

Botetourt County 2010 Comprehensive Plan Update



Prepared By:  RENAISSANCE PLANNING GROUP

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Acknowledgement

Botetourt County would like to thank the many people and residents who contributed to the preparation of the 2010 Comprehensive Plan Update. The Comprehensive Plan Steering Committee and county staff spent many hours attending meetings, reviewing materials, and providing recommendations for this plan. Their contributions significantly shaped the plan update and their participation helped assure that the broad views of the county residents were represented.

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Botetourt County would also like to thank those residents of Botetourt who participated in the community survey, public meetings, and hearings. The purpose of this plan is to serve the future needs of Botetourt County residents and input from Residents is important.

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1 POLICY PLAN

INTRODUCTION

*A Vision for Botetourt County:
“Envision a community where
County residents are attaining
higher educational and economic
goals; are enjoying a quality of life
marked by safety and security,
environmental protection, quality
business and residential
development, and a variety of
recreational and cultural
opportunities; and are pleased with
the value and cost of government
services.”*

Board of Supervisors

This document is the Comprehensive Plan for the County of Botetourt Virginia. It was prepared as an update to Botetourt County’s current comprehensive plan adopted in 2004. The plan update was adopted on March 22, 2011.

A comprehensive plan is one of the most important long range-planning tools that Virginia communities use to guide development, manage change and implement a community vision. Communities naturally go through changes over time. A well thought out comprehensive plan which evaluates local trends and conditions and presents a shared vision for the future implemented through targeted goals, objectives and action strategies can help guide public and private decision making and investment to the benefit of the whole community. To be effective and useful, the plan must reflect the knowledge, values and

aspirations of a community’s citizens and be embraced and implemented by elected and appointed representatives.

Community involvement is one of the guiding principles that governed the preparation of this plan. Many citizens contributed to its development, as either participants in the community workshops, or as members of the Steering Committee. Stakeholder interviews, a citizen survey, community meetings, Planning Commission work sessions, and public hearings were just some of the techniques used to effectively engage Botetourt citizens in the development of this important document.

AUTHORITY TO PLAN

Authority for local government planning in Virginia is contained in Section 15.2-2223 through 15.2-2232 of the Code of Virginia. This plan was prepared in accordance with these provisions. By law, the Botetourt County Planning Commission is charged with the responsibility of preparing and recommending a comprehensive plan to the Botetourt County Board of Supervisors for adoption. This update was undertaken in part to fulfill code provisions that require local planning commissions to review the adopted comprehensive plan at least once every five years.

The Code of Virginia requires that the Commission base the preparation of a comprehensive plan on "careful and comprehensive surveys and studies of the existing conditions and trends of growth," and of the probable future requirements of Botetourt County's citizens. It also specifies that the plan should include all unincorporated areas of the County and that it shall be general in nature. The Code further requires that a comprehensive plan "shall designate the general or approximate location, character, and extent of each feature including any road improvement and any transportation improvement, shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use...."

The Comprehensive Plan, with accompanying maps, charts, and descriptive matter, may include, but need not be limited to:

- The designation of various types of public and private development and use, such as different kinds of residential, including age-restricted housing, business; industrial; agricultural; mineral resources; conservation; active and passive recreation; public service; floodplain and drainage; and other areas;
- The designation of a system of community service facilities such as parks, sports playing fields, forests, schools, playgrounds, public buildings and institutions, hospitals, nursing homes, assisted living facilities, community centers, waterworks, sewage disposal or waste disposal areas, and the like;
- The designation of historical areas and areas for urban renewal or other treatment;
- The designation of areas for the implementation of reasonable ground water protection measures;
- An official map, a capital improvement program, a subdivision ordinance, a zoning ordinance and zoning district maps, mineral resource district maps and agricultural and forestal district maps, where applicable;
- The location of existing or proposed recycling centers;
- The location of military bases, military installations, and military airports and their adjacent safety areas;
- The designation of corridors or routes for electric transmission lines of 138 kilovolts or higher.

Comprehensive Plan Purpose:
"It is the purpose of the Botetourt Comprehensive Plan to promote balanced growth and development while protecting the County's natural environment and cultural resources. This shall be accomplished through the application of sound planning principals and the implementation of complementary development controls"

Planning Commission,
August 2003

The Comprehensive Plan shall include:

- 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.
- A map that shall show road improvements and transportation improvements, including the cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.

PURPOSE AND PLAN ELEMENTS

Botetourt County has a thirty-five year history of formal comprehensive planning initiatives. The County Board of Supervisors adopted its first Comprehensive Plan in February 1975. That plan, entitled the *Botetourt County Land Use Plan*, was intended to manage land development and population growth.

Five additional plans have been adopted since 1975, with updates occurring generally every five years. These planning efforts incorporated information from each decennial census and responded to land development trends and the need for improvements to County infrastructure. The plans developed from 1975 through 1998 were prepared with the assistance of the staff of the Roanoke Valley Alleghany Regional Commission (RVARC). Subsequent plans have been prepared by staff with the assistance of outside planning consultants through a process that included public involvement, followed by Planning Commission review and recommendation with ultimate review and adoption by the Board of Supervisors.

Relationship to the 2004 Comprehensive Plan

The 2004 Comprehensive Plan was prepared using a facilitated visioning process. The 2004 plan included discussion, analysis and recommendations that emerged from the community planning process. This Comprehensive Plan Update, which was also based on extensive community and stakeholder input, builds upon that information, further examining growth trends, planning initiatives, and affirming the county's goals and vision for Botetourt County's future growth. Some of the information included in the 2004 Comprehensive Plan has been incorporated into this plan update.

Vision for Botetourt County

This Comprehensive Plan sets out goals and policies that will be used by public officials to make decisions that will greatly influence the County's future. Most successful, thriving communities have a vision for the future that guides day-to-day decision-making. Stated or unstated, an ultimate vision sets a framework for incremental decisions that lead toward creating the future. The long term vision for Botetourt, adopted by the Board of Supervisors in 2002 and reviewed and affirmed as part of this update, is the foundation for more specific goals and policies that are included in later chapters of this plan. If the goals and policies of the plan are upheld and implemented, the following vision for Botetourt should be realized:

“Envision a community where County residents are attaining higher educational and economic goals; are enjoying a quality of life marked by safety and security, environmental protection, quality business and residential development, and a variety of recreational and cultural opportunities; and are pleased with the value and cost of government services.”

Plan Elements

The 2010 Comprehensive Plan is organized into six elements, or major topics, of countywide significance. Immediately following this introductory chapter is a discussion about key countywide issues and influences driving the need to update the plan. This Trends chapter provides an overview of growth forecasts, defines the vision and themes that serve as the overarching goals for this Plan, and describes the role of the Future Land Use Map.



The subsequent chapters of the plan contain a summary overview providing the context and defining issues for each element, followed by policies and actions to address these issues. Tables, images, text boxes, and maps supplement the narrative content. One chapter of the plan is dedicated to each countywide element listed below:

Trends: The Trends Element provides base information for understanding the short and long-term growth trends related to people, jobs, race, income, housing, mobility, and agricultural activity.

Land Use: The Land Use Element provides a framework for all land use and development-related decisions. It is the critical foundation upon which all other elements are based, and includes the Future Land Use Map and related policies to guide growth in a more compact and efficient pattern over the next 20 years.

Transportation: The Transportation Element guides development of the County's transportation network. It includes highways, public transit systems, and bike and pedestrian networks to support the County's desired land uses and form. The proposed transportation system seeks to reduce the growth of vehicle miles traveled and provide transportation options that provide alternatives to single occupancy vehicles. The aim is to achieve a balanced and efficient transportation system for Botetourt County's expanding populations and their corresponding needs.

Cultural and Environmental: The Cultural and Environmental Element contains the policies and actions required for Botetourt County to preserve its natural resources and address the challenges inherent with retaining these resources as growth occurs. This element addresses park and recreation planning, greenway and trail planning and connectivity, open space conservation, and the preservation of special landscapes and historic resources, among other issues. The element also identifies all natural features of the County, including soils, topography, and floodplains.

Community Services and Facilities: The Community Services and Facilities Element provides direction for the location of government buildings, solid waste services, emergency services, schools, and libraries. This element also includes recommendations to ensure the adequacy and safety of the drinking water supply, distribution system, and the wastewater system.

Economic Development: The Economic Development Element provides recommendations to enhance Botetourt County's competitive advantages and economic viability. In May 2010, the Botetourt County Board of Supervisors adopted the Botetourt County Economic Development Study, which serves to update this section of the plan. That study addresses two main objectives; 1) Identify opportunities that can potentially expand quality jobs, build tax base, and enhance tourism activity within the County; and 2) define the strategy and plan for implementing those efforts required to achieve specific actions derived from the first objective.

This plan is intended to be accessible and easily understood by all users. Key issues are described with data to make the purpose of policies more apparent. Graphics, maps, photos, and charts have been used to illustrate major points and improve the legibility of the text. The Comprehensive Plan's Future Land Use Map is incorporated as part of the document and provides the foundation for future decisions regarding land use and zoning.

PLANNING HORIZON

Typical planning horizons for comprehensive plans range from approximately 20 - 50 years with 20 years being the most common. The year 2030 is the planning horizon for this comprehensive planning initiative. This comprehensive plan shall be reviewed by the Botetourt County Planning Commission at least once every five years, as required by State Code. Each review will serve as the basis to evaluate the continued appropriateness of the plans' goals, objectives and policies, and progress made toward achieving the Board's vision for the community.

RELATIONSHIP TO OTHER DOCUMENTS

There are several key documents that are available to Virginia localities to implement the goals, policies and vision of the comprehensive plan. These documents include the zoning ordinance, subdivision ordinance, and the capital improvements plan. County officials and staff use these tools on a day to day basis to guide development of individual properties and to plan for public improvements. Further, there are numerous other planning documents that guide the decision making processes. The County's recreation strategic plan provides information on the needs and future implementation of recreation services, the emergency service strategic plan provides direction of how to best provide safety and security, the economic development study report provides a new direction of how the County can best attract and promote economic growth, and the county-wide water and wastewater plan is critical to providing direction of where existing and planned infrastructure can accommodate new growth. All of these plans have been consulted and referenced in this plan. Consistency between all of these documents and the comprehensive plan ensures that the long term vision for the County is considered as part of the many incremental decisions that shape a community.

Zoning Ordinance

The Botetourt County Zoning Ordinance is perhaps the most significant of the three primary implementation tools that guide development and land use in the county. It includes regulations intended to protect and promote the health, safety and general welfare of current and future county residents by providing specific standards for uses, lots, building size, location and other related issues that encourage and ensure appropriate development in the County. The provisions for various zoning districts and zoning regulations included in the ordinance should be consistent with the goals, objectives and policies of the adopted comprehensive plan to ensure that the vision for Botetourt is fully realized.

Subdivision Ordinance

The second regulatory document that helps implement the comprehensive plan is the Botetourt County Subdivision Ordinance. It provides for the orderly, efficient division of land into parcels or lots for development and for the coordinated construction of streets, highways and public facilities within proposed subdivisions. Like the zoning ordinance, the subdivision ordinance directly influences development in the County and the character of the community. Subdivision regulations should be in sync with the goals, objectives and policies of the comprehensive plan if the County is to be developed consistently with the adopted vision. Botetourt County's subdivision Ordinance adheres to the Virginia State Code.

Capital Improvements Plan

The Comprehensive Plan provides direction for managing growth and development and guiding continued investment in the County's physical infrastructure and facilities. The plan can enhance the capital improvement planning and budgeting process by implementing more explicit ties between the Comprehensive Plan and the development of the Capital Improvement Program (CIP) and by helping establish priorities among competing potential capital investments. The Botetourt County Capital Improvement Plan (CIP) is reviewed and adopted annually by the Board of Supervisors to provide fiscal guidance for capital investments over a five year period. As the third primary implementation tool of the comprehensive plan, the CIP should reflect the recommendations and priorities of the plan to support the pattern of development envisioned for the future.

USE OF THE COMPREHENSIVE PLAN

This document is intended for use by elected and appointed officials, County government administration and staff, residents, businesses and developers, and others with an interest in the future of Botetourt. This Comprehensive Plan will:

- Establish the vision for what Botetourt County can achieve and aspires to be by 2030;
- Consolidate and coordinate policies that relate to the County's physical and economic growth and development into one document for use by all County departments;
- Guide decision-making and evaluation of zoning map and text amendments and discretionary development approvals;
- Guide public investment by coordinating the Capital Improvement Program with the policies of the Comprehensive Plan; and
- Identify short to long-term strategic actions for the County to undertake.

As the County's primary policy and planning document addressing the physical development of the County, the Comprehensive Plan will be used by elected and appointed officials who make land use and fiscal decisions related to the CIP. It will also be used by County staff that will be charged with implementing policies contained in the plan through departmental programs, strategic initiatives and by coordinating updates to related documents.

The Comprehensive Plan is also an important source of information and guidance for businesses, potential investors or employers, and members of the development community. The plan's Land Use Element and Future Land Use Map provides clear guidance on preferred land uses for each area of the County that will assist in guiding property owners in decisions about their property. Several policies describe the desired character of future development and will ideally be used as a factor in evaluating discretionary development applications, such as Special Exception Permits, rezoning applications and, to some extent, site plans and subdivisions.

The plan lays out a strategy for public improvements that reflect public investment priorities and that may promote concurrent and compatible private sector development. It also has the potential to improve the predictability of the development review and approval process for developers, property owners, and concerned citizens alike when the Future Land Use Map is used as a foundation for land use and zoning decisions. Finally, the Comprehensive Plan is also a resource for those who seek general information about how the County may evolve over the next 20 years, as well as those who seek to understand how the County will respond to key issues in the future.

Interpretation of Policies

Policies provide direction for decision-makers regarding particular courses of action to pursue. They are also intended to guide decisions regarding the review and approval of development proposals, and provide a consistent basis for decisions relating to land use, such as amendments to the County's official zoning map. Policy language may be written to apply exclusively to County actions, or it may set forth an expectation regarding private sector activities.

The policies are typically worded as an ongoing aspiration or intent, using active words such as "encourage", "promote", and "provide". The latter such policies are typically worded as a statement expressing a desired state or outcome, using the word "should" to distinguish the policy statements in the plan from the legal requirements found in the County's codes, where the word "shall" is the norm.

DEVELOPING THE PLAN

Public participation is possibly the most important part of any planning process and this may be especially true for a countywide comprehensive plan. Botetourt County undertook this plan update with a solid commitment to public participation. The public participation process began with the formation of a Steering Committee, comprised of a range of stakeholders in the county, to provide input throughout the planning process.

The public at large was also involved at critical points in the plan update process to ensure that the most accurate information was available, that goals and implementation steps were feasible, and most importantly, reflected the vision of the general public, Steering Committee members and municipal officials. Surveys, newsletters, a website and open house forums were used to involve the public in identifying and prioritizing key issues and initiatives deemed important by the community. These efforts are discussed in greater detail later in this plan. The information gathered through these efforts was a key component in developing goals and policies included in the plan.

Three-phase public input process was used to identify priorities, develop goals and objectives, and craft plan recommendations. The initial phase was aimed at identifying regional concerns and issues including potential areas for development, preservation and addressing specific issues such as infrastructure. The second phase of public involvement was designed to assist in identifying expectations and opinions about growth and development, and the overall future of the County. And the third phase served to present the final vision to the public. Community members were given an opportunity to review the plan's goals and objectives for a wide range of planning topics, including housing, transportation, community facilities, historic preservation, natural resources, agriculture, and land use. Final comments were received regarding the plan's recommendations and future land use plan. These comments were considered in the final revisions of the plan.

Role of Steering Committee

Botetourt County initiated the public input component of the Comprehensive Plan update process by appointing a Steering Committee. A list of Steering Committee Members can be found at the beginning of this document within the Acknowledgement page. The Steering Committee embodied a cross-section of citizens representing businesses and industry, civic and social organizations, human service agencies, governmental bodies, and residents. Their mission was to engage the residents of Botetourt County to identify and articulate a vision and set of goals for the County. Steering Committee members also served as a liaison to their respective organizations to share and receive information about the plan update process. Additionally, members provided valuable information in their particular fields of expertise when appropriate during development of the plan.

The work of the Steering Committee assisted in identifying both local and regional concerns to develop a consensus for plan recommendations. This group of over 25 individuals was surveyed early in the plan process to help identify issues of importance and values that shape community opinion and aspirations. In those areas where the questions related to development patterns, there was a clear consensus: plan growth and infrastructure to provide for jobs, but do it in such a way as to ensure the preservation of the rural character of the county.

Website Development

In October 2009, the County launched a project specific website to provide steering committee members, officials and the general public with easy access to the most current information related to the plan. Initially, the website provided an overview of the comprehensive planning process, the planning team, and Botetourt County data and resources. As the plan evolved, the website was used to conduct an electronic survey, provide press releases and news articles, post draft development objectives and goals, and summaries of public involvement meetings. Contact information was provided on the website so that any member of the public could address the planning team with questions related to the plan update.

Public Workshops

The Botetourt County Comprehensive Plan Update began with advertised public workshops designed to solicit community input on issues of concern to citizens and to get a sense of their visions for the future of the County. The first public meetings were held on October 24, 2009; one at Lord Botetourt High School, and the other at James River High School, to target different geographic areas of the County. Between twelve and forty participants attended each workshop. At each of these meetings, participants were asked to affirm the current vision as adopted in the 2004 Comprehensive Plan and to identify what residents valued the most in relation to the county's future growth. Participants provided feedback needed to develop recommendations for the 2010 Comprehensive Plan update.

These meetings were designed as open house forums and displayed information on growth trends for the public review and comment. Stations provided information about population and housing growth, transportation issues, employment and economics, agricultural and environmental features, land use, and public facilities. A questionnaire was provided to solicit responses from attendees about topics such as: What is best about the county? What are the top challenges? What are its opportunities? What is the vision for the next 20 years? Where should growth go, or not go? County and consultant team members were at the meetings to address questions and to listen to the public comments.

A second round of meetings was held on December 5, 2009 and on January 5, 2010. These meetings were held at Lord Botetourt High School and Central Academy Middle School, respectively. The purpose of these meetings was for participants to review and affirm the community values and priorities that evolved from the information and input gathered at the previous public forums. A total of 23 participants attended the second set of forums. Twelve people attend the December 5th meeting and 11 attended the January 5th meeting.



SUMMARY OF PUBLIC INPUT

Major Themes

Citizen Survey participants identified "managing growth and development," "economic development" and "protection of farm and rural land" as the top three issues that the County will face in the next 20 years. Strong concerns about these three issues also emerged from the community-input meetings, along with more specific concerns about the pace and pattern of development, community design, preservation of natural and cultural resources, retaining traditional industries such as agriculture as a cornerstone for economic development, in addition to controlling commercial development along U.S. Route 220 and around Exit 150.

Population Growth and Pace of Development

Botetourt County's population has grown substantially in the past decade, and surveyed residents perceive population growth as "somewhat too fast" or "much too fast." Growth management received the highest average score (8.35 out of 10) relative to areas of importance to residents.

At the public forums, participants expressed their perception that change is on its way and that the County's future is somewhat threatened by factors beyond the control of local residents and local government. The high quality of life in Botetourt County has attracted retirees and new families, stimulating recent growth.

Citizens expressed concern that the attractive character of Botetourt County creates growth pressures that will overwhelm it and compromise the rural quality of life for those who currently live here. Comments received at the public forums also emphasized preserving rural land and allocating growth to areas that are already designated to support future growth. Residents would like to see commercial growth occur where capacity exists and ensure future commercial growth is designed well to minimize the impact on the rural character. Overall, most comments focused on how to maintain the rural character and related land uses. Workshop participants felt that one of the best ways to address these issues in the future is to direct new development to appropriate locations and ensure that the County's Comprehensive Plan goals and policies are reflected and supported in its Zoning Ordinance.

Local Economy and Economic Development

Residents expressed concern that young people are leaving the area for jobs elsewhere, wages are too low, and local workforce skills are not adequate. Botetourt County's residents also voiced concerns about the future vitality of the County's traditional economic engines – agriculture and manufacturing.

The general sense among workshop participants was that Botetourt County is fortunate to have some of the most fertile and productive agricultural soils in Virginia. However, outside influences, such as nationwide changes in farming practices, loss of local farm laborers, increased agricultural regulations, and changes in food merchandising, have meant that family farming is gradually giving way to larger, corporate-owned farm entities, or have increased pressure to sell family farms for conversion to residential development.

In addition, citizens in the workshops commented on Botetourt County's strong tourism potential and highlighted assets that would be attractive to the tourism industry, including pristine natural areas, historic buildings and settlements, and recreational activities. Agriculture-based, nature-based, and cultural and heritage-based tourism were identified as key industries that the County should pursue and plan for in the coming years.

Citizens voiced a strong interest in finding ways to strengthen agriculture and tourism for economic development purposes, but also as a crucial part of maintaining the County's rural character and traditional development pattern of towns and villages.

Community Character and Development Pattern

Participants in the community meetings expressed fears that without appropriate land-use policies and regulations, regional growth pressures will lead to the conversion of farmland to residential and commercial use, loss of affordable housing and loss of rural character. There was also a concern that towns will lose their identities and significance or be indistinguishable from surrounding suburban development. Most community workshop participants favored directing new development to existing incorporated towns where public services are already available as a way of revitalizing existing incorporated towns and promoting compact development.

Workshop participants also suggested that historic districts, design guidelines and maintaining a clear separation between incorporated towns and encroaching development would reinforce the fabric and sense of community in the existing incorporated towns and improve the compatibility of new development.

Natural Resources

It was evident from comments made at the public-input meetings that Botetourt County residents take pride in the unique natural resources that make the County a desirable and beautiful place to live, including the ecologically and environmentally significant feature of the Blue Ridge Parkway. Citizens supported promoting Botetourt County's unique natural features as a means to attract tourists, encourage eco-tourism, market Blue Ridge products and goods, and to attract innovative and ecologically compatible business and industry.

Community Facilities and Infrastructure

While local residents expressed pride in local community facilities such as schools and libraries, the lack of water and waste water facilities needed to serve existing and future residents was a topic of concern during the public forums. The potential for development at higher densities and adjacent to the incorporated towns is limited due to a lack of utility capacity. Citizens also noted that new development brings demands for services that may stretch the County's financial capabilities. Citizens identified Town and County cooperation and coordination, improvements to existing systems, and development proffers garnered through conditional zoning as ways to address future infrastructure needs.

The U.S. Route 220 Corridor

U.S. Route 220 is not only the major local roadway connecting Botetourt County's incorporated towns to regional destinations; it is the only north-south connector road in the County. It is a vital transportation artery for both local residents and the many travelers who pass through the area each year. For this reason, residents expressed concerns about the level of commercial development occurring on U.S. Route 220 and at key intersections. U.S. Route 220 has been a typical location for commercial uses that serve through travelers. Residents are concerned that too much commercial development along U.S. Route 220 would create congestion, compete with commercial activities in the incorporated towns and fundamentally alter the character of the rural "view from the road" valued by residents and a factor in attracting potential tourists to the area. Stakeholders interviewed during the plan update process focused on the need to control commercial development along U.S. Route 220 and focus growth around existing incorporated towns to promote nodes of development.

SUMMARY OF 2008 CITIZEN SURVEY

Another source of input for the Comprehensive Plan Update was the third county-wide "Botetourt County Citizen Satisfaction Survey" conducted in 2008. The telephone survey was a comprehensive citizen survey conducted by *The Center for Community Research at Roanoke College*. A summary of the survey as it relates to the Comprehensive Plan is provided below.

Table 1 – Citizen Survey Summary

1. Top three areas of importance scored 1 to 10, with 10 being extremely important (mean score of respondents)	<ul style="list-style-type: none"> A. Ensure carefully managed growth – 8.35 B. Improve quality of schools – 8.07 C. Improve job creation and business investment – 7.90
2. What are the three things that have changed for the better in Botetourt County?	<ul style="list-style-type: none"> A. More shopping/restaurants B. More people/population growth C. Better schools
3. What are the three things that have changed for the worse in Botetourt County?	<ul style="list-style-type: none"> A. Too many people/population growth B. Traffic/roads C. Taxes too high
4. Top three aspects rated best of Botetourt County (mean score provided)	<ul style="list-style-type: none"> A. As a place to raise children – 8.77 B. Public safety – 7.79 C. Quality of housing – 7.49
5. Top three aspects rated worst of Botetourt County (mean score provided)	<ul style="list-style-type: none"> A. Cultural amenities – 5.53 B. Cost of housing – 5.88 C. Availability of recreational activities – 6.21

Source: Botetourt County Citizen Satisfaction Survey, May 2008.

Conflicts and Contradictions of the Public Input Process

It is an inherent part of any community planning process that conflicts and contradictions occur. When discussing with residents certain aspects of the community in isolation, they form opinions based on the context of the discussion. As a result, desires and needs will conflict, for a single individual as well as between residents of a diverse community like Botetourt County. For example, based on the input received during the public workshops and information from the 2008 Citizen Survey, there is consensus that more people moving to Botetourt County is a change for the better (Table 1, 2B). But, this directly conflicts with the consensus that the population growth is a change for the worse (Table 1, 3A). Further, residents have concerns that taxes are too high, but there is a desire for more recreation facilities and more commercial growth, both require expenditure of County funds.

There exists a fine balance of what resources and infrastructure are critically implemented, and what resources are critical for the sense of livability. Through the use of the comprehensive plan, and continued community input, the county can prioritize the investments of its resources to best meet the needs, and expectations of the residents. It is only through the use of this plan that the County can ensure appropriately planned growth while minimizing unnecessary investments in infrastructure.

INVENTORY, ANALYSIS AND PEER COUNTY COMPARISON

Research and Analysis

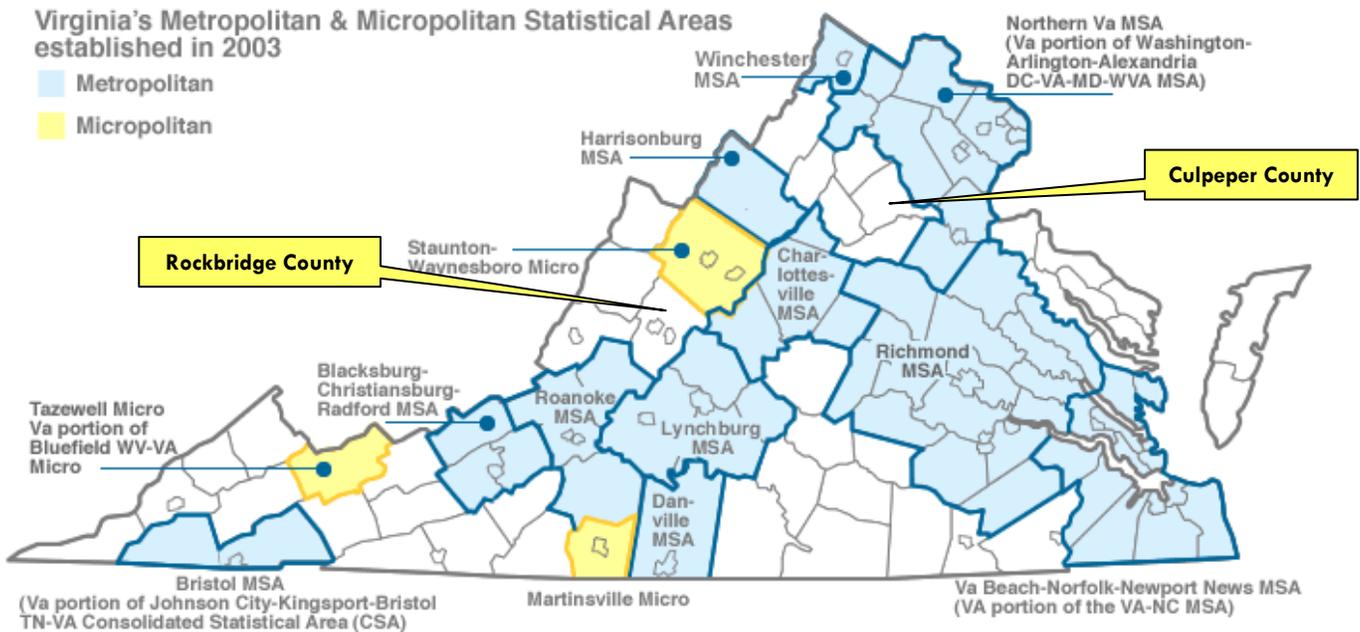
Based on the preliminary comments and opinions researched and received, an analysis of several topic areas have been conducted to provide a basis for understanding how Botetourt County has grown and how it is projected to grow. The following data and information has been reviewed and evaluated to provide a basis for informed decisions during the Comprehensive Plan Update process:

- *Demographics:* Provides information about local and regional growth, age groups, income, persons per dwelling units (measure of average household size), and population forecasts.
- *Employment:* Includes a trend analysis of the labor force, commuting patterns, types of jobs, types of businesses, and location/density of employment.
- *Land Use:* Includes information about current zoning and the use of land throughout the county; trends of building permitting, residential dwelling units; population distribution, and anticipates future land use demands based on population forecasts (these projections are based on current trends and not planned development or existing development approvals).
- *Public Facilities:* Includes an inventory of existing public facility capacity, projected capacity, future demands based on projected population growth, fire and rescue inventory, recreation plans, and water and sewer service.
- *Housing:* Includes an analysis of the current housing stock, the availability of housing, density of residential dwelling units, owner occupied versus rental units, home values, and the relation of home values to income levels.
- *Environmental and Historic Resources:* Shows an inventory of environmental and historic resources.
- *Transportation:* Presents a summary of the existing travel demand analysis, an assessment of future transportation demands, and current studies related to I-81 interchanges 150 and 162.

