximity of Activities and Methods of Transportation - Moderate proximity, balanced travel among automobile, bicycling, and walking. Transit options include rural transit and park and ride lots.

Locational Requirements - Located at or near primary highways.

Parking Characteristics - A mixture of on-street parking, parking lots, and driveways.

Growth/Change Potential - Relatively stable. Potential is usually toward growth or suburbanization (new residential).

Mixed Commercial Development Model

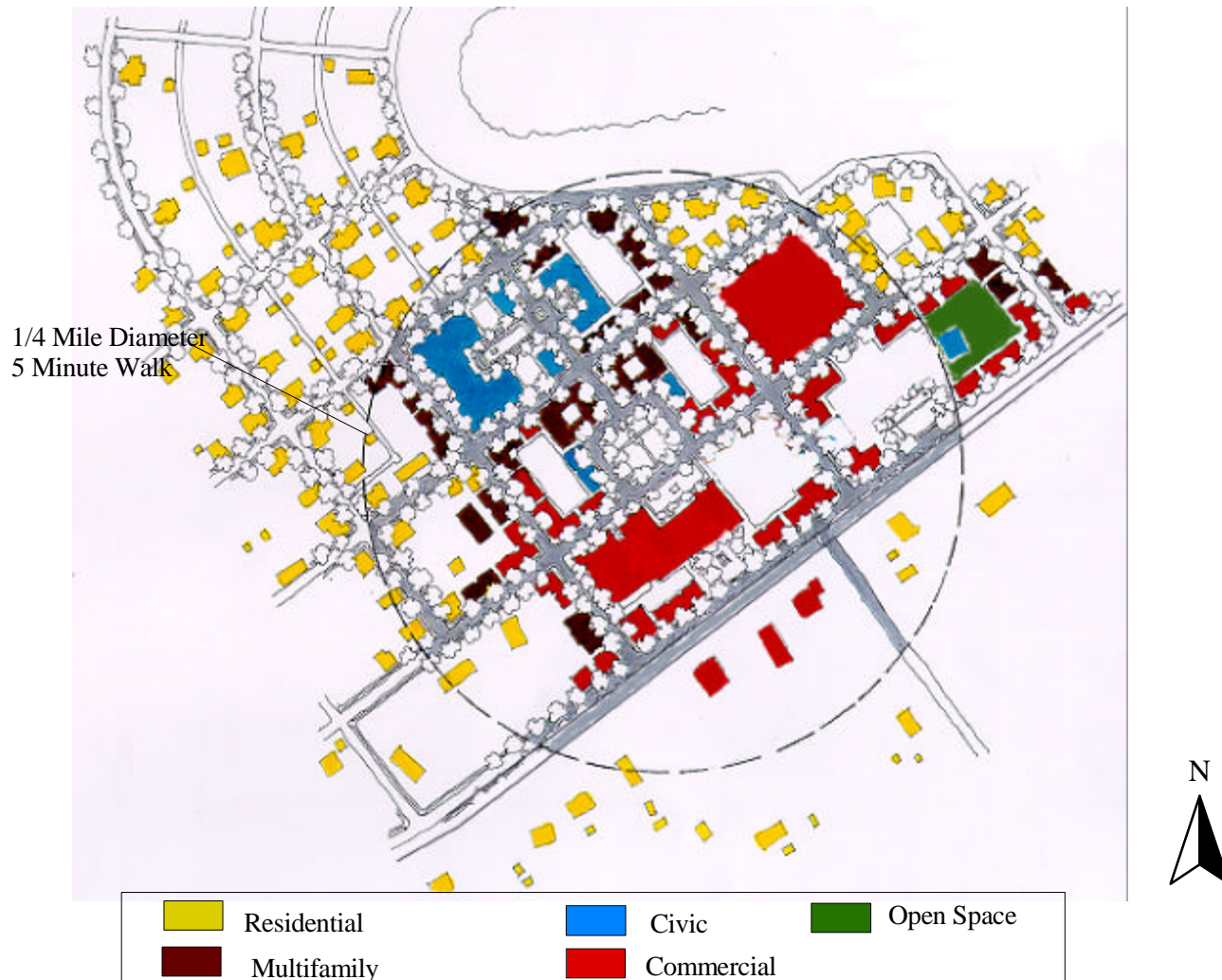
A commercial center offering regional shopping and county-wide services as well as multifamily housing near a primary highway but dependent on internal access and connectivity so all stores and attractions may be reached without continued reliance on the primary highway.

Located off a primary road, highway or major interchange, the Mixed Commercial Development Model allows for the highest level of commercial development proposed in the Comprehensive Plan. Focused around a major anchor store, this model includes a diversity of other commercial uses that may stand alone or be concentrated in a shopping center complex. The Mixed Commercial Development Model requires limited access from the primary road and includes internal access and connectivity of the different uses. This scale of commercial activity requires ample parking, but should be attractively designed with landscaping, design standards and may include green spaces for athletic events and county-wide recreation. Dark sky lighting and unobtrusive signage is appropriate for all new development. Single family residences are not appropriate, but multifamily units are. The Mixed Commercial Development Model is intended to offer regional shopping and county-wide services to include recreation, a library, or a government center. Mixed Commercial areas are key locations for rural transit stops and park and ride lots.

An example of the desired development pattern for Mixed Commercial is described in the following diagram.

Nelson County Comprehensive Plan

Mixed Commercial Development Model



Mixed Commercial

The highest level of commercial activity permitted. The dominant land use is commercial, but there is also a mix of other uses including professional office, civic or limited public institutions, cultural and residential.

Range of Uses - Predominantly stores, restaurants, gas stations, and automotive services. The area contains an anchor store, smaller commercial spaces, civic uses, professional offices, parks/recreation, and multifamily residential.

Methods of Transportation - Predominantly automobile, but limited walking and bicycling within the site. An automobile is most likely needed to actually reach the site.

Locational Requirements - Dependant upon being near major roads, highway, or interchanges.

Parking Characteristics - Mostly parking lots. There may be some parking structures, on-street parking and driveways.

Growth/Change Potential - Growth potential for higher level of commercial is great, especially in fast growth areas.

Historic Issues - Very low probability of historic structures. Historic sites may be an issue.

Light Industrial Development Model

The Light Industrial Development model combines both industrial uses and an activity center of residences, shops, and amenities that support the nearby industries, all within a walkable, clearly defined area. Water and sewer services are required.

In more intensive industrial uses, it is not desirable for residential or civic uses to be directly next to industry. However, residences, stores, parks, churches, or schools can benefit industry by offering housing and services to the employees. It is helpful to have affordable housing and amenities close to places of employment. Therefore, the Light Industrial Development Model includes a diversity of uses, but separates more intensive industrial uses even though they are close to homes and services. As with the Mixed Commercial Development Model, industrial development should include dark sky lighting and unobtrusive signage. This Model supports a village scale development – an activity center - to be included in the light industrial model. The activity center is buffered from the industrial sites yet are connected by roads and sidewalks or paths. Both the industries and the activity center typically require water and sewer service. For small scale industrial applications, commercial and residential uses may be mixed with industry.

The activity center offers uses in support of industry. Single family and multifamily residences provide a diversity of affordable housing types. Commercial uses include convenience stores, restaurants, a neighborhood scale grocery store, drugstores, banks, and hardware stores. The commercial establishments serve not only the employees of the industries, but the truck drivers who are needed to support the industries and the families who reside in the activity center. Appropriate civic uses include parks, churches, recreation fields, and, over time, a school or branch library.

See the following diagram for an example of the configuration of industrial applications and the activity center.

Nelson County Comprehensive Plan

Light Industrial Development Model



 Residential	 Civic	 Industrial
 Multifamily	 Commercial	

Light Industrial

Multiple industrial sites allowed but separate from commercial, public and residential uses. An adjacent center of activity includes limited commercial, civic, or public spaces, and single family and multifamily residences.

Range of Uses - A variety of industrial, as well as commercial, restaurants, public uses, and single family and multifamily residential.

Methods of Transportation - Predominantly automobile to reach the site. Industries located near activity center so walking is possible. Within activity center, automobile, walking and bicycling. Rural transit and park and ride lots possible.

Locational Requirements - Dependant upon being near major roads, highway, or interchanges.

Parking Characteristics - Parking lots for industrial, on-street parking, parking lots, and driveways within activity center.

Growth/Change Potential - Expanded industrial desirable which may necessitate additional commercial and residential

Historic Issues - Very low probability of historic structures. Historic sites may be an issue.

Land Use Plan for Rural Areas

The majority of Nelson County is rural and the unique character and particular identity of the county is due in large measure to this rural character. While “rural character” is fundamentally difficult to define, it is important to describe the desirable features of rural areas so their key attributes are protected. The following attributes begin to describe rural character:

The farms, orchards, and forested land
The mountains and scenic vistas
The river and stream corridors
The barns, outbuildings, and farmhouses
The historic properties and sites
The scenic roadways passing through rural areas

Even though “rural character” may be hard to define, the land use standards for protecting this rural character are more easily described and follow from the rural attributes listed above. Any development that occurs in rural areas should adhere to the following principles:

Historic sites, including farmhouses, outbuildings and barns should be incorporated into developments
Limit development on critical slopes in order to maintain the balance between slope, soils, geology, and vegetation.
Scenic vistas should be protected by limiting development and through height limits on new buildings
River and stream corridors, especially floodplains and wetlands, should remain undeveloped
To protect rural roadways, development should be well buffered from the road with existing vegetation preserved or vegetative buffer planted, and with limited access points

Five **scenic vistas** have been analyzed for size of viewshed. They are:

Afton Overlook at the Blue Ridge Parkway – 14,784 acres
Route 6 at the county boundary – 7,319 acres
Route 635 at the confluence of Tyler and Perry creeks – 8,905
Hubbard Hill on Route 56 – 13,267
Mountain Top Church on the Blue Ridge Parkway 3,286

Moderate density residential development is more appropriate on the periphery of development areas.

To distinguish between residential development appropriate around designated development areas and rural residential better suited to rural areas, two models are described below:

Rural Residential District – would allow low density residential and compatible non residential uses in rural areas where agriculture is not the predominant use. Clustering of residents further protects rural areas.

Rural and Farming District – would promote agricultural uses and compatible open space uses but discourage large scale residential development and commercial development that would conflict with agricultural uses. The Rural and Farming District would permit small scale industrial and service uses that complement agriculture. Protection of usable farmland should be encouraged. Clustering of any new development in areas of a site without prime or productive soils will enhance the protection of prime or productive soils for future agricultural uses.

Future Land Use Plan

The Future Land Use Plan follows from the five development models described above. The following Future Land Use Map identifies the approximate locations appropriate for each of the development models, and designates the remaining areas of the County as rural residential or rural and farming. In summary, the following development models are recommended for the following areas:

Rural Small Town

Lovington

Rural Village

Schuyler

Shipman

Neighborhood Mixed Use

Nellysford

Mixed Commercial

Lovington, west of Route 29

Route 29 at three specific locations between Lovington and Colleen

Route 29 at three locations south of Colleen to the county line

(Secondary sites which are currently lacking adequate infrastructure)

Light Industrial

Colleen

Route 29 at three specific locations between Lovington and Colleen

Route 29 at three locations south of Colleen to the county line

(Secondary sites which are currently lacking adequate infrastructure)

Arrington (Secondary site currently lacking adequate infrastructure)

Piney River (Secondary site currently lacking adequate infrastructure)

The areas above cited as secondary sites currently lacking adequate infrastructure must be developed only as adequate infrastructure becomes available. Development in these areas may be piecemeal as infrastructure is developed, but should follow the principles of the appropriate development model. Other areas not so designated are primary development areas. Nellysford does not now have water and sewer within the proposed growth area, but its proximity to Stoney Creek, where water and sewer are available and are operating below capacity, combined with the current growth pressures in Nellysford make it a primary site.

The Future Land Use Map also identifies areas appropriate for low density Rural Residential. These sites are adjacent to identified development areas and adjacent to existing institutional (typically schools) or small-scale industrial uses. These areas are not expected to be served by water or sewer and therefore must be developed at a density consistent with groundwater availability and the lot sizes needed to accommodate septic systems.

More specifically, the Future Land Use map identifies future land development areas as follows:

Primary Light Industrial location: Colleen Industrial Park

Secondary Light Industrial location: Piney River

Primary Light Industrial and Mixed Commercial locations: Route 29 at Route 653 (Colleen); Route 29 at Route 655; and Route 29 at the current Food Lion complex.

Secondary Light Industrial and Mixed Commercial locations: Route 29 at Kingswood; Route 29 at the current truck stop and mobile home sales site; and Route 29 at Tye River Road (Route 739).

Finally the Future Land Use Map describes the bulk of the county as Rural and Farming, a designation adhering to the Land Use for Plan Rural areas.

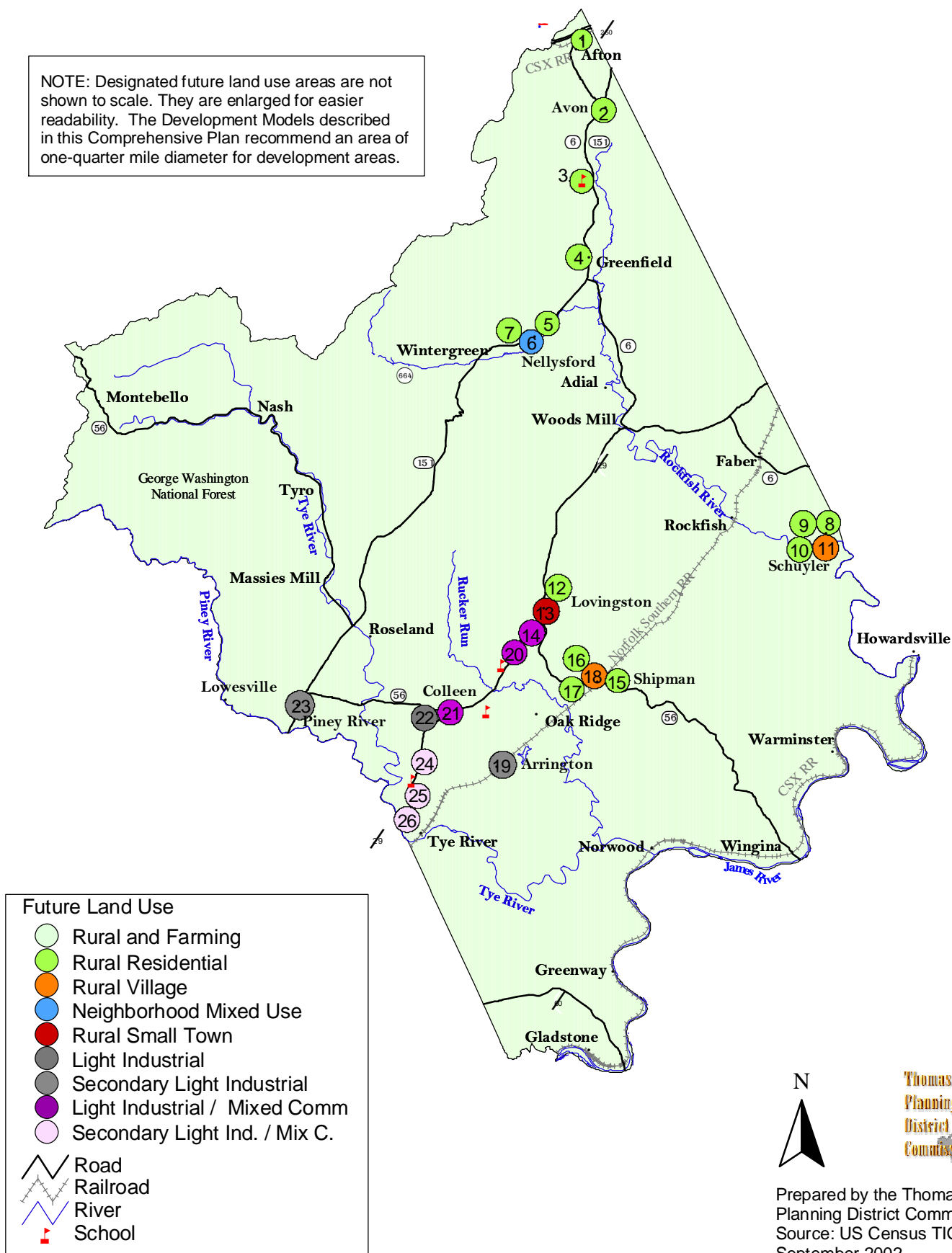
The identification of the more specific locations of development areas on the Future Land Use Map are indicated by the following table whose numbers are coded to the Future Land Use Map.