Regional and Peer Comparison

Botetourt County is one of six localities in the Roanoke Metropolitan Statistical Area (MSA). To provide a sense of Botetourt County's role in the region, most of the analysis in this document is based on a comparison of Botetourt County relative to the other communities in the Roanoke MSA. Additionally, two counties were selected for peer evaluation since they share some characteristics with Botetourt County; Culpeper County and Rockbridge County. Comparisons to these counties provide a means of evaluating Botetourt County relative to other predominantly rural communities of different sizes in other regions of the State.

Figure 1 – Map identifying Roanoke MSA, Culpeper County, and Rockbridge County



2 TRENDS

INTRODUCTION

This chapter provides an overview and analysis of selected trends that may shape the future of the County. An analysis of demographic data is a helpful comprehensive planning tool. Evaluating changes in a community's population over time helps a locality better understand current needs and can help the community anticipate future needs that should be addressed in the plan's goals, objectives and policies.

An analysis of population, income, housing, and education data is presented below. This analysis also includes information comparing local and regional growth, age groups, persons per dwelling units (measure of average household size), and population forecasts. This data was presented to Botetourt County residents at a Public Workshop on October 24, 2009. Residents reviewed the data and analysis, and offered comments about the significance of this information for the future.

PEOPLE & JOBS

Population growth is an indicator of existing demand for services and can be used to predict future demand for public services such as education, recreation, and public safety. The 2008 American Community Survey estimates the population of Botetourt County to be 32,261. In contrast, the 2003 comprehensive plan estimated the County population to reach 32,200 in 2005. This comparison represents a slower rate of growth than anticipated in the last Comprehensive Plan update process. The Virginia Employment Commission projects Botetourt County's population to be 38,437 in 2030. Table 2 – Population Estimates & Forecasts for Botetourt County and Figure 2 – Alternative Population Forecasts, show three population projections that were considered for use in development of Comprehensive Plan.

The population projections labeled as "long term growth trend" are based on the rate of growth experienced in the County from 1900 to 2008 and includes periods of rapid growth and long periods of relatively small change. Population projections labeled as "short term growth trends" are based on the County's rate of growth from 1990 to 2008, a period which includes rapid population growth, particularly between 1990 and 2000. Population projections based on the long term and short term growth trends present widely varying projections that reflect the difference between rates of growth that may not be typical in the future; one includes growth periods when the County grew very little and the other places too much emphasis on the County's most rapid period of growth.

The population projections deemed most appropriate for use in this plan update were prepared by the Virginia Employment Commission (VEC) (Table 3– Virginia Employment Commission Population Forecast). The VEC population forecasts take into account anticipated growth rates and projected job growth in the region and state, as well as actual growth rates experienced by the county in the past and therefore are expected to provide the best representation of future growth in Botetourt County. The VEC projects that the County's population will increase by approximately 6,000 residents by 2030.

Table 2 – Population Estimates & Forecasts for Botetourt County

Alternative Population Forecasts (2000 to 2030)					
	2000 (actual)	2008 (estimate)	2010 (estimate)	2020 (projected)	2030 (projected)
VEC	30,496	32,261	33,156	35,756	38,437
Long Term Growth	30,496	32,261	32,445	34,518	36,724
Short Term Growth	30,496	32,261	34,075	38,075	42,543
2004 Comprehensive Plan Figures (estimates after year 2000)	30,496	33,250	34,300	38,500	N/A

Figure 2 – Alternative Population Forecasts

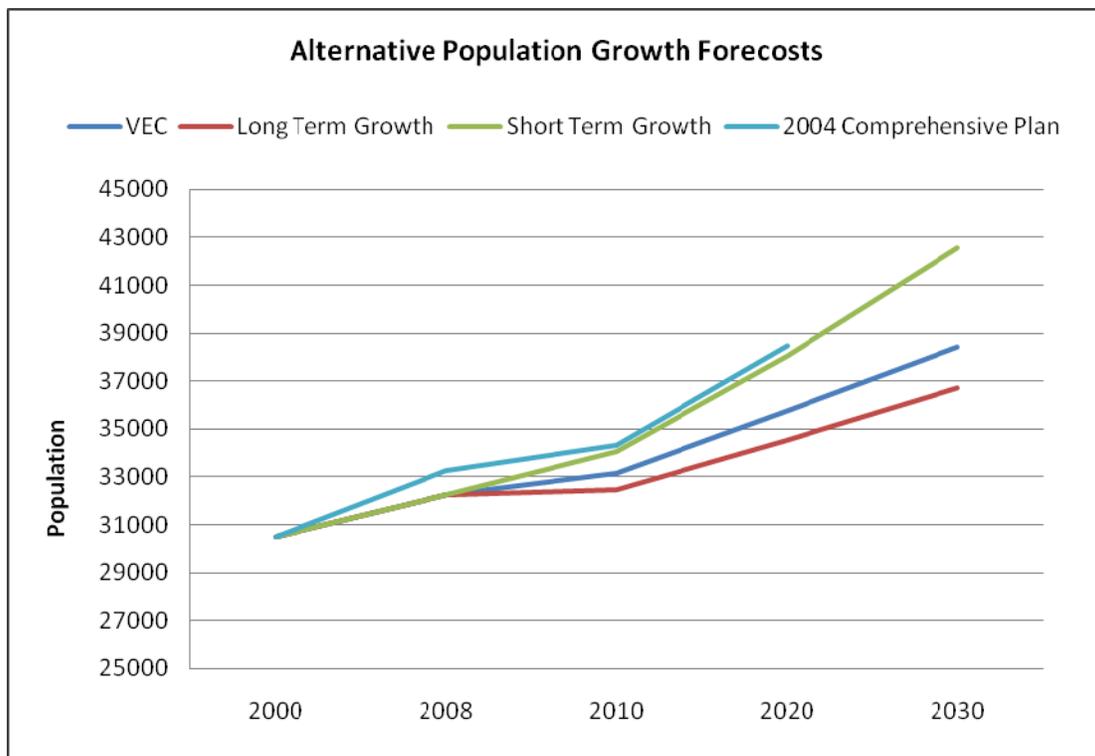


Table 3– Virginia Employment Commission Population Forecast

	Botetourt County	(% change)	Virginia	(% change)
1990	24,992		6,187,358	
2000	30,496	22.02 %	7,078,515	14.40 %
2010	33,156	8.72 %	8,010,239	13.16 %
2020	35,756	7.84 %	8,917,396	11.32 %
2030	38,437	7.50 %	9,825,019	10.18 %

Source: Virginia Employment Commission, Botetourt Community Profile

Botetourt County's population experienced relatively minor fluctuations between 1900 and 1970 (Table 4 – Historical Population Trends). After 1970, the county experienced significant population growth. Table 4 illustrates the growth of Botetourt County compared to the Roanoke MSA and the peer communities of Culpeper County and Rockbridge County. Between 1970 and 2008, the County grew over 77% with significant increases between 1970 and 1980 and between 1990 and 2000, while the Roanoke MSA and Rockbridge County grew only by 28.1% and 28.83% respectively during the same timeframe. While Botetourt County's growth outpaced that of the MSA as a whole, it did not outpace growth in Culpeper County, which grew by 148.64% between 1970 and 2008.

While Botetourt continues to grow at a faster rate compared to regional trends, the most recent data suggests a much slower rate of growth this decade than the previous decade. From 2000 to 2008, growth occurred at a rate of 5.0%, compared to a 22% increase in the previous decade of 1990 to 2000. The growth rate for the Roanoke MSA during this same time period (2000-2008) was 2.8%, as compared to 32.2% for Culpeper County and 3.0% for Rockbridge County.

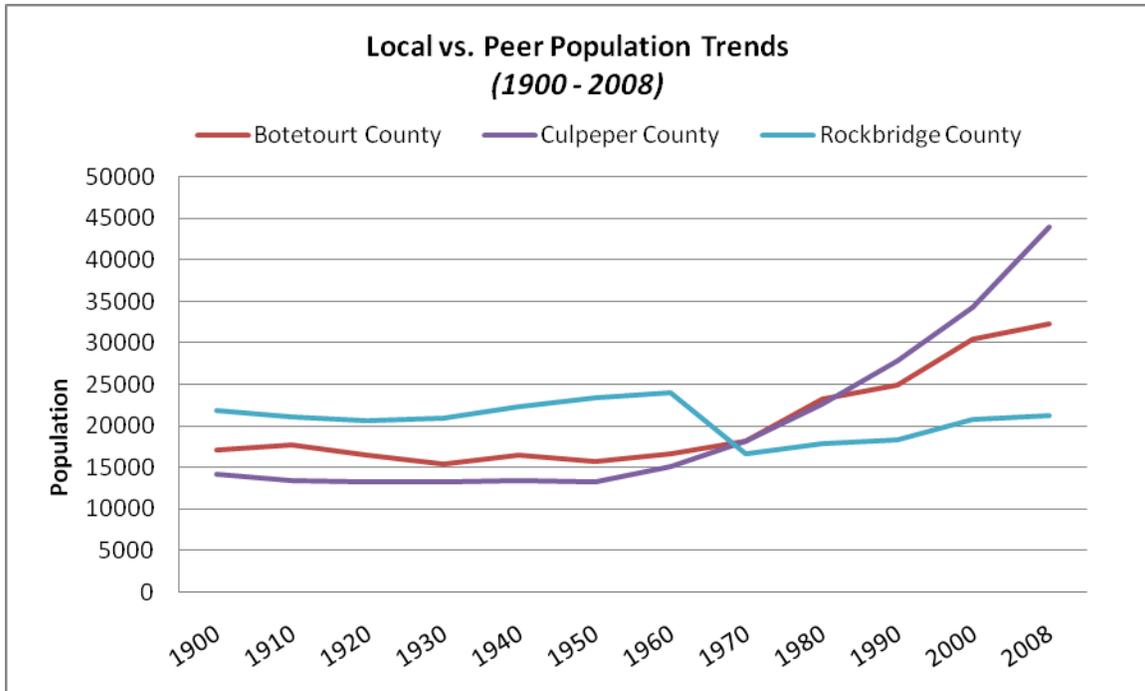
Table 4 – Historical Population Trends

LOCAL, PEER AND REGIONAL POPULATION TRENDS (1900 – 2008)								
Year	Botetourt County	Percent Change	Roanoke MSA Population*	Percent Change	Culpeper County	Percent Change	Rockbridge County	Percent Change
1900	17,161		84,739		14,123		21,799	
1910	17,727	3.3%	103,415	22.0%	13,472	-4.6%	21,171	-2.9%
1920	16,557	-6.6%	120,177	16.2%	13,292	-1.3%	20,626	-2.6%
1930	15,457	-6.6%	147,851	23.0%	13,306	0.1%	20,902	1.3%
1940	16,447	6.4%	158,264	7.0%	13,365	0.4%	22,384	7.1%
1950	15,766	-4.1%	177,185	12.0%	13,242	-0.9%	23,359	4.4%
1960	16,715	6.0%	204,799	15.6%	15,088	13.9%	24,039	2.9%
1970	18,193	8.8%	231,316	12.9%	18,218	20.7%	16,637	-30.8%
1980	23,270	27.9%	260,081	12.4%	22,620	24.2%	17,911	7.7%
1990	24,992	7.4%	268,513	3.2%	27,791	22.9%	18,350	2.5%
2000	30,496	22.0%	288,309	7.4%	34,262	23.3%	20,808	13.4%
2008	32,261	5.8%	297,029	3.0%	43,945	28.3%	21,312	2.4%

Sources: US Bureau of the Census; American Community Survey, 2008

*MSA Population adjusted to reflect sum population of all counties within existing MSA boundaries

Figure 3 - Peer County Comparison of Population Growth Trends



As population expanded during the 1980s and 1990s, population density for the entire County increased from 42 persons per square mile in 1980, to 56 persons per square mile in 2000, a 33% increase. Table 5 and Map 2 (Population Distribution – 2000 US Census Data) show total population and density in the year 2000 by U.S. Census Blocks. The majority of the population is concentrated in the southern part of the County, specifically in Census Tracts 403, 404, and 405. Table 5 shows that in 2000, 75% of County residents lived in those three Census Tracts, as compared to 72% in 1990, and only 66% in 1980. Map 2 and Map 4 (Population Distribution – Estimated 2009) provide a geographic analysis of population distribution and growth. Map 4 illustrates a more recent population distribution estimate based on the location of dwelling units and using an estimated average of 2.4 persons per dwelling unit.

Table 5 – Population Density by Census Tract (2000)

	401	402	403	404	405	Total
Square Miles	239	132	121	31	24	547
Population	3,415	4,213	8,258	7,112	7,498	30,496
Population/sq.mi.	14	32	68	229	312	56

Source: U.S. Bureau of the Census.

POPULATION AND AGE CHARACTERISTICS

In general, Botetourt County's population is aging; a trend that is occurring nationwide as the baby boom generation ages and the average lifespan increases. The median age of Botetourt County residents was 42.7 in 2007 and the rate of population growth is higher in older age groups (over 45) than in younger groups (Table 6 and Table 7).

Population increases in Botetourt County between 1980 and 1990 were primarily due to growth in age groups over 18. However, between 1990 and 2000, a different growth pattern emerged as evidence by three significant demographic trends. First, the five and under age group kept up with overall population growth, unlike the previous decade. Second, growth rates for the 45-64 year olds and 65 years and older were quite high, 54% and over 30% respectively, while the number of young adults 18-24 years declined 9% and the 24-44 year old age group failed to keep up with the overall population growth. Table 8 provides a more detailed growth projection per age group.

An aging population may bring an increased interest in mixed use and walkable communities as people live and work longer, either by choice or necessity. Walkable communities with a mix of uses are highly desirable for aging adults, as they provide employment opportunities, needed services, and housing without dependence upon an automobile. Reduced mobility among older residents often increases the demand for transportation services and the potential for transit; making a mix of land use highly desirable, as traveling long distances becomes more difficult. The provision of adequate public transportation increases the ability for seniors to remain independent longer. An aging population may also increase the demand for certain public services such as facilities that provide health care services, senior programs and police, fire and EMS services, as well as educational facilities for lifelong learning. Demands for senior housing, nursing homes and age restricted communities may also increase.

Table 6 –Age Group Trends Botetourt County (1990 to 2008)

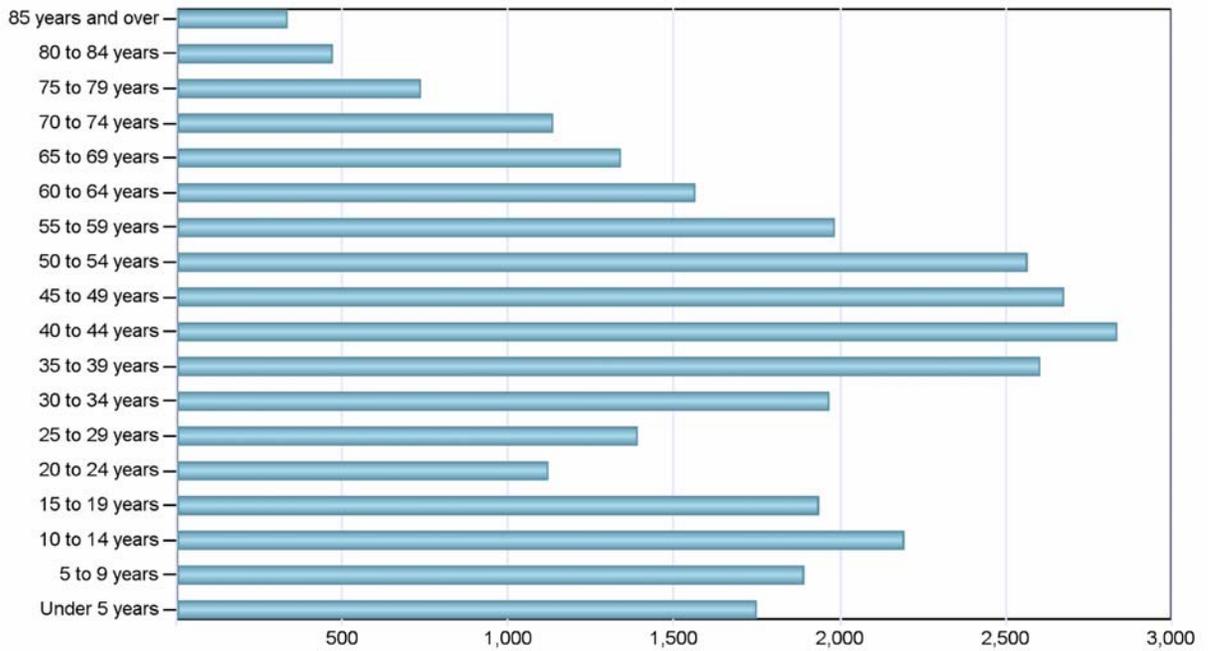
Population Age Groups (1990 - 2008)			
Age Group	1990	2000	2008
Total Population	24992	30496	31801
5 and under	1423	1749	1521
18 years and over	19184	23499	25217
65 years and over	3073	4012	4454

Sources: US Bureau of the Census; American Community Survey, 2008

Table 7 – Median Age, Peer County Comparison

Median Age of County Residents		
	2000	2007
Botetourt County	40.7	42.7
Roanoke MSA	39.2	40.7
Culpeper County	36.5	35.6
Rockbridge County	40.4	42.4

Figure 4 – 2000 Census Population Age Groups



Source: Virginia Employment Commission, Botetourt Community Profile, 2000 Census

Figure 5 - Age Group Growth Trends for Botetourt County (1990 to 2008)

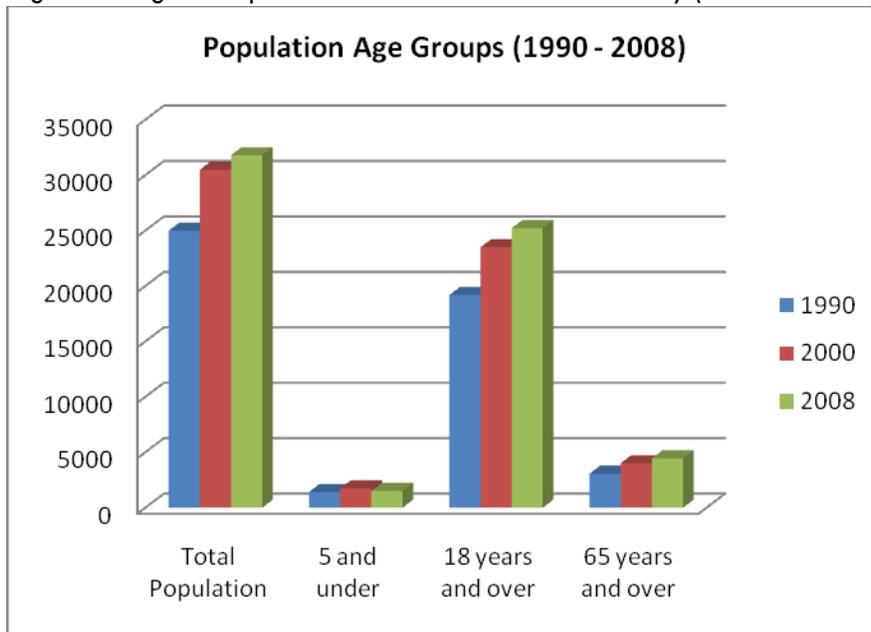


Table 8 – Population Projections by Age and Gender, Botetourt

	2010		2020		2030	
	Female	Male	Female	Male	Female	Male
Under 5 years	792	770	868	849	916	899
5 to 9 years	830	781	897	865	1,012	985
10 to 14 years	916	897	919	852	1,039	980
15 to 19 years	910	1,007	825	816	920	929
20 to 24 years	858	974	693	796	724	766
25 to 29 years	975	1,185	908	1,028	857	851
30 to 34 years	926	999	1,128	1,240	966	1,051
35 to 39 years	854	845	1,142	1,386	1,103	1,240
40 to 44 years	1,098	1,102	1,059	1,116	1,309	1,405
45 to 49 years	1,471	1,312	958	923	1,309	1,536
50 to 54 years	1,467	1,489	1,206	1,164	1,205	1,226
55 to 59 years	1,336	1,382	1,554	1,368	1,055	1,004
60 to 64 years	1,294	1,303	1,535	1,560	1,301	1,252
65 to 69 years	958	931	1,336	1,393	1,613	1,415
70 to 74 years	748	674	1,305	1,200	1,578	1,465
75 to 79 years	556	415	826	620	1,193	956
80 to 84 years	375	273	511	349	920	645
85 years and over	302	151	369	192	528	284
	16,666	16,490	18,039	17,717	19,548	18,889
	33,156		35,756		38,437	

Source: Virginia Employment Commission, Botetourt Community Profile

RACIAL AND CULTURAL COMPOSITION

The racial and cultural composition of the Botetourt County population has not changed greatly since 1990 see (Table 9). The County is mostly white, with other racial and cultural groups making up approximately 5% of the total population. As in other regions of Virginia, the percentages of Hispanic and Asian residents, though small in terms of total population, grew significantly, 69.2% and 46.5%, respectively, over the past ten years in the County. The African-American population increased only slightly by 3.7% during the same timeframe.

Table 9 – Racial and Cultural Composition Botetourt County (1990 – 2000)

Group	1990	2000	Percent Change
Total Population	24,992	30,496	22.0%
White	23,818	28,944	21.5%
White Hispanic	82	111	35.3%
White-Non-Hispanic	23,736	28,833	21.5%
Black	1,035	1,073	3.7%
American Indian, Eskimo or Aleut	22	66	200%
Asian or Pacific Islander	97	145	49.5%
Total Hispanic (any race)	107	181	69.2%
Other Race	20	59	195%
Two or More Races	N/A	209	N/A

Source: U.S. Bureau of the Census.

HOUSEHOLD CHARACTERISTICS

Changes in population characteristics and lifestyles have created greater diversity in household types throughout the United States over the past 20 years. There are more single heads of households, extended family households, and multigenerational households than in previous decades. Demand for a variety of housing types and sizes have grown in response to these demographic and social changes.

Table 10 – Household Type by Census Tract, Botetourt County (2000)

Household Type	401	402	403	404	405	Total	Percent
1 Person:	324	396	524	614	379	2,237	19%
Male Householder	166	191	264	296	103	1,020	9%
Female Householder	158	205	260	318	276	1,217	10%
2+ Persons:	1,052	1,318	2,596	2,108	2,351	9,425	81%
Married Couple Family	913	1,072	2,292	1,688	2,120	8,085	69%
Other Family	125	198	257	328	179	1,087	9%
Male HH-no wife	50	33	85	87	56	311	3%
Female HH-no husband.	75	165	172	241	123	776	7%
Non-Family Household:	14	48	47	92	52	253	2%
Male Householder	14	31	16	77	31	169	1%
Female Householder	0	17	31	15	21	84	<1%
Total	1,376	3,120	2,722	2,722	2,730	11,662	100%

Source: U.S. Bureau of the Census. Note: HH – householder

Table 11 – Botetourt County Household Type by Census Tract: Persons Under Age 18

Household Type	401	402	403	404	405	Total	Percent
Family Households:	381	496	972	900	1,060	3,809	94 %
Married-Couple Family	324	419	876	706	955	3,280	81 %
Other Family:	57	77	96	194	105	529	13 %
Male HH-no wife	31	15	44	55	30	175	4 %
Female HH-no husb.	26	62	52	139	75	354	9 %
Non-Family Household:	14	48	47	92	52	253	6 %
Total	395	544	1,019	992	1,112	4,062	100%

Source: U.S. Bureau of the Census. Note: HH - householder.

HOUSING CHARACTERISTICS

The majority of County residents and homes (also known as dwelling units) are located in the southern end of the County. In 2007, owner occupied dwelling units accounted for 11,398, or 81.7 percent dwelling units. According to the 2000 Census, approximately 81.6 percent of the County's housing stock was also owner occupied. This indicates that housing characteristics remained consistent over time and the County has not yet experienced significant demand for alternative housing styles. The tables below summarize the distribution of new dwelling types and type of construction and structural characteristics of the County's housing stock.

According to the 2007 data, the median value of housing in Botetourt County was \$177,700; a significant increase over previous years. Increased housing values were likely based on recent trends that affected the County and most regions of the country: a rapid rise in housing values due the competitive housing market and availability of easy credit and a movement toward larger houses over the last two to three decades. These trends may not be sustained long term given recent changes in the national economy. Table 13, Table 14, and Table 15 compare the median value of housing for Botetourt County from 1980 to 2007 and to peer communities and the MSA.

Table 12 – Total Housing Units Botetourt County

Total Housing Units (1970-2007)		
Year	Units	Change
1970	6,133	-
1980	8,467	38.1%
1990	9,785	15.6%
2000	12,571	28.5%
2007	13,954	11.0%

Sources: US Bureau of the Census; American Community Survey, 2008

Table 13 – Botetourt Housing Tenure and Characteristics, Trend

Housing Tenure and Characteristics (1980 to 2007)				
	1980	1990	2000	2007
Total Population	23,270	24,992	30,496	31,801
Housing Units	8,467	9,785	12,571	13,954
Persons Per Housing Unit	2.92	2.73	2.61	2.49
Occupied Units	7,972	9,148	11,700	12,772
Owner Occupied	6,605	7,842	10,268	11,398
Renter Occupied	1,367	1,306	1,432	1,374
Median Value	\$43,300	\$73,400	\$130,500	\$177,700
Median Rent	\$125	\$249	\$475	\$603
Vacant Housing	1,862	1,943	2,303	2,556
Vacancy Rate	22.0%	19.9%	18.3%	18.3%

Sources: US Bureau of the Census; American Community Survey, 2008

Table 14 – Housing Unit Values, Peer Comparison

Distribution of Housing Unit Value, Peer Comparison								
	Botetourt	Percent of Total	Culpeper	Percent of Total	Rockbridge	Percent of Total	Roanoke MSA	Percent of Total
Owner-occupied units	11,398		11,419		6,885		90,612	
Less than \$50,000	574	5.0%	307	2.7%	641	9.3%	4,679	5.2%
\$50,000 to \$99,999	1,598	14.0%	253	2.2%	1,077	15.6%	16,661	18.4%
\$100,000 to \$149,999	2,291	20.1%	907	7.9%	1,239	18.0%	26,418	29.2%
\$150,000 to \$199,999	2,532	22.2%	836	7.3%	977	14.2%	17,029	18.8%
\$200,000 to \$299,999	2,263	19.9%	2,578	22.6%	1,342	19.5%	14,299	15.8%
\$300,000 to \$499,999	1,860	16.3%	4,880	42.7%	923	13.4%	8,135	9.0%
\$500,000 to \$999,999	264	2.3%	1,520	13.3%	535	7.8%	2,948	3.3%
\$1,000,000 or more	16	0.1%	138	1.2%	151	2.2%	443	0.5%
Median (dollars)	177,700		331,900		173,900		145,300	

Sources: US Bureau of the Census; American Community Survey, 2008

Table 15 – 2007 Housing Tenure and Characteristics, Peer Comparison

2007 Housing Tenure and Characteristics, Peer County Comparison							
	Total population: Total	Persons Per Housing Units	Housing units: Total	Occupied	Owner Occupied	Renter Occupied	Vacant housing units: Total
Botetourt County, Virginia	31,801	2.48	13,954	12,772	11,398	1,374	1182
Culpeper County, Virginia	43,945	2.56	17,496	16,344	11,419	4,925	1152
Rockbridge County, Virginia	21,312	2.29	10,694	9,296	6885	2,411	1,398
Roanoke, VA MSA	294,422	2.31	138,148	123,888	90,612	33,276	14,260

The quality of housing has improved in Botetourt County over the past few decades as evidenced by a decline in the number of housing units that lack plumbing facilities as illustrated in Table 16. As indicated in Table 17, Botetourt County had more percentage of its housing lacking facilities than peer communities or the MSA.