#	Location	Future Land Use
1	Afton	Rural Residential
2	Avon	Rural Residential
3	Area Around Rockfish School	Rural Residential
4	Greenfield	Rural Residential
5	Stoney Creek	Rural Residential
6	Nellysford	Neighborhood Mixed Use
7	South of Nellysford	Rural Residential
8	Area Around Schuyler	Rural Residential
9	Area Around Schuyler	Rural Residential
10	Area Around Schuyler	Rural Residential
11	Schuyler	Rural Village
12	Area North of Lovington to Route 641	Rural Residential
13	Lovington	Rural Small Town
14	Callohill Area	Light Industrial/Mixed Commercial
15	Area Around Shipman	Rural Residential
16	Area Around Shipman	Rural Residential
17	Area Around Shipman	Rural Residential
18	Shipman	Rural Village
19	Southwest of Arrington on Route 665 (Wilson Hill Road)	Secondary Light Industrial
20	Routes 651 and 29, North of High School	Light Industrial/Mixed Commercial
21	Colleen - Route 655 at Route 29	Light Industrial/Mixed Commercial
22	Industrial Park	Light Industrial
23	Piney River	Secondary Light Industrial
24	Route 29 at Kingswood	Secondary Light Industrial/Mixed Commercial
25	Route 29 at Current Truck Stop	Secondary Light Industrial/Mixed Commercial
26	Route 29 at Tye River Road (Route 739)	Secondary Light Industrial/Mixed Commercial

Nelson County Comprehensive Plan

Future Land Use

NOTE: Designated future land use areas are not shown to scale. They are enlarged for easier readability. The Development Models described in this Comprehensive Plan recommend an area of one-quarter mile diameter for development areas.



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Prepared by the Thomas Jefferson
Planning District Commission
Source: US Census TIGER data
September 2002

Nelson County Comprehensive Plan

Chapter Five - Bicycle and Pedestrian Plan

Introduction

This chapter of the Comprehensive Plan provides information and guidance on development of facilities and other accommodations to enhance safe bicycle and pedestrian travel. It will also satisfy the Virginia Department of Transportation requirement that a roadway be included in an adopted bicycle or pedestrian plan before improvements are made. This proposed bicycle and pedestrian plan is included in the Comprehensive Plan to enable the county to consider support for the plan. Any bicycle or pedestrian facilities would rely on agreement with landowners before such facilities would cross private property.

Existing Conditions

Bicycle

This rural region offers miles and miles of tranquil country roads winding past meadows, orchards, and streams. With gentle rolling hills near the James River and challenging terrain in the Blue Ridge Mountains, Nelson County has something for all skill levels.

The physical terrain, which makes Nelson Country attractive to the recreational bicyclists, also makes bicycle transportation between population centers more difficult. The mountains and the limited number of passes between them have channeled all transportation onto the few possible routes, and these routes have become the primary road system for Nelson County. The primary roads must be used in any bicycle transportation plan because there are generally no alternative routes. The possible exception is part of Route 6 east of Route 29.

The Blue Ridge Parkway is a major bike route along the western edge of Nelson County. Between 56 and 250 it is part of the Bike Centennial Route 76 across the country, which continues down 250, through Afton on 151, and into Albemarle on 750. There are recreational routes (paved and unpaved) that connect with and sometimes overlap the primary and secondary roads used for bicycle transportation. Besides the Parkway routes, the Nelson County Tourism office promotes the Oak Ridge Loop, the Walton's Mountain Museum Loop and the Woodson's Mill Loop on their web site and in brochures. Bed and breakfast inns and bicycle groups have developed other unofficial recreational routes.

None of these routes have been improved for bicycle travel nor have they been officially approved as bicycle routes, with the exception of the BikeCentennial Route 76. This plan is to designate the routes to be part of the planned bicycle routes of the future so that as opportunities arise and funding is available, the routes can be improved to accommodate bicyclists in a safe, economical and efficient manner.

Pedestrian

The size and rural nature of Nelson County make pedestrian travel between population centers a rare occurrence. There are sidewalks in Lovington and Gladstone and trails across private lands, but generally speaking, there is little in the way of public pedestrian infrastructure in the county. When people do walk long distances, they do so along the road or its shoulder. Depending on the speed and occurrence of cars, which varies across the county, conditions range from potentially pleasant to positively dangerous.

Local Plans and Ordinances

Area and Special Plans

The Route 29 Corridor Development Study recommends bicycle lanes along the proposed parkway section between Lovington and Charlottesville and sidewalks or trails in urbanized areas.

Suggested Ordinance and Code Improvements

Consideration should be given to incorporation of this Bicycle and Pedestrian Plan in the county's Zoning and Subdivision ordinances.

Proposed Network and Facilities

Bicycle Plan

The first task in developing a bicycle plan for the county is to identify the highways and routes that are now being used as well as others needed for a comprehensive system of routes to meet transportation and recreation needs. This plan in no way implies that these routes are now safe for bicycling. It does identify the routes that the county would like to be improved in the future to enhance the safety of users, drivers and cyclists, and notifies the Virginia Department of Transportation of the county's intention and desires.

Transportation Routes

Primary Bicycle Routes: Routes 29 and 151 are the primary north-south routes through Nelson County, between Albemarle and Amherst counties, and with minor exceptions, there are no reasonable alternative routes available. These routes must be used to approach the two largest commercial areas of the county: Lovingsston and Nellysford. Through Lovingsston, both Business 29 and the by-pass should be treated for bicycle use.

Routes 6 and 56 are the primary east-west routes through the county connecting the Blue Ridge Parkway to Albemarle, Buckingham and Appomattox counties in the east. A section of Route 6 north of Afton is part of the BikeCentennial Route 76. Because of the large mountains in the middle of the county, Route 6 and 56 are the primary links between the north-south routes of 151 or 29. Route 60 crosses east-west across the southern tip of the county.

Not only are the primary roads necessary for any bicycle transportation between the communities of Colleen, Oak Ridge, Arrington, Lovingsston, Shipman, Wingina, Schuyler, Piney River, Massies Mill, Montebello, Wintergreen, Nellysford, Woods Mill, Avon, and Afton, they are often required for even short trips within the communities because there are no alternative routes. The majority of county public facilities are along these corridors as well.

These roadways should be improved with paved shoulders when reconstructed, according to VDOT policy, to make regular travel possible. Spot improvements should be made at the areas of most concern as soon as possible

Share the Road signs should be installed on Route 6 from 250 to 29, on Route 151 from 250 to Amherst County, on Route 56 from the Blue Ridge Parkway to Buckingham County and on route 250 between the Blue Ridge Parkway and Route 6 (part of the Bike Centennial 76 Route).

Secondary Bicycle Routes: Nelson County's secondary bicycle network roads will allow more residents to access the primary network, as well as improving conditions for recreational riders. This network includes the 750 (BikeCentennial Route 76) in the Afton area, 636 (to Albemarle) and 638 in the Avon area, 635 in the Greenfield area (to Batesville), 634 in the Nellysford area, 664 in the Wintergreen area, 655 connecting Roseland, Colleen and Arrington, 665 in the Arrington area, 739 between Route 29 and Amherst (a possible Route 29 alternate), 622 through Gladstone, 650, 710, 653, and 647 in the Shipman area, 639 between Shipman and Schuyler, and 617, 693 and 800 (to Albemarle) in the Schuyler area. These routes should be treated as transportation corridors and improved accordingly (including pull-outs and climbing lanes) for use at more than a recreational level.

Recreation Routes

The Blue Ridge Parkway runs along the western border of the county, and between 56 and 250 is part of the BikeCentennial Route 76, which descends the mountain on 250, 151 to Afton and 750 into Albemarle. These are nationally known bicycle routes. Nelson Tourism, local bed and breakfast inns and the Nelson Bicycling Alliance also promote recreational rides within Nelson County. These routes tie into and often use both the secondary and primary routes, and provide access to recreational areas. These additional routes would be added to the plan to include the best known and promoted recreational routes: 631 and 840 in the Afton area; 611 crossing Ennis Mountain; 633 (Taylor Creek Rd.); 680, 685(part), 686(on both sides of 56), 687 and 814 in and around the George Washington National Forest; 699, 724, 666, 778, 676, 673 and 672 are used in the Massies Mill, Lowesville and Piney River area; 778 and 675 to Piney River would connect with the Virginia Blue Ridge Rail Trail being built along the Piney and Tye Rivers; at the eastern end of the trail 739, 657, 654, and 655 would connect to the James River, and 657 would connect to Route 60 to access the James near Gladstone; 626 and 647 follow the James River between Gladstone and Norwood; 626 would follow the James to Howardsville and Albemarle County; 722 between Shipman and Schuyler and into Albemarle; 617 along the Rockfish River; 639 between the Rockfish River and Route 6; 651, 718, 766, 624 and 623 in the Lovingsston area and 613, 619, 634, and 776 (part) in the Woods Mill area.

The Virginia Blue Ridge Rail Trail along the Piney and Tye Rivers will eventually connect cyclists from the Blue Ridge Parkway down the mountains to the James River. A proposed Rockfish River Trail will also offer some recreational opportunities for cyclists in Nelson County and would connect 617, one of the most beautiful, paved and level bike routes in the county along the Rockfish River, to Schuyler.

Pedestrian Plan

Intra-Community Facilities

Sidewalks and trails will provide for safe and convenient access to services for residents in existing and future community areas in Nelson County. Lovingsston, Nellysford, Schuyler, Colleen, Shipman, and Arrington, are areas that may benefit from sidewalks, while trails and improved shoulders can service pedestrians in less dense communities. Signs warning about pedestrian activity may be placed at village approaches, but care must be taken to avoid creating clutter or disrupting scenic views. Commercial centers and public facilities should have internal pedestrian circulation systems that provide safe travel from the street to the entryway, especially where vehicular parking areas are large or busy.

Lovingsston: A crossing of Route 29 between Lovingsston's downtown and developments on the west side of highway 29 is necessary for safety, especially with a

large grocery store across the highway. The Route 29 Corridor Development Study recommends an overpass at this location. The existing sidewalk network can be completed by adding walks along Court Street, extending Main Street walks to all services, and possibly reaching down Front St. to 29. Improvements should include removing street sign obstacles and burying utilities. Trees should be planted along all streets to create a pleasant walking environment in Lovington.

Nellysford: Sidewalks should be installed along 151, or connecting to various store walkways in the village center. Walks should be integrated into any new service roads or developments in the village area. Nellysford should have at least one well-marked crossing of 151.

Inter-Community facilities

Paved shoulders along many primary and secondary roads would offer an easier surface for pedestrians traveling between communities in the county. High-speed traffic along these roads will always exist, and pedestrians will not be completely safe as long as they travel in close proximity to automobiles.

Greenway trails should be utilized to connect communities where the opportunity exists. Trails are the most appropriate pedestrian right-of-way in rural settings. They offer safety from automobiles, pleasant views and sounds, and have far fewer environmental impacts than paving roads and laying sidewalks. Nelson County communities are often found in valleys and streambeds, which lend themselves well to trails. Schools, commercial and service districts and residential areas should be linked with trails wherever possible. Cul-de-sacs can be connected with foot trails to create a continuous pedestrian path while restricting automobile traffic.

The Blue Ridge Trail, currently under planning and development, will offer a pedestrian path from Piney River to the Norfolk-Southern rail line east of Highway 29 on an abandoned railroad along scenic river corridors. A similar trail could be developed along the Rockfish River, and James River, creating a diamond of trails encircling the county (when the Appalachian Trail is considered) and connecting most major communities. For descriptions of planned off-road facilities and trails that may connect rural communities, please see the Thomas Jefferson Regional Greenways Plan.

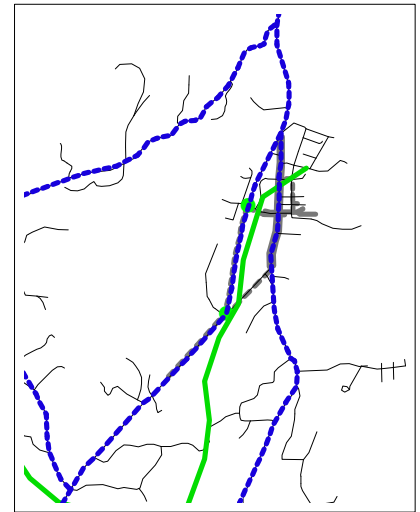
The following map depicts proposed bicycle routes and includes as an insert a pedestrian plan for Lovington.

NOTE: This chapter adapted from the Jefferson Area Bicycle and Pedestrian prepared by the Thomas Jefferson Planning District Commission.