Table 16 – Botetourt County Total Housing Units Lacking Plumbing

Historical Trend of Housing Units Lacking Plumbing	
2007	175
2000	248
1990	393

Sources: US Bureau of the Census; American Community Survey, 2008

Table 17 - Total Housing Units Lacking Plumbing, Peer Comparison

Housing Units Lacking Plumbing, Peer Comparison				
	Botetourt	Culpeper	Rockbridge	Roanoke MSA
Occupied housing units	12,772	16,344	9,296	123,888
Lacking complete plumbing facilities	175	0	112	512

Sources: US Bureau of the Census; American Community Survey, 2008

Table 18 –Housing Unit Density, Peer Comparison

Housing Units Per Density, Peer Comparison				
	Botetourt	Culpeper	Rockbridge	Roanoke MSA
Total housing units	13,954	17,496	10,694	138,148
1-unit, detached	11,722	12,833	8,576	99,625
1-unit, attached	325	1,306	4	3,230
2 units	124	429	185	4,262
3 or 4 units	71	331	141	2,761
5 to 9 units	172	509	266	4,753
10 to 19 units	96	1,180	116	10,376
20 or more units	38	208	34	4,824
Mobile home	1,406	700	1,372	8,244

Sources: US Bureau of the Census; American Community Survey, 2008

Table 19 – Housing Units Year Built, Peer Comparison

Distribution of Housing Units Per Year Built, Peer Comparison				
	Botetourt	Culpeper	Rockbridge	Roanoke MSA
Total housing units	13,954	17,496	10,694	138,148
Built 2005 or later	116	1,044	89	1,280
Built 2000 to 2004	1,189	2,811	313	7,732
Built 1990 to 1999	3,333	3,215	2,215	19,976
Built 1980 to 1989	2,010	3,224	1,647	19,337
Built 1970 to 1979	3,105	2,198	1,594	25,560
Built 1960 to 1969	1,256	1,423	930	17,856
Built 1950 to 1959	782	1,053	1,061	19,137
Built 1940 to 1949	692	638	482	8,566
Built 1939 or earlier	1,471	1,890	2,363	18,704

Sources: US Bureau of the Census; American Community Survey, 2008

The cost of housing was one item of concern to residents who participated in the Citizen Survey conducted in 2008. However, at least in terms of rental housing, Botetourt County is generally more affordable than peer counties and the Roanoke MSA. Table 13 and Table 20 provide a comparison of home values and rents, respectively.

Table 20 – Median Rent, Peer County Comparison

2007 Median Rent, Peer Comparison				
	Botetourt	Culpeper	Rockbridge	Roanoke MSA
Median Rent	\$603	\$882	\$579	\$625

Sources: US Bureau of the Census; American Community Survey, 2008

Table 21 – Rent as Percentage of Income, Peer Comparison

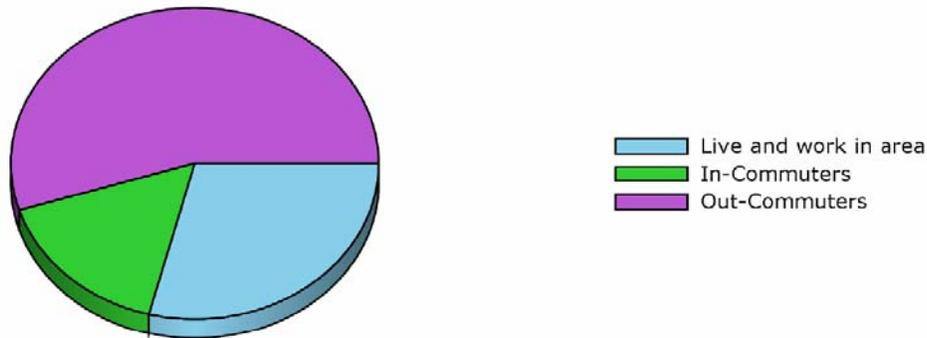
Gross Rent as Percentage of Income, Peer Comparison								
	Botetourt	Percent of Total	Culpeper	Percent of Total	Rockbridge	Percent of Total	Roanoke MSA	Percent of Total
Renter-occupied units	1,374		4,925		2,411		33,276	
Less than 15.0 percent	296	2.6%	317	2.8%	556	8.1%	5,041	5.6%
15.0 to 19.9 percent	228	2.0%	589	5.2%	172	2.5%	4,971	5.5%
20.0 to 24.9 percent	183	1.6%	421	3.7%	292	4.2%	4,791	5.3%
25.0 to 29.9 percent	79	0.7%	858	7.5%	77	1.1%	3,307	3.6%
30.0 to 34.9 percent	20	0.2%	370	3.2%	26	0.4%	2,316	2.6%
35.0 percent or more	370	3.2%	1,849	16.2%	995	14.5%	10,272	11.3%
Not computed	198	1.7%	521	4.6%	293	4.3%	2,578	2.8%

Sources: US Bureau of the Census; American Community Survey, 2008

REGIONAL MOBILITY

Botetourt County's transportation system is heavily auto-dependant with few options for public transit. Figure 6, Table 22, and Table 23 present commuting data for Botetourt County derived from Virginia Employment Commission information. The data highlights the net "journey to work" migration of daily commuters to and from the County. In 2007, 2,990 residents of other jurisdictions commuted into the County to their place of employment (also known as in-commuters). Conversely, 10,150 Botetourt residents commuted to other jurisdictions to their place of employment (out-commuters). Approximately 78% of these out-commuters traveled to Roanoke City or Roanoke County for employment. Thus, on an average, there is a net out-migration of 7,160 residents each day. This compares to a 1990 net out-migration of 6,757. The net outmigration from the County can be attributed to the increase in housing and population over the past two decades and the high number of employment opportunities found in the more urban portions of the Roanoke Valley. Most commuters coming into the County to work are from Roanoke City and Roanoke County.

Figure 6 – Botetourt County Commuting Patterns



Commuting Patterns	
People who live and work in the area	5,369
In-Commuters	2,990
Out-Commuters	10,150
Net In-Commuters (In-Commuters minus Out-Commuters)	-7,160

Source: Virginia Employment Commission, Botetourt Community Profile

Table 22 – Top 10 Places Residents are Commuting TO and FROM

Commuting TO

Commuting FROM

Area	Workers
Roanoke city, VA	5,563
Roanoke County, VA	2,387
Salem city, VA	1,006
Alleghany County, VA	240
Rockbridge County, VA	149
Clifton Forge city, VA	105
Bedford County, VA	95
Montgomery County, VA	82
Covington city, VA	58
Bedford city, VA	50

Area	Workers
Roanoke County, VA	831
Roanoke city, VA	768
Bedford County, VA	487
Franklin County, VA	163
Salem city, VA	109
Rockbridge County, VA	90
Clifton Forge city, VA	61
Alleghany County, VA	59
Montgomery County, VA	55
Covington city, VA	39
Craig County, VA	39

Table 23 – Commuting to Work Comparison

Peer Comparisons of Commuting to Work				
	Roanoke MSA	Botetourt	Culpeper	Rockbridge
Workers 16 years and over	138,731	15,852	21,110	10,207
Car, truck, or van -- drove alone	116,272	13,604	16,263	7,782
Car, truck, or van -- carpooled	13,342	1,242	2,994	1,546
Public transportation (excluding taxicab)	1,299	11	146	24
Walked	2,183	221	334	310
Other means	1,033	88	284	92
Worked at home	4,602	686	1,089	453
Mean travel time to work (minutes)	21.5	25.7	37.4	22.9

INCOME

Income distribution is a helpful tool for evaluating the economic vitality of a community. Income data can be an indicator of the types of services and needs that County residents may require.

Table 24 shows that the median annual gross income of \$42,883 in Botetourt County was estimated to be higher than comparable median gross incomes the Roanoke MSA and peer communities. This may be attributed to the fact that the number of people in age groups that are typically at their peak earning power has increased in the County over the last decade and there has been an increase in the number of professional and/or higher-paying jobs in the County. By 2008, median annual gross income levels were about 30% higher than the Roanoke region, while median household income in Botetourt County, \$58,187, was approximately 26% higher than the regional median income.

Table 24 – Median Annual Gross Income Trend, Peer County Comparison

Median Annual Gross Income (1996 to 2008)								
	Botetourt	Percent Change	Culpeper	Percent Change	Rockbridge	Percent Change	Roanoke	Percent Change
1996	\$26,731		\$23,241		\$19,759		\$21,637	
1997	\$28,441	6.4%	\$24,380	4.9%	\$21,390	8.3%	\$22,823	5.5%
1998	\$29,423	3.5%	\$25,802	5.8%	\$22,462	5.0%	\$23,847	4.5%
1999	\$30,527	3.8%	\$27,099	5.0%	\$23,015	2.5%	\$24,492	2.7%
2000	\$32,141	5.3%	\$28,434	4.9%	\$24,477	6.4%	\$25,518	4.2%
2001	\$32,266	0.4%	\$29,469	3.6%	\$24,416	-0.2%	\$25,621	0.4%
2002	\$32,467	0.6%	\$30,466	3.4%	\$24,310	-0.4%	\$25,568	-0.2%
2003	\$33,189	2.2%	\$30,935	1.5%	\$24,219	-0.4%	\$25,444	-0.5%
2004	\$35,017	5.5%	\$33,241	7.5%	\$25,934	7.1%	\$26,433	3.9%
2005	\$38,440	9.8%	\$37,299	12.2%	\$29,251	12.8%	\$29,963	13.4%
2006	\$39,929	3.9%	\$38,158	2.3%	\$30,196	3.2%	\$30,999	3.5%
2007	\$41,345	3.5%	\$39,873	4.5%	\$31,430	4.1%	\$31,857	2.8%
2008	\$42,883	3.7%	\$41,741	4.7%	\$32,745	4.2%	\$32,832	3.1%

Sources: US Bureau of the Census

Table 25 – Income Distribution, Peer Comparison

Peer Comparison of Income (in 2007 inflation-adjusted collars)				
	Roanoke MSA	Botetourt	Culpeper	Rockbridge
Total households	123,888	12,772	16,344	9,296
Less than \$10,000	9,347	659	835	729
\$10,000 to \$14,999	7,189	481	903	576
\$15,000 to \$24,999	13,629	1,237	1,498	1,346
\$25,000 to \$34,999	16,955	1,278	1,478	1,299
\$35,000 to \$49,999	19,687	1,831	2,266	1,451
\$50,000 to \$74,999	24,829	2,722	3,606	1,889
\$75,000 to \$99,999	14,569	1,953	2,037	1,034
\$100,000 to \$149,999	11,472	1,610	2,406	568
\$150,000 to \$199,999	3,206	478	921	234
\$200,000 or more	3,005	523	394	170
Median household income (dollars)	46,103	58,187	59,138	41,298
Mean household income (dollars)	59,183	71,499	69,619	53,849
Families	79,873	9,675	12,091	6,439
Less than \$10,000	3,111	237	263	129
\$10,000 to \$14,999	2,081	249	667	249
\$15,000 to \$24,999	5,749	633	603	556
\$25,000 to \$34,999	9,488	815	935	1,052
\$35,000 to \$49,999	12,901	1,244	1,794	1,093
\$50,000 to \$74,999	18,833	2,373	2,723	1,532
\$75,000 to \$99,999	12,654	1,846	1,806	952
\$100,000 to \$149,999	9,720	1,393	2,154	511
\$150,000 to \$199,999	2,810	448	795	234
\$200,000 or more	2,526	437	351	131
Median family income (dollars)	57,517	68,085	65,671	54,052
Mean family income (dollars)	70,499	80,335	77,430	63,223
Per capita income (dollars)	25,347	28,811	25,516	23,256

Sources: US Bureau of the Census; American Community Survey, 2008

EDUCATION

The general education statistics presented in Table 26 highlight significant overall improvements in educational attainment among Botetourt County residents. In 1970, only 38.3% of the residents 25 years or older had completed high school. By 2008, the percentage of graduates had increased to 88.3%. The percentage of college graduates increased from 2.9% to 23.2% between 1970 and 2008. The median school years completed increased from 10.4 years in 1970 to 12.2 in 1980. Statistics on median school years completed in 1990, 2000, 2008 were not available; however, the positive changes in the high school and college graduation rates and the change in employment types indicate that they continue to increase.

Table 26 – General Education Statistics 1970 – 2000

People 25 years old and older	1970	1980	1990	2000
Percent High School Graduates	38.3%	57.7%	72.9%	81.1%
Percent College Graduates	2.9%	10.9%	13.6%	19.5%
Median School Years Completed	10.4	12.2	NA	N/A

Source: U.S. Bureau of the Census. NA - Not available.

WORK FORCE

Employment levels in the County have fluctuated over the last 30 years. During the economic boom period of the late 1960s and early 1970s, unemployment was very low (1.6%). However, by 1982, unemployment had reached 8.4%. Between 1987 and 1992, unemployment in Botetourt County decreased to 3.5% in 1990, but peaked in 1992 at 5.8%. Since 1994, unemployment for the region has remained at or below 3% and has been consistently lower than comparable periods for Virginia and the whole country. Growth in employment kept up with population growth in the period between 1990 and 2000. In 2008, unemployment spiked to 3.8%, but still remained lower than surrounding localities (Table 27 and Table 28).

Table 27 – Labor Force, Region and Peer Counties

Peer Comparison of Labor Force				
	Roanoke MSA	Botetourt	Culpeper	Rockbridge
Population 16 years and over	238,367	26,042	34,185	17,336
In labor force	151,482	16,858	22,865	10,892
Civilian labor force	151,343	16,858	22,754	10,888
Employed	143,915	16,210	21,737	10,432
Unemployed	7,428	648	1,017	456
Armed Forces	139	0	111	4
Not in labor force	86,885	9,184	11,320	6,444
Civilian labor force	151,343	16,858	22,754	10,888
Unemployed	4.9%	3.8%	4.5%	4.2%

Sources: US Bureau of the Census; American Community Survey, 2008

Table 28 – Ratio of Employment to Population, Botetourt (1990 to 2008)

	1990	2000	2008
Population	24,992	30,496	31,801
Employment	12,895	16,488	16,210
Ratio	51.6%	54.1%	51.0%

Sources: US Bureau of the Census; American Community Survey, 2008

The County has seen significant changes in the occupations of its residents with a shift toward professional and service employment. In 1980, “technicians, sales, and administrative support” was the dominant occupation of County residents (27%), followed by “operators, fabricators, and laborers” (24%). In 1990, the major occupation of County residents was also “technicians, sales, and administrative support” (30%), followed by “managerial and professional” (22%), and “operators, fabricators, and laborers” (20%). By 2008, the “manufacturing” category had become the largest, reflecting a shift in the County’s economy towards this industry. At the same time, natural resource oriented jobs of “farming, forestry, and fishing” continued to suffer significant declines. Current occupations by age groups of Botetourt County residents during 2008 are shown in Table 29.

Table 29 – Age of Work Force by Industry – 2008

	14 - 18	19 - 21	22 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+
Total, All Industries	343	514	614	2,051	2,665	2,691	1,725	471
Agriculture, Forestry, Fishing & Hunting	4			19	16	24	11	11
Mining			5	17	24	35	23	6
Utilities								
Construction	7	50	62	220	243	220	125	30
Manufacturing	6	55	100	487	672	605	324	25
Wholesale Trade	6	20	51	194	242	232	125	55
Retail Trade	67	122	101	269	328	319	270	61
Transportation and Warehousing	5	15	28	124	167	219	121	28
Information			4	21	25	25	18	3
Finance and Insurance		3	7	29	35	34	24	7
Real Estate and Rental and Leasing		5	9	12	19	18	10	5
Professional and Technical Services	9	14	18	51	62	88	33	12
Management of Companies and Enterprises		3	6	30	44	45	34	4
Administrative and Waste Services	3	11	29	58	73	94	48	20
Educational Services		8	28	114	218	238	214	57
Health Care and Social Assistance	42	53	61	164	210	220	162	70
Arts, Entertainment, and Recreation	13	6	4	8	23	13	16	7
Accommodation and Food Services	163	123	68	134	127	106	56	33
Other Services, Ex. Public Admin	11	9	16	32	34	51	37	15
Public Administration		12	16	65	102	105	72	20

Source: U.S. Census Bureau, Local Employment Dynamics (LED) Program, 2nd Quarter (April, May, June) 2008, all ownerships.

*Some data for age distribution related to employment type not provided.

AGRICULTURAL ACTIVITY

Table 30 traces changes in the characteristics of agriculture in Botetourt from 1982 to 2007. These statistics were obtained from the Census of Agriculture for the years 1982, 1987, 1992, 1997, 2002, and 2007 as published by the U.S. Bureau of the Census. In general, these statistics show a diminishing role for agriculture as a part of the Botetourt County economy. Concerns about the potential conversion of farmland to other uses were raised at public workshops on the plan.

The number of farms in Botetourt County has been declining over the years (13.8 percent between 1982 and 1997), but has recently rebounded to 638 in 2007. While the number of farms has increased, the total acreage devoted to farming has declined, with a decrease of average farm size from 167 acres to 138 acres. This is likely due either to farm diversification, or medium sized farms being sold for other uses, leaving large and small farms intact. Although the number of farm acres has declined, the average value of farms has increased 75 percent from 1997 to 2007, reflecting an overall trend of increasing land values in the County as a whole; farm value may decline in the future given the recent collapse of the real estate market.

Table 30 – Agricultural Statistics

Agricultural Statistics (1982 to 2007)						
	1982	1987	1992	1997	2002	2007
Number of Farms	586	532	512	505	610	638
Land in Farms (acres)	97,835	97,523	96,833	90,502	97,091	87,913
Average Farm Size (acres)	167	183	189	179	159	138
Estimated market value of land and buildings						
Average per farm dollars	\$179,118	\$202,592	\$259,284	\$332,893	\$496,590	\$584,921
Average per acre dollars	\$1,007	\$1,070	\$1,459	\$1,870	\$2,732	\$4,245
Total Cropland (acres)	46,236	40,465	41,373	40,662	44,393	27,662
Harvested Cropland (acres)	19,193	19,397	18,689	20,023	23,458	21,005
Market value of agricultural products sold\$1,000	\$10,580	\$11,934	\$12,549	\$10,773	\$9,982	\$13,548
Average per farm dollars	\$17,983	\$22,432	\$25,410	\$21,253	\$16,365	\$21,234
Crops, including nursery and greenhouse crops\$1,000	\$2,011	\$2,086	\$2,138	\$1,772	\$1,850	\$2,488
Livestock, poultry, and their products\$1,000	\$8,527	\$9,848	\$10,411	\$8,961	\$8,133	\$11,059

PLANNING FOR GROWTH AND CHANGE

Change is usually inevitable, but not entirely unpredictable. As the children of the baby boom generation age and graduate from the County school system, they often leave the County to pursue higher education, job opportunities, or a greater diversity of housing options. Those same boomer children may gravitate back to the area with young families because of the quality of life and superior education system. Seniors are increasingly choosing to “age in place” rather than migrate away from familiar communities for their retirement years. To remain attractive, competitive and stable, the County needs to anticipate changes that will affect the future and anticipate local, regional and national trends that will influence future land use patterns and drive public facility and utility needs. This comprehensive plan is designed to respond to the driving forces that will affect the County's future through policies that will maintain the county's quality of life and economic vitality.

3 LAND USE

INTRODUCTION

The Land Use Element of the Comprehensive Plan establishes the framework for the physical growth and development of the county over the life of the plan. It provides direction and guidance on a range of development, conservation and land use compatibility issues. It also describes the competing priorities that must be taken into account when planning for the future of the County.

The Land Use Element lays out policies to improve economic strength and security, enhance the built and natural environment, and build livable communities. Land use policies seek to accommodate growth and change by enhancing development in existing areas while preserving natural areas. The Land Use Element objectives and policies directly tie to the objectives and policies of all other plan elements. Transportation, economic development, cultural and environmental resources, and community facilities policies must be compatible with the overarching land use policies to ensure that the County develops as envisioned. The Land Use Element establishes policies for the physical development of appropriate uses at appropriate densities in appropriate locations and includes guidelines that describe the character and quality of future development and the preferred future development pattern.



BACKGROUND

This section of the Land Use Element provides background information, analysis, and discussion of challenges and opportunities.

Challenges

Botetourt County is fortunate to have plentiful natural resources that have fueled its agricultural economy and attracted residential growth. While the County has historically been a rural community with its roots in farming, it has become an increasingly attractive location for residential development over the last 10 to 20 years. Recent trends indicate that residential growth is shifting from large lot rural residential growth to low-to-medium density, more suburban style development and increasing pressure for the conversion of farmland to residential use.

The increase in residential development is anticipated to play a major role in the County's economy as there is an expectation that the demand for service-related businesses will increase to serve the growing residential population. Botetourt County recently initiated an *Economic Development Study* to evaluate future demands and provide direction for the County's economic development policies. The information gathered for that study will provide important input to help identify future land use needs and appropriate patterns of development throughout the County.

Transportation has long influenced the development pattern of Botetourt County. Current development patterns in Botetourt County are heavily influenced by existing transportation routes: U.S. Route 220, U.S. Route 11, U.S. Route 460 and I-81. The James River, railroads, and U.S. Route 220 were significant influences that shaped historic settlement patterns. The construction of I-81 provided access to new lands within the County, attracting development around the interchanges, specifically at Exit 150. During the Comprehensive Plan process, residents and stakeholders expressed their views that the County should develop plans to mitigate the rapid growth along U.S. Route 220; to preserve the rural character north of Daleville Town Center and promote more growth around the incorporated towns.

Land Use Analysis

In addition to public input, several factors must be evaluated to prepare appropriate Land Use goals, objectives and policies of this plan and a Future Land Use Map for Botetourt County. These include review of the existing land use pattern, current zoning, existing development densities, population distribution and recent development activity. Additionally, a capacity analysis based on population projections provides an indication of whether or not there is sufficient development capacity to accommodate projected growth.

Existing Land Use

Draft existing land use, zoning and future land use maps were reviewed by the general citizenry of Botetourt County at community meetings held on December 5, 2009 and January 5, 2010 (Map 5 - Existing Land Use, Map 6 - Zoning, and Map 9 – Future Land Use). The final existing land use map, a generalized zoning map, and a future land use map are incorporated into this plan.

The existing land use map indicates that current residential and commercial land uses are clustered in the southern end of the county, where sufficient infrastructure and facilities exist to support development of this intensity. The map (Map 5) depicts seven general land use categories:

Agricultural/Forest Land

This is the largest land use category in the County, comprising approximately 69.1 percent of the County's land area. Agricultural uses in Botetourt are generally located in the central and northern sections of the County. These areas are typically used as cropland and orchards, and raising and grazing of livestock. Buildings associated with these activities (single family dwellings, barns, grain storage, etc.) are considered agricultural uses for the purposes of this map. Forest land consists of privately, corporately owned, or National Forest. Forested areas are typically found in the more mountainous regions of the County, particularly in northern Botetourt and the area along the Blue Ridge Parkway.

Federal Lands

This category consists of George Washington National Forest land that is publicly owned and managed by the Federal government. Public forest land comprises approximately 25.9 percent of the total land area in the County. Currently, the Jefferson and George Washington National Forests encompass approximately 90,000 acres of land in Botetourt County, some of which is along the Blue Ridge Parkway.

Rural Residential

This category includes clusters of rural residential development in the County, which are typically single family housing. This type of development is located in very rural portions of the county, typically on land previously used for agricultural or forestry. Most of these homes have no public water and sewer service.

Low Density Residential

This category generally represents areas of single family homes in large lot suburban patterns of development. Low-density residential land uses are concentrated in the southern portion of the County. These areas may be served by public water and sewer, but are normally served by individual wells or private water systems and septic systems.

Medium Density Residential

This residential category comprises a small portion of the County's total land area. Medium density areas include all apartment and townhouse developments and small lot single family developments. All medium density residential areas are served by public or private water and public sewer. Most of these medium density residential land uses are found in southern Botetourt; however, this land use category also exists within the incorporated towns and unincorporated communities in other areas of the County, such as Iron Gate, Glen Wilton, and Eagle Rock.

Commercial/Office

The commercial/office land use category consists of areas where the wholesale and retail sale of goods and services is the primary activity. Commercial and office development in the County has historically occurred at Interstate 81 interchanges and along main transportation corridors where public water and sewer are available in proximity to existing and anticipated residential development.

Industrial

The industrial land use category indicates those areas where manufacturing is the primary activity. This includes quarrying, industrial parks, and for the purpose of this plan, sanitary landfilling. The major areas of industrial activity in Botetourt County are the EastPark Commerce Center, the Jack C. Smith Industrial Park, the Roanoke Cement Company, the Botetourt Center at Greenfield and Vista Park, all of which are located in the southern region of the County. Other smaller industrial uses and areas can be found on scattered sites and along highway corridors such as U.S. Route 11 and U.S. Route 220 North.

Existing Zoning

The existing zoning map (Map 6) shows how parcels are currently zoned with respect to the 13 zoning districts included in Botetourt County's Zoning Ordinance. Table 31 provides more specific zoning information about parcels that are currently developed with at least one dwelling unit. Based on this information, 6,433 dwelling units are located in areas of the zoned Agricultural A-1, and 3,962 dwellings are located in areas zoned Residential R-1.

Table 31 – Land Use Analysis (Parcels With Dwelling Units – DU > 0)

Current land use per zoning (parcels with dwelling units)				
ZONING	Number of Parcels	Dwelling Units (DU)	Total Acres	Average of DU/Gross Acres
A1	6242	6433	75,814	0.0849
B1	34	35	47	0.7475
B2	37	39	62	0.6305
B3	10	10	31	0.3242
FC	360	371	16,250	0.0228
M1	7	7	93	0.0754
M2	2	2	3	0.7198
M3	9	10	242	0.0414
R1	3948	3962	3,601	1.1001
R2	211	213	124	1.7192
R3	260	262	64	4.1202
RR	1260	1280	2259	0.5666
SC	1	1	2	0.6474
TOWN	986	1002	789	1.2703
Total	13,367	13,627	99,379	

Source: Botetourt County GIS Parcel Information, 2009

Table 32 provides information about parcels that are either undeveloped or not developed with a residential dwelling. These tables indicate that most of the land in the County is zoned A-1, agricultural, followed by Forest Conservation (FC) and that there are areas zoned for residential development that have not been improved to date.

Table 32 - Land Use Analysis (Parcels With Dwelling Units – DU < 0)

Current land use per zoning (parcels with no dwelling units)			
ZONING	Number of Parcels	Average Acres	Total Acres
A1	5333	31	164,189
B1	78	2	178
B2	190	2	469
B3	52	2	115
FC	471	156	73,540
M1	80	7	527
M2	75	13	988
M3	92	45	4,109
POP	2	152	304
R1	931	1	1,235
R2	153	0	70
R3	71	1	71
RR	899	1	959
SC	28	4	102
TND	1	118	118
TOWN	929	1	1,006
Total	9,385		247,980

Source: Botetourt County GIS Parcel Information, 2009

Implications of Existing Zoning

The following tables and graph (Table 33, Table 34, Table 35, and Table 36) describe how the current population of the County is distributed by zoning category and provide an assessment as to whether or not the County can accommodate projected population growth based on current zoning patterns. This assessment is based on three assumptions: the current number of persons per household of 2.4 is maintained in the future, the average number of dwelling units per acre remains consistent with current development patterns and existing densities in each zoning category, and that no additional land is zoned for residential use. The estimated persons per household figure is based on the most recent estimate of population available from the Weldon Cooper Center, divided by the County's estimate of total dwellings based on GIS and tax assessment information. Table 33 provides the analysis of how the person per dwelling unit has been estimated.