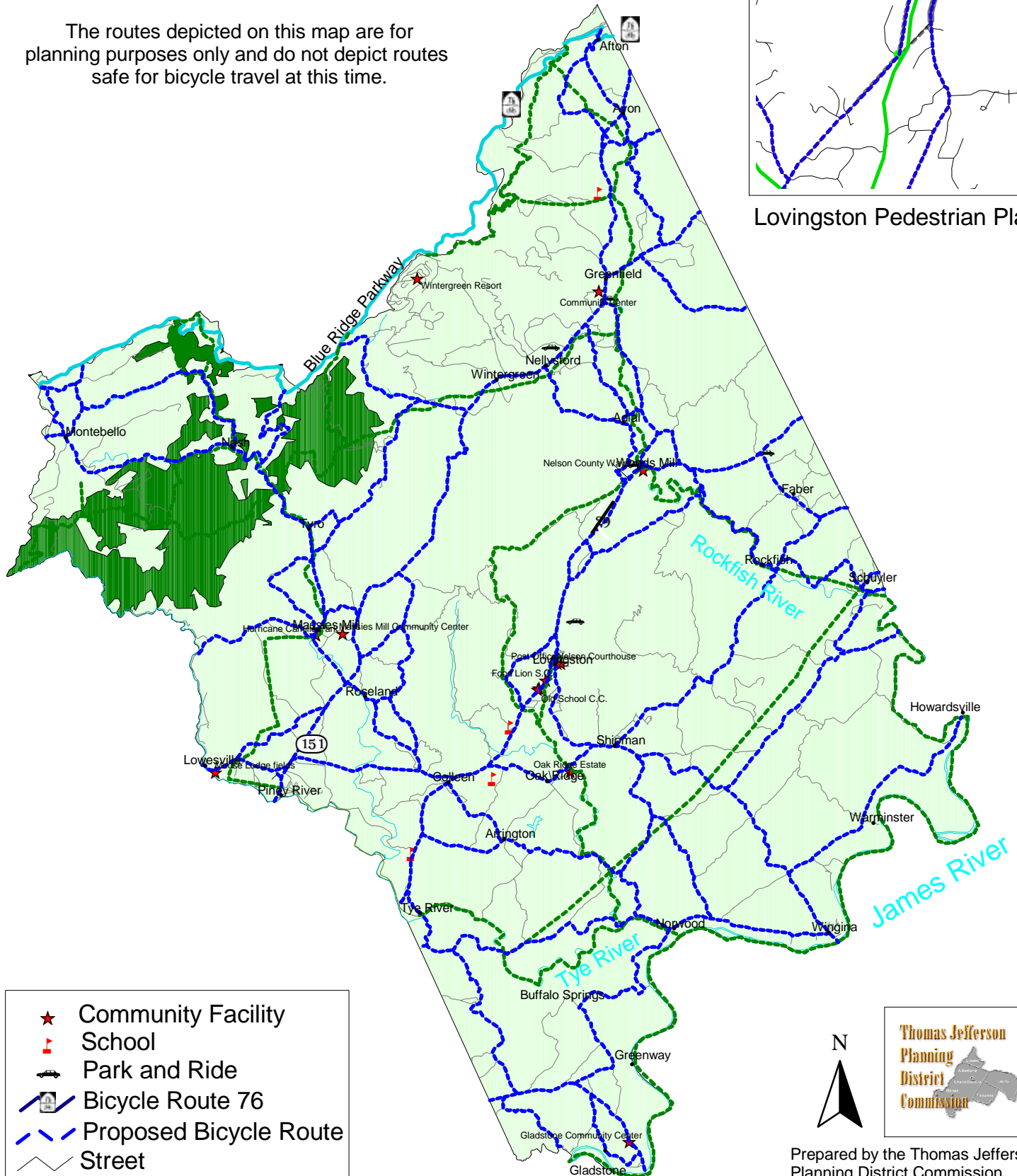
Nelson County 2001 Comprehensive Plan

Bicycle and Pedestrian Plan

The routes depicted on this map are for planning purposes only and do not depict routes safe for bicycle travel at this time.



Lovington Pedestrian Plan



Prepared by the Thomas Jefferson Planning District Commission.
Source: US Census TIGER data, USGS, TJPDC
November 14, 2001

Nelson County Comprehensive Plan

Chapter Six - Greenway Plan

Introduction

The word greenway is perhaps most often used to describe a linear corridor or band of open space. They are often located along or within existing corridors such as stream valleys and riverfronts, utility corridors, abandoned or active rail lines, roadway corridors, ridge lines, and canals. This proposed greenway plan is included in the Comprehensive Plan to enable the county to consider support for the plan. Any greenway facilities would rely on agreement with landowners before such facilities would cross private property.

The proposed greenway network for Nelson County (See following Greenway Corridors map) is designed to capitalize on the county's abundant natural resources, scenic viewsheds, and eco-tourism potential. The conceptual greenway corridors developed for Nelson County uses primarily river corridors, ridgelines, and an overhead transmission line corridor. Unlike the other counties in the region, Nelson County has no gas pipeline corridors. Based on citizen and county input, greenways were developed to meet the following local goals:

For increased recreational and tourism opportunities, provide connections to key destination points and attractions including:

George Washington National Forest, Shenandoah National Park, Blue Ridge Parkway, the Blue Ridge Rail Trail, Lesesne State Forest, and the Appalachian Trail;

Local wineries and orchards;

Historic sites such as Oak Ridge, Walton Mountain's Museum, churches, and historic markers;

Scenic views of the Blue Ridge Mountains, Rockfish River, Tye River, and James River;

Local business such as Bed and Breakfast's, antique stores, etc.

Develop greenways for open space preservation and stream protection.

Provide connections to communities and community facilities in the population centers of Nelson: Routes 6 and 151, Route 29 corridor, Lovingston, and Wintergreen.

Conceptual Greenway Network

The conceptual greenway network developed for Nelson County is summarized below.

James River Corridor

Forming the southern border of the county, the James flows from southwest to northeast, meandering considerably throughout its length. Multiple boat landings make the river accessible at various locations, and in many ways the river is an active blueway. The James is a valuable recreational, scenic, and tourism resource. Canoeing and fishing are especially popular on the River.

To enhance this resource, a greenway is proposed for the entire length of the River in Nelson County. The James River Greenway would connect Nelson to Albemarle County, and would link to the James River Wildlife Management Area located in the southeast section of the county. Significantly, the River would tie Nelson directly to the developing regional Greenway framework.

Rockfish River Corridor

The North and South Forks of the Rockfish River converge near the intersection of Routes 6 and 151; from there, the River continues south to the James River, traversing Route 29 at the Hurricane Camille/Nelson County Wayside at Woods Mill. In addition to its scenic beauty, a portion of the South Fork is a stocked trout stream.

As shown on the Greenway Plan, the River's location adjacent to primary roads offers linkage to key attractions such as wineries, bed and breakfast operations, and schools. The section running east-west along Route 151 is situated within a broad floodplain that holds strong potential for development of a linear greenway with trails. The conceptual greenway would enhance recreational opportunities, connecting to many destinations. In the northeast corner of the county, an abandoned roadbed could potentially be used to connect to the Appalachian Trail.

Tye River/Piney River/Blue Ridge Rail Trail Corridor

The Tye River flows south from the County's northern border to the James River, and is joined in its course by Piney River, which forms a portion of Nelson's western border. Sections of the Tye are home to native trout populations, while another section is stocked. Linking the two rivers, the Blue Ridge Rail Trail is currently being developed on an abandoned rail line as previously described.

As the Rockfish River does in the eastern portion of the County, the greenway system formed by the Tye, the Piney, and the Blue Ridge Rail Trail spans the western edge of Nelson from north to south. Also like the Rockfish, this system provides key connections in addition to recreational opportunities. Crabtree falls, the George Washington National Forest, the Appalachian Trail, orchards, and the James River are key destinations along the greenway.



Montebello Spur

A small greenway spur connecting the Montebello Fish Hatchery to the Appalachian Trail would provide a critical link, and offer an alternate means of accessing the hatchery.

Central County Connector

A series of streams in the center of the county would provide connection from the Nelson County Wayside at Woods Mill to the Tye River near its confluence with the James. Relying primarily on Davis Creek, Dillard Creek, and Rucker Run, this conceptual greenway would link to the Virginia Outdoors Foundation Conservation Easement at Woods Mountain and to Lovingston. The corridor also passes close to Oak Ridge, a historic site in the south-central portion of Nelson.

Hawkins/Findlay Mountain and Utility Corridors


Hawkins Mountain and Findlay Mountain form a narrow linear ridgeline in the southern section of the County, offering potential scenic viewshed opportunities on either side of the ridge. Running parallel to the ridgeline, and extending the corridor to the northeast is a utility easement with overhead transmission lines. By utilizing these features in combination (or as alternates), connection could be made from the Tye River to Walton's Mountain Museum and Schuyler Elementary School on the County's eastern border.


NOTE: This chapter adapted from the Regional Greenway Plan prepared for the Thomas Jefferson Planning District Commission by Vanasse Hangen Brustlin, Inc.

Nelson County Comprehensive Plan


Proposed Greenway Corridors




Proposed Greenway Corridor


River

N




Thomas Jefferson

Planning

District

Commission



Prepared by the Thomas Jefferson Planning District Commission.
 Source: Vanasse, Hangen & Brustlin
 January 2002

Nelson County Comprehensive Plan

Chapter Seven-Plan Implementation

Regulatory Controls and Ordinances

Zoning Ordinance

The Zoning Ordinance is one of the key tools for implementing the Comprehensive Plan. Zoning is the primary land use regulatory tool that divides a locality into specific districts and lists uses permitted in those districts. However, flexibility within the Zoning Ordinance is required to enact the concepts of the Comprehensive Plan. For example, a mix of uses is recommended for all five of the development models and an “all this use or nothing else” approach to permitted uses limits the flexibility of a mixed-use development pattern.

A site plan is a useful tool for applying the development standards addressed in general terms in this Comprehensive Plan to a specific piece of land or to a development proposal generally. This would apply to development that is not subject to the Subdivision Ordinance. The specifics of the standards to be required of a site plan may be spelled out in the Zoning Ordinance.

Formal development criteria may be included to assist decision making with rezoning applications. Some of the factors to consider in development criteria include: a site plan that considers how the new development will fit into the existing community, a review of the impact on public facilities and on the transportation network, parks and recreational facilities, open space, and protection of natural, scenic and historic resources.

Subdivision Ordinance

The regulations in a subdivision ordinance focus on the platting of lots, the layout of streets, the location of common spaces and the building of public improvements associated with the subdividing of land. The Subdivision Ordinance should be coordinated with the Zoning Ordinance. The Subdivision Ordinance may regulate design and standards generally, particularly environmental controls such as the Erosion and Sediment Control Ordinance.

County Zoning Map

The Code of Virginia defines a zoning map as “a map or maps showing the division of the territory into districts and a text setting forth the regulations applying in each district”. The Future Land Use Plan of this Comprehensive Plan sets the general locations and regulations for each of the five development models and for a rural residential district. These areas may be more specifically located on the Zoning Map, with the general guidelines of the Comprehensive Plan stated in regulatory language.

Funding of Public Facilities

Capital Facilities Impacts

Rezoning applications should be evaluated for their potential impacts on public facilities. These impacts include effects on existing transportation network (which can be measured by expected number of vehicle trips generated and the number of alternative transportation measures proposed); effects on schools (number of school children anticipated and impact on school buses and the capacity of the school buildings); impact on water and sewer facilities (gallons of water and sewer usage per dwelling unit or per square foot of usable space).

The zoning ordinance and rezoning application may state what information is required to assess these impacts. A long-range public facilities master plan and a school facilities master plan also are tools to help evaluate the potential impacts of a proposal. The Capital Improvement Program can also be structured around these master plans.

Capital Improvement Program

The Capital Improvements Program (CIP) is a five-year schedule of capital expenditures by the county. Section 15.2-2239 of the Code of Virginia states the enabling legislation language of the CIP. It states that the CIP is to be based on the Comprehensive Plan. In addition to the master plans mentioned above, the local revenues, expenditures, budget of the county provide needed information for development of a Capital Improvement Program.

Proffers

A proffered condition or a proffer generally is a promise or commitment given in writing by a developer to construct certain improvements, to make certain donations, to develop property subject to specified conditions to offset the impacts of the proposed development, and/or to develop the property in accord with the Comprehensive Plan. Proffers may be negotiated between the landowner, the county government, and the affected citizens. The county may encourage, but not require, proffers.

The Code of Virginia at section 15.2-2297 provides the specific legislation guiding proffers. It states, in part, “a zoning ordinance may include and provide for the voluntary proffering in writing, by the owner, of reasonable conditions, prior to a public hearing before the governing body, in addition to the regulations provided for the zoning district or zone by the ordinance, as a part of a rezoning or amendment to a zoning map...” The county may encourage proffers by providing incentives to the landowner. These may include additional density allowances, the use of flexible development techniques of a more marketable type, and flexible design allowances that result in lower development costs.

Nelson County Comprehensive Plan

Appendices

Profile of Nelson County

Population Trends and Characteristics

Economic Data

Education

Transportation

Current Land Use

Findings From Community Forums and Survey of Residents

Code of Virginia on Comprehensive Plans

Growth Management and Planning Implementation Tools

Nelson County Comprehensive Plan

Profile of Nelson County

Population Trends and Characteristics

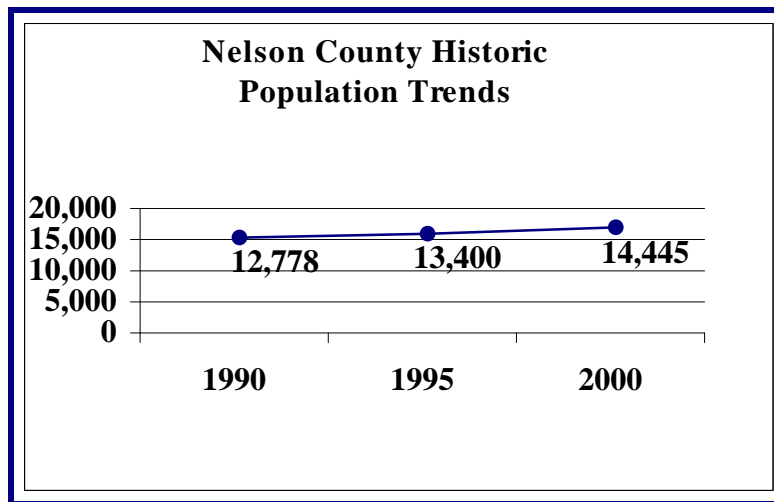
Historical Trends

Nelson County reached its peak population in 1920, with 17,277 residents. From that time through 1970, the county slowly lost population to 11,702 residents in 1970. That trend has reversed since 1970, growing to a county population of 14,445 in 2000. The growth rate from 1990 to 2000, 11.1% shows a significant increase, compared to change from 1970 to 1980 and from 1980 to 1990.

Nelson County Historical Population Trends 1970 - 2000

	1970	1980	% Change 1970-1980	1990	% Change 1980-1990	2000	% Change 1990-2000
Nelson County	11,702	12,204	4.3%	12,778	4.7%	14,445	11.1%

Source: U.S. Census



The dynamics of change within Nelson County shows that this growth has been more dramatic in some portions of the county than others. The U.S. Census measures the population within the county by Magisterial Districts for each decade. This provides an internal look at population trends.

Population Trends by Magisterial District

Magisterial Districts are similar to voter districts, except that Magisterial Districts remain constant from one decade to the next whereas voter districts change each decade when population trends dictate changes in voter districts. The four Magisterial Districts, Lovington, Massies Mill, Rockfish, and Schuyler show very different trends from 1970 to 2000. Rockfish, in particular, has grown steadily since 1970 with 1,820 more residents in 2000 than in 1970. The Schuyler District also has had a steady rise in population. However the Lovington and Massies Mill districts lost population from 1980 to 1990. This trend continued in the Massies Mill District but reversed itself in the Lovington District, having grown by 9.5% from 1990 to 2000.

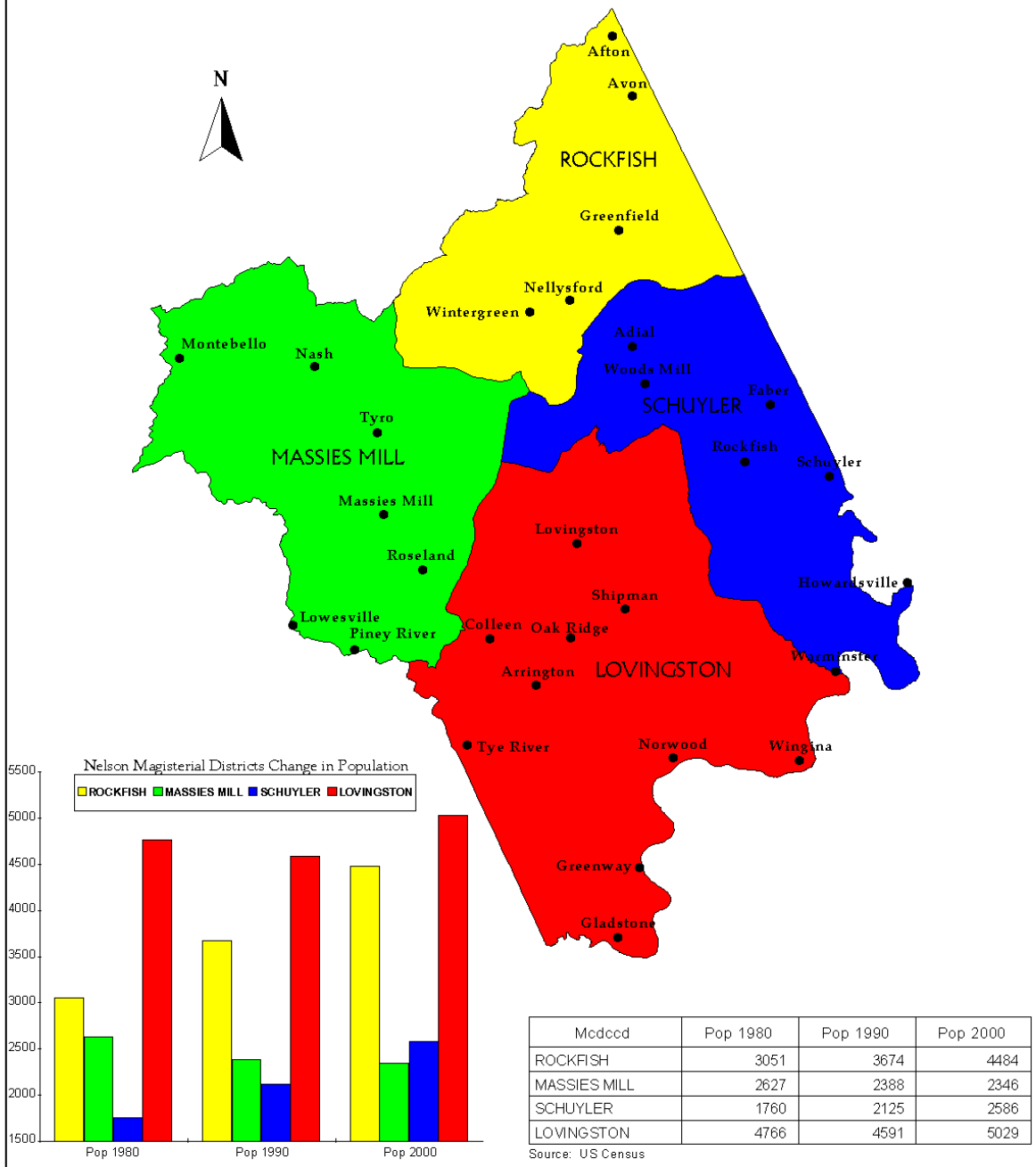
Population by Magisterial District 1970 – 2000

District	1970	1980	1990	% Change 1980-1990	2000	% Change 1990-2000
Lovington	4,590	4,766	4,591	-3.7%	5,029	9.5%
Massies Mill	2,612	2,627	2,388	-9.1%	2,346	-2.0%
Rockfish	2,664	3,051	3,674	20.4%	4,484	22.1%
Schuyler	1,836	1,760	2,125	20.7%	2,586	21.7%

Source: U.S. Census and Thomas Jefferson Planning District Analysis

The accompanying chart shows the boundaries of the magisterial districts and the growth trends within them. These magisterial districts are the four segments of the county for which the U.S. Census Bureau have defined and do not change over time as do voter districts. The benefit, then, of comparing growth rates by magisterial district from decade to decade is to measure the areas of the county with faster and slower growth patterns.

Nelson County Magisterial Districts



Regional Population Trends

Regional growth has an influence on Nelson County. Appomattox and Amherst counties both grew at about the same rate as Nelson, but trends within Nelson County's Magisterial Districts, suggest that Albemarle County's growth pressures also influence Nelson County. The Rockfish and Schuyler districts, which border Albemarle, are the fastest growing districts in Nelson. The Lovingson district, which shares a common border with Amherst County, has grown from 1990 to 2000 at a rate slower than Amherst generally, but undoubtedly is influenced by Amherst's growth.

Regional Population Trends 1990 - 2000

	1990	1995	2000	% Change 1990-2000
Albemarle	68,172	75,900	79,236	16.2%
Appomattox	12,298	-	13,705	11.5%
Amherst	28,578	29,900	31,894	11.6%
Augusta	54,677	59,800	65,614	20.0%
Buckingham	12,873	14,400	15,623	21.4%
Charlottesville	40,475	39,800	45,049*	11.3%
Fluvanna	12,429	15,900	20,047	61.3%
Greene	10,297	12,800	15,244	48.0%
Louisa	20,325	23,100	25,627	26.1%
Lynchburg	66,049	65,800	65,269	-1.2%
Nelson	12,778	13,400	14,445	11.1%

*This figure is uncertain due to unclear counting of University of Virginia students

Source: U.S. Census

Fluvanna and Greene counties, the fastest growing counties in central Virginia are influenced by the urbanization of parts of Albemarle County and by the Charlottesville metropolitan area generally. Growth in Nelson, Buckingham, and Louisa counties may also be due to the influence of the Charlottesville metropolitan area. Charlottesville's population growth may be due to a miscounting of University of Virginia students (giving it an artificially high rate of growth) and may in fact be growing very little. However, Albemarle County is the fastest growing by population, with over 11,000 new residents. The City of Lynchburg is the only community with a declining population.

Population Projections

Because the following population projections were made prior to the release of 2000 Census data, the projections suggest a future growth rate slower than has actually been experienced.

Regional Population Projections

	2000	2010	% Change 2000-2010
Albemarle	79,236	96,502	21.8%
Amherst	31,894	32,898	3.2%
Augusta	65,614	73,800	12.5
Buckingham	15,623	17,001	8.8%
Charlottesville	45,049	39,495	-12.3%
Fluvanna	20,047	26,000	29.7%
Greene	15,244	19,003	24.7%
Louisa	25,627	30,003	17.1%
Lynchburg	65,269	65,300	0.1%
Nelson	14,445	15,501	7.3%

Source: U.S. Census; Virginia Employment Commission

Except for Albemarle County, the growth rates projected for 2010 and based on the 2000 Census data are all lower than the actual 1990 to 2000 trends. If these trends are borne out in reality, then the growth pressures on the Nelson County communities close to the Albemarle County border may become even greater. Based on an analysis of year 2000 population projections made in 1993, the projected growth rates from 1990 to 2000 were much lower overall than the rates calculated from 2000 Census figures.

For Nelson County, a growth of just over 1,000 persons from 2000 to 2010 suggests approximately 337 new families locating in the county by 2010, based on the year 2000 figure of 2.88 persons per family. However, if current trends that suggest growth rates much higher than are projected, then this figure will be very conservative. For example, in 1993, the Virginia Employment Commission projected Nelson's population to be 13,797 in 2000, when by the 2000 Census count, Nelson grew to 14,445 persons, or an additional 648 persons.

Economic Data

Introduction

A strong local economy offers two distinct benefits. First, the local economic base provides goods, services, and employment to county residents without requiring residents to travel outside the county for consumer goods and employment. Second, a strong local economy generates tax revenues that support the public services needed by county residents.

The structure of Nelson's economy includes the types of businesses and industries in the county, the local employment base, commuting patterns, retail sales, and personal income. Related economic indicators include poverty status, local and regional tax rates, and the overall revenue received by the county.

Structure of the Economy

Employment by Industry

As the following table shows, employment has been stable or has grown in most sectors of the economy, except for manufacturing, which has dropped slightly. The biggest rates of growth have occurred in agriculture, wholesale trade, and the service sector. The only two areas showing a loss in employment are manufacturing and finance, insurance, real estate. The rate of growth in both agriculture and wholesale trade is large from 1987 to 1997, but the growth as measured by the increase in the number of employees is rather small in wholesale trade. The greatest number of new employees has been in the service sector, but agriculture is the fifth largest employer in the county.

Employment by Industry 1987-1997

	<u>1987</u>	<u>1997</u>	<u>% Change 1987-1997</u>
TOTAL	2,642	3,323	26%
Agriculture	134	252	88%
Mining	NA	NA	NA
Construction	203	219	8%
Manufacturing	312	288	-8%
Transportation	134	185	38%
Trade -Wholesale	25	43	72%
Trade-Retail	258	295	14%
Finance, Insurance, Real Estate	158	90	-43%
Services	810	1,356	67%
Gov - State	24	30	25%
Gov- Local	495	495	0%
Gov - Federal	48	53	10%
Nonclassifiable	2	0	-100%

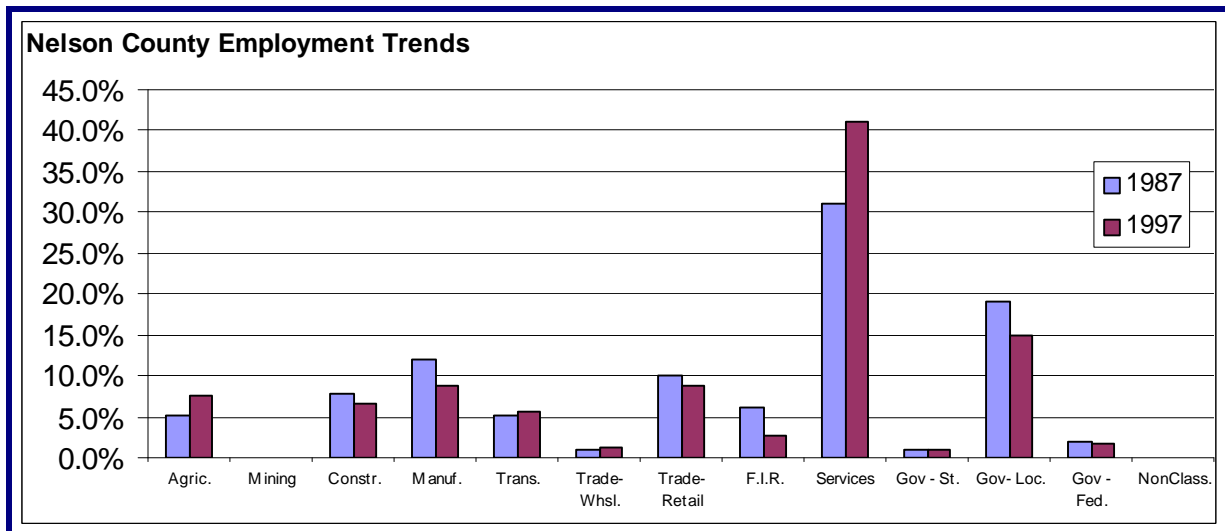
Source: Virginia Employment Commission

As a percentage of the total workforce, the service sector, and local government are the largest employment sectors of the economy. Retail trade, manufacturing, and agriculture are the third, fourth, and fifth largest employers.

Labor Force Employment Trends, 1987-1997

	<u>1987</u>	<u>1997</u>
Agriculture	5.1%	7.6%
Mining	0.0%	0.0%
Construction	7.8%	6.6%
Manufacturing	12.0%	8.7%
Transportation	5.1%	5.6%
Trade -Wholesale	1.0%	1.3%
Trade-Retail	9.9%	8.9%
Finance, Insurance, Real Estate	6.1%	2.7%
Services	31.1%	41.0%
Gov - State	0.9%	0.9%
Gov- Local	19.0%	15.0%
Gov - Federal	1.8%	1.6%
Nonclassifiable	0.1%	0.0%
Total	100.0%	100.0%

Source: Virginia Employment Commission



Tourism

Nelson County and the Nelson County Department of Economic Development and Tourism have successfully marketed and expanded tourism in the county, and the economic benefits of those efforts have had significant benefits to the local economy. As a result, tourism has become a significant force in the local economy. From 1990 to 1999 traveler spending nearly doubled. Travel related employment has increased significantly during this time, as have overall revenues generated from tourism. State

and local travel taxes have expanded over this period, with local travel taxes nearly doubling from 1990 to 1999.

Economic Impacts of Travelers in Nelson County, 1990-1999

	1990	1995	1998	Preliminary 1999
Traveler Spending	\$55,600,000	\$89,580,000	\$105,440,000	\$108,591,809
Travel Payroll	\$11,000,000	\$18,590,000	\$22,070,000	\$23,190,605
Travel Employment	970	1,440	1,530	1,586
State Travel Taxes	\$2,780,000	\$4,540,000	\$5,410,000	\$5,749,283
Local Travel Taxes	\$3,340,000	\$3,920,000	\$6,150,000	\$6,412,662

Source: Virginia Tourism Corporation

Beginning in 1996, the county levied a lodging excise tax (2%) and a food service sales tax (4%). In 1998, the last year for which figures are available, the county collected \$503,386 from these two sources. Lodging sales for the period 1991 to 1999 increased, indicating steady growth in county tourism.