The 2.4 persons per dwelling unit figure and the zoning information included in Table 34 can be used to develop a rough estimate of population distribution by zoning category (Table 34 and Table 35). Table 35 demonstrates the capacity of the County to accommodate projected population increases based on existing zoning. This simplified capacity analysis indicates that Botetourt County has sufficient amounts of residentially zoned land to accommodate the additional 6,000 anticipated by VEC forecasts by the year 2030. Table 36 provides an estimate of total population distribution in each residential zoning category by decade to the year 2030.

Table 33 – Population Per Dwelling Unit Estimation Method

Estimation of Population Per Dwelling Unit (DU)	
Population 2008 (provisional Weldon Cooper Center/US Census)	32,261
Percent Change 2007-2008	1.5%
2009 Estimated Population	32,745
Current Dwelling Units (Source: Botetourt GIS Parcel Database)	13,689
Average persons per household (DU) 2009	2.39

Sources: US Bureau of the Census; American Community Survey, 2008

Figure 7 – Current population distribution per zoning (based on 2.4 Persons/DU)

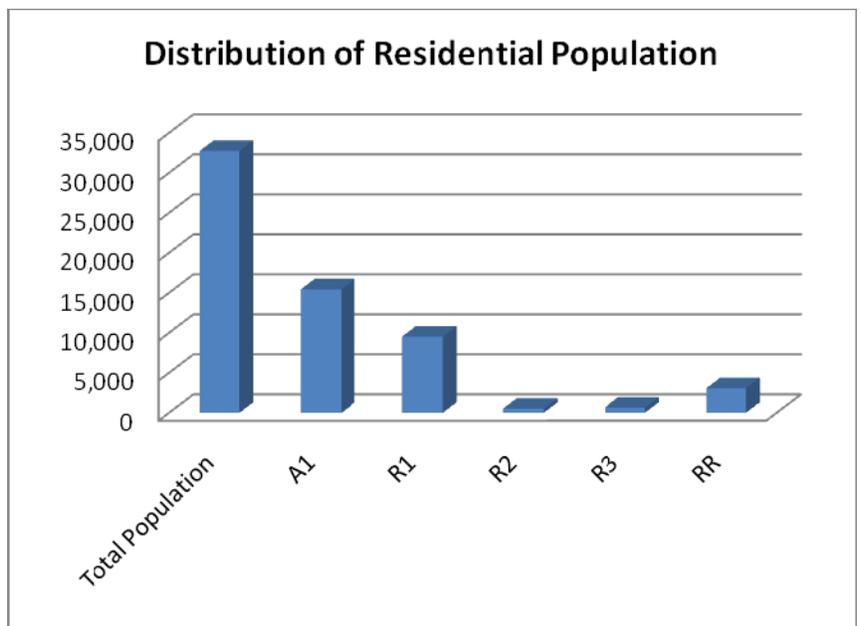


Table 34 - Current Distribution of Population per Zoning Category

Current Distribution of Population Relative to Residential Zoning Categories (based on 2.4 Persons/DU)		
Zoning District	Population	Percentage
Total Population	32,745	100.0%
A1	15,439	47.1%
R1	9,509	29.0%
R2	511	1.6%
R3	629	1.9%
RR	3,072	9.4%

Source: Botetourt County GIS Parcel Information, 2009

Table 35 - Available Population Growth Capacity per Zoning Category

Potential Population Capacity based on existing Zoning (based on 2.4 Persons/DU)		
Zoning	Available Population Capacity	Percentage
A1	N/A*	N/A*
R1	2,963	9.0%
R2	167	0.5%
R3	169	0.5%
RR	2,302	7.0%

*While still allowed where appropriate, it is assumed that if the policies set forth in this plan are implemented, that little or no additional growth would occur in the Agricultural zoning category.

Table 36 – Population Forecast Per Zoning Category, VEC Forecasts

Projected Population by Zoning District – Virginia Employment Commission Projection						
	Total Population	A1	R1	R2	R3	RR
2009*	32,745	18,676	9,525	125	2,926	1,494
2010	33,156	18,910	9,644	126	2,963	1,513
2020	35,756	20,393	10,401	136	3,195	1,631
2030	38,437	21,922	11,180	146	3,434	1,754

Based on housing growth trends during past five years

*Estimate based on 2008 census estimate and growth from 2007 to 2008

Residential Development Activities

The following tables provide an overview of housing activity since 1999. The information is divided into three tables: residential development between 1999 and 2004, residential development after 2005 and residential development for the entire period from 1999 to 2009. Growth since 2005 has shifted slightly to Residential R-1 which might indicate a preference for a conventional suburban development pattern. Whether this trend will continue in the future will depend on factors that are beyond the County's control such as land values, the economy, lending regulations, and the price of gas as well as factors such as whether or not the County wants to implement policies that encourage other development patterns.

Table 37 – Housing Units Built Per Zoning Category (1999 to 2004)

Housing Units Built Per Zoning (1999 to 2004)					
Zoning	Number of Parcels	Total Acres	DUs	Average DU/Acre	Percentage of Growth
A1	885	7,693	900	0.12	61.3%
R1	368	2,574	375	0.15	25.5%
R2	16	1,077	16	0.01	1.1%
R3	76	52	76	1.46	5.2%
RR	102	576	102	0.18	6.9%

Table 38 – Housing Units Built Per Zoning Category (2005 to 2009)

Housing Units Built Per Zoning (2005 to 2009)					
Zoning	Number of Parcels	Total Acres	DUs	Average DU/Acre	Percentage of Growth
A1	277	2,458	300	0.12	57.0%
R1	153	127	153	1.20	29.1%
R2	2	5	2	0.38	0.4%
R3	47	11	47	4.17	8.9%
RR	24	42	24	0.58	4.6%

Table 39 – Housing Units Built Per Zoning Category (1999 to 2009)

Housing Units Built Per Zoning (1999 to 2009)					
Zoning	Number of Parcels	Total Acres	DUs	Average DU/Acre	Percentage of Growth
A1	1,162	10,151	1,200	0.12	60.2%
R1	521	2,702	528	0.20	26.5%
R2	18	1,082	18	0.02	0.9%
R3	123	64	123	1.94	6.2%
RR	126	617	126	0.20	6.3%

Map 7 (Recent Residential Growth Since 1999) and Map 8 (Residential Densities) provide information about where residential development has occurred over the past 10 years. Generally, new residential development has been scattered along rural roads and in some instances, adjacent to areas of existing development.

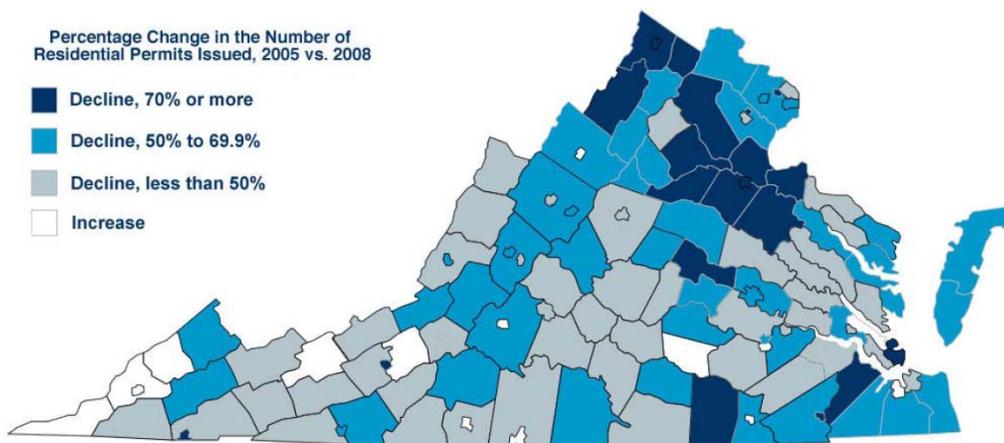
Building permit data for the County (Table 40) indicates that there has been a decline in residential construction activity since 2005, and that development levels in 2009 were at a 20 year low. This trend was evident Statewide as shown in Figure 8.

Table 40 – Annual Building Permits, Botetourt County

Number of Annual Building Permits							
Year	New Res. Const. Units	Commercial Incl. Add. & Alter.	Residential Add. & Alter.	Misc.	Electric, Plumbing & Mech.	Number Inspections	Const. Costs \$\$\$\$ Value
1984	169	8	124	123	952	2002	\$ 11,444,426
1985	176	14	169	95	1033	2704	\$ 12,881,769
1986	205	19	215	125	1576	3679	\$ 17,563,823
1987	189	57	119	231	1318	3245	\$ 21,219,672
1988	201	38	173	366	1396	3755	\$ 21,127,164
1989	156	43	250	229	2075	3529	\$ 19,523,163
1990	230	42	335	269	2289	3825	\$ 24,300,130
1991	235	55	321	215	2324	4160	\$ 28,533,244
1992	257	45	315	191	2292	3893	\$ 28,677,924
1993	281	27	387	236	2486	4503	\$ 30,555,162
1994	290	13	361	341	2608	5446	\$ 39,633,084
1995	249	20	348	336	2525	4874	\$ 49,205,658
1996	226	46	282	355	2306	4814	\$ 50,321,772
1997	216	21	341	326	2428	5119	\$ 45,149,167
1998	228	43	360	269	2374	5858	\$ 43,877,716
1999	230	26	404	223	2377	6058	\$ 76,217,138
2000	253	45	390	93	1401	5911	\$ 53,015,291
2001	275	79	304	31	1288	5636	\$ 53,499,117
2002	208	84	281	77	1238	6697	\$ 41,761,938
2003	276	66	232	140	1477	6302	\$ 71,541,928
2004	237	85	175	239	1840	7536	\$ 88,126,958
2005*	277/32	59	191	119	1819	7791	\$ 84,644,900
2006	194/33	82	201	165	1813	7735	\$ 89,191,822
2007	142/33	90	142	177	1405	6867	\$ 48,594,897
2008	102/25	109	184	131	1131	5826	\$ 58,311,790
2009	63/19	76	170	118	942	4885	\$ 25,595,941

*Starting 2005 the tabulations depict new residential units/manufactured units
 Source: Botetourt County Building Department, 2009

Figure 8 – Building Permit Percentage Change Statewide (2005 vs 2009)



Future Land Use Map

The Future Land Use Map (Map 9) depicts areas of the County that have been designated for future residential and commercial growth as well as areas for agriculture and conservation. The Future Land Use Map serves as a general guide for both public and private sector decision-makers who will shape future development of Botetourt County. The map serves as a guide for the Planning Commission and Board of Supervisors when planning public facilities, or evaluating land development applications. The map also serves as a guide to investors, businesses and citizens to indicate what areas of the County are appropriate for development.

This map presents a generalized overview of desired land use patterns within the County. The map is not intended to be parcel specific. The specific location of future land uses and the appropriate mix of uses in any given area will be determined as part of the development review process, subject to the standards of the Zoning Ordinance, at such time as the Planning Commission and Board of Supervisors review specific land use requests. Such review will consider the compatibility and benefits of the use, and the land use impacts of a specific use on the surrounding neighborhood and larger community.

Seven future land use categories are shown on this map. They are:

Federal Lands

This category designates National Forest lands.

Conservation/100 Year Floodplains

This category includes steep slopes, lands protected by conservation easements, 100-year floodplains, and properties that are within the Carvins Cove watershed. Future development in these areas should be prohibited or extremely limited.

Agricultural

This category includes land areas in the rural portions of the County where agricultural and forestal uses are the dominant land use. Large lot single family development may now exist within some of these areas. Future development of these properties at densities higher than allowed by the current agricultural zoning is not encouraged.

Rural Low Density Residential

This category includes areas where larger lot residential development is encouraged, as a transition between the County's agricultural and medium density residential areas. Such development generally lacks public water and/or sewer.

Medium Density Residential

This category includes areas where suburban patterns of residential development have occurred and are encouraged to occur in the future. Although single family homes are the predominant land use in this category, higher density residential development such as townhomes and apartments may also be suitable. Allowable future densities in these areas should be based upon the availability and adequacy of public facilities and the compatibility of the proposed land use with surrounding properties. Public water and/or sewer typically serve or are planned for these areas. Most of these areas are and will be located in the southern portions of the county.

Commercial

This category designates areas where commercial developments have occurred and where future commercial developments are encouraged. Public water and sewer is generally available or planned for these areas.

Industrial

The industrial land use category is designated to show those areas where major industrial activities exist and/or are planned.

GOALS, OBJECTIVES AND POLICIES

Land Use Goals

- To achieve a balanced land use system that provides sufficient and compatible land areas for all community land use needs, while protecting sensitive natural environments, and important local historic and cultural resources.
- To promote Urban Development Areas in the place or places where a variety of land uses, facilities, and services exist and are planned to support the County's future growth, with emphasis placed on infill development.
- To enable well-planned, coordinated, and sustainable development to occur throughout the county.

Land Use Objectives

- Minimize adverse impacts of growth on rural character.
- Promote a strong and diversified tax base through diverse zoning.
- Protect rural residential areas and prime agricultural lands from future growth.
- Protect sensitive environmental areas and historic and cultural resources.
- Discourage scattered development patterns which are incompatible with the County's ability to provide adequate and cost effective public services and facilities.
- Enhance the rural character of the County through the preservation of agricultural and forestal lands.
- Implement appropriate policies and procedures to provide reasonable protection to the Blue Ridge Parkway and Appalachian Trail.
- Adopt and maintain appropriate land use ordinances and voluntary programs designed to guide and implement the provisions of this comprehensive plan.
- Coordinate review of joint development plans and concepts with incorporated towns.
- Promote and encourage commercial, residential and limited light and small industrial growth in areas in close proximity to the towns, where appropriate services and infrastructure are available.

Land Use Policies

- Consider the intent and policies contained in this comprehensive plan, and the plan's future land use map when evaluating development proposals requiring a public hearing.
- Continue to develop the County's economic base so that tax rates can be maintained and desired services can continue to be provided to all property owners.
- Zone appropriate areas for industrial, commercial and office growth.
- Large residential, commercial and industrial development proposals should only locate in areas planned for such use, where there are adequate public facilities, and where the transportation system can accommodate the demands of the new development.
- Encourage commercial and office uses around existing incorporated towns and villages.
- Infill development should be encouraged in south County areas, so that existing infrastructure can be more efficiently used, and rural and agricultural lands can be deferred from development.
- Encourage infill development where infrastructure exists, as well as in and around incorporated towns.
- Direct growth toward areas designed to accommodate such growth.
- Periodically review the County's zoning and subdivision ordinances to ensure that they are relevant tools to achieve local land use objectives and are in conformance with policies contained in this plan.
- Work with the National Park Service and Blue Ridge Parkway staff to develop local procedures and standards to protect critical Parkway viewsheds and achieve an appropriate development character at Parkway interchanges.

- Encourage the conservation and preservation of major historic and archeological sites. Continue to provide comment on potential new sites within the County.
- Continue to incorporate innovative development techniques into zoning and subdivision ordinances, such as cluster developments and conservation subdivision design.
- Discourage scattered development patterns through zoning incentives.
- Review existing and potential incentives and development standards to ensure that opportunities for rural preservation and compact development are used effectively.
- Encourage the use of conservation easement programs at the discretion of private land owners to promote preservation of key rural areas in perpetuity.
- Allow and encourage residential cluster development to maintain larger tracts of open space in rural areas; amend the county's current subdivision and zoning ordinances to provide incentives for clustering in rural areas. A common incentive for clustering is a density bonus or bonuses (residential and non-residential) which provide an increase in density correlating to the amount of open space set aside.
- Encourage mixed-use centers that should be comprised of well-mixed and integrated developments that avoid segregated uses and have well planned public spaces that bring people together and provide opportunities for active living and interaction.
- Promote the development of mixed-use activity centers with multi-modal transportation connections to provide convenient and accessible residential and employment areas.
- Coordinate with the towns to create more uniform zoning regulations in the towns and surrounding county areas.

IMPLEMENTATION STRATEGIES

The land use policies of this plan are based on two key strategies: directing growth to appropriate areas and reducing development pressures to convert farmland to higher intensity uses. The County's desire to maintain a balance between development and preservation objectives is obvious in the way the Future Land Use Map has been drawn.

The Future Land Use Map should be used as a general guide for future county development patterns. More specific guidelines for development or programs and strategies for encouraging alternative development types, encouraging preservation of farmland and managing the timing and location of growth can be pursued by the County as deemed appropriate subject to the framework of this Comprehensive Plan. Some examples of programs that the County might wish to explore after adoption of this plan include:

Farm Land Protection and Environmental Preservation Initiatives

Purchase of Development Rights (PDR's)

A purchase of development rights (PDR) program enables a locality to purchase conservation easements from property owners to promote limited development. PDR programs offer key advantages to both the landowner and the community. The landowner gets to keep the land, and receive financial compensation for foregoing development. The advantage to the community is reduced development in priority preservation areas.

The goal of the program is to preserve and protect farm and forested lands through perpetual easements. The protected land base will help to ensure that farm and forested lands will be available for future generations to maintain a viable agricultural industry for Botetourt County. By preventing development in the rural areas of the County, tremendous savings are realized by offsetting infrastructure costs. PDR prevents the need for new roads and improvements, public services such as police, fire and EMS, new schools, libraries, and trash collection. The American Farmland Trust Cost of Community Services studies conducted over the past two decades show working lands generate more public revenues than they receive back in public services. Their impact on community general funds is similar to that of other commercial and industrial land uses. Agricultural lands require very few city services and generate positive tax revenue, thus they actually subsidize the residential development. Several localities in Virginia have adopted PDR programs.

A local PDR program can be funded through a variety of mechanisms. These include a line item in the local budget, general revenue, roll-back taxes, a specific local tax, grants, and dedication of a particular windfall.

Agricultural/Forestral Districts

An Agricultural and Forestal District (AFD) is enabled by State law and subject to provisions of the State Code. An AFD is a voluntary agreement between farmers and the local government to maintain land in farming for a set term. When a district is established, landowners agree not to convert their farm or forest land to development for a period of between 4 and 10 years. In return, the locality offers reduced tax rates, protection from nuisance suits, and consideration of the district in local land-use planning. The Commonwealth also agrees not to take actions or make infrastructure investments that will place increased pressure on landowners to convert land.

Basic criteria for AFD's are as follows: 1) they are initiated by landowners voluntarily; 2) a district must have a core of at least 200 acres in one or more contiguous parcels, 3) parcels can be included in the district if their closest boundary is within one mile of the core, or if they are adjacent to a parcel that is in the district, and 4) part or all of a parcel can be enrolled.

Conservation Reserve Program (CRP)

Although not well known to many local government officials, this program is the federal government's single largest environmental improvement program. It is administered by the United State's Department of Agriculture's (USDA) commodity credit corporation (CCC) through the Farm Service Agency (FSA). Established in 1985, the CRP encourages farmers to voluntarily plant permanent areas of grass and trees on land that needs protection from erosion, to act as windbreaks, or in places where vegetation can improve water quality or provide food and habitat for wildlife. The farmers must enter into contracts with the CCC lasting between 10 and 15 years. In return, they receive annual rental payments, incentive payments for certain activities, and cost share assistance to establish this protective vegetation.

Riparian Easements

A riparian easement is a special type of conservation easement that applies only to a streamside or riparian zone mutually agreed upon by the landowner and the easement holder(s). Like all easements, a riparian easement is a legal agreement in which the landowner retains ownership and full control of the property, yet conveys certain specified rights to the easement holder(s). Specifically, the landowner agrees to restrict uses that would harm the riparian zone and works with the easement holder to develop a management plan to ensure riparian zone protection. Typically this is done by establishing and maintaining vegetation and limiting livestock access to the stream. Each easement is tailored to the property and the desires of the individual landowner. Again, depending upon the terms and timing of the riparian easement, significant tax savings can accrue to the owner granting the easement.

Conservation Reserve Enhancement Program (CREP)

CREP is a voluntary initiative using state, federal, and non-governmental funding to help solve environmental problems. The objective is to share costs and resources to address specific local environmental problems in a designated target area. Specific financial incentives encourage farmers to enroll land in targeted areas in CREP contracts for designated environmental practices such as riparian buffers, grass filter strips, or wildlife habitat. Incentives can include cost-share assistance for establishing the designated practices, special rental rates, or one-time payments. A landowner may establish both a CREP contract and a riparian easement on his/her property, reaping the benefits of both programs.

Voluntary Conservation Easements

In 2010, over 15,423 acres of land in Botetourt County were protected by voluntary conservation easements (Map 10 – Conservation Easements). A conservation easement is a legal agreement by which a landowner retains ownership of property while conveying certain specified rights to the easement holder. Conservation easements are usually given to a non-profit, charitable land conservation organization or a public entity. Easements can be tailored to meet the owner's wishes regarding the future use of his/her land. They can be for a specific time period, or can be granted in perpetuity. Typically a conservation easement restricts development or uses that would destroy natural, scenic, or historic areas while at the same time allowing other traditional uses such as farming. Depending upon the terms and timing of the easement, significant tax savings can accrue to the property owner granting the easement. The County should continue to develop its easement program in conjunction with other rural land preservation efforts.

Design and Development Patterns Initiative

1. Land Use and Transportation Coordination

Outside of the town cores, the majority of Botetourt County population lives, works, and socializes within an auto-dependent land use framework. To reduce vehicle miles traveled and improve the quality of land development, Botetourt County should implement land use and transportation coordination policies that focus on shortening trips and encouraging more pedestrian, bicycle, and transit-friendly communities within and adjacent to mixed-use centers and corridors or accessible to them via sidewalks, trails, or transit. It also directs growth to areas with development capacities that are less congested.

- **Coordinate Transportation Investments with Land Use**
Ensure that transportation decisions, strategies, and investments are coordinated with and support the County's land use objectives.
- **Transportation in Support of Walkable Neighborhoods**
Make the design and scale of transportation facilities compatible with planned land uses and with consideration for the character anticipated by this Comprehensive Plan for the surrounding neighborhood.
- **Directing Transportation Investments**
Target transportation facilities, services, and investments to promote and accommodate the growth this Comprehensive Plan anticipates in mixed-use centers, commercial corridors, and residential neighborhoods while reducing reliance on single occupancy vehicles.
- **Reducing VMT Through Mixed Use**
Promote mixed-use development that provides a range of services within a short distance of residences as a way to reduce the growth of vehicle miles traveled (VMT).
- **Connectivity**
New development and redevelopment should provide pedestrian and vehicular connectivity between individual development sites to provide alternative means of access along corridors.

Growth Areas and Urban Development Areas

The key to Botetourt County's future growth management will be accommodating population growth in a way that avoids sprawl. Growth areas are a way that the County can address reducing low-density development, both residential and commercial. Identifying growth areas helps a locality align both its development regulations and its capital improvements program toward guiding new development into specific locations. The underlying principle is to limit infrastructure improvements to growth areas. This lessens the likelihood of sprawl and increases demand for the land that the locality is prepared to serve with utilities. Growth areas may be jointly designated by a town and county in the form of joint development areas. Potential detriments to Growth Areas involve artificial escalation of property values in targeted areas while prices fall elsewhere. Keys to delineating successful growth areas include:

- Water and sewer limited to designated boundaries
- Zoned for density
- Priority for infrastructure funding
- Detailed plan for growth (i.e., streetscapes, parks, roads, joint developments plans)

As part of the Transportation Act of 2007, Section 15.2-2223 of the Code of Virginia was expanded to include new requirements that certain fast growing localities, including Botetourt County, must include at least one Urban Development Area (UDA) within their boundaries. According to the new legislation, a UDA is an area located close to a city, town or other developed area that is designated as appropriate for higher density development due to its proximity to transportation facilities and to public or community

sewer and water systems. The language further states that development within the UDA shall provide for reasonably compact development with residential densities of “at least” four units per gross acre and commercial densities of “not less than” 0.4 F.A.R (floor area ratio) per gross acre. Finally, the UDA or UDAs must be of sufficient size to accommodate projected commercial and residential growth for at least 10 years but not more than 20 years.

The State code allows comprehensive plans to include incentives for development in UDAs and state and local funding for transportation improvements, housing and economic development shall be directed to UDAs to the extent possible. Localities subject to the new legislation are now also required to incorporate new urbanism design principles such as pedestrian friendly roads, interconnected road and pedestrian networks, stormwater management, preservation of natural areas, mixed use neighborhoods with a mix of housing types and reduced yard setbacks and street widths in their comprehensive plans.

Design Standards

Many localities are moving toward comprehensive plans and zoning ordinances that emphasize the physical form of development over use, reflecting planning trends like Neo-traditional design and New Urbanism. This approach incorporates traditional land use concepts like use type, density and intensity but relates them to physical form and character. Virginia has even embraced and mandated the use of these principles in the new UDA legislation described above. These concepts may be beneficial to Botetourt County as a means of further refining the Future Land Use Map included in the Comprehensive Plan and to ensure that the County satisfies the new UDA legislation.

Good design ensures attractive, usable, durable, and adaptable places and is a key element in achieving sustainable development. Good design is indivisible from good planning. Design standards influence the physical form of the County and how residents experience public spaces such as streets, parks, or civic spaces. While individual buildings may be attractive in themselves, there are numerous other design elements that contribute to the organization of a space including architectural design, building placement, height, scale, and open space. The cumulative interaction of these design elements and adjacent buildings in organizing public space is vital for achieving an environment that supports and promotes social interaction and protection of community character. As discussed throughout this plan, Botetourt County has many of the physical components that contribute to a successful and vibrant community, but it continues to grapple with issues of maintaining its identity and attractiveness. General design guidelines that help promote coordinated and high quality development and enhance the public realm and the County's image. Listed below are some strategies that the County and private developers can implement to largely determine the physical form of the County.

- **Identity through corridors:** Ensure community identity by enhancing the aesthetic qualities of Botetourt County's corridors with a high-quality built environment, greenway network, and preserving its natural landscapes and scenic resources.
- **Identity through places:** Eagle Rock, Town of Fincastle, Town of Troutville, and the Town of Buchanan are just some examples of communities with unique identities that are impacted by growth of the County. The recent historic survey contains many buildings that offer a window into the architectural heritage of the County's various communities. By identifying characteristics that make the communities distinctive could help in establishing Botetourt County's identity.
- **Creating Attractive Facades:** Well-designed building facades, storefront windows, and attractive signage and lighting should be used to create visual interest. Monolithic or box-like facades should be avoided to promote the human quality of the place and street.
- **County Gateways:** Create more distinctive and memorable gateways at points of entry to the County, and points of entry to incorporated towns, individual neighborhoods and neighborhood centers. Gateways should provide a sense of transition and arrival, and should be designed to make a strong and positive visual impact. This type of approach is exemplified by the need for a more designed and attractive gateway at I-81 Exit 150.