Retail Sales, Excise Tax Collections, and Excise Tax Rates, 1991-1999

	1991	1995	1996	1997	1998	1999
Total State Taxable Sales	\$37,912,035	\$43,919,052	\$45,615,046	\$47,554,524	\$51,834,074	\$57,949,565
State Taxable Lodging Sales	\$13,480,437	\$15,949,349	\$16,750,198	\$16,407,632	\$18,235,882	\$18,062,498
Local Lodging Excise Tax Collected	\$0	\$159,628	\$160,078	\$163,356	\$161,517	
Local Lodging Excise Tax Rate	0.0%	0.0%	2.0%	2.0%	2.0%	2.0%
State Taxable Food Service Sales	\$2,569,272	\$3,011,173	\$2,866,139	\$2,341,291	\$2,593,488	\$2,521,340
Local Food Service Excise Tax Collected.	\$0	\$121,131	\$297,067	\$310,399	\$341,869	
Local Food Service Tax Rate	0.0%	0.0%	4.0%	4.0%	4.0%	4.0%

Source: Virginia Tourism Corporation

Based on a 1999 survey of lodging establishments by the Virginia Tourism Corporation, there were 696 rooms in the county, including 265 at the Wintergreen Resort. These 696 rooms include a diversity of options such as bed and breakfast establishments, campgrounds, cottages and motels.

Local Lodging

	Hotel Motel	Bed & Breakfast	Cabin Cottage	Commercial Campground	Other Campground	Other Lodging	Total
Establishments	5	8	3	4	0	1	21
Share of State	0.4%	1.7%	2.1%	1.7%	0.0%	2.4%	0.9%
Rooms	215	48	13	135	0	285	696
Share of State	0.2%	2.2%	1.0%	0.5%	0.0%	9.9%	0.5%

Source: Virginia Tourism Corporation

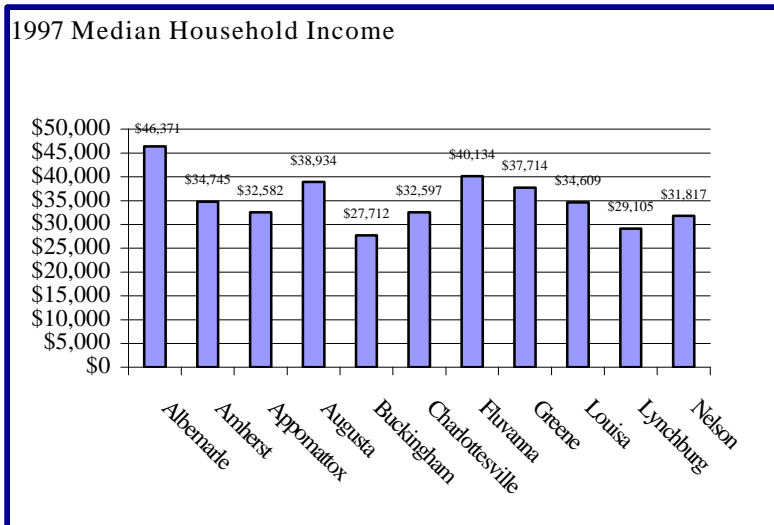
Income and Occupations

In 1997, the most current year available, Nelson County's median household income was \$31,817. This figure is slightly below most of the nearby localities, except for Buckingham County and the City of Lynchburg.

Median Household Income 1997

	<u>1997</u>
Albemarle	\$46,371
Amherst	\$34,745
Appomattox	\$32,582
Augusta	\$38,934
Buckingham	\$27,712
Charlottesville	\$32,597
Fluvanna	\$40,134
Greene	\$37,714
Louisa	\$34,609
Lynchburg	\$29,105
Nelson	\$31,817

Source: U.S. Census



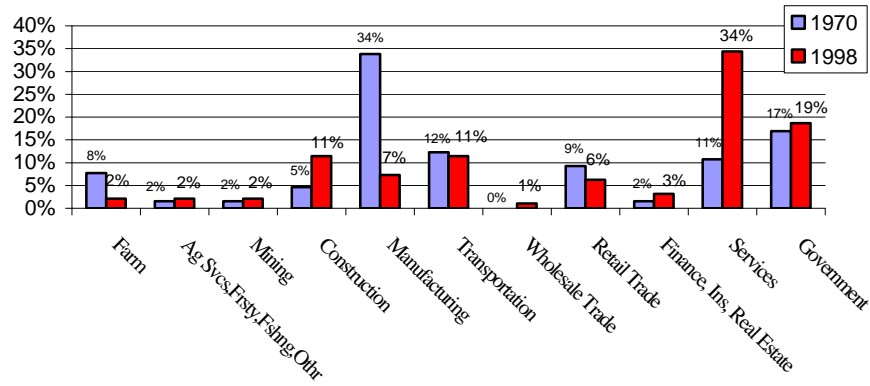
The following table identifies the types of business and industry from which Nelson residents earn their incomes. The table compares 1970 with 1998, the most recent year for which data are available. While farm employment has risen recently, the earnings in 1998 are appreciably less than in 1970. However, agricultural services, forestry and fishing earnings are up from 1970. Construction and services have increased since 1970

Earnings by Industry 1970 and 1998

	1970	1970	1998	1998
Earnings by Industry	Total (Millions)	%	Total (Millions)	%
Farm	5	7.7%	2	2.1%
Ag Services, Forestry, Fishing, Other	1	1.5%	2	2.1%
Forestry	0	0.0%	0	0.0%
Mining	1	1.5%	2	2.1%
Construction	3	4.6%	11	11.5%
Manufacturing	22	33.8%	7	7.3%
Transportation	8	12.3%	11	11.5%
Wholesale Trade	0	0.0%	1	1.0%
Retail Trade	6	9.2%	6	6.3%
Finance, Ins, Real Estate	1	1.5%	3	3.1%
Services	7	10.8%	33	34.4%
Federal Civilian	2	3.1%	2	2.1%
Military	0	0.0%	1	1.0%
State and Local	9	13.8%	15	15.6%
Totals	65	100.0%	96	100.0%

Source: Virginia Employment Commission and U.S. Census

Nelson County Personal Income by Industry 1970 and 1998



Commuting Patterns

Year 2000 commuting patterns remain unavailable from the U.S. Census, so the most recent commuting patterns available are from 1990. At that time, there were 2,594 persons who both lived and worked in Nelson County. An additional 3,136 residents commuted outside the county for work. There were 1,326 persons residing outside of Nelson who came into the county for employment. Of the 3,136 residents who out commute, 1,826, or 58%, commute to either Albemarle County or the city of Charlottesville. The third largest out commuting locality is Amherst County, followed by Augusta County. Of those workers who come into the county for employment, the most come from Amherst County, followed by Albemarle County.

Nelson County Commuting Patterns 1990

People who live and work in Nelson County:	2,594
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Out Commuters to:	
Albemarle County	1,108
City of Charlottesville	718
Amherst County	375
Augusta County	256
City of Lynchburg	184
Appomatox County	76
Campbell County	56
City of Waynesboro	49
Fairfax County	25
City of Staunton	21
Rockbridge County	19
Work Elsewhere	249
Total Out Commuters	3,136

In Commuters from:	
Amherst County	309
Albemarle County	201
City of Waynesboro	153
Augusta County	150
District of Columbia	74
Buckingham County	36
Prince Georges County, MD	32
Campbell County	23
Rockingham County	23
City of Charlottesville	23
Roanoke County	22
Reside Elsewhere	280

Total In Commuters	1,326
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Source: 1990 U.S. Census

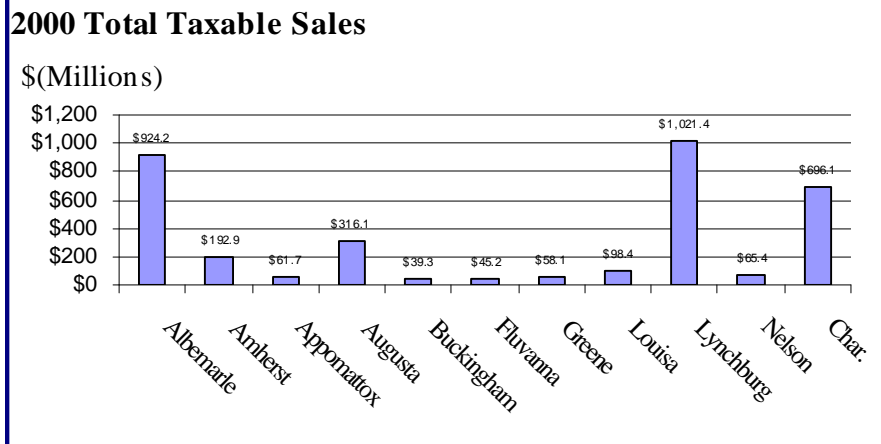
Retail Sales

In 2000, the Virginia Department of Taxation recorded \$65,447,354 in taxable sales within Nelson County.

Taxable Sales 2000

	2000 Total
Albemarle	\$924,186,726
Amherst	\$192,882,188
Appomattox	\$61,719,187
Augusta	\$316,148,552
Buckingham	\$39,301,591
Fluvanna	\$45,160,741
Greene	\$58,109,412
Louisa	\$98,418,328
Lynchburg	\$1,021,366,506
Nelson	\$65,447,354
Charlottesville	\$696,083,743

Source: Virginia Department of Taxation



An informative method of analyzing taxable sales is by comparing the total taxable sales to the county population. This yields a per capita taxable sales figure. Because many non-residents purchase goods in Nelson County, the per capita figure does not reflect the average amount spent in the county by Nelson residents. It does show the regional influence of the county's sales when compared to neighboring localities. As the following table and graph show, a comparison of total taxable sales with population reveals that the City of Lynchburg, the City of Charlottesville, and Albemarle County

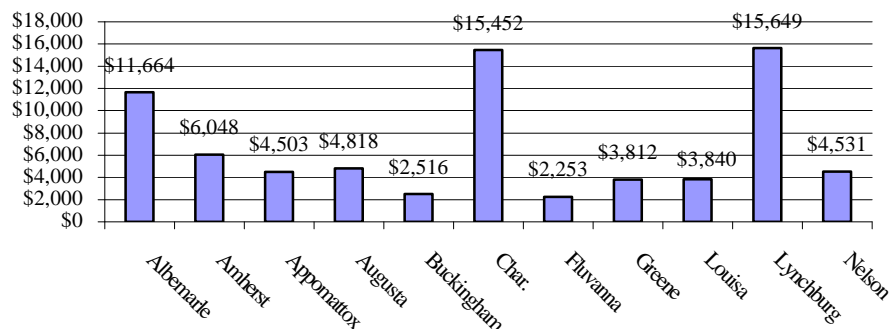
have the highest per capita taxable sales. This is due to their being retail hubs for the region and many people, including many non-residents shop in these localities. Nelson County, at a per capita figure of \$4,531, compares favorably to Augusta and Appomattox counties, and fares better than many rural counties, except for Amherst County, which is due in large measure to its location as a part of the Lynchburg a retail market.

Per Capita Taxable Sales 2000

	Per Capita Taxable Sales	2000 Population
Albemarle	\$11,664	79,236
Amherst	\$6,048	31,894
Appomattox	\$4,503	13,705
Augusta	\$4,818	65,614
Buckingham	\$2,516	15,623
Char.	\$15,452	45,049
Fluvanna	\$2,253	20,047
Greene	\$3,812	15,244
Louisa	\$3,840	25,627
Lynchburg	\$15,649	65,269
Nelson	\$4,531	14,445

Source: Virginia Department of Taxation and U.S. Census

2000 Per Capita Taxable Sales



Other Economic Indicators

Poverty Status

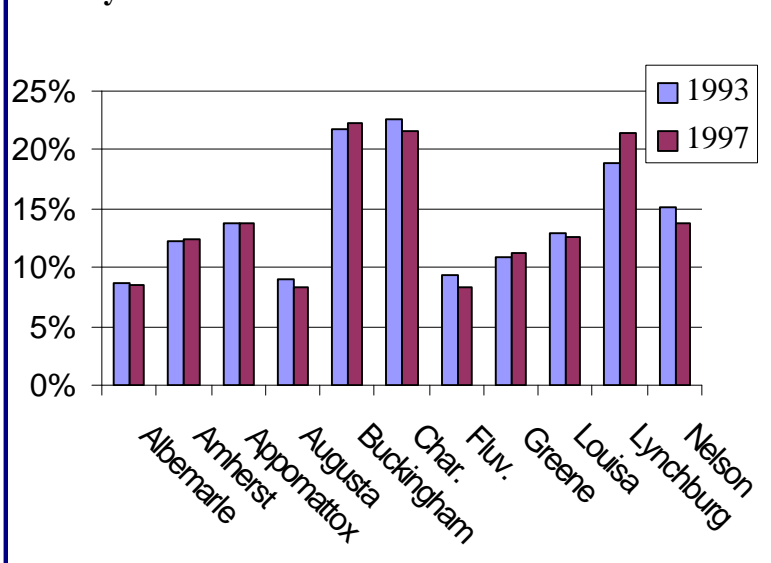
Poverty remains a problem among Nelson's residents, with almost 14% of all persons living in poverty in 1997. This is lower than the 1993 figure of 15.2% (which is identical to the 1990 poverty rate), so the incidence of poverty is declining. Within the greater region, Charlottesville and Lynchburg have the highest poverty rates and the lowest rates are in Fluvanna, Augusta, and Albemarle.

People of All Ages in Poverty 1993 and 1997

	1993		1997	
	%	#	%	#
Albemarle	8.6%	5,786	8.5%	6,238
Amherst	12.2%	3,472	12.5%	3,579
Appomattox	13.7%	1,751	13.7%	1,820
Augusta	9.0%	5,237	8.4%	5,062
Buckingham	21.8%	2,673	22.3%	2,871
Charlottesville	22.7%	8,779	21.6%	7,714
Fluvanna	9.3%	1,448	8.3%	1,577
Greene	10.8%	1,385	11.2%	1,607
Louisa	12.9%	2,912	12.6%	3,127
Lynchburg	18.9%	11,710	21.4%	12,862
Nelson	15.2%	2,046	13.7%	1,925

Source U.S. Census Bureau

Poverty Rate- 1993 and 1997



Unemployment

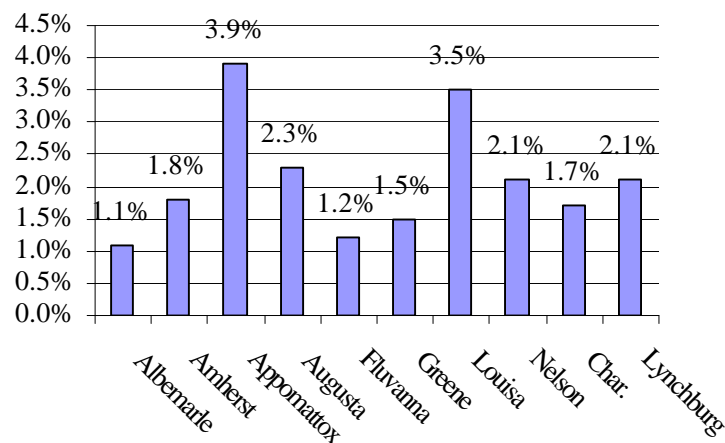
In 1999, Nelson County had an unemployment rate of 2.1%. While not the lowest rate in the greater region, it is overall a low unemployment rate.