- **Zoning to Achieve Design Goals:** Explore zoning and other regulatory techniques to promote excellence in the design of new buildings and public spaces. Zoning should include incentives or requirements for facade features, buffering, and other exterior architectural elements that improve the compatibility of structures, while promoting a consistent architectural character.
- **Mixed Use:** Mixed-use developments are the future of dense planning in rural communities. They are efficient in terms of land use and service delivery. There are several design standards associated with promoting mixed use land development.
 - o **Building Orientation:** Buildings in mixed-use developments should be oriented along streets, plazas, and pedestrian ways. Their facades should create an active and engaging public realm.
 - o **Multi-modal Design:** Mixed-use developments should accommodate all modes of transportation to the greatest extent possible.
 - o **Parking Location and Design:** New single purpose surface parking lots should be avoided within mixed-use centers. Instead, shared parking facilities with landscaping visible from a public right-of-way should be used.
 - o **Public Open Space:** Usable and well-appointed public open space should be provided within mixed-use centers to serve as focal points and community gathering spots.
- **Corridors:** The appearance of Botetourt County's commercial corridors, specifically U.S Route 220 (including U.S. Route 220 Alternate), U.S. Route 460 and Route 11, has been detrimental to the larger community's image. As primary entry corridors for visitors to the County, it is essential that these roadways convey a positive impression. At many points along these corridors, there is also a need to mitigate air and noise pollution. The creation of boulevards with landscaped medians, street trees, and sidewalks will greatly improve the appearance of Botetourt County's corridors, mitigate air and noise pollution, and address the needs of users.
 - o **Gateway Corridor Design Quality:** Promote high quality development along gateway corridors to improve aesthetics and encourage higher levels of investment. Design of new development should contribute to the overall visual quality of the corridor and define the street space.
 - o **Highlighting Important Intersections:** Promote the use of gateways and landmarks to highlight access points and important intersections along key corridors.
 - o **Strip Shopping Centers:** Ensure that zoning and parking standards discourage strip commercial shopping centers and auto-oriented building designs (designs that encourage use of automobile as the only possible mode of access).
 - o **Screening of Unsightly Uses:** The visibility of trash storage, loading, and truck parking areas from the street, sidewalk, building entrances and corridors should be minimized.
 - o **Parking Lot Design:** Encourage efficient site design, shared parking between complementary uses, and reduced amounts of impervious surface in parking lot design.
 - o **Planting Requirements:** Enhance and expand the required planting and tree coverage for parking lots by incorporating design standards that promote long term tree growth and health. Planting standards should improve permeability and reduce the heat island effect.

Streetscape Design Standards

Streetscape design refers to those elements of roadway design that affect street users and nearby residents. Streetscapes can have a significant effect on how people perceive and interact with their community. If streetscapes are designed in a way that is safe and inviting to pedestrians, people are more likely to walk, which can help reduce automobile traffic, improve public health, stimulate local economic activity, and attract residents and visitors to a community. Applied to I-81, at Exit 150, streetscape design standards can greatly improve the aesthetics and sense of safety for the area surrounding the interchange. This would improve the gateway into the Botetourt community from the south, and help change the overall character of land uses. Visually cohesive streetscapes use a variety of techniques including landscaping, undergrounding of utilities, and other streetscape improvements along street frontages that reflect adjacent land uses.

Residential Cluster Development

Cluster development promotes the preservation of open space by allowing smaller lots to be grouped on a portion of a larger parcel. The remainder is set aside as 'open space.' For example, a 100-acre parcel at a base density of 1 dwelling unit per 5 acres and a minimum lot size of 1½ acres would result in 30 developed acres (putting 20 residences on 1½ acre lots) and leaving an undeveloped residual of 70 acres. The residual acreage can be available for continued farming, or it can be incorporated into the development as common open space.

Localities can set different standards to achieve goals through cluster development. For example, in agricultural zones, the emphasis might be on maintaining a sizeable contiguous area to enable continued farming or forestry. Other ordinances may specify that environmental features be protected. Also, provisions might address the suitability of the reserved open space to ensure that it is usable and appealing for common open space. All of these strategies recognize that the open space and key vistas on-site should be 'designed' in their own right, to serve specific purposes, rather than merely be the 'leftover' portion after house sites are chosen.

One variation for open space design involves instituting minimum open space requirements. Some communities have varying minimum open space requirements for various zoning districts, including multi-family and commercial. The benefits of clustering include the opportunity to protect natural areas, scenic views, and other assets during development as well as somewhat reduced land consumption.

Scenic Resource Initiatives

Preserving scenic views and vistas is particularly important for Botetourt County. The County's scenery is critical to the rural character and is one of its most distinguishing features. The Blue Ridge Mountains are a national attraction and derive their popularity from spectacular views. Tourism and nature-based leisure draw on the beauty of the region and have significant economic impact. Furthermore, County residents value the beauty of their natural surroundings on a daily basis.

Keys to Preserving Scenic Views

- Maintain farmland and forestland
- Develop corridor plans and overlay districts
- Minimize the visibility of wireless communication towers and other tall structures
- Use scenic designations (like Virginia Byways and Virginia Scenic Rivers)
- Site rural buildings to their context
- Use viewshed easements around particularly important sites
- Limit ridgeline development
- Use open space development designs

Mixed Use

The resurgence of mixed-use downtowns, employment centers, and retail centers is a national development trend that is evident in recent developments like Daleville Town Center. Mixed-use centers bring together medium- to high-density residential and non-residential uses within a walkable, bicycle-friendly, and/or transit-accessible development framework. Uses can be mixed vertically, within buildings; or horizontally, when tightly clustered in a pedestrian-friendly arrangement. Due to the diversity of uses and activities, mixed-use centers are typically vibrant destinations that attract attention due to their level of activity. Fundamentally, a mixed-use center should provide a full service environment and diverse land uses (residences, offices, retail, service, entertainment, civic, and open space) for residents, employees, and visitors. Further, mixed-use developments and mixed-use target areas (Map 11- Future Mixed Use Target Areas) should be coordinated with the implementation of water and waste water infrastructure. While mixed-use developments help reduce overall infrastructure costs, such as less demand of daily traffic on the road network, the demand for water resources does not change with a diversity of land uses. Botetourt County should coordinate the approval of mixed-use developments with the provision of water resources.

Some effective mixed use aspects are listed below.

- **Composition of Mixed-Use Centers**
Mixed-use centers should be comprised of well-mixed and integrated developments that avoid segregated uses and have well planned public spaces that bring people together and provide opportunities for active living and interaction.
- **Complementary Uses and Urban Vitality**
A complementary integration and mixture of land uses should be provided within regional, county, and community mixed-use centers to maintain the County's livability, manage future growth, and provide walkable and transit accessible destinations. An example of this is the potential future development of I-81 Exit 150.
- **Mixed-Use and Multi-Modal Transportation**
Promote the development of mixed-use activity centers with multi-modal transportation connections to provide convenient and accessible residential and employment areas.
- **Zoning Standards for Mixed-Use**
Revise the Zoning Ordinance to modify setback and buffering to the site design requirements within designated mixed-use centers and mixed-use zoning districts to ensure compatibility and encourage dynamic communities.

Future Mixed Use Target Areas Mapping Categories

Listed below are some possible future mixed use categories that may be identified on a future land use map (Map 11- Future Mixed Use Target Areas) that indicate areas desirable for mixed use development.

Town Edge Mixed Use

This category applies to shopping and pedestrian-oriented retail districts located near at the edge of existing incorporated towns, such as commercial growth just south and north of Fincastle. The service area of these districts is generally about a two-mile radius or less. Typical uses would include corner stores or convenience stores, restaurants, bakeries, supermarkets (other than super-stores/centers), drug stores, dry cleaners, small professional offices, retail banking, limited light industries and similar uses that serve the immediately surrounding neighborhood. While this is primarily a commercial category, mixed-use projects with mixed residential types are also supported by this designation.

Multiple zoning districts could be developed for this category in the future, recognizing that some of the designated areas are connected with established "main streets" and others are auto-oriented shopping plazas or strip centers.

Mixed use centers have not been identified for the town edges of Buchanan and Troutville. Because this plan only identifies land use strategies for the areas within the county boundaries, it does not include recommendations for the incorporated towns. If the county was to identify mixed use target areas at the town-county edge of Buchanan and Troutville it would encourage a form of “leap frog” development that skips developing within the town limits. This would create a disconnection within the incorporated towns, as well as be counterintuitive to the purpose of mixed use. Mixed use at the edge of these towns should only occur once the towns believe they have reached development capacity within the town limits. Further, each town should consider including mixed use target areas within the town limits that encourages similar mixed-use development encouraged in the county.

Community Mixed Use

This category applies to medium-sized shopping centers and larger pedestrian-oriented retail districts, such as the Daleville Town Center. Typical commercial uses include supermarkets, medium sized department stores and variety stores, clothing stores, banks, offices, restaurants, and similar uses that draw from multiple neighborhoods. Development intensities could be higher than in Town Edge areas, with mid-rise buildings as well as low rise buildings. Where residential development occurs, ground floor retail would be encouraged and minimum density standards might be applied. Multiple zoning districts could be developed for this category in the future, recognizing that some of the designated areas are established neighborhood “main streets” and others are corridor auto-oriented shopping plazas or strip centers. Although housing would be allowed in all cases, there could be greater incentives for “vertical mixed use” that adjoin future transit nodes (such as service from an express route), or are on traditional “walking” streets.

Regional Mixed Use

This category applies to potential regional nodes, like I-81 Exit 150, where future land development targets regional retail markets. The intent is to identify the major retail and service hubs that draw customers from across the county and adjoining counties. These areas may include high-density housing, office development, hotels, movie theaters, and region-serving retail uses such as department stores and specialty stores.

Railroad and Land Use Access Study

The cost-effective movements of incoming material to be processed and the outgoing finished products destined for domestic and international markets are vital to the industries in Botetourt County. A key component to providing manufacturers with low cost freight transportation access is rail service. A study of the potential land available for industrial use and railroad access would offer a general assessment of a rail line connection between the mainline track and potential or existing industrial locations. The study should include three main goals: (1) Identify feasible industrial land use locations that can be served by active railroad alignments; (2) an estimate of potential rail shipment capacity; and (3) infrastructure considerations for land uses not yet identified in the comprehensive plan for industrial purposes. Some steps to be considered for the study include:

1. Property Study – Perform a traffic and business development study of the entire railroad alignment in Botetourt County. This includes existing industries and the potential for new railroad traffic development with those industries.
2. Industrial Site Locations – Develop a list of industrial sites, reload/transload sites and industrial buildings on and near the railroad alignments. This list will include local zoning assessment, water and waste water infrastructure assessment, and proximity to highways and rail access.
3. Transload/Reload – Identify and prepare a study of transload/reload operators and/or potential distribution clients.
4. Non-Rail Users - Perform traffic and business development study of area non-rail users. Included would be a detailed breakdown of the existing inbound/outbound traffic, existing rail structure and the potential for rail traffic development opportunities.

4 TRANSPORTATION

INTRODUCTION



A community's transportation system is comprised of more than just highways. Air transportation, rail facilities, bikeways, and sidewalks are all elements of an efficient transportation network. Together these elements allow for the efficient movement of people and goods. It is essential that communities continually plan for the construction and enhancement of these transportation elements. Doing so allows for the economic viability of communities to be retained and enhanced.

In addition, it is important to remember the strong reciprocal linkage between land use planning and transportation planning. Transportation planning decisions directly affect community growth patterns and may influence the availability and adequacy of public facilities.

Alternative development patterns, particularly those that promote compact development, can directly influence future transportation needs. For example, development density is a factor in determining which transit modes can be supported to potentially reduce vehicular trips in a community. Similarly, diversity of use – having a mix of different land use types in the same area or site – can reduce vehicle trips by increasing opportunities for walking and biking to nearby destinations. Broader elements of site and community design, such as greenways and increased street connections, also contribute to reduced vehicle travel, reduced congestion on main roads, and relate to the environmental and quality of life goals of the comprehensive plan.

This chapter establishes the framework for coordinating transportation with land use, economic development, the environment and other elements essential to developing a sustainable county plan.

BACKGROUND

Botetourt County's transportation infrastructure provides opportunities for future development and to attract and support economic development because it offers multiple options for moving people and goods. However, the County's ability to invest in necessary transportation improvements will continue to be a challenge over the lifetime of this plan. Developments along primary corridors and on the periphery of the County's developed area will strain existing infrastructure; VDOT funding is limited, and many of the roads in the County are not a priority for expansion or repair. Existing corridors, many of which are moderate-to-high traffic roadways with two to four lanes and no shoulders, cannot adequately handle forecasted travel demand at build-out. Botetourt County's traditional, low-density development pattern has resulted in an auto-dependent transportation pattern that if allowed to continue unchecked, will produce an unsustainable growth in travel demand.

Challenges

Road Network

Botetourt County has an efficient road network design. Interstate 81, U.S. Route 11, U.S. Route 220, and U.S. Route 460 provide excellent access and allow for the efficient movement of people and goods within and through the County. Maintaining and improving roads to keep pace with development as well as keeping roads operating at an acceptable level of service will be challenges the County will face during the timeframe of this plan. Map 12 (Botetourt County Transportation Map) shows the major components of the County's highway network within the region. Map 13 (2005 Level of Service), and Map 14 (2035 Level of Service) show the current and projected Levels of Service for the major corridors in Botetourt County. Levels of Services (LOS) are qualitative measures describing operating conditions of roadways and are given designations from A through F, with A representing the best operating conditions and F the worst. Level of Service C is the generally accepted minimum operating standard for rural primary roadways. Under LOS C conditions, a driver is able to maintain the set speed limit, stopping only for stop signs or signals. When proceeding through a stop sign or green light, the driver is able to return to the set speed limit without delay. A driver may occasionally slow down for cars entering the roadway from intersecting streets or driveways. However, the majority of the trip can be completed without impediment. Maintaining and improving roads to keep pace with development while keeping roads operating at an acceptable level of service will be challenges the County will face during the timeframe of this plan.

Primary Highways

The County's major primary highways, U.S. Route 220, Alternate U.S. Route 220/604, U.S. Route 11, and U.S. Route 460 are critical transportation corridors within the County. These corridors allow for the efficient movement of people and goods, and thus are critical to the County's economic health and quality of life.

These corridors are also gateways into Botetourt County and surrounding communities. Visitors' first impressions of the County are developed partly on the basis of how these corridors function, and how they look. Maintaining and enhancing traffic flow within these corridors is of critical importance to the County. Future development along these corridors should be designed to ensure that it does not impede or further restrict traffic flow, and where allowed by law, new development should be responsible for contributing a fair share toward improvement costs required to maintain or enhance the functionality of the corridor. Generally, future development along Botetourt County's primary highways should increasingly be a mixture of land uses conditioned upon the provision or existence of adequate public facilities, the preservation of highway capacity, and improvements to access control. Specific corridors are discussed below. For each, there is a brief description of the corridor, discussion of desired future corridor development patterns, and policy recommendations for future corridor development. The development recommendations contained in this section are more refined than those found on the Future Land Use Map, and can serve as a more specific and refined guide for decision making.

I-81 Interchanges

Five interchanges are located on Interstate 81 (I-81) within Botetourt County. These interchanges provide ease of access to/from I-81 and, to varying degrees, create opportunities for economic and residential development. The future development potential near each of these interchanges is highly dependent upon natural features such as soils and slope and upon other factors such as zoning, availability of water and sewer, and VDOT access policies.

Exit 150

Exit 150 is the primary interchange of concern in the community. This exit is in southern Botetourt County and is located at the convergence of I-81, U.S. Route 220 North, Alternate U.S. Route 220/604 and Route 11. The exit is the location of a considerable portion of the County's commercial economic base. Traffic congestion occurs daily at this interchange. The existing design, very intense commercial development, minimal access control and high volumes of traffic contribute to the congestion.

Planned improvements to I-81 through the Roanoke Valley will result in significant design changes at this interchange. A recently completed study of this interchange has resulted in a recommendation for operations mitigation, new roadway development, and the acquisition of land that presents new opportunities for Botetourt County to change one of its primary gateways and commercial hubs. As one of the main access points to the County, it will be critical to develop a clear vision for the future land development of the area. A new land use vision will minimize the negative traffic and aesthetic impact of inevitable, future land development.

Maintenance of Road Networks

Although Botetourt County has a well-maintained primary roadway network, secondary roadways are often only in fair condition which can put a strain on safety. The maintenance of acceptable levels of service (LOS) on roadways is essential to preserving and enhancing interregional mobility, increasing transportation efficiency, and coordinating transportation and land development.

Based on the most recent counts supplied by the Virginia Department of Transportation (VDOT) and level of service guidelines provided by the Planning District Commission (PDC), the existing roadway network in Botetourt County provides a generally good level of service for motor vehicle transport. There are, however, three roadway segments in the County that are operating at Level of Service D, where LOS C is considered to be the generally accepted minimum operating standard for rural primary roadways. These segments are U.S. Route 220 from north County line to Fincastle, Fincastle to Daleville Town Center, and Daleville Town Center to I-81 Exit 150. Although these segments are not operating at a failing level of service, minor increases in daily traffic would result in failures.

Transportation and Land Use Coordination

Like many growing counties, Botetourt is experiencing extensive low density suburban growth that has had a negative impact on the overall transportation system. Projects exclusively designed to address automobile congestion are not feasible solutions to the County's mounting congestion and long commutes. Roadway investments must be balanced with investments in other transportation modes, such as public transportation and greenways. In addition, within and surrounding small town nodes it is important to link development to sidewalks and greenways, as well as provide adequate connections to transit.

Public Transportation

Botetourt County is predominantly rural with residents living in small communities or isolated rural areas. The rural nature of the County increases the difficulty of providing adequate transportation alternatives for all residents. Because of the auto-dependant nature of the development pattern, there is an unmet need among elderly, disabled, or economically disadvantaged residents without access to personal vehicles for some mode of transport to medical facilities, jobs, shopping, and other locations. Although countywide public transportation services do not currently exist within Botetourt County, a shuttle bus service for some elderly residents and the senior center is in operation.

Access Management

Traffic congestion has steadily increased over the past five years along U.S. Route 220, south of Fincastle. This increase in congestion is directly related to the level of new development that has occurred, generating more and more automobile trips, some of which are considered local with short connections between destinations. The number of commercial entrances and intersections along U.S. Route 220 exacerbates the issue by creating many conflict points, which in turn cause delays in traffic flow. Designed as an arterial road, U.S. Route 220 was meant for mobility – moving people and goods from one destination to another as efficiently as possible – it was never meant to be a commercial corridor. Without improvements such as access management, mobility along the corridor will continue to deteriorate.

Transportation Analysis

Air Transportation

The Roanoke Regional Airport provides passenger and general aviation facilities for Botetourt County residents and businesses. The airport is located within ten minutes of the southern portions of the County. Currently, four major airlines (Allegiant Air, Delta, United Airlines and US Airways) provide passenger services. The airport is a key element of the County's transportation system and an important County economic development tool. The County's proximity to the airport, via I-81 and I-581 allows convenient access for business travel.

Rail Transportation

Portions of Botetourt County and the Town of Buchanan are served by two railroads: Norfolk Southern and CSX. The Norfolk Southern line provides freight service between Hagerstown, Maryland and Winston-Salem, North Carolina, passing through and serving Buchanan and Southeastern Botetourt County. The CSX freight line follows the north bank of the James River through the County. There are no passenger rail services in Botetourt County or the Roanoke Valley. A variety of passenger rail assessments have been undertaken in the past; however, there are no current plans to provide passenger services to the Roanoke Valley. The closest passenger rail terminal for Botetourt residents is located in Clifton Forge in Alleghany County.

Bikeways

As previously noted, much of the southern portion of Botetourt County is located in the RVAMPO study area (i.e., urbanized area), thus covered in the 2005 *Bikeway Plan for the Roanoke Valley Area MPO*. While much of the growth and development is concentrated in the southern portion of the county, many areas of Botetourt remain rural in nature with low-density development. Growth will likely continue along the rural-urban interface, as the urbanized area expands. However, this growth offers the opportunity to coordinate the provision of bicycle and pedestrian accommodations with development in the area. Botetourt County also has an abundance of outdoor recreation, as well as cultural tourism opportunities. The Appalachian Trail, Blue Ridge Parkway, Bike Route 76, and the James River pass through the county.

Roadways

Interstate 81

Botetourt County is traversed by Interstate 81 from the Rockbridge County line on the north to the Roanoke County line on the south, a distance of 28 miles of interstate highway. Five interchanges serve Botetourt County, providing a major personal travel route and trucking access to areas outside the region and throughout the nation. The Commonwealth of Virginia is currently evaluating improvement options for Interstate 81. Although preliminary or final designs for I-81 have not been determined, all improvement options will likely involve circulation and land use changes at the interchanges within the County, in particular Exit 150.

Future development potential in proximity to each of these interchanges is highly dependent upon natural features such as soils and slope and upon other factors such as zoning, availability of water and sewer, and VDOT access management policies. A considerable portion of the County's commercial economic base is located around Exit 150, located in southern Botetourt County at the convergence of I-81, U.S. Route 220 North, Alternate U.S. Route 220/604 and U.S. Route 11. Design of the interchange itself, combined with very intense commercial development, minimal access control and high volumes of traffic all contribute to daily congestion around the interchange. A recently completed study of Exit 150 resulted in recommendations for operations mitigation and new construction that will transform the character and use of the area, while still maintaining, and hopefully improving, the economic impact.

Primary and Arterial Routes

Arterial routes or primary roads comprise over 110 miles of Botetourt County's transportation network. U.S. Route 460 provides an important east - west connection from Botetourt County, through the City of Lynchburg, to the Hampton Roads region that is vital to commerce within the County. Other primary routes include U.S. Route 11 (north - south) which runs parallel to I-81, U.S. Route 220 North, which provides access to the Town of Fincastle and links I-81 at Daleville to I-64 at Clifton Forge, and Alternate 220/604 linking U.S. Route 460 to I-81 and U.S. Route 220 North. In addition to moving people and goods, the County's primary highways are also gateways into Botetourt County and surrounding communities; visitors' first impressions of the County are developed partly on the basis of how these corridors function, and how they look. Maintaining and enhancing traffic flow within these corridors is of critical importance to the County's economic health and quality of life.

Route 11

Route 11 between the Roanoke County and Rockbridge County lines has three distinct segments:

1. Roanoke County Line to Exit 150
2. Exit 150 to Town of Troutville, and
3. Town of Troutville to the Rockbridge County line.

Roanoke County Line to Exit 150

This segment of U.S. Route 11 is characterized by a combination of commercial and industrial uses. The road design is currently inadequate and needs to be improved. Some large undeveloped parcels also exist in the corridor. Many of the commercial uses/buildings predate the construction of I-81, and lack access control. Multiple curb cuts are present at these commercial properties, creating opportunities for multiple uncontrolled turning movements.

Exit 150 to Town of Troutville

Land uses along this corridor segment transition from commercial (near Exit 150) to residential (near Town of Troutville). Some of the existing commercial development is interstate oriented, while other commercial development has a more rural character, i.e., antique shops and other small businesses. Future development opportunities exist in the corridor, but are limited on one side of the corridor due to the presence of the railroad.

Town of Troutville North to Buchanan and Beyond

North of Town of Troutville, the corridor segment is characterized by low density residential and agricultural land uses. Commercial and industrial uses are very minimal and found in locations around the Town of Buchanan and the interchanges. North of Exit 168 the landscape is even more rural with no commercial or industrial development present.

Alternate U.S. Route 220 from U.S. Route 460 to Route 11

Alternate U.S. Route 220 is a critical transportation corridor connecting U.S. Route 460 traffic to I-81 and U.S. Route 220 North. Land uses in the corridor are characterized by sporadic commercial and industrial development and low density large lot residential development. Current commercial development in the corridor has generally been designed to minimize strip commercial characteristics. Emphasis has been placed on architectural design, landscaping, and signage control, resulting in a pleasing corridor aesthetic. Traffic within the corridor is free flowing, with minimal flow disruption from traffic signals or turning movements. A median currently restricts left hand turning movements except at controlled intersections.

U.S. Route 220 North

This corridor segment begins at Exit 150, extends northward to Fincastle and beyond to the Alleghany County line. A mixture of industrial, commercial, residential and agricultural land uses are found in the corridor, with the heaviest concentration of commercial development located between Exit 150 north to Glebe Road near Daleville. Multiple curb cuts, uncontrolled turning movements, significant commercial signage and minimal landscaping characterize this older commercial area.

A significant amount of vacant land exists in this corridor north of Route 779. Recent developments in the corridor include the Botetourt Center at Greenfield, Ashley Plantation, and other suburban-style residential developments near Fincastle. Greenfield currently defines the northern limit of more intensive development in the corridor. Most of the vacant land in the corridor is zoned agricultural. North of Fincastle, a rural/agricultural land use pattern dominates the landscape with sporadic rural residential development. Commercial uses are few, and rural in scale.

U.S. Route 460

U.S. Route 460 is a four lane median divided highway that traverses southeast Botetourt County from the Roanoke County line to the Bedford County line. It is a major east to west corridor connecting the Virginia coalfields region to Tidewater. Commercial and industrial developments in the corridor, primarily within Roanoke County and Bedford County, have significantly increased traffic in the corridor in recent years. Traffic has also increased due to suburban residential developments in Botetourt County east of Alternate 220.

In Botetourt County, a mixture of land uses can be found along the Botetourt County segment of the corridor, with industrial uses bracketing both ends, at the Roanoke County and Bedford County lines. Commercial nodes exist in the Rainbow Forest and Blue Ridge areas, and multiple residential subdivisions exist off of the corridor, principally north of U.S. Route 460. As previously discussed, a major entrance to the Blue Ridge Parkway is located in this corridor. Land uses around the Parkway interchange are generally either vacant or currently rural in character.

Secondary and Collector Roads

In addition to the primary route network there are over 530 miles of secondary roads within the County. The purpose of these roads is to provide access to adjoining properties and serve as an internal circulation system for residential, commercial, or industrial areas. These routes also are meant to feed into the primary system to provide access to regional facilities. Collectors carry a variety of traffic volumes, but generally carry less traffic than minor arterial routes. On-street parking may be permitted and usually all abutting properties have access to the road.

Transportation Studies

A number of transportation planning studies have been completed that include information and recommendations pertinent to this plan. They are summarized below.

I-81 Interchange Study

Prepared by Roanoke Valley Alleghany Regional Commission - 2008

This study reviewed traffic capacity factors that will influence future land use at Interstate 81 Exits 156, 162, 167 and 168. The study describes existing conditions at each interchange and recommends future land uses, generally. Based on the information provided in the study, Exits 156 and 162 are projected to experience significant increase in traffic volumes by 2020; Exit 167 is being considered for closure and Exit 168 will experience minor increases. For the purpose of the Comprehensive Plan, this information allows Botetourt County to further consider land use planning around each interchange. Conclusions of the study indicate that as development reduces the amount of land available in southern Botetourt County, growth can be expected to move along Routes 220, 11 and Interstate 81.

Exit 156

- Only a slight decrease in LOS, from A to B is projected at this interchange by 2020.
- The VDOT study is projecting no decrease in LOS for the interchange ramps and State Route 640.
- Route 640 traffic volumes on the south side of the interchange - coming from U.S. Route 11 - is projected to increase 100% while traffic on the north side is projected to increase 75% by 2020.
- Traffic volumes on the northbound entrance ramp and southbound exit ramp are projected to increase by 100% while the northbound exit ramp and southbound entrance ramp are projected to increase 71% by 2020.

Exit 162

- While Interstate 81 Average Annual Daily Traffic (AADT) is projected to increase 93%, the AADT for the ramps at this interchange are projected to increase from 129% to 140% from 1997 to 2020.
- U.S. Route 11 AADT north of the interchange is projected to increase 131% from 1997 to 2020 while still maintaining a LOS of A.
- U.S. Route 11 southbound, south of the interchange has a projected AADT increase of 117% and peak hour increase of 280% from 1997 to 2020.
- U.S. Route 11 northbound, south of the interchange has a projected AADT increase of only 65% and peak hour increase of 58% for the same time period.

Exit 167

- The VDOT Interstate 81 Improvement Study discusses the potential closing of Exit 167.
- This consideration shows that the elimination of Exit 167 ramps improves operation of traffic on this section of Interstate 81 while having no negative impact on traffic flow at Exit 168.
- Traffic on Interstate 81 in this area is expected to increase 25% by 2010 and almost double by 2020 with or without truck lane restrictions.
- The southbound exit ramp peak hour traffic is projected to increase by 400% from 1997 to 2020 and AADT has a projected increase of 117%.

Exit 168

- The Interstate 81 Improvement Study projects a significant decrease in the level of service (LOS) on Interstate 81 for this section.
- The I-81 northbound LOS drops to D south of the interchange and to F north by 2010.
- There is a projected 20% decrease in percentage of truck traffic on northbound entrance ramp. This is the only interchange in the study area with a projected change in truck traffic.
- The southbound entrance ramp has an AADT projected increase of 80%.
- The opposite effect occurs on Route 614 northbound, from a projected decrease of 7% in 2020 without truck lane restrictions to a 78% increase with truck lane restrictions.

U.S. 220 Corridor Review

Prepared by Roanoke Valley Alleghany Regional Commission – June 2008

This study examines the capacity, safety (measured by level of accidents), and infrastructure conditions of U.S. Route 220 within Botetourt County. The information provided examines Level of Service projections to 2035, indicating the furthest southern and northern segments will reach capacity by 2035 (Map 15 - U.S. Route 220 - Traffic Information). VDOT is using this information to prioritize roadway expansion and improvements, but with limited state budgets Botetourt County may need to explore other initiatives to slow the projected LOS declines as growth occurs. For the purpose of the Comprehensive Plan, this information provides an indication that alternative modes of transportation should be considered, as should means of mitigating local travel impacts, such as access management planning. Map 13 and Map 14 also show the Level of Service for all major corridors in Botetourt County. Table 41 provides a snapshot of the roadway characteristics along U.S. Route 220. There are fewer lanes on the northern end of the corridor, which contributes to the lower Level of Service projections. Table 42 indicates the number of accidents at each major intersection along the corridor. There has been a steady increase in accidents at Wesley Road, which can be correlated to the increase in commercial development.

Table 41 – Road Characteristics – U.S. Route 220 Corridor Review

From	To	Lanes	Lane Width (ft.)	Shoulder Surface	Speed Limit (mph)	Median
I-81	RTE 779 North	4 to 6	11 to 12	Gravel	35 to 45	Depressed
RTE 779 North	RTE 1211	4	11 to 12	Gravel	55	Depressed
RTE 1211	RTE 1204	4	12	Curb and Gutter	45	None
RTE 1204	RTE 43Y	4	11 to 12	Gravel	55	Depressed
RTE 43Y	1.14 Mi N RTE 696N	2	10 to 12	Gravel	55	None
1.14 Mi N RTE 696N	Alleghany CL	2	12	Gravel	40	None

Source: Statewide Planning System. Virginia Transportation and Mobility Planning Division. Richmond, 2007.

Table 42 – Accident Data – U.S. Route 220 Corridor Review

Intersection	Accidents			People Injured		
	2004	2005	2006	2004	2005	2006
I-81 SB Exit Ramp		1	1		3	
Tinker Mountain Rd.	2	2	3	2	3	
Stonedale Dr.		1	6			5
Valley Rd.	4	3	3		3	1
Catawba Rd.	1	1	1		4	
Greenfield St.	4	1	2	3		1
Ashley Rd.		1	2			4
Country Club Rd.		1	1			4
Vine St.			2			3
Roanoke St.			1			3
Prices Bluff Rd.	2		1	1		2
10th St.	1		1			3

Source: Statewide Planning System. Virginia Transportation and Mobility Planning Division. Richmond, 2007.

Rural Regional Long-Range Plans

Prepared by Virginia Department of Transportation – On-Going

Improving the transportation system remains vital to improving the quality of life and continued economic growth and prosperity in Virginia. The Virginia Department of Transportation (VDOT) and 20 planning district commissions (PDC) throughout the Commonwealth are partnering to evaluate the state's rural transportation system and to recommend a range of transportation improvements that best satisfy existing and future needs. This partnership will result in a regional plan that identifies needs based upon goals and objectives established by each region. This plan will provide Botetourt County with the opportunity to further identify and assess the community's transportation priorities and needs. Additional benefits may include:

- Identification of transportation deficiencies and recommendations of remedies
- Assistance with comprehensive plan updates and traffic impact studies (per Chapter 527 of the State Code)
- Programming of transportation improvements
- Effects of land use and development

Rural Bikeway Plan

Prepared by Roanoke Valley Alleghany Regional Commission - 2006

The *Rural Bikeway Plan* (2006) is part of the Roanoke Valley – Alleghany Regional Commission's FY 2006 *Rural Transportation Planning Program* (<http://rvarc.org/work/rural06.pdf>). The *Rural Bikeway Plan* covers the rural portions of the Regional Commission's service area, including areas outside of the Roanoke Valley Area Metropolitan Planning Organization study area.

The *Rural Bikeway Plan* provides information and guidance on the planning and provision of bike facilities at local and regional levels, to enhance and encourage bicycling in the rural portions of the Regional Commission's service area. The *Rural Bikeway Plan* also briefly considers the relationship between bicycling and tourism and the potential economic benefits of a bicycle-friendly environment. The plan is currently being implemented as roadway improvements are made. Map 16 (Rural Bikeway Plan Study Area) provides the regional context of the bikeway alignment and Map 17 (Botetourt County Rural Bikeway) indicates the alignment within Botetourt County.

GOALS, OBJECTIVES AND POLICIES

The following transportation goals, objectives and policies were developed in conjunction with citizens, the Steering Committee, stakeholders, and elected and appointed officials to guide future decisions about Botetourt County transportation systems.

Transportation Goals

- To provide for an adequate and safe transportation network designed to serve residents, businesses, industry, and the general public.
- To promote safe and efficient accessibility by all modes of transportation including personal automobile, transit, walking, and bicycling by designing a pedestrian-scale, well-connected street network.

Transportation Objectives

- Develop a well coordinated, publicly supported comprehensive transportation system.
- Continue local long range transportation planning efforts for the County's interstate, primary and secondary road system.
- Support alternative modes of transportation for the population such as car-pooling, van pooling, and bicycle routes.
- Monitor state program requirements and seek sources of state funding for specialized road construction needs.
- Ensure that new development proposals do not negatively impact traffic safety, or traffic flow on the County's primary highways.

Transportation Policies

- Continue to participate in the Roanoke Valley Metropolitan Planning Organization (MPO), working closely with MPO partners on local and regional transportation matters affecting the County.
- Clearly define Botetourt County transportation goals within the regional Rural Long Range Transportation Planning process.
- Prepare annual updates to the County's Six Year Secondary Road Construction Plan in conjunction with VDOT.
- Use VDOT's Industrial and Recreational Access Road programs to strengthen the County's economic development and recreational programs, as the need arises.
- Actively support the widening of I-81 and improvements to existing interchanges.
- Work closely with VDOT on the design and implementation of plans for improvements to Exit 150 to ensure that business disruption is minimal, and that the new interchange provides opportunities for business relocations and additional accessible business locations.
- Evaluate current VDOT primary and secondary road access standards and consider adopting more stringent local access standards.
- Support multimodal transportation by developing land use plans and policies that encourage mixed-use land use patterns and pedestrian-oriented site design, and direct higher density development toward designated development areas.
- Continue to identify additional dedicated funding sources to finance the cost of proposed multimodal transportation improvements.
- Include consideration for bicycle and pedestrian accommodations in the planning and design of all major road projects, consistent with VDOT policy.
- Include bicycle and pedestrian accommodations, including ancillary facilities such as bicycle racks, benches, water fountains, rest areas, signage, etc., in conjunction with all new development.

IMPLEMENTATION STRATEGIES

This section identifies more detailed implementation strategies for transportation planning improvements, which include access management, a corridor study, continued bikeway planning, park and ride initiatives, carpooling and transit, continued support of the Blue Ridge parkway, transportation and land use planning for primary highways, considerations for I-81 interchanges, transportation and land use planning and implementation of a Rustic Rural Road Program.

Transportation and Land Use Coordination

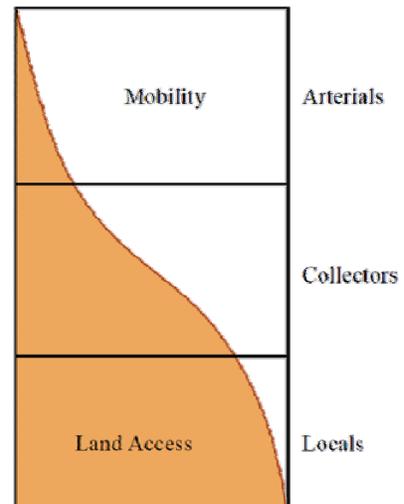
Land use patterns have a significant effect on trip generation and travel behavior. Compact, mixed-use and walkable developments mitigate traffic generation and thoroughfare impacts by shortening trip distances, capturing a greater share of trips internally, and facilitating transit and non-motorized trip-making. Successful mixed-use areas with multi-modal access can thrive with lower parking ratios, freeing up land and capital for open space amenities and productive, revenue-producing uses. Some implementation strategies listed below may be used to develop and maintain a sustainable multi-modal transportation system that supports new and existing residential, commercial and recreational areas, preserves and enhances neighborhood livability and the quality of life for Botetourt County residents, and provides for the safe and efficient movement of people and goods.

- **Coordination with Land Use Map:** Transportation planning, development, expansion, and investment in transportation facilities should be coordinated with the Future Land Use Map.
- **Right-of-Way Reservation:** Support the early identification and acquisition of land for future transportation corridors through land use planning and development permitting.
- **Multi-modal Transportation Design:** Where appropriate, offer residents safe and attractive choices among modes including pedestrian walkways, bikeways, public transportation, roadways, and railways. The street patterns of newly developed areas should provide multi-modal transportation alternatives for access to and circulation between adjacent neighborhoods, parks, shopping centers, and employment areas.
- **Increasing Mobility Choice:** Diversify the mobility choices for work trips by targeting transit support along corridors that connect concentrations of office, retail, and residential uses.
- **Context Sensitive Road Design:** “Context Sensitive” approaches can be used on new roadways or widening of existing roads to minimize impacts to historic areas and neighborhoods, and sensitive natural areas (particularly in watershed protection, conservation management and rural protection areas)
- **Transportation Impacts:** Identify and address transportation impacts before a development is implemented.

Access Management

The primary objective of access management is to improve traffic flow, a concept that may seem at odds with the concept of creating a pedestrian-friendly environment. However, access management is not just about moving traffic as quickly and safely as possible. Access management can be used to create an attractive roadway environment as well; one that is safer for pedestrians who aren't able to avoid driveways and driveway traffic, by using median refuge areas that allow them to cross roadways in increments.

An effective local access management program can play an important role in preserving highway capacity, reducing crashes, and avoiding or minimizing costly remedial roadway improvements. The traveling public would then benefit from faster and safer travel. The great majority of businesses also benefit from increased economic vitality along a well managed corridor. Taxpayers benefit from more efficient use of existing facilities, and public agencies benefit from the relatively low cost of access management, freeing resources for other needs.



This diagram shows the relationship of road design (Access versus Mobility) and road types.

Botetourt County should work with VDOT to develop an access management plan for U.S. Route 220. This plan should be developed in conjunction with a corridor study to determine the potential of future growth along the corridor and the best means of accessing that growth.

Corridor Studies

Corridor planning determines the best way to serve existing and future travel demand, bringing together the goals and expectations of all stakeholders involved in the project. Corridor studies are typically initiated in response to a specific problem (high accident locations and corridors, high levels of existing or future congestion, significant land-use changes, etc.) and often involve more than one mode of transportation. However the benefits of corridor planning reach beyond engineering solutions: resolution of major planning issues prior to the initiation of project development, identification and possibly preservation of transportation right-of-way, protection of transportation investments, and partnerships with diverse public and private agencies and organizations are all positive results of corridor planning efforts. Specific recommendations for corridor studies are identified by route number below.

Botetourt County should develop a corridor study for U.S. Route 220 that examines potential build-out for the corridor, determines travel and traffic implications, and promotes proactive growth management. Additional studies could be conducted for the U.S. Route 460 and U.S. Route 11 corridors. Both the U.S. Route 220 and U.S. Route 11 corridor studies should focus on the I-81 Exit 150 interchange as a gateway into the community. Funding sources for the corridor studies could include grants from VDOT or the local PDC.

Bikeway Planning

Developing safe bikeways is a strategy typically used to diversify modes of transportation and increase the safety and number of bicyclists. Used by both commuters and recreational users, bikeways contribute to a community's quality of life. A common goal of a bikeway plan is to include consideration of the needs of bicyclists in the design and construction of roadways. Typically, road improvements that consider bikeways involve either a wider travel lane, or a wider shoulder. Previous bikeway plans for Botetourt County identified Routes 11, 220, 460, 601, 651, 654, 738, 779 and a portion of the Blue Ridge Parkway as suitable bikeway locations (see Table 43); however, currently there are no bikeways under construction in the County.

Botetourt County should actively pursue implementation of bikeway plans as public roads are improved under VDOT Primary and Secondary funding programs, consistent with VDOT's *Policy for Integrating Bicycle and Pedestrian Accommodations*.

Table 43 – Corridors for Bicycle Accommodations

Roadway	From	To
US Route 11	Buchanan	Troutville
Frontage Road 55 (Old US 11)*	Rockbridge County CL	US Route 11*
Route 43	Buchanan	Blue Ridge Parkway
Route 43	Eagle Rock	Buchanan
Route 43	Eagle Rock CL	US Route 220
US Route 220	Route 43	Route 615 (Craigs Creek Road)
Route 615 (Craigs Creek Road)	US Route 220	Craig County CL
Route 640 (Lithia Road)*	US Route 11	Nace Road (also Route 640)*
Nace Road (Route 640)*	Route 640 (Lithia Road)	US Route 11
Route 651 (Stoney Battery Road)*	US Route 11	US Route 220
Route 740	Roanoke County CL	Carvins Cove Road
Route 779 (Valley Road)*	US Route 220	Catawba Road (also Route 779)
Route 779 (Catawba Road)*	US Route 220	Roanoke County CL
Blue Ridge Parkway**	Roanoke County CL	Rockbridge County CL

* Part of the Virginia Interstate Bike Route 76 (Note: All portions of Bike Route 76 are included in the Rural Bikeway Plan. Portions of US Route 11, Route 651, Route 779 are within the MPO study area, thus also included in the Bikeway Plan RVAMPO).

** Managed by the United State National Park Service

Park and Ride Facilities and/or Locations

Park & Ride transportation facilities facilitate transit and rideshare use by providing parking facilities at transit stations, bus stops and highway entrance ramps, particularly at the urban fringe. By encouraging commuter shifts between single occupancy vehicles, transit and ridesharing, Park & Ride facilities can reduce urban highway traffic congestion and worksite parking demand. There is one facility located on U.S. Route 220 near the I-81 southbound on-ramp. Some additional ad-hoc locations might be used, but sufficient data is not available for an inventory.

Botetourt County should explore working with developers and business owners to create new park and ride lots in appropriate locations that allow users access to park-n-ride facilities and retail services. Such facilities could include minimal efforts such as designation of unused parking spaces during non-peak retail times during the day. Similar approaches can be taken with churches, where parking goes unused during typical work hours. These options could also be pursued in conjunction with a commuter transit service and/or vanpool program.

Rideshare, Commuter Transit, and Car/Van Pooling Options

Public transportation is not just for urban areas. Rural transit services can provide an essential link for Botetourt County residents living in small towns and rural areas with limited access to personal vehicles. Employees, students, the elderly and disabled, and single parents caring for children are all examples of population groups that would benefit from the availability of public transit to commute to work, go shopping, attend school, get to medical appointments and travel to recreational activities.

Botetourt County should work with Roanoke on a continuous basis to reevaluate the potential of a fixed bus route that provides express service to key locations within the county. Eventually, parts of the County may reach transit supportive densities which would trigger the need for services based on location and

commuter demand. On-going conversations will ensure further development and redevelopment meets the operational needs of transit, increasing the efficiency of potential services. Further, Botetourt County should consider the implementation of a Rural Transit Program, which is mostly federally funded for capital and operations assistance. The County currently provides limited elderly and disabled services, which can evolve into a rural transit program. These types of programs are widely used in rural areas like Botetourt County. Proper coordination with human service transportation needs could minimize the County's financial responsibility.

Blue Ridge Parkway Enhancements

Designed as a 469 mile-long national scenic linear park, the Blue Ridge Parkway is a significant recreational resource for over twenty-one million travelers per year. The Parkway is also a significant economic resource for communities located along its length. Conservation of the Parkway's scenic environment benefits from a partnership between the National Park Service (NPS) which manages the park, and localities through which the Parkway passes. The visual impact of new development on the Parkway is an extremely critical issue in the Roanoke Valley and Botetourt County due to the high degree of suburbanization that has occurred in proximity to the Parkway in the past 30 years.

Five miles of the Blue Ridge Parkway are located within the southeast section of Botetourt County, accessible from three interchanges leading to local and regional roads: Route 43 east of Buchanan, U.S. Route 460 in Blue Ridge, and Route 618 near the Peaks of Otter. Although most of the Botetourt segment of the Parkway lies within National Forest Land, including the interchanges that provide access to Route 43 and 618, a highly visible and susceptible portion of the Parkway lies in proximity to the interchange serving U.S. Route 460. Currently, land near this interchange is largely undeveloped; however, future development in this corridor has the potential to be visible from the Parkway. In addition, future development along U.S. Route 460 at or near the Parkway interchange has the potential to be inconsistent with the rural, scenic character of the Parkway.

Botetourt County can assist with the conservation of the Parkway's scenic environment through local action in two areas:

1. Evaluation of the visual impact of new development that is proposed within the Parkway's viewsheds, and
2. Consideration of the scale, character and design of new development proposed to be located in proximity to the Parkway Interchanges.

Primary Highway Strategies

Route 11 Corridor

Future land uses in the U.S. Route 11 corridor should be a combination of commercial and industrial development. Development of these land uses should be limited in scale until road improvements are made. Future road improvements in this corridor should emphasize access management. For example, if a four-lane design is proposed, a median should be considered as a strategy to control turning movements and improve the aesthetics of the corridor.

Access for all new development in the corridor should be controlled, minimizing new curb cuts and emphasizing the shared use of existing curb cuts, and utilizing frontage roads or a reverse frontage access, where feasible. New development should be responsible for installing deceleration/acceleration lanes, as required by VDOT. As redevelopment occurs along the corridor, existing curb cuts should be combined, where appropriate.

Segment 1 – Roanoke County Line to Exit 150

This segment of the U.S. Route 11 Corridor serves as a gateway to both Botetourt County and Roanoke County and would benefit from a corridor planning effort or an urban design strategy to improve the look, feel and mobility through this area. The Botetourt County Planning Commission should initiate discussions with the Roanoke County Planning Commission concerning the development of strategies to improve mutual gateways at this location.

Segment 2 - Exit 150 to Town of Troutville

As indicated on the Future Land Use Map, development along this segment of road should be commercial from Exit 150 North to State Road 653. From State Road 653 North to Town of Troutville a mixture of commercial and office uses are desirable.

Access for all new development in the corridor should be controlled, minimizing new curb cuts and emphasizing the shared use of existing curb cuts, and utilizing frontage roads or a reverse frontage access, where feasible. New development should be responsible for installing deceleration/acceleration lanes, as required by VDOT. As redevelopment occurs along the corridor, existing curb cuts should be combined, where appropriate.

Signage in the corridor should be strictly controlled, extensive landscaping should be provided, and typical “strip commercial” character should be avoided for all new development within this corridor segment (see discussion of *Design Standards* in the *Implementation Section* of the *Land Use Element*, Page 58).

Segment 3 - Town of Troutville North to Buchanan and Beyond

North of Town of Troutville, the corridor segment is characterized by low density residential and agricultural land uses. Commercial and industrial uses are very minimal and found in locations around Buchanan and the interchanges. North of Exit 168 the landscape is even more rural with no commercial or industrial development present.

As indicated on the Future Land Use Map, desired land uses in this corridor segment are primarily agriculture, or very low density residential. Future commercial and industrial development is not appropriate along this corridor, with the exception of commercial and small scale industrial development around the town, commercial development located at I-81 interchanges. Any commercial and/or industrial development proposed near the Town of Buchanan should be evaluated with consideration of the impact of the development on the town, and, to the extent feasible, such development should be encouraged to locate within the Town consistent with the Town’s land use plan and zoning.

Alternate U.S. Route 220 from 460 to Route 11

A corridor access study should be undertaken for this corridor, focusing on the characteristics of vacant land and developed property within the corridor and recommending specific opportunities for future signalization, shared access, median cuts, and frontage roads. Traffic flow is a top priority for this corridor. Strategies for future development include minimizing the number of new traffic signals and discouraging new median cuts, only allowing them for new public roads. Frontage roads and reverse frontage site designs are also a preferred access alternative. For smaller developments, shared access easements should be required to reduce the number of new curb cuts.

Additional commercial uses should be allowed on both the east and west side of this corridor, with a priority for larger scale, planned commercial developments so that access can be controlled through new public roads, or through the use of shared access for multiple properties and uses. New development in the corridor should reflect the highest standards of architectural quality and should incorporate significant landscaping (see discussion of *Design Standards* in the *Implementation Section* of the *Land Use Element*, Page 58). Freestanding signage should be well designed, but limited in height and number. Lighting should be effective for security purposes, but subdued to avoid spillover into the road corridor or adjoining properties.

U.S. Route 220

Botetourt County should develop a corridor study for U.S. Route 220 that examines potential build-out for the corridor, determines travel and traffic implications, and promotes proactive growth management. Funding sources for the corridor study could include grants from VDOT or the local PDC.

U.S. Route 220 North

The key to the appropriate future development of the U.S. Route 220 corridor is development of the frontage parcels with consideration of access control, signage, landscaping, and lighting. Strip commercial development patterns that exist south of Route 779 should not be allowed to extend northward towards Fincastle. Although additional commercial development between Route 779 and Greenfield is appropriate, it should be clustered in nodes at selected intersections, and should not be allowed to develop into a strip commercial pattern of development. Development north of Greenfield should be limited to agricultural and low density residential uses due to lack of public facilities in this area. Higher residential densities may be appropriate for properties near Fincastle if, in the future, the town has the capacity and willingness to extend water and sewer to serve new residential areas. No commercial development should be encouraged north of Greenfield; instead, commercial needs in this area of the County should be met within the Town of Fincastle consistent with the Town's land use plan and zoning.

Access control in this corridor is extremely important to preserve traffic capacity and flow. Left hand turning movements should be limited to existing median cuts, or to new cuts designed to serve new public roads. The number of new traffic signals should be minimized.

U.S. Route 460

Similar to other corridors, access control in the U.S. Route 460 corridor is extremely important to preserve traffic capacity and flow. Left hand turning movements should be limited to existing median cuts, or to new cuts designed to serve new public roads. The number of new traffic signals should be minimized. Shared access between adjoining properties should be required, as should frontage or reverse access roads.

Future commercial development within the corridor should be limited in scale and located within the existing commercial nodes near Laymantown Road and the Blue Ridge community. Future land uses in the corridor should be evaluated with consideration to their impact on the Blue Ridge Parkway viewsheds and interchange character. Parkway staff should be consulted when new developments are proposed. Densities of future residential development in the corridor should be a factor of public utility and facility capacities.

I-81 Interchanges

The character of the I-81 interchanges are discussed elsewhere in the transportation section. The following strategies are recommended:

1. Site specific soil and geologic evaluations should be performed prior to development at I-81 interchanges. If a rezoning is required, the results of these evaluations should be included as one of the factors considered by the Planning Commission and Board of Supervisors as they make their decisions.
2. Exits 156, 162 and 168 are best suited for additional development. However, no new intense residential, commercial, or industrial development should be approved at these intersections unless and until public water and sewer services are available. The previously referenced water and wastewater analysis plan projected a 20-year time frame for County utility improvements. Small scale commercial and low density residential development may be suitable at these interchanges based upon site specific review and analysis.
3. Future interchange development should be required to demonstrate adequate access design to ensure development will not negatively impact traffic flow or impede interchange improvements.
4. The Development Suitability Maps (Map 40, Map 41, and Map 42) for each interchange designate Primary, Secondary, and Restricted development areas. More intensive development should be encouraged/allowed in the Primary areas if public water and sewer are available. Secondary areas do not preclude development, but require more detailed site suitability studies prior to development or zoning approvals. Restricted areas should not be further developed due to their slope, geologic and soil limitations. If proposed for development, extensive site studies should be required within restricted areas.

5. Future development at these interchanges should reflect and respect their predominantly rural setting. Although future commercial development may be oriented to the highway traveler, it should be designed in character with its environs. In evaluating development or rezoning proposals, the Commission and Board of Supervisors should consider design elements such as architectural character and scale, lighting, signage, landscaping and shared access between parcels to reduce curb cuts and provide adequate turning lanes.
6. Commercial development at these interchanges should be restricted to “nodes” around each interchange, and should not be allowed to extend along the U.S. Route 11 corridor to create a strip commercial land use pattern.

Transportation and Land Use Coordination

Land use patterns have a significant effect on trip generation and travel behavior. Compact, mixed-use and walkable developments mitigate traffic generation and thoroughfare impacts by shortening trip distances, capturing a greater share of trips internally, and facilitating transit and non-motorized trip-making. Successful mixed-use areas with multi-modal access can thrive with lower parking ratios, thus freeing up land and capital for open space amenities and productive, revenue-producing uses. The County should evaluate its existing Zoning Ordinance, Subdivision Ordinance and site plan requirements to refine guidelines and regulations to encourage mixed use developments, interconnected streets, sidewalks, streets, adjusted parking standards and other mechanisms that reduce vehicular trips.

Rural Rustic Roads

The Virginia Department of Transportation’s Local Assistance Division established *Guidelines for Rural Rustic Roads*, working with the Rural Rustic Road Policy Committee. This concept, first enacted by the 2002 Session of the General Assembly of Virginia, is a practical approach to paving Virginia's Low Volume Unpaved Roads. A pilot program, implemented in July 2002, demonstrated the success of this program concept. The program ensures that the County will practice environmental and financial stewardship while providing basic paved access to more of its rural countryside. Table 44 provides an overview of the options for the rustic road program.

The following eligibility criteria apply to the Rural Rustic Road Program:

- Must be an unpaved road already within the State Secondary System.
- Must carry no more than 1 500 vehicles per day (VPD).
- Must be a priority (line item) in an approved Secondary Six-Year Plan, even if the funding source is not from normal, secondary construction allocations.
- Must be designated as a Rural Rustic Road by the County Board of Supervisors, in consultation with VDOT’s Residency Administrator or designee.
- Must be a road predominately used for local traffic. The local nature of the road means that most motorists using the road have traveled it before and are familiar with its features.
- Must have minimal anticipated traffic growth. The County Board of Supervisors must attempt to limit growth on roads improved under the Rural Rustic Road program and cooperate with VDOT on the development of adjacent lands consistent with rural rustic road concepts through the comprehensive planning process.
- Must have a special Resolution designating the road as a Rural Rustic Road by the County Board of Supervisors for each individual road.

The maximum speed limit on any highway designated a Rural Rustic Road pursuant to § 33.1-70.1 of the Code of Virginia is 35 miles per hour; however, all speed limits on rural rustic roads in effect on July 1, 2008, may remain in effect unless and until it is changed as a result of a traffic engineering study.

Botetourt County should continue to implement this program on selected, qualified roads. This approach would help minimize the maintenance costs associated with the secondary roads. Because the program limits future improvements, careful consideration should be given to those roads that might have increased development, creating the need for expansion or improvements.

**Table 44 – Rural Rustic Road Program Guidelines
Unpaved Road Improvement Program Options**

	Unpaved Road	Pave-In-Place	Rural Rustic Road
Roadway Status	The road must already be a state maintained road in the secondary system of state highways. These programs do not apply to the addition and improvement of roads that are privately maintained.		
Traffic Volume VPD = vehicles per day Limitations are based on funding (see below).	50 vpd minimum for unpaved road funds, otherwise no minimum for normal secondary construction funding.	less than 750 vpd	less than 1500 vpd
County Government Action and Funding	Project must be in the County's Secondary Six-Year Plan (SSYP) of improvements.	Project must be in the County's Secondary Six-Year Plan (SSYP) of improvements.	Project must be in the County's Secondary Six-Year Plan (SSYP) of improvements. Board must also request the Rural Rustic Road Program be used, by passing a special resolution declaring the road a "Rural Rustic Road."
Land Use Growth Factor	No restrictions.	No restrictions.	The County Board indicates growth and traffic generated by the land are not expected to increase significantly over the next 10 years.
Safety	Safety factors are addressed as part of the project.	Safety factors are addressed as part of the project.	Specific identified safety issues that cannot be addressed through signing should be corrected.
Alignment	Reconstruct as necessary to improve alignment and grade.	Minor changes in alignment may be necessary to address issues.	Ideally, a candidate road can be paved without alignment improvements. For higher traffic volume roads (>400vpd), 18 foot pavement is desirable and some typical section improvements may be necessary.
Drainage	Roadway drainage will be improved, if needed.	Roadway drainage will be improved, if needed.	Existing drainage provisions should be sufficient with minimal improvement. Improvements should be made as necessary to ensure positive drainage.
Right of Way	Abutting property owners will need to provide additional right of way, normally 50 feet in width.	Paving may be done within the existing right of way, but abutting property owners are normally expected to donate additional right-of-way for spot widening, if necessary for safety.	Paving may be done within the existing right of way, which may be a minimum of 30 feet prescriptive R/W.