Unemployment Rate 1999

Albemarle	1.1%
Amherst	1.8%
Appomattox	3.9%
Augusta	2.3%
Fluvanna	1.2%
Greene	1.5%
Louisa	3.5%
Nelson	2.1%
Charlottesville	1.7%
Lynchburg	2.1%

Source: Virginia Employment Commission

1999 Unemployment Rate



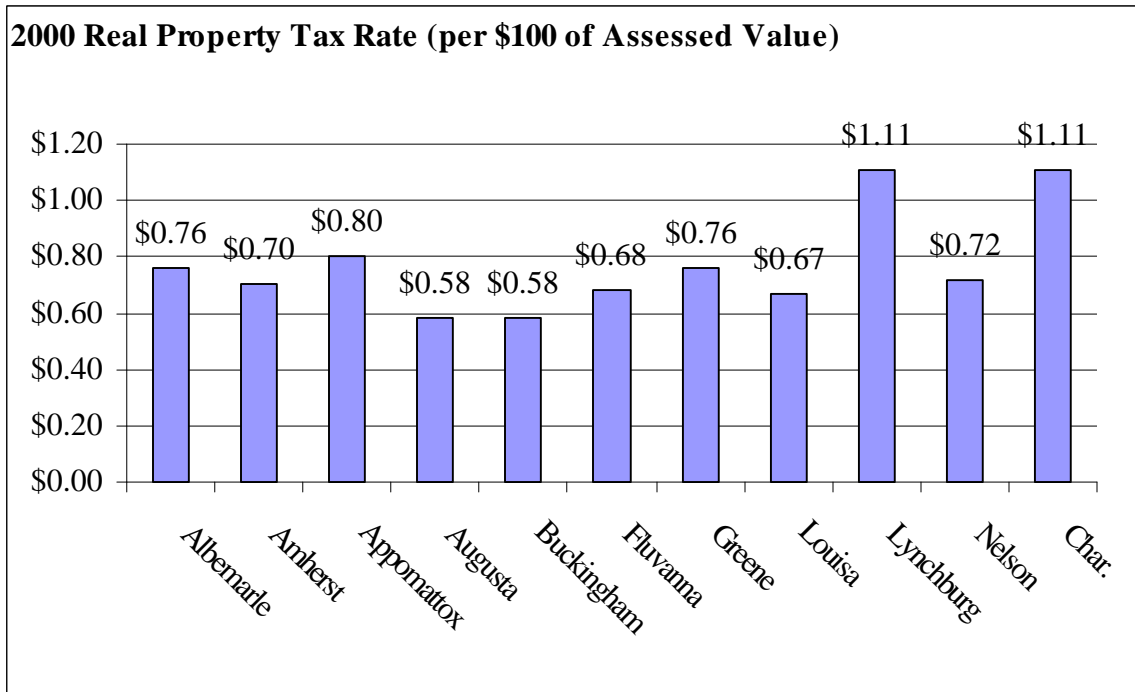
Tax Rates

At \$0.72 per \$100 of assessed value, Nelson County's real property tax rate is similar to most rural localities in the greater region. As is typical, the cities of Charlottesville and Lynchburg have the highest rates. Additional taxes levied by the county include personal property tax at \$2.95 per \$100 of assessed value, machinery and tool tax at \$1.25 per \$100 of assessed value, a business license at a flat rate of \$30, and a 2% lodging tax and a 4% food and beverage tax.

2000 Real Property Tax Rate Per \$100 of Assessed Value

Albemarle	0.76
Amherst	0.70
Appomattox	0.80
Augusta	0.58
Buckingham	0.58
Fluvanna	0.68
Greene	0.76
Louisa	0.67
Lynchburg	1.11
Nelson	0.72
Charlottesville	1.11

Source: Virginia Department of Taxation



County Revenue

The following chart identifies the revenue sources for the 2000-01 fiscal year.

Revenue Sources FY 00-01	
General Property Taxes	\$10,810,916
Other Local Taxes	2,270,020
Permits, Fees and Licenses	169,750
Fines and Forfeitures	25,000
Interest and Rentals	215,680
Expenditure Refunds	65,000
Miscellaneous	49,500
Recovered Costs	71,721
Non-categorical State Aid	334,057
Categorical State Aid	2,300,925
Payment in Lieu of Taxes (federal)	12,923
Categorical Aid (federal)	35,445
Year Ending Balance	3,962,24
Total Available Revenue	\$20,448,528

Source: Nelson County

Education

For the 2000-2001 school year, Nelson County schools had a total enrollment of 2,022 students. Projections for the following four school years predict a modest growth rate, reaching 2,102 students for the 2004-2005 school year.

Nelson County School Population Projections

2000-01 School Year	2,002
2001-02 School Year	2,040
2002-03 School Year	2,049
2003-04 School Year	2,076
2004-05 School Year	2,102

Source: Weldon Cooper Center for Public Service

For the 1999-00 school year, the Nelson County school system graduated 156 students for a 95.1% graduation rate. The following table details the types of diplomas the graduates received, and compares Nelson County to the greater region.

High School Graduates 1999-00 School Year

	Advanced Studies Diploma	Certificate of Program Completion	Standard Diploma	GED Certificate	ISAEP* Certificate	Special Diploma	Total Grad.	% Grad.
Albemarle	427	4	266	6	0	20	723	96.0%
Amherst	175	5	124	12	0	0	316	98.4%
Appomattox	89	5	52	0	0	1	147	94.2%
Augusta	339	3	362	0	0	41	745	96.4%
Buckingham	30	7	59	3	0	0	99	99.0%
Charlottesville	131	4	80	0	0	9	224	91.4%
Fluvanna	99	0	59	1	0	8	167	87.4%
Greene	52	0	84	1	8	7	152	93.8%
Louisa	118	5	91	0	0	7	221	89.5%
Lynchburg	324	2	204	0	1	16	547	91.3%
Nelson	73	3	80	0	0	0	156	95.1%

* GED Certificate as a part of the Individual Alternative Education Plan (ISAEP)

Source: Virginia Department of Education

Nelson County schools have maintained a drop out rate below 3%, which is favorable rate when compared to school systems throughout the greater region. For the 1998-99 school year, only Albemarle County and the City of Charlottesville had a more favorable rate.

Drop Out Rates 1996-97 - 1998-99

	1996/97	1997/98	1998/99
Albemarle	2.1%	2.9%	1.7%
Amherst	2.2%	2.7%	2.8%
Appomattox	3.9%	3.8%	3.6%
Augusta	2.0%	1.9%	2.2%
Buckingham	4.7%	4.4%	3.8%
Charlottesville	2.2%	2.4%	1.9%
Fluvanna	3.3%	3.5%	3.0%
Greene	6.2%	4.7%	4.6%
Louisa	4.4%	4.4%	5.5%
Lynchburg	2.7%	7.8%	3.8%
Nelson	2.8%	2.4%	2.1%

Source: Virginia Department of Education

Housing

The U.S. Census for 2000 only provides a limited amount of housing information at present. The Census identifies 5,887 occupied housing units in the county of which 4,759 or 80.8% are owner occupied. The remaining 1,128 units, or 19.2% are renter occupied. The 1990 Census identified 4,807 occupied housing units of which 3,803 were owner occupied (79%) and 1,004 were renter occupied (21%). From 1990 to 2000 then, Nelson County grew by an additional 1,007 housing units.

One of the key statistics for measuring substandard housing is the number of homes lacking complete plumbing. In 1990, Nelson County had 680 units lacking complete plumbing, or 9.6% of the total identified. This was the highest incidence of substandard housing in the greater region.

Housing Units Lacking Complete Plumbing 1990

	<u>Complete</u>	<u>Lacking</u>	
	<u>Plumbing</u>	<u>Complete Plumbing.</u>	<u>Percent</u>
Albemarle	25,457	501	1.9%
Amherst	10,195	403	3.8%
Appomattox	4,757	156	3.2%
Augusta	20,489	713	3.4%
Buckingham	4,583	430	8.6%
Charlottesville	16,745	40	0.2%
Fluvanna	4,868	167	3.3%
Greene	3,942	212	5.1%
Louisa	8,366	714	7.9%
Lynchburg	27,155	78	0.3%
Nelson	6,383	680	9.6%

Source: 1990 U.S. Census

Transportation

Roads and Highways

There are approximately 109 miles of primary roads in the County, 467 miles of secondary roads, of which 234 miles are unpaved. A small segment of Interstate Route 64 is located in the far northwest corner of the County, but there are no exits from Interstate 64 into Nelson County. The closest exits are on Route 250 at the Blue Ridge Parkway to the west of Nelson County and at Crozet in Albemarle County, both of which are convenient to Nelson County.. In addition to Routes 151 and 6, primary routes in the County include Route 29, Route 56 and Route 60. As a highway of national significance, Route 29 is receiving considerable planning, but it is Route 151 that is experiencing the greatest stress. Nelson County citizens and officials are particularly concerned with the through truck traffic using these corridors. There are currently no traffic control signals in Nelson County.

Nelson County roads are managed by the Lynchburg District Office of VDOT. This Program identifies projects for Nelson County, all of which are in the rural transportation planning study area.

Railroad Lines

The Norfolk Southern Rail Line runs through Nelson County in a north-south direction east of Route 29 near the Tye River in the southern portion of the County to the village of Faber in the northern portion of the County. A siding on this rail line is used to serve the Nelson County landfill, located on Route 748 in the southern portion of the County. Then new passenger rail service, the TransDominion Express will serve the region, with a stop proposed for the Oak Ridge Estate.

Bicycle and Pedestrian Routes

Formal bicycle and pedestrian facilities in the County include sidewalks in Lovingson and Gladstone and the Appalachian Trail in the mountains. Bicycle Route 76, the TransAmerica Trail, travels through the County on the Blue Ridge Parkway and some local roads, but this is a designated route only, facilities for safe travel have not been added. The regional bicycle and pedestrian plan has been adopted by the Jefferson Area Bicycling and Walking Advisory Committee, which includes representation from Nelson County. The County is working in cooperation with Amherst County to establish a rails-to-trails route along 7 miles of the abandoned Virginia Blue Ridge Railway line from the community of Piney River to the community of Tye River. This project should be open for bicycles and pedestrians within a few years, and is the first phase of a vision to create a trail that connects the Blue Ridge Parkway and the James River.

Transit

JAUNT serves the County along Route 29 and along Route 56 with service to Charlottesville. The two JAUNT routes originate in Piney River and Lovington. JAUNT also operates an employment route to the Wintergreen Resort. Intra-county service is available two days a week. Commuter service to Lynchburg is in the planning stages.

RideShare Program

In Nelson County, RideShare commuters originate in Afton, Arrington, Faber, and Wintergreen, as well as scattered sites throughout the County.

Park and Ride Lots

A formal park and ride facility is located in Lovington and an informal park and ride lot exists on Route 29 at its intersection with the northern segment of Route 6, the road to Schuyler and Scottsville.

Airports

There are no commercial airports in Nelson County, but service can be found in Charlottesville and Lynchburg, as well as small operations in nearby counties.

Other modes of travel

Many people who live in and visit Nelson County enjoy riding horses, all-terrain vehicles, skis, and canoes for recreational purposes. While these modes are almost certainly not used for commuting or regular travel, they intersect with more standard modes of travel in many places.

Studies underway

Route 29 Corridor Development Study (Phases II/III). VDOT's study identifies existing and future transportation issues and concerns along the Route 29 corridor. Through a series of public workshops a list of improvement alternatives was developed. These alternatives include a no-build alternative, enhancements to other modes (Amtrak Service), and the upgrading of the existing road conditions. Additional alternatives included the conversion of Route 29 into a Parkway, which would increase shoulder width and restrict access to intersecting public roadways, and the conversion of Route 29 to meet freeway standards. A decision on which alternative to adopt has not been agreed upon at this point.

Route 151 Corridor Study. At Nelson County's request, VDOT has prepared a draft Route 151 Corridor Study. The Study area includes Route 151 from its intersection with Route 250 in Albemarle County to Route 664, and includes Route 6 through Afton and Route 6 from Route 151 to Route 29. The Study reviewed accident statistics, traffic

counts, and highway capacity. Short range recommendations include adding turn lanes at the intersections of 1) Routes 6 and 151; 2) Routes 6/151 and 635S; 3) Routes 6/151 and 635N; 4) Routes 6/151 and 709S. Additional short range recommendations include improving sight distance at the intersection of Route 6/151 and Route 840, and lowering the grade at the intersection of Routes 151 and 613. Future conditions were also examined and potential long-range recommendations include 1) traffic signal when warranted at Routes 6 and 29; 2) northbound left turn lane on Route 151 at Route 250 and a signal when warranted; 3) left turn lane on Route 638 at Route 6/151; 4 and 5) improve 2 lane roadway on Route 151 from Route 6 North to Route 6 South and from its intersection with Route 6 South to Route 634, including paved shoulders marked as bicycle lanes and 4 lanes when warranted.

Environment

Geology

The general landscape of Nelson county is the ridgeline of the Blue Ridge mountains forming the northwestern border, and land generally dropping off in to rolling hills and some flat space near the James River, which forms the southeastern border of the county. There are peaks as high as 4,000 feet, and the James is at approximately 300 feet above sea level. Much of County sits between 1000 and 3,000 feet above sea level. Steep slopes (in excess of 15%) dominate the central and northwestern portions of Nelson County.

Soils

Due to the varied landscapes of the County, soils differ depending on location. Most good farming soil (for crops) is located in the James River and other river floodplains and valleys. These soils are also generally well-suited for septic fields. As the slope of the land rises, the amount of soil decreases, and its usefulness for agriculture or residences diminishes. However, Nelson County's agriculture, particularly orchards and vineyards, have made productive use of local soils.

Land Cover

Forests occupy the majority of the landscape, compared with non-forested land. Dominant tree species include oak, hickory, elm, beech, and a variety of pines. Open space is generally around residential or agricultural centers and road, rail, or river corridors.

Ground water

The water table is generally 50 feet below the surface of soil and weathered rock. Groundwater occurs at random depths and locations since much of it is located in cracks and fissures in rocks. Many wells that are drilled are abandoned due to low volume, and most wells in the County yield less than 10 gallons per minute. Springs large enough for water supply are not common in the County. Contamination is possible, but proper well location and construction can minimize this risk.

Surface Water

The Rockfish and Tye rivers drain the county into the James River. The Piney and Buffalo Rivers are large stems feeding into other rivers in the County. These rivers carry good amounts of drinkable water in periods of normal rainfall, but would require retention basins to provide consistent water supply.