Source: Virginia Department of Transportation – Rural Rustic Road Program, July 2008

5 CULTURAL AND ENVIRONMENTAL RESOURCES

INTRODUCTION

Botetourt County was founded in 1770 and is historically unique. It was initially formed from the County of Augusta and derived its name from Lord Botetourt, who was then Governor of Virginia. The County's jurisdiction originally reached to the Mississippi River, encompassing what are now West Virginia, Kentucky, Ohio, Indiana, and part of Illinois.

Early County settlers were primarily Scots-Irish pioneers who journeyed from Pennsylvania seeking homesteads. In the early years of the County's development, the economy was predominantly agricultural. In later years, mining gained some prominence. In the late 1700s and early 1800s, trade centers began to develop in the County.

The Town of Buchanan, founded in 1742, became an important regional distribution center in the mid-1860s. The Town was the western terminus of the Kanawha Canal. This Canal, tied to the James River, linked the urban centers in eastern Virginia with the developing commercial areas in western Virginia. Buchanan began losing its prominence as a major center in the late 1800s and early 1900s as railroad expansion reduced the amount of shipping on the Canal.



The Town of Fincastle, the County seat of Botetourt, was once the governmental center of an area stretching to the Mississippi River. Fincastle is still the hub of government activity in the County and also serves as a minor, yet important commercial center for central Botetourt.

As a result of this long history, Botetourt County is rich in historical, cultural, and natural landmarks that enhance the County's cultural traditions and is an attraction for new residents and tourists visiting the region.

Agriculture remains an important component of the County's economy, and continues to support and define the rural character of Botetourt. The County's many mountains and national forest areas also are critical to defining the County's rural character. However, the economy and character of Botetourt has changed significantly over the past thirty years. Agriculture has lost its dominance over the local economy, and a very successful County economic development program, which includes the development of a tourism program, has contributed significantly to the fiscal health of the community.

Currently, the southern portion of the County is the most urbanized part of the community. It has higher population, housing, and commercial densities when compared to the central and northern sections of the County. The County's continued commitment to a high quality of life, educational attainment, environmental protection, efficient and cost effective governmental services, and with sensible, sustainable development patterns will ensure that future generations will enjoy the same benefits of "Botetourt Living" that residents enjoy today.

BACKGROUND

Botetourt County's natural and cultural environment is characterized by many factors that both promote and impede the development of land. The attractiveness of the County promotes growth as the area continues to attract new residents, many who retreat to the area for retirement. The geographical dynamics of the area impede some growth, displacing it to either dense areas along main corridors, around existing incorporated towns, or dispersing it across the rural landscape. Dispersed residential growth is the top threat to preserving the existing rural character of the County in the future. More often than not, agricultural land is lost to new residential development, with some agricultural land converting to commercial uses. The historic, environmental, and even the agricultural quality of Botetourt County creates a nexus of loss and gain that must be addressed through various land use and growth policies that influence development and preserve the rural landscape.

Agricultural/Rural/Mountain Preservation

Over the years, the industry of agriculture has been affected by shifts in population and loss of traditional farming lands. Land trends across Virginia reflect a shifting in population from traditional urban areas to rural lands. Much of the development occurs as land intensive forms of development such as residential subdivisions and commercial development in patterns that are typically auto-dependant. When new development occurs on farms that have been sold to developers, these traditionally agricultural areas are caught in a conflict between new and old land uses. The resulting patchwork of development creates conflicts between agricultural and new land uses, generating traffic and future development pressures. Even though Botetourt County has seen a recent slow-down of residential, commercial and industrial growth, when the economy recovers, there will likely be renewed pressure on the County's agricultural and forested areas to be rezoned and developed. Agricultural statistics contained in the Land Use section of this plan show a continuing trend towards the loss of agricultural land uses and farms. Of equal concern are inappropriate patterns of development on environmentally sensitive lands such as the steep sloped properties located at higher elevations at or near mountain ridge tops.

Historic Preservation

Preserving historic resources is vital to maintaining the County's cultural heritage and also represents a significant opportunity for development of tourism as an economic resource. The three main steps to historic preservation are 1) identification, 2) recognition, and 3) protection of historic resources. Identification means inventorying the historic resources in a community and understanding their importance; this was completed recently prior to initiation of this plan update. Historic designation provides recognition for particularly significant sites, but does not protect them. Protection comes primarily through local historic districts implemented through the zoning ordinance or by a property owner placing a site or structure under an historic easement.

Currently, there is little control of the effect of development on historic resources. While there is a historic state designation program, it is up to the County to further determine incentives for maintaining historic properties. The lack of adequate protection mechanisms makes existing historic resources susceptible to negative impacts of development, including demolition.

Cultural and Environmental Resource Analysis

Historic Resources

Botetourt County continues to be a community rich in history. This history is evident through the numbers of structures and sites that have been identified as worthy of preservation for future generations. A listing on the Virginia Landmarks Register or the National Register of Historic Places is an honor but not a guarantee that these historically significant properties are protected from demolition or degradation. This is particularly true in rapidly growing jurisdictions where new development can significantly impact historic properties and their character.

Properties Listed on the National Register

Properties and districts in Botetourt County that are currently listed on the Virginia Landmarks Register and the National Register of Historic Places include the following (Map 18 – Historic Resources):

Anderson House (011-0056)
Annandale (011-0041)
Breckenridge Mill Historic District (011-0187)
Buchanan Historic District (180-0028)
Callie Furnace (011-0065)
Catawba Furnace (011-0040)
Fincastle Historic District (218-0051)
Greyledge (011-0010)
Hawthorne Hall (011-0037)
Lauderdale (011-0048)
Nininger's Mill (011-0057)
Phoenix Bridge (011-0095)
Prospect Hill (011-0185)
Santillane (011-0032)
Thomas D. Kinzie House (011-5034)
Varney's Falls Dam (011-0068)
Wheatland Manor (011-0038)
Wiloma (011-0039)
Wilson Warehouse (180-0006)

Properties Evaluated by Virginia Department of Historic Resources (VDHR) National Register Evaluation Team and Determined Eligible for National Register Listing

The following properties have been evaluated by the VDHR National Register Team and determined eligible for listing on the state and national registers.

Bryan McDonald, Jr. Farm House (011-0021)
Bowyer-Holladay House, Lewis Holladay House (011-0028)
George Botetourt Rader House (011-0058)
Roaring Run Furnace (011-0063)
Henry Stair House (011-0082)
Emanuel Episcopal Church (011-0109)
Camper/Cronise House (011-0116)
James River & Kanawha Canal Tunnel (011-0144)
Jeter Barn (011-0176)
Fort Fauquier, Lipes Site, Looney Mill Creek Site (011-0184)
Bessemer Archaeological Site (011-0188)
Bridge # 6100, Route 817, Craig Creek Bridge (011-0404)
Daleville College Historic District (011-5095)
Blue Ridge Hall (011-5096)
The Iron Industry of Virginia (011-5116)
Gala Site (011-5155)

Properties Potentially Eligible for National Register Listing

As a result of a field survey, the following properties and districts are identified as being potentially eligible for listing on the state and national registers and recommended for further investigation and/or intensive-level survey so that they can be formally evaluated by the VDHR National Register Evaluation Team:

Eagle Rock Historic District
Fox Folly Farm (011-5403)
Glen Wilton Historic District
Glencoe (011-0034)
Hammit House (011-5216)
Mill Creek Manor (011-0020)
Mulberry Bottom (011-0049)
Oakland (011-0050)
Shadowlands (011-5203)
"Soldier's Retreat" (011-0181)
Spec Mine Facilities (011-5143)
Springwood Historic District
Stonelea (011-0035)
Town of Troutville Historic District
William Booze Farmstead (011-5171)
Greenfield Plantation Site (011-0026)

Owners of historic properties have significant control over their condition and long-term viability. A variety of state and federal programs have been established to provide incentives to owners to maintain, restore and preserve historic properties. Botetourt County can also play an important role in the long-term preservation of these sites. Specific public actions could include directing property owners to available preservation incentive programs and considering the impact on historic resources when evaluating development proposals.

Natural Environment

Notwithstanding public investment in roads and utilities, and public policies pertaining to zoning and other development standards, the development potential for land is dependent in large part on its natural characteristics such as slope, elevation and soil types. These natural characteristics should be a major factor for consideration when land is proposed for development in the County. Development proposals should respect the natural features of a site. Natural resources, that are economically valuable and that are susceptible to damage or reduction in value by other land uses, should be protected. Prime agricultural lands, significant geologic formations, surface and ground waters and air quality are examples of such natural resources.

Geology and Soils

Subsurface geology, soil characteristics and topography are three highly interrelated factors that can influence the development potential of property. Igneous, metamorphic, and sedimentary rocks that range from Mississippian to Precambrian in age underlie Botetourt County. Along the Blue Ridge, granite, granodiorite, diorite, unakite, quartzite and phyllite are found. Sedimentary shale, limestone, and dolomite are dominant in the valleys. The Appalachian Mountains are comprised of sedimentary sandstone and shales. The characteristics of limestone yield good wells and free flowing springs for many County property owners; however, the valley regions of the County are likewise susceptible to groundwater pollution. Limestone geology can also present significant challenges to property development including sinkhole formation and long term reliability of groundwater supplies due to multiple developments using and drawing down a single ground water source.

Soils can also play a role in the development potential of property. The United States Department of Agriculture completed a detailed soil survey of the County in 1994. There are 12 general soil classifications for the County (Map 19 – Soils). The 1994 Botetourt Soil Survey provides general information for these classifications as well as detailed information on more specific types of soils.

Topography

Topography is another important aspect in planning for land development. Steep slopes often preclude intensive land development due in part to their natural erosive tendencies, but also because of necessary increases in development costs. It is imperative that any type of steep slope development be undertaken with the highest sensitivity for environmental considerations, including soil stability. The general topography of Botetourt County was mapped and discussed as part of the RVARC's 1977 report entitled Regional Inventory of the Fifth Planning District Commission (Map 20 - Slopes). The report presented four slope classifications and the constraints associated with each.

Classification 1 -- level land (0-8 percent slope): this land is flat to moderate and capable of many types of development. Areas in this classification include central Botetourt (north to Fincastle), lands along the James River, Craig Creek, and the land surrounding Cloverdale and Daleville.

Classification 2 -- rolling land (8-15 percent slope): this land can be developed for residential use with larger lots. Development of intensive residential, commercial and public uses would require different types of foundations than land in Classification 1. Classification 2 lands are well suited for pastures and certain other agricultural uses. Areas in this classification are scattered throughout the County.

Classification 3 -- hilly land (15-25 percent slope): the lands in this classification may be suitable for residential uses provided lot size and careful site planning is used to fit the development to the topography. This slope classification limits intensive development, as well as placement of public facilities. Agricultural activities would be limited to passive activities, such as pastureland. Areas in this classification include lands along the foothills of mountains.

Classification 4 -- steep slopes (25 percent slope and greater): this land is generally considered unsuitable for any type of intensive development or cultivation. The best use of this land is for limited outdoor recreation, wildlife management, and watershed maintenance. Areas in this classification include lands adjacent to the Blue Ridge Parkway; lands bordering Craig and Alleghany Counties; and the land northeast of Eagle Rock to the Rockbridge County border and north of Buchanan.

Any efforts to guide future development to locations that are topographically suitable must be done with an understanding of the significant environmental benefits that will accrue. Such efforts must also respect and address legitimate property right interests. A programmatic approach based upon both public regulation and private incentives has the potential to be an effective strategy to ensure both appropriate development locations and appropriate development techniques. It is also important to remember programs that discourage or limit development on steep slopes will likely redirect development demand and will most likely channel development to the south central portion of the County where land is in high demand based upon its topography, access and presence of utility services.

Air Quality

Air quality is an important factor in local land use planning as indicated in the Federal Clean Air Act (CAA) of 1970 and subsequent amendments. The CAA requires the U.S. Environmental Protection Agency to develop and issue criteria for local air quality to protect the public health and welfare. Both mobile and stationary sources contribute pollutants to the natural air environment. These pollutants influence air quality in Botetourt County and across the Roanoke Valley. Due to prevailing wind patterns and topographic considerations, discharged air pollutants can, and do, travel hundreds of miles, affecting communities far from their source.

In recent years, air quality readings in the Roanoke Valley have indicated that the Valley occasionally exceeds federal standards for ozone. If formally declared to be in violation of these federal standards, Roanoke Valley jurisdictions, including Botetourt, would be formally designated a "nonattainment area" and would be subject to more stringent Clean Air Act requirements. Communities with nonattainment status would be subject to a four-part federal compliance plan requiring that (1) long range transportation plans not negatively impact air quality, (2) new or expanded industrial operations be subject to stringent source reviews, (3) local pollutants be reduced on a yearly basis, and (4) a ten-year air quality maintenance plan be prepared to ensure continued air quality compliance.

As a proactive strategy to avoid formal non-attainment status, Botetourt County and other Valley jurisdictions agreed in 2002 to form an “Early Action Compact” to develop a formal Ozone Early Action Plan (OEAP) to address air quality issues. This OEAP does not mitigate or reduce the Valley’s responsibility to improve air quality. Rather, the preparation of the OEAP is a local, state and federal partnership to improve air quality. The OEAP (1) gives more local control in the selection of emission reduction measures, (2) avoids the local stigma of becoming a nonattainment community, and (3) allows a faster cleanup of air quality.

Botetourt County’s air quality situation increases the importance of considering air quality impacts when evaluating long-range transportation improvements, economic development opportunities, and major land use decisions. Long range transportation planning should consider the benefits of mass transit and other alternative forms of transportation other than the automobile. Local economic development programs should continue their long-term historic emphasis on encouraging “clean industries”. Finally, intensive land use development proposals in the more rural portions of the County should be evaluated partially on the basis of required commuting distances for residents or employees.

Surface Water Resources

As Map 22 (Watershed Basins) indicates, the southernmost portion of Botetourt County lies in the Roanoke River Basin. However, the majority of the County is in the James River Basin, the major source of drinking water for the County. The James River begins near the Botetourt-Alleghany County line where the Jackson and Cowpasture Rivers merge. Several important tributaries (Craig Creek, Catawba Creek, and Looney Creek) feed into the James. Other major creeks also contribute to the County’s surface water resources. These include Back Creek, Mill Creek, and Little Patterson Creek, all within the James River Basin, and Tinker Creek which lies within and contributes to the Roanoke River Basin.

The County’s surface water resources are significant environmental features, enhancing and contributing to the County’s quality of life and recreational opportunities. They also are a source of periodic surface flooding within the County. Map 23 (100 Year Floodplain) shows the approximate location of 100-year floodplains in the County as designated by the Federal Emergency Management Agency (FEMA). The County participates in the federal flood insurance program and restricts the design and location of new development within 100-year floodplain areas. In exchange, County residents within flood-prone areas are eligible for subsidized federal flood insurance.

The James River flows into the Chesapeake Bay, and a majority of the County lies within the Chesapeake Bay watershed. Because of the County’s location in western Virginia, the County is not currently subject to the land use and water quality guidelines of the Chesapeake Bay Preservation Act (CBPA). To date, the County’s administration of Virginia’s erosion and sedimentation control laws represent the extent to which the County regulates the quality and quantity of surface water runoff. However, should future amendments to the CBPA or the federal National Pollution Discharge Elimination System (NPDES) program occur, Botetourt County may be required take additional programmatic and regulatory steps to manage the quality and quantity of surface water runoff. In anticipation of these requirements, some Virginia localities have voluntarily adopted environmental quality standards similar to the requirements of the Chesapeake Bay Act. Others communities are adopting Low Impact Development (LID) design standards as a strategy to achieve more environmentally sensitive development without the burden of additional development regulation.

Groundwater Resources

Though there is an abundance of surface water flowing through Botetourt County, the majority of County residents and businesses use groundwater resources as their primary drinking water. These resources are available either through (1) individual wells, (2) private water provision and distribution systems that meet State Health Department standards, or (3) public water systems that are owned and maintained by Botetourt County.

Groundwater is that part of the subsurface water supply located within aquifers. The amount of water that an aquifer will yield depends on the porosity and permeability of the material at surface and subsurface levels. The yield of an aquifer is determined by the average annual recharge (influenced by climate and precipitation). Vegetation and slope of the land also affect perennial yield.

Groundwater is an important County water source for the foreseeable future. Although groundwater supplies are currently meeting the demands of Botetourt County residents and businesses, this source of water should not be taken for granted. All County citizens need to be aware of the competing demands on this resource, so that contamination and overuse do not occur. Wise management and control of this resource can ensure an adequate supply of clean water for years to come.

GOALS, OBJECTIVES AND POLICIES

Cultural and Environmental Resource Goals

- To maintain and enhance the County's high standard of environmental quality.
- To ensure the preservation of areas and properties of natural, historic and cultural significance.
- To maintain and promote unique aspects and resources of the rural community.

Cultural and Environmental Resource Objectives

- Enhance and protect Botetourt County's environment from adverse environmental impacts of land development through implementation and enforcement of local, state and federal environmental regulatory requirements.
- Enhance, preserve and protect areas of natural and rural significance.
- Enhance, preserve and protect historic features and buildings.
- Promote the County's proximity to the Appalachian Trail, National Forests, Blue Ridge Parkway and the James River.
- Maintain the County's predominantly rural character by ensuring that farming remains a viable livelihood and that farmland continues to be an available resource.

Cultural and Environmental Resource Policies

- Continue implementation of the County's floodplain management regulations.
- Encourage new development to be connected to public water and sewer whenever feasible. If public facilities are not available, thoroughly evaluate the impact of the new development on groundwater supply and quality.
- Continue to enforce the County-wide erosion and sedimentation control laws.
- Cooperate with the Department of Forestry in the monitoring of timbering operations to ensure compliance with environmental requirements.
- Continue to participate in the regional Early Action Compact as a strategy to avoid an EPA designation as an Ozone Non-Attainment area.
- Continue to support the Department of Environmental Quality (DEQ) in its efforts to investigate pollution and maintain and improve water quality standards.
- Discourage land uses which would have a detrimental effect on the environment.
- Enforce standards for site development, construction and maintenance to minimize adverse impacts to the environment.
- Promote protection of the environment by identifying potential areas for low-impact county owned park and recreation development.
- Promote protection of the environment through the continued implementation of the County's solid waste management plan.
- Review and comment on proposed National Forest Plans to ensure a coordinated effort in the protection and management of forest resources in the County.
- Coordinate with Department of Forestry and the National Park Service in the protection and management of forest resources.
- Pursue programmatic and incentive-based regulatory approaches to the protection of mountain ridgelines and critical mountain viewsheds.
- Identify and protect critical viewsheds for their environmental, aesthetic, cultural, agricultural/forestral and recreational value.
- Define and identify priority areas for forestal, agricultural and open space conservation.
- Develop farmland and forestry retention programs, such as agricultural and forestal districts, to support open space protection efforts in Conservation and Agricultural areas.
- Continue the implementation and promotion of County's Conservation Easement Program
- Board of Supervisors should consider recommendations of the historic structures survey and implement as appropriate.

- Develop and adopt land-use practices and regulations under the zoning ordinance that protect historic sites and structures and their gateways and provide adequate buffer areas.
- Encourage efforts to maintain and repair historic structures in the County, and support the donation of historic easements.
- Support local, regional and state efforts to develop and promote heritage tourism and eco-tourism opportunities in the County.
- Cooperate with the National Park Service, Department of Forestry and National Forest Service in the protection of the Blue Ridge Parkway and the Appalachian Trail.
- Encourage all future development at Blue Ridge Parkway interchanges and along the Upper James to be designed consistent with the character, culture and history of these valuable resources.
- Support local, regional and state efforts to develop and promote heritage tourism and eco-tourism opportunities in the County such as the Upper James River and Appalachian Trail.
- Provide support to working farms.
- Support the farmer's markets; continue to support the Daleville farmer's market.
- Develop farmland protection programs, such as agricultural and forestal districts, to support open space protection efforts.

IMPLEMENTATION STRATEGIES

Environmental Considerations

Botetourt County should consider many environmental factors when reviewing for new development. The following are some recommendations for consideration:

- Consider the slope and general topographic characteristics of a property when evaluating proposals for the development of Class 3 and 4 properties. (Greater than 14% slope), encouraging and requiring appropriate design techniques that address the challenges of developing in steep terrain.
- Require the preparation of a groundwater impact analysis when major subdivisions and other large-scale developments are proposed.
- Consider and encourage the development of a broad range of programmatic and voluntary activities and incentives that address the appropriate development of Class 3 and Class 4 properties. Enhanced development guidelines and regulations for these properties should also be considered.
- Continue to participate in the Regional Early Action Compact as a way of proactively planning for air quality. In addition, the air quality characteristics of new development should be a factor considered when reviewing the impacts of new development.
- Explore creative ways to encourage the management of stormwater quality including the development of mandatory and/or voluntary low impact development design standards.

Historic Preservation Planning

Preserving the physical reminders of our past creates a sense of place and community pride. Historic preservation also generates a wide range of economic benefits including those associated with the rehabilitation and adaptive reuse of historic buildings and heritage tourism, as well as the impacts that historic designation has on neighborhood character and property values. Other benefits include the role that historic preservation plays in economic development and downtown revitalization.



The County can further implement a historic preservation planning program by the following actions:

- Link survey data to the planning process (i.e. mapping properties or districts that are or are eligible for National Register designation).
- Consider nominating local, state or national historic districts for protection.
- Consider amending the Zoning Ordinance to include a historic overlay district.
- Provide the Planning Commission and/or the Board of Supervisors with information concerning historic properties within proximity of development applications during the review process, so that potential adverse impacts to historic properties can be considered as a factor in their decision making.
- Advise applicants of potential adverse impacts of proposed projects on historic properties, and work cooperatively to achieve a site design that minimizes the impacts on historic resources.

- Work cooperatively with the owner and local historic preservation organizations to fully document historic properties and sites prior to demolition.
- Use the requirements of the building code as a resource to deter or slow demolition by neglect of historic properties.
- Provide information about state and federal historic preservation programs and incentives to local historic property owners.
- Lend support to private initiatives that preserve historic properties through acquisition, conservation easements or other preservation techniques.

Conservation Easements

Conservation Easements are further discussed in the Land Use Element of this plan. Not only are they a tool for land use planning, they assist with mitigating adverse impacts of land development on environmental and agricultural resources. A conservation easement is a deed restriction landowners voluntarily place on their property to permanently protect resources, such as productive agricultural land, ground and surface water, wildlife habitat, historic sites or scenic views. Conservation easements are flexible, and can be tailored to meet the needs of individual farmers and ranchers, and unique properties. They also provide farmers with several tax benefits including income, estate, and property tax reductions.



Botetourt County should continue to implement and administer its Conservation Easement program.

Agricultural Preservation

It is important to maintain a balance between development and preservation objectives throughout the County. When development applications are filed to convert agricultural lands to other uses, the economic and quality of life benefits of agricultural and forested land uses should be considered as significantly as the adequacy of public facilities and services available to serve new development in the area. Environmental impacts of development proposals - particularly those at higher, steep slope elevations - should also be heavily weighted.



The Future Land Use Map should be used as a general guide for future County development patterns and Zoning Ordinance revisions. Future residential, commercial and industrial development should be encouraged to locate in areas of the County where adequate public services are available or planned. For example, short term and ten-year timeframe plans for water and wastewater expansions are largely confined to the developed southern portions of the County.

6 COMMUNITY FACILITIES AND SERVICES

INTRODUCTION

Community facilities play a significant role in the dynamic of growth in Botetourt County. Well-timed and strategically located public facilities are necessary to promote and sustain the growth pattern proposed on the Future Land Use Map. They are also critical to achieving and maintaining the high quality of life that Botetourt County residents admire and have come to expect. Community facilities include both the utility infrastructure and the public services provided for the benefit of residents. For the purposes of this Comprehensive Plan, the Community Facilities Element addresses the following topics:

- Water and wastewater
- Solid waste management
- Public safety (police, fire, and emergency services)
- Schools
- Library services
- Recreation facilities



Community facilities and services are critical to quality of life and can directly affect a community's potential for growth. As Botetourt County's population continues to increase and change in character, demand for facilities and services will also increase and change -- more classroom space, police protection, social services, recreation facilities, etc., will be needed. Community facilities and services in the County are provided on several levels; the provision of these facilities and services is dependent on tax dollars, whether in the form of state aid, County supported programs or locally funded facilities and services.

Community facilities and services can also serve as a tool, or as an unexpected trigger, to guide or stimulate community growth and development. Availability of a public water supply or wastewater disposal system can be used as an economic development tool to attract business and industry. It can also attract associated commercial and residential development, for which the County must plan. The construction or improvement of roads can have a similar effect, resulting in changes to community character. In short, the planning and provision of community facilities and services must be undertaken within the overall context of the County's *Comprehensive Plan* and a public discussion of the community's long-term growth and development goals.

BACKGROUND

Community Facilities and Services Analysis

Recreation Services and Facilities

The active and passive recreational needs of Botetourt County residents and visitors are met through services and facilities that are provided by a broad cross-section of local, state, federal, and private sector entities. The Botetourt County Parks, Recreation, and Tourism, and its associated Advisory Parks and Recreation Commission were created by the Board of Supervisors in 1975 to address County recreational needs and to provide recreational opportunities for County residents. Today, the Botetourt County Recreation Department, with the assistance and guidance of the Advisory Commission, provides a wide variety of team and non-team and leisure programming for County residents. To provide these opportunities, the Department relies heavily on County schools to provide space for programming.

In May 2010, the Botetourt County Parks, Recreation, and Tourism prepared a *Five-Year Parks and Recreation Plan*. The plan provides an inventory of the wide variety of local, state, federal, and private recreational facilities that serve area residents and visitors. Map 24 (Recreation Sites) shows the recreational sites within Botetourt County. The plan also discusses the need to consider the financial constraints of limited local funding with specific emphasis on the County's Capital Improvement Incentive Fund and the County's Five Year Capital Improvement Planning process as a means to finance local recreational improvements. The plan concludes with a list of park and recreation projects, also included in the 2011-2015 Capital Improvements Plan, and outlines nine departmental objectives. Objectives address the issue of coordinating the development of recreation facilities with future school development and expansion of the County's on-going efforts to cooperate with local residents and interest groups, such as booster clubs, in the parks and recreation planning process. Objectives also stress the need to address ADA compliance, completion of regional recreation facilities at the Blue Ridge, Buchanan, Greenfield and North County Parks, and continued efforts to work with the County school system and local community colleges to expand the range of adult and youth recreation courses, and the strong role and active utilization of the Capital Improvements Incentive Fund Program.

Projects highlighted in the 2011-2015 Capital Improvement Plan include:

1. *Park Community Centers* - Construction of community recreation centers in Blue Ridge, Buchanan, Greenfield and North County Parks. (2014-2015)
2. *Botetourt Sports Complex* - Development of additional athletic fields, storage and locker room facilities. (2012-2014)
3. *Boxley Park* - Implementation of Boxley Fields Master Plan. Includes infield and fencing replacement for two instructional baseball fields, parking and field access upgrades, and installation of athletic field lighting. (2012-2014)
4. *Buchanan Park* – Complete parking and access routes for park (2012) and construct picnic pavilion and park amenities. (2013)
5. *Greenfield Historic Resources* - Historic preservation/relocation and initial planning of visitor center. (2011-2013)
6. *Greenfield Recreation Park* - Construct a concession/restroom building (2012), improve parking area with the installation of grass paver system (2013), and construct for tennis courts for recreation and high school play. (2013)
7. *Incentive Fund* - Grant to provide matching funds for community based park improvement projects. (2010-2015)
8. *ADA Compliance* - Provide for necessary improvements to become ADA compliant at county athletic facilities. (2010-2015)

Outdoor Recreation Opportunities

Outdoor recreation facilities are numerous within the County. The James River, the George Washington and Jefferson National Forests, the Blue Ridge Parkway, the Appalachian Trail, and the Carvins Cove Reservoir are just some of the many natural and scenic areas that contribute to the County's recreational amenities. These areas provide excellent opportunities for fishing, hiking, horseback riding, hunting, biking, boating, birding, kayaking, camping and general sightseeing. In addition to the recreational benefits, use of these areas by residents and visitors also provides an economic benefit to the County.