Wildlife

Deer, turkey, fowl, bear, cats, rodents, and fish (stocked and natural) make up the large majority of wildlife in Nelson County. Both hunting/fishing and wildlife viewing are popular activities.

Minerals

The hills and mountains are comprised of mostly igneous (volcanic) and metamorphic rocks, with sedimentary rocks near the James and other river valleys. Soapstone is available at Schuyler, feldspar and aplite for glass making and titanium elements for paints exist near Piney River, and sand in the Buffalo River is used for concrete. Other minerals available in large quantities include quartzite, iron ore, copper, kaolin.

Pollution Potential

The titanium paint factory near Piney River is a superfund cleanup sight, with groundwater extraction and treatment on-going. Multiple old farms and industrial sites have the potential to pollute groundwater due to improper storage and disposal of chemicals and metals. Air pollution emissions due to industry in the County are low.

Land Use

Area

468 square miles, 303,590 acres

Structures

Most structures in the County are along valley bottoms and in flat areas. This means steep terrain is less developed; it may have agriculture and related structures on it, but few homes. One problem with this pattern of development is potential for flood damage, which was made evident by Hurricane Camille in 1969. The small town of Lovingsston and the villages of Afton, Schuyler, Shipman, Arrington, Colleen, Roseland, Massies Mill, Piney River and Montebello have higher concentrations of buildings, which has been the dominant settlement pattern throughout Nelson's history. The county seat of Lovingsston is centrally located, and the other communities are scattered such that one is never more than a few miles from a country store.

The number of buildings that follow the Route 151 corridor from the Albemarle County line to and including Route 664 show new growth not characteristic of the county's earlier settlement patterns. This is confirmed by 2000 Census data which show the Rockfish District with 4,484 residents, compared to 3,674 in 1990 and 3,051 in 1980. This is a growth rate of 20% from 1980 to 1990 and a 22% growth rate from 1990 to 2000. No other district's population has grown as much, but the Schuyler District has grown steadily reaching a population of 2,585 in 2000, with a 21% increase from 1980 to 1990 and a 22% increase from 1990 to 2000. The Lovingsston District, the largest in population, lost population from 1980 to 1990 but grew from 4,591 in 1990 to 5,029 residents in 2000, for a 10% growth rate.

Public Lands

State and federal properties in the County include the George Washington National Forest in the northwest, which includes the Priest and Three Ridges Wilderness area. Activity and land use on these lands are dictated by federal policies and regulations. The National Forest (19,411 total acres) is managed as an agricultural resource, and the Wilderness area (approximately 11,000 of those acres) is treated as a park. The Blue Ridge Parkway runs along the spine of the Blue Ridge Mountains at the Nelson County border. The right of way and overlooks for this roadway are also federal property, and are managed as parkland?*. Lesesne State Forest (acres) is immediately adjacent to the National Forest, but is managed by the Department of Forestry as a recovery operation for blighted Chestnut species. The James River Wildlife Management Area (1,213 acres) in the southeast, managed by the Department of Game and Inland Fisheries, is used for hunting, fishing, boating and camping. The state also maintains a fish hatchery on the Tye River near Montebello. Nelson County owned lands include small parcels.

Farms

Agricultural land uses differ across the county. In the lower, flatter lands in the southeast and along the James River, crop farming and forestry are common, as is livestock grazing. In the north and west along the mountain foothills, apple and peach orchards and wineries are common. Small family farms with multiple agricultural operations are spread throughout the county.

Land in Agriculture (Acres)

	1987	1992
Total Number of farms	365	358
Total Amount of land	78,246	76,681
Cropped farms: #/acres	293 / 14,229	270 / 12,947
Cattle farms: #/acres	286 / 12,522	267 / 14,056
Orchards: #/acres	36 / 1,535	31 / 1,421
Vinyards #/acres/pounds	6 / 26 / N-A	10 / 63 / 262,000

Forests

The majority of forestry land in the county is privately controlled, the remainder being state, federal or local government owned. Softwood pines are harvested for pulpwood. A few sawmills process hardwoods for commercial uses. The amount of land in forest is growing slowly, especially as many farms abandoned in the past have become overgrown or converted into forest.

Acres of Land in Forest

	1986	1991/92
Forested	223,672	233,316
Non-Forested	79,918	70,274

Nelson County Comprehensive Plan

Community Forums and County Survey of Residents

Introduction

In order to gain county-wide information as preparation for developing this Comprehensive Plan, Nelson County conducted four community forums and mailed a survey questionnaire to all residents of the county. The Planning Commission initiated and hosted the four community forums, which were held during June of 1999 in Massies Mill, Arrington, Faber and the Rockfish Valley. The mail survey was conducted during May and June of 1999.

Community Forums

The four community forums resulted in a vision statement and a series of goals and objectives that are summarized below:

NELSON COUNTY VISION STATEMENT FROM COMMUNITY FORUMS

The natural beauty, scenic vistas, and environment of Nelson County are treasured resources. Nelson County is committed to preserving the unique aspects of the county to maintain its rural nature and character. Future generations should be able to see the blue sky and mountains as we do today. To do so, the county will enact and implement a Comprehensive Plan that sets forth a growth management program and standards to preserve and improve the quality of the county's environmental resources. The plan will identify areas suitable for development, conservation, and preservation.

Zoning and Subdivision Ordinances, enacted in a timely fashion, will implement the vision, goals, and objectives of the Comprehensive Plan. Tools such as conservation planning, agricultural/forestal districts, sliding scale zoning, dark skies ordinances, identified growth centers or villages, and clustered development will be used to protect agricultural land, scenic areas, and green space. Scenic vistas will be protected for future generations to enjoy through the zoning and site plan ordinances.

Roads will provide a safe travel-way for vehicles through on-going maintenance, limited curb cuts, limited strip development, and appropriate routing for through truck traffic.

Recognizing a commitment to future generations, the County will support the educational system to insure a quality education is available to learners of all ages.

Nelson County will seek increased tourism as an economic development activity, recognizing and preserving those assets that draw people to the County.

Goals and Objectives Developed at Community Forums

I. TO PRESERVE THE RURAL CHARACTER OF NELSON COUNTY

- A. Define A Rural Character for Nelson County.
- B. Protect agricultural and forestal areas.
 - 1. Continue ag/forestal special taxing districts.
 - 2. Support Farmer's Market and other outlets for local products.
 - 3. Assist farming community.
 - 4. Limit division of land.
 - 5. Ban (or regulate) large hog farms.
- C. Preserve scenic vistas.
 - 1. Identify vistas in Comprehensive Plan.
 - 2. Enact ordinances with standards that acknowledge the importance of the vistas to the rural character and quality of life in Nelson County.
 - 3. Ban billboards.
- D. Size roads with rural standards.
 - 1. No stoplights.
 - 2. Limit strip development and curb cuts.
 - 3. Continue use of gravel roads in rural areas.
- E. Use conservation standards in land development.
 - 1. Enact conservation development ordinances.
 - 2. Time infrastructure for development.
 - 3. Limit population densities.
- F. Enact a growth management program.
 - 1. Identify areas to be preserved and protected.

2. Identify growth areas: villages, hamlets, residential, industrial, commercial.
3. Develop and implement ordinances and policies that support these goals.

II. TO PROTECT THE NATURAL ENVIRONMENT OF NELSON COUNTY

- A. Appreciate and manage well the existing assets to the economy.
- B. Encourage sustainable business such as Farmer's Markets and/or craft outlets.
- C. Institute a well head protection program.
- D. Recognize water and septic system limitations in allowing development to take place.
- E. Institute watershed management techniques to protect rivers and streams
- F. Limit development on steep slopes and mountain tops
- G. Continue recycling programs

III. ENACT ORDINANCES TO IMPLEMENT COMPREHENSIVE PLAN

- A. Eliminate loopholes in current ordinances
- B. Tie ordinances to Comprehensive Plan Goals
- C. Enforce ordinances
- D. Set forth standards for commercial, industrial, and residential areas

IV. TO PROMOTE A HEALTHY ECONOMY FOR NELSON COUNTY

- A. Support tourism
 1. Create rural historic districts that will both preserve history and offer a tourism activity
 2. Develop County parks and recreation activities
- B. Site commercial and industrial uses where utilities are available and within targeted growth areas
- C. Encourage and support existing local small businesses
- D. Wise use of public funds to eliminate need for increased local taxes

V. TO SUPPORT A QUALITY OF LIFE FOR ALL NELSON COUNTY RESIDENTS

- A. Keep local jobs in place
- B. Support quality education programs for learners of all ages
- C. Insure affordability of housing for Nelson County residents
- D. Provide recreation programs for residents

Community Survey

The survey was mailed to County residents in late May-early June 1999, and handed out to participants at the four visioning forums described above. It was designed to provide a way for County residents to identify those services and amenities of the County they felt were important to maintain, and identify those issues for which future action by the County might be necessary.

In order to reach the greatest number of county residents, the survey was mailed to every household in the county (7,788 households). These households were asked to return the survey within two weeks so that these results could be tabulated and reported. Of the 7,788 surveys mailed to county residents, 858 responses were received (11.0%). This is a higher than usual return of a mailed survey, indicating a high level of interest in the process throughout the County.

Nelson County survey respondents “like very much” the rural character, quiet and peacefulness, and the natural beauty of the County. The three attributes were significantly ahead of other attributes from which respondents could choose. These preferences are reaffirmed by the clear majority that believe growth management and protection of the environment are the most significant issues facing the County.

When generally positive responses are grouped or totaled, low commercial/industrial development, security, local stores, the quality of the roads, and the low tax rate join the higher ranks. Likewise, issues of important rising to the top third, include controlling the costs of public services, repairing roads, reducing the loss of agriculture land to development, loss of farmland, quality of and access to health care, and providing safe, adequate private water supplies. It is interesting to note that roads received a high approval rating and that repairing roads is also high on the list.

Nelson County Comprehensive Plan

Code of Virginia Governing Comprehensive Plans

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

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

In the preparation of a comprehensive plan the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and 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.

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

The plan, with the accompanying maps, plats, charts, and descriptive matter, shall show the locality's long-range recommendations for the general development of the territory covered by the plan. It may include, but need not be limited to:

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, business, industrial, agricultural, mineral resources, conservation, recreation, public service, flood plain and drainage, and other areas;
2. The designation of a system of transportation facilities such as streets, roads, highways, parkways, railways, bridges, viaducts, waterways, airports, ports, terminals, and other like facilities;
3. The designation of a system of community service facilities such as parks, forests, schools, playgrounds, public buildings and institutions, hospitals, community centers, waterworks, sewage disposal or waste disposal areas, and the like;

4. The designation of historical areas and areas for urban renewal or other treatment;
5. The designation of areas for the implementation of reasonable ground water protection measures;
6. An official map, a capital improvements program, a subdivision ordinance, a zoning ordinance and zoning district maps, mineral resource district maps and agricultural and forestal district maps, where applicable;
7. The location of existing or proposed recycling centers; and
8. The designation of areas for the implementation of measures to promote the construction and maintenance of affordable housing, sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated.

§ 15.2-2224. Surveys and studies to be made in preparation of plan; implementation of plan.

A. In the preparation of a comprehensive plan, the local planning commission shall survey and study such matters as the following:

1. Use of land, preservation of agricultural and forestal land, production of food and fiber, characteristics and conditions of existing development, trends of growth or changes, natural resources, historic areas, ground water, surface water, geologic factors, population factors, employment, environmental and economic factors, existing public facilities, drainage, flood control and flood damage prevention measures, transportation facilities, the need for affordable housing in both the locality and planning district within which it is situated, and any other matters relating to the subject matter and general purposes of the comprehensive plan.

However, if a locality chooses not to survey and study historic areas, then the locality shall include historic areas in the comprehensive plan, if such areas are identified and surveyed by the Department of Historic Resources. Furthermore, if a locality chooses not to survey and study mineral resources, then the locality shall include mineral resources in the comprehensive plan, if such areas are identified and surveyed by the Department of Mines, Minerals and Energy. The requirement to study the production of food and fiber shall apply only to those plans adopted on or after January 1, 1981.

2. Probable future economic and population growth of the territory and requirements therefor.

B. The comprehensive plan shall recommend methods of implementation and shall include a current map of the area covered by the comprehensive plan. Unless otherwise required by this chapter, the methods of implementation may include but need not be limited to:

1. An official map;
2. A capital improvements program;
3. A subdivision ordinance;
4. A zoning ordinance and zoning district maps; and
5. A mineral resource map.

§ 15.2-2225. Notice and hearing on plan; recommendation by local planning commission to governing body.

Prior to the recommendation of a comprehensive plan or any part thereof, the local planning commission shall give notice in accordance with § 15.2-2204 and hold a public hearing on the plan. After the public hearing, the commission may approve, amend and approve, or disapprove the plan. Upon approval, the commission shall by resolution recommend the plan, or part thereof, to the governing body and a copy shall be certified to the governing body.

§ 15.2-2226. Adoption or disapproval of plan by governing body.

After certification of the plan or part thereof, the governing body, after a public hearing with notice as required by § 15.2-2204, shall proceed to a consideration of the plan or part thereof and shall approve and adopt, amend and adopt, or disapprove the plan. In acting on the plan or part thereof, or any amendments to the plan, the governing body shall act within ninety days of the local planning commission's recommending resolution.

§ 15.2-2227. Return of plan to local planning commission; resubmission.

If the governing body disapproves the plan, then it shall be returned to the local planning commission for its reconsideration, with a written statement of the reasons for its disapproval.

The commission shall have sixty days in which to reconsider the plan and resubmit it, with any changes, to the governing body.

Nelson County Comprehensive Plan

Growth Management and Planning Implementation Tools

Fundamental Planning Tools

Comprehensive Plan

A comprehensive plan is defined as an official public document adopted by a local governing body that is used as a policy-guide to facilitate the orderly development of the community. The plan is developed by examining existing conditions and needs, considering opportunities and alternatives, and adopting goals and objectives which taken individually or collectively will further the orderly development of the community.

The plan has no direct regulatory effect and most localities use it as a guide to rezoning and capital improvement decisions. The plan is implemented through the adoption of local ordinances, such as zoning and subdivision regulations, capital improvements program, an official map and mineral resource map. Within the comprehensive plan, there may be components addressing such matters as economic development and housing programs.

Zoning

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

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

Subdivision Regulations

Although the ownership of land is a protected right under the Constitution, its division is not so much a right as a privilege. The division of land results in more intense and different land uses, which have impacts on surrounding land and communities. Consequently, most jurisdictions use subdivision regulations to permit the orderly division of land into parcels or lots for development

Subdivision regulations provide for the direct control and standardization of land development. Used in conjunction with a well-organized zoning ordinance, the coordination between development and supporting infrastructure occurs. Such a complementary relationship is sometimes politically difficult to achieve. A benefit of subdivision regulations is that they can be applied at the time of development.