The James River

The James River, 14 miles of which is designated as a Virginia Scenic River, provides opportunities for freshwater fishing as do Craig, McFalls, Jennings, Middle, and Roaring Run Creeks. The James River is popular with smallmouth bass fishermen and has gained recognition for Muskie fishing. Rock bass, bream and catfish are also plentiful. The James River is also popular with rafters, canoeists and kayakers. There are five public boat access areas along the James River in Botetourt County. These are located near Arcadia, Buchanan, Horseshoe Bend, Springwood, and Iron Gate. Parking is available at each of the public boat launch sites. The Virginia Department of Game and Inland Fisheries maintains the public boat launch access points.

The *Upper James River Water Trail Strategic Plan* was produced in 2009 by the Botetourt County Office of Tourism and provides greater detail of plans to enhance the recreational use of the James River. The plan envisions a water-based trail system that will provide opportunities for recreation, conservation, tourism and education while preserving the natural, historic and cultural resources along the river. Goals and objectives of the plan include increasing public access to the James River, developing an identity for the Upper James River, and developing a sustainable tourism based economy along the corridor. Map 25 (James River Trail – Public Access Points) provides a geographic overview of the trail alignment. The plan emphasizes that Trail development should focus on increasing public (local and non-local) access to the river while working to preserve the natural state of the Upper James. By involving all sectors of the community and working collaboratively to identify and implement needed infrastructure, services and marketing improvements, the Upper James Trail can become a premier outdoor recreation destination.

George Washington and Jefferson National Forests

The Jefferson and George Washington National Forests offer excellent fishing, hunting and nature study opportunities. Together, the Forests have over 80,000 acres in the County and comprise over twenty-two percent of the County's land area. The U.S. Forest Service maintains four major recreation areas in Botetourt County: Craig Creek Recreation Area, Middle Creek Picnic Area, North Creek Campground and Roaring Run Furnace and Picnic Area. Craig Creek Recreation Area offers picnicking, primitive camping, space for trailers and horses, a loop trail and access to Craig Creek. Middle Creek Picnic Area located near Arcadia, has a large picnic area with shelters, a pavilion, water and restroom facilities. North Creek Campground (3 miles from Arcadia) includes 15 camping units with parking, picnic table, tent pad and fireplace. Water and restroom facilities are available. Roaring Run Furnace and Picnic Area is located 8 miles northwest of Eagle Rock and includes 15 picnic units and restroom facilities. Attractions include the Roaring Run Iron Furnace, a pre-Civil War iron ore furnace, Roaring Run Falls, and the Iron Ore National Recreational Trail.

The U.S. Forest Service also manages and maintains several trails that provide residents and visitors with hiking, equestrian and off-road opportunities. The Patterson Mountain Off-Road Vehicle Trail offers opportunities for all-terrain vehicles and dirt-bike enthusiasts. The trail is approximately 15 miles in length. The U.S. Forest Service maintains the 65-mile Glenwood Horse Trail that extends from Natural Bridge Station to Montvale. There are a series of trailheads dispersed along the trail, which offer parking and entry to the trail. Bearwallow Gap Horse Trail is located near Buchanan; primitive camping is permitted along the trail as well.

Appalachian Trail

The Country's premiere hiking trail passes through Botetourt County on its way from Maine to Georgia. The Appalachian Trail enters southwestern Botetourt County on Tinker Mountain, and then crosses the valley at Daleville, before heading into the Blue Ridge Mountains. The trail has numerous access points in the County. US 220 at I-81 near Exit 150 is the most popular. Other access is possible along Mountain Pass Road, and at numerous points along the Blue Ridge Parkway.

Blue Ridge Parkway

The Blue Ridge Parkway links the Shenandoah National Park in Virginia to the Great Smokey Mountains National Park in North Carolina. The parkway follows the Blue Ridge Mountains for 469 miles and passes through thirty-five miles of the southeast section of Botetourt County. The Parkway provides scenic vistas, areas for picnicking, overlooks and trailheads. The Parkway is accessible in Botetourt County from Route 43 east of Buchanan, from Route 618 near the Peaks of Otter, and from U.S. Route 460 in Blue Ridge.

Carvins Cove Reservoir

Carvins Cove Reservoir and its twenty square mile watershed lie within Botetourt and Roanoke Counties. Recreation opportunities of off-road bike, hiking, and horseback riding trails are located in the Carvins Cove. It is owned by the City of Roanoke and serves as a public water source for area residents. The City of Roanoke charges visitors a fee to access the property and for public boat rental. Carvins Cove is regulated by a series of policies set forth by the City of Roanoke to protect water quality. In recent years, access to the watershed has been further restricted due to public health and safety concerns.

Libraries

A public library is an important community facility, the use of which expands with increasing population, land development, and higher educational goals. Botetourt County provides public library services to the residents of Botetourt County and the Roanoke Valley. The library system has nearly 165,000 items including books, DVDs, audiobooks and magazine collections. There are four library buildings including the headquarters library, known as the Blue Ridge Library, on U.S. 460 East, the Fincastle Branch Library, the Buchanan Branch Library, and the new Eagle Rock Library (Map 26 – Schools and Libraries). Internet access is available at all four library locations. The library also operates a bookmobile, which serves populations in predominantly rural areas. Botetourt County Library patrons borrowed 261,213 items in FY10 as well as recording 195,265 visits to library facilities. Children's services are provided at all libraries, including preschool story hour and an annual summer reading program. The Botetourt library system is part of the Roanoke Area Libraries consortium, whose members share a common borrower's card and computer catalog. Botetourt patrons may also obtain books and other materials from the collections of the City of Roanoke, Roanoke County, and Salem libraries at no charge.

Electric Services

Botetourt County residents and businesses obtain their electric services from one of three utility companies. The Craig-Botetourt Electric Cooperative provides electric service in the western part of the County. Virginia Power Company serves customers in the Eagle Rock and Buchanan areas. Finally, American Electric Power serves the remainder of the County and has the largest service area and customer base.

Education

Currently, the Botetourt County School System operates seven elementary schools, two middle schools, two high schools, and a County-wide vocational school (Map 26 – Schools and Libraries). The elementary schools serve grades K-5; the middle schools serve grades 6-8; and the high schools serve grades 9-12. Several local institutions, including Dabney S. Lancaster Community College, Virginia Western Community College, Hollins University, Roanoke College, Radford University, and Virginia Polytechnic Institute and State University serve the regional higher education needs of Botetourt County residents. Finally, the Greenfield Education and Training Center provides extended learning and workforce training opportunities. All of these institutions are within a 50-mile radius of Fincastle.

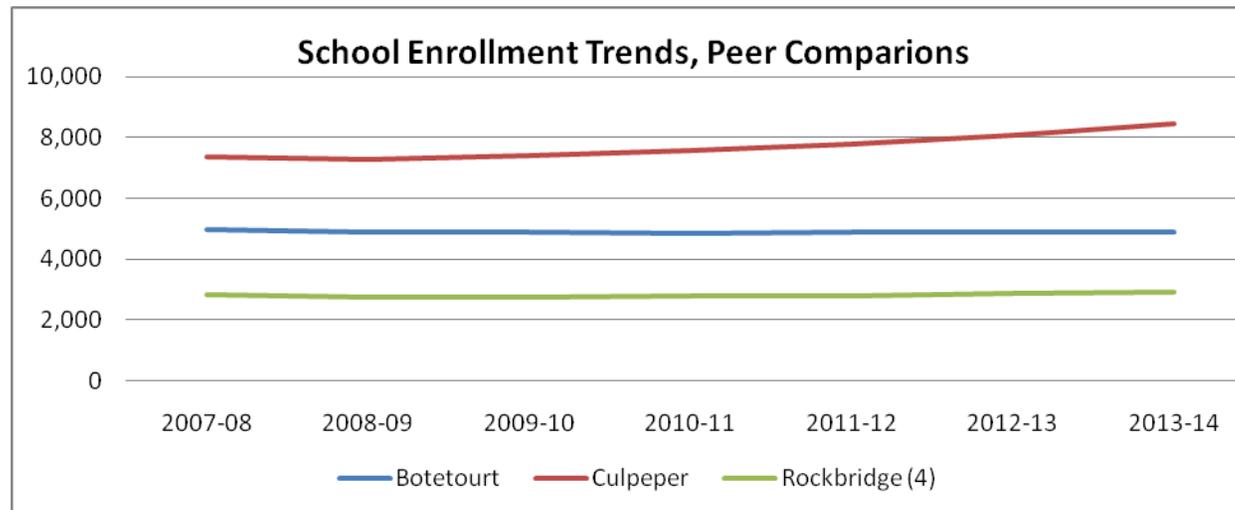
Fall enrollment in Botetourt County schools has been decreasing since 2007, and projections indicate membership will remain stable through 2013 (Table 45). When compared to peer counties, enrollment in the County schools has not kept up with population growth. This suggests that the new population growth is in the older, possibly retiree, age groups that do not have children at grade school age.

Table 45 – Historic & Projected Botetourt School Enrollment

HISTORIC & PROJECTED FALL MEMBERSHIP FOR VIRGINIA'S SCHOOL DIVISIONS: 2007-08 TO 2013-14													
School Division	Historic Membership* Fall Grades K-12:		Projected Fall Membership Grades K-12:					Numerical Change			Percentage Change		
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Historic	Forecast		Historic	Forecast	
								2007-08 to 2008-09	2008-09 to 2009-10	2008-09 to 2013-14	2007-08 to 2008-09	2008-09 to 2009-10	2008-09 to 2013-14
Virginia**	1,202,342	1,205,169	1,208,994	1,214,286	1,221,361	1,233,113	1,246,869	2,827	3,825	41,700	0.2%	0.3%	3.5%
Botetourt	4,956	4894	4,880	4,865	4,872	4,889	4,901	-62	-14	7	-1.3	-0.3	0.2
Culpeper	7,368	7276	7,392	7,568	7,809	8,074	8,452	-92	116	1,176	-1.2	1.6	16.2
Rockbridge (4)	2,827	2772	2,768	2,805	2,796	2,886	2,939	-55	-4	167	-1.9	-0.1	6.0
Roanoke MSA	39,250	39036	38,871	38,624	38,655	38,784	39,040	-214	-165	4	-0.5	-0.4	0.0

Source: Demographics & Workforce Group, Weldon Cooper Center: www.coopercenter.org/demographics/SCHOOL%20FORECASTS/

Figure 9 – School Enrollment Forecast, Peer Comparison



Law Enforcement

The Botetourt County Sheriff's Department provides law enforcement services to Botetourt County and to the Towns of Buchanan, Fincastle and Town of Troutville. With offices located in Fincastle, the Department provides court security, civil process, law enforcement, criminal confinement, crime prevention, D.A.R.E., and animal control services as part of its departmental mission. Approximately twenty-four patrol officers and six investigators provide 24-hour services to County and town residents. An additional five sworn officers provide crime prevention programs and activities to residents.

Fire and Rescue Services

Seven volunteer fire departments and seven volunteer rescue squads located at a total of eight facilities provide fire and rescue services in Botetourt County (Map 27 – Fire and Rescue Stations). Map 33 (Fire Service Areas) and Map 34 (Rescue Service Areas) show the locations of these fire and rescue facilities and the service areas.

Additionally, Botetourt County operates career Emergency Medical Services from two locations:

- 1 – 24x7 Advanced Life Support (ALS) ambulance unit, based in Fincastle
 - 1 – 12x7 (daytime) Advanced Life Support (ALS) ambulance based in Troutville
 - 1 – 24x7 Advanced Life Support (ALS) response vehicle, based in Troutville.*
- * - This unit is staffed with one Paramedic who responds to meet any available volunteer ambulances at the scene of a call, thus providing advanced life support services.*

While EMS is the primary mission, career staff members are cross-trained as firefighters and assist with fire response as required. A primary future focus should involve tracking response rates and making adjustments where required to ensure that Fire and EMS services are being provided appropriately and equitably.

In 2008, the County undertook a staffing study and strategies plan for fire and rescue services. The following goals and recommendations are from that plan.

Service Delivery Goals

- Improve Turnout Times and Response Times
- Improve Incident Coordination
- Enhance On-Scene Service Delivery
- Operational Incident Reporting

Recruitment and Retention Recommendations

- Returning Pride and Esprit de Corps (Retention)
- Incentive Programs

Training Recommendations

- Countywide Training Coordination
- Multi-Department Operations
- Increasing Participation at Training Programs
- Leadership Development

Based on the information found in the 2008 study, Botetourt County's current populations of medium density or higher are generally located within 1,000 feet of a fire hydrant (Map 28 - Road/Hydrant Analysis, Roads within 1,000ft of Hydrant and Map 29 - Road/Hydrant Analysis, Roads within three miles of Hydrant). Based on an evaluation of the travel distance capture area (Map 30 – Fire Station Travel Distance), most of the commercial nodes and residential areas are located within a five mile zone of a first response station. More importantly, the travel times of

five and ten minutes provide fire and rescue coverage to almost all main residential and commercial areas, include most low rural residential areas (Map 31 - Fire Station Travel Time and Map 32 – Rescue Station Travel Time). Based on this information, cross referenced with the Future Land Use map, Botetourt County’s areas of designated growth can be served by sufficient fire and rescue services. However, consideration should be given to staffing levels for both fire and EMS service at each location.

Solid Waste Management

Residential solid waste is collected within Botetourt County by five private companies that collect waste in franchised service areas in accordance with adopted County law. Similarly, commercial businesses contract individually with one of seven private companies franchised to collect commercial waste countywide. These private waste collectors own and operate their own equipment. Collected waste is transported to the Salem Transfer Station for loading onto truck and conveyance and disposal at Amelia Virginia. A Citizen Convenience Center has been constructed adjacent to the Botetourt County landfill located off of Route 779 in the southwest portion of the County (Map 35 – Landfills and Recycle Centers). The Citizens Convenience Center accepts residential waste from citizens that do not want to use the franchised residential collection service.

The existing landfill has capacity and is in full compliance with Virginia Department of Environmental Quality (DEQ) solid waste management regulations. Closure of the landfill is not anticipated in the near future.

Refuse Collection - Refuse collection in Botetourt County is privatized through a franchise system. The County receives proposals, interviews and selects the haulers for the franchise contracts and sets the fees that can be charged to residential and commercial customers. The private companies bill the users of the collection services directly. The County is divided into five solid waste residential collection areas (Map 36 – Solid Waste Residential Collection Areas) and three classes of customers.

Refuse Disposal - In 2008, the County determined that it is in its best interest to transfer its waste to a disposal facility outside of the County. This decision was made after careful evaluation of its options and geologic investigations of property owned by the County. The existing County-owned property was found to be unsuitable. To site a new facility is very difficult given the rough geology of the County, its growth patterns, and timing.

Recycling - The County operates ten drop off sites, nine at the schools and one at the Customer Convenience Center, (Map 35). Compartmentalized roll-off boxes are placed at each site where newspaper, plastics #1 and #2, and metal cans are collected. As of July 1, 2004 the County’s recycler would no longer accept brown and green glass. A contract hauler services the sites. The County also recycles tires and white goods at the landfill.

In 2004, the County, with a population of less than 100 persons per square mile, was able to reduce its recycling goal from 25% to 15%, per §10.1-1411 D of the Code of Virginia. For 2007 and 2008 the County was below this goal, and operated under a VDEQ approved Recycling Action Plan during that period. The total recycling tonnage for 2009 was 3,550 tons, or 19.1%, bring the County back into conformance with the state mandated goal.

Litter Control- Includes volunteer programs associated with the Clean Valley Council, Adopt a Highway programs, and the use of inmate labor for periodic cleanup at the landfill.

Natural Gas

Natural gas service is available in many parts of Botetourt County. Currently, Roanoke Gas Company, a division of RGC Resources provides natural gas service to the industrial parks in the County, as well as to residents in the Town of Troutville, Daleville, Fincastle and Cloverdale areas. Communities along Route 604/Alternate 220 and U.S. Route 460 East into Webster are also served.

Botetourt County and many other parts of the Roanoke Valley are served by two major gas transmission supply lines that are owned and operated by Columbia Gas Transmission Company. Roanoke Gas also owns and operates a liquefied natural gas (LNG) facility in Botetourt County. This facility is located at the base of Tinker Mountain along Interstate 81. This facility serves as a backup source of natural gas during periods of high demand.

Natural gas lines do not currently serve Buchanan and Blue Ridge. For these and other rural areas, propane can be supplied by Highland Propane and Valley Propane.

Water and Wastewater Services

Public water and wastewater services often drive growth in suburban and urban communities. The location and availability of public water and waste water facilities are key determinants of land use patterns. Similarly, the timing and location of future extensions or new systems influences the location and rate of growth in a community. For this reason, effective community planning requires strong coordination between future utility plans and future land use and transportation plans and decisions.

Botetourt County has numerous public water and wastewater systems within its borders. These systems, which are regulated by the Virginia Department of Health and/or the Virginia Department of Environmental Quality, are owned and operated by a variety of County, municipal and private entities. Botetourt County has a strong interest in ensuring that public water and wastewater services are designed to meet the future needs of the County. Of particular importance are water and wastewater services to the County's existing and planned commercial and industrial areas and businesses. To this end, the County commissioned a comprehensive countywide water and wastewater analysis. The *Countywide Water and Wastewater Systems Analysis Update*, completed in the fall of 2009, was prepared by ARCADIS. The analysis looked at existing system conditions and projections of future need over a 20 year time frame; identifying deficiencies and recommending improvements to allow the County to continue providing appropriate water and wastewater service to its customers.

The water and wastewater analysis is considered a long-range plan for the development of these facilities, and is appended to this Comprehensive Plan by reference. As a component of this plan, it can be used as a general guide for decisions of the Board of Supervisors pertaining to future capital investment in these facilities. As with all plans, the Water and Wastewater Plan is subject to periodic review and possible revision to address current community needs and the availability of fiscal resources.

Specific recommendations included in the *Countywide Water and Wastewater Systems Analysis Update* (December 2009) are concentrated in the first ten years and will solve nearly all capacity problems foreseen through the year 2029. Phase 1 of the wastewater system improvements include replacement of pipes that are at or over capacity, specifically in areas between I-81 and the Roanoke County line on the Tinker Creek Interceptor (TCI) and one section on the Cook's Creek Interceptor. Phase 2 improvements include pipe replacements on the entire section of TCI between Lord Botetourt High School and I-81, with additional segments along Cook's Creek Interceptor. Phase 3 improvements should address the entire section of TCI between I-81 and just south of Read Mountain Road in Cloverdale and the remaining pipes in the lower portion of Cook's Creek Interceptor. Phase 4 improvements address remaining pipes in the TCI between Read Mountain Road and Roanoke County.

Phase 1 water system improvements include interconnecting all County systems; 8-inch water main from Greenfield to HUB, 8-inch water main from HUB to Cloverdale/Vista Park, and 12-inch water main from Cloverdale/Vista Park to East Park. Adding PRV at Radars Funeral Home and PRV from Greenfield to serve parts of Tinkerview Gardens. Installing a booster pump station at HUB. And, abandoning HUB well/springs and Cloverdale/Vista Park well. Phase 2 improvements include beginning to use the Weatherwood wells and changing the operation settings for Radars Funeral Home PRV. Phase 3 water system improvements include abandoning Tinkerview well and connecting all of Tinkerview to the Greenfield system.

Water System Development

The water demands of County residents are currently met through private wells and through a combination of County, municipal and private water systems that operate within the County. Botetourt County owns and operates several water systems. These include Greenfield, Weatherwood, Williamsburg Court, Cedar Ridge, Tinkerview Gardens, HUB, Autumnwood, Cloverdale/Vista Park, and EastPark. These eight individual systems are combined into five major systems based on their water source and the elevation of their customers: Greenfield, Tinkerview Gardens, HUB, Cloverdale/Vista Park, and EastPark. EastPark is supplied by Western Virginia Water Authority. Water for these systems is supplied by wells. In addition to these County systems, there are thirteen strategic private and municipal (non-County owned) water providers in the southern portion of the County.

Map 37 (Water and Wastewater Infrastructure) presents a summary of Botetourt County water system development plans for a twenty-year time horizon. The 2009 analysis of current and future demand reveals that, in general, water mains are adequately sized, if not over sized for the present and 20-year future horizon. Three phases are anticipated. Recommended immediate improvements include the interconnection of all County systems, specifically the Greenfield, HUB, Cloverdale/Vista Park, and EastPark systems. Interconnection of these three systems will improve water supply and distribution to the areas served by these systems. It will also allow for an enhanced capability to extend these systems to interconnect with some of the privately owned subdivision systems should a future public health need arise.

Within a ten-year time frame, the plan recommends placing the Weatherwood wells into service and proposes changes to operation settings for Radars Funeral Home. The twenty-year timeframe recommends taking the Tinkerview well source off-line.

Land Use Planning Considerations

Water system improvements during this 20-year time frame are generally located within the southern portion of the County to address the needs of specific areas identified by County staff. These areas include Daleville and Williamsburg Court vicinity of Greenfield's service area and north and east of the EastPark service area. Map 38 and Map 39 provide a comparison of existing and future land uses for the water and wastewater infrastructure.

Waste Water System Development

Wastewater treatment needs within Botetourt County are met through a combination of on-site facilities, County and municipal collection and treatment, and private treatment facilities. Botetourt County operates sewer lines in the south which includes the infrastructure tributary to the Tinker Creek Interceptor sewer, Cook's Creek Interceptor sewer, and the Glade Creek Interceptor sewer, that provide wastewater flows into the Western Virginia Water Authority's wastewater treatment plant near the City of Roanoke. Map 37 shows the location of wastewater collection systems in the County.

The comprehensive analysis of wastewater needs prepared by ARCADIS indicates that there are a few pipes in the three systems that are over-capacity during existing dry weather conditions and a number of others that are over-capacity during wet weather conditions. It also reveals that currently allocated flows, those which the County has promised to existing or near future customers, will significantly stress the Tinker Creek Interceptor. Future flows from growth projections for the 20-year period will exacerbate these sewer deficiencies.

GOALS, OBJECTIVES AND POLICIES

Community Facilities and Services Goals

- Ensure that Botetourt County residents are provided adequate public facilities and community services.
- Ensure the provision of and access to comprehensive and innovative state-of-the-art educational facilities, opportunities, and programs for Botetourt County residents.
- Enhance community safety and security through the provision of efficient and effective emergency services such as fire services, emergency medical and transport services, emergency management, and law enforcement.
- Enhance and increase recreational opportunities that will serve all segments of the County citizenry and visitors while preserving open spaces.

Community Facilities and Services Objectives

- Expand the County's water and wastewater systems in accord with the 2009 *Countywide Water and Wastewater Systems Analysis Update* analysis.
- Continue to address the County's solid waste management and recycling requirements in accordance with Virginia law.
- Support an expanded countywide library services program.
- Continue to develop and maintain an integrated County information system that supports all County functions.
- Pursue additional funding for the development of additional public facilities and the provision of programs and services.
- Promote a strong and progressive county school program to properly prepare students for post-secondary education opportunities and to provide students with an array of vocational and technical skills.
- Provide appropriate resources and facilities for law enforcement, fire and rescue training and distribution of services.
- Expand and diversify the County's recreational programs and facilities.

Community Facilities and Services Policies

- Implement the recommended near term improvements to the County's water and wastewater systems.
- Expand the County's water and wastewater system within planned growth areas only.
- Coordinate future public facility expansion and provision with land use planning efforts.
- Continue to operate the County landfill in accord with DEQ guidelines.
- Continue current County recycling initiatives.
- Implement solid waste management and recycling programs.
- Continue to implement the library's five-year plan for the expansion of facilities and programs.
- Expand library programs and facilities to adequately serve existing and future residents.
- Continue with the development, expansion and maintenance of the County's GIS system, and Internet based service delivery applications.
- Continue to prepare and adopt an annual five-year Capital Improvements Plan.
- Continue to monitor and pursue State and Federal grant and loan funds to assist with programmatic and capital needs for all County departments and functions.
- Identify and pursue potential private grant and loan funding sources for programmatic and capital needs.
- Provide training opportunities for teachers and staff.
- Enhance educational facilities.
- Support the development of programs designed to enhance the quality of educational services available for all students.
- Support the efforts of the Community Colleges and other entities to provide vocational and technical workforce-development opportunities and facilities to County students.

- Evaluate the recommendations contained in the recently completed Fire – Rescue Needs Assessment, and, as resources allow, implement those recommendations that are necessary to ensure a well coordinated and well trained fire and emergency medical response function.
- Continue to implement the Recreation Department’s plan for the expansion of facilities and programs.
- Identify potential areas for County owned park and recreation area development.
- Develop joint school and County recreational facilities wherever practicable and promote programs that serve the recreational needs of all County residents.
- Support development of the Upper James River by improving and increasing access points to allow a variety of recreational types such as boating, fishing, picnicking and river viewing.
- Work with private landowners and government agencies to implement system of walking and bike paths, and trails that serve both the recreational and transportation needs of residents and visitors.
- Provide additional playgrounds, tennis courts and community swimming pools.
- Continue cooperation with the National Park Service, Department of Forestry and National Forest Service in the protection of the Blue Ridge Parkway and the Appalachian Trail.
- Identify and protect critical viewsheds for their environmental, aesthetic, cultural, agricultural/forestal and recreational value.
- Encourage all future development at Blue Ridge Parkway interchanges and along the Upper James to be designed consistent with the character, culture and history of these valuable resources.

IMPLEMENTATION STRATEGIES

Water and Wastewater Management

The major recommendations are concentrated in the first ten years and will solve nearly all capacity problems foreseen through the year 2029. Improvements are to be implemented in phases. Phase 1 improvements include replacement of pipes that are at or over capacity, specifically in areas between I-81 and the Roanoke County line on the Tinker Creek Interceptor (TCI) and one section on the Cook's Creek Interceptor. Phase 2 improvements include pipe replacements on the entire section of TCI between Lord Botetourt High School and I-81, with additional segments along Cook's Creek Interceptor. Phase 3 improvements should address the entire section of TCI between I-81 and just south of Read Mountain Road in Cloverdale and the remaining pipes in the lower portion of Cook's Creek Interceptor. Phase 4 improvements should address all remaining pipes in the TCI between Read Mountain Road and the Roanoke County line.

Exploration of a Water Authority

Botetourt County and its incorporated towns should explore the formation of a water authority that would serve as an independent public agency that collects, treats, stores and distributes water and transports and treats wastewater for residents of Botetourt County, Fincastle, Troutville and Buchanan. The common arrangement in Virginia is for the authority to serve as a wholesale agency with the localities as consumers, who in turn provide direct plumbing to individual customers. Further, it is common for funding of operations to be entirely paid for by users, though local and state funding would be sought for capital improvements.

Land Use Planning Considerations

Wastewater system improvements during this ten-year time frame are generally located within the southern portion of the County. Similar to the ten-year water plans, they are consistent with the policies and future land use map contained in this plan. The 20 year projections contained in the wastewater analysis are subjective due to the extreme difficulty of projecting needs or demand over a lengthy time horizon.

The Planning Commission should be kept apprised on the status of current County wastewater improvement plans and consider the timing of the implementation of those plans when evaluating land use requests within the existing and proposed wastewater service areas. As water and sewer capital improvements are phased for expansion, it is recommended that new areas to be served by these facilities be further studied by the Planning Commission to determine, and possibly redefine, appropriate future land uses in these areas.

Evaluation of Progress

Many counties in Virginia have established ways to conduct an evaluation of the progress and effectiveness of the policies and strategies of comprehensive plans. Some counties have annual review or measures for specific areas, targeting outcomes and/or general performance. Some have more comprehensive "report cards" that bring together various measures into a comprehensive assessment of the plans implementation and progress. This approach provides a means to measure the success or changes needed for the comprehensive plan, and its goals and objectives. It is recommended that Botetourt County Board of Supervisors and the Planning Commission explore the implementation of a means to evaluate the expectations of the comprehensive plan, providing an annual assessment of its progress.