Subdivision of land is a “by-right” allowance for a landowner and, as such, the review of a subdivision proposal is a ministerial act by a local government. Therefore, the landowner is only obligated to meet the applicable subdivision (and zoning) regulations in order to subdivide. If these regulations or the underlying zoning of the property do not reflect the intent of County planning policy, then the subdivision itself may not be consistent with current policies but must be approved anyway.

It is critical to successful implementation of current planning policy that the subdivision ordinance fully reflect the intent of that policy and that there is complimentary linkage of the Comprehensive Plan, Zoning Ordinance and Subdivision Ordinance.

Capital Improvement Program

The multi-year scheduling of public physical improvements that help guide a locality’s decisions on how to allocate funds. The scheduling is based on needs identified in the comprehensive plan, studies of fiscal resources that are available and the choice of specific projects for construction during the next five years.

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

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

Section 15.2-2232 of the Code requires that any proposed public improvement not shown or included within the comprehensive plan shall be subject to a public hearing and determination by the local planning commission that the facility is consistent with the comprehensive plan.

Rural and Natural Areas Preservation

Conservation Planning

Conservation Planning follows an approach that reverses many of the steps of conventional subdivision layout. It does not decrease the gross density, but results in clustering of activity and preservation of unique properties of the land to be developed. The process begins by identifying the environmentally unbuildable areas. These wetlands, floodplains, and steep slopes are blocked out from the planning area. In some cases, certain soils are removed as well. The second step is to identify the unique characteristics of the site. These could include forests, high quality agricultural soils, scenic vistas, or other historic or visually pleasing features. These areas are also blocked out as areas unsuitable for building in order to preserve the unique features. The next step in developing the site plan is to place the buildings on the remaining land. The final step is connecting the buildings with roads and paths and drawing the lot lines. This approach has been shown to decrease the amount of impervious surface in a given development, maintain the initial gross densities, and save money by requiring less earthwork and pavement and clustering for more efficient service delivery. Conservation planning results in clustering of activity and preservation of unique properties of the land to be developed.



Figure 13 STEP ONE, Part One
Identifying Primary Conservation Areas



Figure 14 STEP ONE, Part Two
Identifying Secondary Conservation Areas
Typically unprotected under local codes, these special features constitute a significant asset to the property value and neighborhood character. Secondary conservation areas are the most vulnerable to change, but can easily be retained by following this simple four-step process.



Figure 16 STEP TWO
Locating House Sites

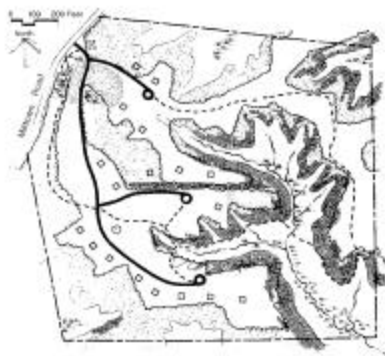


Figure 17 STEP THREE
Aligning Streets and Trails



Figure 18 STEP FOUR
Drawing in the Lot Lines

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

Conservation Easement

A conservation easement is a legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land by recording deed restrictions that prohibit development in order to protect its conservation value. Conservation easements allow a property owner to continue to use the land within the terms of the easement and to sell it or pass it on to heirs.

Conservation easements are used to preserve farmland, watersheds, wildlife habitat, forests, and historical lands. Each easement is unique in terms of acreage, description, and duration. These details are negotiated between the property owner granting the easement and the organization that will be holding the easement.

Primary easement holders in Virginia include the Virginia Outdoors Foundation (VOF), the Va Department of Historic Resources, Soil and Water Conservation Districts and local organizations such as the Piedmont Environmental Council and James River Association.

Purchase of Development Rights

Special service districts created to allow a local government to purchase development rights that are then dedicated as easements for conservation, open space or agricultural production. Such service districts allow the locality implementing the program to impose special assessments on a specific area within its jurisdiction for the purpose of acquiring development rights that may be beneficial to the community.

Agricultural and Forestal Conservation Districts

The Agricultural and Forest Conservation District Program is a voluntary program in which farmers, foresters and landowners form an Agricultural and/or Forest Conservation District for the purposes of conserving areas that are rural and agricultural. The property owner continues to hold fee simple title to the land, but the easement restrictions run with the land, for a set term of years. The agreements usually include exceptions that permit the landowner to withdraw from the program under certain circumstances.

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

Land Use Taxation

The Code of Virginia (§ 58.1-3230 through 3244) specifies that real estate meeting certain criteria be given special tax consideration. Properties devoted to agricultural, horticultural, forest or open space use as outlined in the Code of Virginia “Special Assessment for Land Preservation” §58.1-3230 are subject to a reduction in real estate taxation. The purpose of land use taxation is to preserve agriculture and forestry industries by providing a financial incentive. This reduction in tax assessment has been shown to be essential in supporting a profitable agricultural/forestal business. Counties which have chosen to remove land use taxation as a management tool have seen a high rate of property converting to more intensive uses and a significant loss of agricultural/forestal lands. The benefit of land use taxation extends to all the citizens of the County, since tax rates can remain low when residential growth is not expanding at a rapid pace.

Environmental Protection

Watershed Protection Design Standards

Flexibility and incentives can be used to insure that development takes place in a manner that protects the water quality. Incorporating these standards into local zoning/site plan ordinances will support the goal of improving and maintaining the water quality in the streams, rivers, and the lakes.

The following design standards are recommended for incorporation into local ordinances. The standards or principles presented have been developed by the Center for Watershed Protection and are reprinted here with their permission. The benefits to be derived from implementing these standards include:

- Protection of local streams, lakes, and estuaries
- Reduction of stormwater pollutant loads
- Reduced soil erosion during construction
- Reduced development construction costs
- Increase in local property values and tax revenues
- More pedestrian friendly neighborhoods
- More open space for recreation
- Protection of sensitive forests, wetlands, and habitats
- A more aesthetically pleasing and naturally attractive landscape
- Safer residential streets
- More sensible locations for stormwater facilities
- Easier compliance with wetland and other resource protection regulations
- Neighborhood designs that provide a sense of community
- Urban wildlife habitat through natural area preservation.

Design Standard #1 Street Design: Minimize paving requirements

Design residential streets for the minimum required pavement width needed to support travel lanes; on street parking; and emergency, maintenance, and service vehicle access. The width should be based on traffic volume.

Street width should be related to the type of traffic expected to be carried by the road and the safety access for emergencies. Often requirements overstate the necessary width. Tailoring road width to the actual demand will decrease impervious surfaces and, studies have shown, provide safer travel for users. Wider streets encourage faster speeds, which in turn can increase the rate of accidents. Development costs are lower with narrower roadways

Reduce the total length of residential streets by examining alternative street layouts to determine the best option for increasing the number of homes per unit length.

Clustering and varied setbacks are tools to meet this goal. Conservation planning, addressed previously is another tool appropriate for use. As with other standards that reduce pavement, this decreases the cost of development.

Wherever possible, residential street right-of-way widths should reflect the minimum required to accommodate the travel-way, the sidewalk (where provided), and vegetated open channels for runoff. Utilities and storm drains should be located within the pavement section of the right-of-way wherever feasible.

Many existing right-of-way requirements only address street width. Utilities should be located within the paved area, where possible. This standard allows for more flexible site planning and leaves more land available for housing development.

Minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.

Where density, topography, soils, and slope permit, vegetated open channels should be used in the street right-of-way to convey and treat stormwater runoff.

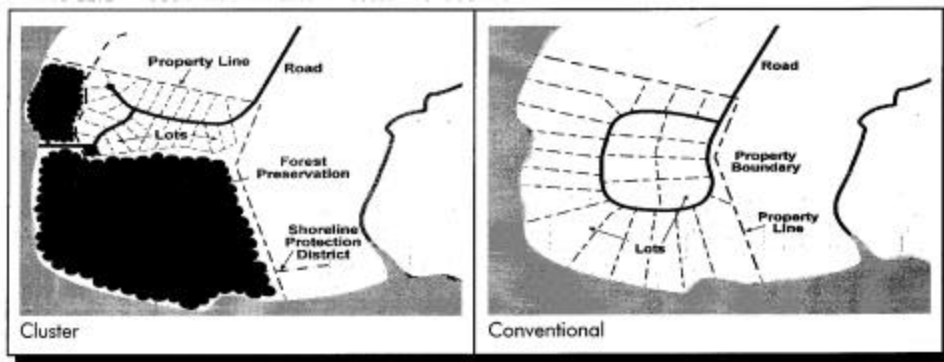
Open vegetated channels remove pollutants from stormwater runoff by allowing infiltration and filtering to occur. Open channels also encourage groundwater recharge, and can reduce the volume of stormwater runoff generated from a site. Given that the predominant drinking water source is the individual well, practices that protect the groundwater are consistent with health, safety, and welfare goals of local government.

Design Standard #2 Parking Requirement Reduction: Decreasing impervious cover

Establish maximum as well as minimum parking spaces for developments, taking into account local and national experience. Use compact car spaces, efficient parking lanes, and pervious surfaces for spillover parking areas. Lower parking requirements where alternative transportation modes are available or where shared parking is possible.

Existing minimum requirements are often exceeded to avoid complaints regarding adequate parking and to meet lender's requirements, resulting in excessive impervious surface. This can be ameliorated by using creative landscaping, vegetated filters, and meeting peak demands with pervious pavement areas. Setting maximums will decrease cost to the developer and provide better protection to ground and surface waters.

Where pedestrian, bike, or transit alternatives are available, less parking will be required and provide the same benefits to the environment and bottom line. Often a commercial development will contain activities that have different hours of use such as



Open space (Cluster) Development versus Conventional Development
(Source: *Better Site Design*)

a clothing store and a movie theater. Where combined uses allow, shared parking will reduce the impervious surfaces.

Include on-site stormwater treatment in parking lots using bioretention areas, filter strips, and/or other practices that can be integrated into required landscaping areas and traffic islands.

Design Standard #3: Incorporate principles of open space planning in site plans and subdivision creation.

Cluster housing or other uses on site to retain a goal of at least 50% open space. Relax setbacks to minimize driveway lengths and reduce overall lot imperviousness, and increase visual interest in the community.

More compact development designs reduce the cost of development and promote watershed protection by reducing impervious areas, conserving natural areas, and providing community recreational space. The open space can be used for common septic fields as well. Figure 8 on the next page illustrates what can be achieved.

The Center for Watershed Protection examined some of the myths and facts associated with smaller lots and clustering and found that open space design was selling, costs less to produce, creates a sense of community when linked with bike and pedestrian facilities, is not solely for upper-bracket incomes, and could be accomplished with no net loss of units.

Use flexible designs for sidewalks, where provided. Consider locating sidewalks on one side and providing common walkways linking pedestrian areas.

In some areas, sidewalks do not make sense. However, where they are appropriate, the impact of the impervious surface can be lessened. Provision of sidewalks and pedestrian safety are closely related.

Promote shared driveways and use of pervious surfaces in subdivisions.

Reduced driveway widths, relaxed front yard setbacks and paving materials regulations can contribute to a decrease in impervious surfaces from driveways. Driveways may account for up to 20% of the impervious cover in a subdivision.

Require clearly specified management for open space areas in developments.

Open space management may take many forms. Because management is important to retaining the value added from the open space, it is best specified in the beginning, to avoid confusion and conflict in post-development.

Options for Open Space Management

Option	Positive Factors	Limiting Factors
Conservation Easement	guarantees protection from further development may be tax deductible can be tailored to different levels of giving ownership maintained	often not an option for smaller or non-contiguous tracts of land monitoring responsibilities for easement holder owner often expected to make contributions for monitoring
Transfer to Land Trust Ownership	guarantees protection from further development may be tax deductible donator doesn't have to worry about monitoring	loss of ownership often not an option for smaller or non-contiguous tracts of land public use may infringe on residents' privacy
Community Association	guarantees protection from further development representation by homeowners	community association fees maintenance and enforcement decisions are reliant on association members
Publicly Owned Land	no additional fees for homeowner not being taxed ensures some certainty over future land use public funds for maintenance	land use decisions may depend on political climate community association interests compete with other groups public use (park) may infringe on residents' privacy

Source: Better Site Design

Design Standard #4: Use natural vegetation to mitigate effects of stormwater runoff through infiltration and filtering.

Direct rooftop runoff into vegetated areas, not the roadway. Require that naturally vegetated streamside buffers be preserved during and after construction activities. Minimize clearing for development and require additional natural plants and trees for adequate buffering of streams.

Naturally vegetated stream buffers provide the best filtration system for stormwater runoff and therefore the best protection for stream water quality. Where possible, they should be retained and protected in the natural state. A second priority is to replace or provide buffers where absent. Figure 10 on the next page depicts how the buffers work

to protect water quality. Forest cover, a predominant land cover in the watershed is the most efficient and effective land cover for protecting the water quality in streams.

Groundwater Protection Overlay Districts

Groundwater Protection Overlay Districts (G-PODs) are suggested where the underlying soil and geologic conditions combine to make an area of groundwater more likely to be pollution from surface or below surface uses. Where these areas exist, changes of use might require the developer of the property to conduct additional tests to insure the use would not threaten the quality of the groundwater. The districts do not necessarily deny certain uses, but within the GPODs, additional care must be taken to protect the groundwater supply special districts. These districts are tied to the findings of the DRASTIC report for Nelson County.

Stormwater Management

In 1989, the General Assembly passed the Stormwater Management Act (10.1-603.1 et seq., *Code of Virginia*) that provides localities authority to adopt local stormwater management ordinances consistent with minimum state regulations. Most localities have use stormwater management strategies such as erosion and sediment control ordinances and flood plain regulations, to control the quantity of stormwater. Until passage of the Stormwater Management Act, and subsequent amendments, no clear authority for localities to protect water quality was available.

Experience with what has become "conventional" stormwater retention pond design throughout the Commonwealth has shown them to be both aesthetically objectionable and somewhat hazardous to health and safety. Consideration may be given to alternative techniques, such as temporary retention in parking lots, improved designs for drainage structure, and regional stormwater basins.

A mechanism of funding a stormwater management program is the concept of a local stormwater utility. Such a utility functions like any other public service district and its existence reinforces the concept that control of non-point source pollution is fundamentally no different than the services provided by other public utilities. Utility fees may be based on the extent of impervious cover on a parcel, since problems with stormwater quantity and quality are directly proportional to the amount of impervious cover. Typical charges to the landowner might average \$2.00 to \$5.00 per month, with higher rates for industrial and commercial sites.

Most importantly, when Best Management Practices (BMPs) are approached as a public utility, fees can be directed toward watershed-wide stormwater management planning, purchase of land for regional stormwater management facilities, construction and maintenance of such facilities, and staffing the local stormwater management program.